

Taste

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EGYPTIAN FALAFEL

LIKELY FROM FUL MEANING FAVA BEAN



TRADITIONALLY VEGAN 

FALAFEL

CHICKPEAS	4 CUPS (DRY)
PARSLEY	1 BUNCH
CILANTRO	1 BUNCH
WHITE ONION	1/2 ONION
FRESH GARLIC	4 CLOVES
CORIANDER	1 TEASPOON
CUMIN	1 TEASPOON
BAKING POWDER	1 TEASPOON
SALT	1 TEASPOON



TOUM

FRESH GARLIC	1 CUP CLOVES
LEMON JUICE	1/2 CUP
VEGETABLE OIL	3 CUPS
WATER	2 TEASPOONS

TAHINI SAUCE

TAHINI	1/2 CUP
FRESH GARLIC	1 CLOVE
OLIVE OIL	1 TEASPOON
LEMON JUICE	1 TABLESPOON
WATER	1/2 CUP



PREPARATION

1. REHYDRATE YOUR CHICKPEAS.
2. ADD ALL INGREDIENTS INTO A FOOD PROCESSOR.
3. ONCE ALL INGREDIENTS ARE WELL COMBINED, SET IN THE FRIDGE FOR AN HOUR OR OVERNIGHT.
4. FORM SMALL BALLS OR PATTIES AND FRY IN VEGETABLE OIL FOR 3-4 MINUTES OR UNTIL GOLDEN BROWN.



TOUM

TRADITIONAL LEBANISE GARLIC SAUCE OFTEN USED TO DRIZZLE ON GRILLED VEGGIES OR MEAT.

WHIPPED TAHINI SAUCE
TAHINI IS A SESAME PASTE USED EXTENSIVELY THROUGHOUT THE MIDDLE EAST AND A IMPORTANT INGREDIENT IN HUMMUS.



FALAFEL PITA WRAP



1. ADD HUMMUS AND AN OLIVE OIL ZA'ATAR (!!) SAUCE TO YOUR PITA.
2. ADD FALAFEL, I LIKE TO PRESS THEM DOWN WITH A FORK TO SMUSH THEM SO THE SAUCES CAN GET INTO THEM.
3. ADD YOUR VEGGIES OF CHOICE, I LIKE ROMAINE, TOMATO, RED ONION, CUCUMBER, BLACK OLIVES, AND FRESH HERBS (CILANTRO/PARSLEY).
4. ADD FETA CHEESE, I USE VEGAN DIYA OR SILK CRUMBLLED FETA.
5. FINISH IT OFF WITH A DRIZZLE OF TOUM AND WHIPPED TAHINI SAUCE, FOLD UP AND ENJOY!



HISTORY OF FALAFEL



FALAFEL IS A STAPLE DISH IN THE MIDDLE EAST WITH MANY COUNTRIES CLAIMING THE INVENTION. EGYPTIANS, PALESTINIANS, ISRAELIS, ARABICS, AND YEMENS ALL DEFENDING THE CREATION OF THE DISH AS THEIR OWN AND BY DOING SO 'CLAIM THE LAND' AS WELL. FALAFEL HAS CAUSED POLITICAL TENSION IN THE MIDDLE EAST SINCE ITS CREATION GIVING IT A COMPLEX ORIGIN AND EVOLUTION STORY. ALTHOUGH THERE IS DEBATE, WE KNOW THAT FALAFEL WAS CREATED IN EGYPT, LIKELY IN THE MAJOR PORT OF ALEXANDRIA. THE DISH IS NOT AS OLD AS MANY WOULD THINK, FALAFEL HAS ONLY APPEARED IN EGYPTIAN LITERATURE AFTER BRITISH OCCUPATION IN 1882. ONLY THEORIES EXIST ON THE INITIAL CREATION BUT THE MOST SUPPORTED THEORY IS THAT AFTER BRITISH OFFICERS ACQUIRED A TASTE FOR FRIED VEGETABLE CROQUETTES IN INDIA, THEY ASKED EGYPTIAN COOKS TO PREPARE A SIMILAR DISH USING LOCAL INGREDIENTS. ANOTHER THEORY IS THAT FALAFEL WAS INSPIRED BY JEWISH PARIPPU VADA OR FILOWRI EHICH.

IN ISRAEL THE RELATIONSHIP WITH FALAFEL WAS COMPLEX. ORIGINALLY, ISRAELIS AND THEIR MUSLIM NEIGHBOURS HAS CULTURAL EXCHANGE AND NO THOUGH WAS GIVEN TO IF FALAFEL WAS AN ARAB DISH. DURING 1929-39 WHEN EASTERN EUROPEAN JEWISH PEOPLE STARTED MOVING TO PALESTINE, THEY BECAME SUSPICIOUS OF ANYTHING REGARDED AS 'ARABIC' AND THOUGHT FALAFEL WAS AN ALIEN DISH AND UNCLEAN. POPULARITY OF THE DISH STARTED TO GROW IN ISRAEL WHEN NEW IMMIGRATION LED TO RATIONING OR MARGARINE AND SUGAR AND LIMITED MEAT WAS AVAILABLE, FALAFEL SERVED AS A GOOD SOURCE OF PROTEIN AND WAS READILY AVAILABLE FOR THE POOREST FAMILIES. POPULARITY OF THE DISH GREW AGAIN WHEN JEWISH PEOPLE FROM YEMEN, TURKEY AND NORTH AFRICA WHO WERE KNEW OF FALAFEL AND BROUGHT IT WITH THEM, FURHERING THE DECLINE OF SKEPTICISM

AFTER THE FIRST WORLD WAR FALAFEL REACHED LEBANON WITH A SHOP OPENING IN BERUIT IN 1933. DURING THIS TIME, FALAFEL TRAVELLED DOWN THE RED SEA TOWARDS YEMEN, NORTH ALONG THE MEDITERRANEAN TO TURKEY, AND WEST TOWARDS LIBYA, EACH REGION ADAPTING THE INGREDIENTS TO REFLECT LOCAL AGRICULTURE, ALTHOUGH, THE BASIC RECIPE STAYED THE SAME. WHEN FALAFEL WAS FIRST INVENTED THE MAIN INGREDIENT WAS FAVA BEANS WHICH GREW IN ABUNDANCE NEARBY AND WERE A STAPLE FOOD UNDER THE MUHAMMAD ALI DYNASTY. LATER, ONE EGYPTIAN TOWN REPLACED FAVA BEAN WITH HYACINTH BEANS (AND A BIT OF BEEF), AND IN THE LEVANT, CHICKPEAS WERE USED AS A REPLACEMENT. FALAFEL COULD BE SERVED HOT OR COLD AND THE INGREDIENTS WERE ALWAYS CHEEP AND EASILY GROWN.



★ ALEXANDRIA EGYPT, THE BIRTHPLACE OF FALAFEL IN THE 1970S FALAFEL BECAME POPULAR IN GERMANY FROM ARABIC AND TURKISH MIGRANT AND THROUGH THE 1960S AND 70S FALAFEL STARTED MAKING ITS WAY TOWARDS NORTH AMERICA

LEE, A. (2019). THE ORIGIN OF FALAFEL HISTORY TODAY (6/11). RETRIEVED FROM [HTTPS://WWW.HISTORYTODAY.COM/ARCHIVE/HISTORY3-](https://www.historytoday.com/archive/history3)

CHICKPEAS



CHICKPEAS HAVE TWO MAIN CENTERS OF ORIGIN, SOUTHWEST ASIA AND THE MEDITERRANEAN. CHICKPEAS ALSO HAVE A SECONDARY ORIGIN IN ETHIOPIA. BEING A COOL-SEASON CROP, IN INDIA, THE MIDDLE EAST, AUSTRALIA, AND SOUTH AND CENTRAL AMERICA CHICKPEAS ARE A WINTER CROP. THE FIRST PRODUCTION OF CHICKPEAS IN CANADA WAS IN THE 1920S. TODAY, CHICKPEAS ARE THE THIRD MOST IMPORTANT PULSE CROP* IN THE WORLD AFTER DRY BEAN AND PEA AND MAKES UP 15% OF THE WORLD'S TOTAL PULSE PRODUCTION.

THERE ARE TWO CLASSES OF CHICKPEAS, KABULI AND DESI. KABULI ARE GARBANZO BEAN THAT ARE MADE INTO SNACKS (SOUTH ASIA), GROUND INTO HUMMUS (MIDDLE EAST), AND CANNED (NORTH AMERICA). DESI ARE OFTEN EXPORTED TO INDIA WHOLE AND ARE PREPARED BY DEHULLING AND SPLITTING (CHANA DEL) OR DEHULLING AND GRINDING INTO FLOUR (BESAN). DESI VARIETIES ARE THOUGH TO HAVE ORIGINATED FIRST AND KABULI WAS SELECTED FROM A POOL OF DESI TYPE. KABULI CHICKPEAS ARE SUGGESTED THROUGH LINGUISTIC EVIDENCE, TO HAVE EMERGED IN THE AFGAN CAPITAL KABUL TWO CENTURIES AGO AND DESI ARE AN ANCIENT PULSE CROP FIRST GROWN IN TURKEY ABOUT 7,000 B.C.

PRODUCTION OF CHICKPEAS IS BEST WITH 20-30 CM OF RAINFALL DURING THEIR GROWING SEASON AND WELL DRAINED SOILS. CHICKPEAS ARE A GREAT CROP TO GROW BECAUSE THEY INCREASE SOIL FERTILITY BY FIXING ATMOSPHERIC NITROGEN IN ASSOCIATION WITH CICER SPECIFIC RHIZOBIUM BACTERIA CALLED BRADYRHIZOBIUM. THEY ALSO STIMULATE MYCORRHIZAE POPULATION INCREASES WHICH BENEFIT CROP ROTATION BY REQUIRING LESS CHEMICAL FERTILIZERS AND SOIL ACIDIFICATION.

*CHICKPEAS ARE A PULSE CROP WHICH ARE CROPS IN THE FAMILY LEGUMINOSAE OR FABACEAE AND ARE HARVESTED FOR DRY SEED.

CHICKPEAS ARE RELATIVELY DROUGHT RESISTANT WITH LONG TAPROOTS COMPARED TO OTHER PULSE CROPS.

CHICKPEAS ARE A VIRTUALLY FAT FREE HIGH QUALITY PROTEIN (17-24% OF A CHICKPEA IS PROTEIN) CONTAINING ESSENTIAL AMINO ACIDS.



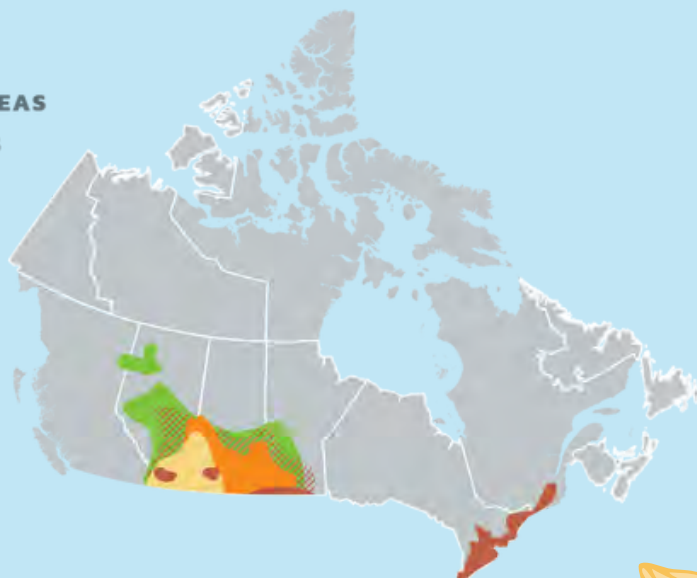


CANADIAN CONSUMPTION STATISTICS

GENERAL CHICKPEA PRODUCTION INFORMATION IN CANADA

CANADIAN PRODUCTION (2015)	83,500 T/46,500 HA (SEEDED)
FARM CASH RECEIPTS (2015)	\$54 MILLION
TOTAL DOMESTIC USE (2015-2016)	63,000 METRIC TONNES
EXPORTS (2015-2016)	151,000 METRIC TONNES
IMPORTS (2015-2016)	14,000 METRIC TONNES

THE CHICKPEA PLANT HAS AN INDETERMINATE GROWTH HABIT AND THEREFORE PLOWING AND POD FILING CONTINUE AS LONG AS TEMPERATURE AND MOISTURE PERMIT GROWTH. TRADITIONAL PRODUCTION TOOK PLACE IN SEMI-ARID ZONES OF INDIA AND THE MIDDLE EASTERN COUNTRIES. IN CANADA, SASKATCHEWAN STARTED COMMERCIALY PRODUCING CHICKPEAS IN THE 1990S IN SMALL AREA THAT EXPANDED SUBSTANTIALLY THE FOLLOWING YEARS. TODAY MOST CHICKPEAS PRODUCTION IS IN SASKATCHEWAN AND A SMALL AMOUNT IN ALBERTA IN CERTAIN YEARS. CANADA PRODUCES BOTH CLASSES OF CHICKPEAS, DESI AND KABULI. DESI TYPES ARE SMALLER, ANGULAR SEEDS WITH YELLOW TO BROWN SEED COATS THAT IS ADAPTED TO GROW IN BROWN AND DARK BROWN SOIL ZONES. KABULI TYPES ARE ROUNDED WITH A CREAM-COLOURED COAT AND ADAPTED TO GROW IN BROWN SOIL ZONES. IN CANADA 30% OF THE PRODUCTION IS DESI AND 70% IS KABULI.



SPINACH & CHEESE OPEN-FACED OMELETTE

WRITTEN BY LAREINA D. KOSTENCHUK • 1 DECEMBER 2024 • ES347: ECOGASTRONOMY WITH J. VOLPE

The omelette is an incredibly versatile dish that has been shaped by and evolved to suit many times, places, cultures and chefs. The concept of cooking whipped eggs in an oiled or buttered pan and adding seasonings or complementary ingredients is both simple and brilliant, not to mention nutritious, delicious, and accessible to all kinds of cooks (Davidson, 2014). The word omelette is of French origin and came into use during the mid-16th century, preceded by words like ‘alumelle,’ from Latin ‘lamella’ meaning ‘small thin plate’ suggestive of the dish’s shape (Davidson, 2014).



Figure 1: Photo of cooked omelette from this recipe, still in the skillet, on stove-top, after broiling in oven

However, it is believed the first omelettes were made in ancient Persia (modern day Iran). The Persian dish known as kuku or kuku sabzi (herb kuku) is thought to be the original omelette, where eggs were whipped with various ingredients, like a generous amount of herbs folded in, then cooked for a short time in a round pan over low heat until firm, before being turned over or grilled briefly to set the top (Davidson, 2014; Riley, 2007). Persia was in and near the Fertile Crescent, the origins of

KEY INGREDIENT #1: CHICKEN EGGS

As the saying goes, you can’t make an omelette without breaking eggs – typically, bird eggs. Bird eggs have been an important source of nutrition and energy enjoyed by humans since prehistoric times (Anderson, 2013). A chicken’s egg has been described as “the most suitable to human nature” among many types of eggs (Anderson, 2013, p.59) and as ‘nature’s ideal food’ with everything needed to nourish life, including incredibly high-quality protein, exceeded only by mother’s milk (Katz & Weaver, 2003). Chickens as we know them are the domesticated descendants

of agriculture, recordkeeping, and the domestication of many globally important plant and animal species. For this, Persia became a powerful and complex society with the means to develop foods that could then spread to neighbouring regions including Europe and Asia (Volpe, 2024). In Europe, the omelette expressed itself similarly via the Spanish tortilla (not like the Mexican tortilla) and the Italian frittata, though often featuring other fillings like potatoes. It was the French that deviated most from the norm when they began making light, fluffy omelettes with a runny interior and less focus on fillings. When the omelette reached North America, American English opted for ‘omelet,’ with ‘omelette’ still used in British English (Davidson, 2014). To make my favourite everyday omelette, there are several ingredients that all contribute important aspects of the dish, including the herbs, seasonings, oil and butter. However, in this article, we’ll focus on the three key ingredients that this omelette simply cannot do without: chicken eggs, fresh spinach, and aged white cheddar cheese.

of ancient jungle fowl – the Red Jungle Fowl – originating in Southeast Asia between modern day India and Malaysia (Volpe, 2024; Katz & Weaver, 2003; Hata et al., 2021). The genus Gallus, to which the chicken belongs, is estimated to be 8 million years old (McGee, 2007) with the chicken evolving from there. It is likely that domestication of the chicken occurred independently and simultaneously across multiple regions throughout Southeast Asia, between 7500 BCE and 3200 BCE (Hata et al. 2021; McGee, 2007; Katz & Weaver, 2003). Since then, chickens have been

introduced to countless cultures across the globe, who have bred and kept these birds to benefit from their prolific egg production since their origins and introduction. Given the value of eggs, chicken hens have been prized and bred mainly for egg laying capacity, consistency, and reliability. According to The Encyclopedia of Food and Culture, a hen in her prime can lay 100-250 eggs per year, whether fertilized or not, which is an incredible output considering the size of the bird (Katz & Weaver, 2003). The company website for the brand of eggs I buy, Farmer Ben's, located in the Cowichan Valley on Vancouver Island, says a hen can lay about 300 a year, mentioning the White Leghorn, Hyline Brown, ISA Brown, and Lohmann breeds (Farmer Ben's, 2024). Other traits selected for include docile temperament, adaptability to different climates, tolerance for housing systems, disease resistance, efficiency of converting feed (feed conversion ratio), and colour of eggs (Institut de Sélection Animale BV, 2024). Evidence suggests chickens were among the first domesticated animals

KEY INGREDIENT #2: FRESH SPINACH

The next key ingredient in this recipe is spinach. The spinach we buy from grocery stores today is most likely the species *Spinacia oleracea* L., an economically important crop grown and enjoyed worldwide that also appears to have originated in Persia/Iran as well, with related species tracing back to neighbouring Afghanistan and Pakistan (Rolland & Sherman, 2006; Ribera et al., 2021). Originally a wild plant, spinach was then transplanted into Persian gardens and cultivated to feed cats and called 'isfanakh' meaning 'a green hand.' It is believed that the Saracens introduced spinach to Sicily in AD 827, the Moors introduced it to the Spanish, and the Spanish most likely introduced spinach to France and England in the 14th century where it was referred to as 'spinnedge,' 'spynoches' and 'the Spanish vegetable' as late as the 16th century (Rolland & Sherman, 2006).

KEY INGREDIENT #3: CHEDDAR CHEESE

The third key ingredient in this recipe is cheddar cheese (I use aged white cheddar). Cheddar cheese originated in the village of Cheddar, in Somerset, England in the nineteenth century (Banks & Williams, 2004), one of the oldest and "most important" cheeses of its kind produced in Britain (Simon & Howe,

introduced by Europeans to North America, according to records from Eastern Canada and Northeastern USA, brought over on the second voyage of Columbus in 1493 (Welker et al., 2023; Katz & Weaver, 2003). On the Western side of the continent, research as shown that chicken eggs were an important part of everyday survival in early 18th century settlements in California, mostly managed by women, and interestingly invisible in official text records (Sasson & Arter, 2020). Egg consumption declined in Canada in the 1960's due to concerns around their cholesterol levels negatively impacting heart health. However, recent studies have cleared their reputation, assisted by the availability of specialty eggs, so they are on the rise again (Bejaei et al., 2011; Réhault-Godbert et al., 2019; Puglisi & Fernandez, 2022; Robinson, 2024). Egg production has been steadily increasing in Canada over the past decade, from 666 million dozen in 2014 to over 883.9 million dozen in 2023, an increase of 2.0% from the previous year (StatsCan, 2024) with retail sales increasing as well (Egg Farmers of Canada, 2023).

Other sources say spinach was brought to Europe by the Arabs, who would have known and grown, particularly the Arabs who invaded Spain in the 11th century (Riley, 2007; Davidson, 2014). In any case, spinach made its way from Persia to Europe, and Europeans then brought it to North America during colonization as a valuable hardy early spring vegetable. In North America, spinach was popularized in the early 20th century thanks to the cartoon character Popeye the Sailor Man, debuted in 1929, who would eat entire cans of spinach at a time, and quipped the quote "I'm strong to the 'finich 'cause I eats me spinach." American spinach consumption increased 33% over the following years (Rolland & Sherman, 2006) and Popeye is still used in the branding of spinach sold in grocery stores today.

p.119). The location was key to its creation, in part for the natural caves found in Cheddar Gorge on the outskirts of the village whose humidity and steady temperature provided ideal conditions for maturing the cheese (Rajan, 2009). Since its creation, cheddar production has ballooned beyond its traditional

countryside boundaries. There are now roughly two types: factory cheddar and farmhouse cheddar (Simon & Howe, 1978). The term “cheddar cheese” has no Protected Designation of Origin (PDO) so the name cheddar is used for any generic factory-made vacuum-packaged ‘cheddar’ made with any milk from mixed farms, mixed herds, and mixed regions, produced all year round. Only the name “West Country Farmhouse Cheddar Cheese” is a protected name, bearing the official PDO label, registered in the European Union, for cheddar made in its traditional region (only from unpasteurised milk from the

counties of Dorset, Somerset, Devon and Cornwall), by experts, using traditional methods, during a limited time of the year (Department for Environment, Food & Rural Affairs, 2021; Simon & Howe, 1978). The first cheddar factory in Canada was built in Ontario in 1864, and good mature Canadian cheddar was once said to rival the farmhouse cheddars of England in the past (Simon & Howe, 1978). In 1904, Canadian cheddar exports neared 234 million pounds, second only to timber. Over a century later, Canada exported five million pounds of cheddar, while importing over 55 million pounds (Chapman, 2012).



Figure 2: Google world map showing the geographic origins of cheddar cheese (England), spinach (Persia), and chickens (Southeast Asia)

MY RECIPE

This omelette recipe was born primarily of intuition and necessity. This omelette cured what felt like food slavery in my life. In late 2022, I woke up in acute abdominal pain, alleviated by a bowl of leftover oatmeal I desperately reheated in the microwave while doubled over in agony on the kitchen floor. I realized there was a food habit problem to solve. Thankfully, my nutritionist roommate introduced me to the protein leverage hypothesis and some basics around managing blood glucose levels in case that a factor in what I was experiencing. The protein leverage hypothesis states that the body’s need for protein is a primary driver of hunger and consumption, meaning hunger can persist until enough protein is obtained.

Therefore, a protein-heavy breakfast serves to satisfy the system, preventing unnecessary hunger from the start. Adding some vegetables and fats seemed like a win-win. Unaware of cultural origins, I made what was familiar from my past and some ingenuity. It starts in the pan on the stovetop and ends in the oven under a broiler, a bit like the original Persian kuku sabzi and the Italian frittata. However, this omelette also holds true to French omelette traditions of low heat in the pan to prevent the bottom from over-browning. This is the beauty of an omelette: the sheer variety, versatility, and creativity. I’ve been eating this omelette for breakfast almost every day for almost two years now; I hope you enjoy it too.

INGREDIENTS

1. Medium-large fresh chicken eggs
2. Fresh spinach leaves
3. Aged white cheddar cheese
4. Olive oil (substitutions will affect flavour)
5. Butter (salted or unsalted)
6. Seasonings & spices:
 - a. sea salt (medium or fine)
 - b. garlic powder (preferably organic)
 - c. onion powder (preferably organic)
 - d. Italian seasoning (dried rosemary, thyme, marjoram, sage, savory, basil, oregano)
 - e. cayenne pepper (fine ground/powdered)
 - f. black pepper (ideally fresh cracked)
7. Optional: Parmigiano Reggiano cheese



INSTRUCTIONS

1. Whip/beat/scramble eggs in a bowl until thoroughly blended (4 eggs for a 10" pan)
2. Mix in sea salt, garlic powder, onion powder, and a dash of Italian seasoning
3. Select and prepare enough spinach leaves to cover most of the omelette's surface; select the best leaves, remove any damaged or undesirable parts, and break off large thick stems
4. Pre-heat an all-metal, oven-safe frying pan/skillet on the stovetop, on medium-low heat
5. Evenly coat pan and sides with a good amount of olive oil or butter
6. Pour egg mixture into pan (listen for a very mild sizzle upon contact), reduce heat to low
7. Quickly sprinkle on Italian seasoning and cayenne pepper (to taste)
8. Quickly place spinach leaves on top, evenly covering the surface, as flat as possible
9. Cover with glass lid for a few minutes, until top layer of egg is set (spinach may be wilted)
10. With top layer set, remove lid, remove from heat, turn oven broiler on high
11. Add a generous layer of your favourite white cheddar cheese on top
12. Top with fresh cracked pepper to taste (infusing more flavour into the cheese)
13. Place in oven on the middle rack under the broiler on high for 2-3 minutes
 - a. *Monitor actively! Omelette will puff up; can escalate quickly!*
14. When uppermost parts are golden brown, protect hands from heat, remove from oven
15. Free omelette from pan (may require scraping around the edges as the cheese tends to stick), option to serve topped with a sprinkle of finely grated Parmigiano Reggiano cheese

***"A perfect omelet does not have a canonical look or form. ...
The perfect omelet is a way of doing things, a philosophy
about how to cook, and, mayhap, about how to live."***

John E. Finn, in *The Perfect Omelet: Essential Recipes for the Home Cook*

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For anyone interested, Valerie can be found at: www.empowerednutrition.ca



The Bánh Mì

How many dishes are able to seamlessly combine two vastly different cultures such as the richness of french cuisine and the fresh aromatics of vietnamese cuisine, well the bánh mì does exactly that.

The bánh mì is a vietnamese sandwich that was invented by “Mr. and Mrs. Le in Ho Chi Minh City” in the late 1950’s (An, 2021). The bánh mì has many different variations and accoutrements although in this context, I am referring to a sandwich made from these basic components: A Vietnamese baguette, a protein, generally grilled marinated pork, pickled carrots and daikon, cilantro, chili’s, pork pâtè, and mayonnaise. These components come together to create a complex sandwich touching on all major flavour profiles.

Bread

The uniqueness of the bánh mì primarily lies in the airy and flaky bánh or baguette that feels similar to typical french baking. This is because the bánh’s introduction to vietnam occurred in the 1800’s during the period of time in which France was colonizing parts of the



Figure 1.2. Photo of a Bánh mì. Source <https://ca.gozney.com/blogs/recipes/banh-mi-sandwich>



Figure 1.3. Photo of Vietnamese Baguettes. Source: <https://fullofplants.com/how-to-make-banh-mi-vietnames-e-baguette/>

world including much of mainland Southeast Asian and Vietnam (Pham, 2024). When the French brought over their baguettes, many Vietnamese people began to consume this new wheat product and began filling it with their cultural and local ingredients (Pham, 2024). Wheat, the base of much of the world’s diet, has been heavily influenced by artificial selection. Wild wheat is vastly different from its domesticated counterpart with wild wheat having much smaller grains and less plantable seeds (Hirst, 2019). Much of the reason for this evolution in grain size can be attributed to a need for an increase in digestible carbohydrates and even potentially a desire for a sweeter taste (Hebelstrup, 2016). Despite Vietnam’s vast agricultural output, Vietnam does not produce any wheat (Miller Magazine, 2020). This is due to the fact that Vietnam’s geographical conditions, being in the tropics, does not support wheat growth leading to them importing 82% of their wheat from Japan (TrendEconomy, 2024).

There is a common myth that due to the fact wheat was harder to come by in Vietnam in the 1800's and 1900's, Vietnamese people had to adapt and use rice flour in their baking and this is the reason why bánh's are so flaky. This is not true as rice flour does not contain gluten which is crucial in the leavening of bread (Nguyen, 2020). While it has been less influenced by cultural practices, the main reason for the more soft and flaky vietnamese baguette compared to a french baguette lies in the geographical practices. Vietnam is an extremely humid country which changes the process of baking vastly leading to a completely different product (Du, 2024).

Meat

While a bánh mì can contain any type of protein, the most common form is pork and that is what I will be using in the context of this article. Pork as a food staple has been around for thousands of years in Southeast Asia and was likely domesticated in China around 8000 years ago (Schneider et al., 2020). Pigs have faced extreme evolutionary transitions due to domestication. Pigs are significantly different from their wild counterparts with wild boars having thick fur and large tusks (Victor, 2024). Much of the effects domestication has had on pigs can be combated rather quickly and can be observed in feral pigs. Feral pigs are domesticated pigs that become wild and often begin to revert to their wild counterparts growing fur and tusks in a few generations (Dewolf, 2021). We know that early domestication of animals was likely for sacrificial purposes which is likely something ancient Vietnam also took part in (Volpe, 2024, Lecture 11)(Tran, 2017). Even today, pork is still the most consumed meat in Vietnam with about 27.7 kilograms of pork being consumed every year per capita (Nguyen, 2024). Pork is also a culturally unique meat in the sense that many people across the world refuse to eat it for religious reasons despite being an extremely efficient form of subsistence. Vietnamese people tend to not subscribe to a religion likely leading to the high consumption of pork (Open Development Vietnam, 2024). In regards to the marinade and main flavors for the pork, most recipes will find some assortments of shallots, garlic, lemongrass, fish sauce, soy sauce, sugar, and sometimes thai chilis. Furthermore, instead of grilled pork, pork roll, which is seasoned ground pork shaped into a roll and steamed, is also sometimes used as a cheaper, more accessible alternative.



Figure 1.4. Photo of Grilled Marinated Pork. Source: <https://www.angsarap.net/2013/05/08/vietnamese-style-grilled-lemongrass-pork/>

Vegetables

The bánh mì finds much of its balance in the fresh and pickled vegetables used. A typical bánh mì will have pickled carrots and daikon, cilantro, and fresh chili's. The geographic origin of these vegetables varies across the world. Carrots, daikon, and cilantro can all be traced to areas in or around the fertile crescent with the spread of domestication and agriculture (Northern Arizona University, n.d.). Much of these ingredients have existed in Vietnam for hundreds and thousands of years with the exception of the chili. Despite being an integral part to so many different cultures across the world, chilies are actually native to Central and South America. During the 15th century, Portuguese traders brought back different kinds of chilies which then became widespread across the world (Bokksu Staff, 2022). Carrots have an

interesting evolutionary transition as a result of domestication. Wild carrots were either “white or purple, with thin forked roots and a strong flavour” which is vastly different to our bright orange carrots of today (Volpe, 2024, Lecture 11). Vietnam's geophysical attributes are also large contributors to its production of vegetables. Vietnam lies in a river delta causing it's high soil fertility and warm temperatures (WUR, 2024). These conditions allow for vegetable production year round which leads to Vietnamese cuisine having access to fresh vegetables constantly not limiting their dish selection by seasonality. In a bánh mì, the carrots and daikon are pickled which is a process that has been around since at least 2400 BCE although likely dates further back (Sebastian, 2024). Pickling is likely a cultural practice used to preserve foods in order to waste less or store for times of famine. Cilantro is often fresh and placed on top along with fresh sliced chilies, with the most common being the bird's eye chili.

Spreads and Condiments

Finally, one of the most crucial parts of a sandwich but sometimes overlooked is the spread. A bánh mì typically uses two spreads, mayonnaise, and pâté. Each of these spreads is responsible for different aspects of taste, the mayonnaise helps provide fat and the pâté helps provide richness and umami. Similarly to the bread itself, each of these spreads both originate from French cuisine and were brought to Vietnam during the French colonisation of Indochina. Mayonnaise is an emulsion of eggs and oil which most culinary historians date back to 1756 in which a French chef was preparing a sauce to celebrate the capturing of Port Mahon in Minorca, Spain. The legend goes that the French chef could not find cream to complete his sauce so he decided to substitute it with olive oil creating the first modern form of mayonnaise (Chefler Foods, 2024). Pâté's history dates back much further than that of mayonnaise tracing back to the roman empire (Khoury-Hanold, 2022). Pâté is French for the word paste and is essentially blended meat, often liver, combined with spices or herbs, cooked, and then served cold or room temperature. The origins of pâté come from times when it was most economically efficient to use all parts of the animal including and not exclusive to the

liver, heart, kidneys, etc. (Khoury-Hanold, 2022). Both of these sauces are common in France and were brought over with french colonisation. In Vietnam, pork liver is most commonly used for making pâté whereas there are many different types in France such as foie gras which is goose liver. Some flavourings of pâté have also been influenced by local culture such as the occasional use of five spice powder in pâté. Nevertheless, both of these sauces have largely retained their original French recipes and techniques in Vietnam.

Bánh mì's in Canada

The bánh mì is an extremely popular sandwich worldwide. With that being said, the rest of the world was not introduced to the bánh mì and other Vietnamese cuisine until 1975 with the end of the Vietnam war (Farley). Once Vietnamese people began to migrate around the world, they brought with them their diverse recipes and traditions (Farley, 2022). Despite Vietnamese people only making up 2.5% of Vancouver's immigrant population, the prevalence of Vietnamese food can be seen across Canada (Government of Canada, Statistics Canada,



Figure 1.5. Image of the extent of French Indochina. Source: https://commons.wikimedia.org/wiki/File:French_Indochina_1900-1945-fr.svg

2023). Vietnamese restaurants, even in Victoria, are extremely common with multiple chains such as Saigon Char-Broil or Pho Tru which both carry a variety of bánh mì's.

Variants and Adaptations

The bánh mì has many different variations and adaptations not only on a global scale but on a regional scale. Due to the geographical shape of Vietnam, many differences in cuisine occur when comparing the north and south. In Hanoi (Northern Vietnam), the bánh mì's tend to be more traditional and stick solely with the ingredients previously mentioned. This is very different to Saigon (Southern Vietnam) which uses a variety of meats and uses different additional sauces such as chili sauce or sweet soy sauce (Taylor, 2024). Global variations also look to combine aspects of their own culture generally focusing on a change in the protein. For example, a Korean bánh mì uses beef bulgogi as the highlight introducing a new sweet and savoury flavour. There are also many different westernised variations in which many sandwiches will be vegan which requires substituting some of the sauces, using tofu as the primary protein, and sometimes including sliced avocado.



Figure 1.1. Map of Vietnam by region. Source <https://vietnamnomad.com/maps/map-of-vietnam/>

Ecological Impact

The ecological impact of each ingredient varies greatly. In regards to the vegetables, all of the vegetables used in a bánh mì can be products of sustainable agriculture. Even wheat, although “large-scale production of wheat relies on synthetic fertilizer”, there are still methods and ways of minimising this impact (Mukpo, 2024). With these being said, the most detrimental out of the ingredients is the pork. The production of pork contributes to 1.3% of all greenhouse gas emissions with an unlikely chance of being significantly reduced through technology (Volpe, 2024, Lecture 14).

Through Time

Although the bánh mì was formally invented in the 1950's, many forms of it had existed prior to that. The main difference prior to the 1950's was the bread. In the 1800's the people of Vietnam were using the French baguette which has a thicker crust and is slightly more dense than its Vietnamese counterpart (Hornberger, 2024). The formality of the bánh mì's invention largely came about due to the creation of the Vietnamese baguette, extremely light, fluffy, and crispy (Hornberger, 2024). Since then, the bánh mì has taken on many evolutions through time, one of the largest being the prevalence of tofu. Non meat options are an evolutionary response to the ecological crisis and are becoming a much more popular alternative to the famous sandwich.

Conclusion

The bánh mì is a complex sandwich that encompasses the best aspects from two vastly different cultures. This is likely the reason for its widespread popularity and unique flavours. The bánh mì is a staple of Vietnamese culture and helped contribute to Vietnam's influence on cuisine on a global scale. The bánh mì is loved by many and will not be going anywhere anytime soon. See the recipe below for my own classic take on a bánh mì.

TASTY BÁNH MÌ



Prep time - 2
hours



Servings: 4

Ingredients:

Marinated Pork

- 1 pound pork shoulder
- 2 shallots
- 4 garlic cloves
- ¼ cup sugar
- 1 tbsp fish sauce
- 2 birds eye chili
- Juice of 1 lime
- 1 tbsp soy sauce
- 2 tbsp minced lemongrass
- Salt
- Pepper

Pickled Carrots and Daikon

- 2 large carrots
- 1 daikon
- 1 cup vinegar
- 1 cup water
- ½ cup sugar
- 1 tablespoon Salt

Mayonnaise

- 1 egg
- ~1 cup of neutral oil
- Squeeze of lemon juice
- Salt

Pâté

- 1 lb pork liver
- 4 shallots
- 4 garlic cloves
- 3 tablespoons butter
- Salt
- Pepper
- ¼ cup sugar
- 2 cups whole milk

Steps for Cooking:

Ingredients:

Marinated Pork

- Mince the shallots, lemongrass, garlic, and chilis and add to all other ingredients. Cut pork shoulder into thin strips and toss in the marinade. Marinate for as long as possible but minimum 1 hour. Once marinated, grill on high heat until cooked and caramelized on the outside.

Pickled Carrots and Daikon

- Thinly slice carrots and daikon. Bring vinegar, water, sugar, and salt to a boil. Once dissolved, add the brine to the carrots and daikon and leave for at least 2 hours before eating.

Mayonnaise

- Combine all ingredients in a blender or food processor and blend until thick. Add lemon juice or water if mayo is too thick and add more oil if it is too runny. Salt to taste.

Pâté

- Dice shallots and garlic. Cut up the liver into small chunks and soak it in milk for 30 minutes. Drain the milk and fry the liver in half the butter along with the shallots and garlic until cooked. Once cooked, transfer everything to a blender with the remaining butter, sugar, pepper, and salt to taste. Blend until a paste is formed and add milk if it is too thick.

Construction

- I would recommend buying the Vietnamese baguette although an in depth step by step recipe can be found here: <https://fullofplants.com/how-to-make-banh-mi-vietnamese-baguette/>
- Cut open bun and lather with mayonnaise and pâté, layer on sliced pork, top with pickled vegetables, sprig of cilantro, and chopped birds eye chili's

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Biryani



Figure 1. Chicken Biryani (Free Photo | High Angle Pakistan Meal Arrangement, n.d.)

The varied culinary traditions of South Asia are embodied in the intricate cultural legacy of biryani. This fragrant rice has evolved over many generations into a fusion of flavors from various countries and regions. The word "biryani" itself comes from the Persian word "birian," which literally translates to "fried before cooking" (Sen, 2015). Now, we explore how every component narrates how this iconic dish was shaped by its geographic origin, evolutionary changes, and cultural significance.

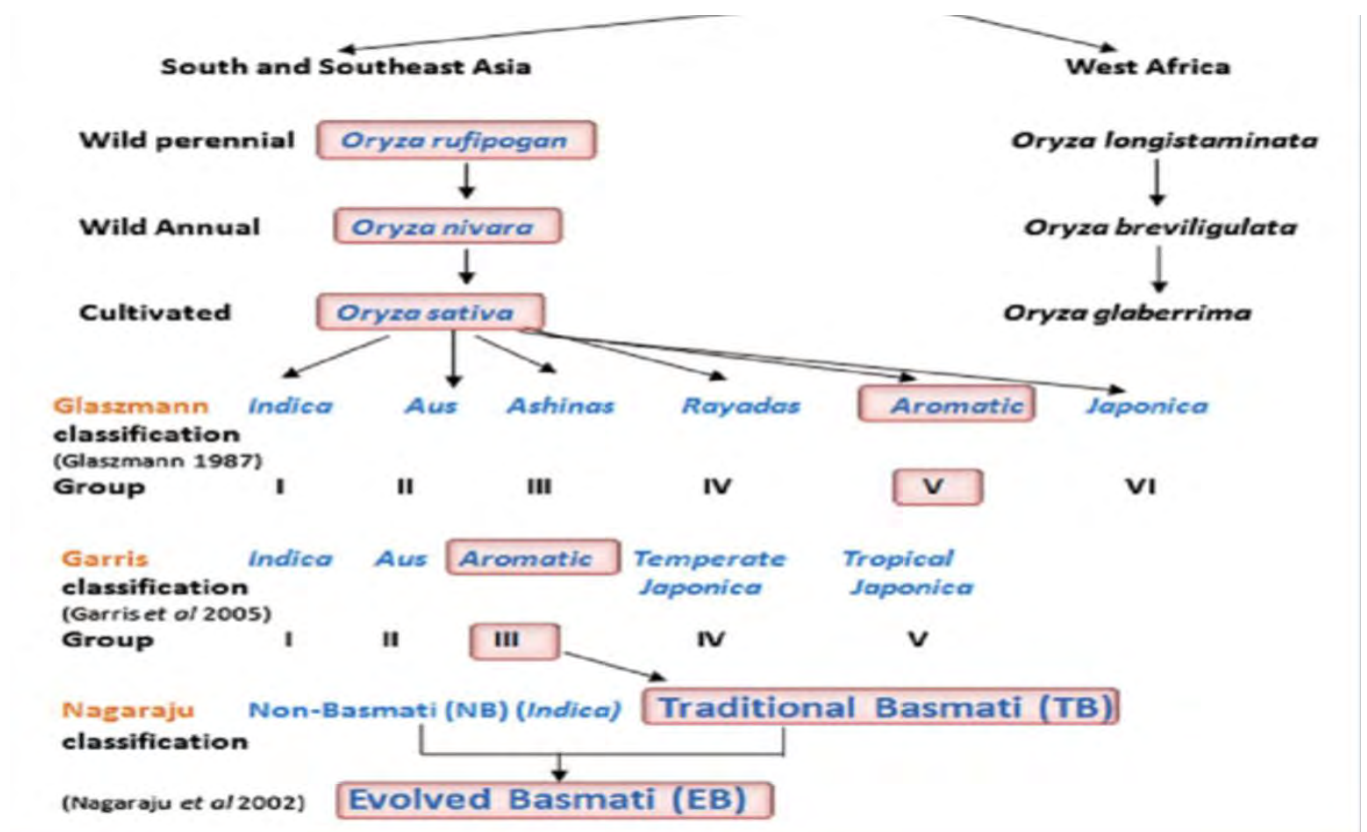


Figure 2. Evolution of Basmati Rice (Siddiq et al., 2012)

Basmati rice, the predominant ingredient in Biryani, is originally from the rich alluvial plains of the Himalayas, Northern India (Siddiq, Vemireddy, & Nagaraju, 2012). Rice requires a temperate climate, plenty of water, and soil rich in nutrients to thrive (Singh, Singh, & Khush, 2015). It has been improved by selective breeding over centuries to provide a unique scent, pest resistance, and longer grains. These attributes make it an ideal variety for biryani because it remains separated at cooking (Singh, Singh, & Khush, 2015). Basmati rice has developed into a commodity due to the recent surge in demand for South Asian foods across the globe (Singh et al., 2015).



Figure 3 . Ingredients used in Biryani (Mundhe, 2024)

The three primary spices used in biryani will be discussed: cloves, cardamom, and saffron. Saffron, with its bright color and distinctive smell, came from Iran to India via the ancient trade routes (Zohary, Hopf, & Weiss, 2012). While cloves, originating from Indonesia's Maluku Islands, were shipped to South Asia via the sea trade routes, cardamom, native to India's Western Ghats, thrives in tropical climates (Parthasarathy, Chempakam, & Zachariah, 2008). These spices were some of the most valuable commodities that dictated the world spice trade and were once worth their weight in gold (Collingham, 2006). Due to its increased accessibility worldwide, biryani has become increasingly popular, especially in Canadian kitchens where South Asian spice combinations are now commonplace (Alam, 2019).

An integral component of biryani is the protein, which reflects regional and cultural variations. Goat meat is preferred in India and Pakistan, particularly in arid and semi-arid areas where goat farming is common. The meat is valued for its rich flavor and tenderness, which add dimension to the biryani (Sen, 2015). Another popular option is chicken, which was domesticated in Southeast Asia. The domestication process was said to be about 8,000 years ago and involved the red junglefowl, *Gallus gallus*, as the most major wild ancestor (Gong, 2017; Zohary, Hopf, & Weiss, 2012). The process ultimately was considered an independent origination in multiple regions due to Southeast Asia and South Asia (Gong, 2017).

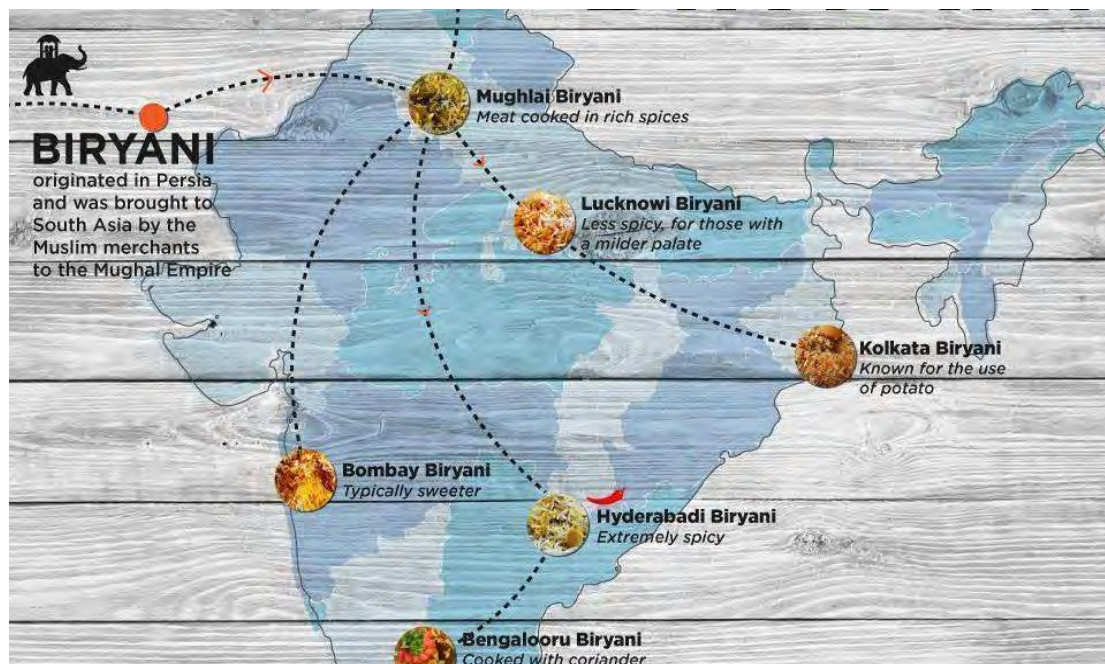


Figure 4. Different types of Biryani found in India (Haadibiryaniadmin, 2020)

Large parts of the biryani's main elements were shaped by the biogeophysical characteristics of the Indian subcontinent (Parthasarathy, Chempakam, & Zachariah, 2008; Sen, 2015). The production of spices is facilitated by the tropical climate of South India, while the Indo-Gangetic plains provide the perfect conditions to grow basmati rice (Singh, Singh, & Khush, 2015). Biryani commemorates important occasions like marriages and regional festivals such as Eid. The dish has been customized to local tastes and ingredients in several places. Kolkata biryani uses potatoes, an homage to the ingenuity of Nawab Wajid Ali Shah's exile (Sen, 2015), whereas Hyderabad biryani, with its rich, spicy character, captures the splendor of the Nizam's court (Srinivas, 2016). Around the world, biryani has changed to accommodate a variety of palates. It influenced recipes like Kabsa in the Middle East, while local ingredients are incorporated into Caribbean variants like pelau (Alam, 2019; Shahzad, 2024). Modern fusion variations in Canada, such as vegan biryani, demonstrate how versatile it is in diverse environments (Alam, 2019).

The biryani has continuously transformed as new ingredients and techniques have been introduced. When dum pukht (slow cooking in a sealed pot) was introduced during the Mughal Empire, biryani evolved into a sophisticated delicacy (Sen, 2015). Its culinary profile was enhanced by new components brought by colonial influences, such as tomatoes and potatoes. Biryani is still changing today. Modern culinary trends are reflected in ready-to-eat types and fusion recipes (Gong, 2017).

My recipe of Biryani

Our chicken biryani requires the following ingredients:

- 1) 500g of chicken with bones (for a deep flavor)
- 2) Two cups of basmati rice (aromatic and fluffy)

- 3) One cup of plain yogurt (which softens the chicken)
- 4) Two tablespoons of ginger-garlic paste (for flavor depth)
- 5) Two tablespoons of sliced green chilies (for a little heat)
- 6) 1 tablespoon of red chili powder (adjust to taste)
- 7) One teaspoon of turmeric powder (for health and color)
- 8) One tablespoon of garam masala, a mixture of warm spices
- 9) Four tablespoons of ghee or cooking oil (ghee adds richness)
- 10) Two tablespoons of freshly chopped mint leaves
- 11) Two tablespoons of freshly chopped coriander leaves
- 12) One cinnamon stick and four to five cloves (aromatic spices)
- 13) 1/4 cup of fried onions that are crispy (for garnish)
- 14) Soak saffron strands in two tablespoons of warm milk (optional, for a luxurious touch)

Let us start making the biryani:

- 1) Dress the chicken for a couple of hours by adding the yogurt, ginger-garlic paste, green chilies, and spices.
- 2) After the basmati rice has cooked with all the spices for 30 minutes, drain it and store it.
- 3) After the onions are caramelized, cook the marinated chicken over low heat for 10 to 15 minutes.
- 4) Layer the Biryani: Put the chicken and partially cooked rice in a pot, with fried onions and saffron milk between each layer.
- 5) Dum Cooking: To allow flavors to meld, cook the pot on low heat for 25 to 30 minutes while tightly sealed.
- 6) Serve: Savor your hot biryani with raita or mirch ka salan and onion salad on the side!

Biryani, which originated in Persia, combines history and culture with basmati rice, spices, and marinated meat. Its versatility and rich legacy bring people from every sphere of lifestyles altogether.

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Butter Chicken: The Story of One of India's Most Prolific Dishes

Article by Liam Hodgins

Indian cuisine is revered around the world for its complex and distinct flavors and aromas. Of many great Indian dishes, few are better known than Butter Chicken. Known for its rich, creamy flavor and its versatility, Butter Chicken has become a staple on restaurant menus everywhere. In this article, we embark on a critical journey through the hotly contested origins of Butter Chicken and one of its key ingredients: Tandoori Chicken. In doing so we will examine the cultural, geographic, and agricultural aspects of the dish that have secured it global stardom. Don't forget to stick around for a delicious Butter Chicken recipe for home that blends traditional values and practices with modern availability and convenience.



Example of Butter Chicken.

Origins

Interestingly enough, the origins of Butter Chicken are contested in Indian Courts to this day. The dispute is between the owners of two well established restaurants: Moti Mahal (owned by the Gurjal family) and Daryaganj (owned by the Jaggi family), who both claim familial ownership of the original recipe (Raj, 2024). Although each side claims a member of their respective family invented the dish, its story in both cases begins in the Moti Mahal restaurant. The original restaurant was located in Peshawar, a village in Northeast British India, which now lies in modern day Pakistan. However, the alleged creators of the dish, Kundan Lal Jaggi and Kundan Lal Gurjal soon relocated to the Daryaganj neighborhood of Old Delhi in 1947 (Basu, 2024). It was at this restaurant where Butter Chicken is said



Figure 1: Map Depicting Original and New Moti Mahal Locations in Modern Day Pakistan and India.

Traditionally, the dish revolves around a creamy tomato based curry, cooked with some key spices, butter, and of course Tandoori Chicken. In this next section, we will explore the cultural significance of these ingredients, and how certain cultural and geographic factors ultimately led to the creation of Butter Chicken.

to have first been prepared.

Originally, the dish was conceived as a way to reuse leftover Tandoori Chicken which had begun to dry up. By placing the chicken in a curried sauce, its dryness could easily be overlooked. At least, that's the story maintained by the Gurjal family, who also claims Kundan Lal Guraj invented Tandoori Chicken in the 1930s. Conversely, the Jaggi family say the creation of the dish came as a response to low kitchen stock, and a large group of customers wanting some type of curried chicken. In either case, Butter Chicken soon became a cultural phenomenon. It was enjoyed by average citizens and public figures alike, growing increasingly popular through the 1950s.

A Symphony of Ingredients

Geographically, India is very diverse and is home to several biogeoclimatic zones. As a result of this variety, Indian cuisine can vary considerably across the country, especially before the rise of commercialization. Butter Chicken originates in the Northern regions of India. The cuisine of this area is known to draw some influence from previous Islamic conquest, and prominently features vegetables cooked in various gravies, often with tomato, onion, or yogurt bases (Raikar, 2024).

Tandoori Chicken is arguably the main ingredient of *traditional* Butter Chicken, and also originates in the north, specifically in the Punjab region (Sagar et al., 2017). Archeological evidence dates Tandoori Chicken to roughly 3000 BC (TOI, 2020). Traditionally, it was roasted in clay ‘tandoor ovens’ which were once used only for baking breads such as Naan. These tandoor ovens used coal as fuel, which provided a distinct smoky quality to the chicken. In addition to archeological evidence, ancient Sanskrit texts also allude to chicken being marinated in yogurt and cooked with spices. Interestingly, this evidence directly contradicts the story of the Guraj family, who claim Tandoori Chicken as their own. This said, the widespread popularity of Tandoori chicken did occur at the same Moti Mahal restaurant where Butter Chicken originated, before making its way to the US in the 1960’s.



The unique blend of herbs and spices, along with its preemptive marinated in yogurt are crucial to achieving the Tandoori flavor. Many of these spices are indigenous to India itself, including Black Pepper, Turmeric, and Ginger. Additionally, spices were obtained from west Asia like Cumin and Coriander. The inclusion of these spices not only added to the aroma and flavor of dishes, but was also believed to have antibiotic properties (Raikar, 2024). Of course, Indian spices cannot be discussed without mentioning Garam Masala. This spice mixture is a key component of several Indian dishes. It is often a mixture of herbs and spices like cinnamon, cloves, coriander, cumin, and ground peppercorns, however exact recipes vary geographically, and are unique to different regions of India. Generally, Tandoori Chicken uses a mixture of Garam Masala, garlic, onion, ginger, cayenne pepper, and red chili powder (Siciliano-Rosen, 2024).

Above: Example of Garam Masala Spice Mix

Global Influence and Modern Adaptations

Butter Chicken has seen many different adaptations since its inception in the 1940's, in part due to its relative simplicity. Although there is still clearly a market for traditional butter chicken, many chefs aim to bring a different take on the classic dish. This was exacerbated by the effects of globalization, as the dish began to make its way onto menus across the globe in the 1960s (TOI, 2020). The United Kingdom, in particular, cultivated an immense liking to the dish. It can be found in kitchens all over London bringing new variety. For example, some chefs add cashews or roasted tomatoes to the sauce to create new depth of flavor, while others add honey to procure a sweeter flavor (Basu, 2024).

As technology and tastes continue to change, Butter Chicken has adapted in a few interesting ways. Due to a ban on coal based ovens, and just general convenience, Tandoori Chicken is most commonly cooked in gas ovens (Raj, 2024). Unfortunately, this diminishes the smokey flavor of the chicken, a subtlety only those with experienced taste will notice. Additionally, original recipes used bone-in chicken, as the whole chicken carcass was often cooked in the tandoor oven. However, modern adaptations almost always use boneless chicken for ease of both cooking and eating. Another key change has been the texture of the gravy. Traditionally, the curry had a coarse texture due to the presence of the cooked vegetables. However as time goes on, popular tastes demand a smooth sauce, which can only be achieved with the use of a blender. While this is generally a more desirable way to eat curry, some still prefer the coarse version, which many restaurants still offer. Additionally, scientific studies have been done on the exact conditions required for ideal Tandoori chicken production, resulting in a general consensus of a 2 hour marination period, and 15-20 minutes in the oven at between 250-280°C (Nair et al., 1994; Sagar, 2017).

Recipe

Below is a recipe for Butter Chicken! This recipe was created by Mallika Basu (2024), published in the National Geographic Magazine, and was adapted slightly for this article.

Method

1. Put the yoghurt on a muslin, then bring the corners together and tie to the kitchen tap for up to 2 hrs, letting the whey drip into a bowl underneath; this will give you strained yoghurt.
2. Place the quartered chicken thighs in a large mixing bowl with the hung curd and all the marinade ingredients. Mix well, then cover and leave to marinate for 2 hours in the fridge.
3. When you're ready to cook, remove the chicken from the fridge and allow it to come to room temperature. Line a baking tray with foil.

4. Heat oven to 250C. Massage the oil into the marinated chicken pieces, then thread them onto metal skewers — use three large skewers or five small ones

5. Put the skewers on a rack on the lined baking tray, then place the whole thing on the top shelf of the oven. Cook for 20 mins, carefully turning every 8 mins or so until the chicken is nearly cooked and some charred bits are visible.

6. Remove from the oven and put the chicken skewers on a plate. Reserve any juices in the pan, loosening them up with a wooden spoon as best you can.

7. For the sauce, tip the passata and chilli powder into a heavy-bottomed saucepan and bring to a bubble on a high heat. Half-fill the passata jar or carton with warm water and pour it into the saucepan, then mix and lower the heat to medium. Use a sieve to strain any reserved juices from the baking tray into the sauce.

8. Slide the chicken off the skewers into the curry sauce. Mix in well to coat. Lower the heat to a simmer, then add in the single cream. Once incorporated, add the chilled butter. Crush the fenugreek leaves with your hand while the butter melts, then stir them through with the sugar. Taste and add salt, if needed. Mix in the garam masala and serve with hot buttered naan.

Ingredients

General	Marinade	Sauce
<ul style="list-style-type: none">- 250g Greek yogurt- 750g Chicken thighs (bone in or out depending on preference)- 3 tbsp neutral oil- Naan to serve	<ul style="list-style-type: none">- 1 piece ginger, peeled and grated- 6 garlic cloves, peeled and grated- 1 tsp chilli powder- 1 tsp paprika- 1 tsp ground coriander- 1 tsp ground cumin- ½ tsp garam masala- 1 tsp lemon juice- 1 tsp salt	<ul style="list-style-type: none">- 500g passata- ½ tsp chilli powder- 75ml single cream- 50g salted butter- ½ tsp dried fenugreek leaves- ½ tsp caster sugar- ½ tsp garam masala

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Images:

Butter Chicken: <https://www.shutterstock.com/search/butter-chicken-recipe>

Garam Masala:

<https://www.google.com/url?sa=i&url=https%3A%2F%2Fwww.dreamstime.com%2Fcolourful-spices-garam-masala-food-ingredients-indian-spice-mix-powder-selective-focus-image106913235&psig=AOvVaw3U-wZelAJkTDSualUsILUy&ust=1733189642170000&source=images&cd=vfe&opi=89978449&ved=0CBQQjRxqFwoTCKDqk9v4h4oDFQAAAAAdAAAAABAE>

FERMENTED NOW



Let's Ferment Together!

Fermentation is more than just a culinary technique, it's a tradition that brings people closer together, a way to connect with culture and community. The fermentation of kimchi is mainly driven by lactic acid bacteria, such as *Lactobacillus kimchii*, which convert the sugars in vegetables into lactic acid. This process not only preserves the cabbage but also creates the tangy flavor that is characteristic of kimchi. The acidic environment produced during fermentation prevents harmful bacteria from growing and helps produce probiotics for your health (Lee & Park, 2021).

Explore the Roots of Kimchi!

Kimchi, a staple of Korean cuisine, is not only a symbol of community, but also of resilience. It was developed due to the need to preserve food during harsh winters, kimchi has evolved over 2,000 years into the spicy, flavorful dish found all over the world today. From its origins in traditional preparation to its modern popularity, kimchi tells the story of Korea's people.



Discover the Ingredients

From crisp napa cabbage to red fiery and spicy gochugaru, each ingredient plays a role in the story. Learn how these simple vegetables and spices come together to create a dish that's packed with flavor and history.

Did you know?

Kimchi is packed with probiotics, which are great for gut health; one reason it's considered one of the healthiest traditional foods in the world



The vibrant red color of modern kimchi, along with its distinctive spice, is a direct result of this exchange. This marked a turning point in Korean culinary history, since Kimchi evolved from a simple salted vegetable dish into the spicy version most commonly consumed today. The tradition of fermenting vegetables began over 2,000 years ago, as a necessity to survive through harsh Korean winters (Lee, 2015). Early forms of kimchi were simple, salted radishes or cabbages stored in large earthenware jars. However, overtime kimchi developed its characteristic combination of spiciness, acidity, and umami.

Evolutionary Transitions of Ingredients

The evolution of kimchi is closely tied to its ingredients, the earliest records of kimchi date back to the Three Kingdoms period (57 BC – 668 AD), when vegetables were pickled in brine for preservation.

During the Goryeo Dynasty (918-1392), napa cabbage became a key component, since it was ideal for fermentation due to its dense leaves and high water content, which could be preserved much longer than other vegetables (Chung & Park, 2016). This understanding of fermentation and ingredient selection strongly emphasizes the expertise of Korean farmers over many generations.

As mentioned, the introduction of chili peppers during the Joseon Dynasty (1392-1897) was the key to the evolution of modern kimchi. Chili peppers quickly became an integral component of Korean cuisine, giving kimchi its distinctive spicy flavor (Kang, 2019). By the 18th century, fish sauce or fermented seafood were also added, especially in coastal areas, which adds a rich umami depth to the flavor. The study of kimchi clearly illustrates that its evolution was fueled by cultural exchanges, resource adaptation, and a constant pursuit of taste and nutrition.

Geographic Origin and Main Ingredients

The main ingredients of kimchi include napa cabbage, radishes, garlic, ginger, and gochugaru (Korean chili pepper), which highly reflects Korea's agricultural heritage. Napa cabbage is the key ingredient for this recipe, it is native to East Asia, and forms the foundation of most kimchi varieties. The introduction of chili peppers was a success in Korea, and they quickly became an essential part of Korean cuisine. Chili peppers arrived in Korea in the late 16th century through trade routes.



The porous onggi allowed for an optimal airflow, which is another crucial element for the process. These bio-geographical factors were fundamental in the development of kimchi.

Cultural Practices: The Ritual of Kimjang

Kimchi production is closely tied to kimjang, also known as the communal tradition of preparing large batches of kimchi ahead of winter. Historically, kimjang was a practical way to ensure communities had enough food to last through winter. Today, it remains a cultural ritual practiced to bring people together, and placing an emphasis on both unity and resilience (Choe & Kim, 2013).

During kimjang, families and neighbors get together to prepare large quantities of kimchi. The process involves not only the preparation of vegetables but also a series of shared stories, laughter, and bonding. In 2013, kimjang was recognized by UNESCO as an Intangible Cultural Heritage of Humanity; a practice recognized as a part of their cultural heritage (UNESCO, 2013).

One popular saying during kimjang is that the first snowfall marks the ideal time to start making kimchi. As previously mentioned, cold weather ensures that the vegetables remain crisp during fermentation. This connection to the rhythms of nature is part of what makes kimjang such a deeply meaningful tradition. It is not just about sustenance; it is about connecting with the cycles of the earth.



Geographic and Environmental Factors Influencing Kimchi

The climate of Korea has also played a crucial role in shaping kimchi. This country is known to have hot, humid summers and cold winters, which played a major part in the development of kimchi. Korea's nutrient-rich volcanic soil and temperate climate make it easy for farmers growing napa cabbage and radishes. (Park et al., 2021). Furthermore, winter temperatures provided the perfect environment for the fermentation of napa cabbage. This is because colder temperatures cause carbon dioxide to be produced at a slower pace, resulting in a much more complex flavor profile (Lee, 2018).

The use of large earthenware jars, known as onggi, was central to the fermentation process. These jars, often buried underground, maintained a stable temperature. Important for proper fermentation!

Variants and Adaptations Across Regions and Cultures

Contrary to popular beliefs, kimchi is not a single dish, it encompasses over 200 varieties, each influenced by regional, seasonal, and cultural factors (Kim & Jung, 2020). However, Baechu kimchi (napa cabbage kimchi) is by far the most well-known type, but other varieties have distinct characteristics based on local ingredients. In coastal areas, jeotgal (fermented seafood) is often added, giving the kimchi a more pungent flavor, while inland regions may only use vegetables (Cho, 2019).

Some other common varieties include kkakdugi (cubed radish kimchi), and oi sobagi (stuffed cucumber kimchi), often eaten during the summer months. Kimchi's versatility has led to the international appeal observed today and its incorporation into global cuisine, from kimchi fried rice to kimchi burgers (Smith, 2022).

During more difficult periods, such as the Korean War, kimchi recipes were adapted to include whatever ingredients were available. Today, chefs around the world are incorporating kimchi into their own culinary creations.

Consumption Patterns and Global Popularity

Kimchi's role has transitioned from a traditional Korean side dish to a health food consumed worldwide. In Korea, kimchi is a staple of everyday meals, commonly served alongside rice and other dishes (Kim, 2017). It is said that an average Korean consumes about 20 kilograms of kimchi per year, highlighting its important place in the diet (Lee & Park, 2021). The tradition of eating kimchi with every meal is deeply ingrained, and many Koreans believe that a meal without kimchi is incomplete.

Globally, kimchi's popularity has significantly increased in recent years, which is most likely due to the rising interest in fermented foods and their health benefits. Kimchi is rich in probiotics, vitamins, and antioxidants, which contribute to gut health and boost the immune system (Lee & Park, 2021).



South Korea's kimchi exports have grown as demand for authentic fermented foods has increased, particularly in North America and Europe (Chung, 2020). In the first half of 2024, South Korea exported close to 900 tons of kimchi to Canada, marking a 34% year-over-year increase. This equated to a value of \$3.8 million, which clearly shows the growing demand in Canada for this traditional Korean dish (Yonhap News Agency, 2024). This impressive increase of kimchi can also partially be due to the spread of Korean culture through the "Korean Wave" (Hallyu), which has popularized Korean music, television, and cuisine across the world.



Simple Recipe: Baechu Kimchi

Ingredients:

- 1 medium napa cabbage
(about 2-3 pounds)
- 1/4 cup coarse sea salt
- 4 cups water
- 1 medium apple, peeled
and pureed
- 1/4 cup gochugaru (Korean
red chili flakes)
- 4 cloves garlic, minced
- 1 tablespoon grated ginger
- 4 scallions, chopped
- 2 tablespoons fish sauce



Instructions:

Prepare the Cabbage: Cut the napa cabbage into quarters lengthwise, then chop into 2-inch pieces. Dissolve the salt in the water and submerge the cabbage in the saltwater. Let it sit for about 1-2 hours, tossing every 30 minutes to ensure even brining.

Rinse and Drain: After brining, rinse the cabbage thoroughly under cold running water to remove excess salt. Drain well and set aside.

Make the Kimchi Paste: In a large mixing bowl, combine the apple puree, gochugaru, minced garlic, grated ginger, chopped scallions, and fish sauce. Mix well to form a paste.

Combine with Cabbage: Add the drained cabbage to the bowl with the kimchi paste. Using clean hands (wear gloves if you prefer), massage the paste into the cabbage until all pieces are evenly coated.

Pack into Jar: Pack the seasoned cabbage tightly into a clean glass jar or airtight container, pressing down to remove any air pockets. Leave about 1 inch of headspace at the top.

Ferment: Seal the jar and leave it at room temperature for 1-2 days to begin fermentation. After 1-2 days, transfer the kimchi to the refrigerator, where it will continue to ferment slowly. Allow it to ferment for at least 1 week before consuming for the best flavor.

The inspiration for adding apple puree to my kimchi recipe came from a desire to balance the traditional spice with a natural sweetness. A friend once told me that the best kimchi always has a hint of sweetness that rounds out the flavors, and adding a pear or an apple achieves this in a simple, yet effective way!

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CANTONESE-STYLE



MOONCAKES

FOR THE GASTRONOMIC JOURNAL

MOONCAKE RECIPE

INGREDIENTS:

For the dough:

150 g golden syrup (inverted sugar syrup)

1/2 teaspoon lye water (枧水)

50 g neutral cooking oil

220 g all-purpose flour

For the paste:

100 g dried lotus seeds

75 g sugar (or to taste)

50 g neutral cooking oil

You also need:

20 salted duck egg yolks

cornstarch (for dusting)

1 egg yolk (for brushing)

Equipment:

mooncake mold

pastry brush

01 - Cook the paste

Soak dried lotus seeds in water overnight. Drain well and remove the green bit in the center (if any).

Cook the seeds in simmering water (enough to cover) until soft (about 30-40 minutes). Drain then puree them in a food processor (add a little water if necessary).

Transfer the puree into a non-stick pan. Cook over medium heat. Add sugar and oil in batches. Stir and flip constantly. Once the paste becomes dry and holds in shape, remove from the heat to cool.

02 - Prepare the dough

Mix golden syrup, oil and lye water until well incorporated. Add flour. Combine and knead briefly to form a soft dough.

Cover with plastic wrap and rest for 30 minutes.

03 - Assemble and shape

Put one salted egg yolk and some lotus seed paste on the scale. Adjust the filling to reach 30g.

Flatten the paste into a round wrapper. Place the egg yolk in the middle. Gently push the paste upwards to seal the yolk completely.

Flatten 20g of the dough into a wrapper. Use the same method to tightly wrap around the filling and make a ball.

Coat the ball with a thin layer of cornstarch. Put it into a mooncake mold.

Over a baking tray lined with parchment paper, place the mold with the opening facing down. Gently press the handle to shape the cake. Lift the mold and press again to release the cake.

04 - Bake

Preheat the oven to 375°F/190°C.

Bake the cakes for 5 minutes. While waiting, mix the egg yolk with 1 teaspoon of water for brushing later.

When the time is up, reduce the oven temperature to 320°F/160°C.

Take out the mooncakes and brush their top with a thin layer of the egg wash.

Put them back into the oven and bake for a further 5 minutes. Take out and coat them with another layer of egg wash. Then continue to bake for 10-15 minutes until evenly brown

04 - Rest and store

Transfer the baked mooncakes to a cooling rack. Once completely cooled, store them in an airtight container for 1-2 days before consumption. They are ready to be served once soft to touch and appear shiny.

You may keep them in the fridge for up to 2 weeks.



THE CANTONESE DELICACY OF THE MID- AUTUMN FESTIVAL

I grew up in Hong Kong celebrating the Mid-Autumn Festival and eating the traditional Cantonese delicacy: mooncakes. Revered for their intricate designs, these pastries are rich in taste and history. Devastatingly, I missed the Mid-Autumn Festival this year, as it is a different day each year based on the lunar calendar (15th day of the 8th month of the year). Since moving to Victoria, I have fallen out of touch with many of the cultural traditions and activities I grew up with, so this project posed the perfect opportunity to fix that.

Cultural and Historical Context

The Mid-Autumn festival is at least 3,000 years old, marking the end of the seasonal harvest as an opportunity for gratitude and reunion. Its origins began as a farmers' ritual to honor the Chang'e, the Moon Goddess. The legend of Chang'e is a central narrative in Chinese mythology; I have distinct memories of learning this story throughout elementary school (along with the epic tale of Qu Yuan behind the Dragon Boat Festival). In the ancient story dating back to the Tang dynasty, Chang'e drinks two elixirs of immortality to prevent her cruel and tyrannical husband, Hou Yi, from

misusing their power. In reward for her sacrificial act of selflessness, she ascends to the moon, where she remains a symbol of devotion. This myth connects to earlier references in the *Huainanzi*, a philosophical text from the Western Han dynasty. Mooncakes, the Mid-Autumn Festival's iconic treat, also have a vibrant history.

They were first distributed in the Tang dynasty, either as military victory

gifts from Emperor Taizong or from Emperor Xizong to celebrate scholars' success. In the 14th century, mooncakes allegedly played a role in China's liberation from Mongol rule, led by Zhu Yuanzhang. They became tools of rebellion, concealing secret messages that orchestrated a successful uprising, allowing the Ming dynasty to take over in 1368 (Tchea, 2024). These enduring narratives and traditions help preserve cultural heritage, fostering a strong sense of shared history among the Chinese (and broader Southeast Asian) community. Culture is a living and breathing component of the human experience, and thus the tradition has evolved into a cultural celebration across the Sinosphere. Contemporary celebrations of the festival included traditional performances like the lion dance and dragon dance (or the vibrant fire-dragon dance in Hong Kong), colorful lanterns, family dinners, barbecues (especially in Taiwan), mooncake sharing, and enjoying round fruits like pomelos.

Variations and Adaptations

Today mooncakes are used in cultural celebrations across Asia in Singapore, China, Japan, Vietnam, and Korea, with each country altering the taste and appearance according to available ingredients but maintaining the symbolism of the full moon as a force of harmony and togetherness. In China, the traditional salted egg yolk and lotus paste filling is most common, although new variations have developed with ice cream, fruit, and custard. The unique embossed designs carry auspicious messages of longevity, prosperity, and happiness. In South Korea, Chuseok (or hangawi) is celebrated around the same time. At festive gatherings, a variation of the mooncake, songpyeon, is eaten. Songpyeon is a half-moon-shaped rice cake steamed with various fillings containing sesame seeds, honey, chestnuts, and persimmons. In Japan, they celebrate Tsukimi ("looking at the moon"), making rice cakes known as mochi with sweet potato, matcha, and red bean paste. In Vietnam, the Mid-Autumn Festival is known as Tet Trung Thu. Made of mung bean paste or lotus seed paste, the mooncakes come in two types: *bahn nuong* (oven-baked) and *bahn deo* (soft-crust). Over half of the population of Singapore is of Chinese descent, so many of the Mid-Autumn festivities directly translate. Mooncakes are customary but with local ingredients such as pandan and coconut (Guzman, 2022).



THE MAIN INGREDIENT: LOTUS SEED PASTE

The lotus (*Nelumbo nucifera*), an aquatic perennial herb, has been used functionally as a food source and medicinally for over 7,000 years (Arooj, 2021). It belongs to the plant family Nelumbonaceae with only one genus (*Nelumbo*) and two species: *N. lutea* and *N. nucifera*. The former is found in eastern and southern North America while the latter is found in Asia, Australia, and Russia. Originally a terrestrial plant, it adapted to grow in aquatic environments.

History and Traditional Medicinal Uses

The iconography of the Lotus plant has been identified in ancient civilizations: Egyptian hieroglyphs and paintings represent the blue lotus (*Nymphaea caerulea*) and it is also described in Vedic texts. It is sacred in both Hinduism and Buddhism (Ming, 2013). The *Nelumbo nucifera*'s roots were traditionally crushed into an aphrodisiac concoction by monks and nuns (Bakr, 2019). The Lotus has been cultivated historically for its seeds, buds, flowers, anthers, stamens, fruits, leaves, stalks, rhizomes, and roots. In its various edible components, it can be consumed raw or cooked, and ripe or unripened. Its other traditional medicinal uses include treatment for cholera, pharyngopathy, pectoralgia, spermatorrhoea, epistaxis, metrorrhagia, haematemesis, hepatopathy, and hyperdipsia. In Ayurvedic medicine, the plant is used as a "diuretic and anthelmintic and in the treatment of strangury, vomiting, leprosy, skin diseases and nervous exhaustion" (Mukherjee, 2009, pg 407). *N. nucifera* seed embryos are used in traditional Chinese medicine for high fevers, insomnia, nervous disorders, and cardiovascular diseases.

Characteristics of the *Nelumbo Nucifera*

There has been a surge of genetic research on the lotus in the last couple of decades investigating the mysterious medicinal properties of the plant rooted in traditional knowledge. With bioinformatics and the development of new technologies, two sacred lotus genomes have been sequenced (Lin, 2019). A series of ecological adaptations have allowed this plant to thrive in relatively stagnant freshwater environments.

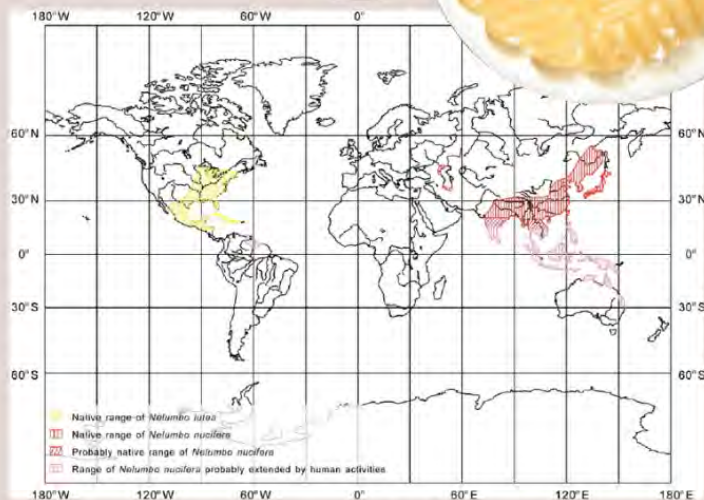


Figure 1. 2016 map of distribution of lotus species (Lin, 2019).

Anchored by an extensive root system, the *Nelumbo nucifera* extracts nutrients from sediments while the superhydrophobic plant leaves prevent sediment accumulation. This self-cleaning mechanism is referred to as the "lotus effect," and is being explored in biomimetics (Yang, 2024). Ecologically, the species is critical in the biodiversity of aquatic ecosystems through a process called biofiltration, purifying the water of pollutants. Agriculturally, it is valued for its resilience in facing environmental stressors. The Lotus has a large quantity of copper proteins compared to other plants, allowing it to adapt to phosphate starvation and drought stress (Ming, 2013). The circadian clock gene family, tasked with signalling light/dark cycles and temperature adjustments, has more expressions in lotus than other plant genomes. The lotus is a nutritional powerhouse. The rhizomes are a rich source of dietary fibre, vitamin C, and potassium. Lotus seeds have an impressive protein profile, containing all the essential amino acids. Additionally, they contain the critical micronutrients: calcium, zinc, iron, magnesium, phosphorus, and B vitamins. Classes of phytoconstituents such as alkaloids, flavonoids, steroids, triterpenoids, glycosides, and polyphenols have been isolated in various parts of the plant. A multitude of pharmacologically active constituents of lotus have demonstrated antioxidant, anticancer, antiviral, anti-obesity, anti-ischemia, antipyretic, hepatoprotective, antidiarrhoeal, antifungal, antibacterial, anti-inflammatory, and diuretic properties.

NELUMBO NUCIFERA

importer being Japan) (Guo, 2008). Although mostly exporting to Southeast Asia, global consumption has expanded in recent years to accommodate the diasporic Chinese community, especially around the Mid-Autumn Festival. There is an estimated production of around 45,000 tons of dry seeds as well as 9 million rhizomes every year (Arooj, 2021).

Cultivation

The ideal growing conditions for the Lotus consists of clay-rich, waterlogged soils. Lotus is cultivated in three methods. The first is together with rice or vegetables; after it is harvested in July, rice is planted to be harvested in October. The second method is to leave the *N. nucifera* rhizomes in the field after ripening and plant cabbage or spinach with them in the drained field. The third technique is to raise fish, shrimp, or crabs with lotus, creating a multi-functional farming system with little waste. There are additional farming strategies that make farming more efficient, such as the implementation of plastic covers supported by bamboo beams as well as water and fertilizer protection (Guo, 2008). The evolution of the lotus rhizome is mainly the product of breeders' selection; cultivars have evolved based on specific (profitable) characteristics: comparatively fewer flowers, larger ratio of rhizome width to length, rounded rhizome stem, earlier maturation. In farming, rhizome lotus are often selected over seed lotus because they generate more income. Flower lotus cultivars have followed a diverging evolutionary trajectory to compliment the aesthetic characteristics: flower shape transforming from reverse conical to bowl-shaped, petal colour profiles changing, etc. For sustenance, lotus seeds are often roasted, boiled, or ground into flour. In Indian markets, they are sold as a legume under the name "kamal gatta" (Mukherjee, 2009). Thanks to radiocarbon dating, we know they have a viability period of around 1,300 years. The starchy rhizomes are utilized as a root vegetable in soups and stir-fries. The leaves are commonly used to wrap food for steaming, much like banana or bamboo leaves.



Figure 2. Variations of wild lotuses with provincial codes (2016).

The Lotus Economy

Lotus is extremely economically valuable across Asia. Lotus is most extensively cultivated in China around the Yangtse River (provinces of Hubei, Zhejiang, Anhui, Jiangxi, and Hunan). It is one of the 26 highest-grossing vegetables, making it an important resource to export. Storing fresh rhizomes is difficult, involving methods of film-wrapped stacking, sand storage, and saline solution preservation which prevents oxidation and bacteria growth. Because of how challenging this is, they are mostly processed in products using salt-curing, freezing, and vacuum-sealing to transport (with the biggest

After World War II had ended, nearly all livestock in Okinawa was destroyed, leaving the pig farming industry in ruins. Before the war, Okinawa had the largest number of pigs in Japan with 140,000 pigs recorded in 1938, and by 1946 that number had fallen to less than 10% of its pre-war number.

In the immediate postwar period, pig farming was revived under the guidance of the US Civil Administration. The Western pig breeds from the US and mainland Japan were imported, but the number of pigs remained critically low.



<https://www.hawaiipublicradio.org/local-news/2018-09-19/remembering-the-pigs-from-the-sea>

Recognizing the urgent need, the Okinawan immigrant community in Hawaii united to help their homeland recover. Understanding the importance of pigs as both a food source and a provider of manure for crops, they founded the Hawaii Okinawa Relief Association and raised over \$50,000 (which is the equivalent to about half a million dollars today). Despite facing poverty and discrimination, they purchased over 550 breeding pigs from Omaha, Nebraska and arranged for their transport on the USS John Owen.

Seven Okinawan men accompanied the pigs to ensure their survival on the dangerous 5,000km journey, facing sea mines and a typhoon. A month later later on September 27th, 1949 the ship arrived safely at White beach and the pigs were distributed across Okinawa by lottery. After 4 years, the number of pigs reached 100,000 reviving pig farming in Okinawa.

This generous act remains deeply appreciated by Okinawans, who remember how the pigs that came across the sea profoundly impacted their postwar lives, and is celebrated as the “pigs from the sea day” in Hawaii as well.



<https://www.hawaiipublicradio.org/local-news/2018-09-19/remembering-the-pigs-from-the-sea>

However, due to the impact of the war and the introduction of western breeds, the number of the island pigs ‘Agu’ drastically decreased, and was even thought to be extinct at one point. Until in 1981, when about 30 heads were confirmed to exist by the prefecture-wide survey by the Nago Museum.

18 of the 30 were brought to the Prefectural Northern Agriculture and Forestry high school with a goal to remove any hybridization by carrying out backcrossing over a period of about 10 years.

Citations for this page:

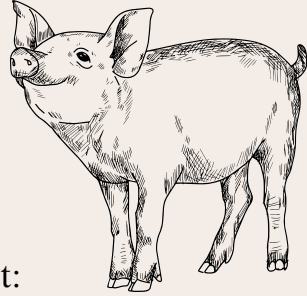
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https://www.his-j.com/kokunai/kanto/tour_info/okinawa/catchy/?p=7688#:~:text=%E3%82%A2%E3%82%B0%E3%83%BC%E3%81%AF%E3%80%81%E6%B2%96%E7%B8%84%E5%9B%BA%E6%9C%89%E3%81%AE,%E3%80%8C%E5%B3%B6%E8%B1%9A%E3%80%8D%E3%81%AB%E3%81%82%E3%82%8A%E3%81%BE%E3%81%99%E3%80%82

Characteristics of Agu meat:

- rich in Umami (glutamic acid)
- has a lot of marbling → its a characteristics of native pigs
- has a soft taste and the fat contains alot of sweetness



Characteristics of Agu pig:

- Fully black bodies
- Ears hung down low
- Their backs are sunken
- Short legs

https://www.maff.go.jp/e/policies/market/k_ryouri/areastory/1494/index.html

In 2011, further selection was conducted through genetic testing, and the “Okinawan Agu Pig Certification Regulation” (formally the Ryukyu Native Agu Pig Certification Regulation) were established, and distributed to Agu pig farms that met the criteria.

The Certification Criteria includes (examples):

- Have more than 5 years of experience in pig farming and have excellent pig breeding and meat production techniques
- Agu brand shipping target of 300 or more pigs / year
- Agu brand pigs shipped over 300 heads / year
 - Brands that meet the 10 criteria’s (including the one’s shown above) can be certified.

There are 13 farms designated for Agu brand pig production so far, with these farm indications marks:



<https://okinawa-agu.com/>

Currently, the majority of registered “Agu” is a cross breed between a male native Agu and a female LY, which is a half Landrace and half Danish Yorkshire.

These cross breeds share characteristics from both Agu and LW, and have white and black spots, but the meat has more characteristics from the Agu (sweet fat, lots of marbling, and rich in Umami).



Citations for this page:

Agu Okinawa Prefectural Meat Center (2024). What is Agu? https://pig-osc.jp/?page_id=9
 Okinawa Prefecture Agu Brand Promotion Council (2024). Okinawan Brand Prok AGU <https://okinawa-agu.com/>
 Okinawa Island Guide (2024). Agu pork is at the root of Okinawan food culture <https://www.oki-islandguide.com/specialfeatures/agu-pork-is-at-the-root-of-okinawan-food-culture>

A commonly used phrase about the pork-eating culture in Okinawa is:

“We eat every part of the pig except for its squeal” as every part, from the skin to the internal organs is cherished and fully consumed. In Okinawa, there is a traditional Chinese medicinal concept called “i ru i ho ru i 以類補類” that translates to “using like to supplement like”.

This idea suggests that eating the same part of a pig as the area where one feels unwell can help heal that ailment.

For instance, if you're feeling tired you might consume chim (liver) that is rich in vitamins, if your legs hurts, you could eat ashitebichi (braised pig's feet) loaded with collagen, if you're anemic you might try chi-irichi (stir-fried blood), and if you're having a stomach ache or want to reset your gut, you could eat the Nakami (internal organs) including the intestines and so on.

It is customary to use the skin of the face, ears, feet, and internal organs, and without waste.



<https://www.orionbeer.co.jp/story/okinawa-pork/>

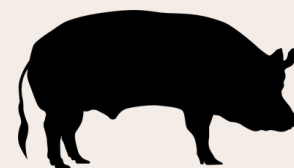
“Nakami-jiru” is a soup which uses the innards of the pig such as the large intestine, small intestine, and stomach. It is eaten as a New Year's dish or for celebrations and memorial services, but nowadays it is also popular as an everyday food as well.

It is a clear soup with a refined and mild flavors of the pork and bonito broth, and it is common to add ginger for flavor. The innards have a very soft texture with a unique but comforting flavor.



Ingredients:

- Pork broth
- Bonito broth
- Pig offal --- intestines and stomach
- Konjac
- Shitake mushrooms
- Ginger (optional)
- Salt
- Soy sauce



https://www.maff.go.jp/j/keikaku/syokubunka/k_ryouri/search_menu/menu/47_1_okinawa.html

How to prepare:

- innards of the pork are carefully washed with soybean pulp and wheat flour
- Boil and drain many times until soft (at least 6 or 7 times) → to remove the fat and odor
- Cut the contents into thin strips and drain the water
- Combine pork and bonito broth and bring to a boil, add the contents, shitake mushrooms and konjac if preferred.
- Season with salt and soy sauce (light seasoning because the broth adds lots of flavor)
- Simmer over medium heat to let the flavors soak in.
- Grated ginger maybe add as well as kamaboko fish cakes.

Citations for this page:

Ministry of Agriculture, Forestry, and Fisheries (). Nakamijiru (meat soup) Okinawa Prefecture
https://www.maff.go.jp/j/keikaku/syokubunka/k_ryouri/search_menu/menu/47_1_okinawa.html

Grand Front Osaka (). Ideology is at the root of culture. The reason why people in Okinawa eat all parts of pigs except for their squeals, *Umekiki*
<https://www.umekiki.jp/food-study/column/1185/>

Global consumption of pork:

Pork holds a dominant position in global diets, accounting for 36% of the world's meat intake as reported by the United Nations Food and Agriculture Organization. Its popularity stems from its rich flavor, versatility in cooking, and cultural significance across various regions.

Global consumption is currently at 112.6 kilotons with projections anticipating a rise to 129 kilotons by 2031. Consumption patterns vary by country, with China leading as the largest consumer where pork is a dietary mainstay, accounting for nearly half of the world's pork intake. The cultural significance of pork is evident in traditional dishes like Nakami-jiru from Okinawa, and each dish illustrates the adaptability of pork, demonstrating its appeal across diverse cuisines and cooking methods.



Global consumption of Pig intestines:

Many cultures embrace pork offal including parts like liver, kidneys, heart, intestines, and stomach which are known for their distinctive flavors and rich textures. Affordable and nutritious, pork offal appeals to those interested in exploring varied culinary traditions.

Examples:

Italy --- Umbria offers a sausage made entirely from pig intestines, while Northern Italy features Cotechino, a raw sausage often boiled and including pig bowels among its ingredients.

China --- stir-fries and braises frequently highlight pig intestines, and are common menu examples.

Philippines --- Dinuguan uses a dark rich broth filled with pork intestines, ears, and checks, while Kawali includes pig heart and intestines.

Southern USA --- Chitterlings include small pig intestines and are typically battered and fried or stewed with onions.

Cotechino



Stir-fry



Dinuguan



Chitterling



<https://www.eater.com/2015/6/16/8786827/where-to-find-offal-organ-meat-international-cuisine>

Citations for this page:

R.Sietsema (2015). The Offal-Eater's Handbook: Where to Eat Organs All Over the World, *Eater*

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Nasi Goreng



Ready in **40 minutes**

Serves **8 people**

280 calories

Ingredients

Nasi goreng

- 3 cups of Jasmine rice
- 1 Leek
- 175g of Ham
- 2 Chicken breasts
- 2 packages of Conimex Nasi Goreng Mix (Onion, carrot, leek, fennel, salt, coriander, garlic powder, soy sauce powder (salt, soybeans, wheat, sunflower oil), ginger, natural flavours, yeast extract, cumin, sugar, barley malt extract, turmeric, rapeseed oil, galanga root, pepper, fenugreek, chili pepper, bay leaf, lovage)

Peanut sauce

- Peanut butter
- Maple syrup
- Milk
- Soy sauce
- Kecap manis
- Sambal oelek

Preparation

Nasi goreng

1. **Cook rice with 1 cup of water per cup of rice until fluffy.** Remember to rinse rice prior to cooking to remove excess starch.
2. **Dice leek into thin strips with the grain.** Wash leek thoroughly prior to dicing to remove dirt between layers.
3. **Cut ham into 1cm-by-1cm squares.**
4. **Cook chicken until cooked through then dice into similar sizes to the ham.** Cook chicken with a small amount of olive oil, salt, pepper, garlic powder, and thyme.



5. **In a large pot, add leek with olive oil and cook on medium heat. Add chicken, ham and nasi goreng mix and stir until ham begins to curl. Add rice and 4 scoops of peanut sauce and mix together.**





Peanut sauce

6. **Combine 4 spoons of peanut butter and milk in a saucepan over low heat until smooth. Add maple syrup, soy sauce, kecap manis to cut peanut butter taste. Add sambal oelek for heat. Mix until dark brown colour and a savoury peanut butter taste. Add individual ingredients until the perfect blend is reached. No measurements given to preserve family secrets and due to sauce being made from intuition and experience. If the sauce separates, superstition states that the chef prepared the sauce with a hangnail.**



What is Nasi Goreng?

Nasi goreng flavourful and comforting meal that is enjoyed around the world by millions of people. The dish is the national food of Indonesia and translates to “fried rice” in Indonesian (Stone, 2024). It traditionally consists of leftover rice and vegetables stir fried with eggs, ketchup manis (sweet soy sauce), and sambal oelek (Indonesian red chili sauce). It is eaten at any time of the day and, like many rice dishes, is a staple food for people across Asia.

The Importance of Rice

Rice is one of the oldest foods humans have domesticated. It is a cereal grain that was first cultivated from its wild ancestor, *oryza rufipogon*, between 11,000-12,000 BC in the Yangtze River Valley of central China (Zhao, 1998). There is much research done into the specific origins of rice and every country in Asia has claimed to have proof of their people being the first to domesticate this staple food (Callaway, 2014). Two of the most popular varieties of domesticated Asian rice are: japonica (short-grained) and indica (long-grained). Both stem from a common ancestor and were likely domesticated during a single event with multiple introgressions occurring due to hybridization between species (Huang, 2016). Selective breeding and artificial selection have caused changes to the morphological traits and physical characteristics. Changes include increase grain size, reduced grain dormancy, increased grain number, and loss of grain shattering (Callaway, 2014). These traits have greatly benefited the cultivation of rice as a product of agriculture and increased its

appeal as a food source. Global estimates of rice consumption in 2023 were 520 million metric tonnes compared to 437 million in 2009 (Statista, 2024). Canadian consumption of rice in 2021 was estimated to be 14.6 kg per capita, adding up to be 584 thousand metric tonnes country-wide (HeligiLibrary, 2024).

How Has History Impacted the Dish?

(Legge and Wolters, 2014) Indonesia has had a long history of colonization and occupation by other nations. The archipelago of Indonesia did not gain independence until 1949 and was not recognized as a country until 1969 when they acquired the western segment of New Guinea. During the 16th century the Maluku islands were known as the spice islands and were the major hub of the European spice trade. Many islands were occupied by the Portuguese until the Dutch East India Company monopolized the spice trade in the 17th century (Legge and Wolters, 2014). Over time, the Dutch began to annex Indonesia until it was a colony of the Dutch empire. Trade and exportation of spices spread nasi goreng around the Netherlands and in present day, it is a common dinner. Other cultures have influenced the dish over time. The proximity of Indonesia to China allowed for the migration of Chinese populations in the 13th century. The cultural practice of using up all leftover food birthed the original recipe of nasi goreng. Large populations of Muslims on the island of Java

between the 15th-17th century influenced traditional nasi goreng to exclude pork from the dish because it is haram.

My Experience with Nasi Goreng

My family heritage is Dutch and observing the temporal evolution of the nasi goreng was interesting to compare to the traditional Indonesian with the dish I am familiar with. It is a recipe that has been passed down in our family since my great Opa and is traditionally passed down to the oldest grandchild. We include ham because none of my family is Muslim, and we also make our own peanut sauce because it is a very common sauce in the Netherlands. I remember my Opa always telling me how diluted the sambal oelek has become over the years. The original recipe called for a single teaspoon to achieve the perfect spice portfolio; now it requires five tablespoons. This could be due to the product becoming highly commercialized over the past 50 years and dilution was used to produce more volume for less. However, I could not find any evidence for this claim.

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Pad Kee Mao (ผัดซีเม่า)

Introduction

Pad Kee Mao or 'Drunken Noodles' is a dish most likely originates from the central region of Thailand. Drunken Noodles have somewhat of a mystifying origin story as there is no confirmed knowledge of who invented Drunken Noodles or why, but two main theories emerge. The first is that Drunken Noodles came about from someone throwing together whatever ingredients they had at home after a night of heavy drinking (Ricker, Goode & Bush, 2017). The second theory is that they came about from a woman who was unhappy with her husband returning home inebriated and she wanted to teach him a lesson by cooking an extremely spicy dish for him (Elena, 2020). There are some other theories about Drunken Noodle's origin but there is no confirmation of the true invention of the dish. Despite the lack of a certainty to where it came from it became a very popular dish that is eating in Thailand as a late-night meal, especially after a night of heavy drinking (Thai Table, 2024). The dish has also gained popularity in Thai restaurants outside of Thailand as well.

Drunken Noodles uncertain history also lends to the significantly varying ingredients of the dish depending on the region in which it is being made but the main ingredients remain mostly the same. The most important and consistent ingredients in Drunken noodles are rice noodles, chillies, fish sauce, sugar and Thai basil. These ingredients remain consistently the same in Drunken Noodles with minor variances.

Geographic Origins and Evolutionary Transitions of Ingredients

Noodles

Rice noodles are believed to have originated in China, and they were brought to Thailand by Chinese merchants (Fu, 2008). Noodles are commonly eaten in Thailand, but they commonly are eaten in noodle dishes served by street vendors, or in soups (Hays, 2014.).

Thai Chillies (Bird's Eye Chillies)

Figure 1.

Drunken Noodles



Thai Chili Peppers or Bird's Eye Chili Pepper are commonly used in Thai cooking. It is hypothesized that chili peppers originally came Brazil, Mexico and other parts of South America (Ettenberg, 2022). Chillies are now grown very commonly in Thailand and take up about twelve percent of Thailand's agricultural land use ("Thai Chile – Natures Produce", 2018). Chili peppers had already been domesticated by Indigenous peoples in South America by the time Columbus 'found' them (Ettenberg, 2022). The Portuguese are believed to have had a larger role in spreading chili peppers over the world than Christopher Columbus did though (Ettenburg, 2022). It is believed that Portuguese traders are responsible for bringing chili peppers to Thailand in the sixteenth century but were not popularly used in Thai cuisine until the 18th century (Sukphisit, 2019).

Fish Sauce

There is a bit of debate about the geographic origin of fish sauce. Some sources say that the first ever recording of fish sauce came from the Ancient Greeks that lived along the coast of the Black Sea possibly as old as seventh century BCE but there is little is known about its use until first century CE (Henesy, 2018). Other evidence claims that it originated in China over 1000 years ago and through trading it was brought to Vietnam, Cambodia, Thailand and other Southeast Asian countries (Arunpreechawat, 2022). Each region of Thailand produces some differences in their fish sauce that are based of the bio-geophysical differences of each region. There used to be different types of small fish used when fish sauce was mainly used for personal consumption but with the commercialization of fish sauce in Thailand, anchovies are almost exclusively used in current fish sauce (Arunpreechawat, 2022).

The popularity of fish sauce in Thailand is due to a Chinese immigrant, Laijiang Saetang, to Thailand about a thousand years ago (Arunpreechawat, 2022). The bringing of fish sauce to Thailand was quite monumental as fish sauce is one of, if not the most, important aspect of Thai cuisine.

Sugar

Sugarcane grows natively across many countries. The first possible evidence of sugarcane being recorded comes from 325 BCE Nearchus, a member of Alexander the Great's army during their conquest of India (Sharpe, 1998). There are a few different hypotheses about where sugarcane originated geographically. There is evidence to suggest that there are two places of origin of two different species of sugarcane: *Saccharum officinarum* from New Guinea and *Saccharum sinense* originated in Southern China and Taiwan (Daniels & Daniels, 1993).

There are five species of sugarcane that breeders commonly use: *S. officinarum*, *S. spontaneum*, *S. barberi*, *S. sinense*, *S. robustum* (Sharpe, 1998). Sugarcane is easily crossbred,

and breeders have discovered that if sugarcane is exposed to lights for short periods of time at night, they can artificially extend the sugar producing portion of their lives (Sharpe, 1998).

Thai Basil

The suspected origins of Thai Basil are Southeast Asia, especially from Thailand, Vietnam and Laos (“Thai Ingredient Index – Thai Basil”, n.d.). Thai basil has the ability to be harvested multiple times in a year (“Thai Ingredient Index – Thai Basil”, n.d.). Thai basil is easy to grow, it can be grown from seeds, even can be rooted from putting a stem in a glass of water (Loha-unchit, n.d.). It is believed to have been cultivated 5000 years ago (Loha-unchit, n.d.).

Bio-geophysical Influence

Thailand had four distinct regions with varying bio-geophysical attributes: the central region, the Northern region, The Northeastern region and the Southern region. According to a Thai coworker of mine by, Drunken Noodles has most likely originated from the central region (T. Wilson, personal communications, November 29, 2024). Each region puts its own spin on the dish that reflect their physical geographies (Thai Table, 2024).

The supposed site of origin, Thailand’s central region, is ideal for the farming of rice and other cash crops such as maize, sugarcane, fruits, and vegetables (LePoer et al., 1989). The Chao Phraya River and flat landscape makes the geography ideal for the cultivated rice paddy fields that occupy the area (LePoer et al., 1989). Here, rice noodles are more likely to be used as unlike other regions where rice is mostly farmed for subsistence (LePoer et al., 1989). With rice being more prevalent for commercial uses it is likely to be used. T. Wilson suggests in other regions, spaghetti noodles are commonly used as a variation to Drunken Noodles (personal communications, November 29, 204). In the Central and Southern region, spice is an important aspect of Drunken Noodles and they focus heavily on the addition of chillies (Thai Table, 2024).

The Northern region of Thailand has much less agricultural activity due to its mountainous landscapes and here there is more likely to find the cultivation of some berries and vegetables (LePoer et al., 1989; Leturque & Wiggins, 2011). Due to this, Drunken Noodles in this region have an emphasis on fresh herbs and vegetables (Thai Table, 2024).

Cultural Influence

Culture and cuisine are intrinsically linked. There are so many socioeconomic and geophysical factors that influence and shape a cuisine in any part of the world. In Thailand often culture can be understood through food as it is so important. W. Wilson, the head chef of the Thai restaurant I work in, explains that food is respected and that just plain rice can be the only food some people have to eat and to spill it and leave it is disrespectful to Thai people (personal

communications, November 24, 2024). Rice and fish are the staples of Thai cuisine and is deeply linked to social, economic, and religious aspects of Thailand (Berno et al., 2019). There are strong Buddhist influences in Thai culture and therefore in Thai cuisine (Hays, n.d.) Thai people do not usually eat alone, and food is usually served to be shared (Hays, n.d.). Meals savoured and eaten slowly, and it is custom to only take a couple spoonfuls at first and then go back for more (Hays, n.d.).

Drunken Noodles is a dish that is usually eaten late at night after some heavy drinking as the spice is meant to sober a person up (Elena, 2020; Thai Table, 2024). It can be found in Thai restaurants outside of Thailand and in Thailand it is something that is often made or sold at street vendors (Elena, 2020). There is a lot of Chinese influence in Thai cuisine, especially in central Thailand, as historically it has been a major trading route (Van Esterik, 1992). Drunken Noodles reflect Chinese influence since some of the main ingredients like fish sauce and rice noodles were brought to Thailand from China (Arunpreechawat, 2022; Fu, 2008).

Drunken Noodles have rather unknown origins and there is many theories and stories about how drunken noodles came about. The dish, especially with regional variances, reflect Thai culture and their respect and care for food. The dish incorporates fresh herbs and chillies and is often recommended to make in small portions. The dish may have been something someone had thrown together

Thai cuisine is heavily influenced by the nearby countries of China and India as it was a major trade route (Van Esterik, 1992).

Temporal Evolution

Due to the lack on concrete evidence on the origins of the dish there is also a strong lack of evidence on any sort of temporal evolution of the dish. The only information I came across was in one book *Pok Pok The Drinking Food of Thailand* in which a Thai restaurant owner argues that the original dish did not have noodles (Ricker, Goode & Bush, 2017).

Variants of Drunken Noodles

As already mentioned, Drunken Noodles, vary significantly, even region to region in Thailand. T. Wilson tells me that the Drunken Noodles served in the restaurants he has been to, and the one we both work in, is quite different than the ones he has had in Thailand; some of the key ingredients remain the same, but there are ingredients that are much harder to find in Canada (personal communications, November 29, 2024). He also says that the biggest difference he has seen is that in Thailand in a lot of places they use spaghetti noodles now (personal communications, November 29, 2024). He provided the recipe included with this entry and he chose one that used spaghetti noodles.

Spaghetti Kee Mao

Ingredients

- Spaghetti 100g
- Protein of your choice
- Minced garlic 2 tbsp
- Minced chillies 2tbsp (more or less for desired spiciness)
- Minced fingerroot 1 tbsp
- Kaffir lime leaves 3-4
- Thai basil 6-7
- Green peppercorn 1-2 bunch
- Oyster sauce 1 tbsp
- Sugar 1 tsp
- Fish sauce 1 tbsp
- Cooking oil

Instructions

1. Cook spaghetti until al dente.
2. In a hot pan put cooking oil along with garlic, chillies, fingerroots, and peppercorn. Cook until fragrant.
3. Cook protein.
4. Put spaghetti in along with oyster sauce, fish sauce and sugar.
5. Add in lime leaves and basil.
6. Toss in pan on high heat.
7. Serve

Recipe courtesy of Teeramet Wilson

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Figures

- Figure 1. [Drunken Noodles, Image]. Baan Thai Menus. <https://baanthaiwokandbar.ca/menu/oak-bay/>

The 20th Century Rise of Fascism, Nationalism, and... Pad Thai?

What if I told you that pad thai was created by a fascist dictator inspired by the likes of Hitler and Mussolini? Now that's some pretty heavy history for one of the most iconic international dishes in the world today, but it seemingly always goes unmentioned. It's a shame really, because the story of pad thai is one that touches on a great deal of rich themes - nationalism as a response to unstable times, how migration changes cultures over time, and most impactfully, how food can connect and unite us all. After learning the story of pad thai, it's impossible to see it just as a combination of chewy noodles, complex sauce, and delicious toppings; the dish becomes a pure symbol of the nation of Thailand itself.

Before we can fully begin the story of pad thai, we must first introduce one of its main characters; rice. Undoubtedly one of the most important crops in human history, rice has been cultivated primarily in Asia and Africa for thousands of years. While still fairly adaptable with what conditions rice can grow in, it's definitely no coincidence that 90% of the world's rice is produced in tropical or subtropical Asia. Temperature, rainfall, and sunlight are the three most important factors on the yield and production of rice, and tropical

climates provide optimal conditions for each of those factors; relatively high temperatures and amount of sunlight during the dry season, abundant rainfall in the wet season. Because of these climatic conditions of the regions, countless cultures across both Asia and Africa have had rice as a staple of their diet for as long as they've existed. And this can still be seen today, as rice is the primary staple crop of much of the world's population.

Unfortunately, while these regions can provide excellent growing conditions for rice, the inherent volatility of weather patterns can also make yields highly variable year to year depending on conditions. But this instability has also led to innovation, specifically in the form of rice noodles. While I am definitely simplifying here, rice noodles are made by combining rice flour (dry rice that has been milled into, you guessed it, a flour) and water, and then are shaped into some variety of long strip, then optionally dried for long term storage. By 'cutting' the rice with water, it allows rice noodles to contain the same volume of food, for less rice than eating plain rice would. And this would be necessary for the Thai people, as during the 1930s, more than just the weather was unstable.

In 1932, the absolute monarchy of Thailand (Siam at the time) was overthrown by a coup led by soon-to-be prime minister Phibunsongkhram (Phibun) and his People's Party. Phibun studied military science in France, and as a long serving artillery officer, was of the opinion that heavy usage of the military was the most effective means to govern a country. The People's Party would go on to adopt many fascist techniques, taking inspiration from the rise of fascism in Germany, Italy, and Japan. Rival political parties were outlawed, and the military became an increasingly important program. In 1938, Phibun would take over as prime minister, and in an attempt to unite the Thai people, would begin enacting his 12 cultural mandates which would define Thailand for years to come.

In accordance with the first mandate, the name of the nation would officially be changed from Siam to Thailand, meaning "Land of the Free" and reflecting an increasing desire to appeal to Western nations. Other mandates were focused on standardizing Thai fashion, music, language, and most notably, food. Phibun wanted to modernize and Westernize Thailand, and one aspect of this was to maintain a strong and healthy population. And this is where pad thai finally comes in.



Portrait of Plaek Phibunsongkhram, Author Unknown

Pad thai's contribution to the nation-building of Thailand really cannot be understated. Created and promoted specifically to promote healthier eating habits amongst Thai people, it was a nutritious and inexpensive meal that could be prepared quickly. The somewhat ominously named "Noodles Are Your Lunch" policy aimed to educate Thai people about healthy eating habits, and emphasized how eating not just any noodles, but *Thai* noodles specifically was an act of service to the nation, and would contribute to the strength of the Thai people. Pad thai was a perfect vessel for this message for many reasons. The usage of rice noodles helped to alleviate stress on rice production, which was dealing with floods at the time. Furthermore, its



Government of Thailand poster showing ‘uncivilized’ traditional dress (left) compared to ‘appropriate’ Western dress (right), Government of Thailand

inexpensive nature was necessary during wartime, as World War II was leading to inflation and general economic instability, meaning the Thai people needed a cheap, easily prepared meal that still tasted distinctly Thai. Finally, the use of toppings such as bean sprouts, shrimp, tofu, eggs, and peanuts all contributed to increasing the nutritional value of the dish. And because of all this, eating pad thai became not just an average meal, but a symbol of the strength, health, and unity of the Thai people. It was disseminated throughout the streets in accordance with the less ominously named “Sell Noodles For A Living” policy, which got many people opening street carts which sold exclusively pad thai. All of a sudden, an entire culture existed around this specific dish, as not only was it an inexpensive, nutritious meal, but also a way to make a living, a way to serve one’s country, and a way to connect with the people around you every single day during hard times. But why did

pad thai take the shape it did, and what influences other than a military dictatorship led to its creation?

While pad thai is a very specific creation, arising from specific circumstances and is deeply intertwined with the nation of Thailand itself, the Chinese dish *kway teow* could be seen as a sort of “proto-pad thai”. Literally translating to “rice noodles”, and also prepared by stir frying in a wok with other ingredients, the influence on pad thai is undeniable. When the T’ai (pronounced ‘Dai’) people migrated from Southeastern China, they brought much of what would become Thai culture. But exactly what changes occurred as *kway teow* crossed borders and eventually became pad thai? And why did the journey to Thailand cause these changes in particular?

Thailand has one of the highest average temperatures in the world, sitting around 27°C. This makes it very conducive to growing a variety of spices, and based on the seminal work of Sherman and Billing “Darwinian Gastronomy: Why We Use Spices”, Thailand ranks among the top 10 most spices used on average per recipe among the cuisines analyzed. The distinctive sour, sweet, and salty taste of Thai food often stems from the use of fish sauce, lime juice, palm sugar, and especially in the case of pad thai, tamarind. The sweet and sour taste of tamarind - a

plant which thrives in hot, tropical environments - paired with the salty fish sauce and sweet palm sugar, form the distinctive Thai-ness of pad thai and many other Thai dishes. Comparing this to *kway teow* - most commonly prepared as *char kway teow* (charred rice noodles) - we can see a distinct sourness in pad thai which is not as prevalent in *char kway teow* or other Chinese dishes, which highlight more of the sweet and salty tastes, along with rich smoky aromas developed in the charring process. And this makes sense, as when the T'ai people began migrating from Southern China, they would take advantage of the more available spices and products afforded to them by the more tropical climate of Thailand, and combine it with their previous culinary traditions and innovations.

I hope it's clear by now that pad thai really is more than just a popular international dish. Through its history, its influences from afar, and the land itself which it comes from, pad thai is inextricably tied to its creation as a symbol of the nation of Thailand. And although it was proliferated by a dictator who was drawing on the work of some of the most infamous historical figures of all time, it has since proliferated outside of that framework, and has since become a global phenomenon. As of 2007, there were more than 11,000 restaurants focused on Thai

cuisine worldwide, and that number has almost certainly only continued to grow. And while nowadays there are countless variations - some would say bastardizations - of pad thai recipes available online, some including oyster sauce, worchestire sauce, or even ketchup (sorry but I simply cannot condone this last one), the familiar taste of pad thai is still renowned for its straight-forward yet complex representation of what Thai flavour really means. It would seem unfitting for me to suggest my own recipe now after talking about how inherently tied to specifically Thai culture pad thai is, so I present Thai chef and restaurant owner Nongkran Dak's pad thai.

Nongkran Dak's Pad Thai Sauce (8 servings)

1 cup tamarind juice (premixed or prepared from concentrate)
1 ¼ cups palm sugar
1 cup water
½ cup fish sauce
1 teaspoon salt

Combine all ingredients in a saucepan and cook over medium-low heat until thick and syrupy, at least one hour. Stir occasionally to prevent burning.

Nongkran Dak's Pad Thai (2 servings)

3 tablespoons vegetable oil, plus more if needed
1 teaspoon chopped garlic
1 tablespoon dried shrimp (optional)
1 tablespoon chopped salted radish (optional)
½ cup sliced pork
½ cup whole shrimp, cleaned and shelled
½ lb medium rice-stick noodles, soaked for at least 1 hour and then drained
¼ cup water
½ cup pad thai sauce (recipe above)
2 eggs, slightly beaten
½ teaspoon crushed hot chile peppers (optionally more if you prefer more spice)
2 tablespoons ground roasted peanuts
½ cup chopped garlic chives or scallions (optional)
2 cups bean sprouts, rinsed
1 lime, quartered

Heat oil in a wok. Add garlic and stir-fry until golden brown. If adding dried shrimp and salted radish, do so at this point, and stir a few times.

Add in pork and whole shrimp and continue stir-frying until shrimp turns pink. Remove shrimp to prevent overcooking.

Add the noodles. Stir quickly and try to separate them to prevent too much sticking. Add water, and continue stirring until it's all absorbed in the noodles, then add the pad thai sauce and continue stirring until thoroughly mixed. Return cooked shrimp to wok.

Push wok contents to the side, and fry the eggs, adding more oil if necessary. Once eggs are cooked, stir together until everything is well mixed.

Add remaining toppings, other than ½ cup bean sprouts and lime quarters, and mix well. Garnish with reserved sprouts and lime quarters and serve.

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Pavlova

The Confectionary That Divided The Land(s) Down Under

Ben Clarke #V00954037

ES 347 - Ecogastronomy Journal Article



(Dunston, n.d.) Pavlova topped with kiwifruit

Introduction

From afternoon tea, to grand weddings, many forms of celebration have been accompanied by desserts all throughout history, however few have initiated wars. While many desserts can be traced back to a definitive place of origin, the same cannot be said for Pavlova. Australians will claim that Pavlova was invented in Perth, while New Zealanders would say otherwise. The battle to claim their country as the place of origin for this dish traces back to the 1920's and includes the tour of a famous ballerina. Pavlova is a dessert dish mainly consisting of egg whites and sugar whipped to form a meringue, which is then baked to create a crispy exterior with a fluffy marshmallow-like interior. It is then traditionally topped with whipped cream and different fruits, usually depending on the geographic location of where the cake is being created.

For New Zealand that fruit was the Chinese gooseberry or, more com, the kiwi. Mary Isabel Fraser who brought Chinese gooseberry seeds to New Zealand in 1904 could not sell them to the public due to disinterest. Fifty years later in 1954, the fruits were rebranded in an attempt to sell more of the fruit to the New Zealand public as well as export them to the United States grocery stores; they were renamed to 'melonettes' (Lui, 2017). In 1959 however, this name was passed over again to honor the national bird of New Zealand and the fruits were again renamed to kiwifruits, as they resemble the small brown bird, which soon became the traditional New Zealand topping for Pavlova (Lui, 2017; Prior, 2017).

History and Variations of Pavlova

Everything regarding Pavlova from the colour, shape, fruit topping, and preparation was done intentionally. The one aspect that Australians and New Zealanders will agree on in relation to Pavlova is

who it was inspired by. Anna Pavlova was a Russian ballerina who was an incredibly famous megastar who went on a dance tour to both Australia and New Zealand in 1926 (Lauraine, 2009; Preston, 2016; Prior, 2017; Saurine, 2020). She supposedly sparked the inspiration for the creation of this dish in a Wellington hotel in New Zealand, in which the chef claimed to create the puffy, white, dome-like structure of the dessert after being inspired by her white ballerina tutu she would perform in. This was in



(New Zealand History and Natural History, 2019). Anna Pavlova and her Ballet Russe tour.

debate as Herbert Sachse, the Australian chef of the Esplanade Hotel in Perth, supposedly created the dish with a crispy exterior and fluffy interior, which he described as “light as Pavlova.” (Preston, 2016, p.1; Saurine, 2020).

Unfortunately, in 1926 the invention of Pavlova within the Wellington hotel in New Zealand is unconfirmed. However, in 1929 the confirmed recipe for a large, ballerina- like Pavlova was published in the Dairy Farmer’s Annual in New Zealand, six years prior to the confirmed 1935 invention of Pavlova in Perth, Australia (Lauraine, 2009; Saurine, 2020). This time gap was a powerful argument for New Zealand to claim originality, however many dishes in both countries were named after Anna due to her success leading up to the confusion on the original inspiration of the



(Google Maps, 2024) Perth & Wellington

Pavlova cake (Helen, 2010). Both countries claim to have invented Pavlova as she was adored around the globe and having a popular dessert named after her invoked a sense of national pride for both countries. Anna Pavlova’s fame led to many instances of false claims and invention versus modification arguments, ultimately leading to the term ‘pavlova wars’ between Australia and New Zealand (Saurine, 2020).

Helen Leach, a food anthropologist from the University of Otago attempted to trace the origin of Pavlova referencing six-hundred and sixty recipes from over three-hundred sources. She concluded that

Pavlova's culinary inspiration was derived from several, classic 20th century desserts such as, "a layered gelatine cake; small walnut and coffee meringues; and [...] soft-centred, afternoon tea, meringue-style cake made with sugar and egg whites." (Laurine, 2009, p.96). Depending on geographic location there are many dishes named after Anna Pavlova as well as Pavlova topping variations. As previously mentioned, the traditional New Zealand topping is kiwifruit, in Australia it is mango and passionfruit, and Britain tops their Pavlovas traditionally with strawberries (Saurine, 2020). Other more classic variations of Pavlova are topped with crushed walnuts as a tribute to the 1920's coffee and walnut meringue cake. These variations were often geographically and temporally bound as these traditional fruit toppings were a product of whichever fruit was being produced and was widely enjoyed at the time of baking (Laurine, 2009; Saurine, 2020). Other countries made their Pavlova mark as France has a dish named frogs' legs à la Pavlova and in America they have a Pavlova ice cream (Preston, 2016).

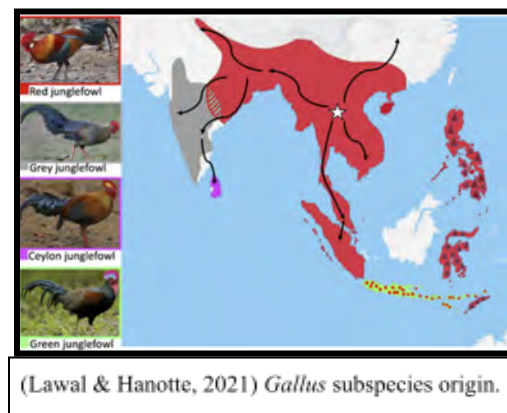
Origin and Transformation of Eggs and Sugar

Pavlova is a dessert that has a large base of meringue that is consistent with other variations of the dish despite fruit variations. Other cultures and countries will have their own signature topping, which is typically a type of fruit however all have the same style meringue base. Typically the meringue used for Pavlova is a French meringue. Other countries use different forms of meringue for their desserts such as Italy using hot syrup instead of sugar, and Switzerland whipping the egg whites in a Bain Maire (Vega & Sanghvi, 2012). Aeration occurs when beating egg whites to 'stiff peaks' which create very small air pockets, this trapped air creating a light and fluffy texture. The sugar mixed into the egg whites caramelises when being baked which creates the crisp, slightly toasted exterior. As with any meringue, eggs and sugar are the main ingredients which have both undergone a large process of industrialization and transformation.

Chickens have been domesticated for centuries with many civilizations using them for meat and eggs. The domesticated Red Junglefowl chicken is scientifically named, *Gallus gallus domesticus* which is one of the original ancestors of modern domestic chickens (Lawal & Hanotte, 2021). Today, there are

three major classifications of chickens: commercial, fancy, and indigenous village. Commercial chickens are the most common with the widest geographic distribution of any domesticated species in history

(Lawal & Hanotte, 2021). The main factor for this is the pressured natural selection that bred chickens with a thyroid stimulating hormone receptor adaptation, allowing for more meat and egg production (Lawal & Hanotte, 2021; Tixier-Boichard et al., 2011). Intensive breeding selection after the 1950's led to the creation of a broiler line (breed) and a layer line (breed). While the layer line does not reach nearly the size of the broiler line, the layer chickens and their environments have been meticulously modified



(Lawal & Hanotte, 2021) *Gallus* subspecies origin.

by humans to produce three-hundred eggs per year, six times that of the Red Junglefowl (Tixier-Boichard et al., 2011). This has allowed countries such as Canada to produce an incredible amount of eggs for its population. As of 2023, over eight-hundred and eighty three million eggs were produced, with chicken table eggs making up 89% (Statistics Canada, 2024). The year 2023 also saw two point two billion dollars in Canadian egg sales averaging a consumption of roughly two hundred and forty eggs per person, with a total global production of forty five billion kilograms of eggs (Statista, n.d.; Statistics Canada, 2024).

Sugar is another main ingredient in Pavlova that is unfortunately causing obesity and diabetes via overconsumption. Sugar cane was first grown and harvested in India and Southeast Asia roughly two thousand years ago (Galloway, 1989). Europe was fully introduced to sugar in the early eighteenth century as it was the fuel for the industrial revolution as many factory workers relied on the sweetness in their tea for energy throughout the work day (Galloway, 1989). Sugar (cane) was introduced to the New World on the second of Christopher Columbus' voyages in 1493 and gained popularity through its sweetness compared to ancient sweeteners at the time, along with sugar's ability to create alcohol (Deerr, 1949; Galloway, 1989). Mass production of sugar quickly began shortly after introduction being named 'white gold' and inhuman methods were used in order to harvest enough sugarcane to satisfy Europe and other wealthy nations (Muhammad, 2019). Plantations were constructed, using slavery as a fast method of farming sugar which spread to areas such as New Guinea, the Caribbean, West Indies, Indonesia, Puerto

Rico, and Brazil (Hancock, 2021; Muhammad, 2019). As sugar spread throughout more diverse subtropical climates, the original *S. officinarum* or ‘noble cane’ was crossbred with a local North Indian species *S. spontaneum* or ‘thin cane’ to make a hybrid species more successful for these growing conditions (Hancock, 2021). Currently, Canada consumes roughly one hundred and ten grams of sugar per day, which is far more than the recommended forty eight grams a day or 10% of daily calories (Heart & Stroke, n.d.; Diabetes Canada, n.d.). Globally in 2023, humans consumed over one hundred and seventy seven million metric tons of sugar, mainly from sugar cane and sugar beets (Statista, 2024).

Conclusion & Pavlova Recipe

Pavlova is a dish rich in national identity and arguments of which country originally invented the cake. It is a delicious dessert having incredible flavours, textures, and impressive presentation. The main ingredients have both undergone vast transformation fueled by human consumption, technology, violence, and industrialization. As for the recipe, start with preferably a stand mixer, a hand beater will also work. Add 4 room temperature egg whites and begin to beat on medium high until ‘stiff peaks’ form. Gradually, one tablespoon at a time, incorporate one cup of white sugar into the egg whites while mixing until all the sugar is added and you cannot feel any grains of sugar remaining. Next with a spatula, fold in half a teaspoon of cream of tartar, half a teaspoon of cornstarch, and optionally a half a teaspoon of vanilla extract. Fold until mixture becomes glossy, dump mixture on a parchment paper lined baking sheet, form into a dome-shaped mound, tracing lines with a spoon up the sides of the dome to create ridges. Using the same spoon create an indent on the top for the fruit. Bake at 300°F for one hour, turn the oven off and without opening the oven door, let the Pavlova sit in the oven for forty five minutes until dry and roughly room temperature. Fill the indent on the top with whipped cream and fruit of choice, kiwifruit if wanting to stay traditional.

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phở

“fuh”

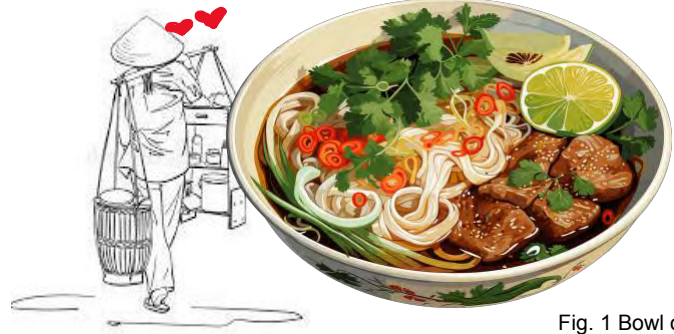


Fig. 1 Bowl of phở

Fig. 2 Map of vietnam
- phở's general travel

“It is not enough to eat phở, it is crucial to understand what the Vietnamese people, and especially the Hanoi connoisseurs, think about the nations dish, for it is more than a dish; it is also the nations soul.” -Jacob (2024)

Much like most of the world's street foods, the origins of *phở* are not clear. To no one's surprise, the addition of beef scraps and flat rice noodles to broth was an event improperly archived by locals simply using what they had (Peters, 2010). This popular Vietnamese dish is based on Chinese cuisine and originated ~100 years ago, in and around Hanoi, in Northern Vietnam. Beef broths were not popular in Chinese or Vietnamese cooking, but with increased colonization and urbanization, beef scraps became readily available and distributed to street vendors and hawkers. Though popular amongst locals, this dish had not reached international fame and mainstream colonial enjoyment due to its perceived mundanity, or from fear of contracting cholera (their loss). Over the next hundred years, long-winded politics, war, and propaganda have pushed *phở* into the hearts and minds of people globally for its versatility, history, and healing properties (Peters, 2010).

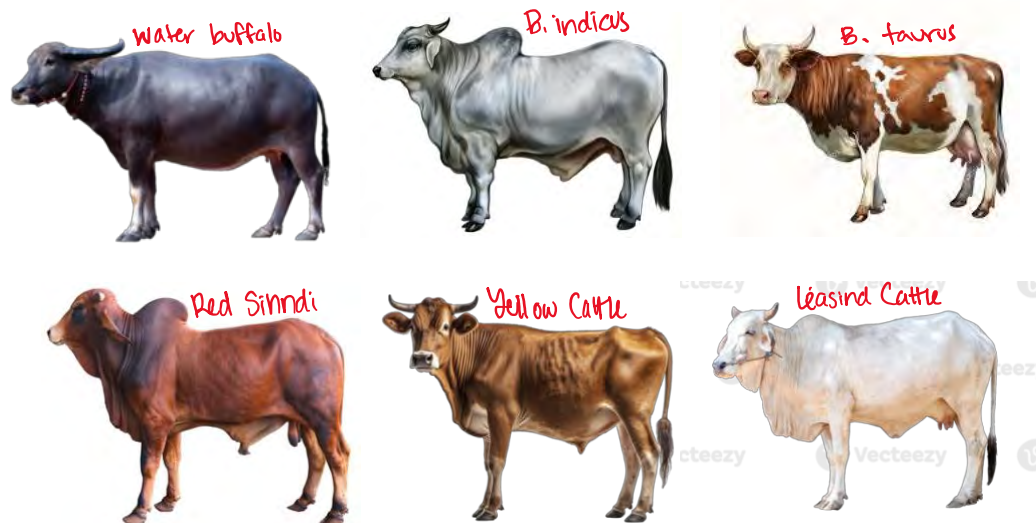
“The other ingenuity of phở is its all-year-round profundity. On a sunny day, eating a bowl, sweating slightly, catching a gentle breeze through one's face and back, one feels as if fanned by nature. On a cold winter day, eating a hot bowl, one's frigid lips suddenly feel rejuvenated. For poor folks on a cold day, a bowl of phở is like another layer of clothes. On a wintry night, eating a bowl of phở, one feels as though he had just swallowed a blanket whole and can sleep peacefully until it was time in the morning again to go to work. To conjure up a Vietnamese winter with proletarian snapshots, I am convinced nothing is more poetic than the fire-stove of a phở joint in a crowded passenger terminal encircled by people...” - Nguyễn Tuân (1957)

Phở travelled from the North in Hanoi and was available to Southern Vietnamese people by 1950, mass exodus from north to south after the *Geneva Accords* in 1954 furthered the spread of this delicious bone broth soup spread across the country (Peters, 2010). The expansion of *phở* in the South took on the symbol of a now divided nation and the popular dish became politicized. As the communist party admitted their downfalls in land reform, Nguyễn Tuân saw an opening to write a notorious expose on *phở* that was published in the magazine *Hanoi*, 1957. Laden with political tone, Tuân

noted the lack of care on the government's behalf and the move to industrialized food threatening the authenticity of *phở* (Peters, 2010).

“Maybe then people will eat some kind of American phở. In the 1945 famine, at the bottom of the era’s phở broth pot, in Haiphong and Hanoi, there were pots with children’s hands, but that’s a different story.” – Nguyễn Tuân (1957)

As communism reigned on, *phở* became increasingly scarce and putrid, with street vendors only able to serve watery, foul, state *phở* that was made from old rice and beef scraps (Peters, 2010). Nguyễn Văn Thiệu, the 1974 president of the Communist party used *phở* as a symbol of normalcy and suggested only those submitting to his regime should be privy to a hot bowl. Thiệu’s critics juxtaposed a bowl of *phở* to being immediately executed, highlighting the president’s brutality. *Phở* became a national symbol of Vietnam when the Cold War ended, it began to stand as an authentic experience and left European visitors yearning to feel rooted somewhere, such as *phở* is rooted in the heart of Vietnam (Peters, 2010; Jacobs, 2024).



Prior to colonization locals enjoyed a variation of *phở*, *xáo*, a dish of sliced water buffalo cooked in a broth and served with flat rice noodles, spring onions, and herbs (Tu, 2022). It was not until the onset of French colonialism that brought more people, cooking techniques, and an abundance of beef scraps that started the *phở* boom and pushed it to its global notoriety today. (Tu, 2022)

Domestication of cattle started in Southwest Asia and occurred before earlier reports suggesting 8500 BC in the Euphrates valley, Syria (Arbuckle and Kassebaum, 2021). These pre-domestic cattle management practices appeared in multiple centres throughout Southwest Asia, with evidence of taurine cattle (*Bos taurus* Linnaeus 1758) in DNA datasets. *B. taurus* were derived from extinct ancient aurochs (*Bos primigenius*, Bojanus 1827), and secondarily from zebu cattle (*Bos indicus*, Linnaeus 1758) (Arbuckle and Kassebaum, 2021).



When the French came to Vietnam, they brought Red Shindi cow breed which crossbred with local Yellow cattle to create the Laisind breed, suited to the local climate (Burns et. Al., 2002). As beef consumption increased amongst French colonizers who enjoyed this delicious four-legged friend, it also became more prevalent in the lives of locals. The most common breeds today are Yellow cattle and Laisind, which are extremely adapted to the environment, smaller in size, and used most as animal workers, income, and a form of wealth (Burns et. Al., 2002).

“In my opinion, phở’s fundamental rule is that it’s made of beef. There might be plethora of meat, seafood, or birds that taste better than beef, but phở requires beef. Is it because people want to rebel that they are making duck phở, char siu phở, mouse phở? At this pace of experimentation there will be snail phở, frog phở, goat phở, dog phở, monkey, horse, shrimp, carp, pigeon, lizard... deranged, deranged phở.” - Nguyễn Tuân (1957)

As the population of Vietnam increases, there will be a greater demand on animal protein of all types (Burns, 2002). Food security is a common topic amongst politicians and is still a growing concern as populations inflate. Fertility rates of Laisind and Yellow cattle are good, but growth rates and profit margins are low. Breeding programs are not always adequate as there is little financial incentive amongst farmers to improve the quality of their cattle and there is a lack of monitoring or standard for monitoring in place to document the breeding success or failure of cattle in Vietnam. Results of breeding programs have confirmed that there is an urgent need to overcome the misplaced evidence on body size and uncoordinated crossbreeding with *B. indicus* and *B. taurus* that have yielded no lasting impact on cattle populations. There is also a desire to improve local understanding of modern genetic programs so that Vietnam may compete with beef production on a global scale, though this will pose obvious issues (Burns, 2002).

Phở + friends



Phở Hà Noi (Hanoi-style phở, Northern) - Simple, clear broth, thin layer of oil on top, small dishes of chilli, bean sprouts, and lime wedges to garnish. Broth should be so full of flavour that little needs to be added as the cooks are more liberal with their salt.

Phở Sài Gòn (Saigon-style phở, Southern) -

Served with a basket of herbs and a range of condiments, that a Hanoian would find showy. Main ingredients the same as Hanoi-style, though this version is sweeter.

Phở Bò (beef phở) - Includes pho tai (thinly sliced raw steak), gau (fatty brisket), gan (tendon), and bo vein (beef balls – common in US, Canada, and Australia)

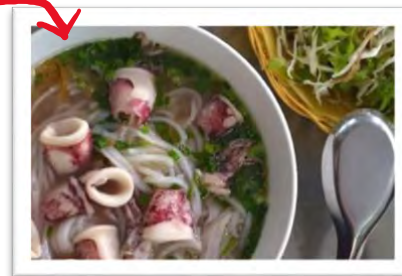
***Phở Gà (chicken phở)*** -

Invented in 1930s when beef was unavailable on certain days. Clearer and lighter broth with chunks of white and dark meat and occasionally gizzards.

Phở Cá (fish phở) - Available in coastal areas. Not really pho, bun ca (fish-based broth) with flat noodles and no cinnamon or star anise.

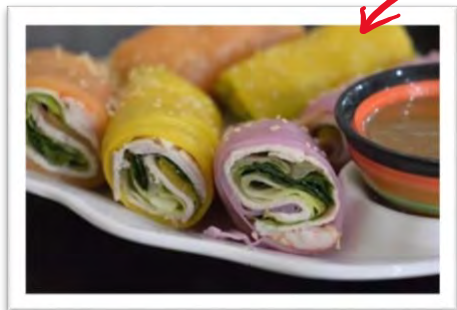
Phở Mực (squid phở) - Not pho, much sweeter pork broth with ginger, cloudier due to the squid. Served with tangy tamarind sauce.

Phở Tiu (stir-fried phở with pork) - Hanoi dish of Chinese origin with thick umami pork gravy instead of broth. Topped with roast pork, bean sprouts, herbs, peanuts, dried shallots, and a bit of vinegar.



Phở Ấp Chàò Gòn (crispy fried phở noodles with beef) - Double fried with multiple textures. All characteristic herbs and beef, no broth.

Phở heo (pork pho) - Available in central Vietnam where remnant people of the Hindu Kingdom Champa, Cham do not eat beef and make a pork-based broth and large chunks of pork.



Phở Cuôn (phở rolls) - Made with fresh rice sheets, a variation on fresh rolls with a thicker rice wrap, beef, and pho herbs inside.

Phở Chua (sour phở): Specialty in the mountains of Lan Son bordering China. Warm noodle salad with pho noodles, shredded chicken, fried shrimp cake, shredded morning glory, fresh herbs, roasted peanuts, topped with tangy tamarind sauce.

Phở Xào (stir-fried phở): Flash fried noodles with beef, carrots, pok choi, onions, bean sprouts, and shallots. Slightly firmer noodles used.

Phở Trộn (mixed phở): Varies from Pho xoa as only some ingredients stir-fried.

Phở Chay (vegetarian phở): For buddhists or other non-meat eaters.

Phở Burger - Created at Relish and Sons burger joint in Ho Chi Minh marking the 40th anniversary of the end of the war. Burger shaped fried pho noodles, a beef patty infused with pho broth and herbs, lettuce, side of pho broth and spicy hoisin, with a selection of herbs.



Phở Cocktail - *Pham Tien Tiep* created a pho cocktail inspired by the folk singer Joan Baez, who recorded the sounds of the Vietnam/American war in 1972 in Hanoi. Features cilantro, star anise, cinnamon, chilli. Served by burning alcohol down a tree containing pho spices. Winner of Vietnam's national bartending competition (2012).

Saigon-style phở Recipe:

- 2 3-inch (7 to 8 cm) pieces ginger
- 2 onions
- 5 pounds beef marrow or bones
- 2 pounds beef chuck
- 5 quarts water
- 2 scallions
- 1/3 cup fish sauce
- 2 ½ ounces rock sugar
- 8-star anise
- 6 cloves
- 1 cinnamon stick
- 1 black cardamom pod (optional)
- 2 teaspoons fennel seeds
- 2 teaspoons coriander seeds
- 1 tablespoon salt
- 1-pound dried pho noodles
- 1/3-pound beef sirloin

For garnish:

- Sliced chilli
- Sliced onion
- Chopped scallions
- Cilantro
- Mung bean sprouts
- Thai basil
- Lime wedges
- Hoisin sauce and Sriracha

Instructions:

1. Prepare the broth: In a large stockpot, combine bones and beef chuck. with water and boil for 5 minutes. Drain and clean the pot.
2. Char aromatics: Char ginger and onions over an open flame until lightly blackened. Rinse off blackened skins.
3. Simmer: Return bones and meat to the pot with charred ginger, onions, scallions, fish sauce, and sugar. Add water and bring to a boil. Reduce heat and simmer for 40 minutes, skimming foam regularly.
4. Toast spices: Toast star anise, cloves, cinnamon, cardamom, fennel seeds, and coriander in a dry pan until fragrant. Tie in cheesecloth and add to broth.
5. Long simmer: Cover and simmer for an additional 4 hours. Remove one piece of chuck to cool in ice water; leave the other in the pot. Season broth with salt.
6. Cook noodles: Prepare pho noodles according to package instructions.
7. Assemble: In bowls, place noodles, slices of cooked chuck, and raw
8. with chilli, onion, scallions, cilantro, sprouts, basil, lime wedges, and sauces as desired.

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Ramen
And how it became a worldwide favorite dish.

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Prof. Dr. John Volpe
November 26th, 2024

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Introduction

When people talk about ramen or hear about ramen its most usually associated with streetside Japanese corners, noodle houses and easy to make packets. All the way from China and then to Japan and then the rest of the world, it has made its way into nearly every household and become a worldwide appreciated dish. So then, what about this flavourful and exquisite dish has people craving it past 11:00pm on a school night or on a late snowy night in late 19th century Japan? Well, it's the perfect example of cultures coming together in just a small wooden or ceramic bowl. Its more than just a late-night comfort food or a favorite place to eat, it tells a story of trust and experiment and most of all, a culinary masterpiece.

History



The dish was originally a wheat noodle soup made with a “broth from simmering seafood or meat and vegetables” and a “flavouring sauce usually consisting of salt, or a fermented soybean paste” and letting the noodles sit and broil inside the broth allowed them to occur thicker and better taste/smell (Solt, 2014, p. 3).

Ramen’s first introduction to Japan can be traced back to China 1880 when “Chinese migrants from The Guangdong region began working as cooks at restaurants catering towards foreigners” This took place in Yokohama city which was a livelihood of

foreigners and Japanese (Solt, 2014, p. 5).

When the owners of the Japanese restaurants took the in the liberty of transforming and evolving the dish into a more hearty and well filling meal as they implemented lots of ingredients and flavours the original dish never had.

One of these ingredients was its iconic pork broth, which is the most popular broth used in traditional Japanese ramen to this day.

Ramen goes by different names but its traditional name in Japan is ramen, the other varieties of its name are from Chinese descent, *Chuka soba*, or *Shina soba*, both stem from China during the time of 1910-1940.

Ingredients

When Japan first started producing ramen in Yokohama, they added ingredients previously foreign to the Chinese dish, these ingredients are now a staple of Japanese ramen. The main difference between Japanese and Chinese ramen was the broth used as the Japanese used “Motodare (base sauce) and was originally developed from “Kaeshi” which is a sauce for soba buckwheat noodles, made by dissolving and concentrating “umami” essence of various ingredients” (Mii, 2024). The original dish was a mix of Salt, flour, wheat to make the noodles, salt or soybean paste for the sauce and a meat broth simmered with vegetables. This was the original dish brought to Japan in 1880. Since then, the Japanese have taken the dish and evolved it into the culinary masterpiece it is today. Considering there is many variations and traditions to the current day ramen I will be focusing on my favorite and more popular dish of ramen, which is known as *Tonkotsu Ramen*, which was born in Fukuoka by complete accident. Tonkotsu Ramen differs from the original Shina soba as it incorporates many different aspects to the dish.

Broth.

The broth of Tonkotsu Ramen is usually a pork bone broth made from pig parts (neck bones, trotters) that are cooked in water in a pot over high heat for many hour (about 8-12) until the bones are broken down into the broth, this helps separate the fat and collagen from the bone which gives the broth its “thick and creamy broth” (Heiter, 2009, p. 34). The minerals from the bone are then

mixed into the broth as well adding nutritional value.

The soup base flavour is also traditionally *Shoyu ramen* which is a soy sauce broth flavour which adds to the saltines and umami flavour of the broth.

Noodle.

There are many specific noodle types for ramen as they all have an important role, they play in the dish itself, not every noodle harmonizes with the soup, as perfect ramen has both noodle and soup in harmony. Thin noodles were chosen as they stick to Tonkotsu’s broth and absorb the flavour well and compliment the umami flavour to them. The thin noodles in traditional ramen are made from a wheat-based dough consisting of alkaline salt, water, flour, and wheat. Once put into a ball of its then put through a strainer and a pastry maker and into thin noodles perfect for pork broth.

Toppings & Seasoning

Tonkotsu current day ramen most commonly has (*nori*) seaweed that is prepared through being dried and placed on the side of the bowl to soak up the ramen broth adding to the saltiness flavour. Bamboo shoots (*Menma*) carry with them a sweet and salty flavour to them that adds to the ramens flavour. Hard-boiled egg (*Onsen tamago*) is cut in half and placed into the ramen broth, when Japanese people living in Onsen towns in volcanic islands had access to hot springs, from this the egg was then hard boiled in these very high reaching temperature hot springs and made the egg what Is put into modern ramen today!

Black wood ear mushroom (*Kikarage*) is put into ramen bowl to add a gelatinous texture to the broth and adds vitamins as Black wood ear mushrooms carry with them high amounts of fiber and B-12 vitamins.

Fish cake (*Narutomaki*) is a small white disk bearing a pink swirl in the center.

They don't add much in terms of flavour but more for an "aesthetic" or "appeal". Sliced Pork (*Chashu*) adds a good variety of protein and umami flavour to the dish of ramen, is a very popular choice among ramen toppings.

Evolution.

Ramen first started out as a wheat noodle in a meat and vegetable broth with little toppings. Since then when it was first introduced to Japan in 1880 it was only popular among the working class in Yokohama at the time. In 1910 was when the first official ramen shop opened which blew up in terms of selling ramen. 1927 a new ramen was invented, *Kitakata* ramen 10 years after that Tonkotsu was invented after that came miso ramen. Kitakata, Tonkotsu and Miso ramen are the top 3 most popular ramens in Japanese cuisine today and are what influenced the outbreak of ramen around the world. During the post war era of 1945-1947 when Japan had a food scarcity the U.S had sent over wheat imports following the war. "Wheat imports to Japan resuscitated ramen production" (Solt, 2014, p. 6) and now ramen was spreading across Japan rapidly through the 1960's. Japan's new ramen craze is what brought about the diversity into ramen we see today as there is many different variations of ramen ranging from broth of soups and preparation to use of ingredients and noodle types. There are 4 main soups that are most found around Japan, *Shio* (salt), *Shoyu* (soy sauce) *Tonkotsu* (pork broth) and *Miso* (fermented bean paste) (Khatu, 2019). 1980 is when ramen was recognized as a national food of Japan and is the most widely recognized next to sushi for national food.

Conclusion.

Ramen is a delicacy and is cherished around the world as a comfort food, it became popular due to its delicious and cheap nature and that principle still holds up today in university students.

Ramen is a national gem and will continue to be a favorite of Japanese cuisine and culinary representation.

It is a very diversified dish, and no ramen restaurant will taste the same as the other one, making it such a unique dish that it leaves the chef with lots of possibilities and creative freedom. It now holds its roots in nearly every major nation in the world ranging from their own take on ramen shops and ramen to packaged noodles accessible nearly everywhere and being a non-perishable food item donated to those less fortunate. “In the present, where connections to history have been severed, ramen is a tool to rearticulate the charm of Japan’s traditions.” -Hayamizu Kenro.

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THAI RED CURRY

The perfect dinner for a cozy night in!

SERVINGS: 4

PREPPING TIME: 15 MIN

COOKING TIME: 30 MIN

INGREDIENTS

- 3 tbsp olive oil, *divided*
- 2 cloves garlic, *minced*
- 1/2 onion, *diced*
- 1 yellow pepper, *sliced*
- 1 green pepper, *sliced*
- 1 can coconut milk
- 3 tbsp fish sauce
- 2 tbsp peanut butter
- 2 tbsp red curry paste
- 2 tbsp lime juice
- 1 tbsp brown sugar
- 2 tsp ground ginger
- 2tbsp basil leaves
- 2 bay leaves

DIRECTIONS

1. Heat a 12inch skillet over medium high heat with 1 tbsp of oil. Add garlic, onion, and peppers and cook until soft, about 5 minutes.
2. In another large bowl mix the coconut milk, fish sauce, peanut butter, red curry paste, lime juice, brown sugar, and ground ginger, and stir well
3. Pour the coconut milk mixture into the pan with the peppers. Bring to a boil then reduce to a simmer and cook until reduced by half, about 5 minutes
4. Add protein to sauce if desired and toss to coat. Serve over rice or noodles. Garnish with cilantro and basil, chopped green onion, or sliced red jalapeno if desired.

NOTES

The origin story of Red Thai Curry is just as powerful and unique as its flavour profile. From the conception of the dish, evolution has triumphed creating a medley of flavours that is adored worldwide. Continue reading to learn more!

A BRIEF HISTORY

OF THE WORLD FAMOUS RED THAI CURRY

THAI CULTURE HAS BEEN HEAVILY INFLUENCED BY THE TRADITIONS OF THE CULTURES THAT SURROUND THEM. GAENG-PHET (RED THAI CURRY) HAS GONE THROUGH MUCH EVOLUTION TO BECOME THE DISH IT IS TODAY!

In the fourth century, Buddhist missionaries and Indian traders brought the gift of aromatics and spices to Thailand, which was then known as the kingdom of Siam. (1) This introduced a new intense flavour profile to Thai cooking!



The 13th century saw the creation of “nam prik” which is a coarse paste made of lemongrass, fish sauce, peppercorns, and tamarind. (1) This paste, along with coconut milk, became the base of Thai curries during this era.

In 1501, the ruler of Thailand, Photsisarath, was a big fan of the Portuguese way of life, and gladly accepted their ways into Thai cooking. (3) The Portuguese introduced red hot peppers into Southeast Asia, which completely changed the way curries were made. Before, every family had their own recipe, but when the peppers appeared it spread like wildfire. (3)

In the 14th century, shrimp paste was added to the curry paste recipe to increase the umami of the dish. (2)



THE RECENT HISTORY OF THAI RED CURRY

As Thailand was the only country in Southeast Asia to escape Western imperialism, Thai cuisine was able to stay largely unaltered by the western regime and food thoughts. Century-long cooking traditions remained in practice!

This does not mean that there have not been without influences though. Thai cooks learned frying from China and received peanuts from central America, along with the Portuguese and Indian contributions mentioned above – all of which we think of as Thai! (4)

Global Thai was an initiative that the Government of Thailand started to increase tourism in Thailand in 2002., as at the time Thailand was not a trendy destination. The government wanted a Thai restaurant on every corner, so they began advertising a grant to citizens abroad for up to \$3 million to open a restaurant. Restaurants were given high quality statistics on what consumers like, fresh ingredients flown to them, decor, and kitchen equipment. (3)

Within 10 years, the number of Thai restaurants around the world went from 5,000 to 20,000, and the tourism rates shot up by the same metric. These restaurants had to follow particular rules, one of which being that they had to serve certain dishes as a core item using certain ingredients that made it available all season and easy to prepare so that even people with little culinary skills could make it. (3)

The timing of this initiative could not have been better! 2002 was the beginning of the phenomenon of food television which began to promote the restaurants and culture. (3)

The unique magic of the multi dimensional and vast flavour profile of Thai cuisine could therefore not be brought, so they had to use a single monolith, the 'stoplight curries': red, green, and yellow! (3)



THAI RED CURRY AT HOME!

To create an authentic Thai red curry, the most important ingredient is the curry paste. Luckily, this paste is simple to make and intensifies the flavour profile greatly!

To create the paste, simply grind salt, coriander, garlic, shallot, lemongrass, galangal, kaffir lime, shrimp paste, and of course - **RED CHILIS**



To be completely authentic, us a mortar and pestle and grind until a paste-like texture. When using this method, the paste will likely not reach the smooth texture that store-bought paste achieves (5).

Although native Thai people may cringe at this concept, in modern day there are few people who are willing to make their own Thai red curry paste at home.

The paste purchased in-store is often more spicy, so take this into account when adding it into the curry

There is now a variety of Thai red curry pastes available on the market that simply need to be added to coconut milk (and whatever other ingredients you love in your curry) to make an easy and delicious curry!

THE MOST POPULAR THAI RED CURRY PASTES INCLUDE:



McCormics Thai Kitchen

&



Blue Dragon

Both of which have recipes including primarily historic ingredients listed in the at-home tutorial!

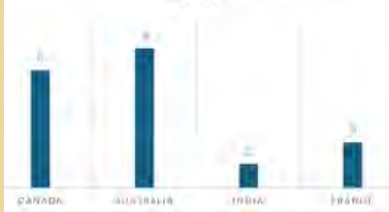


DIFFERENT ITERATIONS

Countries Around the World have adapted different versions of Thai red curry:

- India: Massaman Curry which includes the same ingredients as Thai red curry but includes shaved coconut and tamarind juice (6)
- Malaysia: Panang curry named after the island of Penang off the west coast of Malaysia. Although it is a Thai dish, it has its origins in the historical trade relationships and cultural exchanges between the regions (7)
- Persia: Masami curry is a type of red curry that uses the Thai red curry paste, which's origin stems from the love of Persian culture of the Thai king of the 19th century (6)
- USA: Thai red curry recipes at home often include store-bought peanut butter to add a creamy texture with a delicious peanut flavour, rather than using the raw nut

PERCENT OF PEOPLE WHO EAT THAI FOOD



CONSUMPTION STATISTICS

The vast success of the Global Thai program has made Thai cuisine a household delicacy! Below are the stats from households of an array of countries.

(8)

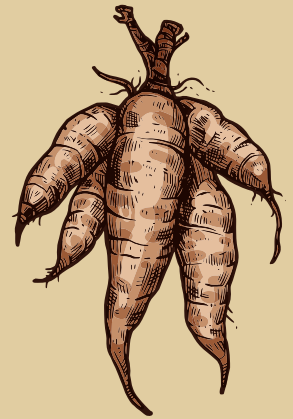
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She reminisced on on fillings that not even she prepares anymore due to a taste change in the diet. Octopus, while hard to find in great quantity due to its solitary and territorial nature, paired greatly in mouth feel and flavor with the consistency of the cassava wrap, and more commonly was reef fish, as it was the staple protein source, mixed with veggies grown in local gardens.

HOW CASSAVA IS MADE

Cassava is now widely grown in Vanuatu and available in markets across the country, over 150 years after it's introduction in the 1850's. Cassava is originally believed to have originated from a wild plant called *Manihot esculenta*, which was first domesticated near the southern Amazon basin. Initially cultivated by indigenous peoples of societies near contemporary equatorial countries, it spread to Africa in the 1500s from Portuguese slave trading via expansion of the southern Americas from European interests, and later reached Asia in the 1700s. In the South Pacific, it is believed that James Paddon introduced a cassava clone to Vanuatu. While cassava has been propagated through stem cuttings, thus leading to genetically identical plants, enough time has passed so there is now considerable variation in the appearance and flavor profile of in country varieties. According to an academic study from *J. Sardos* and associates, there are 104 landraces that have been genotyped and “60 supplementary accessions.” - (J.S. et,al.)



<https://www.google.com/imgres?q=cassava%20rock%20cooking&imgurl=https%3A%2F%2Fthumbs.dreamstime.com%2Fz%2Fcassava-yam-roots-sweet-potatoes-batatas-banana-leaves-two-halves-pork-head-hot-stones-barapen-traditional-cooking->

Preparing cassava has maintained traditional traditional practices even to this day. The majority of Ni-Vanuatu villages not on the capitol island of Efate only maintain 1-2 generators for community use, so stone or less commonly for casava wood fire kilns continue in high use to this day. Before the cooking commences, the cassava root needs to be peeled of its outer hard skin, then grated into fine shards, then pressed into a paste before being cooked. This grating process helps to release excess starch and makes it easier for the cassava to cook evenly when its placed on the stone fire. To create a stone fire for cooking cassava, large flat stones are arranged in a pit. The fire is built around the stones, and once the stones are heated, the fire is

extinguished leaving the stone to retain the heat. The cassava, which is typically peeled and sometimes wrapped in banana leaves or other manioc leaves, is then placed directly on or near the hot stones. The heat from the stones cooks the cassava, often giving it a unique smokey flavor and texture, especially with the almost bitter, earthy aroma quality absorbed from the leaf wrapping, retaining the moisture and releasing excess starchy qualities. After the cassava is fully prepped, it is then unfolded and prepped to receive the filling and be re-wrapped to form a Tuluk, and then cook again. The process not only enhances the cassava's flavor, but it also preserves traditional cooking methods that have been passed down for generations. The combination of the leaf wrapping and the heated stones is essential to the dish.

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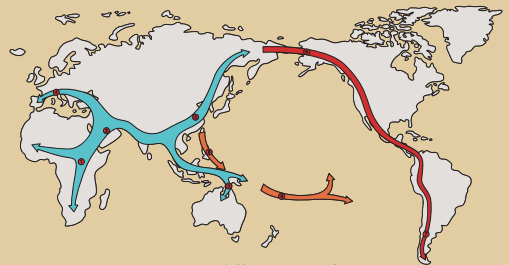
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THE HISTORY OF PORK IN VANUATU

In Vanuatu, even villages that are just a ten-minute walk apart can have distinct languages, beliefs, oral histories, and diets. The introduction of Western-founded religion and colonialization following James Cook's arrival in the 1600s began the next 400 year process of quashing the unique traits, like how many youth can only speak the nationally recognized pigeon-English language, Bislama instead of their villages traditional languages. However despite the church and modernization, *Kustom* (Vanuatu's traditional practices in Bislama) science like Black Magic continue heavily to this day. Pig has long been recognized as a sign of wealth within *Kustom*. Traditionally used as a ritual food, being served with a sign of respect for the chief or attending party, pig actually grew quiet large in Vanuatu as a replacement for human meat. Cannibalism had long been practiced, with some of the last recorded cases being only a century old. I still remember my friend's grandmother telling us "that baby tasted best", and she wore a shard of human bone in her nose. Variations of pig species and domesticated boars were brought with the Austronesian peoples moving into the south Pacific from Southeast Asia, with archaeological evidence suggesting Vanuatu became inhabited between 1300 - 1000 BCE (2).

Pigs have played a huge role in the construction of Vanuatu tradition, and what is known as *kustom*, even having a boar tusk displayed on the flag. Pig's even now still resemble a status symbol of success, increasing ones odds of getting married, or being able to move up in the power hierarchy like becoming a wiseman, bigman (just maintaining resiliency to black magic or other harm and judgment), or a chief.

The bond between people and pigs has at times been considered so deep that is has "been referred to as pig love." Pig's are not just valued simply as material possessions, but as something existing near the status of a human, and are often given direct names and considered part of the family. (1)



-Allan Faustin



-Pito kung

However as stated previously, traditional values, while remaining fairly strong compared to other surrounding island nations, have still dwindled over the last several centuries with colonialization. With many families and youth looking to establish in Port Vila, the countries capital on the Efate island, knowledge and practices of traditional gardening and food methods have declined. While pork is still highly regarded in

more remote islands, it has taken on a commercial quality on the capitol island becoming more of an every day consumption, thus the rise of the more modern day red meat Mele Tuluk.

Red meat Tuluk's are now considered the higher quality filling varieties you can get, generally for but more on the price point. and packs a delicious yet greasy heft that will leave you quite full.



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SEAFOOD

For thousands of years, Ni-vanuatu have depended on seafood as a crucial part of their diet and culture. Surrounded by some of the best reefs in the world and rich marine resources, Vanuatu has used traditional fishing methods like spears, nets, hand lines, cage traps and natural poisoning to fish reef fish, open water species, clam gardening, turtles and pretty much every species. Reef fish however, given their abundance, have remained the most consumed in an average meal. During the colder winter months, when reefs are more accessible for farming, many species gain increased mass and flavor. Octopi also emerge in greater numbers this time in response to the life bloom. For Mele Tuluk, it is common to find light white reef fish meat inside, as well as, although more rarely, Octopus.



OCTOPUS

Octopus has a lengthy history of being eaten in Vanuatu. For some, it held a title of *Kustom* relevancy, and while still eaten at times, it was often times reserved for greater than average events, as well as believing that ancestors could be represented through them, so their consumption was connected with your family. Now, as human demand and population increases, and people begin to move away from traditional beliefs thus eating more, finding Octopi, especially near Mele is getting harder and harder, with many being brought in from the outer islands. Octopus pairs deliciously well with the grated cassava, creating a chewy contrast with the softness of the wrap.



REEF FISH

Reef fish in Vanuatu have long been a staple crop for the Island nation, and historically been in high abundance. As Tuluk took shape, reef fish were combined with many variations of the lap lap (another term for the ground cassava) and continue as a filling to this day, although the tenderness of the fish isn't considered to pair well with the harder chew of the cassava. Reef fish now however are under extreme threat, especially in Mele near the capitol, which hosts some of the worse reef conditions in Vanuatu. Fish caught are now of smaller size, abundance, and now ciguatera is becoming a noticeable issue. (2)

These aquatic species are part of a recently focused taboo protected zone initiative. Species have always had controlled harvesting times, some being in a "devils garden" where fish or other garden plants are taken from, while main zones provide a temporary harvesting respite that will then osculate back to being farmed. With greater climactic pressures, these measures are starting to fall short, and Tuluk variations are becoming more seasonally limited.

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Zongzi (粽子)



What is Zongzi

Zongzi (粽子) is a Chinese dish containing sticky rice, wrapped with bamboo leaves in the shape of a pyramid. The fillings alter from different regions of China. The northern areas enjoy a dessert type, filled with red bean paste, goji berries, and candied dates. The Southern parts use savoury fillings such as pork, shiitake mushrooms, peanuts, duck yolks, and shrimp. It is consumed more often around the Dragon Boat festival.

History and cultural origin

Originally, in China's Spring and Autumn period (770-476 BC) it is believed that Zongzi was used sacrificially to pay tribute to the ancestors and gods, hoping they would bring plentiful harvests (Culture China, 2023). Glutinous rice would be wrapped with the leaves of wild rice in the shape of ox horns. This was called "jiaoshu", meaning horn-shaped dumpling. Later on, Zongzi would become synonymous with the Duanwu Festival (Dragon Boat Festival), as a form of tribute to Qu Yuan, a loved patriot (Leaf Dumpling, n.d). Qu Yuan was a highly esteemed minister and poet of the Chu State (China Culture, 2010). On 278 BC, the Chu state was invaded, and Qu Yuan's king would not entertain his advice. Distraught, Qu Yuan wrote one final poem (Huai Sha) and drowned himself in the Miluo River to symbolize dying alone with his motherland. The citizens threw rice balls and other food into the river, believing that the fish in the river would not eat Qu Yuan's body if they were full, allowing Qu Yuan to pass into the afterlife peacefully.

Recipe

(For 3 zongzi)

- 9 Bamboo leaves
- 1 cup Glutinous rice
- ½ cup Peanuts
- ¼ Dried shrimp
- ⅓ Shiitake mushrooms
- 1.5 Salted Duck egg yolk
- 200g Pork Belly
- White pepper
- Soy sauce
- Salt
- Sugar
- Chinese 5 spice
- Rice wine
- Cooking oil or lard

Preparing the fillings

- Cut pork belly into 1 inch pieces.
- Mix White pepper, 5 spice, sugar, salt, soy sauce, and rice wine to create pork marinate.
- Marinate overnight.
- Wash and soak peanuts in water overnight.
- Wash and soak bamboo leaves overnight.
- Wash rice atleast 3 times, then soak for 30 min
- Rehydrate shiitake mushrooms and dry shrimp in water for 30 min
- Drain ingredients, set aside.
- With the rice, mix in salt, sugar, and cooking oil.
- Cut mushrooms into bite size pieces.

- Cut the salted egg yolks in half.



Wrapping the Zongzi

- Take 2 of the rehydrated bamboo leaves and lay them parallel, overlapping about an inch in the middle.
- Fold in half lengthwise, then fold over one of the open sides to to create a funnel like pocket. There should be a flap on one edge of the cone
- Layer in rice and other fillings, placing a half egg yolk in the center. The rice should wrap all the other fillings.
- Take a third leaf and wrap it around the edge of the cone. Fold in the sides of the opening, then fold the remaining flap down. Wrap with twine and tie together.

Cooking

- Place your zongzi in a large pot with water, making sure they are fully submerged.
- Cover with a lid then bring the water to a boil. Once boiling, reduce to a simmer and allow the zongzi to simmer for three hours

Origins of Cultivated Ingredients



Origins of cultivated Rice

Origins of cultivated Pork

Rice

The first record of cultivated rice is from China in 2800 BC (Rice association, n.d). The exact origins of the rice plant is unknown, however it is speculated to have entered cultivation through two genetic pathways (Fuller, 2012). The wild species that have contributed to asian rice include *Oryza rufipogon sensu stricto* and *Oryza nivara*, which are native to South and Southeast Asia. *Rufipogon* is perennial, and a poor grain resource, as it utilizes more of its energy towards vegetative tissues. Through manipulation of soil and water, humans were able to induce higher grain productivity through a drought response. *Oryza Nivara* could produce more grain without as much intervention. It is believed that *Oryza Nivara*'s natural ability to produce was encouraged through plant burnings and broadcast sowing

before the domestication of rice. Early cultivation of rice could have possibly came rom four regions; the Middle Yangtze, the Huai River and southwest Henan, the Houli culture of Shandong and the Lower Yangtze.

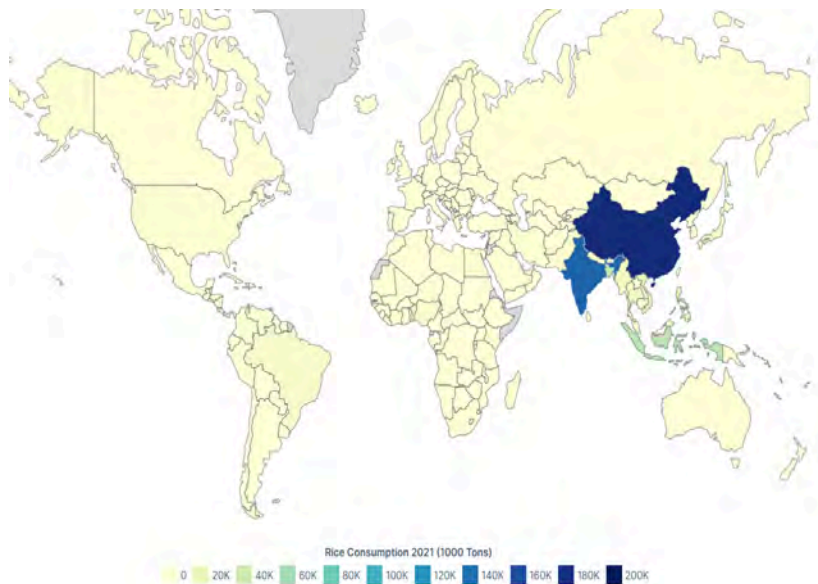
Pork

Pork is speculated to be domesticated from wild boar in about 8,000 to 9,000 years ago, with domesticated pig bones found in an archaeological site in Jiahu, in Henan China (Schneider et al., 2020). The late Shang Dynasty capital at Anyang, Henan, imported large quantities of pork to feed residents. Pigs were believed to have been an important icon for subsistence, funerary rituals and ancestral rites. During the year 2 CE, the population of the Han Empire was over 60 million, with most of the density concentrated in

the North China Plain. Most of the land was used for farming, so pigs had to be enclosed in pens to prevent destruction of crops. The manure from the pigs soon became an important fertilizer for the fields. Originally, pigs were eaten occasionally, and their manure was their main product. As the diet of these pigs mainly comprised of vegetation, they would accumulate a high fat content. The lard from pigs was stored to be used as a cooking oil. The fatty meat, along with the lard have become staples of Chinese cuisine.

Salted Duck Eggs

Salted duck eggs, more specifically the salted yolks used in Zongzi are made by placing egg yolks in salt for multiple days. This dehydrates the yolks, increasing their ability to store. The exact origin is unknown, but it is speculated they have been around before the Ming Dynasty period (Charman, n.d). The earliest record of salted duck eggs was in a Chinese agricultural text called the Qimin Yaoshu, which dates back to the 5th century.



Rice Consumption

(World Population Review, 2021)

China

Rice Consumption 2021: 183,995

Rice Consumption per Capita 2021: 128.99

Canada

Rice Consumption 2021: 558

Rice Consumption per Capita 2021: 14.51

Temporal evolution

When Zongzi was used sacrificially, it was made simply out of sticky rice, and wrapped with wild rice leaves (Culture China, 2023). It was shaped to be more angular to imitate ox horns. When Zongzi became linked with the Dragon Boat Festival, the shape became fatter and more fillings were introduced. I speculate that this was because of the Qu Yuan story, representing other foods that were thrown into the river along with the sticky rice. As Zongzi began to spread throughout Asia, other countries created their own variations, reflecting preferences of taste and available ingredients. The Japanese were introduced to Zongzi in the Tang Dynasty, filling the sticky rice with red beans and berries, much like the northern Chinese style of Zongzi (Tchea, 2021). In the Philippines, they consume a dish called “Botok”, which is sticky rice simmered in coconut milk, filled with shredded coconut and sometimes tempeh and anchovies. Rather than being triangular, Botok is rectangular. Vietnam also has their own variation called “banh chung”, which is square and filled with mung beans and pork. Banh chung is made this way to symbolize the sun.

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APPLE PIE



A Slice Through History, Culture, and Evolution

ON EVERY PAGE!

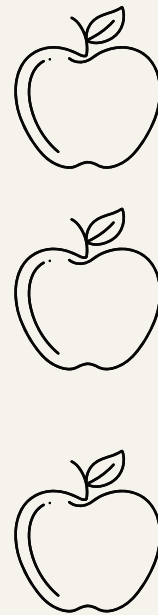
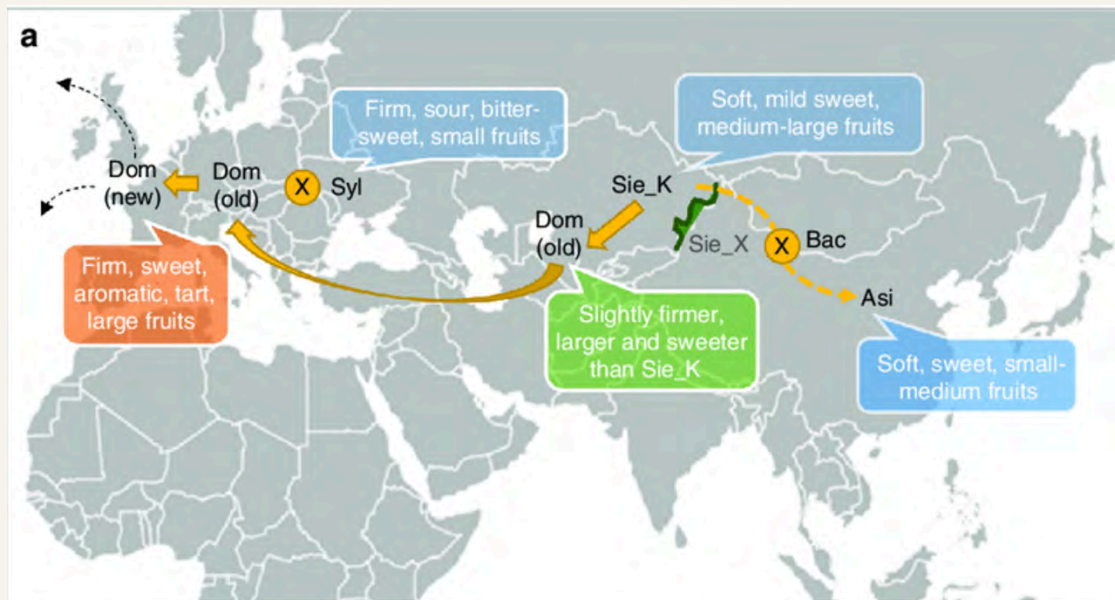
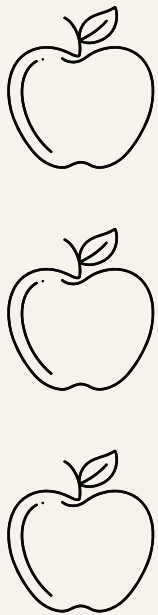
Apple pie evokes a strong sense of home and nostalgia. It is widely regarded as a timeless dessert, and it has become a cultural symbol, appreciated for its simplicity and comfort. However, the origin of this dish was far from simple; it is a desert that has been changed over centuries by trade, migration, and culinary creativity. The recipe exemplifies the connectivity of world food traditions by blending wild apples from Central Asia and spices from the Ottoman Empire (Hirst, 2018). Despite popular belief that this is a Western creation, the Silk Road transported apples, and spice routes brought cinnamon, nutmeg, and cloves into European kitchens, demonstrating that it is the result of cross-cultural interchange (Admin, 2024). This Article will examine apple pie's geographic and evolutionary roots, as well as the influence of the ottoman spice trade, the dish has been altered across many different cultures throughout ages.



The Geographic Origin of Apples and the Main Ingredients

Wild apples (*Malus sieversii*) originated in Central Asia's lush mountainous regions, now known as Kazakhstan (Hirst, 2018). These ancient apples are the genetic pioneers of the farmed variety we enjoy today, the diverse ecosystem and favorable climate allowed the apples to thrive, with seeds naturally spread by birds and animals. The migration of humans along trade routes such as the Silk Road, allowed the apples and seeds to travel to new regions (Admin, 2024). As people traveled, careful cultivation turned petite, tart apples into sweet, delicious kinds used in modern apple pie recipes. This route provided us with not just apples, but also the spices that give apple pie its distinctive flavor. Spices such as cinnamon, nutmeg, and cloves, which are fundamental to the dish, originated in Sri Lanka, Indonesia, and India's Malabar Coast (Curry O'clock, 2023). The Ottoman Empire's spice trade exposed Europe to these exotic goods, which eventually became key culinary ingredients. Meanwhile, wheat farming, which is essential for the pie's crust, evolved separately in the Fertile Crescent (Volpe, 2024). The early agricultural processes that emerged here refined wheat production, resulting in flour that is suited for baking. The mix of these geographically diverse elements—apples from Central Asia, spices from the East, and wheat from the Middle East—laid the groundwork for what would become the iconic apple pie.

Figure 1: Apple Evolutionary Map



Apple evolutionary map along the west and east bounds of the Silk Route with center of origin at Kazakhstan in central Asia

Variants and Cultural Adaptations

Although apple pie has its roots in European culinary traditions, it has evolved over time to reflect the availability of local ingredients and people's preferences. The Dutch apple pie has a deeper, denser texture, reflecting the Dutch people's preference for healthier, heartier treats (Bailey, 2022). In Sweden, apple pie is baked using oats and butter for a crispy topping instead of the conventional pastry crust, reflecting the Scandinavian people's values of simplicity (Swenson, 2023). The American apple pie varies by area; for example, the Vermont version frequently includes cheddar cheese. It is generally baked into the crust or served alongside the pie to balance the dessert's savory and sweet components. In the Southern states, they may add bourbon or pecans to the filling, reflecting the local foods and culinary traditions associated with them (Casasco, 2024). Beyond the Western varieties of this delicacy, there have been several global adaptations, including Indian-style apple pie. This version can be identified by its spice, which includes cardamom and saffron, which is contrary to Western expectations of what apple pie should be (Brenda, 2016). In Japan, the pie typically features a softer crust and custard layers to accommodate the local palates within the culture (Chen, 2024). These variations demonstrate apple pie's adaptability as a canvas for cultural expression, growing across time while maintaining its comforting core.

Evolutionary Transitions of Ingredients

The wild apples which were native to the mountain regions of Kazakhstan, were originally small, bitter and unreliable. The early farmers saw potential in the apple and started to pay more attention to which trees reproduced, this led in the majority of trees producing larger, sweeter, and more uniform apples. This selective breeding method resulted in the development of many types, and as the practice spread throughout Asia, Europe, and America, apples adapted to varying climates, culinary purposes, and tastes (National Agriculture in the Classroom Organization and National Center for Agricultural Literacy, n.d.). Apples such as Granny Smith, Honeycrisp, and McIntosh exhibit the heritage of human intervention (Honeycrisp.com, n.d.). The introduction of shortening, lard, and butter revolutionized the construction of modern pie crusts. Early versions of a pie crust were quite dense and intended to hold a savory or sweet filling rather than be eaten (*History of Pies | American Pie Council*, n.d.). Over time, the addition of butter and eventually shortening changed crusts into delicate, flaky layers, adding texture and flavor to apple pie.



Consumption and Popularity

Apples are one of Canada's most popular fruits, known for their flexibility, availability, and simplicity. According to recent statistics, the average Canadian consumes 13 kg of apples each year, and apples are the most popular fruit (*Fruit Consumption by Country 2024*, n.d.). Canada's environment is quite diversified, which allows Canadians to grow a wide variety of apples, with British Columbia and Ontario dominating in production (*Apple Facts - Ontario Apple Growers*, n.d.) (BC Ministry of Agriculture and Lands, n.d.). One of the most well-known and renowned apple kinds is the McIntosh, which originated in Ontario and is now worldwide popular for baking (*McIntosh Apple*, n.d.). Another example is Ambrosia, a relatively new type that originated in British Columbia and is known for its sweetness and crisp texture (*Ambrosia Apples | Fresh From the Orchard to Your Door*, n.d.). Globally, apple pie has experienced numerous variations, reflecting the cultural influences of different cultures. One example is the Dutch Apple Pie, which originated in the Netherlands. This apple pie is distinguished by its unique streusel topping, which is formed from a crumbly mixture of butter, sugar, and flour (Bailey, 2022). In France, the "Tarte Tatin" is a more exquisite version of the recipe, with caramelized apples baked beneath a buttery crust and turned before serving (Buford, 2020). American apple pie is renowned for its lattice-topped crust and standing as a cultural identification symbol; it is typically served warm with vanilla ice cream. These variations reflect apple pie's international appeal and adaptability to local tastes and traditions.

Cultural and Historical Layers

Apple pie has strong origins in medieval Europe, where its recipes mirrored the culinary influences of the time, such as the use of spices imported via the Ottoman Empire's trading networks. The original apple pie recipe generally featured "Coffins," which were dense pastry shells designed to preserve the filling rather than eat it (*History of Pies* | *American Pie Council*, n.d.). Later, spice combinations influenced by Ottoman and Middle Eastern cuisine modified the concept of an apple pie, and these early forms of the dish demonstrate the global exchange of ingredients that constituted medieval gastronomy. Early settlers introduced the apple pie recipe to North America, and it underwent major alterations over the ages. Since the area's natural apple varieties, such as crabapples, were too sour for cooking and eating, European colonists brought apples to the Americas (Hirst, 2018). Early settlement cookbooks from the 17th and 18th centuries emphasized austerity and simplicity, and their apple pie recipes reflected this (Hub, 2012). The recipes emphasized the use of locally obtained products, allowing anyone to make this sweet dish at any time. As the recipe spread throughout the Americas, the pie came to represent prosperity and family comfort, embodying the ideal of self-sufficiency in agrarian civilizations. By the twentieth century, apple pie had matured to the point where it was dubbed "American Apple Pie," symbolizing a nostalgic picture of American identity and culture, despite the dessert's global origins.



Temporal Evolution of Apple Pie

Tracing the history of apple pies leads us to medieval England. Since sugar was scarce and expensive at the time, the majority of early recipes from this region lacked it. Instead of sugar, cooks and bakers use natural sweeteners like honey. The first recorded apple pie recipe was discovered in "The Forme of Cury," a 14th-century English cookbook. This dish incorporates apples, figs, raisins, and spices such as saffron, demonstrating the influence of trade routes on the recipe as well as a concentration on complex flavors (Matterer & Gaudio, n.d.). As sugar became more accessible in the 16th and 17th centuries, dessert-focused recipes evolved. As technology advanced during the nineteenth and twentieth centuries, apple pie evolved into the dish we know today. Sugar refining made these pies more uniform. In addition to advancements in refrigeration technology, this allowed for longer storage of perishable components such as butter and apples, which are required for the flaky crust and tasty filling. More sophisticated baking tools were developed, such as adjustable rolling pins, pie weights, and ovens that allowed for exact temperature control; all of these technologies enabled consistency in pie manufacturing (Rachel, 2016). Serving pies with a scoop of ice cream became popular in the early 1900s, providing an elegant touch that represented apple pie's evolution from a practical dish to a cultural icon.



American Apple



Pie Recipe

Ingredients:

1/3 cup packed light brown sugar

1/3 cup white sugar

1 tablespoon all-purpose flour

1 teaspoon lemon juice

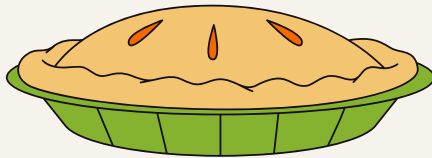
1/3 teaspoon ground cinnamon

1/3 teaspoon ground nutmeg

7 1/2 cups peeled, cored, and sliced apples

1 recipe for a 9-inch double-crust pie

1 egg (for glaze)



Directions:

- Prep:** Preheat your oven to 425°F (220°C). Lightly grease a deep-dish pie plate with cooking spray.
- Mix Filling:** In a bowl, combine the brown sugar, white sugar, flour, lemon juice, nutmeg and cinnamon. Add the sliced apples, stirring until the fruit is well coated.
- Assemble Pie:** Spoon the apple mixture into the prepared bottom crust. Place the second crust over the filling and trim the edges. Seal the edges by crimping with your fingers or a fork.
- Glaze:** Lightly brush the top crust with a beaten egg and sprinkle a small amount of sugar for a golden finish.
- Bake:** Place the pie on a middle oven rack and bake for 35 to 40 minutes, or until the crust is golden brown.

Cool: Let the pie cool on a wire rack for at least 30 minutes before serving.

Figure 2: Comparing the use of spices in various apple pie variations



Apple Pie Variation	Primary Spices Used	Notes on Spice Usage
American Apple Pie	Cinnamon, Nutmeg	Traditional and simple spice blend to complement the sweet and tart flavours of apples
Dutch Apple Pie	Cinnamon, Nutmeg, Cloves	Often uses more cinnamon compared to the american version and uses a streusel topping
Indian-style Apple Pie	Cardamom, cinnamon, saffron, nutmeg	A diverse blend of spices that reflects Indian cuisine. Bold, Rich Flavours
Japanese Apple Pie	Cinnamon	Does Not use very much spice, focuses more on enhancing the flavour of the apple. Usually has a custard layer
Tarte Tatin	Vanilla, or no spices	They use caramelized sugar and butter to flavour the desert



A comparative table demonstrating the varied usage of spices in various apple pie types.

Apple pie is more than just a dessert; it exemplifies the complex interaction of culture, trade, and culinary creativity. This recipe highlights the worldwide interconnectedness of food traditions by using wild apples from Central Asia that were subsequently enhanced with Ottoman Empire spices. This apple pie grew alongside our world, through centuries of agricultural development and trade routes, and it today reflects every culture that has adopted it in some manner. The apple pie we see today has a long history, ranging from medieval coffin pies to lattice-topped masterpieces. Variations around the world, such as Dutch streusel-topped pies, Scandinavian oat crusts, and Indian spicy variants, demonstrate its versatility. Each slice shows both its ancient origins and modern modifications, an appealing reminder of how our shared culinary heritage binds us together across time and location.

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A gastronomical Journal: Arroz de la Terra



Off the East coast of Spain in the Balearic Sea, amongst the lively peoples of the mediterranean, their sits a small limestone-covered, beach-laden island brimming with culture, with food, and with passion. Menorca, from its rich Indigenous history of the Talaiotic peoples (Anglada 2016), to its British, Muslim, and Roman reigns (Consortio Militar, n.d.), to the creation of Mayonnaise itself (Salvador Almirall 2013), has a diverse and undulating past that has in turn woven a unique and powerful gastronomical identity, distinctive even from the neighboring islands so closely situated. This diversity is bound but by one thing, the people; fierce, loyal, modest, and kind, the people of *Menorca*, the ‘Menorquin’, are a traditional people, tied and devoted to their homeland. As such, there exists no better dish to describe the lifestyle, values, and heritage of such a place and peoples than “Arroz de la Terra”, “Rice of the Earth”. This exists as a tribute to both Menorquin gastronomy, and to the creation of cuisine as we know it today.

Aptly named Menorca meaning “small island” in comparison to Mallorca, its bigger brother to the west, this Catalan speaking haven is a maze of ancient lime-stone walls (Figure 1) encompassing agricultural fields, amidst a backdrop of deep blue oceans, pine-covered hills, and steep cliffs (Figure 2). Menorquin’s have always been farming people (Petit 2021), even through their many changes in governance, “taken over and ruled by the Ancient Greeks, Carthaginian Pirates, the Roman Empire, Germanic Vandals, Norman Vikings from Scandinavia and Islamic Moors before being retaken by the Spanish on 17 January 1287” (Menorca Blue, n.d.), and Arroz de la Terra is a perfect culmination of the farmer’s harvest. “The rice of the land is a dish that arises from the need to make the most of and take advantage of everything that was obtained from the traditional agricultural and livestock activity and to provide caloric support to the peasants to be able to face the hard work in the field” (Petit 2021).

Far de Cavalleria

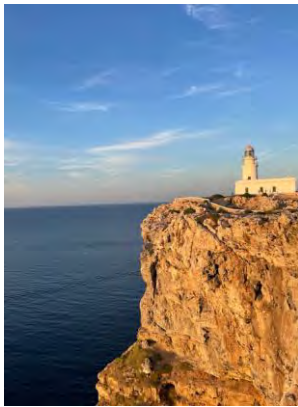


Fig 2.

Peasant Farms of Sant Lluís



Fig 1.

Arroz de la Terra: A history

First a product of Hebrew cuisine more than 4,000 years ago, and possibly one of the earliest processed foods to exist (Rotger 2014), Arroz de la Terra or ‘Moorish rice’, was influenced and adapted from the Muslim reign over the island between 903 and 1287 (Fundació Foment del Turisme de Menorca, n.d.), although pork was never included before Menorquins introduced it following their liberation from Muslim control, “Since the 13th century, the island’s culinary traditions took hold” (Menorca European Region of Gastronomy 2022).

A traditional winter food made in a large clay pot in the days following the “porquejades” or “pig slaughter”, to ensure the use of all the parts of the pig. “Traditionally the dish of arroz de la Terra was

eaten in the winter during the *porquejadas*, between the months of November and February, but the necessary supply of *arroz de la terra* for the winter used to be prepared between the months of September and October” (Petit 2021). Menorquins are known for cultivating an array of pork products, and *Arroz de la Terra* is a display of these including black and white sausage, *carn-i-xulla*, pork ribs and belly, pig's head, and the epitomal Balearic cured meat, *sobrasada*. Although interestingly the ‘Arroz’ or ‘rice’, is not rice at all, rather traditionally a cracked wheat known as ‘*xeixa*’ (Petit 2021), not to be confused with, yet remarkably similar to bulgar, and grown exclusively in the Balearic Islands hence, ‘The rice of the Earth’. “...care should be taken to clearly mark the difference with other similar forms, such as the Burghul, which are of foreign origin and do not have the same characteristics” (Petit 2021).

The origins of the *xeixa* wheat and pork are traditionally of Menorcan locale, additionally the garlic, olive oil, sweet potato, saffron, and tomatoes, are all cultivated on the island as well (Petit 2021). The garlic is placed directly in the center of the dish (Figure 3), and the rest of the elements are placed around this center upon a bed of prepared *xeixa*, cooked in a clay pot filled with water in the oven until the *xeixa* is fully hydrated.



Fig 3.

Porquejades

Although the *porquejades* is now a modernized festivity, the cured meats and charcuterie made on the island are still delicious. *Carn i xulla* is the most characteristic cured meat, since it is only made in Menorca and dates back to ancient Roman charcuterie. It is raw cured sausage made with lean meat and fat. Here we also find the famous *Sobrasada*, a raw cured sausage flavoured with spicy paprika, which comes in the varieties ‘*tierna*’ (soft) and ‘*curada*’ (mature). The typical charcuterie of Menorca also includes *botifarró* (minced meat mixed with blood, if it is a black sausage, or without blood if it is white *botifarró*) and *camot* (also known as *cuixot* or *camaiot*), made using similar ingredients to *botifarró* but which is encased in the skin of the pig's thigh, rather than using the gut (Salvidor Almirall 2013).

Xeixa process

...to prepare the raw material to make the dish, the wheat was taken and passed through a sieve to remove the husks and husks that might have been mixed with the grain. Once clean, it was left to soak in water, washed and allowed to drain well. Then, inside a kettle with water, it was put on the fire to boil. When it was well cooked (when the grains began to crack as if they were about to burst) it was removed from the fire, passed through water again, drained again and put to dry in the sun (in the old days of the threshing floor), with a cleaner below. It spread well, making runs, and flattened. It was stirred from time to time so that the grain dried evenly. If the nights were wet, they put it in at night and took it out again in the morning. After a couple or three days, when it was very dry and toasted (when it took on a whitish and shiny tone), it was collected and taken to be ground, so that it was granulated, more or less, the size of vermicelli. It was sifted again to remove the finer flour, and the coarser particles were kept aside to cook the ground rice. Rice from the land could be kept for months in a dry, airy place (Petit 2021).

Influences: Cultural, bio-geo-physical

The creation of this dish represents a culmination of the fruits of the Menorquin labour through the farming season and is celebrated as such, therefore it holds immense value in Menorcan culture and heritage, despite its exclusion from modern cuisine. “(livestock husbandry, agriculture)...These are the basic principles on which traditional Menorcan gastronomy is based, so, despite the fact that it is a disused dish, it would be of great interest to recover it and put it in value because it is a dish strongly linked to Menorcan tradition and culture” (Petit 2021).

While the *porquejades* is very communal, so too is eating *Arroz de la Terra*, and as such it is particularly important in Menorquin tradition to divide and distribute the pieces of pork evenly among all who are taking part in the meal. This key aspect has influenced how the dish is presented, prepared, and changed, for instance in less fortunate families, the meat is often left out altogether. If there was pork present, it was to be shared between each person fairly.

Although today there are many variations of wheat and wheat substitutes, the heritage *xeixa* wheat is the centerpiece of a true *Arroz de la Terra*, signifying both the work that went into growing the wheat, and the extensive process of preparation for *xeixa* to become edible, digestible, and nutritious. In addition, as the ‘rice of the earth’ for Menorca, it is the best suited wheat for the climate and conditions. “In the environmental aspect, ‘*blat de xeixa*’ is a variety traditionally well adapted to the conditions of Menorca. The promotion of its cultivation would contribute to the conservation of the agricultural landscape and of ways of life more closely linked to the natural environment, which indirectly also participate in its protection” (Petit 2021).

Evolution and Adaptations

Like many foods, *Arroz de la Terra* has evolved considerably over time, with new culinary explorations, interpretations, and a distancing from traditional ways of life in Menorca. The most notable of changes has been in the wheat and meat, as bulgur, semolina, couscous, and pre-processed wheats become more popular, and as the traditional use of pork after the *porquejades* has changed to lamb goat and the newly cultivated cattle, the heritage and in turn the typicality of *Arroz de la terra* is altered, specifically in the process of creating the dish. Connection to these foods, to place, and to culture through cultivation and community are lost or forgotten as aspects like wheat and meat are replaced by store bought versions, and younger generations are removed from traditional agriculture and livestock practices.

The increasingly widespread custom of cooking less at home, of buying ready-made dishes in supermarkets, the current trend of preparing low-calorie and healthier recipes, the complexity of the recipe and the limited distribution of the raw material that used for the preparation of rice from the land, they do not favor the safeguarding or perpetuation of this dish, so that it is in a process of decline within private households. (Petit 2021).

Another noteworthy departure from the traditional *Arroz de le Terra* is the inclusion of a *sofrito*, meaning ‘lightly fried’ as a base. Frying onions, garlic, green peppers, and tomatoes, before assembling the ‘rice’ on top and the pork and vegetables above that, is a more recent addition to the dish, and a popular culinary method in Spanish cuisine.

TRADITIONAL

Arroz de La Terra



INGREDIENTS

- 400g Cracked Xeixa**
- 100g Black Sausage**
- 100g White Sausage**
- 100g Sobrasada**
- 200g Sweet Potato**
- 1 Head Garlic**
- 2 Ripe tomatoes**
- 2 tblspn Olive Oil**
- 1 teaspoon Saffron**
- 2 cups of water**



4	1 HOUR	2 HOURS
Yield	Prep time	Total time

DIRECTIONS

Pre-heat oven to 400 Degrees Fahrenheit. Prepare xeixa wheat for cooking and pour into a large clay pot. Place Garlic head directly in the center and assemble sweet potato, tomato, sausage, and sobrasada accordingly, 1 piece of each meat/person. Drizzle Olive oil, and a dash of saffron and salt. Cover completely with water, bake for 45 minutes, or until xeixa is crispy brown on top. Add water as needed throughout baking process.

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Sophie Lunny

ES 347

BAGELS: A JOURNEY FROM POLAND TO GLOBAL FAME

The bagel has become a beloved staple in bakeries worldwide. Its story, however, is deeply rooted in Poland and intimately tied to one key ingredient: flour. Understanding the origins and evolution of bagels requires an exploration of the interplay between geography, culture, and the evolution of flour itself.

THE GEOGRAPHIC ORIGINS AND EVOLUTION OF FLOUR

Flour, the foundation of bagels, originates from the domestication of wheat, a process that began over 10,000 years ago in the Fertile Crescent (modern-day Middle East) (Rogosa, 2016). Early wheat varieties, such as emmer and einkorn, spread across Europe through trade and migration, adapting to diverse climates. By the Middle Ages, Poland had become a significant agricultural hub, benefiting from its fertile soils and temperate climate. Polish wheat, particularly strains suited to the colder climate, became a cornerstone of Central and Eastern European baking tradition (Zenciri et al., 2022).



Over millennia, wheat has undergone significant evolutionary transitions, both naturally and through human intervention. Early farmers selected for traits like larger grains, higher yields, and adaptability to different soil conditions (Gustafson et al., 2009). By the 16th century, advancements in milling technology in Europe allowed for finer, more consistent flours, paving the way for delicate doughs that could produce bagels (The Canadian Encyclopedia, 2006).

In modern times, genetic advancements have introduced high-gluten wheat varieties, ideal for creating the elasticity and strength that give bagels their texture. Such advancements reflect humanity's enduring quest to refine flour to suit specific culinary needs (Ross, 2019).

POLAND



Poland's natural environment played a significant role in shaping the bagel. The country's nutrient-rich soils and abundant rainfall allowed for the cultivation of high-quality wheat (Balinska, 2008). This, combined with Poland's long, cold winters, fostered the development of hearty breads and baked goods. Bagels, with their dense texture, could withstand the harsh climate while providing a satisfying source of sustenance.

Moreover, the use of boiling in the bagel-making process helped create a crusty exterior that preserved the freshness longer. This became a hallmark of the bagel (Balinska, 2008).



CULTURAL PRACTICES

Bagels as we know them emerged from Poland's Jewish communities in the 17th century. They were a staple of Jewish cuisine, created in part to comply with kosher dietary laws (Balinska, 2008). Their circular shape held symbolic meaning, representing eternity and the cycle of life, and made them easy to transport (Balinska, 2008).

The practice of boiling bagels before baking was rooted in tradition but also served practical purposes. The boiling step gelatinized the starches on the surface, sealing in moisture and giving bagels their chewy texture (Balinska, 2008).

GLOBAL ADAPTATIONS

The bagel journeyed to North America with Jewish immigrants in the late 19th and early 20th centuries, finding a new home in cities like New York and Montreal (Balinska, 2008). These cultural contexts gave rise to regional adaptations. New York-style bagels, for example, are larger, fluffier, and sweeter due to the use of malt and a longer proofing process (Hochman, 2017). Montreal-style bagels, by contrast, are smaller, denser, and baked in wood-fired ovens, often with honey in the dough (Lee, 2024).

Elsewhere, the bagel has evolved further to reflect local tastes. In Japan, bagels are often smaller and softer, catering to preferences for less chewy textures (Kitahara, 2024). Meanwhile, in modern North America, bagel innovations abound, from rainbow-coloured bagels to those stuffed with pizza toppings or dessert fillings (Silverman, 2023).

FLOUR TODAY

Flour is one of the most consumed products worldwide. The Food and Agriculture Organization estimates global wheat production to exceed 760 million tons annually (Dadrasi, 2023).

In Canada, wheat flour is a dietary staple, used not only for traditional baked goods but also for international cuisines reflecting the country's diverse population.





EVOLUTION OF THE BAGEL

Since its inception in Poland, the bagel has evolved significantly, shaped by changing tastes, technologies, and cultural exchanges. Early bagels were likely simpler, smaller, and less varied in flavour than their modern counterparts (Balinska, 2008; Hochman, 2017). The rise of commercial baking in the 20th century led to the mass production of bagels, often altering traditional recipes to prioritize shelf life and efficiency (Mecatherm, 2020). In recent decades, however, there has been a resurgence of artisanal bagels, with baking returning to traditional techniques and experimenting with heritage grains (Balinska, 2008). This revival reflects a growing appreciation for authenticity and the cultural significance of food.

RECIPE

Mix 9 cups flour, 3 cups hot water, ¼ cup white sugar, 1 tablespoon yeast, 1 tablespoon salt in a large bowl. Transfer the dough to a work surface and knead for 10 minutes. Place dough in a bowl and let rise for 15 minutes. Preheat oven to 375 degrees C. Divide dough into 12 balls and make a hole in each one. Place on greased baking sheet and let rise for 20 minutes. Bring a large pot of water to a boil. Boil bagels, in batches, for 45 seconds each side. Place boiled bagels back on baking sheet. Bake for 30-35 minutes.

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Gastronomy Journal Article

Borscht: A Bowl Full of Tradition

Introduction

Borscht is a warm soup normally made with beets when following a Ukrainian recipe. It is a tart soup that serves as a comfort food to many. Borscht has evolved over time and cultures, as there are many variations depending on the geographical region. This article will be predominantly focused on the Ukrainian beetroot borscht but will still discuss how other geographic regions have altered the soup.



The Geographic Origin of Beetroot



When considering the most popular red borscht, beetroot is the main ingredient. This pink soup is for many the common what they think of borscht. The wild sea beet is the ancestry of the common beetroot that is used today to make Borscht. The sea beet likely originated in Southwest Asia as the genus Beta separated from its ancestral family Chenopodiaceae 27-38 million years ago (Biancardi et al. 2012). Human evidence of harvesting the leaves of the beet plant dates back to 5600-4000 BC in Denmark, Holland and Poland.

Evolutionary Transition of Beetroot

Human cultivation has altered beets from the wild sea beet to the beets we see in grocery stores today. As human cultivation selects the traits considered valuable for increasing the yield of the crop and desirable traits, the diversity of beets has dramatically reduced (Biancardi et al. 2012). The first evidence of beet farming goes back to the eighth century BC when beets were described as growing in the gardens of Babylon. During the beet's transition from a wild plant to a cultivated one some traits disappeared, as they were no longer needed or desired. For example, wild beets have many genetic traits that allow them to compete with weeds and other competitive plants; however, when cultivated, the farms kept out other plants through monoculture and this trait was lost. It was only after the cultivation of beets which resulted in increased tenderness and flavour that beets were added to borscht and borscht became the iconic beet soup it is often known as today (Goldman & Janick 2021).

Global and Canadian Consumption of Beetroot

There are no clear statistics on the global or Canadian consumption of beetroot. There is much more information on the consumption of beet sugar, beet juice, or beet powder. Beet sugar is a large industry and there has been plenty of analysis of the consumption of sugar beets; however, that is not the same as the beetroot being considered in relation to borscht.

Cultural Influences on Borscht

Borscht is a culturally and geographically significant food in Ukraine included in the intangible heritage of UNESCO (United Nations Educational, Scientific and Cultural Organization) as of 2022 (Hruzdieva et al. 2024). Borscht is the centerpiece of Ukrainian cooking and is a symbol of the country. Although it is considered peasant food, it is served in restaurants and on holidays. For many Ukrainian people, the dish is an example of harmony in a plate from a nutritional and taste perspective. Despite the unanimous appreciation of borscht across the country of Ukraine, the traditional recipes that are passed down through generations vary. The variation of borscht recipes depended on the different climates and the availability of products.

Variations of Borscht



Borscht is a dish that is common across Eastern Europe and has many variations. Within the types of borscht that are considered Ukrainian, there are red borscht, green borscht and cold borscht (Hruzdieva et al. 2024). Red borscht is the typical borscht that most people think of as it has a distinctive red color that makes it recognisable (Goldman & Janick 2021). Green borscht is different from red borscht, as it is cooked in the springtime and therefore has a different availability of ingredients. The green borscht contains sorrel, rhubarb and immature beet leaves. Cold borscht is served in the summer months and, contrary to the other kinds of borscht, it is served cold. Cold

borscht still contains the classic red beetroot but is mixed with Keifer as well. The geographical region near Poland and Latvia has another kind of borscht: white borscht. This borscht is made from fermented grains and fermented cabbage. These fermented ingredients were also introduced to many kinds of borscht and give the soup its distinct sour taste.

Evolution of Borscht Over Time

Borscht is believed to have originated in the Ukraine sometime between the Fifth and Ninth century CE. However, beets were not an original ingredient of the soup. The original soup was made with cow parsnip which was fermented and added to meat broth, egg and cream to make a tart soup (Goldman & Janick 2021). Cow parsnip was wild and common around Eastern Europe. The soup became a common peasant food that was popular in the area by the 15th century. Beet was not added to borscht earlier than the 16th century when the more succulent beetroot became available. Due to economic struggles in the 17th century, a new variety of ingredients was added to soup resulting in the formation of various kinds of borscht. The commonly known beetroot borscht was eaten predominantly by Ukrainians as a peasant food. Borscht was an ideal food for peasants as the beets and cabbage are especially valuable nutritionally. They contain many nutrients and vitamins that were difficult to obtain especially in the winter season when fresh produce was hard to come by. Some of the nutritional qualities of beets include iron, copper, magnesium, B vitamins and more.

The bone broth was another desirable element for peasants as it allowed them to use all parts of the animal or allowed them to purchase the cheaper parts of the animal, and still gain nutritional benefits. Bone broth can be a source of needed calories for hardworking peasants as well as a source of protein.

The evolution of borscht continues in recent years as the dish remains a cultural staple and spreads in popularity. The gastronomic culture of Ukraine has been retained as Ukrainian settlers and immigrants have moved to other parts of the world and continued to produce and appreciate Ukrainian food (Hruzdieva et al. 2024). The dish continues to evolve as it arrives in new areas of the world with



different product availability and cultural influences. An example of this is many people in Canada and the USA add orange for a tangy flavour. As the war in Ukraine continues an increasing number of people are leaving the country and taking their culinary culture with them so that the evolution of this ukrainian specialty continues to this day.

Recipe

Note: the recipe I was hoping to use was my great-grandmother's who is from the Ukraine. When speaking to my grandmother, I learned that she did not have this recipe written down but rather knew it by heart. She frequently adapted the recipe to utilize whatever was in her garden depending on the season. I found a recipe that looks similar to the one my great-grandmother used to make. From talking to my grandma, she told me that baba would typically use a ham bone to make her broth, always include lots of dill, and serve it topped with sour cream. She loved garlic and would usually have a fresh supply from her garden which she used generously in her borscht. She claimed, garlic, known for its antibiotic and antioxidant properties was one of the secrets to her longevity and good health. She also believed that working in her garden was paramount to her wellness. Not only were the ingredients in her soup nourishing but also the lifestyle required to produce the fresh ingredients contributed to her good health!

Ingredients

- 12 cups of beef, vegetable or pork broth
- 5 cups green or red cabbage
- 1 large onion chopped
- 2 tablespoons olive oil
- 3 large beets peeled and cut into matchsticks
- 4 large potatoes peeled and cubed
- 6-ounce can of tomato paste
- 3 bay leaves
- 1 tablespoon white vinegar
- Pinch of sugar
- 3 large garlic cloves minced
- Ground black pepper to taste
- ¼ cup dill
- Sour cream for serving

Instructions

1. In a large pot (I use 6 quart Dutch oven), add broth, bay leaves and bring to a boil. In the meanwhile, wash, peel and cut vegetables.
2. Once broth is boiling, add cabbage, cover and bring to a boil. Then reduce heat to low and cook for 20 minutes.
3. In the meanwhile, preheat large skillet on medium heat and swirl 1 tbsp of oil to coat. Add onion, carrots and saute for 5 minutes, stirring occasionally.
4. Add beets, remaining 1 tablespoon of oil and cook for another 3-4 minutes.
5. Transfer sauteed veggies to a pot along with potatoes, tomato paste and salt. Cover, bring to a boil and cook on low heat for 20 minutes.
6. Turn off heat. Add vinegar, sugar, garlic and pepper. Stir and let borscht sit for 10 minutes to allow flavours to marry each other. Add dill, stir and adjust any seasonings to taste.
7. Serve hot with a dollop of yogurt or sour cream, bread and garlic clove on the side (this is not for everyone).

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Borscht

When one thinks of borscht, what typically comes to mind is a vibrant red soup, thick with beets, potatoes, cabbage, and other hearty vegetables. This version of the soup, topped with a dollop of sour cream and served with bread, is the most distinctive and widely recognized form of the dish. However, borscht has taken on many forms across time and place, from chilled versions only enjoyed in summer, to adaptations featuring foraged ingredients, and to recipes which fail to even mention beets.

Deemed the national dish of Ukraine, borscht has additional ties to many cultures across Eastern Europe. Although each culture enjoys variations of the dish, what remains constant is its role in providing a nourishing and delicious meal both for special occasions and everyday enjoyment.

Borscht can be referred to also as “borshch” or “borsch,” reflective of its origins from the term for the plant “hogweed” in Slavic languages, which historically constituted the main ingredient of borscht prior to the introduction of beets in the 16th century.¹

¹ Bryan Demchinsky, “Borscht – A Love Story,” *Gastronomica* 15, no. 3 (2015): 72, doi:10.1525/gfc.2015.15.3.69.; Irwin L. Goldman and Jules Janick, “Evolution of Root Morphology in Table Beet: Historical and Iconographic,” *Frontiers in Plant Science* 12 (2021): 2, doi:10.3389/fpls.2021.689926.; Mariya Lesiv, “Not All Quiet on the Culinary Front: The Battle Over Borshch in Ukraine,” *FOLKLORICA - Journal of the Slavic, East European, and Eurasian Folklore Association* 25 (2021): 58.

Tracing the origin of beets



Map showing the origin of wild beets (red) and their migration to Ukraine and the rest of Europe.

Beets (*Beta vulgaris*) made their journey to borscht from their wild origins in the Mediterranean, initially growing in regions of Southern Europe, North Africa, and the Middle East.² The wild ancestor of the modern cultivated beet is called “sea beet,” for its tendency to take root near the coast.³ The domestication of the plant is traced back to the Middle East in the 8th century, and the plant spread to Ancient Egypt, Greece, and Rome, valued primarily for its leafy greens.⁴ Whereas this early beet had long, spindly roots not really worth eating, selective breeding by humans over a period of 2000 years resulted in the development of the familiar bulbous root form of the plant known today.⁵

² Bharati R. Hole et al., “A Review on Beta Vulgaris (Beet Root),” *Pensee* 51, no. 1 (2021): 428.

³ Goldman & Janick, “Evolution of Root Morphology,” 2.

⁴ Hole et al., “A Review on Beta Vulgaris,” 428.

⁵ Goldman & Janick, “Evolution of Root Morphology,” 2.

The modern form of beetroot has been documented since the 16th century, and its introduction into borscht recipes occurred not long after.⁶ Borscht itself is thought to have its origins in Ukraine between the 5th-9th centuries, considerably predating the introduction of the beets to this region. As such, the traditional borscht recipe used fermented hogweed (cow parsnip) as its main ingredient, and became a dish eaten widely across Eastern Europe by the 15th century, mainly by peasants.⁷ The introduction of beetroot to Eastern Europe transformed the dish, giving it the rich red colour and heartiness that is often characteristic of the soup today. This change also reflects the adaptability of the dish, which largely relies on using ingredients that are locally abundant.

Beetroot also provides nutritional benefits, being a good source of carbohydrates, proteins, minerals (ie, iron), vitamins (ie. B vitamins), and fibre.⁸ The rich red-purple colour in beets is due to the presence of pigments known as betalains, which together with flavonoids and phenolic acids, provide powerful antioxidant benefits to support various body functions.⁹



Beet harvested from my sister's garden, 2021.

Beta vulgaris consists of four main cultivars, including the sugar beet, fodder beet, chard, and the table/red beet.¹⁰ Due to the global demand for sugar, sugar beets are currently the most widely produced and consumed cultivar. As such, the consumption statistics for the table beet are limited due to the oversaturation of data for sugar beet. However, according to the Government of Canada, 47,785 metric tons of beets were produced in 2023, resulting in .86kg per person available for consumption.¹¹ In 2009, the average Canadian beet consumption was recorded as 0.4kg per person.¹²

Crops in Post-Genomics Era, 1st ed., eds. Saurabh Singh et al. (Gateway East, Springer Singapore, 2023), 237-38.

¹⁰ McGrath et al., "Beet," in *Vegetables*, 1st ed., ed. Chittaranjan Kole (Berlin, Springer Heidelberg, 2007), 191.

¹¹ Government of Canada, "Statistical Overview of the Canadian Field Vegetable Industry, 2023," Agriculture and Agri-Food Canada, July 31, 2024.

<https://agriculture.canada.ca/en/sector/horticulture/reports/statistical-overview-canadian-field-vegetable-industry-2023#a3.1>.

¹² "Food Statistics, 2009," Food Statistics, May 2010.

<https://www150.statcan.gc.ca/n1/pub/21-020-x/21-020-x20090-01-eng.htm> (accessed 29 November 2024).

⁶ Ibid.

⁷ Ibid., 6.

⁸ Deepu Pandita et al., "Beetroot" in *Antioxidants in Vegetables and Nuts: Properties and Health Benefits*, 1st ed., eds. Gulzar Ahmand Nayik and Amir Gull (Gateway East, Springer Singapore, 2020), 52-55.

⁹ Pandita et al., "Beetroot," 52-55; Eman Tawfik, "Breeding Strategies of Beetroot and a Future Vision in the Post-Genomic Era," in *Smart Plant Breeding for Vegetable*

From *chernozem* to borscht

The introduction of beetroot to Ukraine was particularly successful due to the presence of the rich, “black earth” soils known as *chernozem* in much of the region. *Chernozem*, which makes up 65% of Ukraine’s soils, is a humus, calcium, and clay rich soil noted for its fertility.¹³ It is most prevalent in the forest-steppe and steppe zones of the country, regions not coincidentally known for their high agricultural activity.¹⁴

Much of Ukraine consists of these fertile plains, characterized by a moderate temperate climate. In combination, the *chernozem*, the moderate temperate climate of the Northern regions of Ukraine, and the relatively flat terrain make a well suited environment for the cultivation of cool weather crops, such as beetroot, cabbage, and potatoes, essential ingredients in most borscht recipes.¹⁵

¹³ Sviatoslav Baliuk et al., “Changes in the Properties of Chernozem Soils under Management and Strategic Approaches to Restore Their Fertility,” *International Journal of Environmental Studies* 81, no. 1 (2024): 374, doi:10.1080/00207233.2023.2271339.; Stepan Pozniak, “Chernozems of Ukraine: Past, Present and Future Perspectives,” *Soil Science Annual* 70, no. 3 (2019): 193, doi:10.2478/ssa-2019-0017.

¹⁴ Natalia Bondar and Tetiana Golikova, “Culinary traditions and eating patterns of various Ukrainian regions,” in *Nutritional and health aspects of traditional and ethnic foods of Eastern Europe*, eds. Diana Bogueva et al. (Academic Press, 2021), 124.

¹⁵ *Ibid.*

The traditions of borscht

In Ukraine, borscht is a versatile meal to be had for all occasions. The dish is often consumed as a meal for any day of the week, and is also served at special events such as weddings, funerals, harvest festivals, Christmas, and other holidays.¹⁶ The preparation of borscht remains a family tradition, with recipes and cooking methods primarily passed down through generations. Women traditionally lead in preserving their family’s borscht traditions, though children and men also contribute by assisting with ingredient harvesting, preparation, and cooking.¹⁷

Specific traditions highlight the cultural significance of borscht. It is served as one of the twelve dishes during Christmas Eve, each symbolizing one of the twelve holy apostles.¹⁸ In some regions of Ukraine, borscht plays a central role on the third day of wedding rituals, known as “do nevstky – na borsch,” meaning “visit daughter-in-law to eat borscht,” which celebrates the establishment of the new relationship.¹⁹ Therefore, this dish has many functions beyond sustenance in the support of familial and community relationships.

¹⁶ *Ibid.*, 137.

¹⁷ Demchinsky, “Borscht – A Love Story,” 70; UNESCO, “Culture of Ukrainian Borscht Cooking,” UNESCO Intangible Cultural Heritage. <https://ich.unesco.org/en/USL/culture-of-ukrainian-borscht-cooking-01852> (accessed 28 November 2024).

¹⁸ Olena Hruzdieva, Tatyana Teslenko, and Yuliia Luchanska, “Integration of Ukrainian cuisine in modern conditions,” *E3S Web of Conferences* 538, no. 03002 (2024): 4, doi:10.1051/e3sconf/202453803002.

¹⁹ UNESCO, “Culture of Ukrainian Borscht.”

Traditionally on Sundays and most holidays, borscht would be specially cooked with meat broth.²⁰ During Lent and Christmas Eve, meat is not consumed so plant-based variations of the dish are served, using vegetable broth, sunflower oil, mushrooms, and sometimes fish to flavour the soup instead.²¹ Historically before the latter half of the 19th century, borscht would be made without meat or meat stock due to the high cost of meat products and it being a dish primarily consumed among peasants.²²

Borscht in its many forms

There are countless variations of traditional red borscht within and outside Ukraine. Some modifications include the addition of cereals, beans, or beer to the broth to increase calories and enhance flavour, as well as variations in the ways vegetables are prepared for the soup (ie. shredded vs sliced).²³ These alterations reflect differing taste preferences, agricultural practices, and staple crops local to various regions.

Within Ukraine and neighbouring regions such as Poland and Russia, borscht takes on many forms besides its common beetroot-heavy version. There are considered to be three distinct types of borscht: red borscht

traditionally made with beets and other vegetables; green borscht, which has no beetroot, but is made with young sorrel and other greens; and finally cold borscht which is served cold and contains beet broth, cucumbers, kefir or buttermilk, and greens.²⁴ Red borscht is eaten year round, whilst green borscht is traditionally consumed in the spring, and cold borscht only consumed in the summer.²⁵ A commonality between these dishes is the sour taste imparted by different fermented ingredients, such as the beet kvass or vinegar in red borscht, buttermilk in cold borscht, and vinegar or lemon juice in green borscht.²⁶

Whilst borscht is considered synonymous with Ukrainian culture, it also holds cultural importance in the culinary traditions of Ashkenazi Jewish, Polish, Lithuanian, Russian and other cultures.²⁷ The similarities between these regional variations—such as the traditions of red borscht in Ashkenazi Jewish culture, or “cold beet soup” in Lithuania—are reflective of the historical relationships between these cultures, as well as the shared availability of staple ingredients such as beets, potatoes, cabbage, dill, etc.²⁸ The development of these

²⁰ Bondar & Golikova, “Culinary traditions,” 137.

²¹ Bondar & Golikova, “Culinary traditions,” 138.; Demchinsky, “Borscht – A Love Story,” 72.

²² Bondar & Golikova, “Culinary traditions,” 126.

²³ Demchinsky, “Borscht – A Love Story,” 73.; Hruzdieva et al., “Integration of Ukrainian cuisine,” 4.

²⁴ Hruzdieva et al., “Integration of Ukrainian cuisine,” 3-4.

²⁵ Bondar & Golikova, “Culinary traditions,” 138.; Hruzdieva et al., “Integration of Ukrainian cuisine,” 3.

²⁶ Bondar & Golikova, “Culinary traditions,” 137-38.

²⁷ Demchinsky, “Borscht – A Love Story,” pg. numbrs; Lesiv, “Not All Quiet,” 72.; Mark Shamtsyan, Elena Kiprushkina, and Diana Bogueva, “Eastern European food cultures and traditions,” in *Nutritional and health aspects of traditional and ethnic foods of Eastern Europe*, eds. Diana Bogueva et al. (Academic Press, 2021), 9.

²⁸ Ibid.

parallel foodways highlights how borscht has been adapted to regional, climatic, and cultural differences across neighbouring but distinct regions.

Borscht through time

The introduction of beets to borscht recipes is perhaps the most iconic alteration to the dish over time. Potatoes were not added to the dish until the 19th century, shortly after the crop became a staple across Eastern Europe, largely due to their ease of cultivation and high crop yields.²⁹

The fermented ingredients added to borscht recipes have also been altered through the centuries. Traditionally, beet kvass would be produced by fermenting beetroot for a few days to a week with water and salt, and the liquid would be added to borscht to contribute to the sour taste of the soup.³⁰ More convenient variations began to use lemon juice, vinegar, and by the early-mid 20th century, tomato paste or fresh tomatoes, to replace this step.³¹

Whilst the recipes for red borscht have evolved over time, both green and cold borscht have remained relatively unchanged.³²

Vegetarian red borscht recipe

This plant-based version of traditional Ukrainian red borscht maintains the dish's signature flavours, but uses a vegetable broth base instead of meat broth. The recipe is adapted from Savella Stechishin's *Traditional Ukrainian Cookery*.³³

Ingredients (serves 4-6):

- 2 tbsp olive oil
- 6 cups vegetable broth
- 1 medium onion, diced
- 4 medium beets, cut thinly
- 2 medium carrots, cut thinly
- 3 medium potatoes, diced
- ½ medium cabbage, shredded
- ¾ cup chopped tomatoes
- 2 cloves garlic, minced
- 2 tbsp vinegar or lemon juice
- ½ cup fresh dill
- Salt, pepper (to taste)
- Sour cream (optional)

Instructions:

In a large soup pot, heat oil and sauté onion, carrots and beets over medium heat. After 10 minutes, add the vegetable broth, potatoes, and cabbage. Bring to a boil and simmer for 10-15 minutes or until the veggies are tender. Add the chopped tomatoes and garlic and continue cooking for 5 minutes. Then add the vinegar or lemon juice, dill, salt, and pepper to taste. When ready to serve, dish it up as is or top with sour cream. Enjoy!

²⁹ Bondar & Golikova, "Culinary traditions," 139.

³⁰ Ibid., 137-38.

³¹ Ibid. 138.

³² Ibid.

³³ Savella Stechishin, *Traditional Ukrainian Cookery*, 8th ed. (Winnipeg, Trident Press, 1976), 52-53.

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Chicken Pot Pie

ES 347 - ECOGASTRONOMY

GASTRONOMIC JOURNAL

HANNAH CAMERON

→ Introduction

Chicken pot pie is a dish that many see as a quick and easy meal that's usually found ready made in the freezer sections of grocery stores. Often ignored is its long and deep history that spans international borders. From its soft, flaky crust to its comforting and savoury filling, chicken pot pie is a dish with a rich history filled with ecological and social adaptations to bring it to life.

→ Geographic origin of the main ingredient

One of the main ingredients in chicken pot pie is of course chicken, which makes up the bulk of the pie's filling alongside vegetables and gravy. The origin of using chicken as food dates back to the domestication of animals and was "previously considered to have occurred in the Indus Valley at around 2000 BC" (Hata et al., 2021). However new evidence found by Hata and colleagues (2021) states "an earlier origin in Southeast Asia, before 6000 BC, based on archaeological evidence from China, Southeast Asia, and Europe, and paleoclimatic evidence in China". Initially, domestication of chickens was not for the purpose of eating but for sacrifices for rituals (Hata et al., 2021). Over time, the use of chickens transitioned from sacrifices to being used for food via the rise of pastoralism, which is how they came to be a part of chicken pot pie.

→ Recent evolutionary transitions of chicken via artificial selection

The shape and weight of chickens has changed drastically in the last century due to artificial selection and selective mating (Hata et al., 2021) done with the purpose of making them fatter and meatier. The demand for more chicken rose after World War 2 as a response to rationed beef (Volpe, 2024). With an increased demand for chicken came an opportunity for companies to make more money from producing poultry meat, and so companies started using artificial selection to breed chickens to become the 'ideal' or meatiest chicken. This method enabled companies to produce more meat, and therefore make more money, at a faster pace. For example, in 1950, the typical broiler weighed 3 pounds at 10 weeks old, in 2011 they weighed 6 pounds at only 6 weeks old (Volpe, 2024). This drastic change in the physical appearance of a chicken through artificial selection allowed companies to profit as they were able to sell more product while spending less time to get it to an enhanced size. The desire to increase the profitability of the commercial chicken market led to chickens undergoing a major evolutionary transition via selective breeding. The once lean chicken that took a long time to grow up transformed into a meatier, faster growing chicken.

→ Current global and Canadian chicken consumption statistics

Chicken is a very popular protein choice across Canada and is a product that generates a considerable amount of revenue in the country. In 2023, “chicken remained the most consumed animal meat protein in Canada... with a per capita disappearance of 35.2kg” (Canada, 2024). This was only slightly lower than the 2022 level of chicken consumption in Canada, showing a stable demand. In addition, “Canadian chicken production generated \$4.1 billion in 2023” contributing a substantial portion of money from agricultural operations in the country (Canada, 2024). Lastly, “in 2023, the 2,853 regulated chicken producers in Canada produced 1.4 billion kilograms of chicken” (Canada, 2024). All of this points to the importance of chicken as a staple ingredient in Canadians diets.

→ How the bio-geo-physical attributes in it's place of origin have contributed to shape the dish

Chicken pot pie has been shaped by the bio-geo-physical attributes of the landscape and soil in its place of origin, Europe. The physical attributes of having a large percentage of landscape available to farm, and good soil for growing crops, made the increase of agriculturalism and pastoralism possible in Europe. For example, wheat, is an agriculturally grown product that provides the flour which is used in the crust of the pie; and chicken, which is a pastorally raised meat for the filling. The landscape in Europe provided ample space for agriculturalism and pastoralism, allowing Europeans to have access to meat and dairy products as well as crops. These factors led to Europeans having the ability to make soft pie crusts from flour and butter (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). Possessing the appropriate landscape for growing crops and raising animals contributed to the shape of chicken pot pie because it allowed for the use of butter and flour, which create the defining characteristics of the crust, soft and flakey; as well as chicken which creates the bulk of the filling (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). The physical attributes of place allowed for the incorporation of agriculturalism and pastoralism into society, changing the shape of the dish from the crust to the filling.



Savory pot pie – nutrition and food safety. (n.d.). Retrieved November 19, 2024, from <https://uwyoextension.org/uwnutrition/newsletters/savory-pot-pie/#:~:text=Chicken%20pot%20pie%20is%20an,English%20dishes%20made%20from%20leftovers>

→ How cultural practices in its place of origin shape the dish

The hierarchical culture in Europe shaped the chicken pot pie fillings on the inside, while the renaissance culture shaped the decorations on the outside of the pie. When chicken pot pie originated, Europe had an extremely hierarchical structure, with the wealthy on the top and the poor on the bottom. This social stratification made versions of the pie available to different people. For example, those who were poor used cheaper options such as mutton and meat from dairy cows for the filling of the pie, while the wealthy used more extravagant and exotic meats and flavours in their pies such as songbirds (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). The extremely hierarchical culture shaped the dish because it shaped the filling.

Another cultural practice that shaped the dish is the Renaissance period in Europe. The growing incorporation of art during this time can be seen through the designs on the top of the pies. During this time, the pies became a form of art themselves as “bakers formed the dough into the shape of birds, flowers, fish, and other objects, which were then coated with an egg wash, saffron, and sometimes even gold flakes” (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). The importance of art in culture was reflected on the top of the pies and shaped the dish through the artistically decorated pie crusts that we see today.

→ Adaptations of the dish reflecting other places and cultures

The dish was adapted and changed when it was brought to the Americas from Europe. Given the shift in culture, especially after the world wars, we see a corresponding shift in the form of the dish. Pre world wars, women largely stayed home to take care of the children and the household, and men traditionally sought paid employment to financially provide for their families. However, once the wars broke out, all the men were suddenly away fighting and there was no one to financially provide for the family. This resulted in women going from “being full-time homemakers to working in assembly lines at factories” (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). Women no longer had time for cooking and cleaning due to their new roles, so companies started producing frozen, premade chicken pot pies that could just be reheated quickly (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). The wartime culture affected women’s household roles, resulting in less time available to make a time-consuming recipe such as chicken pot pie. Thus, chicken pot pie was transformed into something ready-made and frozen as a result of societal shifts in workplace roles.

→ Temporal evolution of the dish

Over time, chicken pot pie has evolved from a way to use leftovers, to a ready-made freezer meal. The transformation can be traced to social and economic shifts including two world wars and the entry of women into the paid labour market. The transition of women from housewives to working in factories caused a shift in chicken pot pie (*Savory Pot Pie – Nutrition and Food Safety*, n.d.). Given their new work away from their homes, they had less time to cook, which led to the need for quick and easy dishes rather than time consuming meals. Thus, the frozen, ready-made chicken pot pie was born, and the market for it grew. Now, it is quite common to buy a ready-made pie found at the grocery store and to choose this convenient option over making one yourself. The desire for fast and easy meals has not disappeared and there is still an overwhelming demand for pre-made

food. Resulting in the form of chicken pot pie we see today. Overall, the chicken pot pie has transitioned from being a dish that would combine leftovers, to being a dependable meal in a pinch.

Chicken Pot Pie Recipe

Adapted from Sally's Baking Addiction

Ingredients:

Crust:

- 2 ½ cups all-purpose flour, plus more for shaping and rolling
- 1 tsp salt
- 6 tbsp unsalted butter, chilled and cubed
- 2/3 cup vegetable shortening, chilled
- ½ cup ice cold water



Filling:

- 1lb skinless boneless chicken breast or thighs,
- cubed
- 1 cup sliced carrots (around 2 carrots)
- ½ cup sliced celery
- 1/3 cup unsalted butter
- 1/3 cup chopped yellow onion
- 1 tsp minced garlic
- 1/3 cup all-purpose flour
- 2/4 tsp salt
- ½ tsp ground black pepper
- 1 tsp dried thyme leaved
- 1 ¾ cups chicken broth/stock
- 2/3 cup half-and half
- 1 cup frozen peas
- Egg wash: 1 large egg beaten with 1tbsp milk

Sally. (2022, October 25). *Homemade pie crust recipe & video*. Sally's Baking Addiction. <https://sallysbakingaddiction.com/baking-basics-homemade-buttery-flaky-pie-crust/>

Instructions:

Crust:

1. 1) Whisk flour and salt together in a large bowl
2. 2) Add butter and shortening. Using two forks cut the butter and shortening into the mixture until it resembles coarse meal. You're only breaking up the cold fat into tiny little flour coated pieces; not completely incorporating it. Do not overwork the ingredients.

3. 3) Measure $\frac{1}{2}$ cup of water into a cup. Add ice. Stir it around. From that measure $\frac{1}{2}$ cup of water since the ice has melted a bit. Drizzle the water in, 1 tbsp at a time, and stir with a spatula or spoon after every tbsp has been added. Stop adding water when the dough begins to form large clumps. Do not add any more water than you need.
4. 4) Transfer pie dough to a floured surface. Using floured hands, fold the dough into itself until the flour is fully incorporated into the fats. The dough should come together and should not feel overly sticky. Avoid overworking the dough. If it feels a bit too dry or crumbly, dip your fingers in the ice water and then continue bringing dough together with your hands. If it feels too sticky, sprinkle on more flour and then continue bringing dough together with your hands. Form it into a ball. Use a sharp knife to cut it in half. Gently flatten each half into 1-inch thick discs using your hands.
5. 5) Wrap each tightly in plastic wrap. Refrigerate for at least 2 hours and up to 5 days
6. 6) After the dough has chilled for at least 2 hours, roll it out. Work with one crust at a time, keeping the other in the refrigerator until you're ready. Lightly flour the work surface, rolling pin, and your hands, and sprinkle flour on top of the dough. Use gentle-medium force with your rolling pin on the dough. When rolling dough out, start from the center and work your way out in all directions, turning the dough with your hands as you go. Between passes of the rolling pin, rotate the pie crust and even flip it, to make sure it's not sticking to your work surface. Sprinkle on a little more flour if it's sticking. If you notice the dough becoming a lopsided circle as you're rolling it out, put down the rolling pin and use your hands to help mold the dough back into an even circle. Roll the dough into a very thin 12-inch circle, which is the perfect size to fit a 9-inch pie dish. Your pie dough will be about $\frac{1}{8}$ inch thick. Visible specks of butter and fat in the dough are perfectly normal and expected.
7. 7) Because your dough is so thin, use your rolling pin to help transfer the pie crust to the pie dish. Carefully roll one end of the circle of dough gently onto the rolling pin, rolling it back towards you, slowly peeling it off the work surface as you go. Pick it up, and carefully roll it back out over the top of the pie dish.

Filling:

- 1) In a large pot combine chicken, carrots, and celery. Add enough water to cover the chicken and vegetables, then place over medium-high heat. Bring to a boil, then allow to boil for 10 minutes. Remove from heat, drain, and set aside.
- 2) In a large skillet over medium heat, combine butter, onions, and garlic. Stirring occasionally, cook until the onions are translucent, and the butter is lightly browning. Whisk in flour, salt, black pepper, thyme, chicken broth, and half-and-half. Cook and whisk until no flour lumps remain, then simmer over medium-low heat until thick, around 10 minutes. You want it to be a very thick gravy, simmer longer if necessary. Remove from heat and set aside.
- 3) Preheat oven to 425 °F.
- 4) Spoon the chicken and vegetable mixture into crust. Scatter the frozen peas on top. Pour/spread the gravy evenly over top.
- 5) Roll out second half of pie crust dough. Cover the pie with the second crust and trim the extra overhang off the sides. Crimp the pie crust with a fork to seal the edges. With a small sharp knife,

slice a few small slits in the top crust to allow steam to escape. Using a pastry brush, brush crust and edges with egg wash.

6) Bake for 32–38 minutes or until the top of the crust is golden brown. After 20 minutes of baking, to cover the edges of the crust with aluminum foil to prevent the edges from getting too brown.

7) Remove from the oven and cool for at least 10 minutes before serving. Reheat as desired. Leftovers keep well in the refrigerator in an airtight container for up to 5 days.

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Croissant

Gastronomic Journal Article

By: Emerson Dunn

Across multiple sources the croissant has been deemed too originate from Vienna Austria as the kipferl. Records indicate that the kipferl has been around since as early as the 13th century but has been believed to be earlier in some sources. Kipferls contained most of the same ingredients to traditional croissants but used and processed them in different ways. They could be served plain or with nuts, were similar to the texture of bagels, and were a staple in the Yiddish culture (Traub, 2024). Ingredients included in both croissant and kipferl were located in and around the Austrian/ European area. Flour, milk, sugar, and yeast are the main ingredients in the yeasted wheat dough. As the kipferl transitioned into croissant, the yeasted wheat dough was layered with butter via lamination to transform into a flaky texture. The first wheat flour however originated in the Fertile Crescent where wheat was first domesticated around 10,000 years ago. Today however, most wheat is globally cultivated with production in China, India, and Russia. (Xiong, 2024).



Figure 1: Picture of a traditional croissant



Figure 2: Picture of a traditional kipferl



Figure 3: Map of Austria in green, and France in orange



Figure 4: Map of the fertile crescent and where the distribution of its products went

The evolutionary transition of these ingredients has happened through domestication and artificial selection of foods. Wheat has gone through evolution of growth in its grain size, yield size, and enhancing its gluten content. Yeast has revolutionized in growing its fermentation process which leads to higher rise like leavening. Butter, naturally as a dairy rich food from dairy cows has undergone many transitions over the years. Cattle have been selectively bred for higher milk and fat content which increases the butter quality (Volpe lecture, 2024).

The Croissants buttery flakey texture reflects on the quality of the ingredients its made with. The richness of the butter used in Europe comes mostly from Northern countries like France. The temperate climate in France and Austria allowed for flour to be processed enough to become suitable for lamination in dough. When the kipferl was introduced to France by August Zang in 1839 it became highly revered by Parisians as they intimidated the bread in their own shops. Sylvian Goy was the first to recreate a French version of the recipe using dough and butter preparation, lamination, shaping, proofing, and baking. It became a symbol for luxury and fine goods yet also spread to more rural locations as butter and pastries emerged in the 17th -18th century Europe (Xiong,2024).

The Croissant evolved from the crescent shaped kipferl from Austria, and was a pastry many adored in Europe. According to local lore, the crescent shape has been attributed to the shape of the moon on the ottoman empire flag after the Ottoman empires defeat in Vienna. The croissant kept its crescent shape similar to its predecessor but differed in other ways. With the French innovation of using a lamination technique on the dough and butter, vast layers of separation caused flakiness and air pockets to form when baked. This slight change caused croissants to gain popularity in cafes that quickly became a staple in Parisians way of life, creating a global standard for how croissants should be made (Xiong, 2024).

Wheat is the most heavily consumed grain globally with Canada amongst the highest ranking. Butter consumption is also rising with Europe being the largest consumer per capita. In the last 10 years Canadas butter consumption has increased showing its implementation grows more and more into everyday recipes and dishes. Croissants originated in Austria yet ever since France adopted the recipe creating the modern day croissant, the croissant craze has spread. Even though croissants are known for being technically French, their popularity has spread globally. According to Business Research Insights the market size for croissants globally in was 2167.64 million USD and is projected to reach 3408.97 million USD (Croissant Market Size, 2023). In Canada, croissants are gaining popularity with many artisanal bakers offering the classic as well their own personal twists on the recipe.

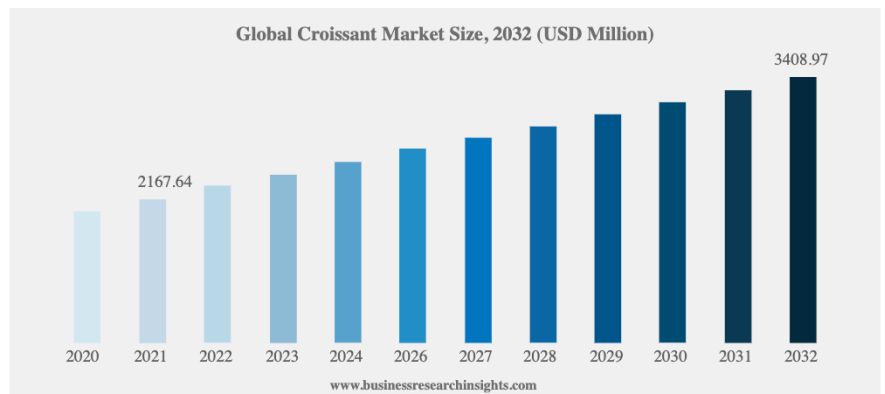


Figure 5: Graph from Business Research Insights on global croissant market size from 2020 projected until 2032, in USD



Figure 6: Close up look at folded layers via lamination

Classic Croissant Recipe

Ingredients:

- 500g all-purpose flour
- 300ml warm milk
- 50g sugar
- 10g salt
- 40g fresh yeast or 14g active dry yeast
- 250g unsalted butter (cold)
- 1 egg

Instructions:

1. Dough Preparation:

- Mix warm milk, yeast, and sugar. Let it sit for 10 minutes until frothy.
- Add flour and salt, knead until smooth. Chill for 1 hour.

2. Butter Preparation:

- Roll cold butter into a 1 cm thick square. Chill until firm.

3. Laminating the Dough:

- Roll dough into a rectangle, place butter in centre, fold over, and seal edges.
- Roll into a long rectangle, fold in thirds. Repeat twice, chilling for 30 minutes between turns.

4. Shaping Croissants:

- Roll dough into a 5 mm thick rectangle. Cut into triangles.
- Roll triangles from base to tip into crescent shapes. Place on a baking sheet.

5. Proofing and Baking:

- Proof croissants at room temperature until doubled in size (1-2 hours).
- Preheat oven to 200°C (390°F). Brush with beaten egg.
- Bake for 15-20 minutes until golden brown and crisp.

Since the rise of the croissant, many adaptations have been made to reimagine the original delicacy, and enhance creativity. From chocolate croissants in 19th century France, the “cronut” invented in 2013, and the “crookie” in recent years, there has been nonstop emerging variations. The cronut, created by Dominique Ansel was invented due to a consumer at his shop inquiring about a donut. As Ansel is from France, he was much more familiar with the flakey delicacy of the croissant but decided to craft a hybrid between the two in homage to his new home in NYC (LaGrave, 2016). One of the newest crazes in the croissant world is the cube croissant originally invented by Swedish chef Bedros Kabranian. Although invented in 2018, “Le Cube” became viral when re-inspired by Mustapha Ait Elamouam, at a French patisserie in London, filled with tasty creams and colourful toppings (Rickman, 2024). These days croissants can be found in the pre-packaged sections in your grocery store as a new mode of accessibility and innovation. While still containing mostly the same ingredients, nothing compares to the the artisanal taste and texture of a freshly baked flakey croissant.



Figure 7: Picture of “Le Cube” in London by Mustapha Ait Elamouam

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How did coming to America change this dish?

Fettucine alfredo

Get the personal recipe, place of origin, evolution, and main ingredients, that make up this famous dish



*Shredded Cheese Parmesan 226 g, Compliments, Ca., www.compliments.ca/en/products/shredded-cheese-parmesan-226-g/, Accessed 30 Nov. 2024.
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History of the Dish



Fettucine alfredo is a famous Italian dish, here in north America, that didn't originate in Italy. Created in Rome during the early 20th century Alfredo di Lelio, the chef who created this dish according to a family legend. Got the idea to create this dish with three simple ingredients: butter, pasta, and young parmesan cheese, to comfort his wife after giving birth to their first child.

This dish despite being relatively simple, was featured in Di lelio's first restaurant in 1910 under the name "Alfredo".

"Alfredo" didn't become popular until the early 1920s when Di lelio was visited by two famous American actors, Mary Pickford and Douglas Fairbank, the king of Hollywood. They enjoyed "Alfredo" so much that they gave Di lelio a set of golden utensils, in exchange for the recipe, engraved with the inscription, "To alfredo the king of noodles", (Regina, 2022).

By 1943, Di lelio became known as the "king of Italy", with many American tourists travelling to his restaurant to see the engraved utensils and try the famous "Alfredo" dish. Unfortunately, in the second world war ingredients like flour, eggs, and butter, became difficult to obtain and Di lelio had to close his doors.

When the war was over Di lelio opened a new restaurant with the help of his son Armando, "Piazza Augusto Imperatore".

This restaurant quickly rose to fame, featuring a wall of celebrity, with many famous dignitaries, politicians, musicians, and film stars. In 1980, 50 different restaurants in Rome featured a similar dish to "Alfredo" called "Fettucine alla romana", ("La Nostra Storia: Il Vero Alfredo, 2016).



"Fettucine Alfredo." Alfredo Alla Scrofa, 5 May 2023, alfredoallascrofa.com/en/fettucine-alfredo/.

THE ORIGINAL FETTUCCINE ALFREDO

Created in 1914 by Alfredo Di Lelio, this original recipe was a closely guarded secret until it was prepared on the Today Show in January, 2002.

- 1 lb. fresh pasta
- 6 oz. unsalted butter
- 6 oz. Parmigiano Reggiano cheese, grated

Cook the pasta in 1 gallon of salted boiling water for three minutes. While the pasta is cooking, blend the butter and cheese at room temperature. Blend until the cheese almost dissolves, and a smooth cream is formed. Strain the pasta, leaving just a small amount of water. Toss the pasta with the Alfredo sauce and serve with additional grated cheese.

R/Old_recipes on Reddit: The Original Fettucine Alfredo Recipe, www.reddit.com/r/Old_recipes/comments/tb5yc/the_original_fettucine_alfredo_recipe/, Accessed 1 Dec. 2024.

History of the Dish

"Alfredo" first came officially to America in 1977, when Di lelio son Armando opened his first restaurant in new york. This was a point of evolution, where alfredo became fettucine alfredo.

In the modern day only two restaurants in Rome, Alfredo alla scrofa and Il vero Alfredo, still carry "Alfredo" because of the dish's simplicity, and that anyone could make it at home. In North America you can find some variation of fettucine alfredo in almost every Italian restaurant, with a large change in ingredients, that would make Di lelio turn in his grave. North America changed this simple dish from only having butter, noodles, and parmesan cheese to the addition of heavy creams, parsley, shrimp, chicken, etc. Changing the flavor and texture of the dish making it creamier, greasier, and even heavier than the original.

Fettucine alfredo is one of my favorite dishes, however I have only had the Americanized version of this dish, unknow to me until researching the dishes origin. Out of curiosity I tried making fettucine alfredo using Di lelio's recipe, it was quite bland and had no distinct flavor. This could be due to the change in ingredient quality and flavor between the early 1920s a modern day, (Rustico, 2024). There have been many changes in the quality of ingredients from the 1920s to modern day, especially ingredients listed in Di lelio recipe, butter, fettucine noodles, and parmesan.



"Yesterland: L' Originale Alfredo Di Roma Ristorante at Epcot." Yestercot at Yesterland.Com, www.yesterland.com/alfredo.html. Accessed 30 Nov. 2024.

Ingredients:

PREP TIME: 5 minutes COOK TIME: 20 – 25 minutes

- 1 pound Fettuccine pasta
- 2 tablespoons unsalted butter
- 2 teaspoons minced garlic
- 1 pint heavy whipping cream
- 1 cup grated parmesan cheese
- Seasonings – salt (we love the garlic salt with parsley flakes), garlic pepper or black pepper, as well as any fresh herbs to top off, including basil, thyme, and rosemary.

look at the different in ingredients and complexity between Di Leilo and a the modern day recipe for a typical alfredo

Ingredients that make the Dish

The per capita consumption of butter in Canada jumped from 3.2 kilograms per person in 2018 to 3.7 kilograms per person in 2019.

Butter consumption stayed constant until 2021 at around 3.7 kilograms and will decrease slightly in 2023 and 2024, (Trenda, 2024). The origin of Butter has a mixed history, the earliest use of butter can be recorded from Roman and Arabian sources.

However, it is rumor to be first created by a nomad, who tied a sheepskin bag of milk to their horse while traveling, creating churned milk while traveling. The flavor of butter is dependent on the fatty acid composition of the milk. Butter made from milk with more unsaturated fatty acid tends to be softer, spreadable, and less adhesive, this can be dictated by the feed and consumption of the animal used. There's also a difference in taste depending on which animal the milk came from. Cow's milk is less consuming to produce and is the most used, while something like goat's milk requires more money to produce but has a sweeter and tangy taste with a smooth creamy texture that contains no casein, (Wetzel, 2022).



The process of churning butter is almost same to modern day, If somethings not broken why fix it!

*Butter Churning Stock Photos - Free & Royalty-Free Stock Photos from Dreamstime. © Dreamstime. www.dreamstime.com/stock-images/Butter-churning.html. Accessed 30 Nov. 2024.

Selective breeding in agriculture has narrowed down the wheat variety to 9 types, Majority of pastas are made with durum



The Different Wheat Varieties Mentioned in the Studies | Download Scientific Diagram. www.researchgate.net/figure/The-different-wheat-varieties-mentioned-in-the-studies_fig1_352975706. Accessed 1 Dec. 2024.

The Parmesan Cheese Market in North America is valued at USD 18.07 Bn. in 2023. The global Parmesan Cheese Market size is estimated to grow at a CAGR of 3.42%. The market is expected to reach a value of USD 22.87 Bn in 2030, (Maximize Market Research, 2024). Parmesan is an americanized version of Parmigiano Reggiano. Parmigiano Reggiano was first record in 1254, in Italy. Created when the Benedictine and Cistercian monks looked for a solution to find a better way to extend the shelf- life of raw milk making a long- lasted cheese, using salt form salsomaggiore salt mines and milk creating a dry paste cheese stored in large wheels. Why the name change? In 1996, parmigiana Reggiano was given a European protected designation of origin, meaning it could only be produced in specific areas of Italy and had to follow strict methods of production. Including the type of feed, packaging, slicing, and labelling needed to sell the product Parmigiano Reggiano, reflected in the price. Parmesan was a created as a cheaper substitute, not have the same regulations needed for production as Parmigiano Reggiano. However, this has caused a decrease in flavour, ignoring the added preservatives, most of the flavours for cheese comes from aging. The aging of partigiano - reggiano takes at least 12 months, typically several years. While parmesan is made quickly in less than 10 months, giving parmigiano Reggiano a richer, nuttier flavour, (Reggio, 2024).

Fettuccine noodles, or pasta specificall the revenue of Pasta in North American is US\$1.15bn in 2024. The market is expected to grow annually by 2.72% (CAGR 2024-2029). Globally the most revenue is generated in China being US\$28bn in 2024. In relation to total population figures, per person revenues of US\$29.38 are generated in 2024. The global Pasta market is expected to have a growth of 0.5% in 2025, and the average volume per person for pasta is expected to amount to 9.7kg in 2024, (Statista, 2024). Fettuccine has been used in some form in roman and Italian cuisine for centuries, with no specific date of origin. The term fettuccine comes from Rome, meaning little ribbon, fettuccine is a long flat pasta, who's flavour depends on the wheat used. Fettuccine is typically made using semolina flour, from durum wheat, that is high in protein and gluten. The type of wheat used will change the taste and texture of the pasta, wheat like durum that contains a high gluten and protein content making the pasta retain firmness, and a chewy texture while cooking. (Rustico, 2024).



8.8% cellulose AKA Saw dust
Average price \$5.67 per 280g

*Shredded Cheese Parmesan 226 g - Compliments, CA. www.compliments.ca/en/products/shredded-cheese-parmesan-226-g/. Accessed 30 Nov. 2024.

Premium Ingredients \$10.99 per pound

*Parmigiano Reggiano DOP - 30 Mesi - Bottega, Emilia-Romagna. www.bottegaparmigiano.com/products/parmigiano-reggiano-30-mesi?currency=US&unit=lb&size=10.99. Accessed 30 Nov. 2024.



Personal Recipe

Ingredients:

4 ounces dry fettuccine pasta
1 cup butter
 $\frac{3}{4}$ pint heavy cream
salt and pepper to taste
1 dash garlic salt
 $\frac{3}{4}$ cup grated Romano cheese
 $\frac{1}{2}$ cup grated Parmesan cheese

Direction:

Step 1: bring a large pot of lightly salted water to a boil. Add fettuccine and cook for 8-10 minutes.

Step 2: Melt butter into cream in a large saucepan over low heat; add salt, and garlic salt.

Step 3: Increase the heat to medium; stir in grated Romano and parmesan cheese until melted and sauce has thickened.

Step 4: Add cooked pasta to sauce and toss until thoroughly coated, serve immediately
(Allreipes, 2024)

Roomate Review



4/5

"it was good, be better with if it has chicken"

-roommate

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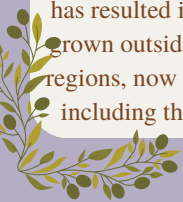
Focaccia Bread

Incorporating a very select few ingredients, focaccia bread is an iconic Italian bread. One of the recipe's main elements is olive oil, an ingredient that gives this dish some of its richest flavours and textures, but also holds some of the recipes cultural richness and agricultural complexity.



The Mysterious Olive

According to Vossen (2007) the exact geographic origin of olive trees are unknown, but many cultures, particularly those within the Mediterranean region and across the Middle East, have a deep cultural relationship with olives, their cultivation, and their processing into the precious and multipurpose olive oil.

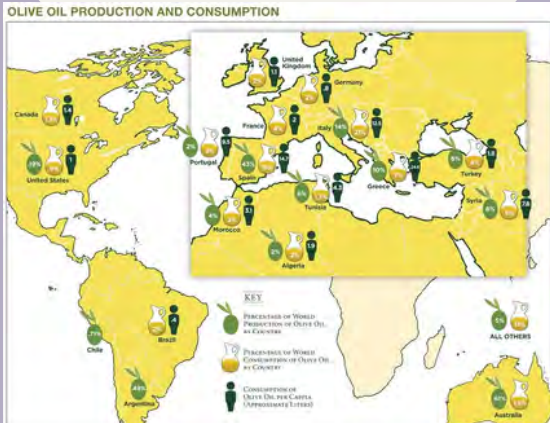


Human relationship with the cultivation of olives has resulted in more than “1500 olive cultivars” (Kostelenos et al, 2017, p. 3). This has resulted in the possibility of olives being grown outside of their historically associated regions, now being harvested in other regions including the United States and Argentina.



Production

Spain, Italy, and Greece are among the most prevalent producers of olive oil. Olive oil is also highly associated with the Mediterranean diet and the health benefits accompanying it.



Canadian Olive Oil Consumption

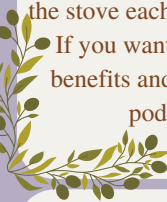
According to TrendEconomy (n.d.) Canada imported \$290 million worth of olive oil in 2023. Canadians consume the average of 1.3 litres of olive oil per person each year, much less than the populations of Mediterranean countries such as Greece whose population consumes a whopping 24 litres per person each year (World Population Review, n.d.)! Those from Spain consume on average 14.2 litres per person annually, Italians 11.3 litres, and those from Portugal approximately 8 litres (World Population Review, n.d.).

Olive trees are quite resilient yet specific, requiring unique conditions for growth quite unlike any other plant species. Olive trees prefer dry conditions, tolerate heat, and tend to yield greater product when under some stress (Vossen, 2007).

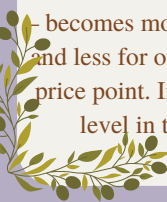
The climate and soil in the Mediterranean countries is perfect for growing olives and so the abundance of this fruit mean that it was naturally incorporated into people's diet in these regions. Spain is the largest producer of olives in the world, producing “ (World Atlas.com, 2024, para. 2). Italy is the second highest olive producer and Greece is the third largest. Other olive producing nation include Morocco Syria, Egypt, Portugal and Algeria. The climate and terrain of these olive growing regions is mild, dry, and with long warm summers.

The trees “prefer non-stratified moderately fine textured soils, including sandy loam, loam, silt loam, clay loam, and silty clay loam (Olive OilSource.com, n.d., para. 6). Growing trees in these conditions can add to their production of healthful minerals and chemical compounds such as polyphenols. Gorzynik-Debicka et al. (2018) describe polyphenols as bioactive compounds which aid in metabolic processes within the human body helping to reduce inflammation, cancer, and other health issues such as cardiovascular and neurological diseases.






According to Citizens of soil (n.d.) if olives are picked and squeezed into extra virgin olive oil (EVOO) within hours of their harvesting, people can gain the most access to these amazing health benefits by ingesting this substance. The time within the growing season that the olives were picked as well as a longer time between harvesting and creating EVOO, can lower the levels of polyphenols (Citizens of soil, n.d.) and the same goes for a bottle of EVOO that has been sitting on the supermarket shelf for a year, in a clear glass bottle as opposed to a dark glass one, or sitting in your kitchen being heated by the stove each time you cook – timing and storage matter with this food! If you want to know more about the polyphenols and overall health benefits and properties associated with EVOO listen to this fantastic podcast by Zoe Science & Nutrition “Olive oil: How to unlock health benefits”.



Olive oil is the foundation for Mediterranean dishes and deeply rooted in these cultures however the way that this food is consumed is different depending on where you are in the world. Chrysochou et al. (2021) argue that where olive oil is produced is an important factor in this food’s cultural understanding. For example they emphasize that for those who reside in countries which produce olive oil, the importance lies in which region the olives were grown, while for those who reside in non-producing countries such as Canada, the country in general is held as a matter of importance and determinant of quality. Another aspect which is linked to perceived quality is the “extra virgin” status of the olive oil, which for those who are more aware of oil attributes such as polyphenols – becomes more important to certain cultures/segments of the population and less for others who are more concerned with other attributes such as price point. In Spain, where olive oil is consumed at the second highest level in the world, the utilization of this substance is culturally significant for several reasons.

A decorative illustration of an olive branch with green leaves and small olives, positioned on the left side of the page, partially overlapping the text area.

According to Neimanis (2023), Spaniards use olive oil for all cooking from frying to baking, to salad dressings and pastas and they often refer to this oil as “liquid gold” because they believe in its healthful properties and believe it to be superior to all other oils. Another reason for its popularity is due to a public health crisis which occurred in 1981 “known as the “toxic oil syndrome” caused by the consumption of rapeseed oil which had been denatured with aniline, a toxic chemical compound” (Neimanis, 2023, para. 3). During this food borne illness 20,000 people became sick and approximately 300 people died. This shows that cultural connections to a certain food can come from a variety of places and experiences.



FOCCACIA BREAD

Ingredients

- extra-virgin olive oil
- flour
- rosemary
- water
- active dry yeast
- salt
- sugar

Recipe

In a bowl, combine the flour, yeast, salt, and sugar. Add the warm water and mix until a dough forms.

Knead the dough on a floured surface for about 10 minutes, adding a little olive oil as you go.

Place the dough in an oiled bowl, cover with a cloth, and let it rise for 1-2 hours, until doubled in size.

Preheat the oven to 220°C (430°F). Punch down the dough, then spread it into a greased baking pan.

Drizzle the dough generously with olive oil and press your fingers into the dough to create dimples. Sprinkle with rosemary and sea salt.

Bake for 20-25 minutes, or until the exterior is golden and crispy in texture.

Allow to cool slightly before serving, drizzled with a little more olive oil and flaky sea salt if desired!

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🍷 French Onion Soup 🍷

By Kirsten Whalley

France is known for its iconic culinary techniques and thoughtful preparation to even the simplest of dishes. This is true for the iconic dish French Onion Soup. Simple ingredients being prepared in such a way that gives the soup such a memorable and unforgettable taste.

How French Onion Soup Gained popularity

Because of the soup’s simplicity, it is difficult to pinpoint its exact date of inception. There are two theories that have been widely recognized by the French about the popularization of “French Onion Soup.” The first legend originates from King Louis XV who was at his hunting lodge and only had onions, butter, and champagne available to him one night and made an onion soup (Poulet-Harmel, 2023.) The second theory follows Stanislas Leszczynski, Duke of Lorraine, who was vacationing at an Inn in Champagne, where he had the dish, and decided he must share it with the rest of France at the court of Versailles. The soup gained even more recognition though “Les Halles” in Paris, a market that provided food for the heart of Paris for centuries (see figure 1.) This is where the addition of cheese to the soup came into fruition, creating the version of French Onion Soup that we know today (*Les Halles*, 2024.)



Figure 1: Les Halles Market in Paris, people serving soup in the morning (Méaulle, 1897.)

How France Obtained Staple Ingredients

France has ideal farming and agricultural land, and along with its very complex and longstanding history, it seems what has been growing on the nation's land for centuries is originally from the region. Although this is not commonly the case, especially with the main ingredients of French Onion Soup. The type of onions most used today was not brought to Europe until the Middle Ages. They are originally from the geographic region of what we now know as Central Asia (Onion history, 2024.) Since onions are less perishable and easier to grow compared to other vegetables, they were able to spread alongside the people traveling between civilizations long ago. A similar story can explain how cattle have been able to prevail globally, originating from Southern Asia, people were able to bring cows with them on route to Europe. Easy domestication led to cows occupying Europe, possibly as far back as the Neolithic period (Scheu et al., 2015.) Most soups start with a base of melted cow's butter and wheat flour, this technique was invented by the French and is known as a Roux. Wheat can be traced back to the Fertile Crescent, what we know today as Turkey, 10,000 years ago (History of wheat, 2018.) Since the precursors for the main ingredients in French Onion Soup have all been brought into the country and were already very successful crops or livestock, no manipulation was needed to be conducted by the French.

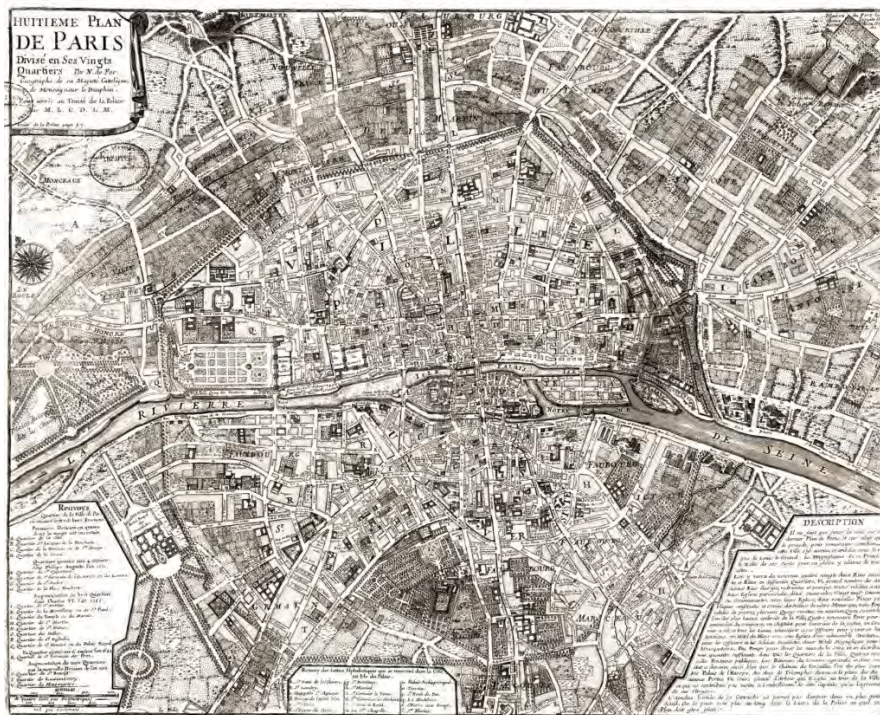


Figure 2: Map of Paris France in 1705 (Lover, 2024.)

As onion soup was gaining popularity in France, the domestic population was about 20 million (Fournier, 2024.) Between the 17th and 18th century is when onion soup begins to be talked about in novels, which was also when the country was experiencing rapid economic growth and improved quality of life for its citizens. The map of Paris, figure 2, shows the plan to expand the town because of the expected growth that came with the reign of King Louis XIV (Lover, 2024,) to create the 20 arrondissements that are still present in Paris today.

Maintaining Tradition

The original way French Onion Soup was made has some similarities to how it is made today around the world. The primary steps are identical, but the modern adaptation of the dish uses a different kind of dairy product that makes the dish much more identifiable and appealing. The dish always starts with cutting onions into long strips, putting them into a pot with oil, typically butter, and cooking the onions down until they are

opaque. What differentiates French Onion Soup from other onion soups is that the onions are cooked in the oil until they are almost burnt (Thudichum, p. 157, 1895,) this creates what we now know as the Maillard Reaction. The Maillard Reaction occurs when amino acids and sugars react in the presence of heat and form new compounds, or as Thudichum described, “whereby a new flavour is created” (see figure 3.) After this reaction occurs, meat broth and milk are added to the onions to make the soup’s broth, sometimes white wine is added to the broth to liven up the taste. The dish is then finished by topping it with small slices of bread and served immediately. The traditional way to make French Onion Soup is quite similar to the modern version, since the dish has been practiced and documented for about 4 centuries, it has slowly evolved over time to accommodate for demands from society and ever-changing populations.

General Observations on Onion Soups.

Onion soups are of various kinds, and differ either by the kind of onion employed in their preparation, such as the large mild Spanish, the medium-sized ordinary French or English, or the little white, or by the manner in which the onions are treated, involving frying in fat without the production of colour, while the specific oil is dissipated; or frying to brown colour, whereby a new flavour is created; parboiling or boiling in broth or water; or by the presence or absence of broths and meat-extracts, so as to be au gras or au maigre; and by various subordinate features, such as the presence of milk or cream, and of fried or gratinated

Figure 3: Observations of Onion Soups taking from
Cookery by Thudichum written in 1895.

There are no modern recipes that call for adding milk to the dish, as it was replaced by Gruyère cheese, which is the biggest way the dish has changed since its popularization in the 18th century. This change has not only taken place in North America, but in Europe as well, making it a global adaption to the recipe.

Cultural Importance in France

Since French Onion Soup is such a simple dish, it is not as common as you would think in France because it is not an exclusive dish and is seen as “le soupe des pauvres” (soup for the poor) when it was initially gaining traction centuries ago. Creating a culturally influenced stigma around the soup. It is still consumed in the country, but now it is more widely known as “soupe d’ivrogne,” which indicates that the soup is for the drunk and is thought to be a hangover cure (Poulet-Harmel, 2023.) French Onion Soup is too simple and too flavourful for it to be disregarded for being too accessible, leading to its withstood longevity.

Consumption Profiles

The main ingredients of French Onion Soup are consumed worldwide because they are a large part of the modern diet. The consumption profiles for the main ingredients for French Onion Soup are laid out in Table 1 below, comparing the global and Canadian statistics. Canada has higher average consumption values than the global average except for onions, only differing by 1.5kg per year. The values for onion consumption were found through Helgi Library (Onion consumption, 2023) and the milk values are sourced from Our World in Data (Milk supply, 2021.) The statistics for butter and flour consumption were sourced from the Organization for Economic Co-operation and Development and the Food and Agriculture Organization (OECD/FAO, 2015,) this was the only source that provided the necessary statistics, which are projections based on their data from 2015.

Table 1: Global and Canadian Consumption Profiles per capita for the Main Ingredients in French Onion Soup

Consumption\ Ingredient	Onion (2019)	Butter (2024)	Flour (2024)	Milk (2021)
Global (kg/year)	11.4	1.6	66.9	87
Canada (kg/year)	9.9	2.4	73.3	162.80



Recipe



Recipes used today to make French Onion Soup are very simple and contain ingredients that could be found in every household. Although a grocery store trip to pick up Gruyère or Swiss cheese and a baguette may be needed to make the soup a true French Onion Soup. Browsing through recipes sourced from France, Canada, and the United States showed that each place has very similar recipes. Although there are many variations of the ingredients in the soup, they are all international products, and with such a classic recipe the desired taste can be created anywhere around the world.

The recipe I am using to sum up this gastronomic analysis is partially based on the New York Times recipe for French Onion Soup (NYT Cooking, 2024.) It follows the modern way to make the soup, but there are modification suggestions at the end for a traditional soup that was talked about earlier on.

Ingredients:

- 3 tbsp Butter
- 3-4 Yellow Onions
- 2 tsp Salt
- 8 cups Beef Stock
- 1 cup White Wine
- 1 tbsp Flour
- ½ tsp Black Pepper
- 1 loaf French Bread
- 1 ½ cup grated Gruyère cheese

Instructions

Step 1: Melt butter in a Dutch oven, add onions & half the salt, cover for 5 minutes. Then let onions caramelize, stirring occasionally for at least 45 minutes until onions are golden brown.

Step 2: Add the flour to form a roux, then add wine and let it thicken.

Step 3: Add the broth, rest of the salt & pepper, bring to boil and let it boil uncovered for 10 minutes.

Step 4: Heat the oven on broil, about 400°F, add soup to oven safe dishes/ bowls, place them on a baking sheet. Cover the soup with bread slices (1/2 inch thick) layer with Gruyère.

Step 5: Broil for a couple minutes, until cheese starts to brown, or to your liking.

To make a traditional French Onion Soup, omit the last two steps, substitute half of the beef stock for milk, and only add bread atop when serving.

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All About the Galette des Rois

By Zoé Lardière



Figure 1 - Galettes des Rois with paper crowns. By Jaques Demarthon, Getty Images.

Unlike the kings, the King's Cake tradition survived the French Revolution. "The Galette des Rois stands as a testament to the adaptability of culinary traditions over time and geographical boundaries."¹

What is Galette des Rois?

Galette des Rois, which translates to King's Cake, is a cake that is eaten in France on January 6th to celebrate the Epiphany. Although it is associated with the Christian holiday commemorating when the three wise men journeyed to newborn baby Jesus, many non-Christians partake in the tradition as it has become a cultural event. The cake is composed of three main parts: the puff pastry, the almond filling, and the charm - called "fève" in French. For most of the month of January, people gather with family, friends, coworkers, their choir group or whoever else and share a galette. Typically, the youngest child goes under the table and calls out the name of the person the slice is for to ensure equal chances of getting the charm. Whoever gets the charm in their slice becomes queen or king and gets to choose their king or queen. Both people get to wear paper crowns. The person who gets the charm is responsible for bringing a galette to the next party or gathering, and this pattern goes on until the end of January.

The origins of this tradition can be traced back to Roman times². The cake was eaten to celebrate the winter solstice during the Saturnalia festival, in honour of the god Saturn, the god of agriculture, seeds and sowing. It was one of the most important celebrations of the year, with work being suspended and social norms being temporarily overturned. Power dynamics between slaves and their masters were suspended and slaves were given their

freedom for the length of the festival. The cake was used to pick a new king for a day. The chosen person could ask for whatever they wanted.³ The festival evolved from a one day celebration, usually celebrated on December 17th, to a week-long celebration as Rome evolved into an influential empire.⁴

The tradition was popularized in the 14th century when the church and the monarchy embraced it. The church turned it into a celebration of the Epiphany rather than a Pagan festival, and the tradition persisted even with the overthrowing of the monarchy during the French Revolution.¹

Frangipane

Frangipane is an almond-based filling used in several pastry recipes, and is made by mixing ground almonds, eggs, butter and sugar. It is a simple filling to make. Its geographical origins are in France, although its specific origins vary depending on the source. The initial idea is usually attributed to Marquis Muzio Frangipani, a Roman nobleman who was a fashion perfumer for King Louis XIII. He created gloves with a bitter almond scent,



Figure 2 - Frangipane before baking. From *allrecipes.com*

which are said to have inspired French bakers after becoming very popular.⁵

Almonds are native to the Mediterranean, which can explain why they have been a staple of Galette des Rois for so long, and how bio-geo-physical conditions have shaped the dish.⁶ Almonds require warm summers and mild winters to thrive, and they can survive on limited rainfall as their roots reach into the deeper layers of soil where they can access water. Areas such as California, Iran and Australia also have good almond growing conditions.⁷ Almonds were first cultivated in France in the 8th century by monks for the nutritional value of the nuts. Since then, almond cultivation has evolved from small, family-run operations to larger farms with increased mechanisation and efficiency. In historical almond farms, a technique known as intercropping was used which involved growing almonds alongside other crops such as grapes and olives. This added to the region's biodiversity and maximized farmland use. Today, France is one of the biggest almond-producers in Europe.⁸

Puff Pastry

Puff pastry is a type of dough that is used for many pastries, including croissants, tarts, and more. It is made by creating many, very thin alternating layers of dough and butter, which creates a light, flaky pastry once baked.⁹ Making it from scratch can be challenging as it is delicate to get just right, so it is often store bought by amateur bakers. There are multiple possible stories about the origins of puff pastry. One possible explanation is that the dough was accidentally invented by an apprentice baker, Claudius Gele, in 1645. He was attempting to create a bread that his sick father could eat and puff pastry was born.¹⁰ This story is sometimes called a myth, and some sources claim that puff pastry has been around since the 1300s. There are records of it in the Andalusian region of Spain, which was under



Figure 3 - Puff pastry, from veganbaking.net

Islamic rule at the time.^{11,12} A medieval Arab cookbook describes the recipe for *Mussamana*, a type of bread made by repeatedly folding the dough to create alternating layers of dough and butter. The original recipe calls for semolina or wheat flour and for melted or liquified fresh butter, which after being folded together is cooked on a frying pan.¹² The technique has evolved over time to become the puff pastry we know today.

Variations

Several other European countries celebrate the Epiphany with similar traditions to France. In Spain, it is called *el Día de Reyes* and they celebrate with a ring-shaped cake topped with candied fruit and infused with orange blossom water. This cake is called the *roscón de Reyes* and, like a galette, contains a porcelain figurine inside.¹³ This version does not include puff pastry or frangipane; it is made using a spongy dough that resembles bread.¹⁴

Even within France itself, there are variations of a galette. The version explained here is traditionally from the northern parts of France, although it is now enjoyed throughout the country.¹⁵ The southern parts, specifically Provence, made a *Gâteau des Rois* which is similar to the Spanish *roscón de Reyes* and is a brioche-style cake topped with candied fruit and shaped like a crown.¹

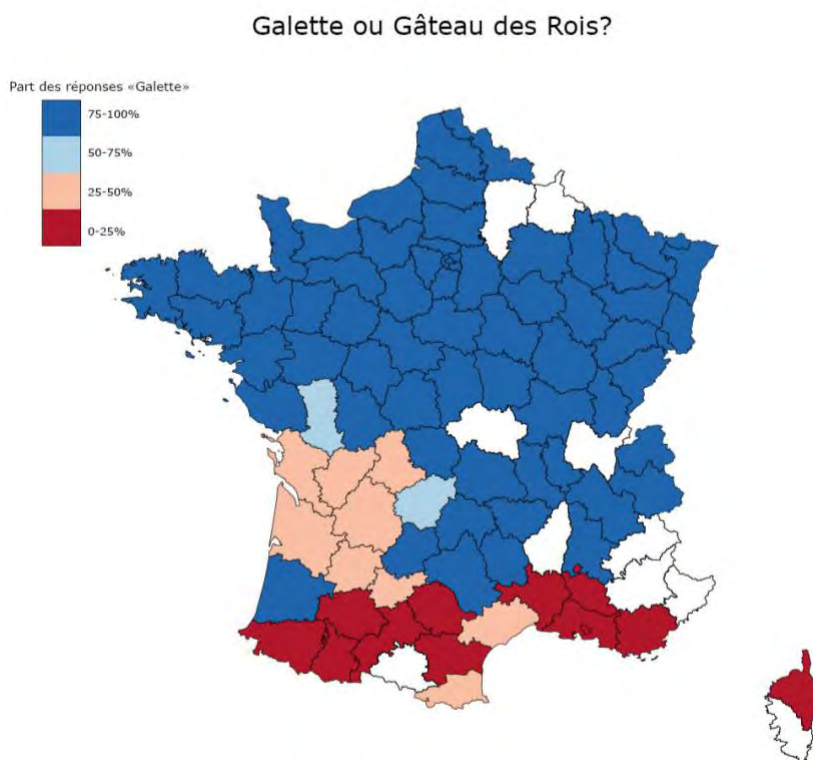


Figure 4 - Map of galette (blue) vs gâteau (red) consumption in France, 2015. White = no data. From slate.fr.

New Orleans has its own take on a Galette des Rois. King's Cake is shared with family, friends and coworkers every year starting on the Epiphany, January 6th, and lasting until Ash Wednesday, the day after Mardi Gras in mid-February. While many aspects are slightly different, the overall culture around King's Cake is very similar to the Galette des Rois. New Orleanians use a plastic figurine, usually a baby to represent baby Jesus, as the charm and decorate the cake with a colourful glaze of purple, green and gold - the official colours of the Mardi Gras carnival. The person that gets the plastic baby in their slice must bring a cake to the next gathering.¹⁶ The recipe differs from the traditional Galette des Rois; a yeast dough is rolled around a nut and raisin filling and topped with glaze.¹⁷

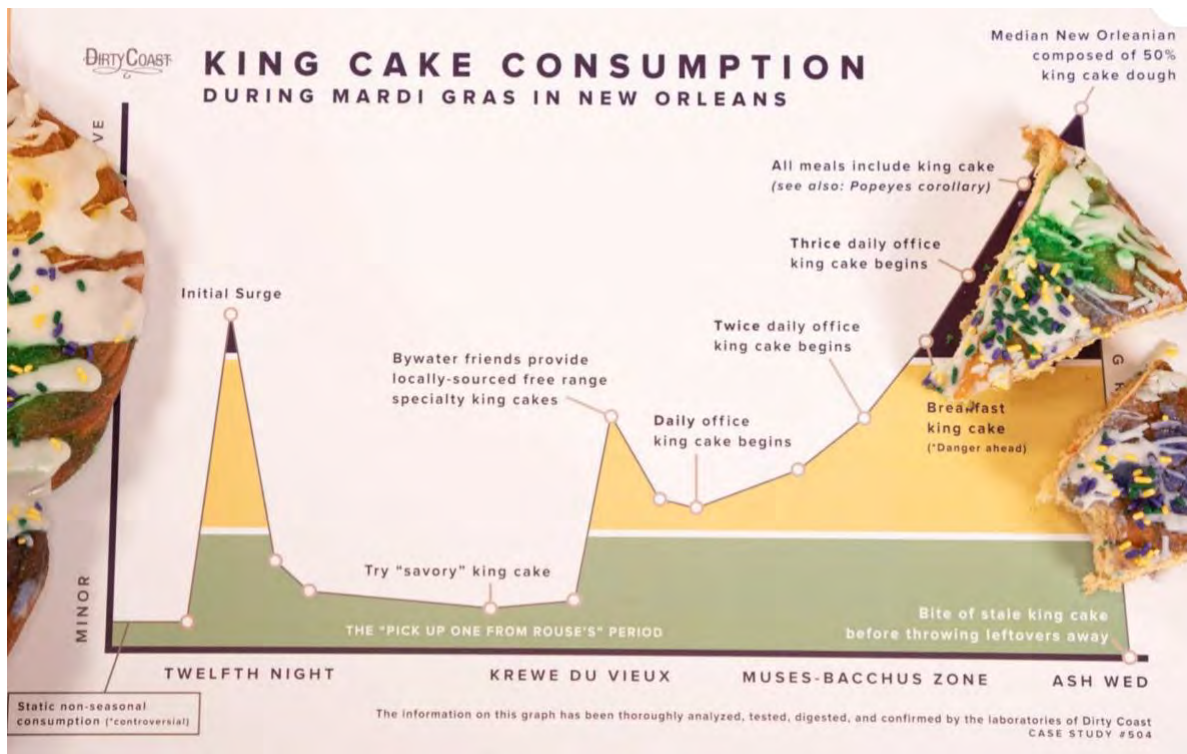


Figure 5: King's Cake Consumption Chart in New Orleans, from Dirty Coast

Galettes des Rois and the Economy

For French bakers, galettes des Rois create a very appealing market. Although it only lasts six weeks for retailers, it allows them to increase their turnover by 30-40% for the month of January. Most people prefer to buy their galettes at a bakery, however grocery store-made or frozen galettes are on the rise. Some bakers argue there is a need for a "tradition label" to protect the proper way of making the galettes. It remains a lucrative market for bakers as the French consume around 30 million galettes per year. A survey found that 94% of French people have at least one galette, and 74% eat them several times throughout January.¹⁸

Recipe

This recipe is the one my family has been using for a very long time. Some small adjustments have been made to it over time.

Ingredients (preferably organic):

- 2 puff pastries
- 3 eggs

- 1 cup ground almonds
- 1/2 cup brown sugar
- 2 1/2 oz soft butter
- 1 tsp vanilla extract
- 1 tbsp milk
- 1 "fève" (a bean or lucky charm)

Steps:

Preheat oven to 400 °F.

Whip together eggs, ground almonds, butter and sugar.

Stir in flour and vanilla extract.

Line a baking sheet with baking parchment. Gently unroll one of the pastries and spread the almond mix evenly onto it. Conceal the "fève" in it.

Cover with the second unrolled pastry. Glue the sides together with a bit of water or egg white.

Using a paintbrush, spread a bit of milk on the "galette". You may draw cross lines.

Bake for 20 to 25 minutes until golden.

Make a couple of paper crowns.

In France, the youngest child (or children) hides under the table and calls out names to decide which piece of the cake everyone will get. The one who gets the "fève" gets to wear the crown and can pick his or her queen or king. Enjoy!

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GINGERBREAD



HOW GINGERBREAD CAME TO BE

The evolution of gingerbread is a fascinating story that intertwines ancient culinary traditions, trade, and cultural exchange. Gingerbread, a spiced cake or cookie typically flavored with ginger, cinnamon, and other spices, has evolved over centuries, with its origins dating back to ancient civilizations. The modern form of gingerbread, as a popular holiday treat, has its roots in medieval Europe but incorporates influences from many different cultures.

Geographic Origin of Ginger

Ginger (*Zingiber officinale*) is a flowering plant native to Southeast Asia, and its geographic origin is most commonly attributed to the region encompassing parts of India, China, and Malaysia. The plant has a long history of cultivation and use, both for culinary and medicinal purposes, and its origins trace back over 5,000 years.

The primary center of origin for ginger is believed to be India. Historical evidence, including references in ancient Indian texts such as the Rigveda and Ayurvedic scriptures, suggests that ginger was cultivated in India as early as 3,000 BCE (Purseglove, 1981). These texts describe the plant's medicinal and dietary uses, highlighting its early significance in Indian culture. Ginger is still heavily prominent in Indian cuisine and traditional medicine, supporting the idea that this is its place of origin.

Ginger also has strong historical ties to other parts of Southeast Asia, particularly China and Malaysia. Archaeological records indicate that ginger was used and traded in these regions for over two millennia. In China, ginger has been an important spice and medicinal herb since ancient times, appearing in texts such as the *Shennong Bencaojing* (The Divine Farmer's Materia Medica), written around 100 CE (Hodgkin, 2002). This ancient Chinese pharmacopoeia listed ginger as one of the essential herbs for treating various ailments.

The spread of ginger across Southeast Asia and beyond can be traced through ancient trade routes. As early as the 1st century CE, ginger was transported to the Mediterranean and other parts of the world through trade networks connecting Asia, the Middle East, and Europe. By the time of the Roman Empire, ginger was well-known in the West, where it was highly prized for its flavor and medicinal properties.

Evolutionary Changes of Ginger

Today, ginger is an important global crop, cultivated for its culinary, medicinal, and industrial uses. Modern ginger cultivation focuses on optimizing yield, improving rhizome quality, and combating pests and diseases. Although ginger has remained relatively stable as a species, advances in plant breeding and agricultural practices have led to the development of various cultivars that are suited to different growing conditions (Sinha, 2003). Additionally, research into ginger's genetic diversity has uncovered differences in traits such as aroma, flavor, and disease resistance, which are now being studied for future crop improvement.

While *Zingiber officinale* remains the primary species used commercially, wild relatives of ginger are still found in tropical regions. These species, such as *Zingiber zerumbet* and *Zingiber cassumunar*, are often used in traditional medicine and have been studied for their bioactive compounds (Sinha, 2003).

Ancient Beginnings

The use of ginger and other spices dates back to ancient times, with ginger being highly valued in regions such as Southeast Asia, the Middle East, and Europe. The first historical records of ginger being used in baking come from ancient civilizations like the Egyptians, who used ginger in both culinary and medicinal contexts (Sinha, 2003). However, it was the ancient Greeks and Romans who introduced the practice of using honey to sweeten pastries, a precursor to what would later become gingerbread.

Medieval Europe: The Birth of Gingerbread

The first recorded appearance of gingerbread as we know it today appears in medieval Europe, where it became closely associated with religious celebrations. By the 11th century, ginger was a prized commodity in Europe, brought through the spice trade from the Middle East. During the Middle Ages, monks and nuns in European monasteries were among the first to bake what could be considered early forms of gingerbread. These early versions were often made with honey, breadcrumbs, and various spices, including ginger, and were used for both medicinal and ceremonial purposes (De Lacy, 1989).

By the 15th century, gingerbread had become popular across Europe, particularly in Germany and France. It was often shaped into symbolic forms, such as hearts, animals, and religious figures, and sold at fairs and markets. In fact, the first recorded instance of gingerbread being shaped into figures dates back to the 16th century in France, where it was known as "pain d'épices" (spiced bread). The German tradition of creating gingerbread figures is also famous, with gingerbread cookies becoming a beloved part of German Christmas celebrations.

The Modern Era: Gingerbread Cookies and Houses

In the 17th and 18th centuries, gingerbread evolved further as it became a widely accessible treat in Europe. The introduction of refined sugar and the widespread availability of spices from the New World made it easier to bake gingerbread in a variety of forms. Gingerbread cookies, often decorated with icing and other embellishments, became a popular treat, especially around the holidays.

The creation of gingerbread houses became particularly popular in the 19th century, largely influenced by the German fairy tale Hansel and Gretel (1812). The story of the children discovering a house made of candy and gingerbread sparked a tradition of baking elaborate gingerbread houses for Christmas, particularly in Germany, where the tradition of gingerbread houses is still widely celebrated today (Purseglove, 1981).

Bio-Geo-Physical Influences on Gingerbread

Climate and Agriculture:

Spices: Germany's temperate climate, particularly in the regions where gingerbread is most popular (e.g., Nuremberg, the "Gingerbread Capital"), has contributed to the availability of certain spices that are key to the flavor profile of gingerbread. The spice trade, which was a significant part of German commerce during the Middle Ages, made ingredients like cinnamon, cloves, ginger, and nutmeg available, which became integral to the gingerbread recipe (DeLacy, 1989). These spices were often imported through trade routes connected to Mediterranean and Asian regions, making them accessible in German bakeries.

Honey and Nuts: The rich forested areas of Germany provide an abundance of honey and nuts such as hazelnuts and almonds, both of which are commonly used in traditional gingerbread. Honey, in particular, has been a sweetener of choice for centuries in German baking, especially in regions like Franconia.

Agricultural Landscape and Resource Availability:

Germany's fertile soil and agricultural diversity allowed for a variety of grains to be cultivated, especially rye and wheat.

Rye flour, which is somewhat denser and darker than wheat flour, has been a common ingredient in gingerbread, contributing to the distinctive flavor and texture of the finished product. Gingerbread dough often uses a combination of rye and wheat flours.

Fruit, such as apples and pears, are sometimes incorporated into gingerbread recipes, especially in more regional versions. The abundant orchards in certain parts of Germany would have made such ingredients more readily available (Schafer, 2006).

The Role of Natural Resources in Crafting Gingerbread Shapes:

The influence of German forests and forests around the Alps also extends to the craft of gingerbread-making, particularly in the use of molds. In medieval and Renaissance Germany, bakers would carve intricate designs into wooden molds, often shaped as religious icons, animals, or seasonal symbols like hearts and stars (Klein, 2015). The craft of gingerbread molding, which evolved over centuries, reflects the artistry and natural motifs that were part of German life. These molds were often made from the abundant wood available in Germany's forests.

Cultural Influence of German Regions:

Nuremberg: The region of Franconia, particularly the city of Nuremberg, is famous for its gingerbread. The city's long history of gingerbread production, dating back to medieval times, was influenced by both the local availability of honey and spices, as well as the craftsmanship of local bakers. In fact, Nuremberg's *Elisenlebkuchen* (a type of gingerbread made with a high percentage of nuts and a small amount of flour) is so renowned that it's protected by a geographical indication, much like Champagne in France (Barten, 2019).

Religious and Cultural Practices

The tradition of baking gingerbread was also influenced by religious observances and celebrations. During Advent and the Christmas season, when monasteries and bakeries would prepare for festivities, gingerbread became a staple for religious feasts and markets. In some regions, specific shapes were used to symbolize religious figures or events, connecting the baking tradition to local cultural and spiritual practices.

German cultural practices have played a significant role in shaping the evolution of gingerbread, or *Lebuck*. Rooted in medieval traditions, gingerbread became intertwined with religious observances, particularly during Advent and Christmas. Monasteries were among the first to bake and distribute gingerbread, using honey and spices, to create symbolic shapes for festive occasions (Schaefer, 2006). In the 14th and 15th centuries, Nuremberg became a major center of gingerbread production, with its distinctive recipe and craftsmanship becoming iconic. The city's *Elisenlebkuchen*, which uses a higher proportion of nuts than flour, is still protected as a regional specialty (Barten, 2019).

The practice of gifting decorated gingerbread shapes, such as hearts, stars, and religious figures, also became a cultural norm, reflecting the importance of food in festive and social exchanges. By the 18th century, gingerbread was also sold at Christmas markets, a practice that persists today (Schaefer, 2006).

Additionally, the use of intricate wooden molds to shape gingerbread reflects German craftsmanship and artistic traditions, often incorporating local motifs and religious imagery (Klein, 2015).

Thus, German cultural and religious practices, from monastic baking to Christmas markets, have profoundly shaped the character and symbolism of gingerbread over centuries.

Consumption of Ginger

In 2023, \$4.62 billion of ginger was sold globally. It is predicted that \$4.88 billion will be sold in 2024 (The Business Research Company, 2023). There are no statistics on the consumption of ginger in Canada.



Above is a map that represents the spread of gingerbread's popularity. Pictured is the route spices took from Asian nations into Europe. Ginger, and many of the spices used in this delicacy travelled on this route before gaining mass popularity in Germany.

The recipe below is a family gingerbread recipe. My parents owned a bakery and this is the recipe that was used.



GINGERBREAD PEOPLE

INGREDIENTS

493g of flour
7g of baking powder
5g of baking soda
2g of salt
6g of ground ginger
4g of ground cloves
93g of butter
164 g of brown sugar
55g of eggs
159g of molasses
11g of vanilla extract

INSTRUCTIONS

1. Stir the dry ingredients together
2. Cream the butter, brown sugar and egg together until light
3. Add the molasses and vanilla. Scrape down the bowl well, including the bottom of the bowl
4. Add the dry ingredients, mix until well combined
5. Wrap dough in saran wrap and refrigerate
6. Roll dough.
7. Cut into desired shapes and place on parchment lined sheet pan.
8. Bake at 350F for 8 minutes, plus 2 extra minutes if needed.

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Hanukkah Latkes - A Journey through Culture, Cooking and Carbs

The Latke Explained: Latkes are a traditional Jewish holiday food. This quintessential Hanukkah treat is a pancake or fritter of grated potato and onion that is thoroughly fried in an oil of choice. Latkes are artifacts of Ashkenazi Jewish cuisine and are served during the eight-day winter festival of light. Accompanied by sour cream, applesauce or just a little bit of salt, the modern potato latke holds great importance within the Jewish Diaspora. Yet the potato latke has not always been a key figure in Hanukkah celebrations. This eco-gastronomical analysis of the latke takes a journey through history to uncover the evolution of the latke and its ties to religion, culture, celebration, agriculture and geography.

Latkes Are not Small Potatoes - The evolution of the Latke through time and place: Generally speaking, the potato latke is a relative latecomer to the Jewish Hanukkah table. The potato latke we all know emerged during the mid 19th century during the proliferation of the potato through Eastern Europe (Ungar, 2024). That said, the latke itself has existed for much longer. Hanukkah is a holiday that celebrates the expulsion of the Greeks by Judah Maccabee and the subsequent rededication of the Temple. The eight days of celebration commemorate the miracle of light in which oil used to light the Temple was meant to last only one day but miraculously burned for eight. It is often believed that the oil used to fry latkes is what ties the crispy pancakes

to the celebration of light. That however is not the case. The connection between latkes and Hanukkah comes from the ancient biblical story of Judith and Holofernes. During the first century B.C.E, an Assyrian army led by General Holofernes attempted to capture Jerusalem. To do so, they had to pass through the city of Bethulia. The General's army surrounded the city and cut off their water supply. For 34 days the Israelites held out, even calling out to God to deliver them from their fate. Judith, a prominent widow in the town, did not approve of the townspeople testing God by binding him to the purpose of the Lord. Instead Judith took matters into her own hands. She set out from the city and entered Holofernes camp where for three days and three nights she entertained the troops by claiming to turn her back on her people and stating that she would help the Assyrians capture both Bethulia and Jerusalem. On her fourth night in the camp, Judith is invited to the General's tent for supper. She feeds him cheese and wine and eventually Holofernes becomes so overcome with wine that he must take repose. At this point, Judith beheads him with his own sword and brings his head back to Bethulia as she flees the army camp. The next morning the Israelites defeat the Assyrians (Miller, 2023). During the middle ages, people would eat cheese and wine around Hannukah to remember Judith's bravery and to commemorate the overwhelmingly common theme of Israelites overcoming foreign power. Jews, internalize food through holidays, meaning that

although this story no longer holds salience because what Jews eat today bears little to no relation to food prepared in biblical Israel, the collective memory Jews have of the past is anchored through food. How food exists in a particular moment in time, and what it values in the present and hopes in the future, is a window of how community is and how it came to be (Marks, 2010).

Prior to WWII, the Jewish Diaspora was incredibly diverse and extensive. Although Americans, in their egocentric fashion, have characterized two broad communities of Jews. Through time there have been vast multitudes of Jewish communities in many, many different countries. A mosaic of cultures predates the characterization of Ashkenazi Jews of Franco-Germany and Sephardic Jews of Iberia. Sephardic and Ashkenazi Jews developed food differently within their homelands of: Afghanistan, India, Ethiopia, Georgia, Greece, Libya, Austria, Morocco, Lebanon, Spain and importantly Italy. During the Spanish expulsion of Jews from Sicily, many fled to Rome where they brought with them Cassola. Cassola are latkes made of ricotta cheese, egg and honey that Italian Jews ate during Hannukah to commemorate Judith and celebrate the miracle of Hanukkah (Tanenbaum, 2020). The Cassola did reach the North Eastern parts of Europe however, lack of availability of olive oil made for an expensive treat. Instead, Eastern European Jews used shmaltz or goose fat as their oil-based product of choice. Since they couldn't fry the ricotta in shmaltz due to Jewish dietary restrictions, they adapted to a buckwheat pancake (Tanenbaum, 2020).

Kosher laws prohibit the mixing of meat and milk so cheese pancakes evolved into alternative pancakes. The central feature of the Jewish cooking in the Diaspora has been adaptation (Marks, 2010). Historically, Jewish cuisine has never been about innovation but rather a continuous cycle of transforming and transferring dishes to suit the time and place (Marks, 2010). This theme continues as the potatoes arrive in Northern Europe and proliferate during the mid 19th century. Crop failures in Eastern Europe in 1839-40 lead to the potato overtaking buckwheat and becoming the ingredient of choice for latkes. It wasn't until the early 20th century that the modern potato latke grew its own firm tradition (Tanenbaum, 2010). Jewish Immigrants arriving in the United States brought with them the potato latke where it grew to be a central figure in American Hannukah. By the 1930s, food scientists were attempting to find ways to streamline latke production even Aunt Jemima got involved and marketed latke mix (Ungar, 2024). Following the second world war almost all ancient Jewish communities were decimated or destroyed. The once-vibrant and diverse Jewish communities existed only in the customs of their descendants in two primary areas: Israel and America (Marks, 2010). Despite the killings of over 6 million Jews, Judaism prevailed and Jews used rituals, celebrations and of course food to provide new generations a link to the past and a seat at the table of collective memory. In the 21st century foodies have tried gourmet versions, diet trends have expanded the repertoire of latkes and the expansion of the Diaspora has included new ingredients. Many Jews feel as

though the new sweet potato or carrot latkes do not belong on the Hanukkah table but the truth is latkes have been a changing culinary tradition since the biblical days. Jewish food is constantly evolving around the needs of the community and tradition does not necessarily need to be a chain to the past but can instead be understood as an expression of gratitude towards ancestry while also opening new windows of possibilities.

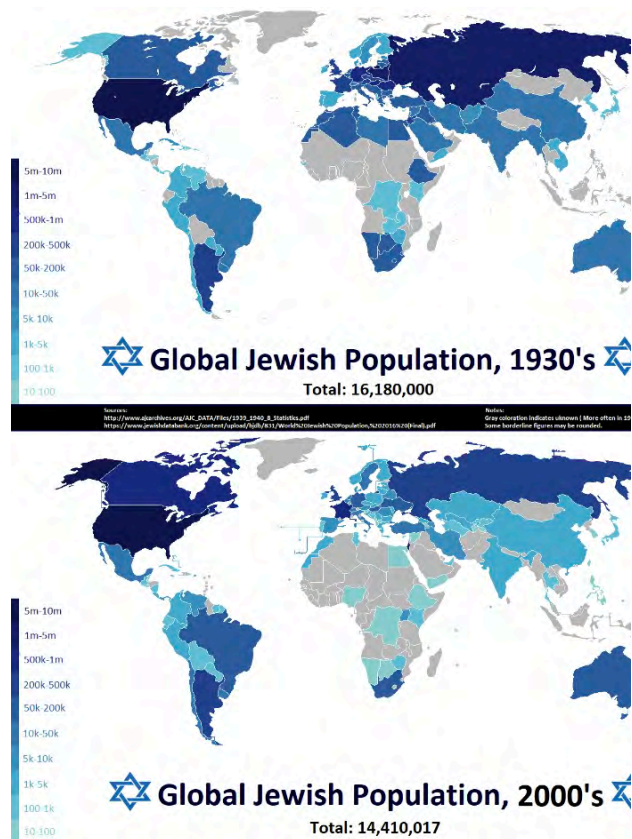


Fig 1. The Jewish Diaspora, 1930s and 2000s - sourced from: Reddit

The Story of the Spud:

Given potatoes have now become the primary ingredient of the 21st century latke we must now consider the history of the potato itself. The potato had a very significant impact on human society

especially in relation to its relative biomass. The first impact of the potato on society and first record of domesticated potato harvest occurred within the evolution of Andean civilization. The domestication of the potato is said to have taken place in the raised field basins of Lake Titicaca between present-day Peru and Bolivia (De Jong, 2016). The Andes are home to diverse climatic conditions including cold mountain terraces and warmer valleys. This allowed for a variety of different potatoes to be grown. The iconic Inca freeze-drying method, referred to as chuño, allowed for long-term storage of potatoes (Pieterse, 2024). Multiple origins of the cultivated potato have been proposed by several authors, that said, there is a general consensus that the first domesticated species was the *S.stenotomum*. This diploid species is considered to be the parent of several other cultivated potato species (De Jong, 2016). Potatoes played a major role in the Andean civilization and were central to myths and rituals that helped to define the Andean vision of the world.

The potato was brought to Europe following the Spanish conquering of Peru in the 16th century (Ríos et al, 2024). The first record of potatoes on the continent comes from a recorded list of purchases made by Carmelite hospital in Seville, Spain in 1573 (De Jong, 2016). In 1548. The Carmelite order built a monastery in Genova and the potato was brought to Italy. The potato was slow to be accepted and disseminated as a food crop. Instead it existed for a handful of centuries as a botanical plant and was used in herbals. It's slow spread can be attributed

to a lack of awareness of the impact of the crop on Inca society; a set crop-rotation system; societal beliefs that potatoes, which were not mentioned in the Bible, could be poisonous or diseased (De Jong, 2016); the potato's unique growth from tuber instead of seeds and a hatred for Roman Catholics (Mann, 2011). Slowly, through strong endorsement from Prussia's King Frederick the Great, Antoine-Augustin Parmentier and Catherine the Great the potato took hold of Europe. It took major crop failures in Eastern Europe during the late 18th century for people to see the potato's potential. Soon its ability to store for long periods of time and ability to grow well in low-quality soils was cherished and Europe came to be enthralled by the potato.

Potatoes provided the people of Eastern and Northern Europe with rich starch as well as many other vitamins and minerals. With this the population exploded from 1750 to 1850. The substantial increase in food supply allowed numbers to increase from 140 million to 266 million in a short period of time (Ungar, 2024). For the first time in the history of western Europe, a definitive solution to the food problem had been found (Mann, 2011). By feeding a rapidly growing population, the potato permitted a handful of northern European nations to assert dominion over much of the world for over 200 years. Many historians have attributed the potato to the Industrial revolution that underpinned the rapid economic development of Europe. The industrial monoculture provided an inexpensive and abundant food source for laborers, allowing industrialists to maintain low wages and

keep production costs low enough to dominate the expansive foreign markets that the entire enterprise relied upon (Ungar, 2024). The trend of growing populations was reflected within the Jewish community as well. The Jews, a poor and hungry crew, were practically saved by the potato. In the shtetl, potatoes were eaten two to three times a day. This diet is commemorated in the Yiddish children's song: "Sunday, potatoes; Monday, potatoes; Tuesday, potatoes . . . Shabbos, potato kugel." (Ungar, 2024). In 1825, there were 1.6 million Jews in the Russia/Poland area. By the end of the 19th century, there were over five million (Ungar, 2024). Jews became potato masters and dishes such as kugel, knish and, of course, potato latkes were born.

The potato spread beyond Europe as well into East Asia, Southeast Asia, Africa and the Middle East. In India, the potato was introduced by the Portuguese and seamlessly integrated into everyday Indian cuisine. Though not as popular in China and Korea, the potato can be found in various local dishes such as soups, side dishes or stir fries. The Middle East sees potatoes often accompanying elements in stews such as the Egyptian 'batates mahshiyeh' or the Lebanese 'batata harra'. The potato arrived in Africa during the 19th and 20th century and quickly became a staple (Pieterse, 2024). In Canada the potato has become one of the principle cultivars grown for table stock and processing. In fact, potatoes comprise 52% of all fresh vegetables consumed in Canada (Daniels-Lake, 2015). Canada is among the top 20 potato producing countries worldwide along with China, the Russian

Federation and India. Additionally, potatoes are grown in every province with P.E.I having the largest contribution. The Canadian potato industry produces about \$1 billion worth of potatoes each year (Daniels-Lake, 2015).

The Witpolsky Latke - A Northern

Family Tradition: I was born and raised in the Yukon. A Canadian territory that comprises no more than 220 Jews, 4 of which are my immediate family members (Jampolsky, 2024). Although my family has followed the 21st century secular trend of distancing oneself from religion, being Jewish does not simply regard one's faith. To say you are Jewish is not necessarily to say you believe in God or the Hebrew prophets. Instead being Jewish entails an ethnocultural and oftentimes religious identity that is based on a shared ancestry. My family does not follow Kosher diet laws, we do not observe every holiday and there is no Synagogue to be found for at least 1000 km from our home. But when Hanukkah comes around, we peel and grate over 25 lbs of potatoes and we fry and we fry and we fry. We then throw a big party and invite the whole town and everyone comes to eat latkes. Although many Yukoners don't really know much about Judaism they do know that come the end of November, beginning of December they are in for a delicious potato treat. Growing up, most of my friends didn't understand why I didn't celebrate Christmas but they did understand that I was one lucky girl because I got to eat latkes whenever I wanted. The recipe below belonged to my Great-grandmother Martha Fialkow and I have no doubt that it was

passed down to her from her mother as well. My great-uncle Shim told me to make sure that my latkes are infused with onions and dripping in Canola or Mazola oil. He also said to use a heavy cast iron pan. This holiday season, I highly recommend that you try your hand at latkes. They are easy to make and easy to share and will warm both your stomach and your heart.

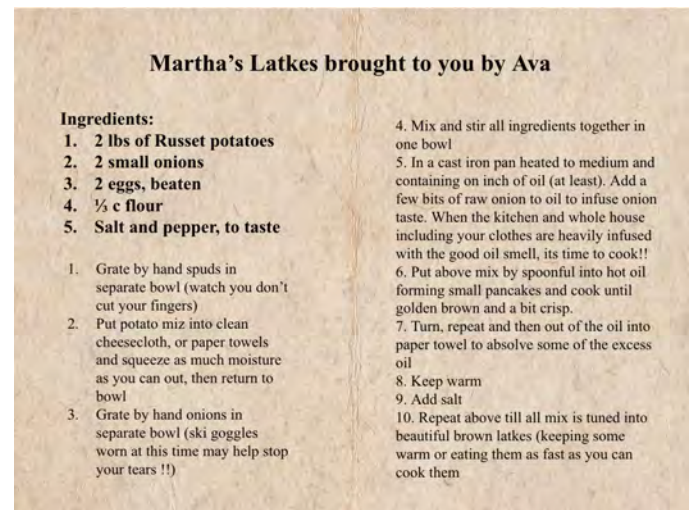


Fig 2. Martha's Latkes - Sourced from: A Recipe or Two for Ava Blue by Fia Jampolsky



Fig 3. Ava and Fia Jampolsky prepare lakes in their Yukon kitchen circa 2014.

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Paella

Paella is a rice-based dish that originated in Valencia around the 19th century when rice was a big part of the lower class's diet (Duhart & Medina, 2022). The province of Valencia is located in the East of Spain on the Mediterranean coast (Rodríguez, 2024). It is positioned at the mouth of the Turia River (Rodríguez, 2024). The climate of Valencia, being in the Mediterranean, means it has “long, dry, and hot summers, with rain in autumn and spring and mild winters” (Blue Green Atlas, n.d.). It is also surrounded by mountains and hills which influences the weather (Blue Green Atlas, n.d.). These climate conditions along with the geography of Valencia being drought-resistant forests, a thorny undergrowth of aromatic species and, wetlands all had influences on what kind of ingredients were available for paella (Blue Green Atlas, n.d.). The name Paella comes from the dish it is cooked in (Smith, 2018). The paella pan is a large pan with a flat base, it has low ridges as well as handles (Smith, 2018) Paella would be cooked outside, over an open flame and, enjoyed by many people (Duhart & Medina, 2022). This is because paella was a dish that was used for festive occasions where there were a big gathering of families and friends (Duhart & Medina, 2022). When cooking paella and everyone arrives they are given a chore, one person however is the main “chef” and when it's done, traditionally they would all eat straight from the pan while all sitting together (March, 1988). The dish started as a simple meal, due to it being mainly a poor farmer's dish, but as the dish became more popular with different social classes, the dish became more complex and more diverse (Duhart & Medina, 2022). Eventually, paella became a proud dish for the people of Valencia and Spain (Duhart & Medina, 2022). The dish was created due to the region it was in as well as the culture as the dish being a social one is a major part of its identity.

Ingredients:

Paella today has many variants, so it's hard to determine the original recipe. However, during its beginnings, although it varied between families, most tended to be made with local ingredients or easy to find. A staple of rice (bomba rice being the most traditional variant), and then chicken and/or rabbit, chicken stock, saffron, paprika, tomatoes, Spanish lima beans (garrofón), rosemary or snails (Smith, 2018)

Bomba Rice:

The rice originated in the Valencia region and is often referred to as “Valencian rice” which is a short-shaped rice that can absorb lots of water and flavour while being able to not stick together, which is what makes it so perfect for paella (Foods & Wines from Spain, n.d.). The rice is grown in the wetlands of Valencia, one specific region being the Albufera wetlands (Foods & Wines from Spain, n.d.). The soil in these areas is the perfect condition for rice farming as they



Figure 1 Spanish Flag (Wikipedia contributors, n.d.).



Figure 2 Map of Spain & Valencia (Encyclopædia, n.d.).

have low permeability values being clay and lime dominate (Foods & Wines from Spain, n.d). These wetlands also have a good flood ability for the rice to grow, though the water in which the rice is grown varies on the season (Foods & Wines from Spain, n.d). When the rice is cultivated it is dried via hot air blowers or direct sunlight (Foods & Wines from Spain, n.d).

Chicken:

It's hard to find a particular breed of chicken that was used in Valencian paella. However, there are known chicken breeds from surrounding provinces. One of the chickens with information available is from the region of el Penedès which is north of Valencia. It is the Gall del Penedés and has a PGI. This region they are bred in is mainly a wine-growing one. One of the requirements for the PGI symbol of the bird is that "Chicks arrive at poultry production farms for fattening when they are 24-48 hours old. When they reach the age of 42-56 days, the chickens are given access to outdoor ranges. They are reared for a minimum of 98 days" (Foods & Wines from Spain, n.d). The chickens are a muscular breed with a metallic flavour (Foods & Wines from Spain, n.d).



Figure 3 Valencian Paella (Julia, n.d.).

Rabbit:

Rabbits originated in the Iberian Peninsula, now known as Spain and Portugal, thousands of years ago (Alimentarium, n.d.). They were wild and had been hunted. Eventually, the Romans had caged pens for them to be available to be used as fur and meat, though they often escaped their pens (McMenamin, 2016). However, they weren't considered domesticated until the 16th-century monks began to keep them in cages for food and successfully domesticated them for breeding (Alimentarium, n.d.). They had been bred for their fur and to become a better food source (Alimentarium, n.d.). The Romans and Spanish would eat the rabbits as newborns (Alimentarium, n.d.)

Snails:

Land snails have been eaten by humans for a long time (Dasi-Espuig, 2014). The snails were carefully selected to eat the similarly shaped snails and adult ones so that they could conserve the species (Dasi-Espuig, 2014). Now, in the present, in Spain and other European countries, snails are seen as a delicacy (Dasi-Espuig, 2014). One of the main uses of snails in paella was because they were cheap so those in the lower class would incorporate them (cite). The

Indigenous Spanish snail's (*Iberus alonensi*) habitat is in lavender, thyme, and rosemary, fields; therefore, they have that flavour profile to them and add to the culinary senses of the paella (Dasi-Espuig, 2014).



Figure 4 Garrofón Beans (Roselló Oltra, 2015).

Garrofón (Spanish Lima Beans):

These beans originated in South America in Peruvian culture; however, they are now mainly grown in Valencia (Roselló Oltra, 2015). However,

now they are being grown less and less, in favour of similar, cheaper beans (Roselló Oltra, 2015). These beans are an important ingredient in paella because they have a high ability to absorb water and give flavour (cite). These beans have specific needs in which they grow. These requirements are due to the fact that they grow over entire fields with their reeds and are sensitive to thunderstorms with lots of water and wind (Roselló Oltra, 2015). They also need lots of sunlight and maintenance (Roselló Oltra, 2015). The Beans are harvested when tender or dry, the tender ones for cooking straight away and the dry ones stored for later (Roselló Oltra, 2015). Before cooking dried beans, they need to be soaked for 24 hours to remove as they contain harmful toxins (Roselló Oltra, 2015).

Paella Evolution and its Variants Around Spain:

A very popular variant of Paella is from the coast where they can make a seafood version, Paella de mariscos (Allibhoy, n.d.). In the northern parts of Spain that adapted paella would put in meats like chorizo and other local sausages (Allibhoy, n.d.). Lots of these different additions to paella such as seafood and chorizo are attributed to the dish becoming popular throughout social classes and that leads to more possibilities of change to the dish (Duhart & Medina, 2022). Other variants that are being created at this time are paellas that are vegan and contain other cultural ingredients like kimchi (Allibhoy, n.d.).



Figure 5 Valencian and Seafood Paella (Food & Travel, 2023.)

Consumption of Paella Ingredients

It was hard to find the statistics of these ingredients. Here are some that I could find and the years. There was a difficulty to find procurable statistics. For the government website, it would only give money statistics for other resources, they made you pay to see the data or didn't have it, and generally never current only older data.

global consumption.

- Chicken- 140 million tons of poultry consumed globally in 2023 (Statista, 2023),
- Rabbit- 1.5 million tons of rabbit was consumed globally in 2017 (New Food Magazine, 2019)

Canadian Consumption:

- Chicken- 41.8 gm per capita of chicken consumed in 2024 (IBISWorld, n.d.).
- Rabbit- 11.6 grams per capita in 2021 (Flammini, 2023)

Recipe: Valencian Paella

This is a version of a traditional Valencian paella recipe from Lourdes March's article in the Oxford Symposium on Food & Cookery, *The Cooking Pot* (1988). Since rabbit is a food not commonly seen in Canada in terms of accessibility and culture, as well as considering that they are often seen in the aspect of pets, rabbit can be optional.

“Before using a paella pan for the first time, wash it with vinegar and an abrasive, rinse and wash it again with soap and water. By doing this, you avoid a metallic flavour in rice. It will be a good idea to boil a little rice in it, throw this rice away, and wash the paella again with soap and water, rinse and dry.”

Serves ten.

1 chicken (1 1/2 k g) cut into serving pieces
1 rabbit (1 kg), cut into serving pieces
1 kg. medium grain rice (do not rinse rice)
750 gr. green beans, cut up
250 gr large dry white Spanish beans (garrafón) or butter beans, soaked overnight
2 sprigs of rosemary or 12 snails (optional)
250 gr. tomatoes, peeled and finely chopped
2.5 dl. olive oil
1/2 teaspoon saffron
Salt
2 tsp. paprika
6 L water (approximately)
A paella pan, 55 cm. diameter

“If butter beans are dry, soak overnight. The following day, boil them for one hour in 1 L water.

Pour oil in a paella pan. Place pan over the fire where it is going to be cooked and level it properly. Set the fire. When oil is hot, fry chicken and rabbit pieces, turning them over frequently.

Sauté green beans and tomato for some minutes. Reduce heat, add paprika, and immediately afterwards, pour water including that in which the butter beans have been boiled, 6 L in total.

Increase heat, and bring to boil; then reduce it slowly to medium heat and keep it this way until meat and other ingredients are cooked, 45 to 60 minutes (depending on how tender the meat is).

Add rosemary or snails. Taste stock and add some salt if necessary. Add saffron.

Remove some broth. Check broth level that should be right below the handle rivets. Increase fire intensity and add rice. Spread it as evenly as possible. Simmer over high heat for the first 10 minutes; reduce heat to medium and cook 8 to 10 more minutes.

During these last minutes, taste some grains of rice and place paella pan beside the fire when rice is still al dente, i.e. when the harshness of the nucleus has disappeared but the grain still offers some firmness. Let rice stand for 5 minutes for the grains to be loose, unbroken, done, and with superb flavour.” (March, 1988)

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PASTA ALLA CARBONARA

IT BEGINS WITH PASTA...

Pasta is made from durum wheat, a variety rich in gluten, protein, and carotenoids, giving it elasticity, chewiness, and a golden hue (Gooding, 2023). Durum wheat evolved from wild emmer as ancient farmers engaged in artificial selection (Zohary et al., 2012). The eastern Mediterranean coast is considered to be its place of origin (Feldman, 2001). From there, durum spread to Asia and Europe, particularly Italy, which remains the second largest producer of durum wheat (International Grain Council, 2017). In 1910, Nazareno Strampelli started a wheat hybridization program, leading to the development of Cappelli wheat, a variety valued for its high yield and quality (Laido et al., 2013). Most modern wheat varieties come from the Capelli lineage (Kabbaj et al., 2017). The Green Revolution in the 1960s brought more changes to durum wheat as varieties that could exploit high levels of nitrogen (fertilizer) and that were less likely to experience stalk bending and collapse were developed through artificial selection (Mefleh et al., 2018).

It was during the Renaissance period, that the Italian art of pasta making began, and pasta cuisine was established as a staple in Italy—a fact that remains to this day (Arendt & Zannini, 2013). However, it is likely that the iconic Italian pasta as we know it was influenced by ancient Arab culinary traditions (Serventi & Sabban, 2002). Stringlike pasta, such as spaghetti, has roots in the Arab world, with descriptions of this pasta being documented as early as the 9th century by Arab-Andalusians and the Far East (Serventi & Sabban, 2002). Although the Italians are largely credited for its invention, pasta is not mentioned in Italian culinary sources until the 13th and 14th centuries (Serventi & Sabban, 2002).



GUANCIALE

At the end of the 19th century Italy began importing pigs from England to selectively breed those with the most desirable traits for cured meat production (Zanardi & Novelli, 2021). In 1960, Italy's Ministry of Agriculture launched a selection program for Large White and Landrace pig breeds, both valued for their heavy carcasses, favourable fat distribution, muscle structure, and growth rate (Zanardi & Novelli, 2021). Today, these breeds continue to be used for the production of cured meats, including guanciale (Zanardi & Novelli, 2021). Meat curing first began around 3000 BC, when salt became more readily available (Zanardi & Novelli, 2021).

During the Roman Empire, salt production and trade increased significantly, with the Romans dominating the industry, in both trade and production (Zanardi & Novelli, 2021). As a result, they became especially known for their cured meats, including prosciutto and guanciale—ingredients that have played a significant role in shaping Italian dishes, such as carbonara (Rogers, 2012). Cured meats were originally eaten by the poor, with the wealthy upper class considering it to be plain and inexpensive (Zanardi & Novelli, 2021). However, by the Renaissance period, the craft of meat curing was improved and cured meats evolved into delicacies (Zanardi & Novelli, 2021). The city of Norcia, in Central Italy, was particularly renowned for its tradition of salting and bagging pork; therefore, professional pork butchers are often called *norcino* (Zanardi & Novelli, 2021).

PECORINO ROMANO

The origins of Pecorino Romano date back to the Roman Empire, where it was a prized dressing at imperial banquets and a staple food ration among the Roman army, thanks to its long-term storage capacity (Consortium for the Protection of Pecorino Romano Cheese [CPPRC], 2017). Despite its historical origins, only 3 percent of Pecorino Romano is still produced in the Roman countryside of Lazio (d’Errico, 2020). In the 19th century Pecorino Romano, a high quality and affordable product, saw significant commercial expansion (d’Errico, 2020). The cheese’s commercial appeal grew even more after large wholesalers and exporters began building manufacturing facilities for the salting and maturing of Pecorino Romano ensuring consistently high-quality products and outcompeting small and local producers (d’Errico, 2020).



Eventually, Lazio could no longer produce enough Pecorino Romano to meet growing demands and companies began shifting production to Sardinia, where land and sheep were abundant (d’Errico, 2020). Today, Pecorino Romano has both a Protected Designation of Origin (PDO) (European Union Intellectual Property Office, 2024) and Geographic Indicator (GI) (Canadian Intellectual Property Office, 2017). It is produced predominantly in Sardinia, with some production also taking place in Lazio and Grosseto in Tuscany (d’Errico, 2020).



BLACK PEPPER

The first records of black pepper cultivation date back to around 1500 BC in Southwest India, where the spice was used in traditional Indian cuisine (University of Wisconsin, 2024). Around this time, the spice was also introduced to Egypt where it was used as part of the mummification



process (University of Wisconsin, 2024). Black pepper was considered “black gold” and the “king” of spices, with many believing that it had significant health benefits (University of Wisconsin, 2024). It was highly valued and traded extensively along the Silk Road, a network of trade routes connecting the Far East, China, the Middle East, and Europe (University of Wisconsin, 2024). Today the majority of cultivation continues to be in India, along with Vietnam, Indonesia, and Brazil (University of Wisconsin, 2024).



ORIGINS OF PASTA ALLA CARBONARA

Although its precise origin is unknown, Pasta alla Carbonara most likely originates from the Lazio region of Italy (Benasso & Stagi, 2019; Hoskin, 2006). There are several hypotheses surrounding its invention. Some suggest that the dish is an adaptation of *cacio e ova*, a pasta made with eggs and cheese from Lazio and Abruzzo, by coalmen (known as ‘carbonari’) (Benasso & Stagi, 2019; Hoskin, 2006). Another hypothesis is that the dish is a Neapolitan invention with similar recipes mentioned in the 1837 recipe book ‘*Cucina teorico-pratica*’ (Theoretical-Practical Cuisine) by Ippolito Cavalcanti (Benasso & Stagi, 2019). Others argue that the dish was inspired by American soldiers in Rome during the Second World War who brought the idea of mixing bacon, an American staple, into pasta (Benasso & Stagi, 2019; Hoskin, 2006). Another similar hypothesis suggests that rations from the American soldiers in 1944, containing eggs and bacon, were purchased by restaurants in Rome, leading to the development of Pasta alla Carbonara (Benasso & Stagi, 2019). Regardless of the many hypotheses, one fact remains certain: the pairing of eggs and cheese in pasta has been an Italian tradition for centuries (Benasso & Stagi, 2019).

CONSUMPTION PROFILES AND STATISTICS

Italy has the greatest per capita consumption of pasta (Ozbun, 2024). Italians annually consume an average of 23.2 kilograms of pasta (International Pasta Organization [IPO], 2022), with around 30 percent eating pasta four to five times per week and 17 percent eating pasta six to

seven times per week (Ozbun, 2023). Tunisia ranked second with an annual average of 17 kilograms, followed by Venezuela (13.6 kilograms) and Greece (12.2 kilograms) (IPO, 2022). Canadians consume about 6.3 kilograms of pasta annually (UN A.F.P.A., 2023).

BIO-GEO-PHYSICAL INFLUENCES

Italian cuisine is known for its simplicity and Pasta alla Carbonara, having only five ingredients, exemplifies this. These culinary traditions, rooted in ancient regional and local practices, vary widely across Italy and are often carefully preserved through family recipes passed down over generations (Nevin, 2017). The cultural diversity of Italy has been, to a large extent, shaped by its varied climatic and geographical landscape (Nevin, 2017). The country is made up of valleys, forests, rocky terrain, arid plains, and mediterranean coastlines, along with a mountain chain that extends from north to south, creating physical divisions (Nevin, 2017). Originating in the Roman countryside of Lazio, the ingredients in Pasta alla Carbonara reflect the region's agricultural heritage and the local availability of certain foods. Located in west-central Italy and bordering the mediterranean coast, the region is characterized by hot, dry summers and mild, wet winters, representing ideal conditions for the growth of durum wheat for pasta making (Sellami et al., 2024). Likewise, the availability of vast open lands and mountainous pastures has long supported the practice of sheep farming (Kong, 2004), the first step in pecorino cheese production. According to a 1908 census, sheep largely outnumbered cattle, particularly in Southern Italy which had a sheep to cattle ratio of 7 to 1 (Krong, 2004).



Since pigs are easily adapted to various environments, Italy has a longstanding history of pork production, which was particularly prominent during the Roman Empire when the demand for cured meat products began to increase. During the Roman Empire, a mild climate and small space requirements also enabled the year-round production of poultry, whose feed could be easily obtained from leftover agricultural activities (Krong, 2004). Although black pepper was not grown in Italy, the Romans engaged in extensive trade and sourced the spice from India and Southeast Asia (University of Wisconsin, 2024).

EVOLUTION AND ADAPTATIONS OF THE DISH

Historically, Italian cuisine outside of Italy often reflected the impoverished state of Italian immigrants who relied predominantly on vegetables and carbohydrates (Parasecoli, 2019). Their foods were viewed as unsophisticated and “poor” (Parasecoli, 2019). However, with greater economic stability following the Second World War, Italians began establishing restaurants and businesses abroad that improved public perceptions (Parasecoli, 2019). With the boom in tourism and international media,

international audiences were introduced to authentic Italian cuisines and by 1980s and 90s, Italian food became associated with luxury and sophistication (Parasecoli, 2019).

Adaptations to traditional Italian cuisine likely emerged due to a combination of factors: the blending of culinary traditions, brought by Italian immigrants, with locally available ingredients, the rise of dietary trends and restrictions, international influences and creative experimentation (Parasecoli, 2019). Today there are various adaptations and interpretations of the dish that replace many of the ingredients with various substitutes. Guanciale is often replaced with pancetta or bacon, and in some cases sausage or ham, particularly in the United States. Parmigiano-Reggiano is sometimes used in place of, or in combination with, Pecorino Romano. Some even include cream for a richer and creamier sauce, along with garlic, onion, and parsley. Vegetarian adaptations have also evolved and may include the addition of roasted vegetables and plant-based meat substitutes. Others have created seafood versions, replacing guanciale with shrimp, smoked salmon, or scallop. While the traditional Pasta alla Carbonara uses spaghetti, it is common for other pasta varieties such as fettuccine, rigatoni, or bucatini to be used as alternatives.



RECIPE



Ingredients

- 350g spaghetti
- 200g guanciale
- 4 eggs yolks
- 100g Pecorino Romano
- Fresly ground black pepper

Instructions

1. Cut guanciale into small pieces, then cook in a skillet over medium heat for about 2 to 3 minutes.
2. In a bowl combine egg yolks and slowly add Pecorino Romano. Add A LOT of black pepper.
3. Cook spaghetti in salted water.
4. Drain cooked spaghetti, saving about a cup of the pasta water.
5. Add a splash of pasta water to the egg yolk mixture and while mixing, slowly pour some of the hot grease from the cooked guanciale. The mixture should resemble a paste.
6. Combine the pasta, guanciale, and yolk mixture in the skillet. Season with more Pecorino Romano and serve.

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PORTUGAL

Pastel de Nata

THE FAMOUS CUSTARD TART

By: Olivia Gatrell



The pastel de nata, also referred to as the Portuguese custard tart or egg tart, is a famous tart that has been around for hundreds of years but has only risen in global popularity in the last fifteen years. Now it is a popular treat found in many bakeries and cafes that is usually eaten with a cup of coffee. The bitter rich taste of the coffee amplifies the creamy sweet/egg taste of the tart, creating a delicious and satisfying treat. Usually, it is served with Bica, similar to an espresso but refined to pair well with the pastel de nata.

PASTRY

The pastry shells of the pastel de nata are usually homemade using mostly flour and butter; however, you can also buy pre-made puff pastry in many stores.

EGG FILLING

In the middle of the pastry is a creamy filling made by mixing flour, egg yolks and sugar. The recipe has evolved over time however, the filling has a distinct taste as a pastel de nata.

The origin of the pastel de nata dates back to before the 1800s with the monks at the Jerónimos Monastery in Lisbon. At the time they would use egg whites to starch clothes, leaving them with an excess of egg yolks. To make use of this excess of ingredients, the monks began baking what they called a pastel de nata. Following the Liberal Revolution in 1820, the monks needed a way to make money and therefore resorted to selling them to a nearby sugar refinery which later also bought the recipe (Santa Nata, 2021).





One of the major ingredients in the pastel de nata is wheat to make flour.

During the time of the origin of the pastel de nata (1800s), much of the flour was grown in the Alentejo region in the South of Portugal. Here Portugal was growing a vast monoculture of both cereals and olive trees. However, the monoculture method of farming combined with other factors led to soil degradation and reduced yields (Viana et al., 2021). Now approximately 90% of the flour used in Portugal is imported from primarily France as well as Spain and the United Kingdom (AHDB, 2020).

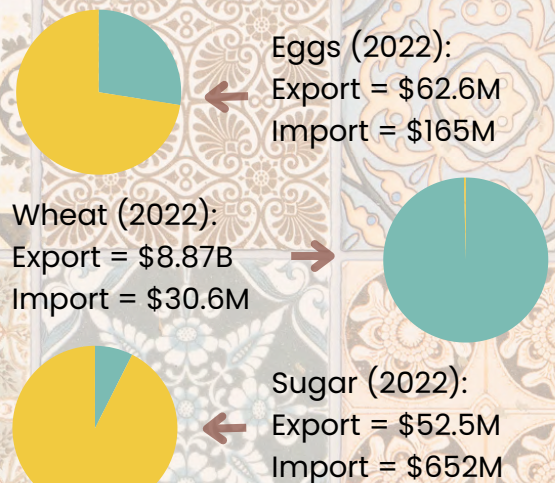
Sugar, another major ingredient in the pastel de nata recipe was imported for a long time from the Portuguese Atlantic Island, Madeira. The influence of Infante D. Henrique, Christopher Columbus and the perfect temperatures and soil presented an opportune place to grow sugar (V. Doctor, 2023). The sugar industry fuelled much of Portugal's economy for many years. However, as time progressed and demand increased, other countries rose becoming the main providers of sugar in Portugal. Today Portugal imports \$210M in raw sugar from Brazil, Spain and France while exporting \$133M (OEC, 2022).

The third and arguably most important ingredient in the pastel de nata is eggs (specifically egg yolks). In 1800, and still today, eggs from chickens are domestically bought and produced. Likely in the 1800s the eggs used in the monastery's pastel de natas would have come from local chickens in Lisbon or the nearby area. Chickens were also in high abundance in monasteries due to the poorer population sometimes paying by giving a chicken (Catavino, 2022). In 2023, it was estimated that approximately 172 million eggs were produced domestically for consumption in Portugal (Statistica, 2024).

Global Variations

There have been many iterations created around the world. Some examples of this are the Cremoso in Brazil and the Egg tart from Hong Kong (China). In Canada bakeries like the ones in Waterloo will sell thousands during the holiday season (Coppolino, 2019).

Canadian Consumption

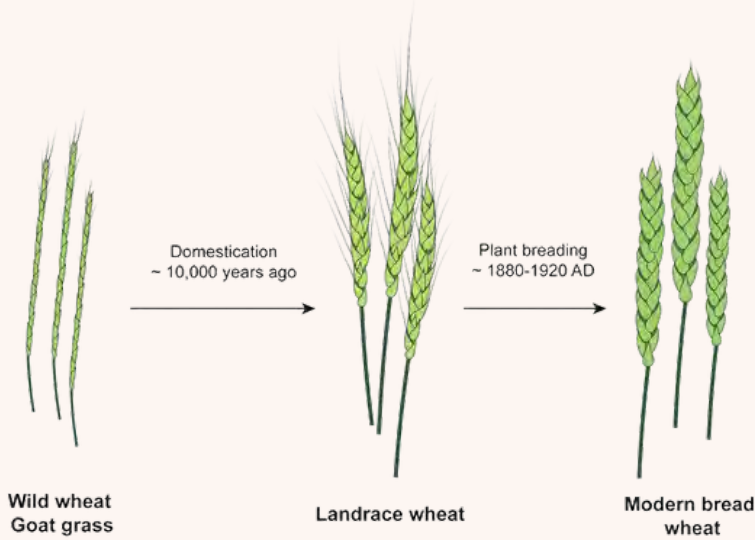


(OEC, 2022)

Evolution

WHEAT

At the beginning of the domestication of wheat in the Fertile Crescent, wheat contained smaller grain seeds. However, over the many years of cultivation worldwide “domestication caused morphological, physiological and genetic changes, known as domestication syndrome” (Katamadz, 2023). As Neolithic farmers moved to different regions taking wheat with them, the grain adapted to the local agro-ecological conditions of the region. Thus, resulting in many different varieties. Eventually over many decades, wheat became what we know today.



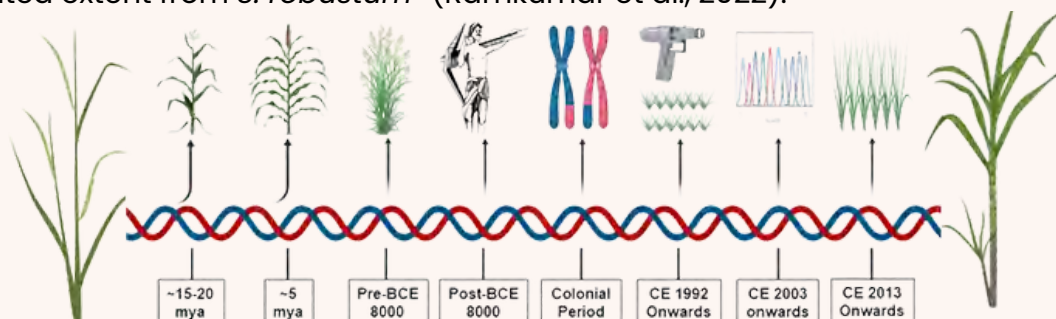
CHICKEN

During WWII beef was rationed, therefore many people turned towards consuming chicken instead. Post WWII Howard Pierce, Poultry Research Director of A&P Food Stores, wanted to keep the consumption of Chickens up. Therefore, the 'Chickens of Tomorrow' program was born which selected through strict criteria exemplary chickens. These chickens went through selective breeding over the years, resulting in the large chickens we have today. These larger chickens are also found in Canada and Portugal and have also influenced the slightly larger eggs that we have today (Shrader, 1952).



SUGAR CANE

Sugar cane domestication began around approximately 8000 BC in New Guinea before spreading to Asia and India. However, sugar cane didn't reach Spain until 715 AD and during the sixteenth and seventeenth centuries countries like Portugal, Italy and Cyprus used the crop as a way to stabilize their economy (Ramkumar et al., 2022). The original variety from the Indonesian Islands *S. officinarum* was designed using traditional methods to have hardy and disease resistant traits. “Present day sugarcane is a man-made hybrid clone produced from *S. officinarum*, and *S. spontaneum* with a few genes incorporated from *S. barberi*, and *S. sinense* and to a limited extent from *S. robustum*” (Ramkumar et al., 2022).





The pastel de nata recipe that the monks of Jerónimos Monastery sold was to the sugar refinery attached to a small general store in the Belém district in Lisbon.

At the time (1830s) the district was considered far from Lisbon and many accessed it by steamboats. However, over time visitors grew attracted to the area and to view the marvel of the monastery and the Torre de Belém (the Belém Tower). With the store located nearby selling delicious pastries originating from the monastery, the popularity of the refinery and store grew fast. In 1837, they opened up a bakery in a neighbouring building called 'Antiga Confeitaria de Belém (the Belém



Confectionery);' thus naming what we refer to as the pastel de nata as the Pastéis de Belém with the original secret recipe. "Passed on and known exclusively to the master confectioners who hand crafted the pastries in the 'secret room', this recipe remained unchanged to the present day" (Pastéis de Belém, 2015). The Pastéis de Belém name (and therefore recipe) is protected under the Geographical Indication (GI)

"The only true 'Pastéis de Belém' contrive, by means of a scrupulous selection of ingredients, to offer even today the flavour of the time-honoured Portuguese sweetmaking."



framework, meaning the name can only be used by pastries produced by the Antiga Confeitaria de Belém in the Belém district in Lisbon. Therefore, all other Pastéis de Belém are called pastel de nata in Portugal and globally. It also has a EU trademark to the name (EUIPN, 2024). The geographical indication allows for the preservation of its identity and tradition, similar to Champagne in France and Parmigiano Reggiano in Italy. Different from the pastel de nata the pasteis de belém is said to be more rich, creamy and have a flakier crust. The pastel de nata and pasteis de belém have been

highly influenced by the history/culture as well as biological/physical attributes of the region. Without these events such as the Liberal Revolution or even Christopher Columbus's exploration, the pastry we have today would likely not exist. Even with the pasteis de belém having essentially the same recipe and ingredients, it is likely that the evolution and selective breeding of the ingredients have drastically changed the taste (Pastéis de Belém, 2015). 197

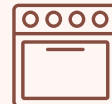
Pastel de Nata

This Pastel de Nata recipe is difficult and may take you many times before you finally perfect both the preparation and cooking process. Don't be surprised if you burn the tarts the first time as they can cook/burn faster than you might expect. Hopefully, this recipe will reward you with many delicious tarts for you and your families and friends to enjoy and feel like you are relaxing at a cafe or beach in Portugal.



Prep time

1hr



Cook time

1hr 30min



Servings

35

Instructions

Dough

1. Mix flour, salt and water together in mixer (30 sec).
2. Put dough in small pan and cover with saran wrap, letting it sit for 15 min.
3. Roll the dough out and carefully fold the butter in (if this is your first time, look up a video online).

Custard

1. Whisk together flour and milk in a bowl.
2. In a small saucepan boil sugar, cinnamon stick and water until thermometer reads 220°F (don't stir!).
3. Heat up flour/milk mixture on stove and when ready add in sugar/cinnamon mixture (remove cinnamon stick). Continuously whisk and add in vanilla extract (1 min).
4. Whisk in egg yolks.
5. Strain mixture into large bowl.

Assembly

1. Preheat oven to 550°F.
2. Cut pastry in appropriate size to fit into muffin tin mold.
3. Fill molds 3/4 full with custard.
4. Bake until edges are brown (approx. 16 min).
5. Remove from oven and let cool.
6. Garnish with cinnamon and/or sugar and enjoy!

Ingredients

Dough

- 2 cups all purpose flour
- 1/4 teaspoon salt
- 3/4 cup water
- 8 oz. unsalted butter (room temperature)

Custard

- 3 tablespoons all purpose flour
- 1 1/4 milk
- 1 1/3 granulated sugar
- 1 cinnamon stick
- 2/3 cup water
- 1/2 teaspoon vanilla extract
- 6 egg yolks (whisked)

Garnish

- cinnamon
- confectioners sugar

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Pizza Margherita

Italy's PIZZA FLAG

By: Breanna Hicks



A flag of pizza!?

The iconic Italian dish “Pizza Margherita” is enjoyed by many all across the globe but it’s origins may surprise you. After Queen Margherita of Savoy visited Naples in 1889, she requested ‘the best local food.’ Raffaele Esposito, owner of a local pizzeria, looked to fulfill her wishes and presented her with 3 pizzas. Her favourite consisted of just three toppings: mozzarella cheese, tomatoes, and basil, thus resembling the Italian flag. Esposito named the pizza in her honour and the rest is history (DeLong , 2022).

Geographic origin of the main ingredient(s)

Buffalo Mozzarella became “DOP Buffalo Mozzarella” in 1996 so it is represented as a separate category of cheese with conditions on the raising of buffalo and processing techniques (Semprini, 2023). The buffalo must only live in the administrative area of Campania, Italy (Ciccione & Eater, 2021). This is a region in Southern Italy which includes cities such as Naples and Salerno. Additionally, the buffalo must be fed a generally traceable diet such as greens, corn, and hay that are all ‘locally’ grown on the premises (Ciccione & Video, 2021). DOP Buffalo Mozzarella also has specific conditions on the production of the cheese. The most unique technique about buffalo mozzarella is the process of submerging sliced curds into water at boiling point and stretching it into shapes using the ‘pasta filata’ method (Romeo, 2023). Additionally, the cheese is a ‘fresh product’ which means it doesn't need to age like other popular cheeses (Romeo, 2023). This also makes the production of the buffalo mozzarella very delicate as the cheesemaker must be efficient and even one small mistake can ruin an entire batch.

San Marzano Tomatoes must be grown, harvested, and processed in Agro Sarnese-Nocerino of Campania (Gustiteam, 2024). Agro Sarnese-Nocerino is a relatively small area in the province of Salerno and sits in the shadow of nearby Mount Vesuvius. The soil in the area has undergone centuries of eruptions from Mount Vesuvius which provides an ideal productive environment for growing the tomatoes (Guerra, 2024). The combination of the warm Mediterranean climate, the volcanic soil, and the specific farming techniques used in the area leads to the tomatoes being very distinct. Despite the conditions for authentic San Marzano tomatoes, the seeds themselves originally came from South America and arrived in Naples in the late 18th century (Guerra, 2024).



Relevant evolutionary transitions of those ingredients via artificial (or natural) selection

Buffalo are not native to Italy but were introduced during Roman times/ Barbarian invasions of the Italian peninsula (Staff, 2024). These Italian Mediterranean Buffalo are mostly found and bred in Campania which leads to their prevalent contributions to the creation of Italian mozzarella. Originally, Italian Mediterranean Buffalo were used as draught animals but their use has now moved to primarily meat and dairy production (Staff, 2024).

Once the San Marzano seeds arrived in Naples from South America, the tomatoes established their growing grounds in Agro Sarnese-Nocerino. Since then, the tomatoes have not undergone many transitions as to how they are grown or harvested. With the exception of improved harvesting technology, the tomatoes have remained an iconic traditional symbol of the area.

Current global and Canadian consumption profile / statistics of the main ingredient(s)

In Canada, the consumption of cheese in general has increased over 15 percent since 2010 (Shahbandeh, 2024). In fact, the average Canadian consumed around 13.5 kilograms of cheese in 2023 (Shahbandeh, 2024). Globally, this trend holds true as mozzarella is rising in popularity due to its health benefits. The global mozzarella revenue is about \$38.6 Billion (US) and is projected to rise in the coming years (Fact.MR, n.d.).

How the bio-geo-physical attributes in its place of origin have contributed to shape the dish

By the mid 1800's in Naples, pizza was a very common food so it was no surprise that the creation of Pizza Margherita became so well established too quickly. At the time of Pizza Margherita's creation, the main ingredients were already widespread across the area which led to the accessibility in making the dish (Stepyoshi, 2020). Additionally, the geographic layout of the Italian country makes this dish unique. For example, the central spine of mountains in Italy creates a high diversity of microclimates and the ability to grow/harvest specific food in specific locations (such as the San Marzano Tomato).

How cultural practices in its place of origin shape the dish

In the early 1800's, upper class Italians actually looked down upon the 'new' dish of pizza. They described it as "peasant food" and were apprehensive about the introduction of the tomato fruit (Koyfman, 2020). This was until a high status individual made the dish look attractive. This person was indeed Queen Margherita of Savoy. This makes Margherita pizza one of the first popularized and accepted pizza's in Italy. Since then, pizza has become an iconic symbol of Italy as a whole and many different types and styles of pizza have been developed.



Queen Margherita of Savoy

Variations or adaptations of the dish reflecting other places and/or cultures

Pizza Margherita as a whole is praised for its simplicity in the toppings. Each topping serves a specific purpose in the taste and aroma of the dish, therefore, it has not been tampered with much temporally or geographically. However, the recreation of this dish in other places can reflect that place's iconic foods. For example, the recreation of Pizza Margherita in Canada generally does not use the specific ingredients from Campania, but may include "San Marzano Style" tomatoes or mozzarella made from cow's milk. Although this version of the dish does not include the specific key ingredients, the imitation of the dish is extremely popular in many other regions of the globe.

Recipe

Source: La Cucina Italiana

Ingredients:

- 2 PIECES of buffalo mozzarella
- 2 CUPS of tomatoes, peeled
- basil
- extra-virgin olive oil
- 4 CUPS of bread flour
- 2 TSP. of salt
- 1/6 OZ. of fresh brewer's yeast

Method:

1. Begin by making the dough. Dissolve the brewer's yeast in 1 1/2 cups room-temperature water and add half the flour; mix quickly, cover with a damp cloth and let it rest for 30 minutes. Then add the rest of the flour and knead the dough vigorously for at least 10 minutes, then add the salt and mix again. Shape the dough into a ball and place it in a bowl covered with plastic wrap and let it rest, refrigerated, for 24 hours.

2. Remove the dough from the refrigerator and let it rest at room temperature for 2 hours. Next, stretch the dough out using your fingertips to extend it in a 13"x15" pan (or form two rounds about 10" in diameter), cover and let rest for another 30 minutes before adding toppings and baking.

3. Preheat the oven to 465°F.

4. Using your hands or the tines of a fork, break up the peeled tomatoes; salt them lightly. Top the 2 pizzas with the tomatoes and bake them with the pan on the bottom shelf of the oven for the first 5 minutes, then move them to the middle rack and continue baking for another 7 minutes. Remove from the oven and add bits of buffalo mozzarella and shredded basil leaves. Drizzle with olive oil and serve.



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Rata-terroir: How Ratatouille Embodies French Gastronomic Principles

By Elise Neufeld

In 2010, UNESCO recognized French gastronomy as part of their *Intangible Cultural Heritage*.¹ According to UNESCO, French gastronomy values:

1. the use of fresh, local products, whose flavours go well together,
2. the careful selection of dishes which reflect the *terroir* and diversity of French regions
3. the pairing of food and wine
4. the setting of a beautiful table
5. the conversations and rituals associated with each meal.

The ingredients involved in French cuisine need not be exotic or overly complicated. It is the *quality* of the ingredients and the cooking techniques that highlight these ingredients that determine the quality of the dish. Perhaps there is no better dish to illustrate these philosophical tenets than ratatouille, a dish composed of summer vegetables and herbs that grow in the southern regions of France. The dish can be served hot or cold and is considered a signature dish of the city of Nice, where the hot climate provides perfect growing conditions for its main ingredients. When we picture ratatouille, many of us might imagine thinly layered rounds of vegetables delicately plated in a spiral such as the version we see in the Pixar film, *Ratatouille* (2007) The culinary rat's take on the dish is



Figure 1: Traditional style or ratatouille Niçoise. (Westend61, Getty Images)

known as *confit byaldi* and shows ratatouille at its most elevated. However, in its most basic form, ratatouille is a hearty vegetable stew that was cooked by the French peasants of Provence (Figure 2) to make use of left over summer vegetables such as aubergines, yellow squash, peppers and courgettes². Ratatouille is a French favourite in the humblest of kitchens to the finest of dining establishments. To understand why, it is important to understand the French concept of *terroir*, which is fundamental in French cuisine.

What is Terroir?

Though lacking one conclusive definition, *terroir* conveys “a sense of place in food and farming and, by extension, in rural culture in general.”³ Often used to refer to the special

¹ UNESCO, (2010). Gastronomic meal of the French. Intangible Cultural Heritage. <https://ich.unesco.org/en/RL/gastronomic-meal-of-the-french-00437>

² Seal, R. (2019). *Deconstructing ratatouille*. National Geographic. <https://www.nationalgeographic.com/travel/article/deconstructing-ratatouille>

³ Hill, R. (2019). Exploring terroir: A sense of place in food and farming. *Geography*, 104(Pt 1), 42–28. <https://doi.org/10.1080/00167487.2019.12094061>

character that a wine adopts due to its unique place of origin, *terroir* underlines notions of “high quality” and is essential component of maintaining identity for French food and drink producers. Terroir is not just a broad concept either. It is responsible for putting in place the world’s first Geographic Indicator system (INAO in France) which serves to protect the identity of a product and its producers through linking product to place.⁴



Figure 2: Map of France highlighting Provence region. Map from Britannica.

With this concept in mind, we can outline what factors make a ‘good’ ratatouille: it is the quality of the ingredients, which is determined by *terroir* and the maintenance of a product’s identity in relation to place, and the technique in which it is prepared. These qualifiers are the thread that connects various renditions of the dish across the centuries.

Origins and Evolutions

The first known mention of the dish by its name, dates back to 1831 in the *Journal des sciences militaires des armées de terre et de mer* (Journal of military science for armies of land and sea). The word *ratatouille* is an amalgam of the French verb *touiller* and the Occitan (language spoken in southern France) which means ‘to stir up.’ Commonly referred to as ‘rata’ for short, it is described not as a rich vegetable medley but rather, “A wet dish of vegetables, among which float here and there a few scrawny ribs of veal or mutton,”⁵ that was served to soldiers and prisoners⁶. The first proper recipe recorded dates to 1922 in Henri Heyraud’s cookbook where the dish becomes more recognizable to us – slow cooked aubergines, bell peppers, tomatoes, and courgettes⁷. This entrenched ratatouille as a staple of Niçoise and Provençal cuisine. What constitutes ‘traditional’ ratatouille has shifted to reflect the social, economic, and geographic conditions of the era. Known as a ‘peasant’ dish, its initial purpose was to make use of the vegetable’s leftover from summer’s harvest. These vegetables were slow-cooked in a stew, creating a hearty and nutritious meal for the rural peasants of France. Though there is no definitive date that can tell us when peasants began to make this dish, knowing the introduction of the main ingredients to Europe can provide rough estimates of when the dish began to take shape. Here is a breakdown of the biological, cultural, and geographical origins

⁴ Volpe, J., (September, 2024). *What is Ecogastronomy?* [lecture]. Slide 50-55.

⁵ Chapelot, R. (1831). *Journal des sciences militaires des armées de terre et de mer*. Vol 25 (pp. 309-310) <https://books.google.tl/books?id=4nuO3GacRHAC>.

⁶ Seal, 2019

⁷ Heyraud, H., (1922). *La cuisine à Nice: cours de cuisine en usage à l’Ecole Hôtelière de Nice et du Littoral* ([2e. ed.]). L. Barma

of the main ingredients that are used in ratatouille.

Aubergine (*Solanum melongena*):

commonly known to us as the ‘eggplant,’ this vegetable is native to South Asia where it was first domesticated thousands of years ago. Though now known for its elongated shape and purple colour, the earliest eggplants were small, oval, and white – like an egg⁸. Over thousands of years, producers have selected for size, taste, and shape, allowing it to become a cheap and filling dietary staple for many cuisines around the world. It’s introduction to Europe occurred during the 12th century or earlier, by the Moors, who brought it from the Middle East to as far west as Spain⁹. Though China produces most of the world’s eggplant, Southern France grows its own share having produced 48420 metric tonnes in 2022¹⁰. Unique soils qualities of the region have allowed eggplants here to take on their own character in taste and morphology¹¹. This unique identity is essential for making an ‘authentic’ ratatouille.

Zucchini (*Cucurbita pepo*): Though ratatouille can be made with any summer squash, zucchini is most commonly found in recipes. Zucchini, like all squashes, originate in the Americas. Archaeological evidence discovered in a rock shelter in Honduras shows that people were domesticating

squash for at least the last 10,000 years.¹²

Squash was first recorded in Europe in the early 16th century during the Age of Discovery.¹³ What became known as zucchini, didn’t appear until the mid-19th century in Milan. Out of all species of *Cucurbita*, zucchini (and other *Cucurbita*



Figure 3: First known depiction of summer squash in Europe. From (Paris et al., 2006)

pepo subspecies) is adapted to the widest range of growing conditions. It’s overwhelmingly produced by China and India on a global scale¹⁴, but in Nice, France, there is a specific heirloom zucchini called Ronde de Nice and is known for its roundness and sweetness. Incorporating this hyper-local heirloom that has been passed down through generations in the region is closely in tune with the concept of *terroir*.

Tomato: Like zucchini, tomatoes were first introduced to Europe from the Americas in the 16th century but were primarily used as ornamental plants until two centuries later. This is because they were initially considered as poisonous. The fruit was also associated with witchcraft and was referred to as “the

⁸ Aubriot, X., Knapp, S., Syfert, M. M., Pocza, P., & Buerki, S. (2018). Shedding new light on the origin and spread of the brinjal eggplant (*Solanum melongena* L.) and its wild relatives. *American Journal of Botany*, 105(7), 1175–1187. <https://doi.org/10.1002/ajb2.1133>

⁹ Seal, 2019

¹⁰ Crops and Livestock Products. (2022). *Food and Agriculture Organization of the United Nations*. [dataset] <https://www.fao.org/faostat/en/#data/QCL>

¹¹ Hurtado, M., Vilanova, S., Plazas, M., Gramazio, P., Fonseca, H. H., Fonseca, R., & Prohens, J. (2012). Diversity and Relationships of Eggplants from Three Geographically Distant

Secondary Centers of Diversity. *PLoS ONE*, 7(7), e41748. <https://doi.org/10.1371/journal.pone.0041748>

¹² Domic, A. I., VanDerwarker, A. M., Thakar, H. B., Hirth, K., Capriles, J. M., Harper, T. K., Scheffler, T. E., Kistler, L., & Kennett, D. J. (2024). Archaeobotanical evidence supports indigenous cucurbit long-term use in the Mesoamerican Neotropics. *Scientific Reports*, 14(1), 10885. <https://doi.org/10.1038/s41598-024-60723-1>

¹³ Mitchell, J. Brown (2024). *European exploration*. *Encyclopedia Britannica*. <https://www.britannica.com/topic/European-exploration>

¹⁴ Crops and Livestock Products. (2022). *Food and Agriculture Organization of the United Nations*. [dataset] <https://www.fao.org/faostat/en/#data/QCL>

poison apple.”¹⁵ They were originally thought to be poisonous as European nobles were reported as becoming ill and dying after their consumption but it was in fact their lead plates that were responsible. The acid in the tomatoes leached lead out of the plate giving people lead poisoning. Nowadays, there are over 10,000 varieties of tomatoes.¹⁶ Many of these are suitable for ratatouille, but what is most recommended is selecting ones grown locally, and seasonally. Perhaps for ratatouille made in its place of origin, the Marmande variety, France’s most well-known heirloom tomato would be ideal. This heirloom’s seeds dates back to 1897 having first been released by the Vilmorin Seed Company in Marmande, France.¹⁷

Olive Oil: Though it is an ingredient used to cook other ingredients, the quality of olive oil can play a major role in determining the taste and quality of the vegetables in a ratatouille. As far back as the dish extends in history, local olive oil from Provence’s olive groves was likely the primary cooking oil. Olives possess a high degree of phenotypic plasticity, meaning their physical traits such as size, colour, texture and taste are highly variable depending on the environmental conditions they grow in.¹⁸ Regional techniques in cultivation and production can also vary. For example, olive

oil produced by the house Nicholas Alziari in Nice, has derived its olives from Niçoise groves since their inception in 1868. In fact, every step of the production chain has remained the same, granting their product a Protected Designation of Origin (PDO)¹⁹, a Geographical Indicator (GI) used in Europe to demarcate food and drink products that have the strongest links the places they were produced²⁰.

Ultimately, if you wanted to make ratatouille here in British Columbia, you do not need to source your ingredients all the way from the farmer’s market in Nice. If you want to capture the spirit of the dish and ensure its quality, the most important thing is to source your ingredients locally, when they are in season. Above all else, ratatouille is a celebration of the rural culture and local farming and it is this fact that makes the dish so well loved by the French. During and after the *Belle-Epoque (1880s-WWI)*, the period of time characterized by large migration into cities in France, citizens understood the French peasant to be a representation of French culture and identity.²¹ A dish like ratatouille perfectly encapsulates the nostalgia and reverence French people have for the countryside way of life.

¹⁵ Howard, D., (2013). *Yesterday's Best-Tasting Vegetables, Fruits, and Herbs for Today's Cook*. Cool Springs Press. Beverly, Massachusetts.

¹⁶ Benoit, D. (2023). *A History of Tomatoes*. The University of Vermont. <https://www.uvm.edu/news/extension/history-tomatoes>

¹⁷ n.a. (2023). Marmande tomato: growing, planting and more. *Plantura Magazine*.

¹⁸ Mousavi, S., de la Rosa, R., Moukhli, A., El Riachy, M., Mariotti, R., Torres, M., Pierantozzi, P., Stanzione, V., Mastio, V., Zaher, H., El Antari, A., Ayoub, S., Dandachi, F., Youssef, H., Aggelou,

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¹⁹ Nicholas Alziari. <https://www.nicolas-alziari.com/>

²⁰ Reinders, M. J., Banovic, M., & Guerrero, L. (2019). Chapter 1— Introduction. In C. M. Galanakis (Ed.), *Innovations in Traditional Foods* (pp. 1–26). Woodhead Publishing. <https://doi.org/10.1016/B978-0-12-814887-7.00001-0>

²¹ Volpe, J., (September, 2024). *What is Ecogastronomy?* [lecture]. Slide 42.

RECIPE



Figure 4: confit byaldi version of ratatouille as per recipe and Pixar film. (*Ratatouille*, 2007)

This recipe is for a *confit byaldi*; a specific version of ratatouille that involves the layering of thin vegetable rounds. This recipe is for Thomas Keller's confit byaldi in the *French Laundry Cookbook*. Keller served as a consultant for the Pixar film *Ratatouille* and this version resembles the one seen in the film²².

INGREDIENTS:

For piperade (sauce):

- 3 tomatoes, peeled, seeded and finely dices, juices reserved
- ½ roasted yellow pepper (seeds and ribs removed)
- ½ roasted red pepper with seeds and ribs removed)
- 2 tbsps of extra virgin olive oil
- 1 teaspoon of minced garlic
- ½ cup of finely diced yellow onion
- 1 sprig of thyme
- 1 sprig of flat-leaf parsley
- ½ bay leaf
- salt

For the vegetables:

- 1 zucchini sliced into 1/16-inch rounds
- 1 Japanese eggplant sliced into 1/16-inch rounds
- 1 yellow squash sliced into 1/16-inch rounds
- 4 Roma tomatoes sliced into 1/16-inch rounds
- ½ teaspoon of minced garlic
- 2 teaspoons of olive oil
- 1/8 teaspoon thyme leaves
- Salt and pepper

INSTRUCTIONS:

For piperade:

Heat oven to 450 degrees. Place pepper halves on a foil-lined sheet, cut side down. Roast until skin loosens, about 15 minutes. Remove from heat and let rest until cool enough to handle. Peel and chop finely. Combine oil, garlic and onion in medium skillet and cook over low heat on stovetop until very soft but not browned, about 8 minutes. Add tomatoes/juices, thyme, parsley and bay leaf. Simmer over low heat until very soft and very little liquid remains, about 10 minutes, do not brown; add peppers and simmer to soften them. Season to taste with salt and discard herbs. Reserve 1 tablespoon of mixture and spread remainder in bottom of an 8-inch ovenproof skillet.

For vegetables:

Heat oven to 275 degrees. In center of skillet arrange 8 alternating slices of vegetables, 2 each of zucchini, eggplant, squash and tomatoes, over piperade, overlapping in a circle so that 1/4 inch of each slice is exposed. Continue alternating and overlapping vegetables in close spiral that lets slices mound slightly in center. Repeat until pan is filled; all vegetables may not be needed.

Mix garlic, oil and thyme leaves in bowl and season with salt and pepper to taste. Sprinkle over vegetables. Cover skillet with foil and crimp edges to seal well. Bake until vegetables are tender when tested with a paring knife, about 2 hours. Uncover and bake for 30 minutes more. (Lightly cover with foil if it starts to brown.) If there is excess liquid in pan, place over medium heat on stove until reduced. (At this point it may be cooled, covered and refrigerated for up to 2 days. If desired, reheat in 350-degree oven until warm.)

For vinaigrette: Combine reserved piperade, oil, vinegar, herbs, and salt and pepper to taste in a bowl.

To serve: Heat broiler and place byaldi underneath until lightly browned. Cut in quarters and very carefully lift one quarter onto plate with offset spatula. Turn spatula 90 degrees, guiding byaldi into fan shape. Drizzle vinaigrette around plate.

²² Confit Byaldi (2007). The New York Times.
https://www.nytimes.com/2007/06/13/dining/131rrex.html?_r=0

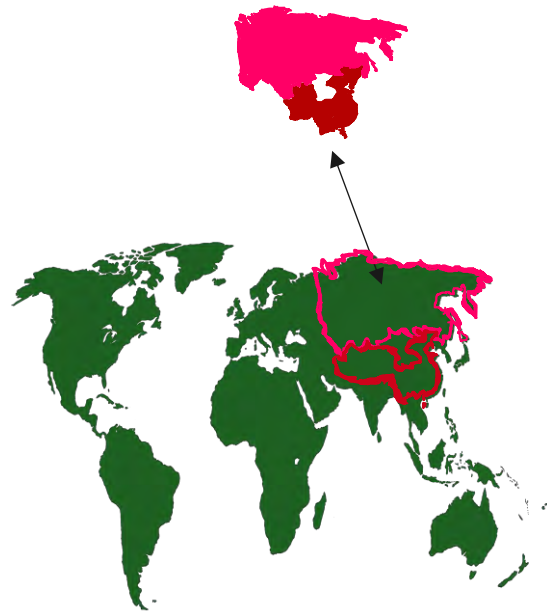


Rhubarb Crisp: A Timeless Dessert with Tangy Traditions

Picture this: a warm rhubarb crisp just out of the oven, its ruby-red filling bubbling up as a sweet, tangy aroma fills the air, and the golden oat topping cracks perfectly under your spoon. The combination of tart rhubarb and caramelized, crunchy sweetness creates a harmony that has delighted taste buds for generations. But this simple dessert holds a story far deeper than its mouthwatering taste. Rhubarb crisp is not just a nostalgic treat; it's a reflection of cultural traditions passed down through generations, a product of ecological knowledge, and a global journey that spans continents. From its early medicinal uses to its modern place at the heart of kitchens, this dish is a testament to the transformative power of food, culture, and the land that nurtures it.

Geographic Origin of Rhubarb

Rhubarb's origins can be traced back to the landscapes of Siberia (highlighted in pink) and China (highlighted in red), where it was first cultivated thousands of years ago (Foust & Marshall, 1991). In ancient Chinese medicine, rhubarb was highly valued for its incredible healing properties, particularly its ability to aid digestion and promote bowel health (Foust & Marshall). The root of the plant became a cornerstone in traditional remedies and over time its use spread beyond China. It went on to influence other cultures, particularly in Europe, where rhubarb became incorporated into both medicinal and culinary practices (rhubarbs, 2023). This early adoption of rhubarb in healing practices highlights its long-lasting importance in both medicine and culture.



Evolutionary Transitions

Rhubarb's journey from medicinal plant to dessert ingredient was revolutionary. In 17th and 18th century Europe, the culinary potential of rhubarb stalks was recognized, and selective breeding practices began (Kuhl & DeBoer, 2008). Early European farmers worked to develop varieties of rhubarb with stalks that had a milder, more pleasant tartness, making it suitable for pairing with sugar in desserts (Kuhl & DeBoer). The result was a shift from using rhubarb roots in medicine to enjoying rhubarb stalks in jams, tarts, and of course crisps.

These advancements in agriculture were crucial. By selecting plants with certain desirable traits such as firm texture and vibrant color, farmers improved rhubarb's culinary appeal, therefore making it a versatile ingredient cherished for its bold flavor and adaptability in both sweet and savory dishes.

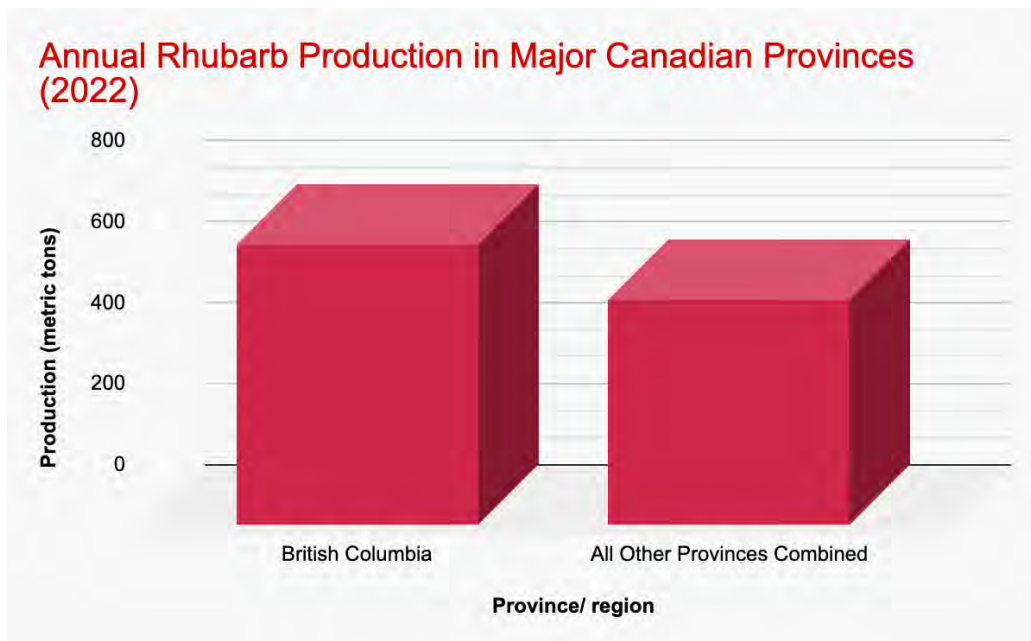


Did you know?
Rhubarb stalks have very little natural sugar, in fact it's only about 1 gram per cup.
(University Hospitals, 2024)



Current Global and Canadian Consumption

Today, rhubarb remains a beloved crop across the globe, with major production centers in Canada, the United Kingdom, and the northern United States (Lee, 2017). In Canada, rhubarb is celebrated as a sign of spring, appearing at farmers' markets and in home gardens from April to June. The plant thrives in cooler climates, making many Canadian provinces particularly known for their rich harvests. In fact, despite a dip in production in 2022, which saw Canada's rhubarb harvest hit its lowest level in two decades, the country still managed to produce 1,250 metric tons (Canada, 2023). A closer look at the production across Canadian regions shows that British Columbia has a strong lead, contributing 693 tons to the overall total, while the remaining provinces and regions account for 556 tons combined (Canada). Rhubarb's enduring popularity is closely tied to local traditions, where it is a staple ingredient in jams, pies, and desserts such as rhubarb crisp, which often symbolizes the end of winter and the start of the growing season. The unique seasonal availability and distinct tart flavor of rhubarb makes it an essential part of both culinary and cultural practices in many regions. Rhubarb's continued presence in home gardens and farmers' markets showcases its enduring place in Canadian culinary traditions, providing a nostalgic reminder of the seasons changing.



Bio-geo-physical Attributes

Rhubarb's unique characteristics are deeply influenced by the environments in which it grows. It thrives particularly well in regions with cold winters, which are crucial for its dormancy cycle (Stephan, 2014). During the winter months, rhubarb enters a period of rest that is essential for its overall health and growth. This dormancy allows the plant to conserve energy and nutrients, ensuring a robust reemergence in spring. When combined with nutrient-rich soil, ample moisture, and cold temperatures, these conditions foster the development of rhubarb's vibrant red stalks and distinctive tart flavor (Stephan). The contrast between the harsh winters and the rejuvenating spring growth also plays a role in its resilience, helping the plant thrive in regions that may be too harsh for other crops.

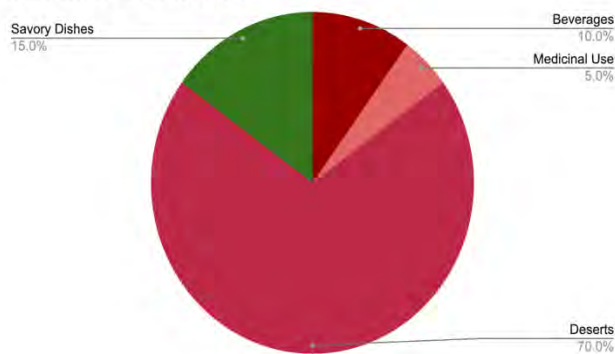
Rhubarb's growth cycle is ideally suited to northern climates, where long, cool springs provide the extended growing period needed for the plant to mature fully (Riofrio, 2021). These conditions allow rhubarb to develop its unique tartness, which sets it apart from other fruits and vegetables. The specific climate and soil composition in which rhubarb is grown directly influences its flavor profile. For example, colder temperatures help maintain its acidity, while the mineral content in the soil can enhance the intensity of its flavor (Riofrio). These bio-geo-physical attributes are integral in shaping not just the taste and texture of rhubarb, but also its resilience in varying environmental conditions, highlighting the deep connection between the plant's growth environment and its culinary qualities (Riofrio).

Cultural Practices in its Place of Origin

Rhubarb has been used as a medicinal herb for over 2,000 years in traditional Chinese medicine, where it was highly regarded for its ability to support digestion and bowel health (Xiang et al., 2020). Its effectiveness as a digestive aid made rhubarb a key ingredient in many early remedies, and its use as a medicinal herb soon spread west along ancient trade routes. By the 18th century, rhubarb had become a culinary staple in England, where it was incorporated into a variety of puddings and desserts (Xiang et al.). This transition from a medicinal remedy to a beloved culinary ingredient marked a significant cultural shift, as rhubarb moved from being valued solely for its health benefits to being celebrated for its unique flavor and versatility in the kitchen.

The plant's journey continued when it was brought to North America by European settlers, where it quickly gained popularity in regions like New England and Canada (Kristina, 2023). Rhubarb's hardiness in cold climates made it easy to grow, further contributing to its widespread use. As it became established in North America, rhubarb desserts, particularly pies and crisps, became family traditions, often baked in large quantities and shared during spring gatherings (Kristina). This tradition helped solidify rhubarb's place in North American cuisine, where its tart flavor was celebrated as a hallmark of the changing seasons. Over time, rhubarb grew not only as a crop but as a symbol of spring, bringing communities together through its rich history and distinctive taste.

Modern Uses of Rhubarb



This pie chart illustrates the approximate modern uses of rhubarb, highlighting the versatility of the plant. As seen, rhubarb is primarily used in desserts, making up 70% of its modern use. It is also used in savory dishes (15%), beverages (10%), and as it traditionally did, for medicinal purposes (5%). This distribution reflects the culinary uses of rhubarb in sweet dishes, while also showcasing its broader range of uses in food and health. (Staughton, 2013)

Personal Recipe

Here is my family's cherished recipe for rhubarb crisp. It yields roughly 8-10 servings and reminds me of childhood memories, picking rhubarb from my grandmother's garden and baking crisps that filled her house with a comforting, familiar smell. Every spring, we'd patiently wait for the rhubarb to be ready for harvest, savoring the moment we could make our first crisp of the season.

Ingredients:

6 tablespoons cold butter, cut into small pieces, plus more for greasing pan
2½ to 3 pounds rhubarb, trimmed, tough strings removed, and cut into 1½-inch pieces (about 5 to 6 cups)
¼ cup white sugar
1 tablespoon orange or lemon juice
1 teaspoon orange or lemon zest
¾ cup brown sugar
½ cup all-purpose flour
½ teaspoon cinnamon, or to taste
Pinch of salt
½ cup rolled oats

Preparation:

Step 1

Heat your oven to 375 degrees. Grease an 8- or 9-inch square baking or gratin dish with a little butter. Toss rhubarb with white sugar, orange or lemon juice and zest, and spread it around in the baking dish.

Step 2

Put the 6 tablespoons butter in a food processor along with brown sugar, flour, cinnamon and salt, and pulse for about 20 or 30 seconds, until it looks like small peas and just begins to clump together. Add oats and pecans and pulse just a few times to combine.

Step 3

Crumble the topping over rhubarb and bake until golden and beginning to brown, 45 to 50 minutes.

Variants and Adaptations

Rhubarb crisp has inspired countless adaptations, each reflecting regional preferences and available ingredients. In the northeastern United States, particularly in New England, combining rhubarb with strawberries is very common, as both are harvested around the same time and create a harmonious blend of tartness and sweetness (Magazine, 2022). This pairing is celebrated in various recipes, such as the “old-fashioned strawberry rhubarb crisp” featured in Yankee Magazine. In Scandinavia on the other hand, rhubarb is rather often paired with spices like cardamom and topped with almond-based crumbles. For instance, desserts such as “roasted rhubarb with almond crumble” do a fantastic job of showcasing rhubarb's versatility when combined with such things (Nielsen, 2016). Modern variations of rhubarb crisp have also been established to easily cater to dietary needs, with gluten-free versions that use almond or coconut flour and vegan recipes that replace butter with plant-based oils. These various adaptations demonstrate the dish's versatility and its ability to evolve while maintaining its core appeal.

Temporal Evolution of Rhubarb Crisp

Early rhubarb crisp recipes often relied on honey or molasses, as refined sugar was a luxury and not widely available to most households (Wilde, 2023). These sweeteners, while less refined, still provided the necessary sweetness to balance rhubarb's natural tartness. As sugar became more accessible during the 19th and 20th centuries, recipes evolved to include this more affordable ingredient, resulting in a sweeter version of the dish (Wilde). However, despite these changes in ingredients, the essence of rhubarb crisp (combining tart rhubarb with a sweet, crumbly topping) has remained unchanged, keeping the dish grounded in its roots.

The dish's enduring popularity is largely due to its simplicity, which allows the flavors of the seasonal rhubarb to shine through, and the nostalgia it evokes for many people. Rhubarb crisp is a reminder of rural, seasonal eating, when communities and families would make the most of their spring harvests and create comforting meals from the ingredients they had available. This connection to the rhythms of the growing season, combined with its rustic charm, has kept rhubarb crisp a beloved tradition. Over time, the dish has not only been a staple of home cooking but also a symbol of resourcefulness, where generations found creative ways to preserve the best of what each season had to offer.

Conclusion

Rhubarb crisp is more than just a dessert; it is a testament to the fascinating blend of history, geography, and culture that shapes our culinary traditions. It tells the story of how rhubarb, once valued solely for its medicinal properties, transformed into a beloved springtime treat. Over centuries, this humble plant journeyed across continents, from ancient China to Europe and North America, adapting to different climates and cultures. Along the way, it evolved from a bitter, healing root into a sweet, tangy dish that captures the essence of spring. Rhubarb crisp, with its perfect balance of tart rhubarb and caramelized, golden crumble, celebrates the simple pleasures of home cooking. Each bite offers not just a delicious flavor, but a connection to the past, reminding us of the seasons, the land, and the generations of people who have enjoyed this dish. I encourage you to try making your own rhubarb crisp and experience the joy, nostalgia, and warmth that this simple yet extraordinary dish brings to the table.

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Rouladen

Raven Edwards

As a kid growing up in Canada with a family from Germany, I have eaten many dishes that the kids at school would call “mystery meat”. Liverwurst sandwiches were not accepted by my peers, and I envied the Kraft Dinner that they shoveled out of their thermoses. However, when rouladen was served for dinner, I quickly forgot my disdain for German food and strangely shaped clumps of meat. In short, it is a slab of beef rolled up with bacon, mustard, and pickles and cooked to perfection. My brother and I had wildly different tastes in food which made it difficult for my mother to make meals that would not end up dissected and fed to the dog under the table. Rouladen was one of the only dishes that we would both eat with no complaints. This is why I chose to focus on rouladen for this article: a dish that caused two picky children to be quiet for 20 minutes must be somewhat magical. There are countless recipes online, but here is my personal, tried and true instructions on how to make a proper rouladen.



1. Lay your thin slices of beef out on your counter. The general consensus seems to be $\frac{1}{4}$ inch thick, but my family prefers it thinner so I would recommend cutting or pounding it down a little bit from there.
2. On each slide of beef, spread $\frac{1}{2}$ tablespoon of yellow mustard, pickles sliced lengthwise, a couple pieces of white onion, and 1 uncooked strip of bacon.



3. This is the most difficult part. Roll up the beef slice with all the fillings and tie it up with twine. You can also use toothpicks if your roll is not staying together. The neatness of your roll will not change the taste of this dish. This part often discourages people, just use as much twine as your heart desires in order to keep it rolled up.

4. Heat butter in a pan and heat each roll until browned on each side (Not fully cooked, this happens later). Remove the rolls from the pan, add about half a

chopped white onion, one large carrot, and a leek. Some use other vegetables in this part like celery, but I was not fond of those as a child so I stick to the ones mentioned.

5. Add 1 cup of red wine and 2 cups of beef broth to the pan, bringing it to a boil and then simmering for 2 minutes. There are variations of this recipe that involve bay leaves, sugar, tomatoes/tomato paste, etc. As a child I didn't like tomatoes, thought sugar didn't belong in a savoury recipe, and did not want leaves in my food. However, the beef broth seemed fine and I was excited about the idea of getting to consume wine.
6. Put the beef rolls back in the liquid and bake at 325 for an hour and fifteen. When your timer is finished, remove the beef from the liquid, add 2 tablespoons of butter and add a mixture of 2 tablespoons of cornstarch dissolved in 2 tablespoons of water to create a gravy. Pour your gravy on your finished rolls and you will have a delicious rouladen.



Beef rouladen is a German dish, but roulade comes from the French word *rouler* and refers to a dish consisting of a flat piece of meat or cake, rolled up with a filling (Oxford Dictionaries, n.d.). There are variations of roulades from other cuisines like the french chicken roulade (Hashempour, n.d.) and *paupiettes* made with veal, reflecting a preference for veal in France (Coroller & Toulhoat, 1991). Italian *bracioles* is another variation of a beef roulade reflecting Italian culinary traditions as it is stuffed with breadcrumbs, parmesan, and cooked in tomato sauce rather than gravy (Parisi, 2023). Although this dish contains a lot of ingredients that vary between recipes, there are 2 ingredients that I find are present in every variation of a proper German rouladen, as well as will certainly be missed if you go without: Beef and pickles.

In Canada, farm sales from the beef industry creates approximately \$10.2 billion annually and is the world's eight-largest beef exporter (Aboagye et al., 2024). Although beef plays a significant role in many cuisines, I will focus on its importance in European diets and specifically its place in German food. Cattle began to be domesticated over 10,000 years ago,

and played a large role in the popularization of agriculture in Africa, Europe, and Asia (Pitt et al., 2018). Their domestication began in the Near East from a wild population and became a key food source as agriculturists allowed their movement into Europe (Upadhyay et al., 2017). In *Beyond Bratwurst: A History of Food in Germany* (Heinzelmann, 2014) we are able to see the evolution of beef that began with domesticated animals and increased sedentarism established in Germany around 5,500 BC. Jumping forward to the rise of the Roman Empire from the 1st Century BC to the 5th Century AD, we see the Roman army spread their empire and eventually their culinary techniques, creating an influence in Germany. AD 98, Roman historian Tacitus describes Germany as having an unsuitable landscape for growth of orchards and that Germans “took pride in the quantity of their cattle, by which they counted their wealth” (Heinzelmann, 2014, p. 22). Advancements in agriculture technology increased productivity and improved the economy. Roman bulls were bred with smaller local cattle and became more popular than other domesticated animals used for meat. During the start of the Middle Ages, food in Germany was also being influenced by Christianity that had been spread by the Roman Empire and was being aggressively endorsed by Charlemagne throughout Western Europe. Meat was considered essential by Charlemagne and was powerful. Moving into the High Middle Ages, rulers in Germany were characterized as wealthy by the type of foods they ate. Roasts were common for large feasts which demonstrated status. Following significant population growth in this period and the adjustment of agricultural techniques to accommodate this, the Great Famine from 1315 to 1320 impacted all of Northern Europe. Those who were desperate had to discard any usual standard of meat quality and it is said that some were eating beef from diseased cattle. The Early Modern Period from 1500 to 1648 saw retaliation against the Roman Church. However, both Catholics and Protestants had a duty to help those around them which was reflected by the emergence of hospitals that fed and cared for the elderly and poor. Beef and pork were the dominant meats served here along with veal being reserved for the highest feasts. During this time, author Walter Ryff published a book that outlined culinary traditions “in daily use by us Germans” (Heinzelmann, 2014, p. 125). Onions, a key ingredient for rouladen, was declared absolutely essential to every dish. Mustard, another element of my recipe, was mentioned as sour smelling but a condiment that made some dishes more edible. An increase in population in Germany from “41 million in 1871 to 67.7 million in 1914” (Heinzelmann, 2014, p. 197) saw the increase of processed foods and a need for more affordable meat. Before the 1900s, canned food

in Germany was mainly only consumed by the army rather than a household staple. Rules that controlled the quality of pork for American canned goods changed around 1900 to include all meat, and in turn almost all imports halted and allowed for an increase in domestic production. The production of both beef and milk increased at this time as feeding techniques were altered to produce higher yields and breeding had increased. Meat was only being purchased from small butchers until it was argued that cities needed to invest in systems that could provide affordable and quality meat to accommodate growing populations. In 1881 east Berlin saw the opening of the central cattle market. The start of the First World War in 1914 brought difficulties as imported fertilizers could no longer be received and food factories were repurposed for weaponry production. Shortages and rations caused food insecurity and struggled to return to normal levels with meat consumption remaining at “22 kg per head per year, less than half the 52 kg available in 1913” (Heinzelmann, 2014, p. 247). Following Nazi rule that ended in 1949, Germany was able to begin to recover from the horrors of the Second World War that included a severe control on food and nourishment. Consumption of once unaffordable meat in the 1950’s began to significantly increase nearing the 1960’s. The founding of the German Nutrition Association in 1953 led to the production of less fatty meat, with a preference for young bulls for beef. Today, Germany is one of the top producers of both pork and beef in Europe. A survey done in 2007 of people aged 14 to 60 showed that rouladen is in the top 5 foods eaten by Germans (Heinzelmann, 2014).

During the fall of the Roman Empire, many Slavic people in Eastern Europe took refuge in the swamps in the Spreewald region as a result of German rulers taking over the east. Although it is unknown when cucumbers first were cultivated in Spreewald, some think Dutch immigrants brought them in the late 1600’s. In 1822, Karl Friedrich von Rumohr wrote of sour cucumbers from Lausitz where he speaks of the Spreewald cucumbers and mentions his recipe, although it is unclear if the act of pickling is from the people in Spreewald as well or only the cucumbers. Dutch weavers who came in 1580 to Lübbenau (in the Spreewald region) found the soil there to be perfect for growing cucumbers and





began to transport them to Berlin in the eighteenth century. Overall, Lübbenau has been called the “fatherland of sour cucumbers”(Heinzelmann, 2014, p. 156). The Spreewalder gurken currently has a protected geographical indication (“Spreewälder Gurken PGI”, n.d.), meaning that its “particular quality, reputation or other characteristic is essentially attributable to its geographical origin”(“Geographical Indications”, n.d.). Although this type of pickle is not essential for the rouladen, I do find it improves the taste.

Overall, meat in general has played a large role in the culinary history of Germany, with regional variations of dishes being based on multiple factors such as political and geographic (Heinzelmann, 2014). Although it is unclear when and where it emerged in the form that we know it today, this iconic dish may have evolved through time as its key ingredients went through changes in access and production. As mentioned previously, beef has gone through many changes through the history of Germany, so we can assume that the evolution of rouladen may have followed a similar path. It may have dwindled in popularity as meat consumption decreased in times of economic hardship, or there may have been changes in the cuts of meat used such as during the transition to less fatty meat as mentioned above. Although there are variations of a meat roulade from different parts of the world, I hope that some cultural background on German foodways encourages you to try your hand at a rouladen. Remember, they don’t have to look pretty.



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Layered History: The Story Behind Shepherd's Pie and the Rise of Potatoes

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Layered History: The Story Behind Shepherd's Pie and the Rise of Potatoes

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Imagine a comforting dish that starts with a hearty layer of minced beef, simmered in rich gravy and accented by caramelized onions and diced carrots. A sprinkle of vibrant green peas adds a pop of color, but it's the crowning glory that truly steals the show: a creamy, thick cloud of mashed potatoes, perfectly golden-browned with peaks and ridges that beckon you to dive in. Shepherd's Pie is more than just a meal; it's a warm embrace on a plate. While the filling may vary from household to household, one thing remains constant: that thick, luscious crust of mashed potatoes. Originating in Ireland and Scotland in the 18th century, this beloved dish showcases the enduring appeal of the humble potato, or *Solanum tuberosum*, which has a much longer history than the dish.

Origins of Potatoes

Wild potato varieties have thrived along the American Cordillera for millennia, from the Andes to the southern Rockies. Archaeological evidence indicates that settlers in peasant day Monte Verde, Chile, gathered wild potatoes as far back as 13,000 years ago (Earle, 2020). These wild potatoes are much smaller than modern varieties, typically no larger than a marble, and contain toxic glycoalkaloids such as *solanine* and *tomatine*, which evolved as defense mechanisms against herbivores and pathogens. As a result, wild potatoes can be toxic when consumed in large quantities, with some being completely inedible (Mann, 2011). The potatoes found in grocery stores today trace their origins to the Andes, specifically southern Peru and northeastern Bolivia (Rumold, 2016).

The Andean peoples began domesticating potatoes approximately 10,000 years ago (Earle, 2020). Their traditional ecological knowledge, developed over thousands of years through trial and error and generational learning, enabled the

Andean peoples to create processing techniques that neutralize the toxic compounds in wild potatoes (Mann, 2011). The P'asa technique uses clay, either mixed with water or baked, to bind glycoalkaloids and neutralize their toxicity. The Chūno method detoxifies potatoes by freezing them overnight, then soaking and fermenting them in a river for 30 to 60 days before mashing and drying them in the sun. This process also preserves the paste for later use. Tocosh involves fermenting potatoes underwater in a pit for at least 6 months, effectively breaking down glycoalkaloids (Schindler, 2019). Both Chūno and Tocosh require significant time investments, emerging as the Andean peoples established settlements (Rumold, 2016). These techniques enhanced the reliability of potatoes as a food source and likely encouraged their domestication (Mann, 2011).

Quechua-speaking Andean peoples refer to potatoes as *kawsay*, meaning subsistence. The potato has significantly influenced Andean life, just as the Andean peoples have shaped the potato (Lumbreras, 2001, pg 52). It serves not only as a staple food but also plays a role in religious ceremonies and community celebrations. The Andean calendar aligns with the potato growing cycle, highlighting its importance in daily life (von Kaenel, 2019).

Ancient Andean farmers cultivated a wide variety of potatoes by selecting those best suited to micro-climates, resulting in nearly 4,000 preserved varieties at the International Potato Center in Peru (CIP, 2017). Through this artificial selection, marble-sized wild potatoes evolved into the palm-sized tubers we know today (CIP, 2012). By the 16th century, when Spain invaded the Inca Empire, the average Andean family grew about 10 different potato varieties (Mann, 2011).

The Spud's Voyage

Spanish conquistadors are credited for bringing the potato to Europe in the 16th century (Hawkes & Francisco-Ortega, 1993). During their violent expedition in the Inca Empire, conquistadores fed

Spanish soldiers and sailors with potatoes, acknowledging the crop's importance and versatility. Potatoes were transported back to Spain on ships, often alongside other crops like maize, as part of the Columbian Exchange—the global trade of plants, animals, and ideas that began with Columbus's arrival in the West Indies in 1492 (Earle, 2020). By the late-16th century, potatoes were cultivated in Spain, with records suggesting they arrived around 1570 (Hawkes & Francisco-Ortega, 1993).

At first, Europeans greeted the potato with skepticism, clinging to their traditional diets of wheat and barley. Many considered this new crop a threat to their culinary heritage, viewing it as inferior food meant for the lower classes or livestock. Additionally, farmers were wary of potatoes because of their resemblance to toxic nightshade plants, further complicating their introduction into European kitchens. These biases slowed its acceptance as a staple food (Earle, 2020).

Over time, Europeans overcame their skepticism about potatoes, recognizing their agricultural, nutritional, and political advantages. Potatoes thrived in poor soil where other crops struggled, making them a reliable food source (Earle, 2020). As public awareness of their nutritional benefits grew, people appreciated their long shelf life, which proved invaluable during times of scarcity. In wartime, when grain supplies were disrupted, populations turned to potatoes as a crucial sustenance (Hawkes & Francisco-Ortega, 1993). This practicality helped cement the potato's status as a vital food source, leading to its integration into various national cuisines across Europe. By the end of the 18th century, potatoes had become a staple food, significantly enhancing food security throughout the continent (Earle, 2020).

The Irish peasants' reliance on potatoes stemmed from the oppressive land tenure systems and economic pressures of the time (Irwin & Chepeliev, 2021). Ireland would not become

independent from England until the 20th century. Under tenure systems, peasants worked the lands of wealthy landlords, who reserved the best arable land for their own crops, leaving the poor with small plots of inferior soil (Smith, 1993). Potatoes, being hardy and nutritionally dense, emerged as a practical solution for these farmers (Earle, 2020). In the early 19th century, the Corn Laws imposed high tariffs on imported grains to protect domestic farmers, making grain too expensive for the common folk. This further deepened the peasants' dependence on potatoes as their primary food source (Weatherup, 2021). Over time, Ireland's agricultural landscape became dominated by the Lumper potato variety, leading to monoculture practices that left the population vulnerable (Choiseul et. al, 2008).

When potato blight struck from 1845 to 1849, it decimated crops across Ireland, resulting in the Great Famine that claimed around 1 million lives. The combination of economic exploitation and agricultural reliance on a single crop of few varieties created a catastrophic scenario that had devastating consequences for the Irish population (Powderley, 2019).

In the mid 18th century, when the first records of Shepherd's Pie appear in the historical record, multiple yellow potatoes were cultivated in Ireland and Scotland. Yellow potatoes have a waxy smooth texture which is perfect for mashing. The Black Potato, Buffs, Lumper, and Rocks varieties are potatoes which were popularly cultivated in the region (Choiseul et. al, 2008), and may have been the crowning ingredients to many Shepherd's Pies. The precise methods which produced these cultivars are not documented, but artificial selection and cross breeding were known strategies at the time (van Loon et. al, 2023).

Today's Mash

Potato production has surged globally, reaching approximately 375 million metric tonnes annually as of 2022, with China and India being the leading producers (FAOSTAT, 2023). Despite this high

production volume, consumer access to diverse potato varieties remains limited; for example, Canada has 150 registered varieties, yet only 5-10 are typically available in grocery stores (Save-On Foods, Thrifty Foods, IGA, NoFrills, 2024).

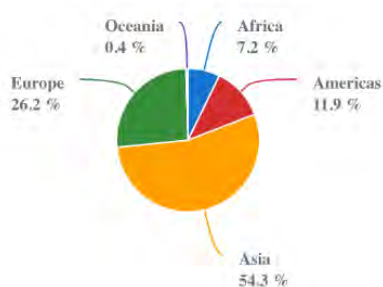


Figure 1: world potato production, FAOSAT, 2024

Consumption patterns vary widely across regions. Belarus tops global potato consumption at about 160 kg per person per year, while many African nations report consumption rates below 20 kg per person (WPR, 2024). In Canada, potato production was around 5.69 million metric tonnes in 2021, reflecting their significant role in the country's agriculture (Statistics Canada, 2022).

Today's recipe uses Yukon Gold potatoes, which are a popular North American staple. The Yukon Gold potato was developed in the 1960s by Canadian researcher Dr. Garnet "Gary" Johnston at the University of Guelph. Created through crosses between a yellow-fleshed South American potato and a white-fleshed variety from North Dakota, it was officially released in 1981. Yukon Gold became the first potato in Canada to be marketed by name rather than color, quickly gaining popularity for its distinctive flavor (Mwatua et. al., 2017). While specific consumption statistics for this variety are not available, their widespread popularity indicates they represent a significant portion of Canada's potato consumption (Statistics Canada, 2022).

The Origins of Shepherd's Pie

Sometimes referred to as Cottage Pie, Sanders, or *Hachis Parmentier* in French, this classic dish

originated in England in the mid 18th century as a clever way to make use of leftover red meat, combined with root vegetables that were commonly grown in Ireland and Scotland's fertile soil and temperate climate (LaFond, 2023). The 18th and 19th centuries were marked by poverty among the working class, particularly Irish Catholics under British-Protestant rule (Thane, 2024). Shepherd's Pie emerged as a frugal solution to food scarcity, allowing families to repurpose leftover meat and vegetables into a hearty meal. This hearty combination creates a comforting meal that has stood the test of time.

While the terms Cottage Pie and Shepherd's Pie are often used interchangeably, the key difference lies in the meat: Shepherd's Pie uses lamb or mutton, typically managed by shepherds, while cottage pie is made with ground beef. The Irish farmed cows which were exported to England, but when beef became too expensive to eat regularly; lamb and mutton were an affordable alternative. The availability of lamb or mutton reflects the pastoral lifestyle prevalent in these regions, where sheep farming was common due to the landscape. It is thought that beef was the original filling, with the lamb filling variations coming later, but both serve to make the most of available food. Though the dish is called a "pie," it traditionally has no pastry crust (LaFond, 2023).

The first record of the dish appears as "cottage pye" in the October 27th, 1794 diary entry of an English clergyman, James Woodforde (Woodforde, 1920), but it can be presumed that Irish and English families had enjoyed the dish before then, as the meal is so casually mentioned.

To dress the same, called Sanders.
Mince beef or mutton, small, with onion, pepper, and salt; add a little gravy; put it into scallop-shells, or saucers, making them three parts full, and fill them up with potatoes, mashed with a little cream; put a bit of butter on the top, and brown them in an oven or before the fire, or with a salamander.

Figure 2: Sanders, Rundell, 1805

The first surviving recipe of the dish is titled “Sanders” in Maria Rundell’s cookbook, *A New System of Domestic Cookery, Formed upon Principles of Economy*, published in 1805 (pg. 58). Notably, Rundell’s recipe uses either beef or veal, and makes no use of measurements for volume or time.

The term Shepherd’s Pie appeared decades later in *The Practice of Cookery and Pastry*, by Mrs. I. Williamson, published in 1862. Although this recipe is the earliest reference to “Shepherd’s Pie,” it suggests using any type of meat rather than specifying lamb or mutton. Additionally, like Rundell’s recipe, this version has no measurements (Williamson).

Shepherd’s Pie.

Take cold dressed meat of any kind, roast or boiled, slice it, break the bones, and put them on with a little boiling water, and a little salt, boil them until you have extracted all the strength from them, and reduced it to very little, and strain it. Season the sliced meat with pepper and salt, lay it in a baking dish, pour in the sauce you strained, and add a little mushroom ketchup. Have some potatoes boiled and nicely mashed, cover the dish with the potatoes, smooth it on the top with a knife, notch it round the edge and mark it on the top the same as paste. Bake it in an oven, or before the fire, until the potatoes are a nice brown.

Figure 3: “Shepherd’s Pie,” Williamson, 1862

Until the late 19th century, Shepherd’s Pie consisted of only leftover meat, gravy, potatoes, and sometimes diced onion. Crop rotation and improved farming techniques in England in the 18th century allowed for a more diverse range of vegetables to be cultivated, including carrots and peas. Gradually, these foods became more affordable and accessible to the public (Brunt, 1999).

On March 30, 1930, the Northfield Press in Montréal published a recipe for Shepherd’s Pie featuring canned carrots and peas, notably substituting mackerel in place of red meat (Northfield, 1930). This was part of a series of fish recipes produced during the Great Depression, a time when many households resorted to cheaper protein alternatives like white fish (Molina, 2020).

Since the mid-20th century, Shepherd’s Pie recipes have remained relatively unchanged. As access to produce and spices improved, variations in vegetables and seasonings became common, reflecting personal preferences rather than mere availability.

The dish represents a fusion of cultural influences from both England and Ireland. As it evolved, it incorporated local ingredients available to rural communities, such as root vegetables alongside meat. The combination of these elements resulted in a dish that not only utilized what was at hand, but also provided comfort and sustenance during difficult times.

Mom’s Shepherd’s Pie Recipe

My mom has only ever used ground beef to make the dish, but it will always be Shepherd’s Pie to me. I have fond memories of helping her make it on cold winter nights. Standing on a stool, my small frame barely reaching the counter, I learnt how to use a vegetable peeler while prepping the potatoes. The heady aroma of caramelizing onions filled the kitchen, mingling with the murmurs of the evening CBC Radio. Though not yet past 6 o’clock, all the world outside the window was dark besides the soft glow of rain under the streetlights. I took special care to shape the mashed potato crust, sculpting extra peaks and valleys. Sitting cross-legged on the floor, my face glowing with the light of the oven, I watched in anticipation as bubbles formed at the edges of the pan. The white crust transformed to gold—like alchemy before my eyes.

Prep time: 40 minutes

Cook time: 45-50 minutes

Ingredients:

- Olive oil
- 1 medium white onion, diced
- 1-2 cloves of garlic, minced
- 1lb of ground beef or lamb
- 3 Tbsp of flour

- Tomato paste
- 1 cup of water
- Tbsp of fresh thyme or other spices of choice
- 1 cup of frozen peas
- 1 cup of carrots, diced 1cm²
- 8-10 Yukon Gold potatoes
- ½ cup of half and half cream
- Butter to taste, >½ cup
- Salt and pepper to taste
- Parmesan cheese
- Peel potatoes and place them in a large pot
- Fill the pot with water until the potatoes are just covered, sprinkle in salt, and turn the pot on to boil
- Keep an eye on potatoes and strain them when fork tender, leaving them in the pot
- Fry onion in a saucer pan on medium heat until soft
- Add garlic and fry for 1 minute
- Add meat and fry until brown, ~5 minutes
- Sprinkle flour over top and cook for 5 more minutes, stirring and scraping bottom of the pan
- Add tomato paste and herbs, stir to coat
- Add water and stir until filling thickens slightly
- Pour into casserole dish
- Top with peas and carrots
- Mash potatoes with cream and butter, salt to taste
- Spread mashed potatoes on top to desired thickness, sprinkle on parmesan cheese
- Cook at 350°F until bubbling

Supplies:

- Saucer pan
- Large pot
- Oven-safe casserole dish
- Cutting board
- Medium sized, sharp knife
- Hand masher
- Measuring cups and spoons

Instructions:

- Set the oven to 350°F
- Peel and dice carrots, set aside with peas

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Gastronomic Journal Entry

Overview

Meat pies have long been a staple food for cooler climates. The filling and warming nature of the food can bring comfort to those who spend time outdoors in the cold for extended periods of time. Britain has seen its fair share of these types of dishes, but in my opinion none is as widespread throughout the country as the classic steak and ale pie. This hearty meal with its heavy consistency and warm flavours is sure to bring comfort to almost anyone after a long day in the cold.

Recipe

A classic steak and ale pie consists of beef, pie crust, vegetables, and an ale or beer base. The recipe my family and I have used for years is from the BBC (Imabadpixie (community member and recipe author), 2013) and is as follows:

- ½ tablespoons of olive oil- other oils can be used depending on preference
- 1kg of braising steak cut into cubes
- 2 cloves of crushed garlic
- 1 large roughly chopped onion
- 2 large, sliced carrots
- 500mls of a beer or ale- my preference is Guinness
- 4 beef oxo cubes
- 1 vegetable cube
- ½ teaspoons of chili powder
- 2-3 teaspoons of Thyme
- 300 grams of premade puff pastry
- 1 egg beaten lightly to glaze
- Salt and pepper to taste

First, heat the oil in the pan with the garlic and onion for 1 minute, then add your steak, and cook until browned. Then, add half of your ale, wait until it simmers for 1 minute, then add the rest with your spices. Next, crumble your stock cubes and add them into the



vegetables and let the mixture simmer for a further 10 minutes. After this, transfer your stock and vegetable mix into a large dish with your beef cubes and set in the oven on medium-low heat for approximately 1 hour and 30 minutes. About 20 minutes before serving, prepare the pastry in our desired dish by rolling it out and laying it inside the pie pan. Then, remove your pie filling from the oven and ladle it into the pie crust, and finish by covering the pie

with more crust before setting back in the oven for another 20 minutes. After this, remove the pie, let cool, and serve!

Background

We see the first mentions of what we would now consider to be the quintessential steak and ale pie in medieval England. This was a time in the country's history when ale was a ubiquitous beverage as the act of brewing the water incidentally boiled it, making the ale safe to drink in a time when boiling water to drink was not common practice. At the same time, beef had become a sought-after food item due to its association with the new Norman Lords and the upper class (Carol Wilson, ND). While there are many components to this dish with a very rich history, I will be focussing on the beef, pie crust, and ale. We also see differing varieties of the pie in different areas, from the Cornish pasty in Cornwall, to the meat pie of Scotland, in which the crust is a suet dough instead of a puff pastry.

Beef

In my experience, British beef was largely dominated by two main breeds of animal, the Black Angus, and the Hereford. With production of beef animals rising in England after the Norman Conquest of 1066 to feed the Norman palette for beef (Carol Wilson, ND), we begin to see the development of these two breeds. The Aberdeen Black Angus is believed to have been selectively bred from the Galloway breed in southwestern Scotland during the 12th century. However, the breed did not become the recognisable staple of the beef market until the 19th century when the breed characteristics were



refined to create one of the most formidable cattle breeds on earth in terms of meat quality (Britannica, 2024). The breed was first introduced to Canada in 1859 by Sir George Simpson, Governor of the Hudson Bay Company. Shortly after the first calf was born in 1877 in Guelph, Ontario, the first-born calf in North America (Canadian Angus Association, 2021). Fast forward to 2023, and the average Canadian is estimated to consume 24.5kg of beef annually ((Shahbandeh, 2024).

Pie Crust (Puff Pastry)

If we were to make the puff pastry required for the pie crust, the simple ingredients would be flour, water, butter, and salt. While these ingredients may be simple, today, accessing these ingredients in medieval England was not as simple as it is today.



For example, it is only in the late Middle Ages that we see butter being produced predominantly of cow's milk. Prior to this, we saw butter and other dairy goods being produced from a variety of livestock, largely depending on the main economic export of the area (Woolgar et al, 2006). For example, an area which predominantly produces wool as their main economic export would potentially use more sheep's milk for their butter. You could imagine how this difference could

change characteristics of the pastry, and of the pie as a whole.

Another crucial ingredient for the pastry is the flour. The types of grains used to create flour seem to have changed dramatically throughout the medieval period when we see steak and ale pies becoming what we see them as today. The Anglo-Saxons used a mix of grains, including wheat, rye, and barley as this helped to cultivate resilience through diversity in the overall cereal crop (Kuropatnicki, n.d.). Moving into the medieval period, we see a similar trend in flour production for the lower classes.



However, wealthier individuals may enjoy flours with higher and more refined wheat concentrations (Kuropatnicki, n.d.). Fast forward to the modern age, most of our flours and pastries are made with wheat as a result of the industrialization of agriculture allowing for cheaply produced wheat in massive quantities, with 3.3 million metric tons of wheat being milled in Canada in 2023 (Government of Canada, 2024).

As we can see, even just some of the materials required to create the crust of the steak and ale pie and a deep and complex history with the time period of origin of our dish. Even when examining the history of the puff pastry itself, we see the first mention of the product as a cake in 1645 (Ham, 2022), meaning that during the origins of our dish, our pie crust was not a puff pastry as it is today.

Ale

The final ingredient of the pie we will discuss is ale. As previously stated, ale was a staple beverage in the period in which we see the steak and ale pie emerge. Throughout history, ale and other alcoholic beverages known as small beers were seen as an alternative to water as they were safe to drink. This is due to the fact that the fermentation process involved boiling the water, incidentally, killing the bacteria in the water (personal knowledge). Now, before we start knocking back pints instead of water, it is worth mentioning that a small beer or early ale was extremely low in alcohol (defined as a beer with an ABV of between 0.5 and 2.8% (French, 2017)). This can be taken in contrast with modern breweries, which have been able to streamline the fermentation process, resulting in far higher alcohol percentages.

The specific beer I use in my recipe is Guinness as I find the bold flavour mixes well with the other ingredients of the pie. Guinness started brewing ales in 1759, when Arthur Guinness followed his father's path and began brewing at the St. James Gate Brewery in Dublin and, according to the Guinness website, signed a 9,000-year lease on the brewery.

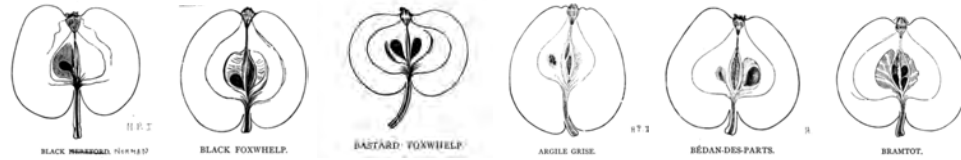
As we have seen, even something as simple as a classic, comforting meat pie, has complex dimensions which have been built on and evolved throughout the history of the dish, which has shaped the way we enjoy the dish today.

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Tarte Normande: The Norman Countryside on Your Plate

By Marija Terry-Brownhill



Apples and dairy are integral to the cultural identity and landscape of Normandy, France. Tarte Normande is a dessert of simple pastry crust, baked apples, and a calvados (an apple brandy unique to Normandy) infused custard cream. The dish combines the essence of the Normandy countryside: apples, calvados, butter, and cream. Tarte Normande brings the unique relationship between cows and apples in Normandy to the feasting table: it is the physical manifestation of the Normandy countryside, enjoyed on your plate with a dollop of cream.

Geographic origin and evolutionary transition of apples

The apple is in the Rosaceae family within the genus *Malus*. Today, there are over 30 species of *Malus* and many subspecies. Grafting has played an important role in the spread of apples across the globe, and likely began 3800 years ago (Cornille et al., 2014). The cultivated apple, *Malus domestica*, was domesticated from the wild species, *Malus sieversii* in the Tian Shan mountain, and spread west through the Silk Road (Cornille et al., 2012). Along the

(Bull & Hogg, 1886)

Silk Road, *Malus sieversii* came into contact with three wild crab apple species, *Malus baccata*, *Malus orientalis*, and *Malus sylvestris* (Cornille et al., 2014). These four *Malus* species are the closest relatives to *Malus domestica*, and distributed across Eurasia (Cornille et al., 2014), see Figure 1. Note in Figure 1 that Normandy, France, located below the southeast UK, was and is a prime site of *Malus sylvestris*. Various species of apples spread across the world as colonial settlers brought apple seedlings on their voyages (Britannica, 2024).

Early apple trees were domesticated through open pollination and unconscious selection (Cornille et al., 2014), where humans unintentionally selected for desirable characteristics. More recent domestication has focused on crop improvement, where species are intentionally bred for desirable characteristics (Cornille et al., 2014). Extensive selection and vegetative propagation has reduced gene flow between cultivated and wild species, but there remains a high level of species

diversity (Cornille et al., 2014). The remaining high level of diversity is thanks to farmers on isolated farms selecting for characteristics based on their own unique preferences, driving a high level of variation (Cornille et al., 2014).

Apples are a unique crop because they last a very long time. A common saying among apple growers is, “one hundred years of growth, one hundred years of production, and one hundred years of dying.” Apple trees in Normandy have stood alongside human history, and become a part of it.

Global and Canadian apple consumption

In 2021, world average apple consumption per person was 11.5 kg (Food and Agriculture Organization, 2023) per year, roughly 115 apples. In Canada this metric was 20.6 kg (Food and Agriculture Organization, 2023), roughly 206 apples. China is by far the world's largest producer of apples, with over 40 million tons produced in 2022 (UN Food and Agriculture Organization, 2023).

Influential bio-geo-physical attributes

Apple trees favour the sandy oceanic climate of Normandy. The ideal climate has led to an abundance of apple trees. Apple orchards in Normandy are dated to at least the 8th century, with over 800 apple varieties (Oliver, 2017).

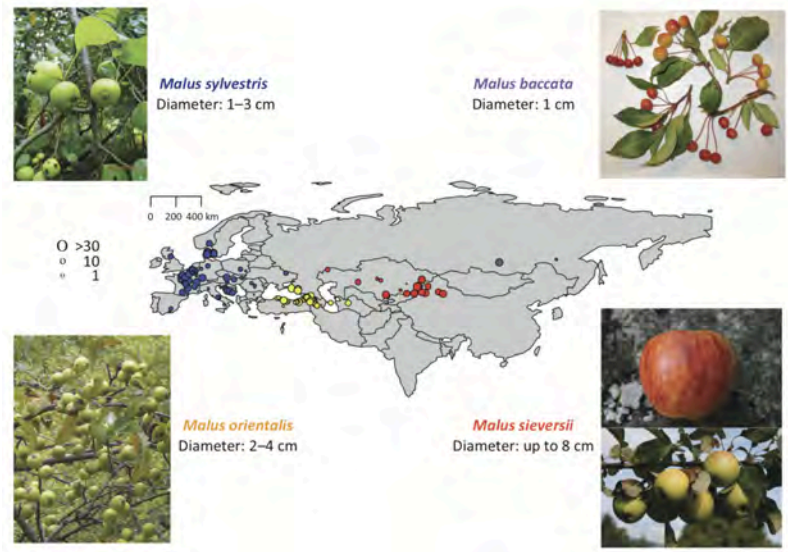


Figure 1. Distribution and key morphological features of wild apples (Cornille et al., 2014).

Orchardists in Normandy use a special technique: cows grazing in the orchard (see Figure 2). Cows and apple trees have formed a mutually beneficial relationship in Normandy, facilitated by humans. This relationship has existed for such a long time, it now defines the bio-geo-physical landscape in Normandy. Cows are put in orchards to pasture, eating grass, low branches, and early fallen fruit, helping trees not over compete. Cows leave behind manure, giving the trees a dose of nutrients. In return, cows receive a diverse and nutritious diet, producing high-quality milk. This diet pays off for Normandy dairy farmers, as Normandy produces half of France's dairy (Oliver, 2017). Cows pasturing in the orchard also makes light work for the farmer, as they do not need to mow grass, trim trees, or manage early fallen fruit. Over time, the beneficial relationship between cows and apples has become iconic to Normandy.

To make good calvados, it is necessary to have cows tending to the orchards (Gollner, 2016).

Tarte Normande is made from apple and dairy products, and the dishes' inception would only be possible under this cow and apple tree regime. Tarte Normande reflects the relationship between cows and apple trees in the pasture, and the unique human influence in the region.

Influential cultural practices

It is only natural that if cows and apple trees work well together, their byproducts would as well. Apples and dairy products have a profound influence on Norman cuisine. Unlike the south of France known for its wine and olive oil, Normandy is renowned for its cider and butter. Apples are turned into cider, calvados (more details to follow), and pommeau, a combination of apple juice and calvados. Many apple varieties are bred specifically to be made into beverages; these apples are small, dry, with high acidity, sugar, and tannins. Apples are also found in savoury dishes paired with meats and sweet desserts, such as Tarte Normande. Cows produce the milk used in cream, butter, and iconic Normandy cheeses, like camembert, pont-l'évêque, and livarot.

Calvados is a Normandy delicacy worth mentioning. It is a distilled apple cider and a variety of brandy. There are three calvados appellations that can only be made in designated areas in Normandy (Morgan, 2023). It is served after a meal as a digestif, or during a meal to cleanse the palate and make room for more food

(Oliver, 2017). It is a household staple in France, but is known very little outside the country (Morgan, 2023). It can also be used in cooking, and is featured in Tarte Normande.



Figure 2. Cows grazing in Normandy Apple Orchard (Liudzius, 2024).

Tarte Normande reflects the prominence of apples and dairy products in the Normandy diet, by combining apples, calvados, butter, and cream. Its feature of calvados makes use of the unique alcoholic practices of the region.

Adaptations

Tarte Normande (see Figure 3) is not well known outside of France, and thus has not been highly adapted to reflect other cultures. Though it has similarities to apple pie and apple tarts, it has its distinct difference with the use of baked cream-custard. The biggest adaptations made to the tart reflect modern times. For example, it is now common for recipes to include a pre-made pastry shell, as does mine. Additionally, as calvados becomes harder to find and more expensive outside of France, many

replications of Tarte Normande outside of France do not include calvados.

Sliced almonds and almond powder are featured in some recipes. Almonds travelled from Central Asia to Europe via the Silk Road alongside apples, so almonds may be a traditional ingredient. However, almonds are not included in many prominent recipes, nor mine.

Evolution

There is no precise inception of Tarte Normande, but its origins are linked to the traditional French tart, which gained popularity in the medieval period (*Norman apple tart*, 2023). As far as known, the dish has not changed much over time. Tarte Normande is widespread in Normandy and other regions in France, and is a household favorite with unique family recipes.

The dish likely received wider recognition after *Tarte Normande aux Pommes* appeared in Julia Child's, *Mastering the art of French cooking*. Child's recipe reflects the majority of recipes available today.

In France, desserts took their time to emerge as gastronomic dishes (Tebben, 2015). For a time, desserts were only for elites, complicated, and aesthetically pleasing rather than delicious (Tebben, 2015). The desserts that solidified in cultural history were made by the bourgeois and recognizable in name, mundane in appearance, drawn from traditions of the countryside, and easily repeatable (Tebben, 2015). Tarte

Normande fits this description, as it is named after a region in France (Normandy), rather plain looking (see Figure 3), uses ingredients from the countryside (apple and dairy products), and has a very simple recipe (see below). It is plausible to suggest that Tarte Normande is a bourgeois recipe that has been preserved in cultural history for a long time.



Figure 3. Tarte Normande (Lilie Bakery, 2022).

Recipe

This recipe has been adapted from Julia Child (Beck et al., 1971), as most recipes have been, with a few simplifications.

Ingredients:

8-inch premade pastry shell
3 medium sized apples
 $\frac{2}{3}$ cup granulated sugar
 $\frac{1}{2}$ tsp cinnamon
 $\frac{1}{2}$ tsp cinnamon
1 egg
 $\frac{1}{4}$ cup flour
 $\frac{1}{2}$ cup whipping cream
3 tbsp Calvados
Powdered sugar

Instructions:

Pre-bake pastry shell. Core and peel apples, cutting into $\frac{1}{8}$ inch slices. Toss

with $\frac{1}{3}$ cup sugar and cinnamon. Arrange apples in the baked pastry, and bake at 375 for 20 minutes. While baking, prepare custard by beating eggs and remaining $\frac{1}{3}$ cup sugar, until pale yellow and forms a dissolving ribbon. Add flour and beat again. Add whipping cream and calvados and beat again. Pour custard over baked apples. Bake for 10 minutes. Generously sprinkle with powdered sugar and cook for an additional 20 minutes. Remove from oven and allow to cool. Best served

warm with a dollop of whipped cream, and as Julia Child suggests, with a glass of calvados!



(Bull & Hogg, 1886)

RED HEREFORD. NORMAN

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Varenyky

A Ukrainian Icon



History, Folklore, and Nostalgia

How cultural practices in Ukraine have shaped this dish

Crimped dough and fluffy potato filling are descriptions synonymous with pierogies, a dish now enjoyed from Europe to the Americas and everywhere in between. But what makes varenyky stand out from the crowd as an iconic staple of Ukrainian culture and cuisine?

Starting from humble beginnings, varenyky emerged as a convenient method to store food during harsh winters (1), with the earliest mentions of the dish dating back to the Middle Ages. The fillings were easily found on subsistence farms and could be easily adjusted for what was abundant that year, making varenyky a “simple and readily available form of food” (2). Soon, due to its simplicity, ability to be cooked over an open flame, and overall deliciousness, the dish gained popularity among all social classes.



Fun fact: “Varenyky” is from the verb “varyty”, which means to boil. So, Varenyky means “things that have been boiled”.

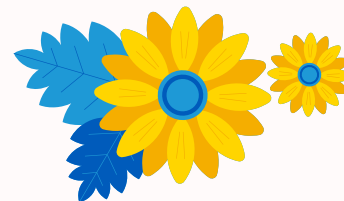
As the popularity of varenyky grew, so did its mystique. The dish is steeped in folklore, with one legend describing varenyky as being a divine gift to the Ukrainian people that brings prosperity and happiness (3). Intense symbolism was applied to the preparation and consumption of the food. The kneading represents the creation of the universe, the filling symbolizes family unity, and the shape of the dough, similar to the new moon, symbolizes new beginnings and growth. Pregnant women were served varenyky to promote a healthy baby, and new mothers were given the dish to restore their strength after childbirth. Varenyky contains carbohydrates, protein and other important nutrients, especially the sauerkraut filling variety which is packed full of probiotics and vitamins. While the early enjoyers of varenyky did not know they were eating a nutritious meal, they knew that they felt good after, likely inspiring some of this lore. In Ukrainian folklore, varenyky is also associated with good fortune, making the dish a staple at celebratory events (3). Today, mentions of varenyky can be heard in songs, stories and even statues (4).



“Ukrainian Varenyky” monument in Cherkasy. (4)



Through researching this article, it became clear that Ukrainians are passionate about varenyky and are proud of the values the dish represents. The Ukrainian Flavours blog says that varenyky “reflect the diverse and rich spirit of [the] country and its hospitality” (2) and Veselka Blog adds that “comfort, tradition, and culinary craftsmanship is what this heavenly dish stands for” (3). Many online recipes and blogs lovingly mention the nostalgia the flavours evoke and recount humorous stories of babas fiercely debating the ‘proper’ way to prepare varenyky dough. So, although most non-Ukrainians are more familiar with the Polish name (pierogies), varenyky holds deep cultural and personal connections, making it one of the most beloved and well-known dishes in Ukrainian cuisine.



The Fascinating History of Sauerkraut

Geographic origin

This article focuses on the varenyky filling popular in Kyiv: sauerkraut. Sauerkraut is thinly sliced raw cabbage fermented by lactic acid bacteria, known for its tangy and sour flavour. Although sauerkraut is now widely thought of as a characteristically European ingredient with strong roots in Germany, Poland and Ukraine, the idea of fermenting cabbage for preservation was born in China.

During the construction of the Great Wall of China, the workers relied on a diet of cabbage and rice. As the months grew colder, a constant supply of fresh cabbage was unavailable, leading them to add rice wine to the cabbage as a way to preserve it (5). This innovation soon spread across China, becoming a popular way to preserve vegetables for the winter. When Ghengis Khan invaded China around 1211, the knowledge of fermentation with rice wine was taken along with the raids. As the Mongols' crusades continued to Europe in the 13th and 14th centuries (6), the group took with them their newfound snack of fermented cabbage, which was then adopted by most countries the crusades passed through.

In Europe, the method was changed to ferment the cabbage with salt, rather than rice wine, as salt was more readily available. So, while the popularized name ‘sauerkraut’ originated in Germany, the true credit for the creation of this ingredient belongs to the Chinese labourers who constructed the Great Wall.



Map of the Mongol invasion of Europe. (7)

The Evolution of Cabbage

Evolutionary transitions

Cabbage belongs to the Brassica oleracea family, a group composed of brussel sprouts, kohlrabi, kale, broccoli & cauliflower. Cabbage was domesticated by selecting for terminal buds and large leaves, and has now been cultivated for over 4000 years! (8)

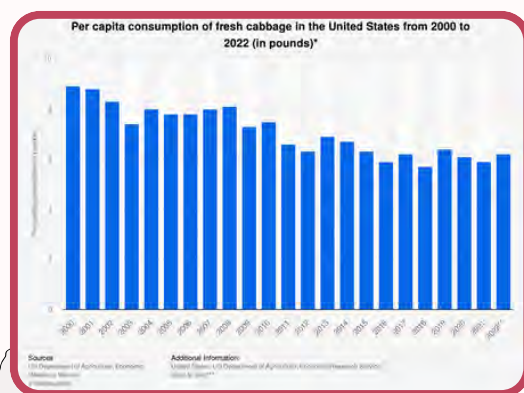


Who Eats the Most Cabbage?

Current global and Canadian consumption profile

Globally, China consumes the most cabbage. 33M tonnes were consumed in the country in 2022, making up roughly 45% of the total global consumption (9). India followed with 9.2M tonnes, and Russia ranked third with 3.7M tonnes (9). Although there is limited information on global sauerkraut consumption, it is known that 12% of the world's cabbage is used to produce sauerkraut (10).

In Canada, there is minimal publicly available information on the current consumption profiles of cabbage. However, a conclusion can be extrapolated by looking at the Government of Canada's 'Statistical Overview of the Canadian Field Vegetable Industry' (11). In 2023, the amount of cabbage grown in Canada, and the quantity of cabbage imported decreased. The availability of fresh cabbage for consumption in Canada decreased as well, with 25.3% less available cabbage in 2023 compared to 2019. Yet, the amount of Canadian cabbage exported between 2019 and 2023 increased. So, it can be assumed the overall Canadian consumption of cabbage is decreasing. This aligns with the American data, which shows that the consumption of fresh cabbage in the United States has been on a slow decline since 2000 (12).



A Dish Rooted in the Land

How the bio-geo-physical attributes in its place of origin have contributed to shape the dish

Varenyky is a dish that tells the story of the diverse regional flavours of Ukraine. Depending on the area, you'll discover a variety of unique flavours and fillings. Recipes vary significantly from region to region, with bacon crisps popular in Chernihiv, bryndza cheese in Zakarpattia, and blue cheese and mushrooms in Chernivtsi. Although Ukraine makes up only 6% of Europe's land mass, it holds 35% of the continent's biodiversity (13). Ranging from mountain ranges, to wetlands, to coastal areas, the rich geographical and biological diversity influences the distinct regional flavours and cultures. In addition to the individual microclimates of Ukraine shaping the popularity of different fillings, the country's landscape as a whole has had a crucial role in shaping this dish. Ukraine's favourable climate for growing wheat (14) and potatoes (15), is what makes them the foundational ingredients of varenyky.

Geography on a Plate

Variants and adaptations of the dish reflecting other places

Almost every country in Europe has its own version of the dumpling, with distinctive variations in the recipe. For example, in Austria it is the schlutzkrופן, derelye in Hungary, and colțunași in Romania. Each dumpling differs in its ingredients or preparation style. Such as Slovenia's ajdovi krapci which are made with wheat flour, or Russia's pelmeni, which are much smaller than the Ukrainian varenyky. Each adaptation reflects the unique culinary traditions of each country.



The Modernization of Varenyky

The temporal evolution of the dish

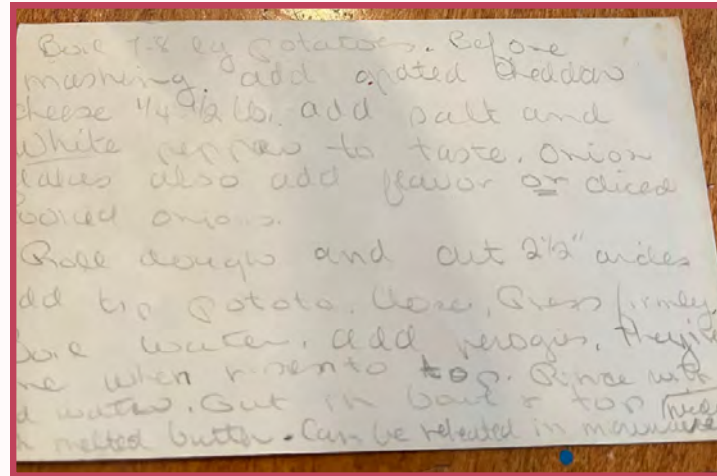
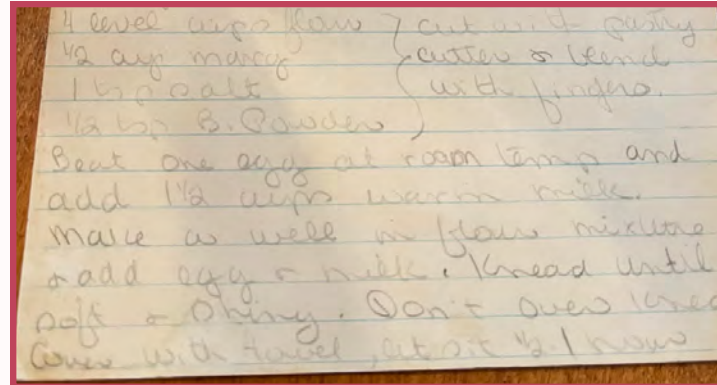
Varenyky has come a long way from its early form as simply a practical way to use up ingredients. Traditionally, the dish would develop as families gathered together, passing down recipes that became unique to each household. Over generations, families would add their favourite fillings and experiment with different flavours. Now with the rise of globalization and culinary creativity, varenyky has taken on new forms. The original dough was simply flour, water, and salt, but now butter and sour cream are often added to make the dough more silky and flavourful. Specialty flavours, such as chocolate varenyky, are a far cry from the conventional potato and cheese (16).

And now what you've been waiting for, the recipe:

This recipe is from my own Gramma, passed along to her by her Ukrainian neighbour and friend. On the phone with me, she recounted fond memories of walking next door to spend the day hand-making varenyky and chatting with her friend. The original recipe card, fished out of my Grammas leather bound recipe book, is pictured to the right and rewritten below for clarity. As this recipe is for the potato and cheese filling version, substitutions for a sauerkraut filling have been added.

Happy cooking and СМАЧНОГО!

Sauerkraut and Potato Varenyky



Dough

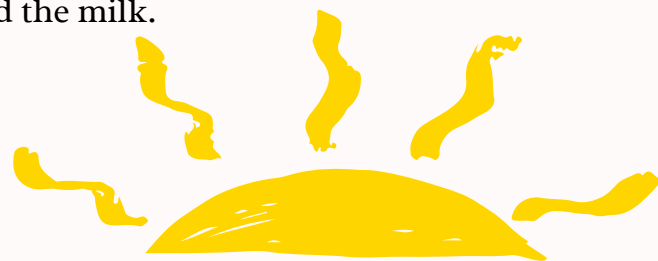
4 level cups flour
1/2 cup margarine or butter
1 tsp salt
1/2 tsp baking powder
1 egg
1/2 cup warm milk

Filling

7-8 potatoes
1/4 - 1/2 lbs cheddar cheese
Salt
White pepper
Onion flakes or diced cooked onions
12oz sauerkraut

Making the dough

1. Cut together flour, butter, salt and baking powder with a pastry cutter, then blend with fingers.
2. In a separate bowl, beat the egg at room temperature and add the milk.
3. Make a well in the flour mixture and add in the egg mixture.
4. Knead until soft and shiny. Don't over knead!
5. Cover with a towel, let sit for 30 mins to 1 hour.



Making the filling

1. Boil potatoes. Before mashing add cheddar cheese, salt and white pepper to taste.
2. After mashing, diced cooked onions can be added.
3. Add sauerkraut and mix until combined.

Assembly

1. Roll out dough and cut 2 1/2” circles, add a spoonful of filling to each circle.
2. Close by pressing edges firmly.
3. Add to boiling water, they are done when they rise to the top.
4. Put in a bowl and top with melted butter.



(17)



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Welsh Cawl

The History and Rebirth of Working Class Cuisine in Wales

Nestled just 335 kilometers west of London and bordered by the Irish Sea lies *Cymru*, or Wales, a nation often celebrated for its rugged castles, verdant landscapes dotted with sheep, and a fervent love of rugby. While its cultural hallmarks are widely recognized, Welsh cuisine rarely commands the spotlight on the global stage. Yet, at the heart of this small but storied nation lies a culinary treasure: a humble yet hearty stew that sustained generations of the working class, embodying the resilience and resourcefulness of Welsh heritage (Britannica).



FIGURE 2

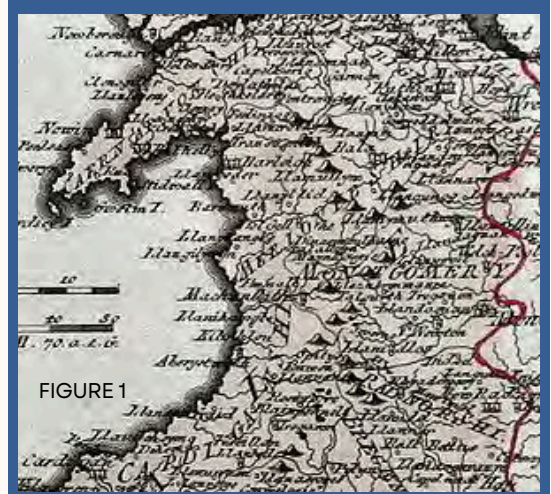


FIGURE 1

“Mae'n golygu popeth i mi i fod yn Gymro”
-Gwyn Thomas

“It means everything for me to be Welsh” remarked Sheppard Gwyn Thomas during an interview on farming in Wales. Life on the fields is unforgiving, shaped by a relentless climate of persistent rain, roaring winds, and the challenges of living off the land in remote areas where electricity remains a luxury for some. Yet, amid these hardships, one constant brought solace: the comforting warmth of his mother’s Cawl (Elamine et al). Cawl (pronounced “cowl”), also known as *Lobscouse* in northern Wales, is a timeless dish rooted in practicality and tradition. This slow-cooked stew combines hearty root vegetables with affordable cuts of meat, such as lamb, beef, or ham hock. Simmered for at least 3-4 hours over a stove or open flame, cawl was the ultimate winter comfort food, providing warmth and sustenance after grueling days in the fields or mines. True to its frugal origins, the stew was often kept simmering continuously, with fresh vegetables or meat scraps added over time, ensuring nothing went to waste (Windsor).

In History

Tracing the history of Cawl is no easy task, as its recipes were rarely written down, varying from family to family depending on the ingredients available at any given time. This absence of documentation leaves us to piece together its origins through inference and archeological clues. Evidence suggests that prehistoric Welsh cooks utilized pots or cauldrons heated with fire-warmed stones, a practice hinted at by the discovery of burnt mounds containing shattered rock fragments and charcoal, as well as oral history passed down through generations. The tradition of pot boiling remained a cornerstone of Welsh cooking well into the 20th century. At its heart, Cawl began as a meal born of necessity—a simple, survival based dish that has evolved and adapted to the changing landscape and ingredients (Seal and Steven).

The Recipe

In its original form, *cawl* lacked many ingredients considered essential today, simply because they had not yet been introduced to Wales. Early versions of this dish relied heavily on locally available staples such as cabbage, leeks, and salted pork, with beef reserved for special occasions as it was seen as highly prized and being exported to England during the 14th century. Lamb, now closely associated with *cawl*, did not become a popular addition until large swaths of highlands were deforested to create expansive pastures and grazing areas (Seal and Steven).

As mentioned earlier, every family's recipe for *cawl* carries its own unique touch. For Gwyn Thomas's mother, Chris, her version featured two pounds of braising beef, rutabaga, a single leek, carrots, two onions, and six potatoes, all simmered together until perfectly tender. Thomas vividly recalls his mother's almost magical ability to transform withered vegetables and modest cuts of meat into a meal bursting with flavour. For him, *cawl* is far more than just food, it's a deep connection to the land, his family, and the generations that came before him (Elamine et al).

For my family, *cawl* is woven into the fabric of our shared memories. My earliest recollection is standing on my nana's toes, both of us in matching nightgowns, stirring a pot of *cawl* made from her great-great-great nana's recipe—passed down through generations of mothers, each adding their own touch. After a day of playing in the snow with my brother, a warm bowl was always waiting for me. My nana would smile and say "I ate this as a little girl, just like my mother did, and hers before her, and hers before that." As she carefully cut the beef and veggies, I couldn't help but picture another mother in our ancestral line doing the very same. Her version carries her unique flair, a reflection of the dishes original purpose: to adapt, to nourish, and to endure.

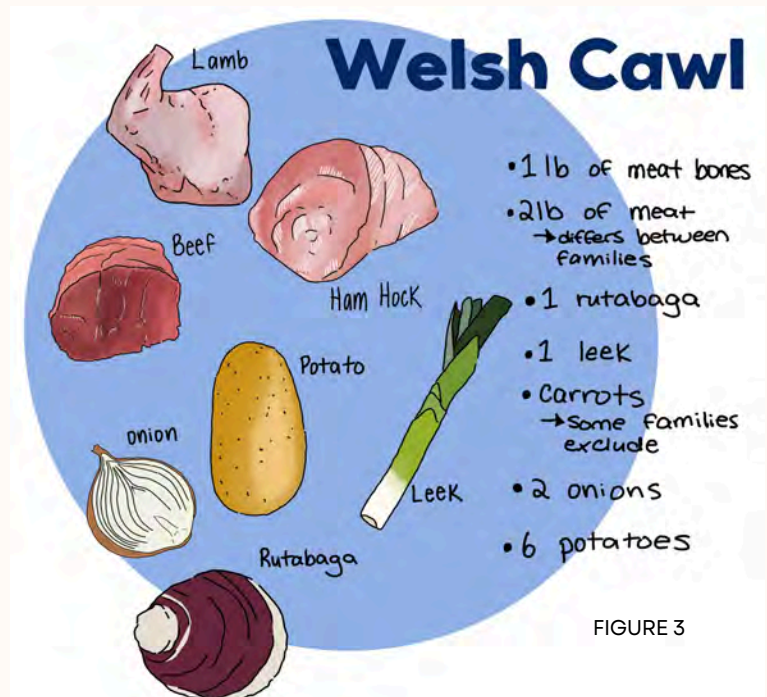


FIGURE 3

Ingredients

Cooking time: 3 Hrs

My nana's version shares much in common with Thomas's mother's recipe, though it features a few distinctly "Canadian" twists:

- Two pounds of cubed ham marinated in maple syrup the night before
- One pound of potatoes
- Four large diced onions
- Half a pound of diced carrots
- Half a pound of diced leeks
- One small shredded cabbage
- Three small diced parsnips
- One pound of diced bacon (on special occasions)
- One and a half liters of water that have been cooked with down with bones and vegetable scraps
- A pinch of thyme, bay, rosemary, and parsley
- Salt and pepper to taste
- A table spoon of butter

Preparations

To begin, prepare the broth a day in advance. Fill a large pot with water and add any meat bones, vegetable scraps, or hearty herbs you have on hand. Bring the mixture to a boil, then reduce the heat and let it simmer for at least an hour—the longer it cooks down, the richer the flavour. Once the broth reaches your desired depth of taste, strain it through a fine sieve into a bowl or a container, then refrigerate until ready to use.

The next day, heat a large pan and sauté diced onions with the seasonings and herbs until softened and fragrant. Add cubed, marinated ham to the pan, cooking until the meat develops a golden-brown crust. Remove the onions and ham, then crisp up the diced bacon in the same pan. In a large pot, pour in the strained broth prepared the day before and bring it to a boil. Add the cooked meat and onions, reduce heat to a simmer, and cover for 40 minutes. Next, add the potatoes, carrots, leeks, and parsnips into the pot, bringing it back to a boil before lowering it to a gentle simmer. Let the vegetables cook for another 40 minutes. Finally, stir in shredded cabbage and allow it to simmer for 15 minutes. Serve this hearty stew nice and hot, my family accompanied the soup with fresh warm sourdough bread and garlic butter.

FIGURE 4



Lamb Culture

Sheep farming has been a cornerstone of the Welsh economy, valued for both its meat and wool. This ancient form husbandry flourished in rural Wales, where the challenging climate and poor soil conditions made crop cultivation difficult beyond hardy staples like oats and root vegetables. By the 13th to 14th centuries, sheep farming had evolved into a significant industry, by generating vital income for communities across the region.

Despite their economic importance, lambs were rarely consumed as part of everyday meals. Instead, their meat was reserved for special occasions and celebrations. The reverence for sheep and their products became deeply ingrained in Welsh culture, leaving a legacy still evident in the nation’s culinary and agriculture traditions(WalesOnline).

The Potatoes Journey

Potatoes were introduced to the British Isles in the late 16th century, but their widespread integration into Welsh cuisine likely unfolded during the 17th and 18th centuries as they became a staple crop. In Wales, the potato’s high yield and resilience made it an invaluable addition to the diet of rural agrarian communities, supplementing the traditional reliance in oats and root vegetables(Salaman).

Overtime, potatoes became a significant feature in *cawl*, adding starchy bulk and enhancing its versatility. Early recipes varied by locality, but by the Victorian era, potatoes had solidified their place as a common ingredient in this beloved dish. Today, *cawl* often includes lamb or beef, seasonal vegetables, and of course the ever-reliable potato(Sarah).

Potatoes, Leeks, and Lamb?

If you were to ask a Welsh person what defines their family’s *cawl*, chances are they’d insist that potatoes, leeks, and lamb are non-negotiable ingredients. Yet, it might surprise you to learn that two of these staples had no place in the dish’s original incarnation. As previously mentioned, *cawl* was a product of necessity and resourcefulness. Lamb didn’t become a widely available ingredient until large areas of forest were cleared to create grazing land for sheep. Potatoes, on the other hand, weren’t introduced to Wales until the 16th century and didn’t gain widespread popularity until the 18th century. Their rise wasn’t due to their flavour alone but stemmed from dire need. Widespread crop failures and mass poverty-exacerbated by land enclosures that deprived citizens of common land rights-made potatoes an essential and accessible source of sustenance(Seal and Steven).

Leeks have always been an integral part of *cawl*, and many would argue they are essential to the dish’s identity. This vegetable has stood as a national symbol of Wales for thousands of years(HistoryExtra). On the following page, we will delve into the rich history and cultural significance of this remarkable green.

FIGURE 5



FIGURE 6

Did you Know?

Welsh lamb and beef have earned Protected Geographical Indication(PGI) status from the European Commission, a recognition that highlights the distinctive qualities making Welsh meat unmistakably unique(Food & Rural Affairs, Department for Environment). As of March 2024, exports of Welsh lamb have risen by 12%, with projections estimating sales of 30,500s tons, generating approximately £190.9 million in revenue(Grylls). Lamb has long been more than just a staple in Welsh cuisine, it is deeply interconnected with the nation’s culture and identity.

St David Vs Edward the Black Prince

The association between leeks and Welsh Identity can be traced to two legends, each linking this small green to moments of bravery and triumph.

The first tale takes us back in time, to the 7th century, when St. David, Wales' patron saint, is said to have advised King Cadwaladr of Gwynedd to have his soldiers wear leeks during a battle against the Saxons. The leeks served as a means of identification on the battlefield, helping Welsh forces distinguish friend from foe, and ultimately securing victory.

The second story dates to 1346, during the Battle of Crécy in Northern France. It is said that Welsh archers, serving under Edward the Black Prince, who was then Prince of Wales, secured a decisive victory against French forces. According to legend, the battle unfolded in a leek field, and the leek became a symbol of the bravery displayed (Windsor).

Regardless of which legend resonates with you the most, the leek exists as a powerful symbol of victory, resilience, and an unshakable sense of Welsh identity.



FIGURE 8

For the Love of Leek



FIGURE 7

You might find yourself wondering, what exactly is this green stalk that resembles a large green onion? The answer: It's a leek! A member of the Alliaceae family, which also includes onions, garlic, and chives, if this is your first time encountering a leek, they have a mild, onion-like flavour (Miller).

Contrary to popular belief, leeks are not native to Wales. They originated in Western Asia and were prized by ancient civilizations, including those who built the Egyptian pyramids. The leek made its way to Wales during the Middle Ages, roughly between the 5th and 15th centuries (Windsor).

During these centuries, the leek began to solidify its place not only in the kitchen, but also in the realm of medicine. It was widely regarded as a cure-all for a variety of ailments, from soothing the common cold to easing the pains of childbirth. Its medicinal reputation was bolstered by its easy cultivation, making it an accessible and reliable crop for households across Wales. This practicality likely contributed to its integration into traditional dishes like *cawl* (Johnson).

Today, the leek remains an essential part of Welsh heritage, not only for its culinary versatility, but also as a symbol of resilience and resourcefulness.



FIGURE 9

Dr. Carwyn Graves, a prominent Welsh food scholar at the University of Wales, has dedicated much of his work to exploring the cultural significance of Welsh cuisine. In his book *Welsh Food Stories*, Graves examines a variety of traditional Welsh dishes, shedding light on their importance not only as local food but as symbols of the country’s history and identity.

One of his key insights offers a fitting conclusion to this discussion. Graves emphasizes that Welsh food, once regarded as the fare of peasants and born out of necessity, has transcended its meek origins. While it began as a means of survival, it has evolved into something much greater. Today, it serves as a marker of the intertwined relationship between the Welsh people, the natural world, and their communities. Welsh food has become a celebration of social connection, a reflection of the land’s bounty, and a pillar to the resourcefulness of generations past(Graves).

Ultimately, *cawl* embodies this evolution. It is a meal that bridges the gap between the past and the present, linking us to our ancestors in profound ways. Each vegetable that is carefully sliced, each piece of meat that is diced, serves as a tangible connection to the Welsh mothers who, with what little they had, ensured their families’ survival from one day to the next. It is in the simplicity of these ingredients that we find a deeper narrative, one of resistance, creativity, and the unbroken bond between a people and their land.

21st Century

Today, *cawl* can be found in pubs, restaurants, and in virtually every culinary adaptation imaginable, catering to a wide variety of dietary preferences and modern tastes. What was once considered a humble “struggle-food” or a symbol of poverty has now transformed into a proud emblem of Welsh identity and resilience. Far from being a relic of hard times, *cawl* is now celebrated as a reflection of the enduring strength and resourcefulness of the Welsh people.

A key moment in its recent revival came when renowned chef Jamie Oliver gave *cawl* a contemporary twist by featuring the recipe passed down from actor Michael Sheen’s grandmother on this television show, *Jamie’s Kitchen*. This gesture not only highlighted the dish’s rich cultural heritage but also helped reintroduce it to a new generation of food lovers.

What makes *cawl* so remarkable is its ability to transcend time, continuously adapting to the changing culinary landscape while preserving its essence. Whether made with traditional ingredients or modern variations, it has withstood the test of time and is thriving in today’s kitchens.



FIGURE 10

To Nana

My nana is a figure I have always looked up to, her influence shaping so many aspects of who I am today. When my brother and I were young, she was a constant presence in our lives, watching over us with a warm, nurturing spirit. Alongside her caring gaze, she would share stories of our family’s past—stories that not only connected us to our roots, but also instilled in us a sense of pride in our heritage. One of my fondest memories is coming home after a long, cold day at school to a warm bowl of *cawl* and a hot Welsh cake. These small gestures were more than just acts of love; they were symbols of tradition and continuity. Thank you Nana, for being the guiding light in my life and for giving me the inspiration to write this.



FIGURE 11

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Figure2:

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Figure3: Hand drawn by me

Figure4:

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Figure11:

A photograph of my Nana

Wiener Schnitzel

Wiener Schnitzel is a national dish of Austria, its direct translation is "Vienna Schnitzel." It consists of a thinly sliced, pounded piece of veal that is breaded and fried. Although many assume veal Schnitzel originated from Austria, there is no clear origin (Gmeiner et al., 2016). However, the most common claim is that it is a variation of the dish "Cotoletta alla Milanese." Austrian Field Marshal Radetzky came across this dish in 1848 during the revolt against the Habsburg Monarchy in Northern Italy and later brought it to Austria (Gmeiner et al., 2016). Cotoletta alla Milanese is a schnitzel also made from veal; however, the veal slice is larger and is cooked with the bones still present (Marson, 2024). From there it was altered slightly, the veal was cut into a thinner piece and cooked without the bones, creating the traditional Wiener Schnitzel (Marson, 2024).



What is Veal?



Veal is a red meat that comes from a calf. The slaughtering age between calves vary. Typically the calf is removed from their mother within the first few days of life and are raised up until the ages of 16-18 weeks, however some are slaughtered at a way younger age (Food Safety and Inspection Service, 2024). Veal is delicate, pale in colour, has a mild flavour and contains less fat compared to other meats (Cassens, 2003). Majority of Veal is consumed and produced in Europe (Kim, 2022).

What is a Schnitzel?

Schnitzel is a piece of breaded and fried meat. Schnitzel itself can be made of any type of meat, the requirement is that the meat of choice has been flattened, breaded and fried (McNamee, 2022). There is a wide variation of schnitzels that differ between countries and cultures.

Ingredient checklist (per Wiener Schnitzel)

- Veal Cutlet
- Breadcrumbs or white baguette
- 1 egg
- 1 cup flour
- 2 cups Oil
- Salt
- Pepper
- 1 Lemon



Cultural significance

The transition of the Cotoletta alla Milanese to the Wiener Schnitzel represents the long-term and historic relationship between Italy and Austria. Austrian's hold great pride in this dish, it has become a National dish of the Country and is served often, during regular lunches and also special occasions. There is even a National Wiener Schnitzel Day which is celebrated annually on September 9th (Journee-Mondiale, n.d.).

In Austria, the term Wiener Schnitzel has a protected legal status, meaning in order for the dish to be labeled as Wiener Schnitzel it must contain veal, egg, flour and breadcrumbs (Muckerman, 2019). If the schnitzel is made with any other type of meat, it must be clearly announced in the title, as stated in the Austrian culinary code (Muckerman, 2019).

THE DIFFERENCE BETWEEN
CURRENT GLOBAL AND CANADIAN
STATISTICS OF WIENER SCHNITZEL'S
MAIN INGREDIENTS

GLOBAL

CANADIAN

BEEF AND VEAL

In 2023, the worldwide beef and veal consumption was approximately 65,226,582,806 kilograms, this equals to around 8 kilograms per person (OECD, 2022).



BEEF AND VEAL

The annual, beef and veal consumption in Canada is 986,000,000 kilograms per capita, which equals to 25.33kg per person (USDA Foreign Agricultural Service, 2024).

EGG

In 2019, the total egg consumption was an average of 10.03 kilograms per person (Compassion in world farming, n.d.).



EGG

The average Canadian eats around 242 eggs annually (Get cracking; Egg Farmers of Ontario, 2023).

BREAD

The global forecasted bread consumption average in 2024 is 24.8 kilograms per person (Statista, n.d.).



BREAD

The predicted average bread consumption for Canadians in 2024 is 38.3 kilograms per person (Wunsch, 2023).

LEMON & LIME

In 2021, the global consumption of lemons were an average of 1.9 kilograms per person (ReportLinker, n.d.).



LEMON & LIME

The annual, lemon and lime consumption of Canada is 110,000,000 kilograms per capita, which equals to 2.83 kilograms per person (USDA Foreign Agricultural Service, 2024).

Main Ingredients	Geographic Origin
veal	The geographic origin of veal is unclear, however the first domestication of cattle began in the Middle East (Upadhyay et al., 2017). From there cattle domestication expanded into Europe and this practice became common (Upadhyay et al., 2017). Although domestication of cattle does not necessarily immediately reflect into the production of veal, it was a byproduct that emerged later on.
Egg	There is evidence that domestication of chickens for meat and egg date back to the domesticated red jungle fowl in multiple regions within Southeast Asia and Southwest China (Hata et al, 2021).
White Baguette (breadcrumbs)	The origin of the baguette is still debated. The two most common claims is that it was brought to Paris in 1840 from an Austrian baker named August Zang (Chevallier, 2009). The second claim is that Napoleon was the inventor of the baguette as he requested bread to be baked in a long, thin shape so that soldiers could easily carry them during the French invasion of Russia in 1812 (Chevallier, 2009).
Flour	Flour originated from the Middle East, as the first stone mills were discovered there dating back to 6000 BC (Özmen un, 2024).
lemon	Originated in tropical and temperate regions such as South-east Asia, New Caledonia and Australia (Curk et al., 2016).

Bio-geo-physical attributes in Austria that shape the Wiener schnitzel

Austria has a diverse range of landscapes from mountains ranges to plains. Austria has two climate classifications. Lowland areas in Austria are considered Cfb Climate which is a temperate oceanic climate that consists of mild summers and cold winters (Austrian Embassy Washington, n.d.). The climate in Austria's mountainous Regions are considered Dfb Climate, which consists of colder winters and moderately mild summers (Austrian Embassy Washington, n.d.).

40% of Austria's land is used for agriculture and alpine grazing (Climate Change Post, n.d.). Out of that 40% of land, 60% of it is grassland, which supports the production of milk and cattle farming practices (Federal Ministry Republic of Austria, n.d.). The climate and regions in Austria contribute to the conditions of agricultural farms and the strong health of the cattle which results in its high quality meat, which is used in the Wiener Schnitzel.

Most Popular Meat for Schnitzel Across Europe



Legend

Red = chicken
 Blue = veal
 Green = haddock
 Pink = Pork
 Yellow = Beef

It is important to note that in many countries there are multiple variations of schnitzels available. This map represents the most common type of schnitzel meat within a country, however the schnitzel available is not limited to that single meat.

Information earlier discusses the Wiener schnitzel and the Cotoletta all Milanese, here are some other variations of schnitzels in different countries

Country	Dish name	Type of meat	Year of origin	Notes
Israel	Schnitzel or Chicken Schnitzel	Chicken Breast	Early 1900s	<p>Chicken Schnitzel is a popular dish in Israel. It could be served by itself or within a pita bread, which also consists of a salad (Avieli & Wallner, 2018).</p> <p>The reason why the meat in the Israeli schnitzel is chicken is because when Israel first became a state in, veal was not easily accessible (Holy Schnitzel, 2018). There is also grey area on wether veal is kosher or not. In order for veal to be kosher, there are specific slaughtering requirements and also personal interpretation of the kosher law (Holy Schnitzel, 2018).</p>
Japan	Tonkatsu	<p>Traditionally pork;</p> <p>Two most common cuts are called "Hire-katsu" which is pork fillet and "Rosu-katsu" which is pork roast (Savor Japan, 2019).</p>	Early 1900s	<p>Over the years Tonkatsu has grown a lot of popularity in Japan and is now a very common dish (Savor Japan, 2019). The Tonkatsu is served with a tonkatsu sauce and in addition to that it may also come with a small mount of mustard (Savor Japan, 2019).</p> <p>The main ingredients in the tonkatsu sauce may consist of, ketchup, soy sauce, brown sugar, mirin, Worcestershire sauce, ginger and garlic.</p>
Germany	Jägerschnitzel	Veal or Pork	Mid-1900s	<p>There are multiple types of well-known schnitzel in Germany, however the jägerschnitzel is one of the most popular. The jägerschnitzel is usually made with pork, but may occasionally be made with other meat. What makes this schnitzel unique is that it is served with mushroom gravy (Shaw, 2022).</p>

Wiener Schnitzel Recipe (per Schnitzel)

1

Step 1 = Set up

Set up three plates. One plate with 1 cup of flour, one plate of 2 eggs whisked, one plate of bread crumbs. (NOTE: you may buy a package of breadcrumbs or create your own by blending a white baguette).



2

Step 2 = Prepare veal

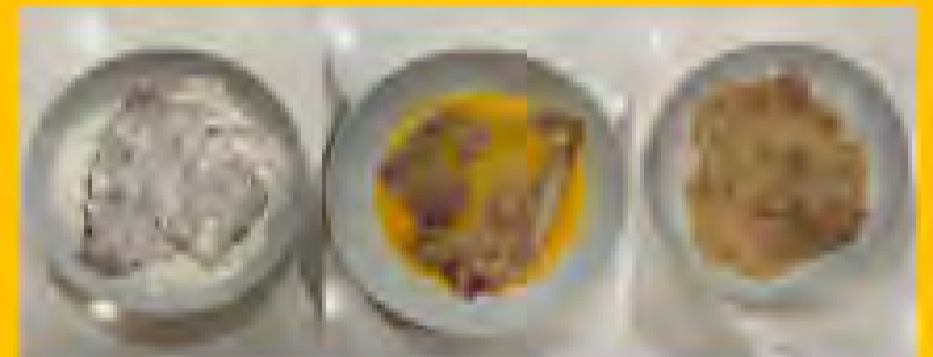
Rinse the veal with cold water. Then thin out the piece of veal by hammering it. After season with salt on both sides.



3

Step 3 = Breading process

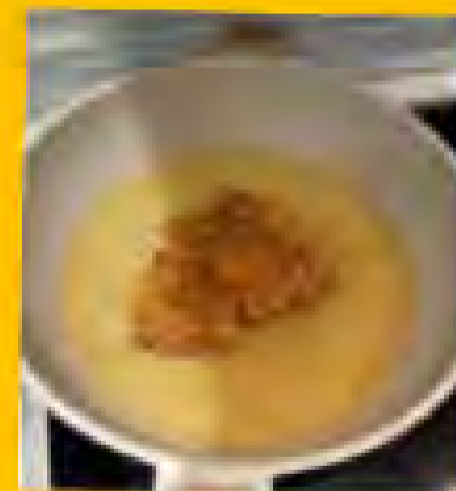
First, place the veal in the plate of flour and cover completely. Repeat, however, this time in the plate of eggs. Place the veal in the plate of breadcrumbs until it is covered completely.



4

Step 4 = Cooking the schnitzel

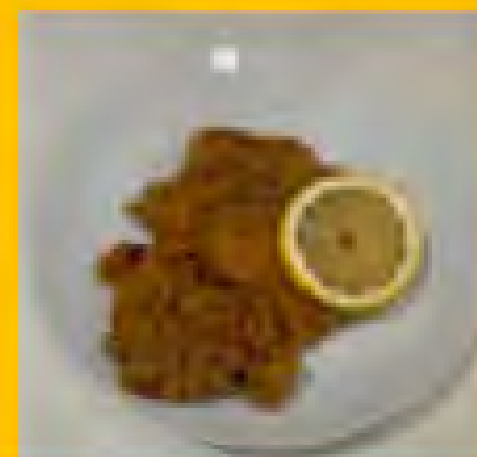
Pour two cups of oil in a pan. (NOTE: You might need to add more than two cups, the schnitzel must be fully swimming in the oil). Heat the oil by setting the stove top to high, once oil is bubbling, insert the veal. Flip the veal over once it has a golden look (should be around 2-3 minutes) and cook the other side until it is also golden.



5

Step 5 = Garnish with lemon

Place Schnitzel on the plate and serve with lemon slices



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The American Breakfast sandwich

In the First section of this article, I will be discussing the origins and consumption habits of the four main ingredients: bacon, egg, cheddar cheese, and English muffins. After I will dive into the origins of the sandwich itself and how it became so popular.

Eggs:

The chicken or the egg, which came first? It really all depends on what we mean by “first”. Sources indicate that humans have consumed eggs far before chickens were domesticated. The Jungle fowl of east Asia (*Gallus Gallus*) is considered the original ancestor of modern chickens, with domestication beginning around 5,000 years ago (Peters, 2016). There is some level of contention over where the original domestication took place, with disagreement stemming over the country or region; however, the estimated timeline is agreed upon (Peters, 2016). Consistent consumption of eggs is thought to have pre-dated the domestication of fowl, when early humans learned that by removing the eggs from a female jungle fowl’s nest, she would soon lay more eggs (Smith & Daniel, 1975). Today’s domestic chickens are thought to have originated through multiple domestication events in the same time range, contributing to a diverse genetic origin and multiple “clades” (groupings of distinct organisms) (Jain, 2024). Domestication reached Europe by the end of the stone age (before 2000 BC) and North America early on its discovery by Europeans (close to the 15th century) (Katz, 2003). Production and consumption of eggs has steadily increased in Canada in recent years (See Table 1).

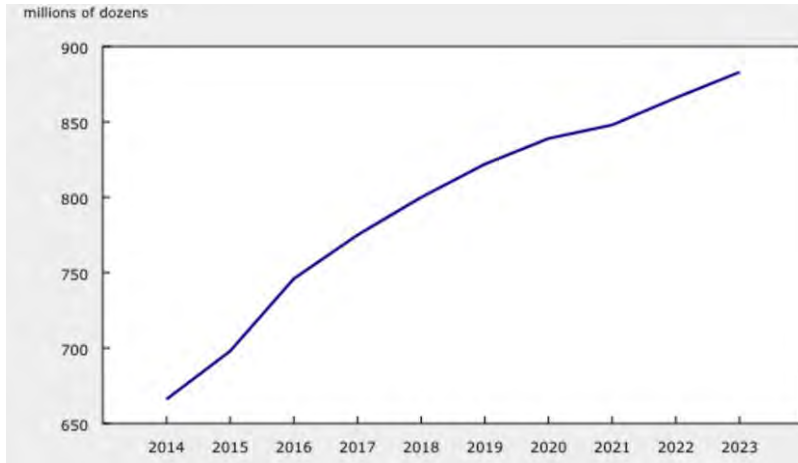


Table 1: Production of eggs in Canada has increased from 666 to 883 millions of dozens from 2014-2023 (Via Statistics Canada, 2024)

Table 1: Production of eggs in Canada has increased from 666 to 883 millions of dozens from 2014-2023 (Via Statistics Canada, 2024)

From 2023-2024, revenue associated with the global egg market increased by ~9% and is expected to increase by ~8% annually through 2029 (Statista, 2024). Eggs have become a global staple, and chicken are the most numerous domestic animal on earth (Peters, 2016).

Cheddar Cheese

Fox et al (2017), note that cheese has been produced since some of the earliest civilizations, originating in Sumer and ancient Egypt. The production spread through the continents, and it's estimated there are over 1000 cheeses globally (Fox et al, 2017). According to the book "Fundamental of Cheese Science," the first recorded date for cheddar cheese was in the year 1500. See table 2.

Gorgonzola	897	Cheddar	1500
Schabzieger	1000	Parmesan	1579
Roquefort	1070	Gouda	1697
Maroilles	1174	Gloucester	1783
Schwangenkase	1178	Stilton	1785
Grana	1200	Camembert	1791
Taleggio	1282	St. Paulin	1816

Table 2: First recorded date of major cheeses (Fox et al, 2019 via Scott 1986)

Another book, titled "Cheese: A Global History," states that the first time the name cheddar appeared was in 1635. There is some contention over the exact date, but the location of

its origin is thought to be near the actual village of “Cheddar,” near somerset, in the southwest of England (Fox et al, 2017). See Image 1.



Image 1: Location of the Village of Cheddar, and surrounding Counties

Cheese was produced locally for the next few hundred year, until the first major cheese factories were established in New York and Derbyshire in the years 1851 and 1870, respectively (Fox et al, 2017). Fox also notes that currently there are over 1500 cheese varieties globally, with a wide range of criteria to determine specific cheese classes: cheddar is classified as a hard cheese. In the first couple centuries of its inception, cheddar was a highly desired and culturally prominent cheese in the UK and was often requested at Charles’ the first’s court in London (Dalby, 2009). Due to its popularity, imitations of cheddar became increasingly common; Royal Cheddar of Canada and Sharp Cheddar of New England are two examples of imitations that “nothing to do with Cheddar beyond the name, a likeness of flavour and (in most cases) the technique of ‘cheddaring’” (Dalby, 2009). Only in 2020 did Cheddar receive a Protected Designation of Origin (PDO) in the UK, under the official name “West Country Farmhouse Cheddar Cheese” (UK GOV, 2021). “Cheddar” now refers to the method of manufacture and the unique process of stacking and turning the curds designed to speed up the draining of the whey (FCL, 2021). “West Country Farmhouse Cheddar is distinctive due to its historical links with the original cheese producing area, the source of milk, the methods of manufacture, its maturity, and its distinctive taste (FCL, 2021). Consumption statistics of Cheddar cheese in Canada are vague; however, production per month is roughly 13,000 metric tonnes (Statistics Canada, 2024) and around 170 metric tonnes annually (Statista, 2024).

Bacon:

Bacon, a type of cured pork, is a globally popular meat. “The word itself derives from the Proto-Germanic term for “back” and made its way through French into Middle English by the 12th century to refer to any meat from the back and sides of a pig; it was not until the 14th century that bacon began to refer to the cured meat from the “side” of the pig” (Weiss, 2018). The story of pork goes back much further than the 14th century, with the first archeological records of domesticated pigs dating back somewhere between 7000-5000 BC in the Middle East and eastern Mediterranean (Kiple, 2006). All domesticated pigs (*Sus scrofa domesticus*) originate from the wild boar (*Sus Scrofa*); its natural range extends from “the British Isles and Morocco in the West to Japan and New Guinea in the east” (Kiple, 2006). Pigs are a popular animal for domestication due to an omnivorous diet, rapid growth potential, and wide range of pork products (Kiple, 2006). Pork is one of the most popular meats in the world, due to its high fat content and strong flavour, but it also has the most negative connotations. In Western countries pigs are associated with filth and poverty, and the estimated two billion people who follow the Islam religion do not consume pork, as it is named in the Koran as an object of defilement (Kiple, 2006). Bacon is traditionally made by combining the loin and the belly, which are cured and smoked (Weiss, 2018). Bacon is not inherently linked to pork, and specifically the loin and belly, as there are numerous types of bacon: turkey, chicken, vegan, back bacon. Weiss (2018) argues that” while they are clearly not all bacon, they are all substances that “bundle” the qualities of fatty, rich, cured, indulgence.” Bacon has long been an enhancer for other dishes due to the salty and fatty flavour but didn’t become a staple in traditional breakfasts in the USA until the 20th century (Weiss, 2018). USA leads the globe in per capita bacon consumption, with Canada, Denmark, Germany, and Australia close behind (Red Table, 2024).

English Muffins

"The English muffin is round and made from a soft yeast-leavened dough enriched with milk and butter. It is usually cooked on a griddle, which gives it a flat, golden-brown top and bottom, and a white band around the waste and a light, spongy interior...This method appears as early as 1747” (Davidson, 1999) Cultivation of grain extends back to the dawn of agriculture, around 8500 BC, however the first records of yeast being used are dated to around 4000 BC in ancient Egypt (Considine, 1982). The English muffin was introduced in New York in the late 19th

century and became a staple of American breakfasts thereafter (Mariani, 1999). While there are no individual statistics available for English muffins, the Canadian baked goods market is valued at US \$6.6 billion, 12th in the world, and the global market is valued at around \$450 billion (Government of Canada, 2023)

The Breakfast Sandwich

Originating in the early 19th century in the UK, the breakfast sandwich consisted of “classic breakfast foods - a fried egg, meat, sometimes cheese - were put on a soft roll called a ‘bap’” (Powers, 2016). After finding its way to the US, it did not become the staple of American food that it is today until after WWII and the rise of instant meals and fast food. In the early 1970s, both Jack in the Box and McDonalds created what we think of today as the classic breakfast sandwich: fried egg, meat, and cheese on an English muffin (Powers, 2016). Since the inception of the original breakfast sandwich in early 1800s England, the composition of bread, eggs meat and cheese stays relatively similar. Many cuisines around the world have different adaptations of a breakfast sandwich, but none contain the four ingredients that compromise an American Breakfast sandwich. In Canada and the US, they are available at almost every corner: in fast food chains, supermarkets (fresh and frozen), bakeries, gas stations, and they can very readily be made at home. What follows is my personal recipe:

Recipe:

1. Fry bacon until crispy.
 2. Place English muffins in a toaster or oven until golden brown.
 3. Fry eggs over easy in the Bacon grease. Place cheddar cheese on top directly after flipping.
 4. Assemble ingredients onto English Muffin.
- Ketchup and hot sauce are optional but recommended.

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CHOCOLATE CHIP BANANA BREAD BY KYLIE BEVAN

Before you make a recipe, don't you think you should know the origin of the main ingredient you are interacting with? Before navigating to the recipe below, you will find the origin, domestication, and cultivation stories and history of **bananas**, the main ingredient that you will be working with, as well as the recipe itself developed to create some delicious banana bread!

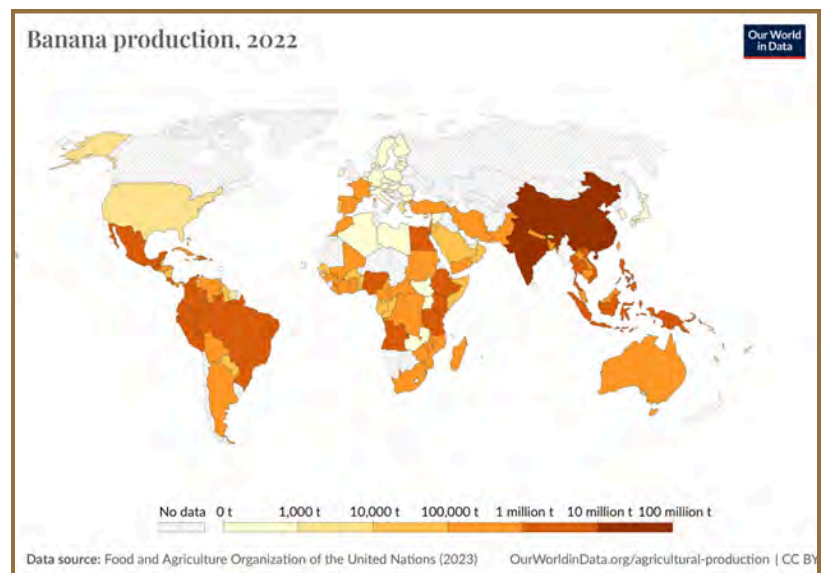
Banana Fun Facts

Bananas are both a **fruit** and a **berry**! [1]

There are over **1000** different varieties of bananas growing around the world! [2]

More than **1 billion** bananas are consumed annually! [2]

Thanks to the many varieties and global demand, bananas have a large geographic distribution worldwide! All edible bananas in the world come from the genus, *Musa* [3]. The natural distribution of this genus stretches within **Northern Nepal, Southern Mountainous China, the Southern Islands of Indonesia** and **New Guinea**, and the **West Tropics of Queensland** [3]. Today, bananas are grown within **150** countries, are the **most traded fruit**, and are exported around the world for an export value of **8 million** American dollars (2016) [4].

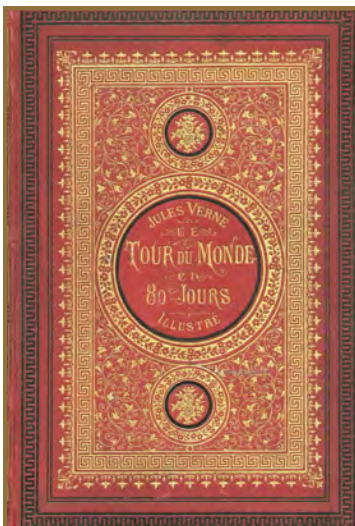


The common edible bananas we know today are made up of three layers; the **exocarp** which is usually not consumed (the skin), the **mesocarp** which we do eat, and the **endocarp** which is the thin membrane layer that surrounds each seed within the mesocarp [1]. These fruits can be found in almost all grocery stores, are often priced lower per pound relative to other fruits, and are not hard to find discounted prices for over-ripened, less desirable batches.



But the conditions surrounding the bananas we know and eat today have not always been this way...

Bananas have not always looked the way they do today, they were likely **smaller, brown** fruits with **large seeds** and were only grown within a small geographic extent. Historic cross-breeding between the *Musa* genus and other different species of bananas is linked to the creation of a more sustainable fruit, with less seeds and a better taste. The banana that caused the spike in popularity for the fruit was the **Gros Michael banana**, which was said to be **softer, creamier, sweeter, and harder to bruise**. But in around the 1950's, a disease, known as '**banana wilt**' or Fusarium Race 1, ran rampant through the crops causing the variety to go almost completely **extinct**. This leads us to the common banana variety we know today in the US and Canada, the **Cavendish** banana. [5]



A significant event in the history of bananas popularity comes from **Jules Verne's** account of bananas in his 1872 book *Tour du Monde en 80 Jours*, which caused a wave in the demand for the delicious *Gros Michael* variety. Comparatively to today's conditions, bananas were seen as a **luxury** food item that only the rich could afford and indulge in. Today, the Cavendish variety are the **most common** and one of the **cheapest** fruits you can find in the grocery store. [5]

Even though it is the most sought after 'bread' recipe searched on the internet in the US today, the origin of banana bread is unknown. There are two main theories that attempt to explain the creation of the dish...

1

By housewives during the Great Depression to avoid wasting overripe produce.

2

In corporate kitchens to promote the use of baking soda and flour.

In both of these theories, the geographic origin of the recipe is placed in the **North America**. By the **1930's**, banana bread was appearing in almost every cookbook in North America as '**banana quick bread**,' all incorporating **mashed bananas, flour, a sweetener, a fat, and a leavener**. From investigation of banana recipes through the decades, they often reflect and show insight into the **economic states** of North America at the time. [6]

Recipes from the **1930's** often have a **smaller yield, limited amount of sugar**, and banana playing a more pronounced role compared to modern recipes. These characteristics align with the struggles faced by many during the **Great Depression**. The **1950's** are time in history when men came home from war and became business professionals, women stayed home with the children, and families were becoming larger. Thus, recipes from this time started to become based on **large yield and convenience and less about taste**, with their **low-sugar, low-fat, and low-banana** contents. Moving into the **mid-1960's** and **early 1970's**, recipes began to stray from the original much like the young generations of the time, with many incorporating **vanilla, coffee, nutmeg**, and even **brown sugar and poppy seeds**. These characteristics align with the freedom of expression and protests against the norm. Now, coming into the modern, health conscious, diet conformed day, many of the recipes found today are oriented around low-sugar content, gluten-free, and/or raw diets. These recipes come at a time when obesity, diabetes, and digestion intolerances are very prominent issues within our society. [6]

What are the best bananas to use in banana bread?



OVERRIPE BANANAS are the best for banana bread! This is due to the sweetness that older bananas provide to a recipe. As bananas age, they create more and more fructose, providing a sweeter and better flavour profile to the recipe. Older bananas additionally contain more water, which aids in producing a more moist final product. Ensuring you use overripe bananas in your recipe will therefore bring these desirables into account and aid in producing a delicious, sweet, and moist banana bread! [7]

BANANA CAKE

A variation of the traditional North American banana bread exists within the Philippines, 'banana cake.' Banana cake differs through the use of coconut milk, or macapuno (sweetened shredded coconut). It is a sweeter, more tropical version of the recipes developed and made within North America. [6]



You've made it! Here is the step-by-step recipe to make Chocolate Chip Banana Bread!

This recipe has been adapted from [Tasty.co](https://www.tasty.co) [8].

Ingredients

3 ripe to overripe bananas

½ cup of melted butter

½ cup of brown sugar

1 egg

1 teaspoon of vanilla

1 teaspoon of baking soda

1 teaspoon of baking powder

¼ teaspoon of salt

1 ½ cups of flour

½ cup of semi-sweet chocolate chips

Tools

Large bowl

9x5 loaf pan

Fork

Spatula

Measuring cups and spoons

1

Preheat your oven to 350°C. Grease a 9x5 loaf pan with a product of your choosing (butter, vegetable oil,...).

2

Add bananas to a large bowl and mash together with a fork until there are no large clumps. Add the melted butter, egg, and vanilla and stir with a spatula until all combined.

3

Add the flour, brown sugar, baking powder, baking soda, and salt, and stir until the batter is smooth without any clumps.

4

To the batter, add in the chocolate chips and stir until combined. Make sure to not overman the batter as it will create a very dense final product!

5

Pour the batter into your greased loaf pan and put into the oven for 50 minutes, or until a toothpick comes out clean.

6

Let cool and Enjoy!

[1] (McVean et al., 2017) <https://www.mcgill.ca/oss/article/did-you-know/bananas-are-berries-raspberries-are-not>

[2] [http://www.fao.org/economic/est/est-commodities/oilcrops/bananas/bananafacts/en/#:~:text=According%20to%20some%20estimates%2C%20more,globally%20each%20year%20\(Bananalink\).](http://www.fao.org/economic/est/est-commodities/oilcrops/bananas/bananafacts/en/#:~:text=According%20to%20some%20estimates%2C%20more,globally%20each%20year%20(Bananalink).)

[3] (Langhe et al., 2009) <https://scholarspace.manoa.hawaii.edu/server/api/core/bitstreams/32536d05-e5aa-48a5-9169-d194409cb127/content>

[4] <https://www.bananalink.org.uk/all-about-bananas/>

[5] <https://www.youtube.com/watch?v=9fzTUQuyswU&t=94s>

[6] (Hamel, 2017) <https://www.youtube.com/watch?v=9fzTUQuyswU&t=94s>

[7] (Alfano, 2024)

https://aura.american.edu/articles/journal_contribution/The_Quest_For_the_Perfect_Loaf_An_Investigation_into_the_Creation_of_Banana_Bread/25612662?file=46370968



THE STORY OF AMERICA'S MOST POPULAR SALAD

UNRAVELING THE SECRETS OF THE CAESAR SALAD
BY AMELIA GRAY



History of the Caesar Salad

During the prohibition era in 1924, an Italian named Caesar Cardini moved his restaurant from San Diego California to Tijuana, Mexico so he could consume and serve alcohol legally (McNamee, 2024). His restaurant was named Caesar's and was a popular destination by both Americans and Mexicans, so he ran out of food often. After running out of ingredients for a main salad dish on a busy weekend he got together what he could from the area to create a substitute. To keep it fresh and put on a show the new salad was made tableside in front of the guests (fig. 1).

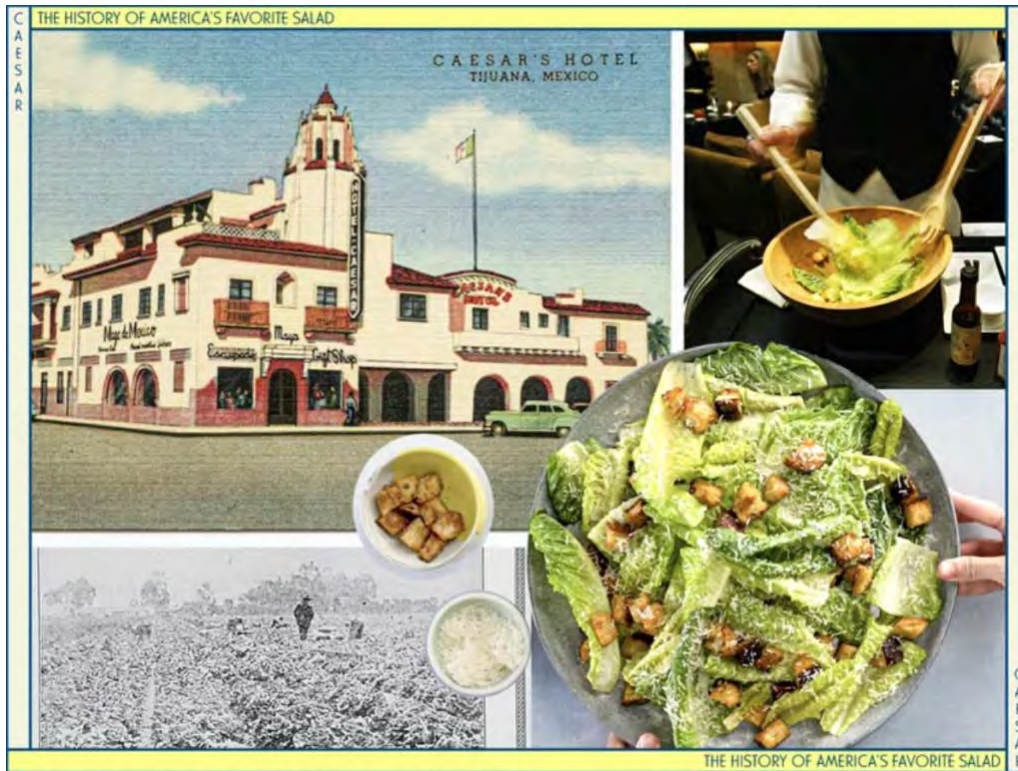


Figure 1. Collage showing the birthplace and making of Caesar salad. Top left photo is the Caesar's Hotel in Tijuana Mexico. The top right photo shows the tableside preparation of tossing the salad. Bottom left shows romaine fields and the bottom right photo is the classic Caesar salad prepared. Image sourced from: Serious Eats / Getty Images / the Workman and Temple Family Homestead Museum.

Parmesan cheese, lemons, garlic infused olive oil, coddled eggs and Worcestershire sauce were tossed with whole romaine leaves and croutons to create the first ever "Caesar salad" (McNamee, 2024). After the prohibition in 1935, Cardini moved back to Los Angeles and started marketing the Caesar dressing that he had trademarked. California grew most of America's lettuces and with Caesar salad originating on the west coast, the recipe traveled along with the lettuce, becoming a favourite across America (Carbone, 2024). By the 1940s the Caesar salad was a dish on the menus at fine restaurants around the world.

Cultural Practices in Mexico/America that Shape the Dish

Caesar salad is dish that has spread worldwide and has no real ties to its place of origin. The last Caesar Cardini's original restaurant in Tijuana, Mexico, even shut down in 2009 (McNamee, 2024). However, the cultural practice of consuming alcohol is one of the reasons for the creation of the dish, and the Caesar salad continues to live alongside that. Rather than evolving into a fancy traditional dish served at fine restaurants, the Caesar salad lives on as a classic comfort food consumed alongside a drink at the pub.

Geographic Origin of the Main Classic Ingredients

There are many different variations of the beloved cesar salad, but the original concoction by Cardini himself contains:



Romaine Lettuce - Mediterranean. Its origins can specifically be traced back to modern day Greece and Turkey. The lettuce was widely consumed in the Roman Empire, hence its name “Romaine.” It is believed the cultivation of this plant started 4500 years ago in ancient Egypt (Faizal, 2023).

Garlic Infused olive oil - Mediterranean The earliest remnants of olive oil dates back to atleast 8,000 years ago, and were found in a settlement near Israel (What Is the History of Olive Oil?, 2020). Olives are deeply tied to the mediterranean culture, in Italy alone there are over 500 varieties of olive trees and annual production of olive oil has reached 289,000 tons in recent years (Ozbun, 2024). Cardini was most definitely biased to using Italian olive oil and probably infused it with garlic himself.



Parmigiano Reggiano - True parmesan is only made in Reggiano a region of Italy. It carries a protected denomination of Origin (PDO) designation and production must follow established rules to uphold the quality and name. The history of the cheese dates back 900 years and the ingredients are the same today (Canovi, 2016).

Lemon Juice- Native to Southeast Asia. Lemons quickly spread west and was the first citrus fruit introduced to the Mediterranean. The first substantial cultivation of lemons in Europe began in Genoa in the middle of the 15th-Century (A Taste of History, 2021).



Worcestershire sauce -Worcester, England 1835. It was supposed to be a sauce inspired by one in India, but it was left forgotten and fermenting for 2 years. It had aged into what we now know as the beloved sauce used on meats and in lots of recipes, created by Lea and Perrins, drug store owners at the time (Filippone, 2019).



Croutons and eggs: Place of origin is not clear, wherever there are chickens and bread. Croutons are presumably french.



The Bio-geo-physical attributes of Mexico that Shaped the Dish



Due to the spontaneity of this dish being thrown together, Cardini could only use what was on hand and around at the local markets. This explains the simplicity of the ingredients, but also the level of freshness that only Mexico could provide. Mexico is one of the world's top lettuce producers, so the crisp romaine lettuce in the Caesar salad was probably grown down the street. Mexico's diverse climate and bio-geophysical attributes creates ideal conditions for lettuce cultivation, which is why they have been growing it for centuries (Johnson, 2024). The best places in Mexico for lettuce cultivation with good soil and greater water resource availability include areas like Baja California, Sonora, and Sinaloa (Johnson, 2024). This is exactly where Tijuana is (fig. 2), so the lettuce was presumably very fresh and local. Mexico is also the world's second largest producer of lemons, an integral part of the Caesar salad to give it that zest and edge (Shabandeh, 2024).

Figure 2. Map of northwestern Mexico, highlighting the location of Tijuana, Mexico right on the border with the United States. Map sourced from: <https://friendly-dubinsky-cb22fe.netlify.app/tijuana-baja-california-map>

Current Global and Canadian Consumption profile of the Main Ingredients

Caesar salad is accredited with the popularization of lettuce greens in North America (Carbone, 2024). The crunchy texture of the croutons and raw crisp romaine are thought to make eating salads more enjoyable. According to a study done by Ordabayeva & Srinivasan (2019), they found that food that makes sound may have increased consumption because it enhances the consumer's auditory experience and helps with taste evaluation. This year Caesar salad increased in the popularity trends by 13.5%, coming out above Greek salad (Reinoso, 2024). Caesar salad is rising the fastest in Indian Cuisine.

Leafy greens are one of the most consumed crops worldwide and Romaine lettuce is one of the most widely cultivated type (Shatilov et al., 2019). The U.S. per capita consumption of fresh romaine and leaf lettuce amounted to approximately 12.7 pounds in 2022 (Shabandeh, 2023). Here in Canada we import most of our lettuce from California and often run into supply chain issues, which is why we

experience extremely high prices for Romaine, this definitely deters some consumption (Edmiston, 2022).

People are drawn to Caesar salad for its artisan qualities and potential for high-quality ingredients (Reinoso, 2024). In 2020, there was a 36.8 % growth in Parmigiano Reggiano import to Canada, roughly 77,000 wheels were brought in to feed the demand. Canada is steadily Italy's fifth largest export for the cheese (Brehaut, 2021). I think Canadians are seeking quality, and caught on to the 8% of sawdust that Kraft parmesan contains.

Adaptations and the Temporal Evolution of the Dish

Caesar salad is a very adaptable recipe and many chefs have their own spin on the classic salad. In the 1930s, anchovies were added to the dish in variations of the recipe across southern California (Carbone, 2024). Cardini did not have this in the original recipe, as he felt the anchovies were too overpowering, he used Worcestershire instead for its faint fishy richness.

These days in the time of diets and fads people are concerned about the nutritional content of Caesar salad. Only having one vegetable like romaine which is not the most nutrient dense, means you will not be getting the variety of nutrients that you need. For this reason, lots of places use kale as an alternative for its superfood properties (fig. 3). It is also common for extra veggies such as avocado, tomatoes and bell peppers to be added to spice it up. Protein can also be added like grilled chicken, salmon, bacon bits and sauteed tofu to make it more of a full meal. A classic Caesar dressing would be high in saturated fats, so many producers have created "light" dressings to decrease calories and fat content (Haas, 2022). The Caesar dressings creaminess came from raw eggs originally. However, using raw egg yolks are a food safety concern, so many modern recipes don't use them at all. Instead they use plain yogurt, buttermilk or sometimes even kefir (Haas, 2022). Caesar salad is very popular with vegan diets and there are many adapted recipes that use avocado oil or other plant based oils to substitute the eggs in the dressing (Haas, 2022).



Figure 3. Panel A: Vegan kale Caesar salad with roasted chickpeas and cashew parmesan, image sourced from <https://eatwithclarity.com/vegan-kale-caesar-salad/>. Panel B: Grilled Romaine hearts with tomatoes and roasted chicken, Image sourced from <https://i.pinimg.com/736x/74/e8/71/74e871337d26de8948d5fd09c91630ae.jpg>. Panel C: "Caesared" salmon salad, Photo by Victor Protasio / Food Styling by Margaret Monroe Dickey / Prop Styling by Lydia Pursell

Super Simple Caesar Salad

With real Parmigiano Reggiano



4 servings



15 minutes

INGREDIENTS

Head of Romaine
lettuce
1/4 cup parmesan
reggiano grated
Croutons (optional)
4-5 cloves of Garlic
Juice of 1 lemon
Mayo ~1.5 cup
salt and pepper to taste

DIRECTIONS

To prep dressing (makes ~2 cups)

1. Mince 4-5 cloves of garlic into a jar.
2. Juice one lemon into jar.
3. Add mayo until desired consistency (usually ~1.5 cups)
4. Salt and pepper to taste
5. Optional: adding a bit of Parmigiano Reggiano into the dressing.
6. Prep Romaine lettuce, wash, dry and tear pieces.
7. Toss desired amount of dressing with lettuce, remaining Parmigiano Reggiano and croutons.
8. Enjoy right away!
9. Extra dressing keeps well in the fridge for awhile.

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Pão de Queijo

Brazilian Cheese Bread

What is Pão de Queijo?

Brazilian pão de queijo, or cheese bread, is a beloved Brazilian comfort food that is served in bakeries, pubs and grocery stores across the country. Made primarily from cassava flour and cheese, it is cherished for its delicious cheesy flavor and its chewy on the inside, crispy on the outside texture.

While there are many variations of the recipe within Brazil, the traditional recipe of pão de queijo is based out of the brazilian state of Minas Gerais and emphasizes the use of Minas Cheese. The version in the recipe below is sourced from Pilotando Fogao (2024).



Recipe:

Ingredients:

1 and 1/2 cup of water (300ml)
1/2 cup of oil (80ml)
1/4 cup of whole milk (60ml)
1 tablespoon of salt
3 cups of sour tapioca starch (polvilho azedo) (475g)
1 and 1/2 cup of sweet tapioca starch (polvilho doce) (150g)
4 eggs
300g of artisanal Minas cheese or half cured, or grated parmesan

Directions:

Preheat the oven to 200°C.

Boil the oil with the milk.

Wisk together the sweet and sour cassava starch with the salt.

In a bowl, pour the milk and oil combination over the cassava flour, stirring well until there is a homogenous dough.

Mix in the eggs and cheese until a homogeneous dough is formed and does not stick.

Rub oil on hands and remove small amounts of dough shaping them into balls. Place them on the baking sheet. Bake for a minimum of 40 minutes or until golden brown.



The History of Pão de Queijo:

The origins of pão de queijo date as far back as 10,000 years with the domestication of the cassava root, the plant integral to the bread's creation (Olsen & Schaal, 1999). The Guaraní people, indigenous to the southern part of the Amazon rainforest, learned how to turn the root from toxic to edible. This cultural learning allowed cassava to become a carbohydrate dense dietary staple (Gilbert, 2017). At that time, the cassava starch was then used to make 'beijus', small pancakes made from moist tapioca starch which were served with fillings such as fresh fish and fruits (Praticabr, 2022).

Once the Portuguese arrived in Brazil, the pão de queijo as it is known across Brazil today started to take form. The gold rush drove early colonizers to settle in the state of Minas Gerais' colonial capital, Ouro Preto. While the exact development of pão de queijo is somewhat unknown it is clear it started with the early use of cassava as a replacement for wheat flour. The land surrounding Ouro Preto was not suitable for cultivating typical grains like wheat which the Portuguese were used to, so local food sources such as cassava were grown instead (Gilbert, 2017). Slaves from Africa were responsible for the care of the cassava plants and its preparation to make things such as cookies, breads, and tapioca (Praticabr, 2022). Some believe that these slaves were the culinary masterminds behind pão de queijo as they were given small food rations, so they learned to make a starchy bread with the commonly discarded cassava (Garcia, 2022). This is because during the processing of the cassava, a powdery tapioca residue was left behind in bowls which slaves would scrape out and turn into bread balls (Gilbert, 2017).

After slavery was abolished, cattle farms were widespread across the state of Minas Gerais. In fact, according to the agricultural census of 1920, Minas Gerais was the largest producer of dairy in the country (National Geographic Brazil Newsroom, 2024). Eventually eggs and aged



Minas cheese, the typical cheese of the region were added to the dough (Gilbert, 2017). It is likely that initially, the cheese added was part of the leftover portion of the cleaned cheese (National Geographic Brazil Newsroom, 2024). Thus, the sheer strength of the dairy industry in Minas Gerais inspired the addition of cheese to the cassava based bread.

The recipe at its early days was considered special and only served at important moments (National Geographic Brazil Newsroom, 2024). Now, pão de queijo is sold across the country. It is available both fresh and frozen in grocery stores as well as in bars and restaurants (Gilbert, 2017). The dishes popularity can partially be attributed to efforts from Minas Gerais to generate value for their own cuisine across Brazil through commercial expansion and national popularization (National Geographic Brazil Newsroom, 2024). It has become so popular that August 17th was named national day of pão de queijo according to Agência Brasil (the official information agency of the Brazilian Government) (National Geographic Brazil Newsroom, 2024).

Cassava: the Queen of Brazil



Cassava starch (polvilho azedo), the primary ingredient in pão de queijo, is a cornerstone of Brazilian and South American cuisine with profound cultural and nutritional significance (Qi et al., 2021). Also known as manioc, yucca, and tapioca (Garcia, 2022), cassava is so integral to Brazil that it often is referred to as the 'queen of Brazil' (Gonçalves et al., 2024). This nickname reflects cassava's importance to the nation's cultural heritage. Nutritionally, cassava is an easy source of carbohydrates allowing it to be a staple food throughout the pantries of Brazil (Gonçalves et al., 2024).

Despite its importance and nutritious qualities, some cassava actually contains a high amount of hydrogen cyanide (HCN) making it toxic in its raw form. Proper processing is crucial to make cassava safe to eat (Nhassico et al., 2008). Cassava can be classified into two types, sweet, which contains minimal cyanide and thus needs minimal processing and bitter, which is highly toxic without proper processing (Gonçalves et al., 2024). Historically, processing techniques can be traced back to the Guaraní people (Gilbert, 2017). Now, the production process for cassava typically involves peeling, grinding, beating, sieving, slag removal, washing, and natural fermentation (Qi et al., 2021). The natural fermentation gives 'sour cassava starch' its unique acidic flavor (Pilotandofogao, 2024).

Globally, cassava is growing rapidly in popularity. Beyond South America, cassava has become a vital crop in tropical regions of Africa and Asia. It has bolstered food security in many regions due to its easy propagation, drought resistance, and ability to grow in poor soils (Hillocks et al., 2002; More, 2019). Additionally, while cassava is primarily a staple in tropical regions, North American consumption is also increasing. Baseline consumption is generally associated with immigrant populations from tropical regions (Global cassava market study, 2024). However, cassava consumption is projected to double in global demand by 2032. This increase is primarily associated with the rise in gluten free diets, especially in North America and Europe where cassava was traditionally not as popular (More, 2019). As a versatile, sustainable, and carbohydrate dense ingredient, cassava is both a cultural staple and a key player in global agriculture.

What is Queijo Minas?

While queijo minas is not used in all pão de queijo recipes today it is incredibly important to the flavor of the traditional pão de queijo of Minas Gerais. Queijo Minas (cheese from Minas Gerais) can be considered a terroir for the distinctive production process, texture, and flavor profiles originating from the mineral rich pastures of Minas Gerais. The production involves raw cows' milk being coagulated using a calf's natural rennet, pressing the cheese to eliminate whey, then salting and aging the cheese (Wolfgang, 2023).



OBA OBA pão de queijo in Vancouver BC



Chipas

Pão de Queijo Now:

Pão de queijo today is widely enjoyed at a global scale in its various forms. In South America, millions of pão de queijo, or similar breads, are consumed daily in countries such as, Columbia, Argentina, Paraguay and Ecuador (Bohrer, 2018). In Argentina and Paraguay, a comparable bread called 'chipas' is believed to also originate from the Guaraní people (Heimerman, 2018). The dough of chipas is very similar to that of pão de queijo. It is made from cassava starch, milk, eggs, butter too. The key distinction lies in the cheese as Argentinians typically use sardo instead of the typical queijo minas favored in Brazil (Heimerman, 2018). Columbia also has a similar bread called 'pan de bono' which is a little drier and has a flattened shape compared to pão de queijo (National Geographic Brazil Newsroom, 2024).

Further, its popularity is no longer limited to South America. There are shops around the world making and selling pão de queijo (Praticabr, 2022). This is partially attributed to 2014 Soccer World Cup held in Brazil which helped expose the world to Brazilian products and cuisine. Afterwards, pão de queijo was one of the products which experienced a significant global increase in consumption (National Geographic Brazil Newsroom, 2024). However, many of these shops are designed to cater to a Brazilian market such as the OBA OBA, Vancouver's local Brazilian store which sells cassava flour, pão de queijo mix, and frozen pão de queijo. Thus, despite pão de queijo's global popularity, the bread is still intimately tied to the culture and traditions of Brazil.

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Pouding chômeur

BY ABBEY HEARD AND THOMAS STUBBS

A brief history of maple syrup and the socio-economic history of Québec which led to the creation of pouding chômeur.

Pouding chômeur, which translates in English to unemployed person's pudding, originated as a popular dessert for factory workers in Québec. Since then, it has become a cultural staple, adapted to utilise ingredients that are most readily available. Although the urban dessert was initially made with brown sugar, shortages throughout the Depression and rationing during World War II made maple syrup a more readily available substitute, especially for those living on farms or in remote locations. The dessert continues to be a staple in Québécois cooking, drawing from both French cooking techniques and Indigenous methods. The history of this dish sheds light on the rich and complex socio-economic history of Québec, as well as the history of the most Canadian of foods: maple syrup.

Although there are multiple theories regarding the creation of this dish, the most common is that it was invented by women working in factories in Montréal around 1929, or the beginning of the Great Depression (Elton, 2010).



These women lived in industrial neighbourhoods and only had access to the most basic ingredients, such as sugar, flour, and butter. In Québec, this period is commonly known as the beginning of the “Duplessis era”. This era saw a rise in anti-unionist sentiment, an increase in economic liberalism, and increased religious influence, all factors which directly impacted the livelihoods of the working class (Cohen, 2008). Increasing industrialization began to transform the way food was prepared, and traditional ways of food creation were swapped for faster, automated methods that produced processed products (Elton, 2010). With the increase of industrialization, women joined the workforce, and due to the Catholic influence, they were heavily encouraged to have more children. As women's workload increased, there was less time to make elaborate meals, and simple, efficient meals became the norm (Cohen, 2008). Pouding chômeur ticks all the boxes; it is fast, simple and easy to modify.

Depending on location and financial status, pouding chômeur was made in various ways, usually without a recipe. The results were completely dependent on the ingredients on hand, and these ingredients varied between locations. Availability of eggs, for example, was restricted by location, as they were often quite expensive in urban areas. Throughout the depression, people would use stale bread as a replacement for cake batter (Slow Food Foundation, n.d.). While brown sugar was used in more urban areas, maple syrup was much more readily available for people in the countryside. The evolution of the pouding to include maple syrup solidified it as the quintessential Québécois dessert. Today, pouding chômeur is made to include additional ingredients reflective of economic stability, such as nuts and fruits (Beck, 2022). Despite its popularity, the dish appears to be a micro-regional dessert rarely found outside of Québec and, occasionally, its surrounding regions. Similar dishes exist around the world- but nothing is quite the same!



Since the Duplessis era, many ingredients once considered cheap are now inaccessible to the working class. Butter, for example, has become increasingly unaffordable with the rise of inflation. What was once only available in a home kitchen has become a delicacy that continues to be reimagined by Québécois chefs and served for a premium in upscale restaurants (Elton, 2010). Once the poor, unemployed person's dessert, pouding chômeur has become a delicacy for the wealthy and well-fed. What were once readily available, cheap ingredients have become expensive, over-processed, and overall inaccessible to financially insecure individuals.

MAKING OUR DISH



We decided that the only way to truly immerse ourselves in this project was to make the dish ourselves! Thomas' family comes from Northern Québec, so he found his great-grandmother's recipe, which we have included later in our article. This recipe has been passed down from generation to generation, but there is a suspicion that the original recipe is from a local magazine. After further inquiries with Thomas' grandmother, she confirmed that Pouding Chômeur was very much an everyday dessert while mentioning that fresh fruit was often incredibly expensive or inaccessible during the cold winter months. She also commented on how expensive it is to make that pudding now, saying, "Même sans fruit ça coûte la peau des fesses." In English, this translates to "Even without fruit, it costs the skin of your butt."

Maple Syrup

The most seasonal seasonal harvest in Canada.

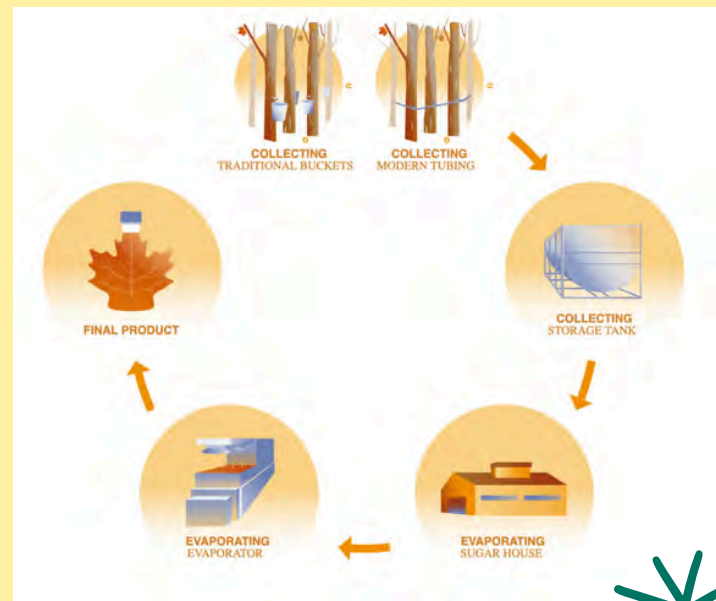


Now, 70% of the world's maple syrup comes from Canada, with 91% of it originating in Québec (Werner et al, 2022). The industry has become valued at \$515 million dollars yearly, with Canadian producers exporting 61 million kg of syrup in 2020.

Maple syrup can be produced commercially by two main types of trees: red maples (*Acer rebrum*) and sugar maples (*Acer saccharum*) (Wolfe, 2019). Production and collection of maple syrup worldwide is concentrated in what is known as the maple belt-hardwood forest spanning across Québec, Ontario, and the midwestern United States. Red maples have a native range from Nova Scotia to Florida and as far west as Minnesota. The sugar maple's range is smaller, spanning only from Nova Scotia to Tennessee. Red maples have a large tap yield but lower sugar content than sugar maples (2019). Both species produce a highly desired sugar-filled sap as they photosynthesize. This sap is stored as starch in their roots and supplies trees with energy throughout the early spring. As temperatures drop below zero at night, the sap is sucked up into the branches. When temperatures rise above zero during the day, the sap makes its way back down toward the roots.

Maple syrup collection in Québec began long before English and French settlers arrived in Canada. Indigenous peoples of the region, namely the Abenaki, Haudenosaunee, Anishinaabe and Mi'kmaq nations, have harvested maple syrup for thousands of years, often utilising the sweet sap to preserve and cook food (Werner et al, 2022). When Europeans arrived in the region, Indigenous peoples showed them how to collect the syrup, but also shared their knowledge about the best strategies to use and the best times of year to collect it. By the early 1800s, maple syrup production was extremely popular among European settlers. Increasing technological advances allowed maple syrup production to grow, and it became more widely available outside of the maple belt. Producers have also long utilized methods of artificial selection, typically selecting and breeding trees to achieve the highest sap sugar content.

Maple syrup is cultivated during the freeze-thaw periods, often lasting about 20 to 25 days between March and April. Harvesters bore holes into trunks, placing one to three taps, or spiles, in each viable tree to collect sap as it descends back into the roots. For efficiency, maple syrup producers often connect networks of taps with elaborate tubing systems spanning many kilometres instead of hanging a bucket to each tap. Throughout the ideal time for sap collection, the liquid contains around 3-5% sugar, which decreases as the season progresses. There are many different techniques for turning this lightly sugared liquid into syrup, but most involve boiling excess water out of the sap, or leaving the liquid outside to freeze and the sugars to separate out. When producers boil the syrup they are attempting to trigger a chemical reaction called the Maillard Reaction, which causes the amino acids and the sugar to react and turn brown, which gives maple syrup its unique flavour, colour, and aroma.



The production of 1 L of maple syrup takes 30 to 45 L of maple sap, about the amount one tree will produce throughout the collection season. Maple syrup produced in Canada has to go through a thorough grading process. Grade A syrups have been tested and tasted, they have a high natural sugar content (above 66%) and have zero taste defects. The high grade also ensures that the syrup is stored and labeled properly, in order to provide an optimal product. Lighter syrups often have a more delicate taste, making them optimal to use as a topping, while darker syrups have a more intense flavour better suited for cooking and baking (like for pouding chômeur!).



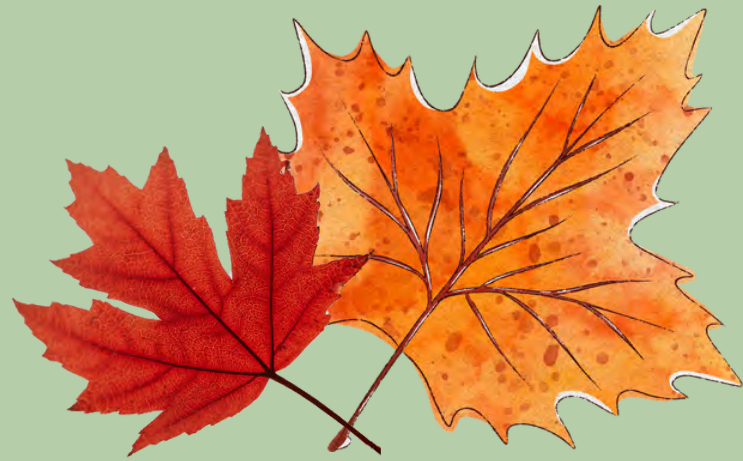
Au Pied de Cochon in Montréal.

The maple and its syrup has become known as an emblem of Canadian identity, even found on the centre of our flag. Especially for French Canadians, many cultural practices are based around it, including visiting the cabane à sucre and gathering for le temps des sucres. Many companies have attempted to capitalize off of the immense popularity of maple syrup, leading to the creation of maple-inspired knockoffs such as Map-O-Spread or Log Cabin syrup. These products have inundated the market, often boasting lower prices and typically made with corn syrup and ridiculous amounts of sugar. Most knockoff brands use Canadiana in order to trick consumers, including maple leaves, beavers, and sugar shacks. It may be more expensive- but the rich and complex flavours of real maple syrup are worth it. To avoid faux maple syrup, look for signs of thicker consistency, labels indicating “Grade A”, and make sure the ingredients list maple sugar.



Sugar Shack activities!

In the early 2000s, as the popularity of flannels and tuques began to rise, as did the popularity of the Cabane à Sucre (Sugar Shack) and artisanal Canadian products. A chef named Martin Picard opened a restaurant in Montréal, which he named Au Pied de Cochon. The goal of Au Pied de Cochon was to highlight classic Québécois cuisine with maple syrup at the forefront. His restaurant gained immense popularity in Québec with the help of his TV show about his sugar shack. It became internationally renowned when Anthony Bourdain visited and praised his restaurant during an episode of *The Layover* (Steuter-Martin, 2018). The same year Anthony Bourdain's episode aired, over 24 million dollars worth of maple syrup was stolen from a storage facility in Québec. This act highlighted maple syrup as an extremely valuable (and extremely Canadian) commodity. Since then, maple syrup has been immortalized in pop culture and will forever be synonymous with Canadian society.



Pouding Chômeur

Thomas' Family Recipe

SERVINGS: 12

PREPPING TIME: 15 MIN

COOKING TIME: 40 MIN

INGREDIENTS

For the cake:

- 1/2 cup softened butter
- 1 cup white sugar
- 2 eggs
- 1 tsp vanilla
- 2 cups flour
- 1 tbs baking powder
- 1 1/3 cups milk

For the sauce:

- 1 1/2 cups maple syrup
- 1 1/2 cups brown sugar
- 1 1/2 cups heavy cream
- 1/3 cup butter

DIRECTIONS

1. Preheat the oven to 325°F
2. In a large bowl, combine the butter and sugar until light. Add the eggs and vanilla and mix.
3. In another bowl, mix the flour and baking powder. Then, add the dry ingredients to the butter mixture, alternating with the milk, and mix well.
4. Pour the batter into a buttered 13" x 9" (33 cm x 23 cm) glass baking dish.
5. In a large saucepan, bring the syrup, brown sugar, cream, and butter to a boil while stirring. Reduce heat and simmer for 2 minutes or until sauce is slightly reduced.
6. Carefully pour the boiling sauce over the dough.
7. Bake for about 35 minutes or until the top of the pudding is golden brown and a toothpick inserted in the center comes out clean. Serve hot or at room temperature.



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Quesabirria Tacos: How a traditional Tijuana staple evolved into the West Coast's favorite taco

Everyone is somewhat familiar with the famous carne asada and al pastor tacos we all know and love, but the newest trendy food on the rise have been quesabirria tacos, otherwise known as birria tacos. Within this article we will examine the origins of Birria tacos throughout the course of history and talk about the evolution over time. With the capabilities of having the internet to see all the newest trendy foods, the vendors of California and the rest of the West Coast have tried to adapt their menus to cater this item as an “instagrammable draw”.

What are Quesabirria Tacos?

Quesabirria tacos are an adaptation of a couple different dishes put together, but they are tacos that consist of Birria meat (typically beef or goat) with melted gooey cheese (typically mozzarella). The tortillas used are flour tortillas dipped in consomé (the broth the meat is stewed in), and then filled with meat and cheese to crisp up on the griddle. It is then served with another cup/side of the consomé stew.



Figure 1. Quesabirria Tacos with Consome

How Is it Made?

This recipe is a combination of methods from the most authentic online recipe combined with the inference of my favorite quesabirria truck in San Jose, California (Barker, 2024). I got a hold of the owner Jose via telephone and he sent a brief version of his recipe for me to look at. The steps go as followed:

Ingredients:

- A slow cooking tougher protein such as beef chuck roast, beef cheeks, or goat
- Flour Tortillas
- Oaxaca or Mozzarella Cheese (something that melts easily)
- Cilantro
- Onion
- Lime

Consumé Ingredients:

- Tomato
- Onion
- Garlic
- chicken or beef stock
- chile guajillo
- Salt, Pepper, Oregano
- Any extra peppers or seasoning that you'd add for extra spice if needed

Step #1: Add all consomé ingredients to a big saucepan or slow-cooker and allow them to cook for multiple hours until deep red colors start coming through and are more pronounced.

Step #2: Take guajillo peppers out of the saucepan and blend them with some of the liquid consomé you've created. Then strain the guajillo paper waste out of the liquid because it's hard to eat and ruins the consistency of the dish. You can dispose of the guajillo remnants and return the liquid to the consomé .

Step #3: Puree the rest of the onions and tomatoes in with the broth and cook down liquid until it is all one consistency. It shouldn't be thick like a paste, it should be very thin like a broth should be. The sauce will thicken a little after going back onto the heat.

Step #4: Add the meat into the consomé liquid and let it stew in there for 45 minutes -3 hours depending how much time you have. The longer the meat stews the deeper the flavor and the softer texture it will have.

Step #5: Dip the tortillas into the consomé and put them on the griddle/ frying pan. Add your birria meat and cheese into the tortilla while its on the griddle so the cheese can become melted.

Step #6: Pour a small portion of the thinner consomé on the top of the saucepan into a cup or bowl to dip your tacos in and garnish the tacos with fresh onion, cilantro and slices of lime on the side.

Step #7: Dip the tacos into the consomé and add a squeeze of lime and enjoy! You can also put leftover garnishes and meat back into your consomé bowl to have a little stew.

Origins of Quesabirria



Before getting into the origins of quesabirria and how it came to be, it's only right to know about Tijuana's "birria de res", which is the original dish that quesabirrias adapted from. Although, birria de res was another adaptation of a traditional dish in itself, created by Don Guadalupe Zárate. Zárate moved from Coatzingo to Tijuana to open a street stand selling a

Figure 2. Birria de Chivo

food called “birria de chivo”. Birria de chivo is essentially oven roasted goat in an adobo sauce marinade with preferred herbs and garnishes (usually onion, cilantro, salsa). Zárate began to use beef instead of goat because it was cheaper and goat was much more lean, making him a bigger profit. Legend has it a customer told Zárate to add more water to his cooking process so the meat doesn’t burn and thus birria de res stew was created. Beef



Figure 3. Birria De Res

sliced similarly to brisket and lots of beef fat are added into a pot with the adobo marinade, water, and herbs/spices (Esparza, 2021, para. 5).

After this new discovery birria de res was known as a cultural staple of Tijuana, and virtually every stand and shop cooked it the same way. Birria tacos were being served all throughout the city, which was much more renowned for its seafood. Birria didn’t become one of the more popular options until the late 80’s. Stands in Tijuana were already serving their version of birria tacos which came with chopped white onions and cilantro and usually a side of the broth/stew. It was traditionally served as a more robust breakfast meal or an early lunch

even though it is a very heavy dish. The dish continued to steadily grow within the community, but the real birria craze started when entrepreneurs Oscar Gonzalez and Teddy Vasquez brought the cuisine to California (Esparza, 2021, para. 7).

Many food trucks and stands in California (specifically LA), had al pastor and carne asada that were considered traditional and some that were considered “tex-mex” or an American adaptation of Mexican culture. Oscar Gonzalez visited Tijuana and had a realization that the birria de res & birria tacos had lots of potential to be sold within the United States for a bigger profit.

After lots of time and planning “Birrieria Gonzalez” was the first food truck opened of its kind, where birria de res, birria tacos and quesabirria tacos were authentically crafted and sold by Oscar and his brother Ivan. Vasquez followed in suit, opening his own establishment known as Teddy’s Tacos which also served the soon to be trending quesabirria tacos. Ivan Gonzalez makes claims that they were the first to post their tacos being dipped into a cup of consomé, which is a cup of the stew which the meat is cooked in usually with green onion and other garnishes or a couple pieces of the soaked birria meat in the bottom (Esparza, 2021, para. 10).

The difference in the new wave quesabirria is much different then the normal process previously explained. They also apply consomé to the inside and outside of the tortilla to give it the glowing reddish-orange hue. These two establishments are known as the pioneers of quesabirria within LA and southern California, but their influence soon trickled all the way up California and even spread to adjacent states and some places in the East and South of the US.

Videos of these vibrant orange tacos spilling over with cheese were being spread everywhere and once there were videos of them being dipped into crimson fatty broth that went viral all over the internet, everyone on instagram wanted to try them. People started creating even crazier variants of the dish, such as making birria ramen, birria pizzas, and birria egg rolls. It’s quite inspiring to see that Mexican immigrants brought a dish to the states to create their own version of the American dream. Hopefully more people could make a new life for themselves with another dish of sorts from another culture if they followed the same footsteps. America and Canada alike are always in need of more cultural foods and ethnic diversity.

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Photo References

Figure 1 Image:

<https://carlsbadcravings.com/beef-birria-and-birria-tacos-recipe/>

Figure 2 Image:

<https://foodmento.com/dish/birria-de-chivo-stewed-goat/48586>

Figure 3 Image:

<https://hostthetoast.com/birria-de-res-beef-birria-recipe/>

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FOOD MAGAZINE

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Vol. 02



Food Culture

Food culture isn't vibrant culinary experiences, traditions, flavors, and stories from around the world, where each dish carries the essence of a community's history and identity.



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Want a change to the taste of your bread? A bread with little salt? A bread that saved lives? Try Salt-rising Bread!

SALT-RISING BREAD

- Salt-rising bread once cooked releases a cheesy aroma and that aroma does not disappoint! A simple bite alone makes one think cheese is part of the recipe. Its bread that both tastes better than store-bought bread, lasts just as long, and is healthier too. How can this be you say? Read on to find out!



A GUIDE TO SALT-RISING BREAD PRODUCTION AND HISTORY

Salt-Rising Bread: A marvel to prevent starvation among early Appalachian pioneers.

- The Appalachian Mountains was a land difficult for wheat to grow in. Corn became the most prominent grain, but people were still hungry, people still wanted bread, and sourdough was not yet known so the pioneers of the 1600's made Salt-Rising Bread from cornmeal. Potato starters came an unknown number of years after.
- The first recorded salt-rising bread recipe is from 1778 in the West Virginia Archives Library. Its true origins remain unclear.

Ingredients for a 1-pound load of Salt-rising Bread

Choose one starter:

Potato Starter:

- 1 potato.
- 2 tablespoons sugar
- 1 teaspoon baking soda.
- ¼th a teaspoon of salt.
- 3 tablespoons of all-purpose flour.
- Boiling water.

Cornmeal Starter:

- 2 Tablespoons of Cornmeal preferably germinated but pure also works.
- 1/4th a teaspoon of Baking Soda.
- 1/4th a teaspoon of Salt.
- 1 tablespoon of flour either all-purpose or whole grain.
- 1 cup of scalded whole milk.

Sponge:

- Starter of your choice.
- 1 cup of warm water.
- Flour must be added until correct batter texture is reached. More will be added once sponge

- Some believe the bread to be an offshoot of Maize-based steamed bread of West Africa.
- The bread uses much less salt than traditional bread. It is named rather for the insulating warm salt rocks used to keep it warm for fermentation in an earthenware pot and because it was typically made on a salt barrel.
- The bread can also be made passively through the power of the sun, depending on the Appalachian weather, and the top of a salt barrel in a wagon train.
- A salt barrel is used to preserve food for journeys.
- The loaf is then baked in the evening for those on the move to enjoy. It was often eaten with butter, meat, and region-specific foods.
- In the mid 1800's yeast became available through transit to the Appalachia settler's descendants and the recipe turned from vital need to rare traditional treat. A second wave of settlers far larger than the first wave in the 1600's also arrived with new, easier bread recipes such as sourdough.
- Research into salt-rising bread was first published in 1913 by a joint operation of scientists in the Universities of Kansas and Pittsburgh. The study was funded by the Department of Industrial Research.



< (Cornmeal Starter)

Fun Facts! Region Specific Food:

The Appalachian Mountains provided an environment fit for:

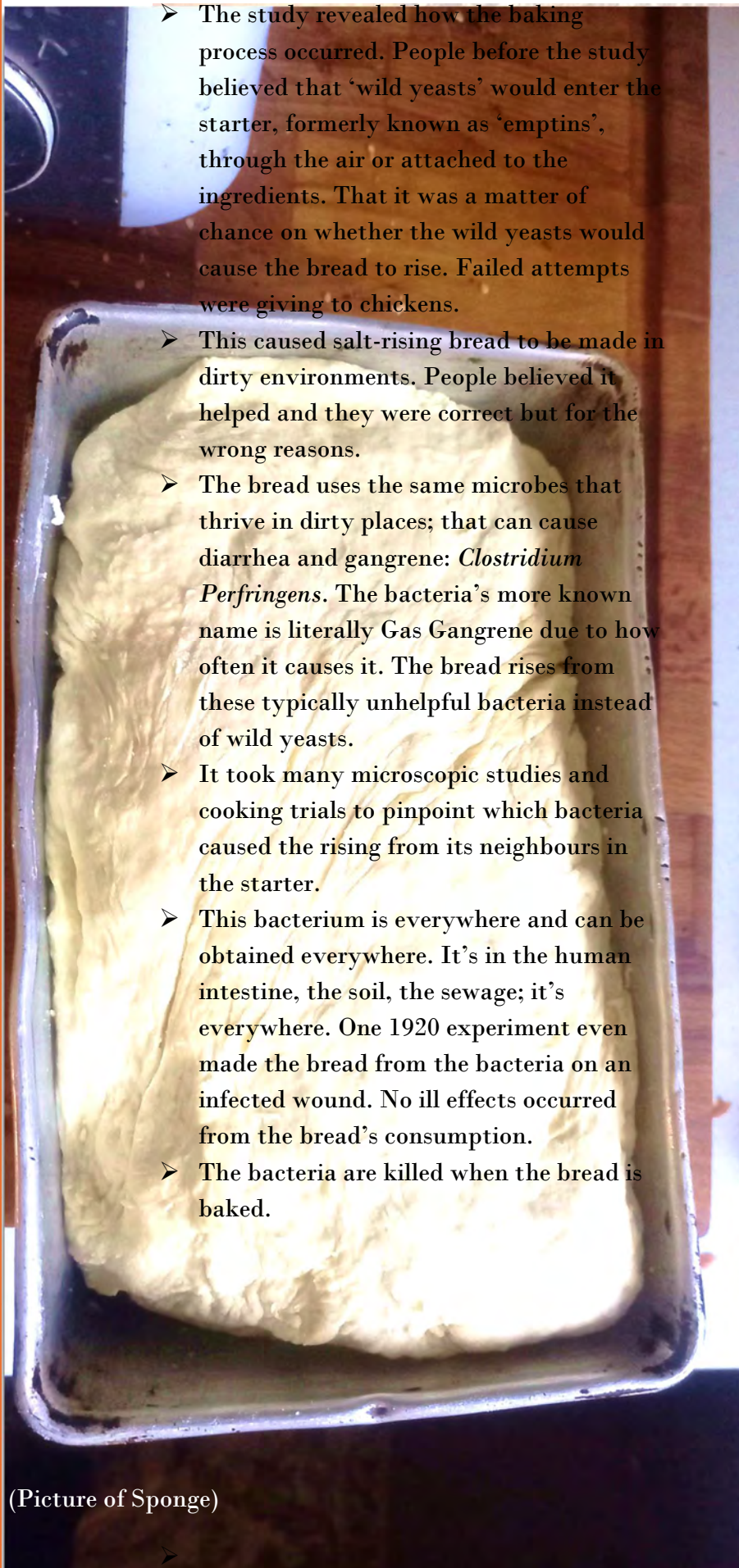
- Bush beans
- Pole beans
- Apples
- Black-eyes peas
- Grits
- Squash
- Red Pepper
- Watermelon
- Peanuts
- Okra (Vegetable in above picture)

Potato Starter Recipe:

- Fill a quart-sized jar halfway with potato.
- Add potato starter ingredients to jar.
- Fill jar with boiling water.
- Cover jar with plastic wrap and leave a cut slit over the jar opening.
- Place jar in an environment that can maintain a temperature between 105 to 110 Fahrenheit or 40 to 43 Celsius.
- Ferment for 8-12 hours.
- If starter is not bubbly and foamy the ferment has failed, and another starter will be needed.

Cornmeal Starter:

- Pour all dry ingredients into quart-sized jar.
- Pour in scalded milk.
- Cover jar with plastic wrap and put a slit in the plastic wrap at the top.
- Place in environment that can maintain a temperature between 105 to 110 Fahrenheit or 40 to 43 Celsius.
- Ferment for 8-12 hours.
- If starter is not bubbly and foamy the ferment has failed, and another starter will be needed.



(Picture of Sponge)

- The study revealed how the baking process occurred. People before the study believed that ‘wild yeasts’ would enter the starter, formerly known as ‘emptins’, through the air or attached to the ingredients. That it was a matter of chance on whether the wild yeasts would cause the bread to rise. Failed attempts were giving to chickens.
- This caused salt-rising bread to be made in dirty environments. People believed it helped and they were correct but for the wrong reasons.
- The bread uses the same microbes that thrive in dirty places; that can cause diarrhea and gangrene: *Clostridium Perfringens*. The bacteria’s more known name is literally Gas Gangrene due to how often it causes it. The bread rises from these typically unhelpful bacteria instead of wild yeasts.
- It took many microscopic studies and cooking trials to pinpoint which bacteria caused the rising from its neighbours in the starter.
- This bacterium is everywhere and can be obtained everywhere. It’s in the human intestine, the soil, the sewage; it’s everywhere. One 1920 experiment even made the bread from the bacteria on an infected wound. No ill effects occurred from the bread’s consumption.
- The bacteria are killed when the bread is baked.

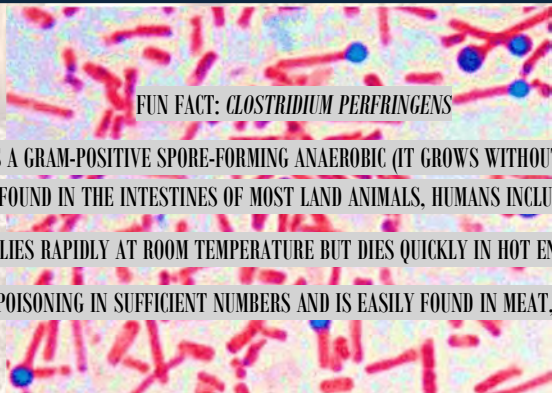
Sponge

- Pour starter into large bowl and add 1 cup of warm water. Stir well until everything is mixed.
- Add flour to make a loose batter similar to pancake batter; a thick liquid with little viscosity.
- Cover bowl with plastic wrap and return the mixture to the warm environment of your choice.
- Wait 2-3 hours of fermentation. The sponge should have a bubbly and foamy appearance.
- If the ferment goes flat, the bubbles and foam vanish, the bread will fail to bake.

Salt-Rising Bread

- Grease loaf pan(s).
- Remove sponge from warm environment and add enough flour to create a wet shaggy dough. A dough that would stick to your hands.
- Pour dough onto a floured counter or board then lightly knead the dough until no longer sticky. This should take only a minute and over kneading the dough can weaken the dough’s ability to rise. The fermentation will also die if left outside warm environment long enough.
- Place dough into greased loaf pan(s). Cut dough as needed.
- Return loaf pan(s) to warm environment for 1-3 hours. Stop when loaves reach the rim of the loaf pan(s).
- Preheat oven to 400 Fahrenheit or 204 Celsius.

- The bacteria aerate bread differently from yeast. Yeast turns sugar into carbon dioxide and alcohol. The gaseous alcohol then aerates the bread. Clostridium Perfringens produces a gas of hydrogen and to a lesser degree carbon dioxide. The hydrogen aerates the bread slower than alcohol but 22 times faster than carbon dioxide. It requires no sugar but the bread is easier to make if sugar is added. This is especially true for the potato starter method which requires sugar.
- Salt-rising bread has the potential to replace other forms of bread. The study revealed that salt-rising bread only had 1% of appreciable losses, the loss of total nutrient value lost from ingredients baked, while conventional yeast breads had 5% of appreciable losses. This means for the same amount of bread salt-rising bread can feed 990 humans while yeast breads can feed 950. Ex-governor Stubbs of Kansas wanted production and believed the bread offered strength-giving powers to regular consumers.
- The first step towards this happening is a specialized production factory for the bread. Mass-production of the bacteria is not needed only good ways to harvest it due to the bacteria's sheer abundance. The bacteria can even be used to produce butanol.



FUN FACT: CLOSTRIDIUM PERFRINGENS

THIS BACTERIA IS A GRAM-POSITIVE SPORE-FORMING ANAEROBIC (IT GROWS WITHOUT OXYGEN), IT CAN BE FOUND IN THE INTESTINES OF MOST LAND ANIMALS, HUMANS INCLUDED.

IT MULTIPLIES RAPIDLY AT ROOM TEMPERATURE BUT DIES QUICKLY IN HOT ENVIRONMENTS.

IT CAUSES FOOD POISONING IN SUFFICIENT NUMBERS AND IS EASILY FOUND IN MEAT, SOUPS, AND SAUCES.

- The study greatly increased cooking success rates but commercial production remains niche to this day. Bread made through yeast had already been industrially stream-lined. Yeast is also useful for a larger range of uses such as making alcoholic

Salt-Rising Bread

- Leave in oven until top becomes golden brown which is typically 30 minutes.
- Remove loaf pan(s) to cooling racks
- Remove the loaf or loaves from loaf pan(s) when safe to do so.
- Leave the Salt-Rising Bread to cool completely before slicing. Cutting into the warm bread will cause the bread to deflate. It needs to be left cool.
- When done you will have a pleasantly dense loaf.

Nutrition,

(Per slice of bread, 43 grams):

- Calories: 33 kcal
- Carbohydrates: 6g
- Protein: 1g
- Fat: 1g
- Saturated Fat: 0.3g
- Polyunsaturated Fat: 0.1g
- Monounsaturated Fat: 0.1g
- Cholesterol: 2mg
- Sodium: 101mg
- Potassium: 76mg
- Fiber: 0.4g
- Sugar: 2g (potato) 1g (cornmeal)
- Vitamin A: 22IU
- Vitamin C: 2mg
- Calcium: 18mg
- Iron: 0.2mg

drinks, probiotics, and biofuel. No leaven for salt-rising bread was ever mass-produced.

THE CURRENT STATE OF SALT-RISING BREAD

- The recipe for salt-rising bread has spread across the world as a novelty. It is primarily made for non-commercial use.
- It is still traditionally used in the Appalachian Mountains.
- Small bakeries around the Appalachian Mountains still bake locally for tradition and profit.
- Larger bakeries that offer salt-rising bread for delivery exist only in the United States. They also only deliver within the United States.
- One example is The Rising Creek Bakery in Morgantown, West Virginia, that delivers salt-rising bread throughout the U.S.
- Modern variants of the classic bread involve more sugar than the original bread unless home-baked. There have otherwise been no changes to the dish. Little can be changed to the dish except for adding small amounts of a few ingredients, not all, to the last step of the recipe such as:
 - Butter equal to or less than a tablespoon.
 - Seeds, only one to three tablespoons.
 - Nuts, only one to three tablespoons.
 - Spices such as cinnamon, garlic, or thyme. Do not use spices in the mint family oregano as it subtracts from the flavour.
 - Be aware that adding ingredients can increase chance of failure depending on both how stable the fermentation is and how long the sponge has been outside its warm environment. Time is of the essence.
- Salt-rising bread has recently, as of COVID-19, become more recognized in the world. Of special note is being more diabetic friendly than other bread if used with the cornmeal starter due to low sugar and salt.

Tips!

- A thermometer is important in finding a suitable warm environment. It will make the search easier
- Some ovens with the light on for 2 hours in them reach the appropriate temperature for fermenting.
- A slow cooker is another option but few produce so low a temperature.
- A grow light or heat lamp can be used to make a warm environment.
- Keeping a dish towel over the dough can help keep the fermentation alive when not in its warm environment.
- You can add a dash of salt to the dough as you knead it for flavour, but only a dash!
- The smell of the fermentation is like the smell of dirty socks if a whiff is taken. It's another way to tell if the fermentation is successful or not.

CONVINCED YET? JOIN THE SALT-RISING BREAD MOVEMENT TODAY, START BAKING, AND SUBSCRIBE TO THE COOKING MAGAZINE!

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Gastronomic Journal: Origins of Sopa de Frijoles

Sopa de Frijoles, which simply translates to “bean soup”, is a staple dish with numerous variations among the myriad of countries, cultures and regions in which the soup’s foundations originate from. With roots in Latin American cuisine, adaptations and developments of the meal can be linked to present day countries such as Mexico, Honduras, Peru, Guatemala, Nicaragua, and El Salvador. Though Sopa de Frijoles presents itself as a rather unassuming, straightforward recipe, the ingredients and agricultural methods that combine to create this nutritious, warm bowl of goodness have evolved greatly, sustaining civilizations for centuries. Yet, the impacts of today’s push for exponential economic growth within agriculture, stipulates the need to reconsider traditional ecological knowledge and practices to retain the nutritional and cultural value of an essential crop.



Pictured above is a modern variant of the traditional Honduran recipe, containing frijoles (black beans), pork, plantains, and cassava. (196 Flavours, n.d)

A Key Ingredient: One of the Three Sisters

As the title of the dish indicates, the focal ingredient here is beans. The cultivation and harvest of beans as a staple food emerges from Mesoamerican Indigenous groups such as the Aztecs (Mexico) and Mayans. Pre-colonization, beans, squash, and maize were intercropped, this assortment being titled as the “Three Sisters”. Switching back to present day industrialised agriculture, an increased focus on productivity and efficiency has bestowed high-yielding crops, which have also introduced countless ecological consequences (Kapayou et al, 2023).

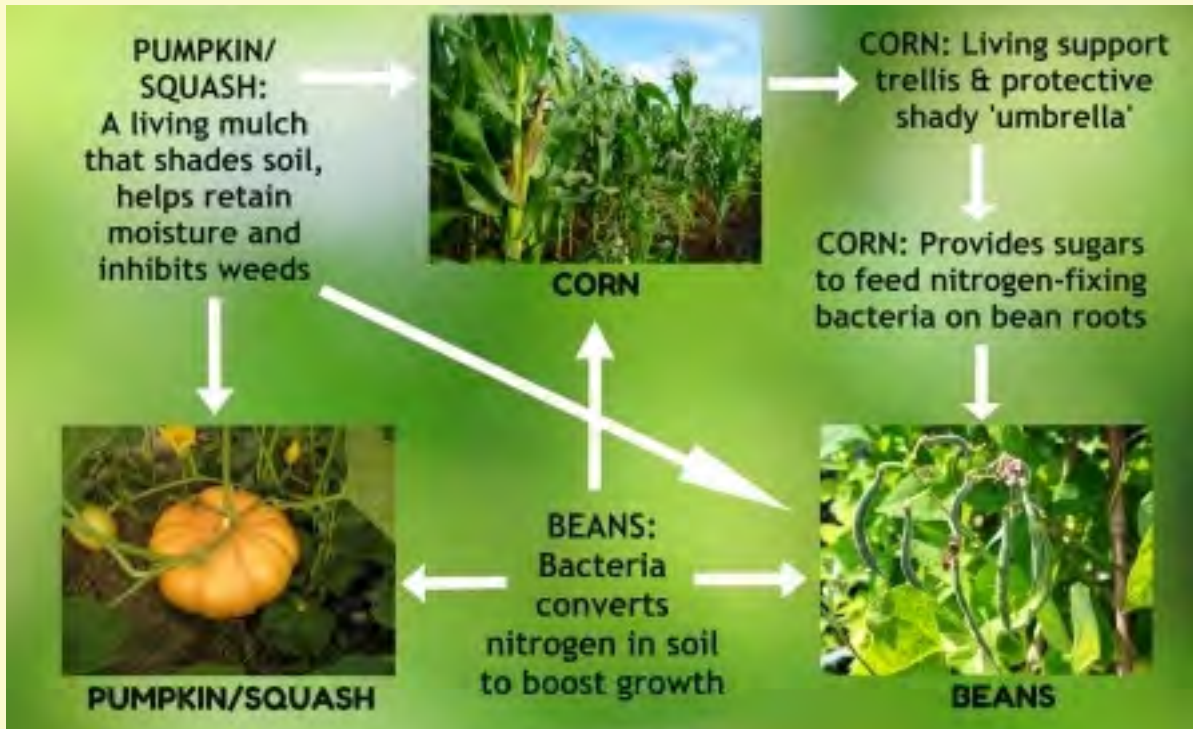
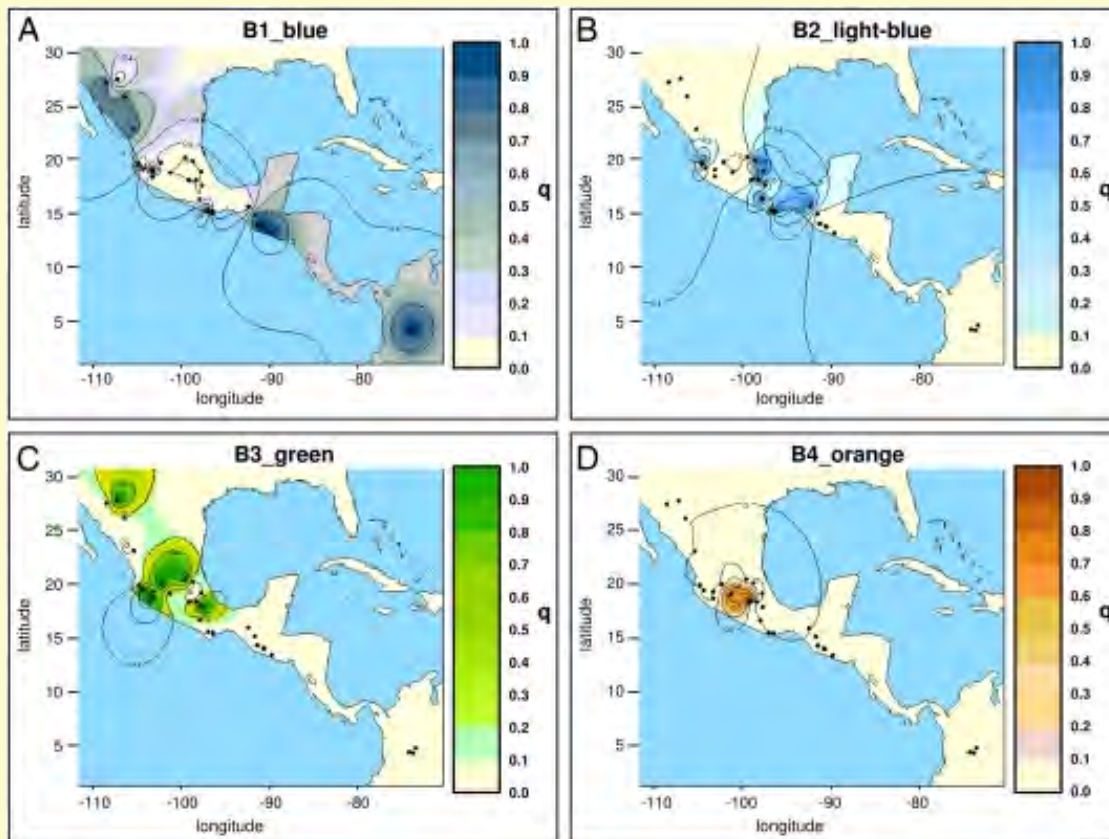


Image source: (Open Ended Social Studies, n.d)

Cultivation of crops by the Indigenous peoples of North America have been estimated to date back to 5000 BCE (Kapayou et al, 2023; Hurt 1987; Green and Arzigian 1994; Landon 2008). The shift from foraging to agriculture in Mesoamerica was a prolonged transition, taking between 5000 to 6,500 years, demonstrated through paleoethnobotanical samples using radiocarbon, and then accelerator mass spectrometry dating on maize, beans, and squash samples (Landon, 2008). The change in plants that were commonly cultivated transformed as agriculture in this region emerged approximately 7000 years ago, which includes the domestication of the three sisters. These crops are easily stored, preserved, and genetically modified, produce high yields, and flourish in a range of habitats. In time, and through domestication, these species responded to become more productive, increasing ease in collectibility and ability to be culinarily prepared (Landon, 2008).

Domestication in Mesoamerica

In Mesoamerica, wetland environments are theorized to be the area in which domestication of this trifecta began. Pollen records show evidence of these species in wetlands, as well considering that this environment would sustain the right ecological conditions to support the cultivation of wild varieties of the three sisters (Landon, 2008). Speaking to bean domestication specifically, it is unusual to find records of beans without maize, or any domesticated varieties prior to 5000 years ago. One of the associations between the bean and maize pairing, is that beans contain lysine, which maize lacks. Together, they form a complete protein (Landon, 2008). The most significant differences between wild and domesticated varieties of beans is that seeds are more permeable (less soaking time), the pods can bear more strain (do not break as easily, less yield lost), larger fruiting size, and the transition from perennial to annual (yields each year) (Landon, 2008). In a study examining wild *P. vulgaris* (common bean), nucleotide diversity for five gene fragments were analyzed to determine the species' place of origin. The results of this study suggest that Mesoamerica is in fact their birthplace, with later migration events leading to their distribution in South America (Bitocchi et al, 2012).



In reference to the aforementioned study, “*Spatial interpolation of membership coefficients (q) for the four Mesoamerican clusters identified by the Bayesian clustering analysis. (A) B1_blue. (B) B2_light-blue. (C) B3_green. (D) B4_orange. Latitude and longitude are expressed in the Universal Transverse Mercator system.*” (Bitocchi et al, 2012)

Recipes of Culture

Why have beans been such a prominent staple food for so long? As an example, many of the Spanish colonizers on the Caribbean islands would largely resource beans from neighbouring islands to provide to their workers, while mining gold. What the Spanish discovered were bean's virtuous traits: they took a relatively long time to degrade following harvest, and when cultivating, sprouted without fuss (Cuadra, 2013). From a wild species originating in Mesoamerica, to a nutritious and well adapted component of traditional Indigenous cultivation, and a continuously reliable, cheap, and abundant food source, it is no wonder why such a variety of Latin American cultures have their very own Sopa de Frijoles..

“Cook the beans in broth with a large piece of ham, a large carrot cut in two, an onion with two whole cloves, and a sprig of parsley and celery. When done, remove the ham and the vegetables. Mash the beans well, and pass them through a sieve. Pour the puree in the broth, and bring it to a boil. Serve in a tureen garnished with slices of fried bread or toast, which are added just before serving.”

- Sopa de frijoles colorados, from SOPAS, PAN, HUEVOS (Valle, 2003)

Honduran Sopa de Frijoles (196 Flavours, n.d)

- 1 lb frijoles (black beans), soaked for 5 hours
- 4 small pork ribs
- 3 plantains , peeled and cut in 3
- 1 lb cassava , peeled and cut into 2-inch pieces
- 4 tablespoons olive oil
- 1 white onion , sliced
- 1 small red bell pepper (or green), diced
- 6 cloves garlic , chopped
- 1 bunch cilantro , chopped
- 1 tablespoon cumin
- Salt
- Pepper

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The History of Tamales

By: Jackeline Alvarez

Tamales have been around for a long time. The origin of tamales is thought to go back to as early as 8000 BC to 5000 BC in Mesoamerica. Tamales played a crucial role in the social and religious practices of the Aztec and Maya Civilizations. Tamales were used as a portable food that the Aztec warriors could take into battle to sustain their armies and long journeys (Bradesca, 2020). Tamales were used because they were prepared in large quantities, easy to carry, made small quantities of meat or fruit last longer, and could feed large amounts of people (Ettenberg, 2017). Although tamales originated many centuries ago, they are still a huge part of culture across Latin America. Tamales are embedded in family traditions and are an essential part of festivities, including national holidays, and family gatherings. A tradition throughout Mesoamerica known as a "Tamalada," is an activity that gathers family members to prepare tamales for significant celebrations like Christmas and New Year's Day (Martinez, 2024). Although the making of tamales is a labor-intensive and time-consuming process it is a way to make enough food for the whole community and to spend time with the ones you love, making it an enduring tradition. This emphasizes the dish's significance in family gatherings and cultural heritage.



Map illustrating Mesoamerica civilizations that are thought to be the origin of tamales compared to current day Mesoamerica map, with the borders of modern countries. Photo by Omniatlas and Khan Academy.

Tamales are influenced by the biogeophysical attributes of their ingredients. A tamale can change depending on the region and the available plants and animals. Changes include size, color, shape, and filling. Wrappers are also affected by what is locally available. Wrappers are usually corn husks or banana leaves, but plantain or even tree bark can be used (Bradesca, 2020).

The Evolution of Tamales

The evolution of tamales involves changes in the method of preparation and ingredients, but they remain like their ancient form and have retained their identity. Ancient tamale fillings were made from plants and animals available such as frogs, salamanders, fruit, squash, or beans (Ettenberg, 2017). With colonization, large meat-producing animals like goats, pigs, and cattle were introduced, changing the available ingredients for the filling (Knepp, 2012). Tamales evolved further with the introduction of lard into the masa dough. Indigenous peoples did not use oil in their cooking, tamales would have been greaseless with a denser masa (Knepp, 2012). Tamales today are mixed with a lipid, either oil or lard, and are filled with pork, chicken, or beef and a variety of vegetables. With colonization, the method of cooking tamales also changed. Tamales were originally cooked by burying them under hot ash. This method changed over time to include steaming in pots or underground pits, which was influenced by Spanish colonialists. Tamales today have evolved even further, with regional variations across Latin America.

Variants of Tamales

tamales are a staple dish across Latin America. Tamales consist of three main components: corn dough, a filling usually of vegetables, meat, or fruit, and a wrapper made of a corn husk or a banana leaf. Most Latin American countries have their own version of a tamale unique to the country or territory it's made in. These variations include sweet tamales filled with fruit or savory tamales filled with meat and vegetables. There are also variations among the corn dough. Most tamales are made with nixtamalized corn which is a process where corn is cooked in alkaline water to improve its nutritional value and texture (Palacios-Pola et al., 2022). However, it can also be made using fresh corn, corn meal, or mixed with rice flour, plantains, or yuca (Linares, 2023). In Mexico, there are over 500 kinds of tamales, each unique to the region's ingredients and traditions (Freixa, n.d.). One of the most common tamales from Mexico is tamales de chile colorado, made of pork in a red chile ancho sauce. Another variation of tamales is from Venezuela called hallacas. Hallacas are made from a cornmeal dough, with a combination of beef, pork, and chicken filling, and wrapped in a plantain leaf (Linares, 2023). In El Salvador, tamales pisques are a traditional tamale made of corn dough filled with a mixture of pureed beans wrapped in a banana leaf. These unique versions of tamales highlight how ingrained tamales are across Latin America.



Hallacas from Venezuela. Photo by Liqui-Liqui.



Photo by 196 Flavours

History of the Main Ingredients

The geographic origins of banana leaves trace back to Southeast Asia. Bananas were domesticated by farmers about 7000 years ago and have since become widespread throughout other regions of the world through explorers, trade routes, and immigration (Li et al., 2013). Bananas differ from their wild relatives due to artificial selection. Through hybridization and selective propagation, bananas nowadays are seedless and parthenocarpic meaning they produce fruits without fertilization (Li et al., 2013). Human migration facilitates the mixing of banana species, which leads to the development of diploid and triploid hybrids (D'Hont et al., 2012). Most modern bananas come from a clonal offspring of a single triploid genotype, the Cavendish. Selection for banana leaves plays a secondary role. Banana leaves are used to wrap food or for shelter, which could influence the selection process.

Chickens were originally domesticated from their wild ancestors, the red junglefowl, which is native to multiple regions in Southeast Asia and Southwest China (Hata et al., 2021). The domestication is believed to have occurred around 8000 years ago in Southeast Asia. Dispersion of chickens was rapid because of their ability to produce eggs and meat (Laatsch, 2022). Domesticated chickens spread through human migrations and trade and were later introduced to Mesoamerica through European exploration and colonization. Through artificial selection, chickens were selectively bred for traits such as increased egg production and meat yield (Knopp, 2022). Commercial breeding has focused on creating specialized breeds for meat production (broilers) and egg laying (layers). Selective breeding practices began thousands of years ago but have intensified over the last century. For example, a broiler in the 1950s weighed 2 pounds after 56 days, today that same bird weighs more than 9 pounds at 56 days because of intensive selection for rapid growth (Knopp, 2022).

Corn is derived from a wild grass called teosinte, which is native to Guatemala and Mexico. Before Christopher Columbus arrived, corn was already being cultivated in North and South America (Brummel, 2022). It later spread to Europe and other parts of the world after Christopher Columbus brought back corn seeds (Moustafa, 2024). Through artificial selection, corn underwent evolutionary changes that changed it from its wild ancestor to the crop we know today. Domestication of corn from the teosinte plant was done by early Mesoamerican farmers. They used selective breeding techniques by saving seeds from plants with desirable traits and replanting them the next harvest season (Brummel, 2022). Traits selected were based on the characteristics of the plant such as size of the ear, height, or kernels that were easier to grind (Brummel, 2022). Modern improvements include selecting for resistance to pests and disease, increased yields, and adaptability to growing conditions (Plumer, 2014).



Corn evolution through artificial selection. Photo by Genome Literacy Project

Global and Canadian Consumption

The main ingredients of tamales de pollo are banana leaves, corn, and chicken. Corn is one of the most highly cultivated crops in the world. Production of corn globally exceeded 1.2 billion metric tons in 2021, with Canada producing approximately 14 million metric tons of corn for grain (Food and Agriculture Organization of the United Nations, 2000; Government of Canada, 2022). Corn is ranked as Canada's third largest grain crop, with Canadians having access to about 2.36 kilograms of fresh corn per person in 2023 (Statista, 2023). Consumption of chicken in Canada has steadily increased since the 1980s, due to a growing population and a rising preference for poultry. In 2023, Canada produced about 1.4 billion kg of chicken, with most of it (about 62%) being produced in Quebec and Ontario (Canada, 2023). On average Canadians consumed 35.8 kg of chicken per person in 2021 (Canada, 2022). Although banana leaves are not consumed, they are essential for wrapping tamales, and they have a growing presence in Canada's imports. According to Volza's Canada Import data, in 2023/2024, Canada imported 230 shipments of banana leaves from about 33 foreign exporters used to supply 52 Canadian buyers, which is a 65% growth rate compared to previous years (Banana Leaves Imports in Canada - Volza, 2024). Canada imports banana leaves mainly from India, The Philippines, and Vietnam. These statistics demonstrate how accessible and significant these ingredients are to global and Canadian food systems.



Photo by Sombrero Latin

Tamales de Pollo Salvadoreños Recipe



Photo by Travel Food Atlas

Serving size: 40 tamales

Supplies:

- Banana plant leaves (Cuts the leaves to a length of about a sheet of printing paper)
- Aluminum foil (Cut into large squares/rectangles)
- Comal (Griddle or large skillet)
- Large pot

Ingredients

Masa:

- 4 cups of maseca
- 1 cup of Parboiled rice
- 2 cups of oil
- 8 chicken bouillon cubes
- 2 Celery stalks
- 1 Green pepper
- 5 Cilantro branches
- ½ Onion
- 3 Garlic Cloves

Chicken and tomato sauce:

- 5lbs of chicken wings
- 4 tbsp of complete seasoning
- 2 Garlic cloves
- 1 Celery stalk
- ½ white onion
- 5 Cilantro branches
- ½ Green pepper
- 4 Chicken bouillon cubes
- 1 can of whole tomatoes

Filling:

- Note: The simplest tamal is filled with chicken and a piece of potato, but you can choose any additional fillings such as green beans, boiled egg, olives, carrots, etc.
- 4 large potatoes
- 1-pound green beans
- 10 hard-boiled eggs

Steps:

Tomato sauce:

- Cut up the vegetables for the tomato sauce and for the filling.
- Add seasonings, garlic, celery, onion, cilantro, green pepper, bouillon cubes, and tomatoes into a blender and blend until smooth and set aside.

Chicken:

Note: chicken and vegetables will not be fully cooked, they will cook fully later.

- Wash chicken. Place a big pot on medium heat, add the chicken to the tomato sauce, and let it boil for 30 minutes.
- Turn off the heat and let the chicken cool down.
- Peel and prepare the fillings. Potatoes should be cut into long rectangular pieces. The boiled eggs should be cut into quarters longways.
- Add raw potatoes and any other fillings to the sauce once the chicken has cooled down.

Masa:

- Boil the rice until it is cooked
- Add rice, celery, onion, cilantro, green pepper, garlic, bouillon cubes, and 2 cups of water into a blender and blend until smooth.
- In a large pot, pour the sauce we just blended and add in the 4 cups of masa.
- Add 8 cups of water to dissolve the masa into the sauce. Keep mixing and adding water until it's smooth with no lumps.
- Add 2 cups of oil and mix it into the masa mixture. Add salt to taste.
- Once the consistency is smooth and runny, place the pot on the stove on medium heat. You will need to always stir the mixture to prevent it from sticking to the bottom and burning. Keep stirring until it boils.
- Once it comes to a boil, take it off the heat, set aside, and let it cool.

How to prep banana leaves and aluminum foil:

- Cut the leaf into pieces big enough to wrap the tamal.
- Set the griddle on medium-high heat. Place the leaf on the griddle for about 3-4 seconds on each side. This will make the leaf more manageable and keep it from tearing during the wrapping process.
- Cut aluminum foil into pieces that are 1 inch larger than the banana leaves

How to assemble:

- Scoop about 1/3 of a cup of dough onto the center of the banana leaf. Make a dent in the middle of the dough and add fillings.
- Fold the banana leaf over the filling to form a tube, gently tucking in the filling and removing any air pockets.
- Fold over the foil, then tuck in the sides, sealing the tamale. Repeat until all the tamales are formed.
- Place tamales horizontally in the pot. Fill the pot until there is about an inch of room on top. Fill up the pot with water up to 1/3 of the pot.
- Place the pot on medium to high heat and let it cook for 45-60 minutes or until the vegetables are fully cooked inside.
- Once the vegetables are fully cooked, turn off the heat and let the tamales rest for about 1-2 hours before serving them.

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Tomato Soup

By: Lily Beveridge and Madeline Durning

Tomato soup, a beloved comfort food with its rich, tangy, warmth, has long been a fixture in kitchens and homes worldwide. To understand the history of tomato soup, from simple garden produce to an iconic dish, we first must delve into the fascinating history of the tomato itself.

How did tomatoes get to the US? A history of tomato cultivation

Tomatoes are a native species to Western South America and Mexico, that thrive in warm climates and rugged terrains (Bergougnoux, 2014). The first tomatoes were generally smaller, and often more yellow than the tomatoes you may picture today, however, they varied greatly, most likely a reflection of the diverse geography of the Andes. Tomatoes were first cultivated by the Aztecs, where a wide range of colours, sizes, and shapes was grown for food in their gardens (Bergougnoux, 2014).

It wasn't until the 16th century that tomatoes were first introduced to Europe after the Spanish Conquistadors brought seeds from the New World. Soon after landing in Spain, the tomato plant went to Italy through Naples. In Italy, they were given the name *pomi d'oro*, meaning “golden apple” (Flores et al.,

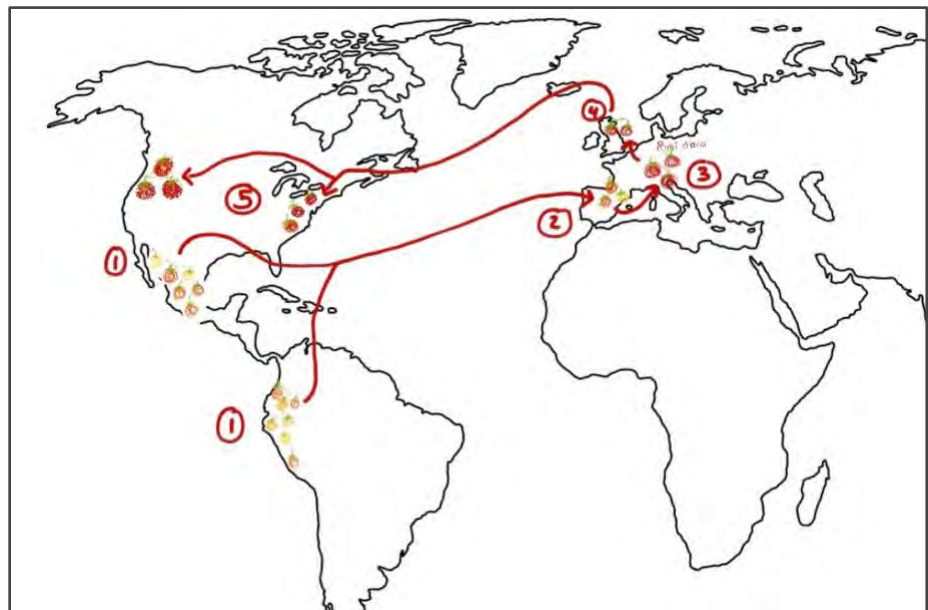


Figure 1: Map of tomato agriculture history as described in this section

2024; Van Andel et al., 2022). After this, the first written documentation of the “*pomi d'oro*” was by Pietro Andrea Matthioli, an Italian botanist, in his 1544 herbarium, where he described both red and yellow tomatoes (Flores et al., 2024).

Tomatoes began gaining popularity and started popping up in Italian aristocratic gardens (Van Andel et al., 2022). The warm Mediterranean climate allowed these plants to flourish, making cultivation relatively easy. However, unlike in Mexico, the tomato plant was only cultivated for ornamental purposes at first, not for food, as they were long believed to be poisonous (Bergougnoux, 2014; Peralta & Spooner, 2006). Tomatoes only began to gain widespread acceptance for human consumption in the 18th century, eventually establishing their place as an iconic ingredient in Italian cuisine (Bergougnoux, 2014). Soon after, by the mid-18th century, tomato consumption expanded North, and eating tomatoes became common in England. And finally, of course, tomatoes made their way to North America by English colonization (Bergougnoux, 2014).

Though it is debated when exactly tomatoes landed in North America, the first record of tomato cultivation in the United States was in 1850 in San Diego (Flores et al., 2024). Early tomato cultivation in the US was also recorded in the Carolinas, and other surrounding southern states (Shropshire, 2021). Tomato production was generally small-scale until the late 1860s' when commercial production began, and tomato popularity grew (Flores et al., 2024). At the time, Alexander Livingston, an American horticulturist, promoted the tomato and sought to improve the fruit to be smoother in shape, more uniform in size and produce better flavour profiles through breeding. In 1870 he introduced a variety of heirlooms that are still grown and used today, revolutionizing the canning and private seed industries (Bergougnoux, 2014). By the early 19th century, tomatoes were a common ingredient in American cuisine, particularly in the southern states (Clarkson, 2010).

Canning Tomatoes: A Road to Soup

In the mid-19th century, canning became increasingly popular among Americans as it revolutionized food storage, allowing produce, dairy, and meats to stay shelf stable (Clarkson, 2010). The high acidity in tomatoes, however, made them the perfect contestant for canning, making them the most popular fruit or vegetable to can at the time. The development of commercial canning technology and the establishment of large-scale tomato farms allowed tomatoes to be widely accessible, playing a large role in making tomatoes a staple food in the American household (Clarkson, 2010).

The First Tomato Soup: Boiled Beef?

Nowadays, tomato soup may contain beef or chicken broth, but it is more often than not a vegetarian dish. Interestingly, the first tomato soups recorded were mainly boiled beef with a handful of tomatoes.

One of the first recorded tomato soup recipes was in *Miss Leslie's New Cookery Book* by Eliza Leslie (1857) from Philadelphia. In it, she outlines three different tomato soup recipes: "Tomato Soup," "Family Tomato Soup," and "Fine Tomato Soup." Each varied a little, and she notes that the "Fine Tomato Soup" is to be made when having dinner company and should be served with rolls or milk biscuits. Though the 3 recipes differed slightly, the basis of all three recipes was boiling some lean beef with tomatoes, a bit of sugar, sometimes breadcrumbs, and interestingly okra, a staple in Southern US cuisine, for better taste. Then, after at least 6 hours, strain the liquid. Another woman who is sometimes credited for the first published tomato soup is Massachusetts-born Maria Parloa, author of *The Appledore Cook Book* (1872). Her tomato soup recipe is pretty similar to Leslie's (1857) but with shorter cooking times and okra omitted.

Campbell Soup Company: Just add milk!

In 1895, Campbell Soup Company came out with the first jar of "ready-to-eat-soup,": The Beefsteak Tomato soup, which was ready to be consumed once heated (Campbell History, n.d.). This recipe, despite the name including "beefsteak," departed from Leslie's (1857) and Parloa's (1872) original tomato soup recipes, which included boiled beef, was now vegetarian, and almost completely tomato based.

Although a good innovation, it wasn't until two years later that canned tomato soup was changed forever; the iconic canned condensed tomato soup was invented. This new format offered smaller, more affordable packaging, allowing American families to easily cook and access the dish. All you had to do, (and is the same today) was heat the contents of the can and add a can full of milk (or water), and as easy as that, you have tomato soup! By 1911, Campbell's condensed tomato soup was distributed nationally across the US, gaining immense popularity. This popularity eventually grew internationally, by 1930, the first Canadian Campbell Soup

Company branch opened, and the condensed tomato soup was quickly adopted as a pantry staple throughout Canada (Campbell History, n.d.).

Campbell's Tomato Soup was made into an iconic symbol of North American life with Andy Warhol's *Campbell's Soup Cans* (1962), when he turned the simple can of tomato soup into classic pop art (MoMA, 2020). Campbell's Soup was a staple in homes across the country by this time, something almost everyone, regardless of class, could relate to. Warhol's choice to paint the soup cans wasn't just about their familiarity—it was also about their accessibility and the way they connected people from different walks of life. In doing so, he made something ordinary feel extraordinary, turning a can of soup into a cultural icon that spoke to the connection between consumer goods and our shared experiences (MoMA, 2020).



Figure 2: Andy Warhol's *Campbell's Soup Cans*, (MoMA, 2020).

20th Century American and Canadian Tomato Agriculture

At the time, Dr. John Dorrance, inventor of the condensed tomato soup, and Campbell Soup Company president (1914-1930) recognized the importance of a strong agricultural system for the company's success. He and his wife Ethel invested their time and money into their research farm in New Jersey, where they would host annual meetings educating farmers from all over on new growing techniques, crop rotation, water saving, and seed selection (Campbell History, n.d.).

Throughout the 20th century, advancements in tomato breeding and production continued to increase yields (Cook & Calvin, 2005). For example, the average tomato plant today produces about 5x as many tomatoes per meter of plant, compared to the average tomato plant in 1920 (Volpe, 2024). The last 100 years have also seen significant growth in the North American

greenhouse tomato industry, making tomato growth available in places where the climate is less ideal to do so (Cook & Calvin, 2005). Today, Canada is the highest-producing North American country for greenhouse-grown tomatoes, which grew dramatically in the 1990s (Cook & Calvin, 2005). The technological advancement and agricultural revolution of the 20th century made tomatoes widely available to households all over North America. This not only contributed to the success of the canned soup industry, but also established tomatoes as one of the most widely used soup vegetables, especially in home-made tomato soup (Clarkson, 2010)!

After potatoes, but before onions, tomatoes are one of the most consumed vegetables in the world (Bergougnoux, 2014). In 2011 worldwide tomato production reached 160 million tons, and this number has likely grown since (Bergougnoux, 2014). Of course, with increased production comes increased consumption, and by 2006 the per capita (US) consumption grew to 40.5kg/yr. of tomatoes. That's like 40 pots of soup a person!

Tomato Soup Today

Tomato soup diverged quickly from the two original recipes, but after that, the basic recipe has not changed too much. Of course, there are personal variations and added preferences to enhance the basic recipe, like adding basil, heavy cream, roasted red pepper, parmesan, or roasting the tomatoes before, which can add a nuanced flavor to the classic dish. But other than that, the recipe is the same: tomatoes, seasonings, broth, and any additions to taste. Because of the accessibility (both financially and agricultural availability) of the main ingredients, the recipe and popularity have not changed very much over the last 100 years in North America. Who doesn't love grilled cheese and tomato soup!?

Tomato Soup Recipe: *(Adopted from Foster, 2024. Classic Tomato Soup Recipe)*

Ingredients:

1 large yellow onion

3 cloves garlic

4 tablespoons (1/2 stick) unsalted butter

1 tablespoon tomato paste

2 (28-ounce) cans crushed tomatoes

3 cups low-sodium chicken or vegetable broth



1 teaspoon kosher salt, plus more as needed

1/4 teaspoon freshly ground black pepper

1 teaspoon balsamic vinegar

Optional for serving: croutons, basil, grated Parmesan cheese

Instructions:

- 1. Finely dice the yellow onion and mince the garlic.*
- 2. Melt butter in a pot over medium heat and add the onion, garlic, salt, and pepper, and cook until onion is translucent, about 8-10 minutes.*
- 3. Add tomato paste and stir to coat the onions. Cook, stirring frequently, for 1-2 minutes.*
- 4. Add cans of crushed tomatoes and broth and reduce the heat to maintain a simmer. Stir occasionally until thickened, for about 30 minutes.*
- 5. Turn off the heat and blend with an immersion blender until smooth.*
- 6. Add balsamic vinegar and stir to combine.*
- 7. Serve with croutons, basil, or grated Parmesan cheese if desired.*

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