



MANUFACTURERS REPRESENTATIVES

"Connecting Partnerships"

FOOD GUIDE

3rd Edition 2024



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MISSION STATEMENT

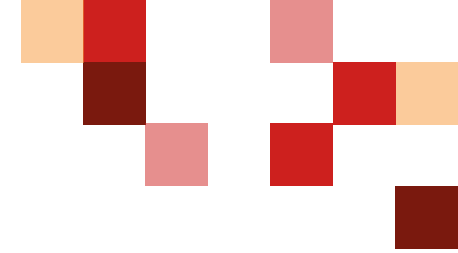
Our mission, as Manufacturers Representatives in the food industry, is to ensure that our product knowledge and application expertise is properly shared with our customers so that they can make prudent business decisions that not only positively impact their food operation's bottom line, but also help their business transcend to a higher level of dining experience for consumer customers as well as among the community as a whole.

Chris Matson
President, Nexus

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INTRODUCTION

The purpose of this food guide is to provide a deeper understanding into the different types of food that we all put into our bodies, what it does to us, how it makes us feel and how money is, and can be, made from it. Throughout this guide are chapters on different types of food, like vegetables, fruits, grains, dairy, meats and seafood, as well as beverages and desserts. The guide will provide information on a variety of ethnic foods, recipes, restaurant menu enhancement, portion costs, budgeting and even a projection into the future of food. Food is such an important part of our lives, is a huge part of the economy and impacts us on so many levels, which is why this guide was written. Let this guide help you see the possibilities in how food can become more to help your business thrive!



Written by: Dave Divelbiss and Chris Matson

FOOD INDUSTRY STATISTICS

The foodservice industry is one of the largest segments of our national economy with over \$974 billion in sales 2023, which is a long way from \$42 billion spent in 1970. This chapter of the guide will provide you with the latest statistics on the food industry along .

2023 FOOD INDUSTRY STATISTICS

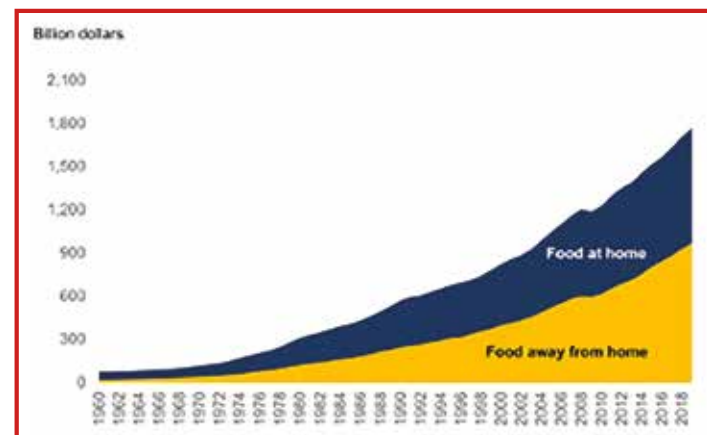
- Revenue in the Food market amounts to US\$974.90bn in 2023. The market is expected to grow annually by 3.79% (CAGR 2023-2028).
- The market's largest segment is the segment Confectionery & Snacks with a market volume of US\$303.80bn in 2023.
- In global comparison, most revenue is generated in China (US\$1,493bn in 2023).
- In relation to total population figures, per person revenues of US\$2,896.00 are generated in 2023.
- In the Food market, 9.7% of total revenue will be generated through online sales by 2023.

CONSUMER PRICE INDEX FOR FOOD (NOT SEASONALLY ADJUSTED)

The all-items Consumer Price Index (CPI), a measure of economy-wide inflation, was unchanged from September 2023 to October 2023 and was up 3.2 percent from October 2022. The CPI for all food increased 0.3 percent from September 2023 to October 2023, and food prices were 3.3 percent higher than in October 2022.

The level of food price inflation varies depending on whether the food was purchased for consumption at home or away from home:

- The food-at-home (grocery store or supermarket food purchases) CPI increased 0.3 percent from September



2023 to October 2023 and was 2.1 percent higher than October 2022; and

- The food-away-from-home (restaurant purchases) CPI increased 0.4 percent in October 2023 and was 5.4 percent higher than October 2022.

Food prices are expected to grow more slowly in 2023 than in 2022 but still at above historical-average rates. **In 2023, all food prices are predicted to increase 5.8 percent**, with a prediction interval of 5.7 to 6.0 percent. Food-at-home prices are predicted to increase 5.2 percent, with a prediction interval of 4.9 to 5.4 percent. Food-away-from-home prices are predicted to increase 7.1 percent, with a prediction interval of 7.0 to 7.2 percent. Food prices are expected to continue to decelerate but not decline in 2024. In 2024, all food prices are predicted to increase 2.9 percent, with a prediction interval of -0.9 to 6.8 percent. Food-at-home prices are predicted to increase 1.6 percent, with a prediction interval of -4.0 to 7.8 percent, and food-away-from-home prices are predicted to increase 4.3 percent, with a prediction interval of 2.3 to 6.3 percent. Managing a restaurant is more than just serving food. It also involves knowing how much the food industry is worth, and the food industry's market size. With a good overview of everything happening in your business, you can plan well and execute effectively to help your bottom line. Here are more interesting facts about the food industry:

- Over 200 million U.S. consumers went to a sit-down restaurant in 2018
- 65% of restaurant guests like to control how much they tip, rather than adopt the tip-free movement
- 13% of consumers are brand loyal to their preferred restaurants
- 48% of the average American's food budget goes to restaurants
- 60% of restaurants that offer delivery generated incremental sales

Almost everybody has a smartphone. This is why it only makes sense for businesses to use the internet's digital platform to get their business to where people can easily notice you.

- 56% of traffic to food brand websites come from search engines, making SEO the best marketing strategy for their business
- 88% of restaurants use a marketing service to advertise their store
- 90% of customers take the time to research a restaurant before dining

Additionally, when you pair your efforts with the best marketing system or CRM solution, you can then extend your reach and even grow your business with ease.





SOCIAL MEDIA IN THE FOOD INDUSTRY

Social media use is at an all-time high at 243.6 million users in the United States last year. It is the current and future battlefield to gain customer trust.

- Facebook (\$6.28 CPM), Instagram (\$5.68) and LinkedIn (\$2 CPM) are the best ways to advertise your business at a low cost
- 77% of Americans are currently active on social media.
- 67% of restaurants pay for social media ads in 2019
- 33% of restaurants use Instagram as their social media platform of choice

Utilizing social media in your marketing efforts, aided by a social media management tool, will give your customers a chance to reach out to you about their experience in your store, providing valuable food industry data in the process.

RESTAURANT REVIEW STATISTICS

User reviews are critical to your business today more than ever. Make sure you have a strategy to manage your online customers.

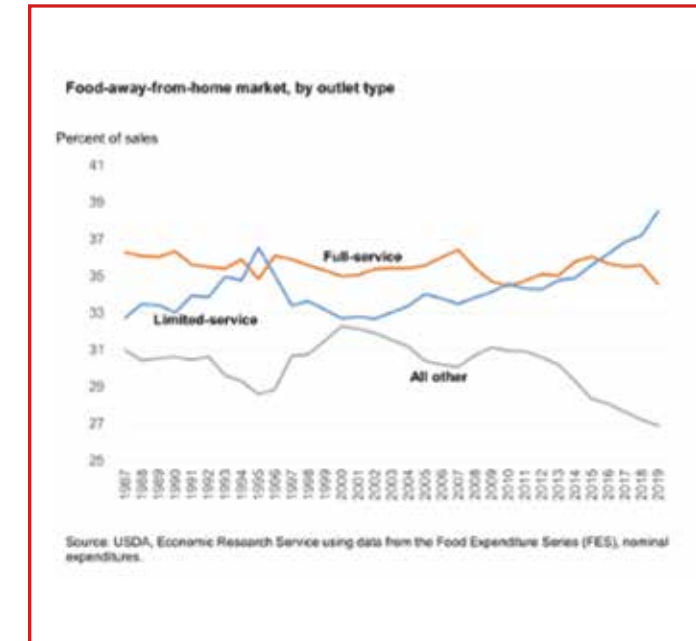
- 92% of diners read restaurant reviews before visiting
- 77% of restaurant-goers trust peer reviews rather than critic reviews
- 33% of consumers refuse to go to restaurants that have fewer than four stars on their reviews
- 35% of diners say that online reviews help influence their decision when choosing a place to dine

Full-service and fast-food restaurants, the two largest segments of the commercial foodservice market, account for about 73.1% of all food-away-from-home sales in 2019. Full-service establishments have wait staff, and perhaps other amenities such as ceramic dishware, non-disposable utensils and alcohol service. In contrast, fast food restaurants use convenience as a selling point; they have no wait staff, menus tend to be limited, and dining amenities are relatively sparse. According to the National Restaurant Association, restaurants are the nation's second-largest private-sector employer, providing jobs for one in 10 Americans.

As part of their growth strategy, fast food companies have built more outlets closer to consumers' homes and work places to make it more convenient for consumers to purchase meals and snacks. Many restaurant companies opened outlets in nontraditional locations such as department stores, airport kiosks and even corporate cafeterias. In addition to convenience, a household's demand for food-away-from-home is affected by its income and demographic characteristics. Globally, fast food generates revenue of over \$570 billion, larger than the economic value of most countries. In the United States

revenue was a whopping \$200 billion in 2015 — quite a lot of growth since the 1970 revenue of \$6 billion. The industry is expected to have an annual growth of 2.5% for the next several years — below the long-term average but coming back from a several-year slump.

Today there are over 200,000 fast food restaurants in the United States and it is estimated that 50 million Americans eat at one of them every single day. The industry employs over 4 million people and counting — restaurant franchises added over 220,000 jobs in 2019.



Any shift in market share between fast food and full-service restaurants could influence the mix of foods and services offered by both types of restaurants. For example, if trends favor full-service restaurants, the market could shift to include more full-service restaurants that offer a wider range of menu selections and dining amenities. In response, fast food restaurants might introduce comparable foods and services.

From franchises to sit-down restaurants to packaged goods, the food industry is vast and diverse. So, what does your food-related small business need to know? Below you will find even more food industry statistics to keep you in-the-know and help you advance your business this year.

Total food sales in 2019 nationwide amounted to more than \$2 trillion. Whether it was purchased in a restaurant or a retailer, the United States spent an astonishing \$2 trillion in food in 2019. It makes sense, after all, everyone needs to eat several times per day. It's a need that never goes away.

Specialty food sales are at a high, with \$130 billion in sales in 2019. The American people are growing increasingly health-conscious, opting for fresh foods and nutritious alternatives to fast food chains. This industry has its own hefty slice of U.S. food sales, amounting to \$127 billion. That certainly says something to all the kale naysayers.





Specialty food sales in restaurants are up by 13.7%. Even restaurants are opening the door to specialty foods. More clean, unique, organic or otherwise specialty options are being presented in restaurants to appeal to a more health-conscious demographic.

Organic produce brings in around \$65.8 billion in sales. Speaking of specialty foods, organic produce is on the rise as well. In fact, it's the fastest-growing segment of the food industry. Health food is here to stay, so if your establishment incorporates more organic food, you'll draw in even more of your health-conscious target.

The annual fast food revenue in the U.S. is around \$110 billion. It's hard to believe that specialty foods outweighed fast foods but, as they say, truth is stranger than fiction. However, it's important to consider that there may be some overlap between this and the previous food industry statistic as many fast food franchises are now offering cleaner options to appeal to the healthy eating crowd.

The packaged-food industry value is around \$377 billion. Even though restaurants draw in a huge amount of revenue, restaurants will never beat out the packaged day-to-day staples that every family keeps in their home. The packaged food industry pulled in around \$380 billion in 2019, which was a rise from the previous year.

In 2019, more than \$1 billion was invested in food industry startups. Even the tech industry is starting to overlap with food. As the population increases and the need for more efficiency is needed in farms and local food suppliers, technology is being brought to bear on the food industry to help solve these issues. Silicon Valley is branching out into this.

As of 2018, there are nearly 200,000 fast food franchises in the U.S. With fast food establishments on nearly every corner of the U.S., it comes as no surprise that there are hundreds of thousands of these in total. This is part of what makes fast food so convenient and fast.

McDonald's is the most valuable fast food brand worldwide. This food industry statistic certainly comes as no surprise, considering how long McDonald's has been around and its incredible brand power. This fast food franchise is worth around \$88 billion, which is double the amount of its runner-up, Starbucks.

On any given day in the U.S., more than a third of Americans consume fast food. Approximately 37% of Americans eat fast food on a given day, according to data from the National Center for Health Statistics. That shows just how ingrained fast food is into the average American lifestyle.

Although there are exceptions, the average fast food establishment pulls in around \$80,000 per year in profit. However, a franchise's success is always based on a number of variables, and some franchise owners can turn an incredible profit with proper advertising and management.

Fast food restaurants are projected to only grow at a rate of around 2% annually through 2020. Despite the massive influence that fast food has on American culture, the health food industry has begun to cut into that influence. Fast food restaurants are only expected to grow around 2% in the next year, but this does provide a unique opportunity for these establishments to expand their product offerings or enhance their marketing efforts to reach new targets and improve their brands further.

**18 MILLION U.S. ADULTS
WILL USE A GROCERY
APP THIS YEAR...
THIS NUMBER WILL
INCREASE BY ABOUT
49% COMPARED TO
LAST YEAR.**

Online grocery shopping is predicted to be a \$100 billion industry by 2022. Fast food isn't the only convenient way to eat anymore. The online grocery and delivery business has seen a huge boom during the past few years as retailers, as well as third-party delivery services, work in tandem to bring customers even more easy ways to shop.

18 million U.S. adults will use a grocery app this year. Further evidence of the online ordering explosion is the related growth of grocery purchases through apps. This number will increase by about 49% compared to last year.

More than 260 million Instagram posts carry the hashtag #food. We all love our foodie Instagram friends. Instagram's image-based platform is the ideal place for food marketing with appealing photo ads. Just be sure to include those popular hashtags so that you gain as much traction as possible.

SOURCE: <https://pos.toasttab.com/blog/10-fast-food-industry-statistics>
SOURCE: <https://www.entrepreneur.com/article/228698>

The three most important social media platforms for food brands are Instagram, Facebook and LinkedIn, respectively. These are the top methods for reaching your target in the most cost-effective way possible. The cost per 1,000 impressions on Instagram is \$5.68, while on Facebook the cost is around \$6 and LinkedIn clocks in at \$2. The relatively low cost of marketing on social media with the heavy influence that results delivers a high return on investment, making social media the ideal place for marketing food.

The total ad spend for grocery stores in 2019 was around \$1.3 billion. Whether digital or traditional, ads are important for grocery stores and packaged good manufacturers. At over a billion in ad spend, these industries are investing quite a bit of their marketing dollars in ads to boost their brand and reach new audiences.

The food industry is one of the employment cornerstones in the U.S. However, it has its own problems, not the least the high turnover rate and dearth in team bonding.

- 10% of the overall U.S. workforce is in the restaurant industry
- 70% of restaurant employees want hands-on training with their managers
- 40% of restaurant employees say there is a lack of team-building events and activities
- 1 in 3 Americans worked in a restaurant for their first job; 6 in 10 adults worked in a restaurant at some point
- Restaurants in the U.S. have a 75% turnover rate, an all-time high
- 53% of restaurants in the U.S. offer food safety and alcohol certification training

WHAT IS THE ECONOMIC OUTLOOK FOR THE FOOD INDUSTRY IN 2020?

The food industry is facing a number of factors that will continue to adversely impact performance; paradoxically, some of these are due to the strong economy. As a consequence, we expect industry growth to decelerate in 2020, which will lead to further consolidation, margin pressures and a supply/demand rebalancing. In total, we project that food industry revenues will grow at 3%, while overall volume will be relatively flat. Nontraditional channels

will be the major share gainer. Our preliminary forecast for 2020 is shown below:

Underlying our forecast are the following observations:

GOVERNMENT - There is a tremendous amount of uncertainty and frustration with government tax, trade, tariff and fiscal policies, leading to a loss in consumer confidence and a reluctance to spend or, at a minimum, more conservative spending patterns. Further, many – but certainly not all – economists are predicting an imminent economic slowdown of some severity.

LABOR SHORTAGES – most notably in transportation, warehousing and kitchens – are chronic in many major markets. They are causing very significant wage pressures and are negatively affecting operations (e.g., hours being curtailed).

MINIMUM WAGE PRESSURES – are forcing operators and retailers to raise prices in a price-sensitive environment

where affordability (of restaurant meals) is a growing problem for many consumers. They are also causing them to evaluate and deploy robotics, ordering kiosks, self-service and a wide range of other technologies to reduce staffing.

URBANIZATION – is increasing a wide range of providers' operating costs such as occupancy. In a related vein, the travails of suburban malls (e.g., anchor store closures, traffic declines, forced

re-concepting, etc.) is a serious headwind for the many restaurants, including many casual dining chains, that locate at or near the malls.

POST RECESSION RESTAURANTS – especially independents – have been opening at a fairly aggressive rate, resulting in an oversaturation situation that necessitates an (overdue but painful) correction, which we believe has commenced.

INDEPENDENT RESTAURANTS – fast casual, natural food stores and supermarket prepared foods have been leading growth segments, and, for different reasons, are all experiencing slowdowns. While a number of concepts like Chipotle are “defying gravity,” we anticipate that the slowdown will continue in 2020. Slower growth of independent restaurants is concerning for distributors as they represent their most profitable segment.

Channel	2022	2020
Food Service	3.75%-4.25%	3.5-4%
Traditional Retail	1.75%-2%	1-2%
Non-Traditional Retail	7.5%-8%	7-7.5%
Total	3%	3.5%

FULL SERVICE RESTAURANTS – Arguably, certain high-volume industry channels like full-service restaurant chains and traditional supermarkets are in secular decline.

DELIVERY – has been touted as a huge growth stimulant for restaurants and other food providers. For many, it is proving to be cannibalistic and margin dilutive, especially given the loss of high-margin beverage sales on most restaurant delivery orders. In addition, many of the leading third-party delivery services are unprofitable and will be forced to modify certain “pro-consumer” practices. Net, we believe delivery will continue to grow but at a much slower rate than heretofore and a number of operations will scale back or withdraw their involvement.

DISCOUNTS AND PROMOTIONS – will be a must. Given the slow growth and intense competitiveness in both retail and foodservice channels, we will continue to see heavy and costly promotion activity, including value options, bundling, temporary price reductions, and so on in an effort to maintain or build traffic.

SOURCE: Author: Aleks Merkovich, <https://fitsmallbusiness.com/food-industry-statistics/#:~:text=Total%20food%20sales%20in%202017,trillion%20in%20food%20in%202017>

SOURCE: www.financesonline.com

SOURCE: <https://www.ers.usda.gov/topics/food-markets-prices/food-service-industry/market-segments/>

SOURCE: PENTALLECT INC

SOURCE: <https://www.pentallect.com/food-industry-outlook-for-2020-major-challenges-ahead/#:~:text=As%20a%20consequence%2C%20we%20expect,volume%20will%20be%20relatively%20flat>

AGING DEMOGRAPHICS – The impact of certain long-standing demographic trends such as a rapidly aging population and smaller households are increasingly manifesting themselves to the detriment of the food industry.

While incumbent politicians are highly motivated to “stoke” the economy during an election year, we do not foresee that temporary pro-growth initiatives such as payroll tax cuts will stimulate “above trend line” growth.

THE BOTTOM LINE

The food industry as a whole is multi-faceted and complex. However, one uniting factor is that whether you own a fine-dining establishment or a neighborhood grocery, these food industry statistics show that health food and social media are the top trends to keep in mind. By expanding your product offerings and adopting a personal social media presence, you can advance your business and push forward with confidence.



FOOD SALES

Manufacturing a great tasting food product takes time, focus and attention to the minutia of details that make a product stand out. Given the amount of time it takes to develop a line of delicious food products most company owners don't have the time to also go out and sell their food or know much about marketing at all. Food manufacturers are eventually steered towards hiring a food broker to grow their product sales and help them promote their brand in strategic marketplaces. But wait. "What is a food broker?"

Below is a description of what a Food Broker is, what they do and the value that they bring towards success in a marketplace.

WHAT IS A FOOD BROKER AND WHAT DO THEY DO?

A Food Broker is typically an independent sales agent that works either as a 1099 contractor or within a large group inside of a Food Brokerage Company. Manufacturers will hire a Food Broker and task them with the complex assignment of promoting, marketing and selling their food products. Brokers achieve success through their legacy relationships, in the industry, and through their marketing and negotiating

skills with wholesale distributors to stock any given food product.

Food brokers provide a service to both food manufacturers and buyers by marketing the line of food not only to the wholesale distributors but by creating a demand for the food products with the restaurant chefs and foodservice operations throughout the industry. Food manufacturers often find it less expensive to sell through food brokers rather than using a direct salesforce because it saves the cost of paying a direct sales staff to market their products. Brokers are simply less expensive and often offer more experience and numbers on the street than a direct salesforce can. Since brokers represent a large number of food producers, the wholesalers and operators also save time, energy, and money by dealing with one broker rather than with many manufacturers' representatives.

Brokers usually sell in a specified geographic area. However, the products that they sell may be grown, processed, or manufactured anywhere in the world. Those who work in heavily populated areas usually cover a small geographic area; in rural areas brokers cover a large territory. Many food brokers employ clerical staff and merchandisers in



support of their salesforce. These sales workers handle all of their administrative work and can sometimes travel to meet with cash & carry store managers to merchandiser their shelves. Food brokers, who own a brokerage agency, may be closely involved in sales and or work as administrators and supervisors to guide the company forward.

Another service that food brokers provide is keeping manufacturers up-to-date on local market conditions. Brokers try to increase their sales volume and achieve the greatest possible distribution of their manufacturer's products, which involves a lot of sales calls and vigorous marketing campaigns of new products. Food brokers may help wholesale distributor buyers manage sufficient inventories of various products and may even offer

Most brokers begin as new business development Reps and are usually trained on the job by experienced, veteran sales staff. Experienced workers often accompany newcomers on sales calls to help them become acquainted with their buyers. Food brokers may also be trained by the sales managers of companies whose products they sell. Food brokers may advance to supervisory jobs such as sales manager within a firm.

According to the U.S. Bureau of Labor Statistics, employment of brokers was expected to increase as fast as the average for all professions from 2004 to 2014. As the economy and the American population grow, more food brokers will be needed to negotiate the sale of food items. Many new food brokers will also be needed to replace those



suggestions on marketing materials and other means of promotion. Additional responsibilities typically include merchandising, participating at food shows, onsite operator training, and preparing sales reports on market conditions for manufacturers to review.

EDUCATION AND TRAINING REQUIREMENTS

Individuals interested in becoming a food broker typically need at least a high school education, but most people who enter this field have attended college. Any sales experience gives applicants a higher level of qualification for the job. Working in a restaurant or in a supermarket can offer entrants beginner experience.

who leave the field. The future of brokers will become more technologically savvy which will allow brokers to be more efficient at their jobs.

WORKING CONDITIONS

Food brokers work mainly in their regional or even home offices. Occasionally they may travel to meet with operator customers, distributors, or manufacturers. Traveling rarely takes them away from home overnight. Brokers must be persuasive and enjoy competition. They must like dealing with people and be genuinely interested in helping their customers sell the products they have purchased. Because brokers work on a commission or bonus basis, they generally put in long hours so that they can maximize their sales time.



THE HISTORY OF FOOD & CUISINE

Have you ever wondered what the history of food might be? The truth is quite interesting in that when life began here on Earth about 85 million years ago and various species of cavemen and women began looking for food, they were not concerned about taste profiles or pleasing their taste buds in any way. All they were looking for was something edible that would fill their digestive system. The beginnings of food date back to just nuts, berries, oysters, salt and even tree roots. About 1.7 million years ago the caveman found a way to control fire and began to cook meat over it. The kitchen was now open, and cuisine evolved from that point on. In this chapter of the food guide we cover the history of food and its evolution into cuisine, as well as what food might look like in the future.

Once food evolved out of the primitive centuries it began to change shape in vast varieties all over



the world. In western Europe, medieval cuisine (5th-15th century) was simply barley, oats and rye, eaten mostly by the poor. Standard foods included bread, porridge and gruel. Fava beans and vegetables were important supplements to the cereal-based diet of the lower orders. Meat was expensive and prestigious. Game was common only on the tables of landowners. The most prevalent butcher's meats were pork, chicken, and other domestic fowl; beef, which required greater investment in land, was less common. Cod and herring were mainstays among the northern populations; dried, smoked or salted, they made their way far inland, but a wide variety of other saltwater and freshwater fish was also eaten.

The potato was first domesticated in the region of modern-day southern Peru and extreme northwestern Bolivia. It has since spread around the world and become a staple crop in many countries. Some believe that the introduction of the potato was responsible for a quarter or more of the growth in Old World population and urbanization between 1700 and

1900. Following the Spanish conquest of the Inca Empire, the Spanish introduced the potato to Europe in the second half of the 16th century as part of the Columbian exchange. The staple was subsequently conveyed by European mariners to territories and ports throughout the world. The potato was slow to be adopted by distrustful European farmers, but soon enough it became an important food staple and field crop that played a major role in the 19th century European population boom.

Rice comes from the seasonal plant *Oryza sativa* and has been cultivated since about 6000 BCE. The principal rice-producing countries are in east and south Asia. The origin place of rice has always been a hot point of debate between India and China as both countries started cultivating it around the same time (say numerous history books and records). The average amount of rice cultivated every year ranges between 800 billion and 950 billion pounds. Muslims brought rice to Sicily in the 9th century. After the 15th century, rice spread throughout Italy and then France, later spreading to all the continents during the age of European exploration. As a cereal grain, today it is the most widely consumed staple food worldwide. Currently India is leading rice producing country according to FAOSTAT, Food and Agriculture Organization of the United Nations.





In time, Europeans sailed around the world, trading sugar and cacao from the Americas to Europe, and in southern parts of the Americas, they dried leaves of the local mate plant that would compete with coffee, tea, and chocolate as the favored hot beverage in Europe. A Catholic religious order, known as the Jesuits, were the leading producers and promoters of chocolate. Using indigenous labor in Guatemala, they shipped it across the world to Southeast Asia, Spain and Italy. Chocolate's popularity was also due in part to the theological consensus that because it was not considered a food, it could be eaten while fasting. The Jesuits also introduced several foods and cooking techniques to Japan: deep frying (tempura), cakes and confectionery (kasutera, confetti), as well as the bread still called by the Iberian name 'pan'.

Grain and livestock have long been the most important agricultural products in France and England. After 1700, innovative farmers experimented with new techniques to

increase yield and looked into new products such as hops, oilseed rape, artificial grasses, vegetables, fruit, dairy foods, commercial poultry, rabbits and freshwater fish.

Sugar began as an upper-class luxury product in the 1700's. However, as Caribbean production expanded over time, by 1800 sugar was a staple of working-class diets. Sugar originated from India by taking the sugarcane plant through chemical and mechanical processes. Previously people used to chew the juice out of sugarcane to enjoy the sweetness of the plants. Later, Indians found the technique to crystallize the sweet liquid. This technique then spread towards the neighboring countries of India. The Spanish and Portuguese empires provided sugar for Europe by the late seventeenth century from New World plantations. Brazil became the dominant sugar producer.

As time evolved, with the first half of the 20th century came the introduction of new foodstuffs, especially fruit,

transported from around the globe. After the World War many new food products became available to the typical household, with branded foods advertised for their convenience. Now instead of an experienced cook spending hours on difficult custards and puddings, the housewife could purchase instant foods in jars, or powders that could be quickly mixed. Wealthier households now had ice boxes or electric refrigerators, which made for better storage and the convenience of buying in larger quantities.

The Green Revolution was a technological breakthrough in plant productivity that increased agricultural production worldwide, particularly in the developing world. Research began in the 1930s and dramatic improvements in output

became important in the late 1960s and continued into the 21st century. The initiatives resulted in the adoption of new technologies, including:

“new, high-yielding varieties (HYVs) of cereals, especially dwarf wheats and rices, in association with chemical fertilizers and agro-chemicals, and with controlled water-supply (usually involving irrigation) and new methods of cultivation, including mechanization. All these together were a ‘package of practices’ to supersede ‘traditional’ technology and to be adopted.

SOURCES: Food Timeline.org, Wikipedia, A Brief History of Food – Author Poet Sarah, and science focus.com

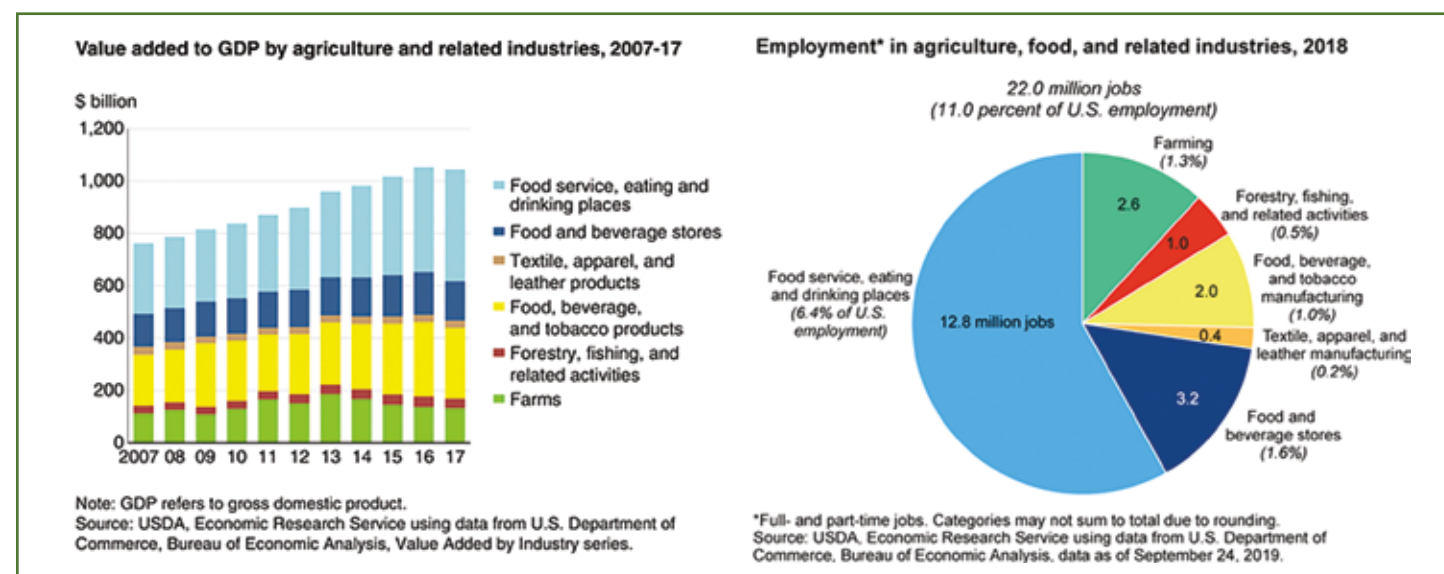


FRUITS AND VEGETABLES

Fruits and Vegetables, or “produce”, play a huge role in many aspects of our lives. They are not only a huge source of nutrition, but are vital to economic prosperity and allow for generous profit margins at every level in foodservice.

The U.S. agriculture sector extends beyond the farm business to include a range of farm-related industries. The largest of these are food service and food manufacturing. Americans’ expenditures on food amount to 13% of household budgets on average. Among Federal Government outlays on farm and food programs, nutrition assistance far outpaces other programs.

Agriculture, food and related industries contributed \$1.053 trillion to the U.S. gross domestic product (GDP) in 2017, a 5.4% share. The output of America’s farms contributed \$132.8 billion of this sum—about 1 percent of GDP. The overall contribution of the agriculture sector to GDP is larger than this because sectors related to agriculture—forestry, fishing and related activities; food, beverages and tobacco products; textiles, apparel and leather products; food and beverage stores; and food service, eating and drinking places—rely on agricultural inputs in order to contribute added value to the economy. Agriculture and its related industries also provide 11 percent of U.S. employment



FRESH PRODUCE IS CHANGING AMERICAN FOODSERVICE

Fresh produce is playing a key role in changing the American menu and what consumers expect when they dine away from home. There has been a fundamental shift; produce is no longer simply a steamed side that languished on the plate but rather an important (and often strategic) element in menu design and consumer messaging. The potential is to not only satisfying the demands of the consumer but opportunity to boost the overall profitability of the menu is almost guaranteed.

Both consumers and operators are behind the increased use of produce in foodservice. When surveyed 94% of consumers believe it’s important for restaurants to feature more fresh fruits and vegetables on the menu. Ninety-one percent (91%) of operators agree, and 40% at that time planned to increase their use of fruits and vegetables.

The most obvious reason for this shift is, of course, the health factor. Studies show that items with a larger amount of fresh fruits and veggies immediately enjoy a healthier perception than items without or with less. This is true even of indulgent items such as burgers, pizza, nachos and desserts. But the role of produce goes well beyond the better-for-you factor: Produce increases visual appeal, imparts a wide variety of textures, augments the perceived value of an item, and lends authenticity to items inspired by international cuisine. And while produce can lend authenticity, it can also create a comforting and familiar base thus allowing consumers to feel safer in experimentation with formats or ingredients that are unfamiliar.

A recent CDC report reaffirms the importance of eating more fruits and vegetables and the public health community, along with our mothers, have been making this simple recommendation for people to improve their health for decades, and it’s just as true today.

Another truth about fruits and vegetables is less encouraging: Americans still aren’t eating nearly enough of them. The Centers for Disease Control and Prevention (CDC) recently reported that only 12.2 percent of adults meet the daily fruit intake recommendation and just 9.3 percent meet the vegetable recommendation.

There is no shortage of data showing the health-promoting power of produce. Higher fruit and vegetable intakes might even benefit the health of our economy and our planet, according to the “triple bottom line” perspective. This boils down to at least 39,900 avoided deaths, 2.2 million fewer illnesses, 400 million tons of avoided greenhouse gas emissions and more than \$7.6 billion per year in healthcare savings in the United States alone.

Moving toward a diet that includes at least 4 1/2 cups of fruits and vegetables per day – while reducing consumption of red meats, refined grains, sodium, added sugars and sugar-sweetened beverages – can deliver benefits to our

health, the health of our economy and the health of our planet.

So how does this all translate for the foodservice operator into menu changes and what key trends have we seen emerge as a result? In recent years, four of the top five fastest growing ingredients were produce – kale (+75%), Brussel sprouts (+63%), celery root (+61%) and trumpet mushrooms (+57%).

The bulk of the top-growing ingredients are grains, fruits, nuts or vegetables, with only a few examples of protein and sauces cracking that list.

American consumers can’t get enough of Chili peppers and new varieties from regions other than Central and South America are making an impact: ghost peppers from Bangladesh, shishito peppers from Japan, and both piquillo and padron peppers from Spain.

The need for vegetarian meaty textured ingredients and the continued strength of interest in Asian cuisines has driven attention to mushrooms, from the high-end truffle to the exotic black trumpet.

The increased interest in seasonal menus, dishes and flavor profiles has driven growth of root vegetable usage in the winter. These vegetables – from carrots and celery root to parsnips and beets – are being used in several other trends including pickling. Even mixologists are leveraging beets to create unique cocktails.

Despite this vegetable growth, fruit menu penetration has fallen behind. The fastest growing fruit since 2010 include blood orange (+120%), yuzu (+108%), Meyer lemon (+107%), quince (+100%), and Asian pear (+93%). Unfortunately fruit continue to be relegated to traditional use in salads, desserts and beverages. This is an opportunity for fruit growers to expand the role of fruit on the menu with exciting innovations in unexpected dishes.

Produce will continue to play a role in the morphing of foodservice in America in the next several years. Consumers will continue to demand – and operators will strive to satisfy the need for – more better-for-you (or, at the very least, guiltless) options, more items inspired by ethnic cuisine and menu items that are vibrant in visual appeal, texture and taste. The question now is not whether produce is important to foodservice, but rather how large can its role ultimately become?

People around the world revere good cooking and along with chefs and foodservice operators, consumers fully appreciate the gastronomic possibilities of fresh produce when enhanced by a culinarian’s touch. Chefs often find inspiration in regional cuisines, where home cooks create familiar and authentic dishes with local and culturally specific flavors and techniques. Chefs also elevate everyday cuisine by expertly transforming fruits and vegetables into explosions of flavor that often evoke comfort and reflect cultural influences.

While these aren't trade secrets, today's foodservice industry operates at a unique time in food history. It's one in which global connectivity fosters adventurous palates. It's also one in which foodservice, including off-premises dining and foodservice at retail, has become the epicenter of eating in much of the world, making this industry increasingly responsible for providing everyday food choices to a substantial segment of the population. In the United States, "food-away-from-home" spending outpaced "food-at-home" spending for the first time in 2010 and has risen ever since. In 2017, 53.8 percent of people's total food spending was spent on food-away-from-home purchases, according to the U.S. Department of Agriculture.

The foodservice industry today also operates amid a climate of social accountability, which is converging with an increasing prevalence of chronic disease and obesity and fast-paced, pressure-filled lifestyles undermining people's best intentions to eat healthfully. This cocktail of circumstance presents a significant opportunity — and responsibility — for the foodservice industry to be forerunners in growing the trend of getting more fruits and vegetables on plates to be a critical mainstay for the benefit of all.

CHANGING MENUS FOR GOOD

Federal nutrition guidance advises everyone to fill half their plates with produce at every eating occasion, every day, to reduce their risk of many chronic diseases. Yet, we're nowhere close. Just one in 10 adults meets these recommendations,

according to the Centers for Disease Control and Prevention. A recent study from DuPont Nutrition & Health found 52 percent of U.S. consumers say they're trying to eat more plant-based foods and beverages. Roughly 60 percent of them also say switching to plant-based foods would be permanent, or they hope it would be. Taste, they say, is the main obstacle to making this healthy habit stick. The foodservice and produce industries—working together—must help fix this dichotomy.

The Culinary Institute of America uses the term "plant-forward" to refer to a style of cooking and eating that emphasizes and celebrates, but is not limited to, plant-based foods — including fruits and vegetables (produce); whole grains; beans, legumes (pulses), and soy foods; nuts and seeds; plant oils; and herbs and spices. Plant-forward also reflects evidence-based principles of health and sustainability. As food professionals, we know plant-forward can be tasty, versatile, and satisfying which is why demands to the foodservice sector are to make fresh produce more available

52 PERCENT OF U.S. CONSUMERS SAY THEY'RE TRYING TO EAT AND DRINK MORE PLANT-BASED FOODS AND BEVERAGES.

in all areas of the menu—and create memorable tasting experiences that keep customers coming back for more.

Many chefs and operators are already heeding the call. Plant-forward and plant-based dining graced nearly every major trend list of the last couple of years, including both the top trends and hot concepts identified by the National Restaurant Association. The exciting plant-forward menu items popping up in restaurants, convenience stores, hospitals, canteens and retail stores satisfy guests' desire for convenience, flavor, and fun in addition to fresh and healthy. These outlets are offering more produce-centric dishes and applying a variety of culinary techniques. They're featuring blended dishes like burgers (beef with a third or more ground mushrooms), mashes (cauliflower with potatoes), and cake (chocolate with beet), as well as such flavor bombs as whole-roasted, Mediterranean-spiced carrots and brined watermelon with mint and feta. And of course, the tried-and-true salad offers a canvas for endless variations. In all these cases, the healthy choice is the delicious choice and diners are eating it up.

While this rise in plant-forward offerings is certainly worth celebrating, it's too important to let fade away as a mere fad or trend of the year. From a business perspective, the momentum is also too great not to seize upon by increasing plant-forward items on menus. Featuring more fruits, vegetables and other plant-based foods in foodservice holds the greatest potential to drive sustainable improvements to personal longevity and

public health. To this end, The Culinary Institute of America and Harvard T.H. Chan School of Public Health—Department of Nutrition started Menus of Change®: The Business of Healthy, Sustainable, Delicious Food Choices. The initiative works to realize a long-term, practical vision for integrating optimal nutrition and public health, along with environmental stewardship and social responsibility concerns, within the foodservice industry and the culinary profession. Fruits and vegetables are the cornerstone of plant-forward gastronomy, which is why "think produce first" sits high among the initiative's tenets. Recently the CIA has doubled down on this veg-centric menu innovation direction with the launch of its Plant-Forward Kitchen digital media platform and annual Global Plant-Forward Culinary Summit.

BEYOND HEALTH

Given the foodservice channel's increased influence on everyday eating occasions and ability to overcome the biggest mental barrier to eating produce — taste — chefs hold the power to help support consumers' desire to eat more





fruits and vegetables. While fresh produce has long been known to be healthy, that very affiliation may be working against it. That's because health is just one of many reasons people choose foods, as demonstrated by a recent study conducted for Produce Marketing Association by Sentient Decision Science on understanding the experiences people want from food. The research finds a stronger incentive for people to choose fruits and vegetables when health claims are served alongside messaging of how fruits and vegetables satisfy broader needs and wants like taste, convenience, emotional and cultural connections.

This makes a case for not relegating produce to the health section on menus or leading with health messaging, making customers think these dishes might be somehow different (i.e., worse tasting) than the rest of the menu. Chefs know how to make plant-forward dishes varied, enticing, flavorful, and delicious by exercising tech savviness in the kitchen – not with smartphones or artificial intelligence, but with time-honored techniques like roasting, sautéing, julienne, purees, and the use of spices and condiments expertly applied to make produce sing. Doing so invites incorporation of dishes rich in fruits and vegetables to every section of the menu. Furthermore, menu descriptors that offer tempting details around plant-forward items rather than health statements position such selections as equally delicious as everything else on the menu. Take a lucky guess which dish Stanford University students picked during a food marketing study: “light ‘n’ low-carb green beans and shallots” or “sweet sizzlin’ green beans and crispy shallots.”

In addition, greater fascination with cultural discovery and novel flavors is making diners' palates more adventurous, opening the door to a long-term opportunity for creative menu R & D—one that stands to make produce a bigger and more vital role in people's diets. From the well-researched Mediterranean diet to the cuisines of Asia and Latin America, traditional food cultures offer myriad flavor strategies to support innovation around healthy, delicious, even craveable plant-forward cooking.

FOOD FOR THE AGES

Rising preferences for healthy, sustainable, plant-forward food choices—when matched with culinary insight—can transform palates and make plant-forward dining a mainstream concept. Beyond rational appeals of health messages, plant-forward restaurants also allow an American public, who increasingly wants someone else to do the cooking, to not be cornered into sacrificing taste and well-being when dining out. A fresh approach also empowers chefs and foodservice operators to assert their expertise and influence to grow a healthier world where people, businesses and our planet thrive.

Not all culinary professionals and foodservice companies will answer this call to action. But as more and more respond to demand and find success in the business of serving healthy, sustainable and truly delicious food, the rest will follow suit to seize this significant market opportunity.

Greater abundance of unapologetically delicious fruits and veggies on menus is a win-win, allowing all of us to have our cake (chocolate beet, of course) and eat it too.

FRUITS AND VEGETABLE TRENDS IN FOODSERVICE

An unprecedented focus on fruits and vegetables is lightening, brightening and elevating the healthfulness of foodservice menus across the country.

As plant-based foods and produce as center-of-the-plate fare continue to resonate with health-conscious consumers, foodservice operators from supermarkets to fast-casual and fine-dining establishments are menuing more and more produce.

“Center-of-the-plate vegetables continue to emerge on the menu,” according to Chicago-based Technomic Inc., a Winsight company, in its 2019 Center of the Plate Seafood and Vegetarian Consumer Trend Report. What's more, 34% of consumers and 40% of women strongly agree they'd be likely to order dishes made with vegetables instead of carb-rich items, if available (e.g., cauliflower pizza crust, zucchini noodles, etc.), according to Technomic's 2018 Healthy Eating Report.

The 2018 report also found that 84% of consumers think food described as having a full serving of vegetables is healthier, and 78% say the same for a full serving of fruit.

When it comes to today's hottest produce trends in foodservice, Technomic finds that vegetables such as cauliflower, which functions well as both a carb and a meat substitute, are wildly popular. And while other veggies—including kale, Brussels sprouts and sweet potato—remain sought-after superfoods, “consumers appear to be ready for something new,” says the Technomic 2019 report, which sees carrots and legumes/pulses, among other items, increasingly on the menu.

FOCUS ON HEALTH AND LONGEVITY WITH PRODUCE

Consumers increasingly see a correlation between what they eat, how they feel, and their health needs. While shopping, consumers are paying more attention to exotic or special-quality fruit and vegetables. Especially in north/western Europe, products with specific health characteristics such as berries, avocados, mangoes, pomegranates, papayas and sweet potatoes have become more popular and named as “super foods”.

The marketing for these niche products is growing, provoking a sales boom, particularly within the high-end market. As a consequence, these products are showing a strong annual import growth of 10% to 20%, while other more common and large-volume products such as oranges and tomatoes have seen little growth.

CONVENIENCE FOOD

Stores are predicting high demand for refrigerated snacks in “single-serve packaging.” Healthy snacking is on the rise, with “grabbing and going” becoming the norm. Whole Foods predicts products such as nutrition bars will be increasingly made using fresh fruit and vegetables and for that, there are higher levels of innovation required. Additionally, it is expected that the plant-based diet movement will keep growing, particularly relevant for meat substitution products, and is expected to reach \$2.5 billion value by 2023.

PURE AND ORGANIC

A significant number of European and North American consumers are seeking pure and natural products. The principal motivation for them to buy organically produced fruit and vegetables is that they are associated with health and better taste. Currently, the demand for organic products exceeds the supply, making it easier to find buyers and better margins. On the other hand, it can be challenging for exporters in tropical climates to comply with the increasingly demanding organic standards.

RETAIL SUCCESS DETERMINED BY QUALITY

According to the 2019 Fruit Logistica trend report, consumers are becoming much more sophisticated in terms of how they shop. Consumers are selecting the place to buy their groceries based on the quality of the store’s fresh food, the fresh fruit and vegetable section being the top priority. The survey conducted also showed evidence that customers satisfied with the store’s fresh food quality would visit 7% more frequently than those who are not. Additionally, consumers are willing to pay more for higher-quality fresh produce and their average basket will be 24% larger. This demonstrated the increased importance of fresh fruit and vegetables for the profitability of food retail business, over space expansion and promotion share, for driving sales.

SUSTAINABILITY

There is a large range of environmental and socio-economical sustainability aspects related to the fresh produce industry that can have an impact in various stages of the fruit and vegetable supply chain. Some of the most important in the industry, excluding economic sustainability, is water, food loss/waste, packaging, chemical use and energy. More companies in the sector will invest in

sustainability, motivated by the benefits of investing in them, and their brand reputation.

Recent survey Champions 12.3 showed that a large group of 1,200 companies in the food sector invested in food reduction and received a 99% of positive return of the investment. Primary production companies are starting to invest in aspects such as food losses, energy efficiency and carbon footprint, through innovations such as drying produce, on-farm & off-grid cold rooms, and post-harvest treatments.

Sustainability issues are growing in importance among consumers, and they are increasing their level of knowledge with regards to how their food is produced. According to a report by the Retail Industry Leaders Association (RILA), 93% of global consumers expect the brands they use to support social and environmental issues.

VEGETABLES AND FRUIT TRENDING HEAVILY IN FOODSERVICE TODAY

Beets – Earthy, nutritious and satisfying, beets have become increasingly popular in recent years. Beyond sides and salads, beets are also used in plant-based burgers to lend a “bleeding” effect, along with a healthy dose of nutrients.

Carrots – “Chefs are discovering the versatility of carrots and other non-meat ingredients,” according to Technomic’s 2019 Consumer Trend Report, which cites New York restaurant Narcissa, which created a buzzworthy Carrots Wellington using the flavorful root vegetable instead of beef in the pastry-encrusted classic.

Grimmway Farms of Bakersfield, Calif., is seeing increased demand for its top-selling foodservice items such as baby carrots, shredded carrots, carrot sticks and carrot chips. “With limitless ways to incorporate them in menus, these versatile cuts are truly value-added items,” says Lisa McNeece, Grimmway vice president of foodservice and

industrial sales.

Grimmway’s newest products in its foodservice lineup include rainbow baby and shredded carrots. With a growing number of grocery retailers offering meal solutions and kits in the deli department, retail foodservice has become a growing segment of Grimmway’s foodservice business, McNeece says. “Given that many consumers are shifting their preferences toward plant-based diets, now is a very exciting time to be in the produce industry, and the sky’s

the limit,” she says. “The latest trends in foodservice aren’t focused on one particular item but on many, and flavor is a huge component when it comes to selecting fruits and vegetables as the lead ingredients in entrees and other dishes.”

Cauliflower – Mashed, riced, sliced or grilled, cauliflower is an easy, low-carb substitute for potatoes, rice meat and more. It’s increasingly appearing on foodservice menus as a pizza crust or a base for a bowl where rice or pasta traditionally would have been featured.

Irving, Texas-based fast-casual restaurant Pei Wei recently added two cauliflower-centric items—Cauli Flower Power Bowl and Cauliflower Fried Rice—to its menu, according to Winter 2019 Fresh Insights for Foodservice from Washington, D.C.-based United Fresh Produce Association.

Last summer, Portland, Ore.-based New Seasons Market launched fresh and local restaurant-quality meal kits in all of its 21 stores. Featuring fresh ingredients from local farmers, vegetarian dishes highlighted organic produce such as cauliflower pilaf, spice-roasted carrots and turnip curry.

Legumes – An increasingly popular source of plant-based protein, legumes are lighting up scores of foodservice menus and prepared foods departments.

Wegmans, Rochester, N.Y., offers a store brand Organic Citrus Chickpea Salad. Lakeland, Fla.-based Publix stores showcase a Deli Jardinere Chickpea Salad Bowl made with chickpeas, onions, peppers and celery in a balsamic honey dressing. And Bristol Farms in Carson, Calif., features an Edamame Tofu Energy Salad.

Dole Food Co., Westlake Village, Calif., recently debuted a four-variety line of Dole Bountiful Kits featuring plant-based proteins including edamame, chickpeas, quinoa and lentils. “Our research shows an increasing desire for clean eating; plant-based protein; paleo, vegan and flexitarian diets; ketogenic foods; and a preference for complete calories over empty calories, says Bil Goldfield, director of communications for Dole. “This trend is evident by the fact that a full third of Americans now consider themselves to be flexitarian, meaning they are actively incorporating more plant-based protein into their diets.”

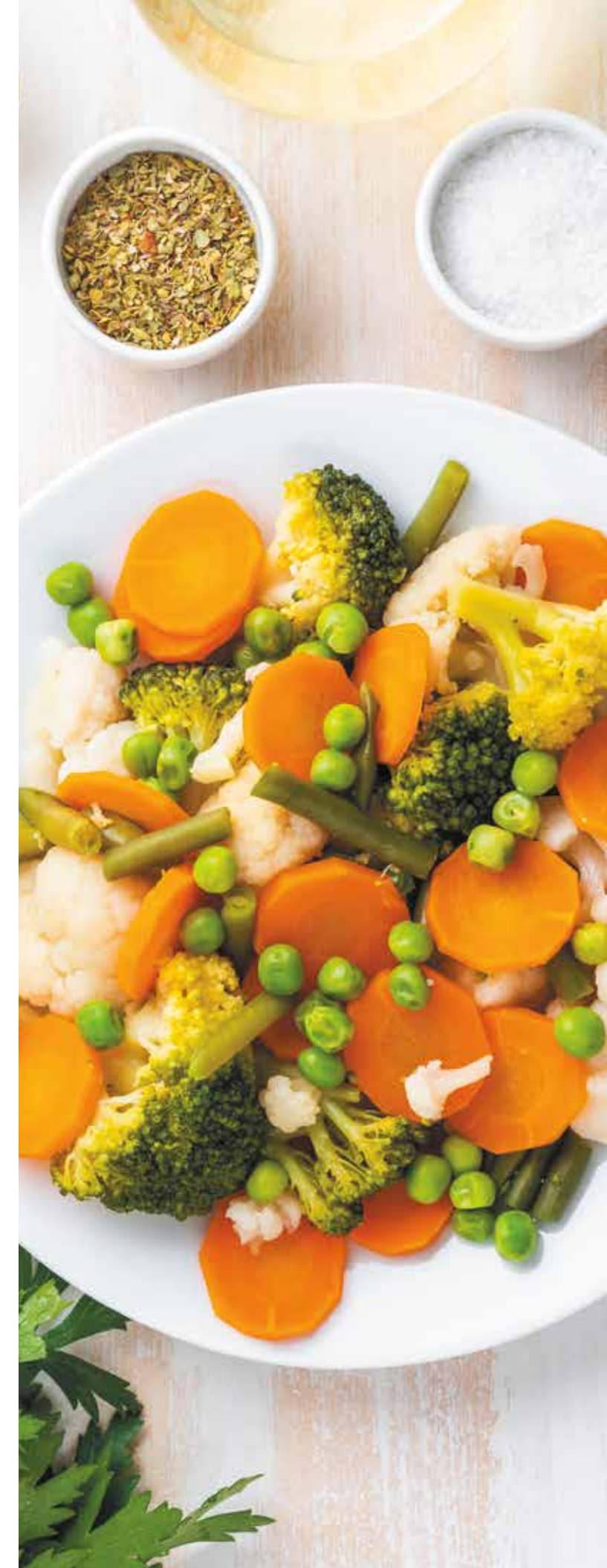
Mushrooms – A top trend at this year’s food shows and recently named an “It” vegetable by The New York Times, mushrooms are making headlines for their culinary, medicinal and nutritional prowess.

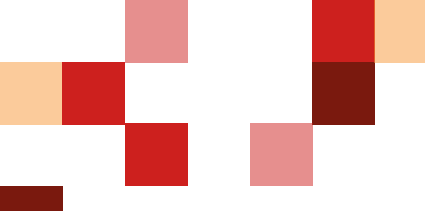
The Produce Marketing Association, Newark, Del., points to the Winter 2019 Datassential Fresh Foodservice Report, which finds the four-year growth of mushrooms on restaurant menus is something to talk about: Mushrooms are on the menu at 76% of fast casuals, 70% of quick-service restaurants, 38% of midscale dining, 29% of fine dining establishments and 25% of casual dining.

Rutabagas – Versatile rutabagas are often used as one would potatoes or turnips, according to the United Fresh

TRENDING FOODS

- Beets
- Carrots
- Cauliflower
- Legumes
- Mushrooms
- Rutabagas
- Zucchini
- Avocados
- Blueberries
- Pomegranates
- Cherries
- Coconut
- Turmeric
- Ginger
- Guava
- Watermelon





Produce Association. It sees the increasing popularity of this vegetable throughout foodservice channels.

Meal kit service Blue Apron, New York, offers Pork Meatloaf with mashed rutabaga and sauteed collard greens.

Zucchini – Another highly versatile vegetable thanks to its mild flavor and quick cooking, zucchini is both a stellar addition and carb alternative in a vast array of dishes. According to the United Fresh Winter 2019 Fresh Foodservice Report, zucchini has experienced four-year growth on restaurant menus across the board. The penetration percentage of restaurants menuing zucchini is up most among midcasual (31%), casual (32%) and fine-dining (33%) restaurants.

“As consumers become increasingly health-conscious and struggle with allergies like gluten intolerance, operators are also leveraging zucchini for trendy concepts like spiralized noodles and veggie chips,” the report says.

Three factors—exotic, unexpected and seasonal—are the top drivers in today’s foodservice fruit trends. Here are nine fruits and spices setting foodservice menus on fire:

Avocados, Blueberries and Pomegranates – United Fresh finds that plant-forward cakes and desserts—anything from avocado chocolate pudding to blueberry and pomegranate vegan cheesecake—are stealing the show in foodservice.

When asked in a Datassential survey why they eat plant-based foods, consumers were most likely to say it’s because plant-based foods are healthy. “Fresh fruits like blueberries and avocados are widely considered superfoods due to their high levels of antioxidants, and leveraging them for a dessert often associated with indulgence, like cakes, can bring fresh appeal to health-conscious consumers,” according to the United Fresh Winter 2019 report.

Cherries – Sensationally seasonal, cherries are a sought-after fruit for scores of consumers every summer. Foodservice operators are getting creative and finding new ways to leverage cherries beyond dessert applications, according to United Fresh. Cherries are a fan favorite in a variety of dishes, from salsas to marinades to sauces and salads.

Coconut, Turmeric and Ginger – Coconut, turmeric, ginger and almonds are also top trending ingredients in foodservice. Cincinnati-based Kroger expanded its Easy for You program in September 2018 to include self-serve stations featuring fully prepared frozen seafood, meat and side dishes for \$7.99 a pound in hundreds of its stores. Among its side dishes are Coconut Turmeric Rice, Mushroom Truffle Risotto and Cilantro Lime Rice.

Several Wegmans stores offer the Wegmans Nutty Professor Salad, which is brimming with produce such as carrots,

zucchini spirals, nuts, peppers and greens, with a turmeric and ginger dressing.

Guava – Guava is increasingly popping up in foodservice applications from desserts to breakfast dishes and beverages. High in vitamin C and bright in color, guava adds a nutritional, colorful boost to a variety of culinary experiences, including Frisco, Texas-based Jamba Juice’s Gotta Guava smoothie, made with guava juice, peaches, pineapple sherbet and strawberries.

Watermelon – Another seasonal favorite, watermelon is set to take foodservice by storm. The National Watermelon Promotion Board (NWPB) in Winter Springs, Fla., was on a mission to capture new consumer outreach opportunities in 2019.

As part of its efforts, the NWPB hopes to leverage the plant-based trend. “Plant-based plates are a culinary megatrend we can use to position watermelon for foodservice,” says NWPB Foodservice Director Megan McKenna, pointing out that her organization will participate in the Culinary Institute of America’s Global Plant-Forward Culinary Summit to get watermelon in front of food distributors and restaurant operators who are implementing these trends.

“Additional foodservice outreach, research and tools are underway to get more watermelon on menus year-round,” McKenna says.

Sources: Produce Marketing Association, Center for Disease Control (CDC), DMA Solutions – DATASSENTIAL, Top food trends for 2020 according to Whole Foods, Fruit Logistica trend report 2019, Grimmway Farms of Bakersfield, Calif.





NUTS AND SEEDS

A nut is a simple dry fruit consisting of one or two edible kernels inside a hard shell. Examples include almonds, Brazil nuts, cashew nuts, hazelnuts, macadamias, pecans, pine nuts, pistachios and walnuts. Although peanuts are legumes, they are considered nuts due to their similar characteristics to other tree nuts. The nutrient profiles of seeds are very similar to those of nuts. Commonly consumed seeds include pumpkin seeds, flax seeds, sesame seeds, poppy seeds, sunflower seeds, psyllium seeds and chia seeds.

Research has shown that regular nut consumption as part of a healthy diet does not promote weight gain and can protect against chronic diseases such as heart disease and diabetes. Less is known about the benefits of seeds due to limited research, but they are thought to provide similar health benefits due to similarities in nutrient content.

NUTRIENTS IN NUTS AND SEEDS

Overall, nuts have very similar protein, carbohydrate and fat profiles, but different types of nuts may have slightly different vitamin and mineral content.

Nuts have about 29 kJ of energy per gram, and are high in monounsaturated fats (most nut types) and polyunsaturated fats (mainly walnuts) and are low in saturated fats. They are excellent sources of dietary protein, hence a good alternative to animal proteins. Some nuts are also high in amino acid arginine, which keeps blood vessels healthy and free of dietary cholesterol.

In addition, nuts are high in dietary fiber, rich in phytochemicals that act as antioxidants and rich in many vitamins including E, B6, niacin and folate. They are rich in minerals such as magnesium, zinc, plant iron, calcium, copper, selenium, phosphorus and potassium.

Like nuts, most seeds are rich in protein, healthy fats, fiber, minerals such as magnesium, potassium, calcium, plant iron and zinc, and contain vitamins B1, B2, B3 and vitamin E. Oily seeds also contain antioxidants that stop the fats from going rancid too quickly.

Due to the unique nutrient profiles of nuts and seeds, they are known to provide several health benefits, including aiding in weight regulation, reducing the risk of heart disease and reducing the risk of diabetes.

NUTS AND BODY WEIGHT

Although nuts and seeds are high in energy and fats, eating nuts is not associated with weight gain. In fact, based on large population studies, higher nut intake has been found to be associated with lower body weight.

When included as part of a weight-loss diet, nuts have been shown to further promote weight loss and fat loss in the abdominal region. Lower fat in the abdominal region means lower risk for chronic diseases such as heart disease and diabetes. Therefore, nuts can be part of a healthy diet. The Australian Dietary Guidelines recommend a daily consumption of 30 grams of nuts per day.

Nuts assist with weight regulation in several ways which include the following:

- **Fat absorption** – fats in nuts are not fully digested and absorbed by the body. Research shows that only 68 to 94 percent of fats from nuts are absorbed
- **Hunger and fullness** – nut consumption promotes fullness and suppresses hunger or the desire to eat. As a result, food intake is reduced. This effect is due to the protein, fat and fiber content of nuts
- **Energy expenditure** – some research suggests that eating nuts can increase the amount of energy we burn. Another study shows that the energy we burn following a nut-enriched meal comes from fat sources, meaning that we burn more fat and store less fat in the body.

Lower fat absorption, reduced food intake and greater energy expenditure collectively contribute to the weight regulating effects of nuts. The effect of seeds on body weight has not been researched extensively but is likely to be similar to that of nuts as they are also high in protein, healthy fat and fiber.

NUTS AND HEART DISEASE

At a population level, frequent nut consumption has been associated with lower risk of dying from heart disease. This may be explained by nuts being rich sources of healthy unsaturated fats, protein, fiber, phytochemicals, vitamins and minerals.

Although high in fats, nuts are good sources of healthy fats such as monounsaturated and polyunsaturated fats, and they are low in (unhealthy) saturated fats. This combination of fats makes them heart healthy, as polyunsaturated and monounsaturated fatty acids help reduce low density lipoprotein (LDL) cholesterol, or the 'bad' cholesterol in the body.

LDL cholesterol can contribute to the build-up of plaque inside the arteries, which causes them to become narrow (a process known as atherosclerosis) and can lead to coronary heart disease.

Besides reducing LDL cholesterol, nuts also help to maintain healthy blood vessels and blood pressure through their arginine content, and reduce inflammation in the body through their high antioxidant content.

A variety of nuts and seeds can be included in a healthy diet. As different types of nuts have slight differences in their vitamin and mineral content, eating a variety of nuts will increase your levels of various nutrients.

Instead of eating a biscuit or piece of cake as a snack, having a handful of raw or dry roasted nuts is the best alternative. Combining nuts and seeds with low-energy dense foods such as vegetables is a good way to enhance vegetable-based meals, for example, in Asian-style dishes or added to a salad.

Regular consumption of nuts, seeds and legumes is recommended for vegetarians, vegans or people who avoid animal foods. They are a good substitute for meats, fish and eggs as they contain protein, fat, iron, zinc and niacin. More than 30 grams of nuts and seeds a day may be needed to ensure adequate protein.

Nuts are one of the most popular and fastest-growing commodities in the country. 'Tis the season for "chestnuts roasting on an open fire," but there'd be no idyllic holiday hearth-centered scene without chestnuts and the entire nut industry. Nuts are one of the fastest-growing sectors, and we can't seem to get enough of them. Nuts are flavorful and good for cooking in dishes ranging from breakfast to dessert.



TOP 10 NUTS GROWN IN THE U.S.

According to the Agricultural Marketing Resource Center (AgMRC), U.S. tree nut production in 2012 totaled 2.7 million tons, an increase of 4 percent over the prior year. The demand for most nuts continues to grow, as they are used in both health foods and candies. The AgMRC reports that California grows most of the U.S.'s nuts, though many varieties are grown in the Southeast and Southwest as well.

Almonds – Almonds are the leading nut by receipts. According to the USDA's Economic Research Service (ERS), almonds were number 16 on the list of top commodities based on receipts in 2016 with over \$5 billion. According to AgMRC data, the 2014 almond crop weighed in at 2.15 billion pounds, for a total of \$6.4 billion. The majority of almonds are grown in California.

Walnuts – Walnuts are another leading nut. The 2014 walnut crop amounted to 565,000 tons of walnuts, mostly grown in

California. The walnut crop had a value of \$1.8 billion.

Pistachios – Pistachios are another favorite nut. According to AgMRC, U.S. pistachio production in 2014 was 460 million pounds, for a total crop value of \$1.6 billion. Most pistachios are grown in California, but Arizona, New Mexico, Texas and Utah grow about 2 percent of the country's pistachio crop.

Peanuts – While not truly a nut (they're legumes), peanuts are considered a nut in how they are consumed. They are valued for their taste and high protein like other nuts, and they are widely used as garnishes, toppings, as butters or oils and in desserts. The four different types of peanuts are grown in the Southeast and the Southwest, with states like Alabama, Florida, Georgia, Mississippi, South Carolina, North Carolina, Virginia, New Mexico, Oklahoma and Texas leading the way. Georgia leads the nation in peanut production. In 2016, according to ERS, the peanut harvest was worth over \$1 billion.

Pecans – Another rising favorite for foods, sweets and baking, pecans totaled 264.2 million pounds in 2014 for a total value of \$517 million. Pecans are grown in 14 states, mainly in the South, with Georgia, New Mexico and Texas producing over 75 percent of the nation's total.

Hazelnuts – A favorite in various sweets and candies, hazelnuts are grown primarily in Oregon. In 2014, the total crop weighed in at 36 tons, with a value of \$129 million.

Chestnuts – The nuts of holiday carol fame, chestnuts are primarily grown in Michigan,

Florida, California, Oregon, Virginia and Iowa. However, the U.S. imports the majority of its chestnut consumption.

Macadamia Nuts – Hailing from Australia, these tropical nuts are grown mainly in Hawaii, but trees can also be found in California and Florida. They are typically used for confectionary, baking, ice cream and snack food industries.

Pine Nuts – Also called pignolias, pine nuts are desired in cooking and other applications for their unique flavoring and pine nut oil. Pine nuts are grown in the Southwest, and there could be a potential for expansion.

Cashews – Another food favorite, these tropical nuts may find footing in southern Florida, Hawaii and Puerto Rico.

SOURCE: Agricultural Marketing Resource Center (AgMRC), Better Health, Ag America lending, Cookie+kate

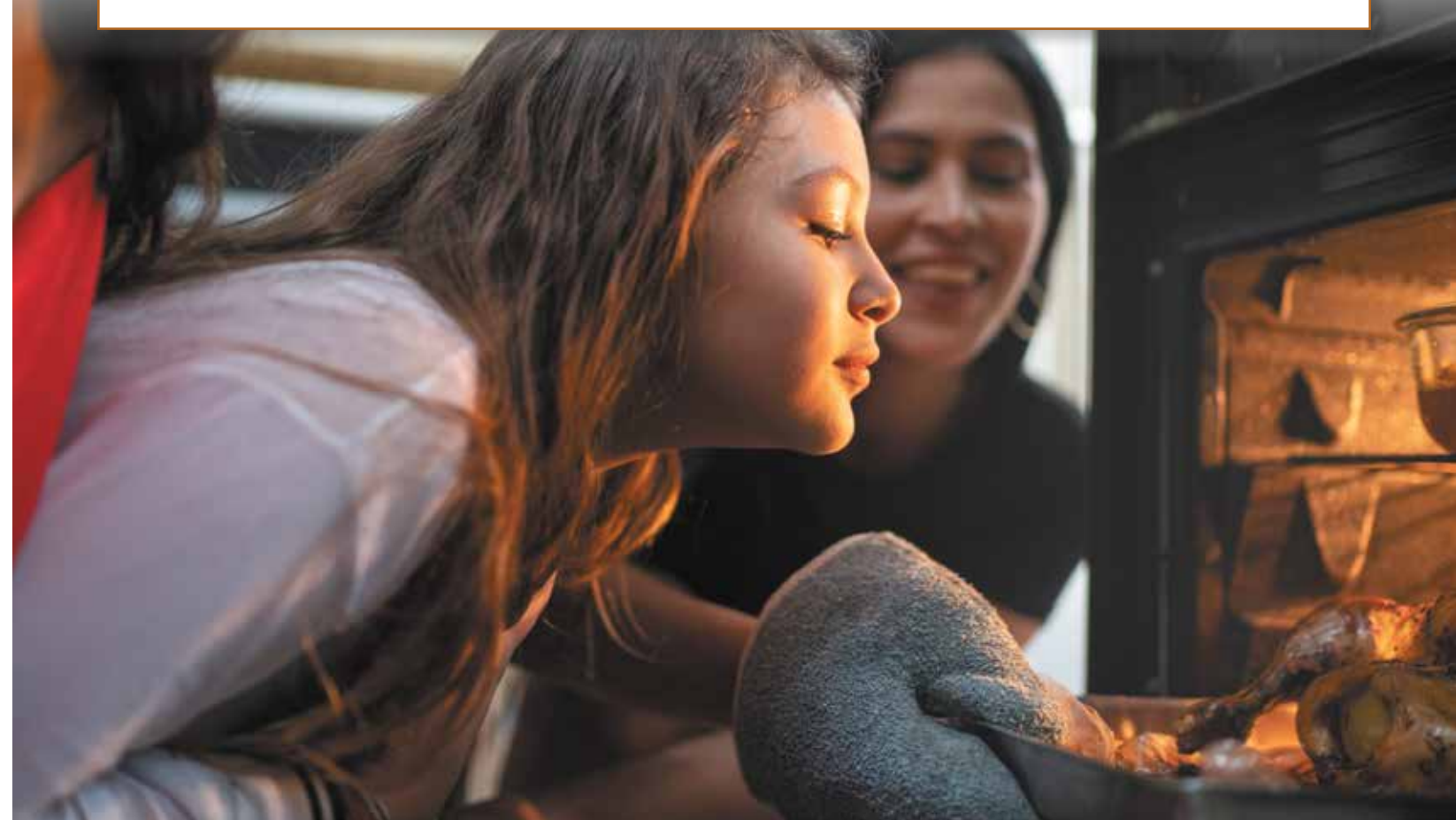
SWEET & SPICY ROASTED PARTY NUTS

Ingredients:

- 2 cups whole almonds
- 2 cups pecan or walnut halves
- 1 1/2 cups pepitas (green pumpkin seeds)
- 2 tablespoons finely snipped or chopped fresh rosemary (from 4 big sprigs); optional, but so good
- 2 tablespoons maple syrup
- 2 tablespoons unsalted butter, melted
- 1 1/2 teaspoons kosher salt*
- 1 teaspoon vanilla extract
- 1/4 teaspoon cayenne pepper (reduce or omit if sensitive to spice)

Directions:

1. Preheat the oven to 325° F. Line a large rimmed baking sheet with parchment paper or a silicone baking mat so the maple syrup doesn't get stuck to the pan (this is important). Pour the almonds, pecans and pepitas onto the pan and set it aside.
2. In a small bowl, combine the optional rosemary (or any other added seasonings), maple syrup, melted butter, salt, vanilla and cayenne (if using). Gently whisk until blended.
3. Pour the mixture over the nuts on the prepared baking sheet. Stir well, until all of the nuts are lightly coated. Spread the mixture in a single layer across the pan (the maple syrup will pool on the bottom of the pan, but that's okay).
4. Bake, stirring after the first 10 minutes and then every 5 minutes thereafter, until almost no maple syrup remains on the parchment paper and the nuts are deeply golden, 23 to 26 minutes. (The maple syrup coating will be a little sticky right out of the oven, but will harden as the pecans cool.)
5. Remove the pan from the oven and stir the nuts one more time, spreading them into an even layer across the pan. Let them cool down for about 10 minutes, then, while the nuts are still warm, carefully separate any large clumps (this may or may not be necessary).
6. Let the nut mixture cool completely on the pan. These will keep for up to 2 months in a sealed bag at room temperature. Enjoy!





VEGETARIAN, VEGAN AND GLUTEN FREE FOODS

The word vegetarian is defined typically as “a person who does not eat meat or fish and sometimes other animal products, especially for moral, religious, or health reasons.” While this is a good broad definition of the vegetarian diet, the actual practice of vegetarianism is somewhat less clear-cut. There are several subcategories of vegetarianism including ovo-lactarians, who eat dairy products and eggs but abstain from meat, and lactarians, who eat dairy products but abstain from meat and eggs. Some people include fish in their diet but still consider themselves vegetarians; a new name for this lifestyle, pescatarian, has recently emerged. Vegans are the strictest subcategory of the vegetarian movement, abstaining from all animal-based products. Strict followers of veganism do not eat honey or wear leather or wool. While religion sometimes calls for a vegetarian or vegan diet, over the years we have seen an increasing number of individuals choosing not to consume animal products based on their personal beliefs.

Some of the first self-proclaimed vegetarians were the Pythagoreans, a title derived from the Greek philosopher Pythagoras, creator of the geometric Pythagorean theorem. Humans abstained from eating animal flesh long before Pythagoras, though the first significant rise in vegetarianism based on principle likely occurred during classical times. The term “vegetarian” replaced Pythagorean on September 29, 1847 in Ramsgate, England when the first vegetarian society was formed. Three years later, a similar group known as the American Vegetarian Society was founded in New York City by William Metcalfe, Sylvester Graham, William Alcott and Russell Trall. The vegetarian movement gained momentum through the decades thanks to several influential historical figures. Upton Sinclair unknowingly contributed to the movement when his novel *The Jungle* spawned both the Pure Food and Drug Act and the U.S. Food and Drug Administration in 1906. Sinclair was not a vegetarian for long, but his depiction of the unsanitary practices of the meat packing industry turned many Americans away from consuming animal flesh. John Harvey Kellogg, king of cold breakfast cereal and creator of cornflakes, was a strong advocate of vegetarianism and preached its benefits until the 1940s.

Many noteworthy individuals throughout history have practiced vegetarianism during their lives, including Benjamin Franklin. While working as a printer at age 16, he was inspired by the vegetarian philosophy discussed in Thomas Tryon’s *The Way to Health and Long Life*. He began a short-lived diet of bread and water, which he believed made him as ‘stout and hearty’ as he’d ever been. In his autobiography, Franklin describes preparing a few of Tryon’s dishes, including boiled rice or potatoes and hasty pudding. He found that the diet had its economic advantages. His food expenses were decreased by half, affording him the

opportunity to purchase more books for his collection. Franklin soon became an advocate of animal rights, which easily fit in with his anti-slavery and political rights agenda. Alas, his vegetarianism did not last for long. While traveling on a ship, he witnessed smaller fish being removed from the stomachs of cod that had been caught and butchered. Upon seeing this, according to his own writings, Franklin had a change of heart: “If you eat one another, I don’t see why we mayn’t eat you.” That day he indulged on a piece of fish, thus ending his time as a vegetarian.

American cookbooks dedicated to vegetarian cooking began popping up in the late 19th and early 20th centuries. One such early publication is E.G. Fulton’s *The Vegetarian Cookbook*, released in 1910. The book, like many early vegetarian cookbooks, contains several recipes containing protose, a meat substitute invented by John Harvey Kellogg. Though an exact recipe for protose is difficult to track down, several have tried to recreate its unique flavor and texture with a combination of wheat gluten, peanut butter, onion and herbs. During the 70s, cookbooks began to address the lack of protein associated with a vegetarian diet. Frances Moore Lappé’s *Diet for a Small Planet* (1971) includes tips for cooking with high protein ingredients like peanuts, beans and grains. A section “concerning the amount of usable protein and the percent of daily protein allowance found in each serving” follows each recipe. When Anna Thomas published *The Vegetarian Epicure* in 1972, she had become frustrated with recipes that relied on meat substitutes. Her cookbook celebrated the variety and flavor of meatless meals without the need for substitution, signaling a new culinary approach to vegetarianism that continues to this day.

With vegetarianism on the rise, it’s now common for restaurants to feature vegetarian menus or meatless entrée alternatives. Grocery stores carry a large variety of vegetarian options, proving that there is a strong market for meatless products. With proper attention to nutritional intake, it is entirely possible for vegetarians and vegans to live a long and healthy life.

VEGETARIAN

Vegetarianism may be adopted for various reasons. Many people object to eating meat out of respect for sentient life. Such ethical motivations have been codified under various religious beliefs, as well as animal rights advocacy. Other motivations for vegetarianism are health-related, political, environmental, cultural, aesthetic, economic or personal preference. There are variations of the diet as well: an ovo-lacto vegetarian diet includes both eggs and dairy products, an ovo-vegetarian diet includes eggs but not dairy products, and a lacto-vegetarian diet includes dairy products

but not eggs. A vegan diet excludes all animal products, including eggs and dairy. Avoidance of animal products may require dietary supplements to prevent deficiencies such as vitamin B12 deficiency, which leads to pernicious anemia. Psychologically, preference for vegetarian foods can be impacted by one's own socio-economic status and evolutionary factors.

Packaged and processed foods, such as cakes, cookies, candies, chocolate, yogurt and marshmallows, often contain unfamiliar animal ingredients, and so may be a special concern for vegetarians due to the likelihood of such additives. Feelings among vegetarians may vary concerning these ingredients. Some vegetarians scrutinize product labels for animal-derived ingredients while others do not object to consuming cheese made with animal-derived rennet or are unaware of its presence.

Semi-vegetarian diets consist largely of vegetarian foods but may include fish or poultry, or sometimes other meats, on an infrequent basis. Those with diets containing fish or poultry may define meat only as mammalian flesh and may identify with vegetarianism. A pescetarian diet has been described as "fish but no other meat".



VEGAN

Veganism is the practice of abstaining from the use of animal products, particularly in diet, and an associated philosophy that rejects the commodity status of animals. A follower of the diet or the philosophy is known as a vegan. Distinctions may be made between several categories of veganism. Dietary vegans (also known as "strict vegetarians") refrain from consuming meat, eggs, dairy products and any other animal-derived substances. An ethical vegan (also known as a "moral vegetarian") is someone who not only follows a vegan diet but extends the philosophy into other areas of their lives and opposes the use of animals for any purpose. Another term is "environmental veganism", which refers to the avoidance of animal products on the premise that the industrial farming of animals is environmentally damaging and unsustainable.

Well-planned vegan diets are regarded as appropriate for all stages of life, including infancy and pregnancy, by the American Academy of Nutrition and Dietetics, Dietitians of Canada, the Australian National Health and Medical Research Council, New Zealand Ministry of Health, Harvard Medical School and the British Dietetic Association.

The German Society for Nutrition does not recommend vegan diets for children or adolescents, or during pregnancy and breastfeeding. In preliminary clinical research, vegan diets lowered the risk of type 2 diabetes, high blood pressure, obesity, and ischemic heart disease. Vegan diets tend to be higher in dietary fiber, magnesium, folic acid, vitamin C, vitamin E, iron and phytochemicals; and lower in dietary energy, saturated fat, cholesterol, long-chain omega-3 fatty acids, vitamin D, calcium, zinc and vitamin B12. As a result of the elimination of all animal products, a vegan diet may lead to nutritional deficiencies that nullify any beneficial effects and may cause serious health issues. Some of these deficiencies can only be prevented through the choice of fortified foods or the regular intake of dietary supplements. Vitamin B12 supplementation is especially important because its deficiency causes blood disorders and potentially irreversible neurological damage.

Donald Watson coined the term "vegan" in 1944 when he co-founded the Vegan Society in the UK. At first he used it to mean "non-dairy vegetarian", and by May 1945 vegans explicitly abstained from "eggs, honey, and animals' milk, butter and cheese". From 1951 the Society defined it as "the doctrine that man should live without exploiting animals". Interest in veganism increased in the 2010s, especially in the latter half. More vegan stores opened and vegan options became increasingly available in supermarkets and restaurants worldwide.

GLUTEN FREE

Gluten-related disorders is the term for the diseases triggered by gluten, including celiac disease (CD), non-celiac gluten sensitivity (NCGS), gluten ataxia, dermatitis herpetiformis (DH) and wheat allergy. The umbrella category has also been referred to as gluten intolerance, though a multi-disciplinary physician-led study, based in part on the 2011 International Coeliac Disease Symposium, concluded that the use of this term should be avoided due to a lack of specificity.

Gluten is a group of proteins, such as prolamins and glutelins, stored with starch in the endosperm of various cereal (grass) grains. As of 2017, gluten-related disorders were increasing in frequency in different geographic areas. The increase might be explained by the popularity of the Western diet,

the expanded reach of the Mediterranean diet (which also includes grains with gluten), the growing replacement of rice by wheat in many countries, the development in recent years of new types of wheat with a higher amount of cytotoxic gluten peptides, and the higher content of gluten in bread and bakery products, due to the reduction of dough fermentation time.

Cutting out gluten from your diet may seem like a difficult and limiting task. Fortunately, there are many healthy and delicious foods that are naturally gluten-free.

The most cost-effective and healthy way to follow the gluten-free diet is to seek out these naturally gluten-free food groups, which include:

- Fruits
- Vegetables
- Meat and poultry
- Fish and seafood
- Dairy
- Beans, legumes, and nuts

Pure wheat grass and barley grass are gluten-free, but there is gluten in the seeds. If they are not harvested or processed correctly, there is risk of gluten contamination.

WHAT ABOUT GRAINS?

There are many naturally gluten-free grains that you can enjoy in a variety of creative ways. Many of these grains can be found in your local grocery store, but some of the lesser-known grains may only be found in specialty or health food stores. It is not recommended to purchase grains from bulk bins because of the possibility for cross-contact with gluten.

NATURALLY GLUTEN-FREE FOODS

There has been some research that some naturally gluten-free grains may contain gluten from cross-contact with gluten-containing grains through harvesting and processing. If you are concerned about the safety of a grain, purchase only versions that are tested for the presence

of gluten and contain less than 20 ppm.

NATURALLY GLUTEN-FREE FOODS

The following grains and other starch-containing foods are naturally gluten-free:

- Rice
- Cassava
- Corn (maize)
- Soy
- Potato
- Tapioca
- Beans
- Sorghum
- Quinoa
- Millet
- Buckwheat
- groats (also known as kasha)
- Arrowroot
- Amaranth
- Teff
- Flax
- Chia
- Yucca
- Gluten-free oats
- Nut flours



GLUTEN-FREE SUBSTITUTES

Many items that usually contain gluten have gluten-free alternatives that are widely available in most grocery stores and make living gluten-free much easier. Keep in mind, however, that minimally processed fresh foods are a crucial part of a healthy gluten-free diet. It is very important to base your diet around fruits, vegetables, meats and other healthy food groups listed above.

Many commercially available products are labeled “gluten-free,” but there will be some that are not; this is why proper label reading is important. It is also important to remember that “wheat-free” does not necessarily mean “gluten-free.” Be wary, as many products may appear to be gluten-free, but are not.

As a rule, traditional wheat products such as pastas, breads, crackers and other baked goods are not gluten-free. However, there are many gluten-free options available that use alternative flours and grains. Often, gluten-free bread can be found in the freezer section. Additionally, there are gluten-free flours and flour blends available in the grocery aisle, allowing you to bake your own bread.

CEREAL

Many cereals contain gluten or wheat-based ingredients, but there are some that do not. Be on the lookout for the “gluten-free” label, but also realize that not all gluten-free cereals will advertise as such, so it is important to check the list of ingredients. Something to watch out for: cornflakes and puffed rice cereal may contain malt flavoring or extract, which contains gluten.

OATS

Oats are often harvested and processed with the same equipment that is used for wheat, and are therefore easily contaminated. Research indicates that pure, uncontaminated oats consumed in moderation (up to 1/2 cup dry rolled oats daily) are tolerated by most people with celiac disease. Look for oats specifically labeled gluten-free in all products containing oats, including granolas and granola bars.

SOUPS AND SAUCES

Soups and sauces are one of the biggest sources of hidden gluten, as many companies use wheat as a thickener. It is always a good idea to read the label of any pre-prepared or canned soups and sauces, paying special attention to those that are cream-based.

PRODUCE

Fresh and frozen fruits and vegetables are naturally gluten-free. However, it is important to read labels on any processed fruits and veggies, as well as dried fruit and pre-prepared smoothies. Additionally, packaged frozen potatoes are not always gluten-free, and labels should be read carefully when considering these products.

BEVERAGES

Most beverages are gluten-free, including juices, sodas and sports drinks.

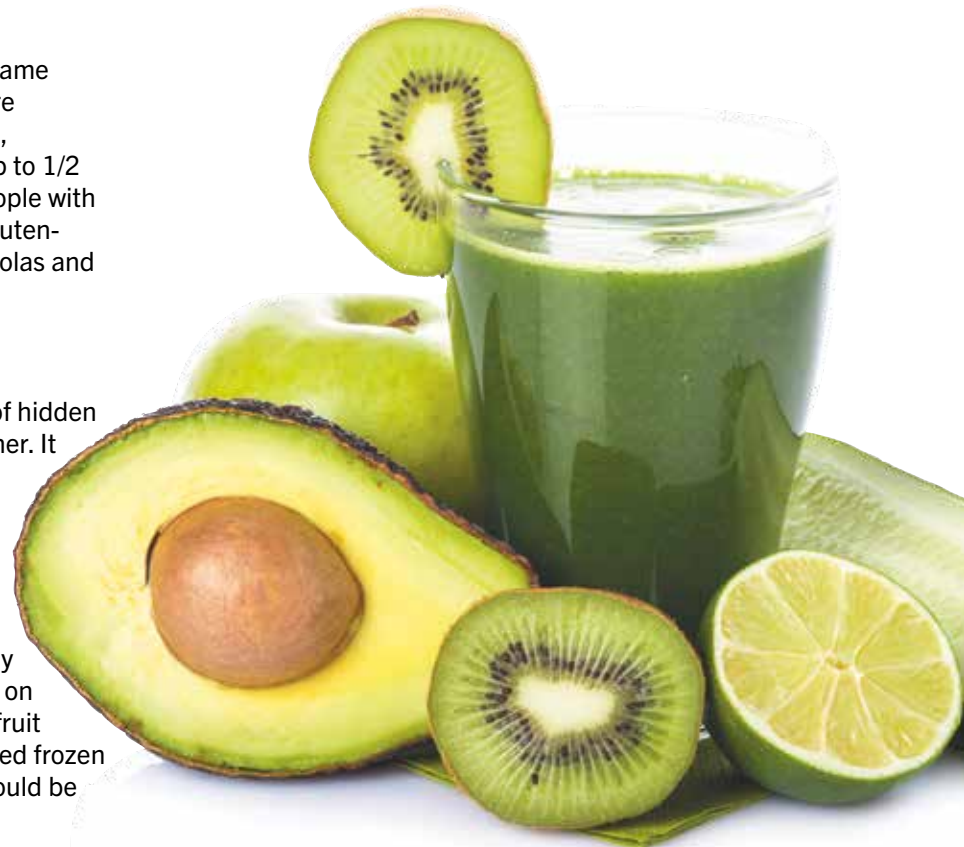
Wine is generally considered gluten-free to the FDA standard of under 20ppm of gluten. According to the University of Chicago Celiac Disease Center, wines fermented in barrels lined with wheat paste (historically wines such as port, Madeira and muscatel) are unlikely to contain enough gluten to cause a reaction.

However, some types of wine do contain an unsafe amount of gluten for people with celiac disease, and include those with added color or flavoring such as dessert wines, and those made from barley malt, such as bottled wine coolers. For these, consumers should check the label, and if in doubt, contact the company.

Alcoholic beverages, including hard liquor/distilled liquors/hard ciders are also gluten-free. Beers, ales, lagers, malt beverages and malt vinegars that are made from gluten-containing grains are not distilled and therefore are not gluten-free. There are several brands of gluten-free beers available in the United States and abroad.

In the end vegetarianism, veganism and/or gluten free diets are not for everyone. A shift in one’s fundamental philosophy of what to put in their body is determined by a new belief that they will inevitably be able to obtain the same nutrients, vitamins and proteins from a meatless diet and avoid the processing of animals and fish in order to sustain life.

SOURCES: PBS.org (Tori Avey), Celiac.org/Gluten Free.com and Wikipedia





ORGANIC FOODS

Organic food refers to food products that are produced, prepared and processed without the use of any chemicals. It means organic food production prohibits the use of chemical pesticides, chemical fertilizers or chemical preservatives. Consequently, organic foods are increasingly gaining popularity because a greater portion of the population wants to know its benefits. The general public's belief is that organic food is healthier compared to conventional food, and it's the primary reason for the increased demand over the past decade.

The choice of consuming organic foods is thus a growing trend in the world today, following the realization that healthy eating is part of a self-improvement approach. However, finding accurate facts about organic foods has always been confusing as people have varied opinions regarding its benefits as a whole.

The term "organic" refers to the way agricultural products are grown and processed. While the regulations vary from country to country, in the U.S., organic crops must be grown without the use of synthetic pesticides, bioengineered genes (GMOs), petroleum-based fertilizers and sewage sludge-based fertilizers. Organic livestock raised for meat, eggs and dairy products must have access to the outdoors and be given organic feed. They may not be given antibiotics, growth hormones or any animal by-products.

HISTORY OF ORGANIC FARMING IN THE UNITED STATES

J.I. Rodale, founder of the Rodale Research Institute and Organic Farming and Gardening magazine, is commonly regarded as the father of the modern organic farming movement. Beginning in the 1940s, Rodale provided the main source of information about "non-chemical" farming methods and was heavily influential in the development of organic production methods. Rodale drew many of his ideas from Sir Albert Howard, a British scientist who spent years observing traditional systems in India. Howard advocated agricultural systems reliant upon returning crop residues, green manures and wastes to soil, and promoted the idea of working with nature by using deep-rooted crops to draw nutrients from the soil.

By the 1970s, increased environmental awareness and consumer demand fueled the growth of the organic industry. However, the new organic industry suffered growing pains. Although there was general agreement on philosophical approaches, no standards or regulations existed defining organic agriculture. The first certification programs were decentralized, meaning that each state or certifying agent could determine standards based on production practices and constraints in their region. An apple farmer in New

York has very different challenges than an apple farmer in California, for example.

The downside of this decentralized approach was a lack of clarity about what "organic" meant from state to state. A movement grew to develop a national organic standard to help facilitate interstate marketing. In response, Congress passed the Organic Foods Production Act (OFPA) in 1990 to develop a national standard for organic food and fiber production. OFPA mandated that the USDA develop and write regulations to explain the law to producers, handlers and certifiers. OFPA also called for an advisory National Organic Standards Board to make recommendations regarding the substances that could be used in organic production and handling, and to help USDA write the regulations. After years of work, final rules were written and implemented in fall 2002.

Although the actual production techniques of organic food have not changed dramatically since the implementation of the national standards, "organic" now is a labeling term that indicates that food has been grown following the federal guidelines of the Organic Foods Production Act. The national standards also specify that any producers who sell over \$5,000 annually in agricultural products and want to label their product "organic" must be certified by a USDA-accredited agency. Companies that process organic food must be certified, too.

Any farms or handling operations with less than \$5,000 a year in organic agricultural products are exempt from certification. Those producers may label their products organic if they follow the standards, but they are prohibited from displaying the USDA Organic Seal.

THE NATIONAL ORGANIC STANDARDS

The national organic standards address the methods, practices and substances used in producing and handling crops, livestock and processed agricultural products. The standards specify that, in general, all natural (non-synthetic) substances are allowed in organic production and all synthetic substances are prohibited. The National List of Allowed Synthetic and Prohibited Non-Synthetic Substances contains specific exceptions to the rule. This summary is from the USDA National Organic Program (NOP).

Organic crop production standards specify the following:

- Land will have no prohibited substances applied to it for at least 3 years before the harvest of an organic crop. Use of genetic engineering, ionizing radiation and sewage sludge is prohibited. Soil fertility and crop nutrients will be managed through tillage and cultivation





- practices, crop rotations and cover crops, supplemented with animal and crop waste materials and allowed synthetic materials.
- Preference will be given to the use of organic seeds and other planting stock.
- Crop pests, weeds and diseases will be controlled primarily through management practices including physical, mechanical and biological controls. When these practices are not sufficient, a biological, botanical, or synthetic substance approved for use on the National List may be used.
- The organic livestock standards, which apply to animals used for meat, milk, eggs and other animal products, specify:
 - Animals for slaughter must be raised under organic management from the last third of gestation, or no later than the second day of life for poultry.
 - Producers are required to give livestock agricultural feed products that are 100 percent organic but may also provide allowed vitamin and mineral supplements.
 - Organically raised animals may not be given hormones to promote growth, or antibiotics for any reason. Preventive management practices, including the use of vaccines, will be used to keep animals healthy.
 - Producers are prohibited from withholding treatment from a sick or injured animal; however, animals treated with a prohibited medication may not be sold as organic.
 - All organically raised animals must have access to the

outdoors, including access to pasture for ruminants.

- A civil penalty of up to \$10,000 can be levied on any person who knowingly sells or labels as organic a product that is not produced and handled in accordance with the National Organic Program regulations.

THE BENEFITS OF ORGANIC FOOD

How your food is grown or raised can have a major impact on your mental and emotional health as well as the environment. Organic foods often have more beneficial nutrients, such as antioxidants, than their conventionally-grown counterparts and people with allergies to foods, chemicals, or preservatives often find their symptoms lessen or go away when they eat only organic foods. There are many benefits to eating organic foods.

Organic produce contains fewer pesticides. Chemicals such as fungicides, herbicides and insecticides are widely used in conventional agriculture and residues remain on (and in) the food we eat.

Organic food is often fresher because it doesn't contain preservatives that make it last longer. Organic produce is often (but not always, so watch where it is from) produced on smaller farms near where it is sold.

Organic farming is better for the environment. Organic farming practices reduce pollution, conserve water, reduce soil erosion, increase soil fertility and use less energy. Farming without pesticides is also better for nearby birds and animals as well as people who live close to farms.

Organically raised animals are NOT given antibiotics, growth

hormones or fed animal byproducts. Feeding livestock animal byproducts increases the risk of mad cow disease (BSE) and the use of antibiotics can create antibiotic-resistant strains of bacteria. Organically-raised animals are given more space to move around and access to the outdoors, which help to keep them healthy.

Organic meat and milk are richer in certain nutrients. Results of a 2016 European study show that levels of certain nutrients, including omega-3 fatty acids, were up to 50 percent higher in organic meat and milk than in conventionally raised versions.

Organic food is GMO-free. Genetically Modified Organisms (GMOs) or genetically engineered (GE) foods are plants whose DNA has been altered in ways that cannot occur in nature or in traditional crossbreeding, most commonly in order to be resistant to pesticides or produce an insecticide.

GROWTH OF ORGANIC FOOD SALES IN THE U.S.

Although U.S. organic food sales account for a small share of total U.S. food sales, they have exhibited double-digit growth during most years since 2000, when USDA set national organic standards. In 2016, the Nutrition Business Journal estimated U.S. organic retail sales at \$40.2 billion—with organic food accounting for about 5 percent of total U.S. at-home food expenditures, more than double the share in 2006. Organic sales in every food category have grown over the last decade. Fresh fruits and vegetables were still the top selling organic category in 2016, accounting for 40 percent of total organic sales that year. Dairy, the second top-selling organic category, accounted for 15 percent of total sales. In 2014, Gallup included questions on organics in its annual food consumption survey for the first time and found that 45 percent of Americans actively tried to include organic foods in their diets. The share of Americans who actively tried to include organic foods was higher for Americans ages 18 to 29 than for those ages 65 and older.



HEALTH BENEFITS OF EATING ORGANIC FOOD

Better overall health – Because organic food is not produced or processed by the use of chemical pesticides or chemical fertilizers, it does not contain any elements of toxic chemicals and may not affect human health in harmful ways. The use of natural techniques such as green manure to fertilize the lands and crop rotation in pest and disease control work absolutely well in producing safer, healthier and smellier final food products. Besides, healthy foodstuff simply means healthy people and better nourishment for a better living for both people and animals.

Antioxidant content - The positive effects of antioxidants on overall health have been established in a number of scientific studies, especially those derived from organic foods. This is because organic foods are free of foreign chemicals that normally react with vitamins, organic compounds and minerals thus lowering the essential positive impacts of antioxidants in food products.

Latest studies propose that the consumption of organic food can contribute to more intake of nutritionally advantageous antioxidants and limited exposure to heavy metals. The positive impacts of antioxidants obtained from organic foods include prevention of heart disease, cancer, vision problems, premature aging and cognitive malfunction.

Improved Heart condition – Exclusive grazing on natural grass increases the amounts of CLA (conjugated linoleic acid) found in animal products. The sun's energy is well taken in by natural grass through photosynthesis and is converted into the most desirable organic CLA by the herbivores that feed on it. CLA is a heart-healthy fatty acid with the potential of bolstering cardiovascular protection, and it is found in higher quantities in the meat and milk products of animals that have been pastured in free range.

Antibiotic resistance – Humans are susceptible to various health issues and disease, and most of the time they have to take precautionary measures to ensure they remain healthy. This is achieved by getting a variety of vaccinations and antibiotic drugs when a new strain of virus or bacteria is realized. Similarly, non-organic food sources (especially livestock and feeds) use vaccines, growth hormones, animal byproducts and antibiotics to treat and feed the animals.

When humans consume the non-organic food products, they indirectly consume the antibiotics, growth hormones and vaccines which weaken immune systems on the account of antibiotic, vaccine, hormones and animal byproducts overdose. This may alter the immune system thereby rendering humans unable to defend themselves against diseases. The benefit of organic foods is that their production processes does not involve the use of antibiotics, growth hormones, animal byproducts or vaccines.

Better taste – Apart from nutrition, the mineral and sugar structures in organic foods are tasty because the crops are given more time to develop and mature. The use of natural and environmentally friendly agricultural production techniques is revealed to be the reason for the better taste in organic food products. It is commonly reported that the taste of organic vegetables and fruits are of higher quality compared to those that are conventionally grown.

Pesticide cutback – Chemical pesticides consumption is linked to a variety of diseases and disorders, namely cancers, digestive dysfunctions, headaches, ADHD, birth defects, weakened immune system and even premature death. Organic foods are free of pesticides and that is why they are preferable for attaining better overall health. As much as pesticides have the power of keeping certain pests away from the crops, they also have potent chemicals like organophosphorus.

These chemicals are unnatural and they are the mineral compounds that bring about several health abnormalities in humans. Organophosphorus, for instance, is associated with various developmental disorders such as ADHD and autism. Organic food products therefore offer a better healthy living, especially for children who are potentially affected by the pesticide toxins during their developmental ages.

Stronger immune system – The traditional or industrial farming practices aim at enhancing production and farm output by all means necessary. For example, the notion of producing more cereals, more meat and bigger fruits through genetic modifications and use of growth hormones seems to solve some of the world's food insecurity concerns. The effects are not yet visible, but in the long-term, the consequences are sensitivity to allergens and a major reduction in immune system strength.

By eating organic foods, the risks of decline in immune system strength are significantly reduced because organic foods are not altered at all. Furthermore, organic foods have quality and higher vitamin and mineral contents that help to strengthen the human immune system.

Organic products are poison-free – Organic farming does not use any kind of dangerous chemicals to keep away pests and diseases. All the practices are natural and thus do not harm the consumer. Aspects such as biomagnification are lessened via the practice of organic farming as chemical pesticides, fertilizers, herbicides and artificial growth hormones are all prohibited on an organic farm. Therefore, organic food products are free of contamination with health harming chemical substances.

Consumption of highly nutritious food products – Organic food products such as organic meat, organic milk, organic fish and organic poultry contain very high nutritional content because they do not contain modified ingredients compared to the conventional agricultural food products. Another factor that makes them highly nutritious is that they are given time to develop and are provided with the best natural

conditions for growth. The vitamin and mineral contents of organic food products are always high, as the soil life and health offers the most suitable mechanism for crops to access soil nutrients.

Organic foods are not genetically modified – Organic foods are GMO free, that is, they are not genetically engineered in nature. Genetic engineering of food products is a huge concern in the current era. They are foods or plants with altered DNA in manners that do not take place in nature, usually to enhance resistance to pesticides/herbicides. While there is lack of conclusive evidence of its dangers, food safety advocates are concerned that long-term research has not been conducted to confirm their safety.

The food safety advocates believe GMOs are a leading cause of slowed brain growth, internal organ damage, gastrointestinal disorders and the thickening of the digestive tract. Thus, the health benefit of consuming organic food is that it is free of GMOs, a very common component in non-organic foods.

Environmental safety – Organic foods are locally grown and pose very minimal interference to the environmental resources that support healthy living. Since harmful chemicals are forbidden in organic farming, there is minimum water, air and soil pollution, therefore ensuring a healthier and safer environment. To be precise, organic farming lessens the long-term human health implications caused by air, water and soil pollution.

Certainty you are consuming fresh food – Organic food products are guided by very strict standards of production, processing and preparation. Not at any time will you find chemical preservatives used in organic foods. As such, organic food is often fresher and full of flavor since it doesn't make use of preservatives to make it have a longer shelf life. The majority of organic food products are sold or available locally next to where they are produced.

Lessened chances of food-borne illness – There have been numerous reported cases of food-borne illness outbreaks. Eggs, spinach, peanut butter, melons and foods from fast food restaurants have topped the list as their production is primarily centered on agribusiness gains. Even the animals are sick, as a big percentage of them are drugged, vaccinated and feed on animal byproducts to enhance their productivity so as to meet the ever-growing agribusiness demands.

This practice is known as concentrated animal feeding operations (CAFOs) and it causes deadly drug-resistant infections which are acquired by the end consumers when the food products are eaten. The best way to prevent the food-borne illness outbreaks is to opt for organic food.

Consumption of higher quality meat and milk – Organic meat and milk is of the highest quality. There are claims that meat is not good for human health. However, it is the CAFOs that normally worsen meat and milk quality by introducing foreign and unhealthy antibiotics as well as other drugs into the final food product.

When you consume milk and meat that is organically produced, prepared and processed, you are guaranteed of products with higher quality vitamins and minerals. For instance, organic milk is proved to have 60% more omega-3 fatty acids, antioxidants, vitamins and CLA than non-organic milk. Also, organic cows are pasture-grazed which results in the better meat quality.

Lower levels of toxic metals – By now it's clear that whatever we ingest indirectly comes from the soil together with other physical environmental interactions. So, the fact that organic farming doesn't use agrichemicals for crop production means minimized consumption of toxic metals. New studies confirm that organic crops have 48% lower levels of the toxic metal cadmium than conventional crops.

ORGANIC FOOD IS THE FUTURE OF EATING

Even with bumps in the road like the economy and prices, organic food options continue to grow. No surprise there. The NPD Group, a leading market research company, forecasts that "better for you" foods, such as organic and light or low-calorie foods and beverages, will be among the fastest-growing food trends over the next decade. NPD is predicting a 41% growth in organics alone.

The back story here is that consumers are shifting their priorities. They are interested in not only what's good for their health, but also what's good for the health of the planet.

SOURCE: HelpGuide , HuffingtonPost, S.A.R.E Sustainable Agriculture and Research Education, USDA, Supermarket News

A recent MamboTrack study found that the majority of natural/organic consumers were not willing to give up eating healthy, despite the economy. Respondents said they would continue to buy healthy foods and many indicated that the "cost" of not doing so was too high — with costs to their health and the planet.

Organic food is better for the environment because it reduces our chemical exposure, with less contamination in the soil and the air (not to mention in what we eat).

Moreover, organics are typically grown in a sustainable manner that not only treats the environment well but provides the workforce with a fair wage and safe working conditions. Economically speaking, a fair wage for one benefits all. Plus, organic agriculture reduces our dependence on fossil fuels used to create chemical fertilizers.

And, coinciding with the surge in organics is a distinct interest in eating local. Farmer's markets are growing and often feature local organic farms. This too ties into quality-of-life for the agricultural workforce, increasing the number of self-employed farmers and entrepreneurs and further balancing wage disparities.

This trend toward organics will have a lasting impact. Young families are committing to natural and organic living, raising a new generation of children who will see these earth-friendly habits as a regular way of life.



DAIRY PRODUCTS

Millions of Americans, and many people across the globe, enjoy the flavor and nutritional benefits of America's dairy products. In its many forms, dairy is an important source of vitamin D, calcium, and protein for young children, elderly adults, and everyone in between. Whether it's a cool glass of milk, a bowl of ice cream, or a melty grilled cheese, dairy remains a staple of healthy diets. Dairy isn't just a healthy and delicious food group – it also contributes significantly to the American economy. Reports show that the dairy industry accounts for 1 percent of the U.S. Gross Domestic Product (GDP), generating an economic impact of \$628 billion. The industry also creates nearly 3 million U.S. jobs that generate around \$159 billion in wages. The significance of dairy to the rural, agricultural economy cannot be overstated.

While most countries produce their own milk products, the structure of the dairy industry varies in different parts of the world. In major milk-producing countries most milk is distributed through wholesale markets. In Ireland and Australia, for example, farmers' cooperatives own many of the large-scale processors, while in the United States many farmers and processors do business through individual contracts. In the United States, the country's 196 farmers' cooperatives sold 86% of milk in the U.S. in 2002, with five cooperatives accounting for half that. This was down from 2,300 cooperatives in the 1940s. In developing countries, the past practice of farmers marketing milk in their own neighborhoods is changing rapidly. Notable developments include considerable foreign investment in the dairy industry and a growing role for dairy cooperatives. Output of milk is growing rapidly in such countries and presents a major source of income growth for many farmers.

As in many other branches of the food industry, dairy processing in the major dairy producing countries has become increasingly concentrated, with fewer but larger and more efficient plants operated by fewer workers. This is notably the case in the United States, Europe, Australia and New Zealand. In 2009, charges of antitrust violations have been made against major dairy industry players in the United States, which critics call Big Milk. Another round of price fixing charges was settled in 2016.

Government intervention in milk markets was common in the 20th century. A limited antitrust exemption was created for U.S. dairy cooperatives by the Capper-Volstead Act of 1922. In the 1930s, some U.S. states adopted price controls, and Federal Milk Marketing Orders started under the Agricultural Marketing Agreement Act of 1937 and continue in the 2000s. The Federal Milk Price Support Program began in 1949. The Northeast Dairy Compact regulated wholesale milk prices in New England from 1997 to 2001.

Plants producing liquid milk and products with short shelf

life, such as yogurts, creams and soft cheeses, tend to be located on the outskirts of urban centers close to consumer markets. Plants manufacturing items with longer shelf life, such as butter, milk powders, cheese and whey powders, tend to be situated in rural areas closer to the milk supply. Most large processing plants tend to specialize in a limited range of products. Exceptionally, however, large plants producing a wide range of products are still common in Eastern Europe, a holdover from the former centralized, supply-driven concept of the market under Communist governments.

As processing plants grow fewer and larger, they tend to acquire bigger, more automated and more efficient equipment. While this technological tendency keeps manufacturing costs lower, the need for long-distance transportation often increases the environmental impact.

Milk production is irregular, depending on cow biology. Producers must adjust the mix of milk which is sold in liquid form vs. processed foods (such as butter and cheese) depending on changing supply and demand.

Humans have been drinking milk from cows for thousands of years. Modern dairy farming began in the early 1900s after pasteurization was developed and practiced. Pasteurization allows for a safer product and extends milk's shelf life by eradicating spoilage-causing bacteria through the application of heat. This process allows milk to last longer and be shipped further. With more easier access to safe milk, demand increased as did the need for larger farms.

Dairy plants process the raw milk they receive from farmers so as to extend its marketable life. Two main types of processes are employed: heat treatment to ensure the safety of milk for human consumption and to lengthen its shelf-life, and dehydrating dairy products such as butter, hard cheese and milk powders so that they can be stored.

CREAM AND BUTTER

Today, milk is separated by huge machines in bulk into cream and skim milk. The cream is processed to produce various consumer products, depending on its thickness, its suitability for culinary uses and consumer demand, which differs from place to place and country to country.

Some milk is dried and powdered, some is condensed (by evaporation) mixed with varying amounts of sugar and canned. Most cream from New Zealand and Australian factories is made into butter. This is done by churning the cream until the fat globules coagulate and form a monolithic mass. This butter mass is washed and, sometimes, salted to improve keeping qualities. The residual buttermilk goes on to further processing. The butter is packaged in 25 to



50 kilogram boxes and chilled for storage and sale. At a later stage these packages are broken down into home-consumption sized packs.

SKIMMED MILK

The product left after the cream is removed is called skim, or skimmed, milk. To make a consumable liquid a portion of cream is returned to the skim milk to make low fat milk (semi-skimmed) for human consumption. By varying the amount of cream returned, producers can make a variety of low-fat milks to suit their local market. Whole milk is also made by adding cream back to the skim to form a standardized product. Other products such as calcium, vitamin D and flavoring are also added to make the product more appealing to consumers.

CASEIN

Casein is the predominant phosphoprotein found in fresh milk. It has a very wide range of uses, from a filler in human foods, such as in ice cream, to the manufacture of products like fabric, adhesives and plastics.

CHEESE

Cheese is another product made from milk. Whole milk is reacted to form curds that can be compressed, processed and stored to form cheese. In countries where milk is legally allowed to be processed without pasteurization, a wide range of cheeses can be made using the bacteria found naturally in the milk. In most other countries, the range of cheeses is smaller and the use of artificial cheese curing is greater. Whey is also the by-product of this process. Some people with lactose intolerance are surprisingly able to eat certain types of cheese. This is because some traditionally made hard cheeses, and soft ripened cheeses may create less reaction than the equivalent amount of milk because of the processes involved. Fermentation and higher fat content contribute to lesser amounts of lactose. Traditionally made Emmental or Cheddar might contain 10% of the lactose found in whole milk. In addition, the aging methods of traditional cheeses (sometimes over two years) reduce their lactose content to practically nothing. Commercial cheeses, however, are often manufactured by processes that do not have the same lactose-reducing properties. Aging of some cheeses is governed by regulations; in other cases there is no quantitative indication of degree of ageing and concomitant lactose reduction, and lactose content is not usually indicated on labels.

WHEY

In earlier times, whey or milk serum was considered to be a waste product and was mostly fed to pigs as a convenient means of disposal. Beginning around 1950, and mostly since around 1980, lactose and many other products, mainly food additives, have been made from both casein and cheese whey.

YOGURT

Yogurt-making (or yoghurt) is a process similar to cheese-making, only the process is arrested before the curd becomes very hard.

MILK POWDERS

Milk is also processed by various drying processes to make powders. Whole milk, skim milk, buttermilk and whey products are dried into a powder form and used for human and animal consumption. The main difference between production of powders for human or for animal consumption is in the protection of the process and product from contamination. Some people drink milk reconstituted from powdered milk because milk is about 88% water and it is much cheaper to transport the dried product.

OTHER MILK PRODUCTS

Kumis is produced commercially in Central Asia. Although it is traditionally made from mare's milk, modern industrial variants may use cow's milk instead.



THE U.S. DAIRY INDUSTRY

A VITAL CONTRIBUTOR TO ECONOMIC DEVELOPMENT

America's dairy industry is more than just milk. The industry means jobs and economic activity for the people of our country. The U.S. is home to a combination of large and small dairy farms, both of which contribute to the local economy by supporting local businesses and the community tax base.

America's dairy industry is an important contributor to our nation's overall economy. Each dollar a dairy producer receives in milk sales generates more money for the local economy.

- More than 43,584 U.S. dairy farms provide milk, cheese and yogurt to the U.S. and other countries. About 97 percent of all dairy farms are family-owned. The average herd size on a dairy farm is 214 cows.
- In 2012, 74 percent of dairy farms had fewer than 100 cows. Farms with more than 100 cows produced 86.3 percent of the milk in the U.S.
- The average cow in the U.S. will produce over 7 gallons of milk per day over the course of a typical year. That's approximately 2,604 gallons a year!
- In 2015, the U.S. produced more than 209 billion pounds of milk.
- California produces the most milk of all 50 states, a whopping 19.6 percent of U.S. production.
- The top 10 states with the highest percentage of the state's farm income from dairy are: Vermont (68%), New York (55%), Wisconsin (53%), New Mexico (49%), Idaho (37%), Pennsylvania (33%), New Hampshire (30%), Michigan (27%), Utah (22%) and Arizona (24%).
- Dairies create a ripple effect on both the agricultural economy and the economic well-being of rural America. When a dairy farmer spends money locally, it creates a multiplier effect of more than two and a half times the original dollar spent.

Milk doesn't stay on the farm—where milk goes, jobs follow.

- Dairy farmers purchase machinery, trucks, fuel and more from local companies, which in turn generates jobs and income.
- Dairies create jobs for people who grow and ship feed for our cows, as well as for veterinarians, insurance agents, accountants, bankers and others.
- After milk leaves the farms, it travels by truck to a processor, where people use it to make cheese, ice cream, butter, yogurt and other dairy products.
- Truckers, packaging manufacturers and food marketers complete the cycle by transporting and marketing the dairy products everyone loves. This means jobs in the transportation, distribution and retail grocer industries.

TOP 5 DAIRY PRODUCING STATES (2015):

1. California.....	40,898 million pounds
2. Wisconsin.....	29,030 million pounds
3. Idaho	14,114 million pounds
4. New York.....	14,100 million pounds
5. Pennsylvania	10,805 million pounds

Sources: Dairy Management Inc., National Milk Producers Federation, California Milk Advisory Board, Pennsylvania Center for Dairy Excellence, February 2015 Milk Production Report, USDA (as reported by Progressive Dairyman)

Dairy:

Milk production forecasts for 2023 and 2024 are lowered to 227.1 billion pounds (-0.5 billion) and 230.0 billion pounds (-0.4 billion), respectively, as the dairy herd is expected to further contract and the average yield per cow is expected to grow at a slower rate. The all-milk price forecast for 2023 is unchanged at \$20.70 per hundredweight, while the forecast for 2024 is raised to \$20.80 per hundredweight to account for higher price projections for most dairy products, although the butter price projection is lowered as the market is expected to soften for the rest of 2023 and 2024.

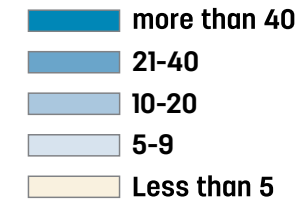
This decline has cast a shadow over the revenues of numerous prominent dairy companies, which are grappling with stable or only marginally increased volumes that fail to counterbalance the downward price trend. A pivotal factor contributing to this volume stabilization is the escalating inflationary pressures experienced across critical consumer dairy markets, mainly in Europe.

Sales outlook: navigating price volatility

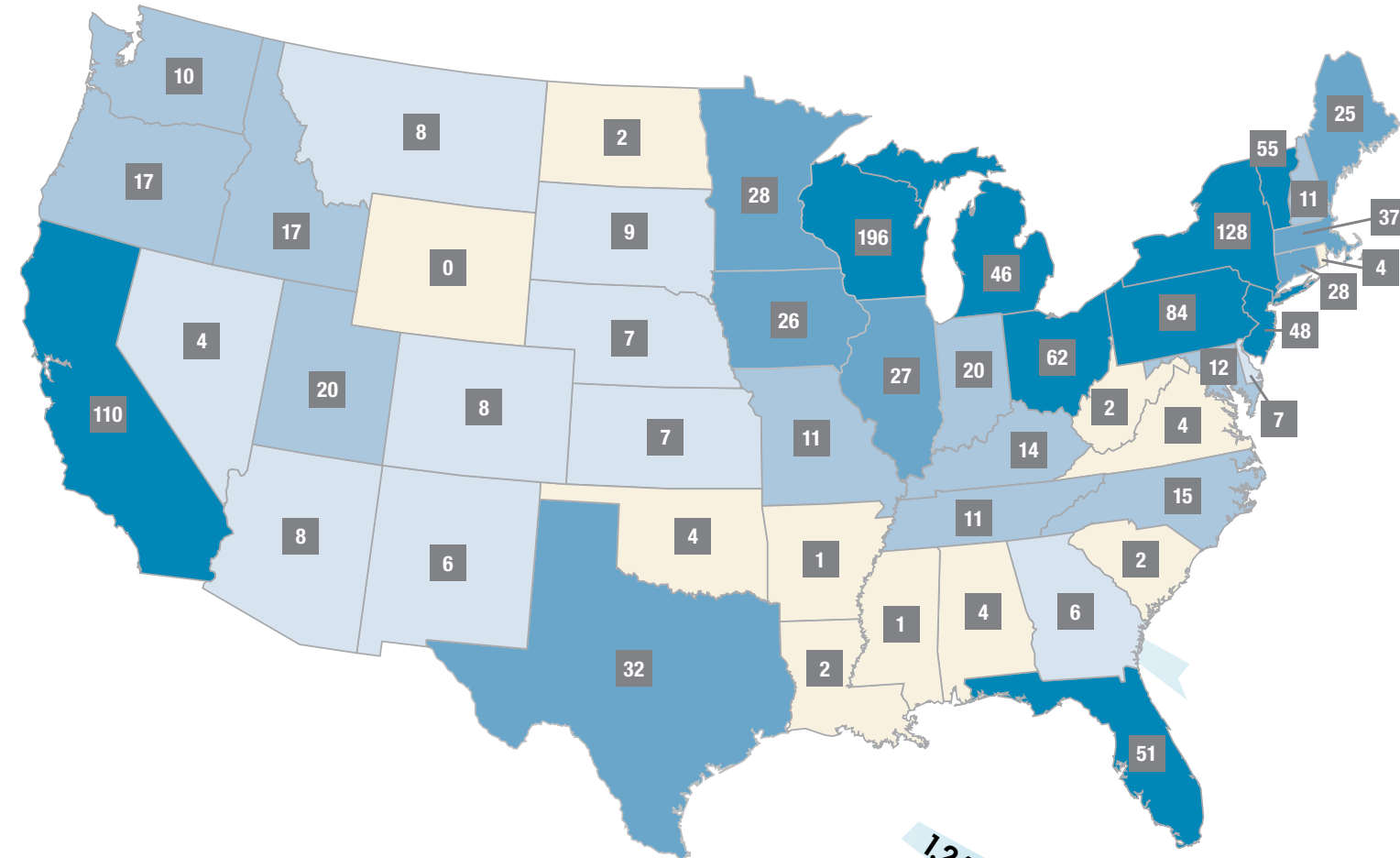
The drop in dairy prices has hit the industry hard, causing more than just financial effects. Dairy product volumes have somewhat stabilized, but this is not enough to make up for the sharp price drop. This has led to lower revenues for major industry players, who now need to adjust their plans to handle the situation. Notably, the impact of rising prices, especially in Europe, has worsened the situation, making the sales environment even more complicated.

THE DAIRY INDUSTRY, A CORNERSTONE OF THE GLOBAL FOOD MARKET, IS FACING A SERIES OF SHIFTS AND CHALLENGES IN 2023. AS THE FIRST HALF OF THE YEAR IS BEHIND US, IT APPEARS THAT THE SALES OUTLOOK FOR DAIRY COMMODITIES HAS BEEN MARKED BY A SIGNIFICANT DROP IN PRICES COMPARED TO THE SAME PERIOD IN 2022.

Number Of Dairy Product Processors Per State



Source: 2020 Number of Dairy Plants, Dairy Products Summary, USDA, March 2021* Includes milk processed for fluid, soft dairy products, powder and cheese; excludes on-farm creameries.



U.S. dairy industry 15-year overview

Year	Total milk production (in millions of lbs)	Number of cows (in thousands)	Milk per cow (lbs per year)	Licensed dairy herds	Average herd size
2007	185,654	9,189	20,204	59,130	155
2008	189,982	9,315	20,395	57,127	163
2009	189,334	9,203	20,573	54,942	168
2010	192,848	9,119	21,148	53,132	172
2011	196,164	9,194	21,336	51,291	179
2012	200,537	9,233	21,720	49,281	187
2013	201,231	9,224	21,816	46,975	196
2014	206,054	9,257	22,259	44,809	207
2015	208,597	9,314	22,396	43,534	214
2016	212,405	9,325	22,778	41,819	223
2017	215,466	9,392	22,941	40,219	234
2018	217,568	9,398	23,150	37,468	251
2019	218,441	9,337	23,395	34,207	273
2020	223,220	9,388	23,777	31,657	297
2021	226,258	9,448	23,948	29,858	316

Milk per cow (lbs of milk)

Top 10

Michigan	27,102
Colorado	25,966
Wyoming	25,918
Idaho	25,172
Texas	25,079
Wisconsin	24,884
New York	24,785
Nevada	24,545
New Mexico	24,541
Nebraska	24,534

Number of licensed herds

Top 10

Wisconsin	6,770
Pennsylvania	5,200
New York	3,430
Minnesota	2,215
Ohio	1,620
California	1,195
Michigan	1,140
Iowa	880
Indiana	770
Missouri	650

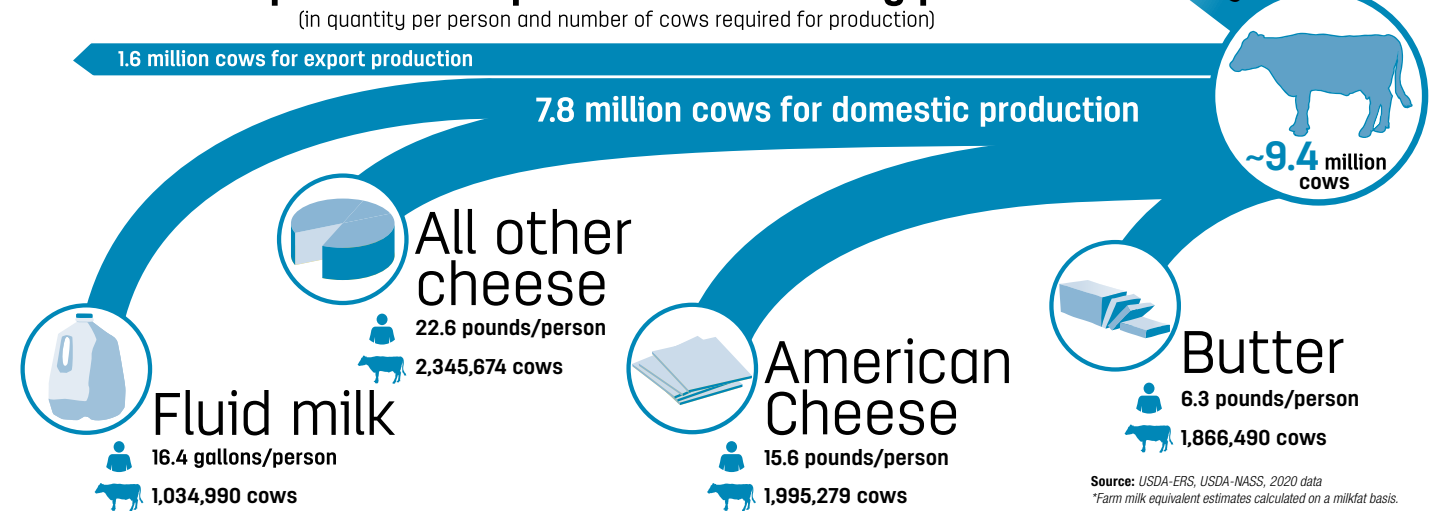
Dairy receipts as a % of state's total farm receipts

Top 10

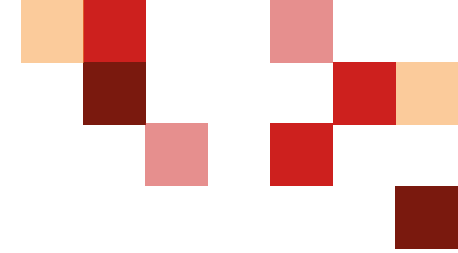
Vermont	65%
Wisconsin	51%
New York	50%
New Mexico	44%
Idaho	37%
Pennsylvania	28%
Michigan	25%
Utah	23%
Nevada	21%
New Hampshire	21%

Per-capita consumption of select dairy products

(in quantity per person and number of cows required for production)



Source: USDA-ERS, USDA-NASS, 2020 data *Farm milk equivalent estimates calculated on a milkfat basis.



GRAINS

Grain is the harvested seed of grasses such as wheat, oats, rice, and corn. Other important grains include sorghum, millet, rye and barley. Around the globe, grains, also called cereals, are the most important staple food. Humans get an average of 48 percent of their calories, or food energy, from grains. Grains are also used to feed livestock and to manufacture some cooking oils, fuels, cosmetics and alcohols.

The United States is the world's largest grain producer and exporter and its biggest ethanol producer. Recent trade disagreements, however, have complicated life for U.S. exporters, particularly of soybeans, as the U.S. and Chinese governments fight over issues that go much wider than agricultural trade. In its May 30 Grain Market Report, the International Grains Council (IGC), forecast total U.S. grains production in 2019-20 at 426.2 million tons, down from the prediction it made earlier in the year of 434.8 million and compared with 431.6 million in 2018-19.

Almost half of the grains grown around the world are harvested for people to eat directly. People turn wheat flour into bread, steam rice and make corn tortillas. Grains are a food staple in almost every culture on Earth. A food staple is food that is eaten frequently, often at every meal. Staple foods can be eaten fresh or stored for use all year. Rice, corn and wheat are the most common staple foods on Earth.

Grains are so important because they are a good source of important nutrients called carbohydrates. Carbohydrates are a type of sugar that provides energy for organisms to function. Grains have carbohydrates as well as other important nutrients, such as vitamins. While grains fill many nutritional needs, they often lack some important proteins. In many cultures, grains are part of a staple diet when combined with protein-rich legumes, such as beans. Together, grains and legumes make a healthy diet: corn and beans, rice and tofu, wheat bread and peanut butter.

A third of the world's grain supply is fed to animals. Most domestic animals, from cattle to dogs, are fed food rich in grains and grain products.

The rest of the world's grain supply is used in the manufacture of industrial products. Biodiesel is a fuel used for vehicles. One type of biodiesel is ethanol, which can be made from corn.

Grains are annual plants. This means they have only one growing season per year, yielding one crop. Every growing season, grasses grow, reach maturity, produce seeds and then die. Grains are harvested from dead, or dry, grasses.

Some grains are winter grains, such as rye. They are able to withstand cold, wet climates. Others are summer grains, such as corn. Corn usually grows best in warm weather.

Grains can grow in almost any climate. Rice is the most important grain in many tropical areas, where it is hot and humid year-round. Rice is especially common in Asia. In Southeast Asia, rice is grown and harvested in flooded fields called paddies. Rice paddies can be flat or terraced. Terraced rice paddies look like steps on a green hill. This type of grain agriculture has been used for centuries.

Unlike rice, sorghum does not grow well in a wet climate. Sorghum favors an arid climate. The nations of West Africa, including Senegal, the Gambia, Burkina Faso and Cape Verde, are the world's largest producers of sorghum.

In temperate areas—those with warm summers and cold winters—wheat is the most common grain. Wheat fields are common in the Great Plains of the United States and Canada, for instance. Corn, which is native to the Americas, is now grown in many temperate areas throughout the world. Oats, another grain that grows in temperate areas, are also used as a livestock feed.

HARVESTING GRAIN

People first began eating grains about 75,000 years ago in western Asia. These grains, including einkorn and emmer, were ancestors of today's wheat. Einkorn and emmer grew wild near the banks of rivers. People harvested the grasses that grew naturally near their communities.

People began cultivating, or growing, grain more recently. In 2009, scientists announced that they had discovered the world's oldest known grain silos at Dhra in what is now the nation of Jordan. The silos, which date back 11,000 years, contained remnants of barley and an early type of wheat.

Ancient people ate grains in much the same way we do today. Wheat grains were made into flour and used in breads. Rice was steamed and eaten hot or cold. Oats were mashed with water or milk to make oatmeal. Beer, one of the oldest manufactured beverages in the world, is made from grain such as barley. Ancient beers had a very low alcohol content but were good sources of carbohydrates.

In some ancient civilizations, grain products served as wages or forms of currency. Many of the workers who built Egypt's pyramids at Giza, for instance, were often paid in bread and beer.

Today, grain silos are a familiar sight to many people in the developed world. Harvesting is done almost entirely with enormous, expensive machinery. The most important piece of agricultural machinery for grain crops is the combine harvester. This remarkable machine does three jobs: it cuts the grain, threshes the grain, and winnows the grain. Cutting, of course, is removing the grain from the stalk of

grass. Threshing is loosening the edible grain from its casing, called the chaff. (Chaff is inedible; organisms cannot digest it.) Winnowing is the process of removing the grain from the chaff. Combine harvesters help farmers expand the amount of grains they can harvest by combining three activities into one.

In the developing world, few farmers have the huge fields of grain that agri-businesses in the developed world do. Farmers in the developing world typically have a few acres, and provide grain for their local community. These farmers usually thresh and winnow with separate machines (threshers and winnowers) after harvesting the field. In many places, harvesting is still done with hand tools such as the sickle, a long, curved blade used for cutting many stalks of grain at once.

Whole grains are cereals that have not been processed to remove their natural tissues: germ (the seed's embryo), endosperm (nutrition for the embryo), and bran (outer layer).

Any food made from wheat, rice, oats, cornmeal, barley or another cereal grain is a grain product. Bread, pasta, breakfast cereals, grits, and tortillas are examples of grain products. Foods such as popcorn, rice and oatmeal are also included in the Grains Group.

Grains are divided into 2 subgroups: whole grains and refined grains. Whole grains contain the entire grain kernel the bran, germ and endosperm. Examples of whole grains include whole-wheat flour, bulgur (cracked wheat), oatmeal, whole cornmeal and brown rice. Refined grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron and many B vitamins. Some examples of refined grain products are white flour, degermed cornmeal, white bread and white rice.

SOURCES: National Geographic Encyclopedia, Choosemyplate.com, Worldgrain.com

Most refined grains are enriched. This means certain B vitamins (thiamin, riboflavin, niacin, folic acid) and iron are added back after processing. Fiber is not added back to enriched grains. Check the ingredient list on refined grain products to make sure that the word "enriched" is included in the grain name. Some food products are made from mixtures of whole grains and refined grains.

HOW MANY GRAIN FOODS ARE NEEDED DAILY?

The amount of grain foods you need to eat depends on your age, sex and level of physical activity. The amount each person needs can vary between 3 and 8 ounce-equivalents each day; at least half of the grains you eat should be whole grains. Those who are very physically active may need more. Recommended daily amounts are listed in the table below. Most Americans consume enough grains, but few are whole grains. **See Table 1.**

*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

WHAT COUNTS AS AN OUNCE-EQUIVALENT (OZ-EQUIV) OF GRAINS?

In general, 1 slice of bread, 1 cup of ready-to-eat cereal, or 1/2 cup of cooked rice, cooked pasta or cooked cereal can be considered as 1 ounce-equivalent from the Grains Group. The table below lists specific amounts that count as 1 ounce-equivalent of grains towards your daily recommended intake. In some cases the number of ounce-equivalents for common portions are also shown.

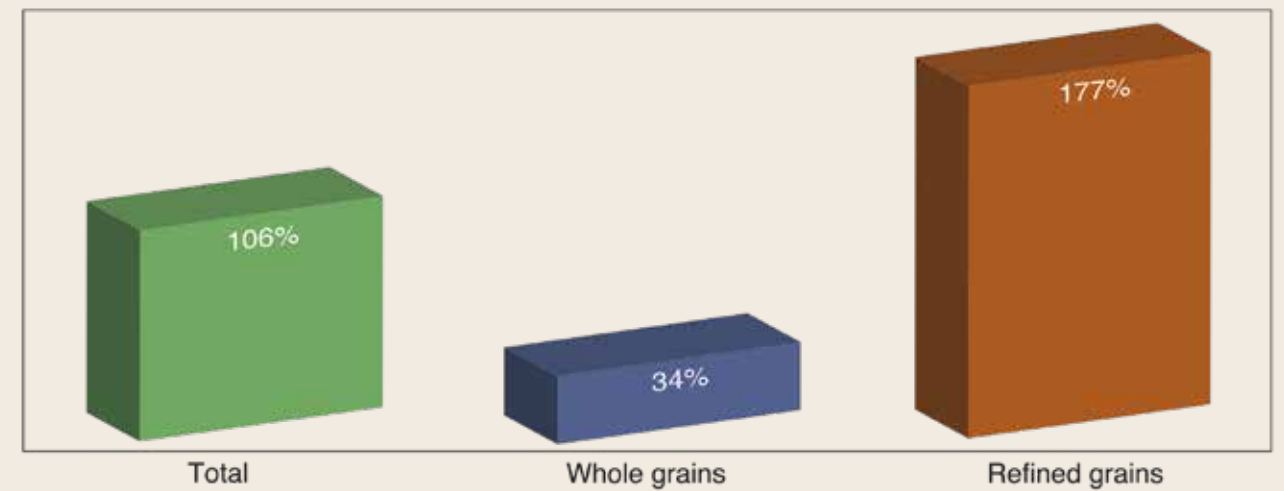
US GRAIN CONSUMPTION BY GENDER & AGE

Table 1
U.S. grain consumption by gender and age

Intake and recommendation	All U.S.	Females	Males	Children	All adults	Adults without children	Adults with children
Caloric intake (kcal/day) ¹	1987	1641	2349	1975	1991	1969	2020
				<i>Ounces/day</i>			
Recommended intake of total grains	6.30	5.40	7.24	6.28	6.31	6.21	6.42
Whole grains ²	3.15	2.70	3.62	3.14	3.15	3.11	3.21
Actual grain consumption:							
Total grains	6.68	5.62	7.79	6.73	6.66	6.64	6.64
Whole grains	1.07	0.94	1.21	1.02	1.09	1.11	1.00
At home	0.90	0.79	1.01	0.84	0.92	0.95	0.83
Away from home	0.17	0.15	0.19	0.17	0.17	0.16	0.17
Refined grains	5.61	4.69	6.58	5.72	5.57	5.52	5.64
At home	3.69	3.18	4.24	3.76	3.67	3.61	3.65
Away from home	1.92	1.51	2.34	1.96	1.90	1.92	1.99
				<i>Percent</i>			
Consumption to recommendation:							
Total grains	105.54	104.21	106.94	106.53	105.17	106.45	102.87
Whole grains	34.30	34.98	33.59	32.43	35.01	36.97	30.62
Refined grains	176.79	173.44	180.29	180.63	175.34	175.92	175.11
Share of people meeting the recommendation:							
Total grains	53.45	52.94	53.99	54.80	52.95	53.74	50.93
Whole grains	7.34	7.32	7.35	5.41	8.06	8.72	6.68
Refined grains	87.42	86.75	88.12	91.28	85.97	85.59	86.89
				<i>Ounces/1,000 kcal</i>			
Whole-grain density ³ :							
2005 Dietary Guidelines recommendation ²	1.64	1.68	1.60	1.63	1.64	1.64	1.65
Reported whole-grain consumption	0.56	0.58	0.53	0.52	0.57	0.60	0.49
At-home consumption	0.68	0.71	0.65	0.64	0.70	0.75	0.59
Away-from-home consumption	0.29	0.31	0.27	0.29	0.29	0.28	0.30
				<i>Percent</i>			
Away-from-home share of caloric intake	30.69	29.53	31.90	31.16	30.51	30.31	32.65

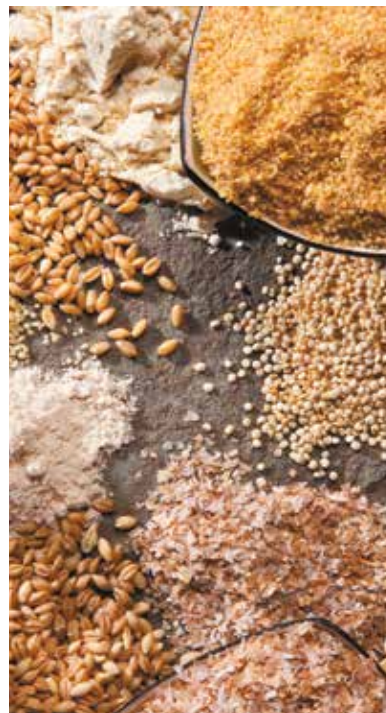
¹Average of 2 days. ²Half of total grains. ³Whole-grain density is the recommended or reported consumption of whole grains per 1,000-calorie intake.

Figure 2
U.S. grain consumption as a percent of 2005 recommendations



Source: CSFII 1994-96 and 1998.

The U.S. Grain Consumption Landscape: Who Eats Grain, in What Form, Where, and How Much? / ERR-50
Economic Research Service/USDA



MEATS

The term ‘meat industry’ describes modern industrialized livestock agriculture for production, packing, preservation marketing of meat (in contrast to dairy products, wool, etc.). In economics, it is a fusion of primary (agriculture) and secondary (industry) activity and hard to characterize strictly in terms of either one alone. The greater part of the entire meat industry is termed ‘meat packing industry’ — the segment that handles the slaughtering, processing, packaging, and distribution of animals such as cattle, pigs, sheep and other livestock.

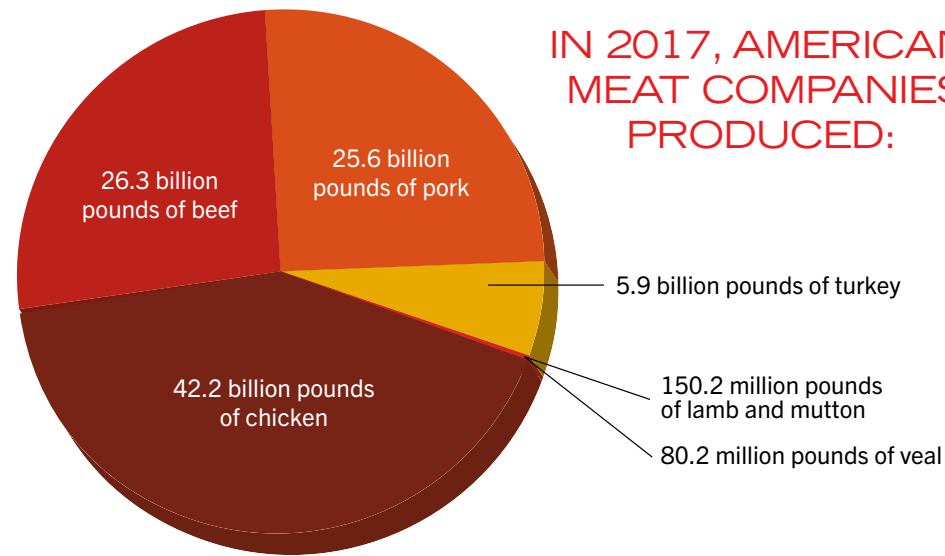
A great portion of the ever-growing meat branch in the food industry involves intensive animal farming in which livestock are kept almost entirely indoors or in restricted outdoor settings like pens.

Many aspects of the raising of animals for meat have become industrialized, even many practices more associated with smaller family farms, e.g. gourmet foods such as foie gras.

The production of livestock is a heavily vertically integrated industry where the majority of supply chain stages are integrated and owned by one company.

The meat and poultry industry is the largest segment of U.S. agriculture. U.S. meat production totaled 52 billion pounds in 2017 and U.S. poultry production totaled 48 billion pounds in 2017. The U.S. meat industry directly employs nearly 800,000 people: 488,500 in meat packing, 118,600 in meat processing, and 223,200 in poultry processing. The industry is responsible for generating nearly two million additional jobs for the people who produce equipment and ingredients used in meat and poultry processing, transportation and retail and foodservice sales.

Agriculture is the third largest sector of the U.S. economy and the meat and poultry industry is the largest sector of agriculture, with \$143 billion in annual sales, 800,000 employees and a growing list of customers overseas.



An estimated 95 percent of Americans make meat or poultry a regular part of their balanced diet. Thanks to its affordability, in the U.S., Americans spend just 11.25 % of disposable income on food and they spend 1.6 % of their disposable personal income on meat and poultry products. In 2018, USDA estimated there were 835 federally inspected livestock slaughter plants in the U.S. Total industry daily slaughter capacity is estimated at 446,275 hogs, 110,325 steers and heifers and 24,164 cows.

In 2017, the meat and poultry industry processed:

- 9 billion chickens
- 32.2 million cattle and calves
- 241.7 million turkeys
- 2.2 million sheep and lambs
- 121 million hogs

TOP LIVESTOCK AND POULTRY SLAUGHTERING STATES

Cattle – Nebraska, Kansas, Texas, Colorado, California, Wisconsin, Washington, Pennsylvania

Hog – Iowa, Minnesota, Illinois, Indiana, Missouri, Oklahoma, Pennsylvania

Chicken – Georgia, Arkansas, Alabama

Turkey – Minnesota, North Carolina, Arkansas



MEAT’S ESSENTIAL NUTRIENTS

The 2015 Dietary Guidelines for Americans recommends eating 5.7 ounces of meat per day as part of a healthy, balanced diet. There are at least: 29 cuts of beef, 6 cuts of pork and numerous poultry cuts that are leaner and have less calories than a 3 oz. serving of salmon. A 3-oz. serving of lean meat provides about 160-200 calories plus significant amounts of many key nutrients such as protein. These proteins contain all 9 essential amino acids needed for growth and good overall health, making meat a “complete” protein.

Meat is also a great source for iron, magnesium, zinc, niacin, selenium, riboflavin and B-vitamins that help your body turn food into energy.

New studies show meat can aid in weight loss by providing a sense of satisfaction that helps to control appetite and metabolize food more efficiently.

AMERICANS EAT, ON AVERAGE:

- 50 Billion hamburgers a year
- 20 Billion hot dogs a year
- 252 million pounds of pepperoni a year
- Average person eats 222 pounds of red meat and poultry combined each year

FEEDING OUR ECONOMY

According to a 2016 analysis by John Dunham & Associates, the U.S. meat and poultry industry accounts for \$1.02 trillion in total economic output or 5.6 % of gross domestic product (GDP).

The meat and poultry industry broadly is responsible for 5.4 million jobs and \$257 billion in wages, the report found. An estimated 527,019 people have jobs in production and packing, importing operations, sales, packaging and direct distribution of meat and poultry products.

FEEDING THE WORLD

CHECK: The U.S. exported 1.26 million metric tons (MT*) of beef and beef variety meat in 2017. Export value of beef and beef variety meat exports reached a record \$7.27 billion in 2017.

SOURCES: Themarketworks.org, Themeatinstitute.org and Wikipedia.org

On a volume and value basis, the top four markets for U.S. beef in 2017 were Japan, South Korea, Mexico and Hong Kong.

The U.S. exported 2.45 million MT of pork and pork variety meat in 2017, breaking the 2016 record by 6%. Annual total pork shipments were valued at \$6.49 billion, up 9% from 2016.

The top markets for U.S. pork in terms of volume and value in 2017 were Mexico, Japan and South Korea.

The U.S. exported 3.7 million MT of poultry and poultry variety meats in 2017. The value was estimated at \$4.5 billion.

Exports in 2017 accounted for 26.6% of U.S. pork production and 12.9% of beef production.

*1 MT=2204.6 lbs

FAST FACTS

Average Meat Consumption in the U.S.:

American men on average eat 4.8 ounces of meat per day and women eat 3.13 ounces of meat per day. Ironically, Americans spend less than any other developed nation in the world on food broadly, and on meat and poultry specifically.

Affordability of Meat and Poultry:

The U.S. meat and poultry supply is the most affordable in the world according to global data. The U.S., in 2012, spent 5.68% of its disposable income on food consumed at home, compared to 9.6% in Canada, 24.6% in Mexico and 47.7% in Pakistan.

Recent data show how consumer prices for meat have remained relatively stable over the past 25 years. Market forces have also been the primary contributor to the returns received by cow calf operations and hog farmers.

SAUSAGE

Sausage is defined as ground meat mixed with fat, salt, and other seasonings, preservatives, and sometimes fillers. Some sausage mixtures are sold in bulk form, and others forced into casings to form links. Many people are familiar with sausage links, but they are readily available without their casings in the same way fresh ground beef and chicken are packaged.

Sausage is available in fresh form, which needs to be cooked before consumption. It is also available in dry or cured form, which is already cooked. Virtually any type of meat can be used in sausage, but the most common sausage is pork or pork blends with other meats such as beef or chicken. Sausage variety truly is the spice of life and is available in a number of ways, including spicy, hot sausages and bland sausages, as well as with flavorings running the gamut from garlic to nutmeg.

HISTORY

The word sausage comes from the Middle English *sausige*, which came from *sal*, Latin for salt. In France, they are *saussissons* and in Germany, *wurst*. In practice for over a millennium, sausage-making was originally a method used to preserve meats, especially lesser cuts.

Today, sausage-making has become an art. More than 200 different varieties of sausage are made in the United States alone, and thousands more worldwide, varying by regional tastes and ingredient availability. Hot dogs are popular in the United States, sausage is the ultimate Finnish fast food and seafood sausages are popular in Asia.

Traditionally a meat product, creative chefs are making sausages from vegetable and seafood blends for those who eschew meats. There are even meat and rice blends available in sausage casings called *boudin*, pronounced *boo-dan*, made

popular in Southern states such as Texas and Louisiana. *Boudin* sausage is becoming more popular, and the ingredients more complex, as it gains exposure. Emeril Lagasse has shown an interest in the dish and has taken the traditional pork and rice dish to another level with unique mix-ins that more cooks are expanding on.

Sausage is typically made from pork, though it's loosely defined as any meat that's been ground and seasoned. It's traditionally stuffed into a casing but it can also be sold in bulk for forming into patties or crumbling into sauces. Historically, sausage casings were made from the intestines of pigs or cows, but today you can also find collagen and cellulose casings. After this step, the sausage links may be cured, both cured and smoked, or sold fresh. If your sausage has been cured first, there's no need to get out your frying pan—it's ready to eat, as is. The curing process has the double advantage of enhancing the flavors in the sausage as well as prolonging shelf-life. To start the cure, makers mix-in both salt and either nitrates or nitrites and from there, will either gently cook the sausages using smoke or hot water. If the latter method is used, the sausages will likely then be cold-smoked to develop their flavor.

Dry-cured sausages can also be found, though they are less commonly available due to the precise technique required to make them. This is because they are not cooked but fermented, so makers must be careful to expose their sausages to the right sorts of yeasts and cultures to prevent contamination. That said, all varieties of sausage have something delicious to offer so it's worth getting acquainted with them to expand your knowledge.

ANDOUILLE SAUSAGE

Originally from France, *andouille* is a smoked sausage made from pig chitterlings, tripe, onions, wine, and seasonings. The chitterlings and tripe are cleaned, folded and stuffed into casings before being cured in a brine for several days. Then, the *andouille* will be smoked for anywhere between 3 weeks to 2 months before it's finally cooked for an additional few hours. The end result is a sausage that's quite unique in texture and flavor, but one that's delicious, nonetheless.

Thanks to French influence, both Creole and the Cajun cuisines have put their own spin on *andouille*, often trading the chitterlings and tripe for pork shoulder, spicing the mixture more heavily, and twice-smoking it before it's served. Enjoy the Creole version in a classic jambalaya, or add French *andouille* to your charcuterie board.

BRATWURST

Germany is renowned for its sausages and *bratwurst* is one of its most popular. There are many regional variations but the basic recipe includes a blend of pork and veal, as well as seasonings like nutmeg and coriander. Some recipes even call for cream and eggs, but you'll never see *bratwurst* aged or smoked. Instead, it's a fresh and succulent sausage, great for pairing with traditional accouterments like sauerkraut and potato salad, or unique ones like curried ketchup.

BLOOD SAUSAGE

Also referred to as black or blood pudding, blood sausage is not an exaggeration. Indeed, they are made by stuffing casings with cooked or dried blood and mixing them with other ingredients like meat, fat, bread, barley and seasonings. Blood sausages are enjoyed in many countries worldwide, and as a result, there are plenty of variations. The Polish enjoy *Kiszka*, made with pork and barley, while the Spanish make *morcilla*, a pig's blood sausage blended with rice and seasonings like pimentón, depending on the region.

ITALIAN SAUSAGE

It's thought that Italian sausages have been around since Ancient Rome, so they must be good, right? They come in sweet, mild, and spicy flavors and the distinguishing ingredient present in all varieties is fennel or anise seed. Italian sausage, or *salsiccia* as it's called in Italy, is a fresh pork sausage that can be crumbled into endless varieties of pasta sauces or grilled, topped with broccoli rabe and served on crusty bread.

KIELBASA

Kielbasa is a staple sausage in the Polish kitchen. It's typically made from pork but you'll also find it made from beef, lamb or poultry. The most common *Kielbasa* in the west is *Kielbasa Polka*, which is seasoned with marjoram,

SOURCE: The SpruceEats.com, Food52.com

stuffed into natural casings and hardwood smoked. Enjoy it alongside sauerkraut and apple in this traditional dish, or stir it into this creamy stew.

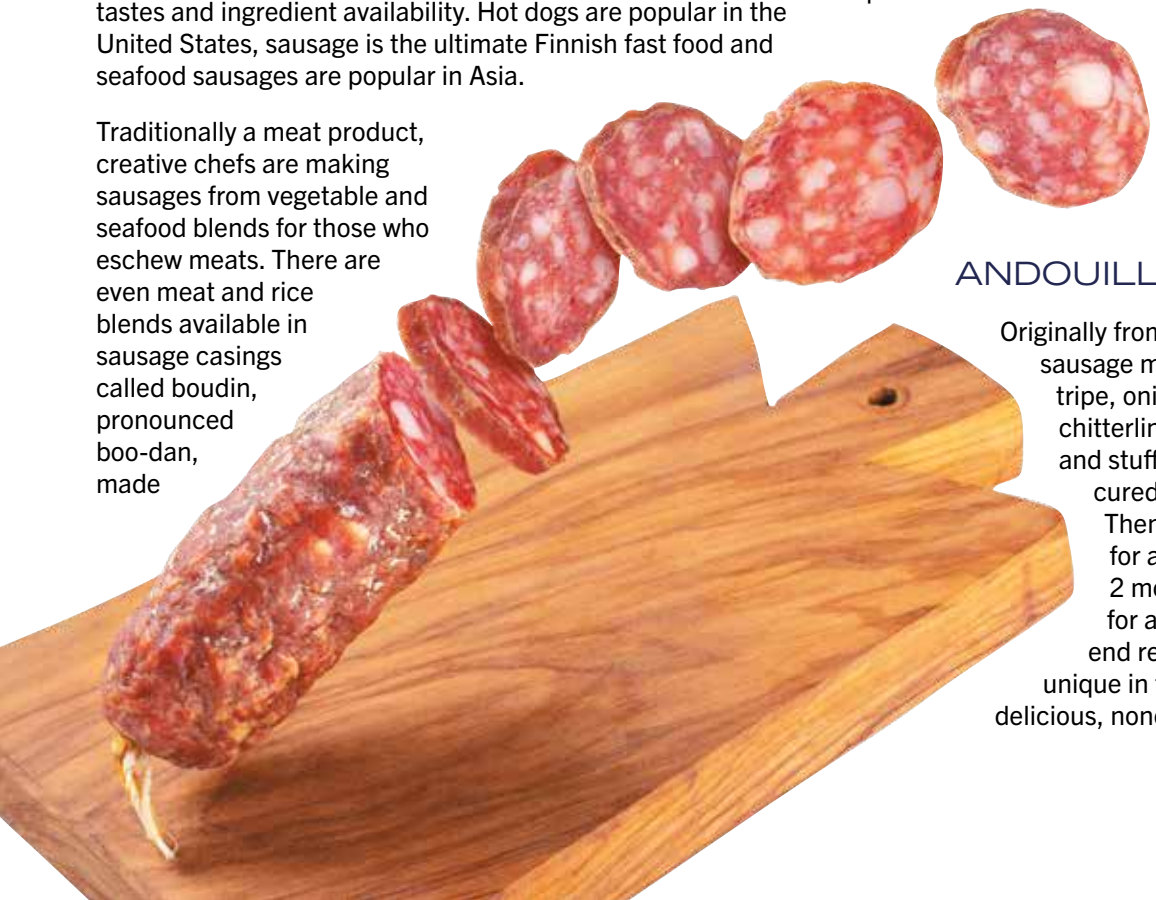
CHORIZO

Chorizo was originally developed in the Iberian Peninsula, or modern-day Spain and Portugal. Due to Spanish and Portuguese influence on Latin America, Mexico has its own variety but the two styles are quite different. Spanish *chorizo* is normally made with ground pork, though it's not uncommon to find it made with beef. From here, herbs, garlic, white wine, and pimentón, or smoked paprika, will be added. Pimentón provides *chorizo* its characteristic red hue and is a staple in Spanish cuisine. Next, the *chorizo* will be cured, fermented and likely smoked for at least a few weeks (although, there are varieties that are not smoked). Mexican *chorizo* is typically made from ground pork, seasonings, and chile peppers, since importing pimentón is often expensive. The sausage will then be stuffed into its casing and sold without being smoked. Try it in an unconventional dish like *shakshuka* or one that's more classically Latin, like *empanadas*. Apart from the red Mexican *chorizo*, the Toluca Valley region has also developed another unique *chorizo* that's green in color due to the addition of tomatillo, cilantro, and chile peppers.

If you can find some of this less common variety, enjoy it in this avocado breakfast sandwich.

LOUKANIKO SAUSAGE

The Greeks have staked out their own scrumptious sausage category with *Loukaniko*, a pork sausage that has an unexpected twist: citrus peel. That said, you can also find versions with fennel, cinnamon, leeks, and red or white wine. Seeing how this is a sausage born in the Mediterranean, many *Loukanikos* are also made with a blend of pork and lamb. You can grill it and serve it as part of *mezze*, or enjoy it in a gyro, slathered in *tzatziki* and feta cheese.



BRATWURST RECIPE

Ingredients for the bratwurst:

- 1 1/2 pounds pork butt, fat trimmed and discarded
- 1/2 teaspoon grated nutmeg
- 1 pound veal shoulder or beef hanger steak, fat trimmed and discarded
- 1/2 teaspoon ground allspice
- 1/2 pound pork fatback
- 1/4 teaspoon ground ginger
- 1 tablespoon kosher salt
- 1 tablespoon minced garlic, optional
- 2 teaspoons ground white pepper
- 2 teaspoons red pepper flakes, optional
- 1 teaspoon dried marjoram
- One 5-foot piece natural sausage casing
- 1/2 teaspoon caraway seed

Ingredients for the beer bath:

- 6 cups beer, preferably a German lager, pilsner or ale
- 1 tablespoon red pepper flakes, optional
- 1 cup butter
- 1 bay leaf
- 2 large onions, one grated and one thinly sliced
- Salt and pepper, to taste
- 3 cloves garlic, smashed

Directions for the bratwurst:

1. Cut the pork butt, veal or beef, and fatback into 1/2- to 3/4-inch cubes and chill thoroughly. It helps to have the meat partially frozen to prevent the fat from smearing.
2. Grind the meat in small batches using a meat grinder fitted with a 3/16-inch plate.
3. Combine the meat in a bowl with the spices. Mix thoroughly and refrigerate.
4. If the sausage casings are salt-packed, rinse and soak them for 30 minutes. Slide the casing onto your sausage stuffer's tube. Put the beef-pork mixture into the stuffer and run the motor (or press the mixture, if using a manual stuffer), pushing the mixture until it begins to emerge from the sausage stuffer. You want to start pushing meat into the casing before tying off the end to make sure no air is trapped in the casing.
5. Tie the casing into a knot and start extruding the meat into the casing, slipping more casing off as necessary. You want the casing to be tightly packed with the sausage mixture, but not so full that it bursts. At first this can seem tricky, but as you go you'll get the hang of it. Now you have one long sausage. Gently twist it into 4-inch lengths. Cut apart or leave in a string and refrigerate until ready to cook, no more than two days. To store longer, freeze in zip-top bags with as much air squeezed out as possible.

Directions for the beer bath:

1. In a large saucepan or Dutch oven, combine all the ingredients for the bath and bring to a low simmer.
2. Prepare a medium grill fire. Brown the brats evenly, off to the side of the coals, turning frequently. When the brats are browned, remove to the barely simmering beer bath and let sit for 15 minutes or longer.
3. Serve the brats in good crusty buns with the braised onion slices on top. Have sauerkraut, whole-grain mustard and ketchup on hand.

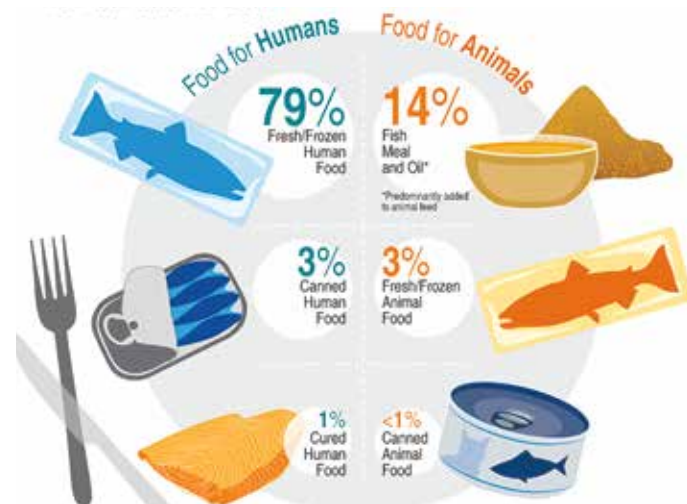
SOURCE: <https://food52.com/blog/8506-sheboygan-style-bratwurst>



SEAFOOD

A wide variety of seafood products are available in the U.S. marketplace from many different sources. In the U.S., wild fish and shellfish are harvested by commercial fishermen in both near shore and open ocean waters, and in freshwater lakes or rivers. Farm raised (aquaculture) seafood products are raised both on land in ponds (catfish), or re-circulating tanks (tilapia and hybrid bass), and in near shore coastal waters (salmon and shellfish). These same methods are used to farm a wide variety of fish and shellfish in other countries around the world which are then imported into the U.S.

Once seafood products are harvested, they are generally processed or packaged for distribution to retail stores and restaurants. Wild fish and shellfish are unloaded from harvest vessels and farmed products are harvested from facilities then transported and packed for distribution to processing plants or wholesalers. Processors convert the whole fish or shellfish to various other product forms such as fresh fish fillets or steaks or other items such as frozen products, breaded fish portions, and canned or smoked products. Some of these products may be further converted by secondary processors to heat and serve or ready-to-eat products like seafood salads, entrees or other items. Wholesalers and foodservice distributors receive both raw and processed products from many different domestic and foreign sources and distribute them to retail stores and restaurants. Consumers purchase these products from retail stores for home consumption or at restaurants and other foodservice establishments.



SEAFOOD IN THE AMERICAN DIET

Over the past two decades per capita consumption of seafood products (fish + shellfish) in the U.S. has ranged from a low of 14.6 pounds per person in 1997 to a record high of 16.5 pounds in 2004 and 2006. Since 2004, U.S. annual consumption of fish and shellfish has gradually decreased to 14.9 pounds per person in 2018. For

comparison, U.S. annual per capita consumption of other food commodities in 2016 is: beef about 55.4 pounds, chicken near 90.1 pounds, dairy products over 600 pounds, vegetables over 380 pounds, fruits over 250 pounds and flour and cereal products over 170 pounds.

A wide variety of fish and shellfish products are available in the marketplace. It has been estimated that hundreds of different species of fish and shellfish are sold annually. However, ten different types of fish and shellfish products represent more than 80% of the seafood consumed in the U.S. About 55% of all seafood consumed in 2017 was limited to three types of seafood: shrimp, canned tuna and salmon. The top seafood products consumed in the U.S. are shown in the table on this page. This list has been consistent over the past decade except for tilapia consumption which has increased steadily since 2002 and for scallops and flatfish (flounders and sole) which have moved in and out of the top 10 products during this period. One new product which has increased in consumption is fish from Pangasius species, that are called basa, swai or tra in the U.S. These fish are farmed in freshwater and primarily imported from the Mekong River delta region in Vietnam.

Several types of seafood products are consumed as about three fourths of the seafood products consumed in the U.S. are fresh or frozen, and consumption of these product forms has reached a plateau. Slightly more than half of the fresh or frozen products consumed are finfish and less than half shellfish, primarily shrimp. Canned seafood products account for slightly less than one fourth of the seafood consumed in the U.S., and the amount has decreased steadily over the past two decades. Canned tuna represents about 60% of all the canned seafood consumed in the U.S., but the amount of canned tuna consumed has fallen from a high of 3.9 pounds per person in 1989 to 0 pounds in 2017. Canned shellfish represents over 13% of all canned products consumed, followed by sardines at 6.5%. Cured seafood items such as smoked, salted or pickled products have consistently been about 2% of all seafood products consumed over the past two decades.

SEAFOOD A HEALTHY CHOICE

Seafood is a high-protein food that is low in calories, total fat, and saturated fat. High in vitamins and minerals, seafood has been shown to have numerous health benefits. For example, recent studies have shown that eating seafood can decrease the risk of heart attack, stroke, obesity, and hypertension. Seafood also provides essential nutrients for developing infants and children.

Seafood is generally considered to be a low-calorie protein source. Most low-fat species of fish, such as cod, flounder





and sole, contain less than 100 calories per 3-ounce cooked portion, and even fattier fish like mackerel, herring and salmon have about 200 calories per serving. Seafood is a complete protein source. It contains enough of the essential amino acids to assure healthy growth and optimal fetal development. A 3-ounce serving of most fish and shellfish provides about 30-40% of the average daily recommended amount of protein. The protein in seafood is easier to digest because seafood has less connective tissue than red meats and poultry.

Seafood for the most part is considered to be low in total fat and saturated fat. Most fish and shellfish contain less than 5 percent total fat, and even the fattiest fish, such as mackerel and king salmon, have no more than 15 percent fat. A large proportion of the fat in seafood is polyunsaturated, including omega-3 fatty acids, which have added health benefits.

Omega-3 fatty acids are essential fatty acids that are required for healthy human development. These organic compounds cannot be produced by the human body and therefore need to be obtained through food. Scientific evidence suggests that the marine-derived omega-3 fatty acids eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) can help reduce the risk of heart disease and contribute to brain and vision development in infants. Fish and shellfish are the main dietary sources of EPA and DHA. The plant-derived omega-3 fatty acid, alpha-linolenic acid (ALA), is a precursor to EPA and DHA and is only converted at rates of about 0.1-9% in the human body. The American Heart Association recommends 1000 milligrams (mg) of EPA/DHA per day for patients with coronary heart disease, and two meals of oily fish per week for patients without heart disease. Fish with medium to high levels of omega-3 fatty acids include oily ocean fish, such as salmon, herring, mackerel and sardines (see Description of Omega-3's and Their Role in Human Health).

Cholesterol is present at varying amounts in most animal foods. Current dietary recommendations suggest limiting cholesterol intake to 300 mg per day. Almost all fish and shellfish contain well under 100 mg of cholesterol per 3-ounce cooked serving, and many of the leaner types of fish have less than 60 mg.

Vitamins and Minerals are abundant in seafood as fish is a natural source of B-complex vitamins, vitamin D and vitamin A (especially oily fish). B-complex vitamins have been associated with healthy development of the nervous system. Vitamin A is needed for healthy vision as well as for healthy skin, while vitamin D is essential in bone development.

Fish is also a good source of minerals such as selenium, zinc, iodine and iron. Selenium is a potent antioxidant that protects against cell damage and may help to counter the negative effects of mercury. Zinc is needed for cell growth and immune system health. Iodine helps maintain thyroid

gland function, while iron is important in red blood cell production. Small fish eaten whole, such as sardines and anchovies, are an important source of calcium needed for bone development.

SEAFOOD IS GETTING CASUAL

Foodservice directors and chefs know that seafood is a delicious, healthy alternative to other proteins, and they'd like to sell more of it. But how do you get customers to buy in? And how do you take an ingredient category with a reputation for premium pricing and tricky handling and turn it into a popular, accessible menu option that fits within an affordable cost structure? Answer: Take a more casual approach.

Seafood is often menued in plated entrees with a side or two. Many customers find that intimidating, and many operators think it's not worth the investment in a product that guests might not order, or that they'll need all kinds of extra inventory to create. But by featuring fish in fun, casual handhelds, such as tacos and burgers, or by simply swapping it in for another protein in existing menu specialties, seafood sales will build.

Featuring seafood in these types of formats is also something that consumers are looking for. According to Technomic, 36 percent of consumers say they eat seafood for lunch once per week or more; 59 percent of consumers do the same at dinner. Many consumers also associate seafood with health, making casual items such as fish tacos—which is up 67 percent on menus, according to Technomic—a great revenue-building opportunity.

“The fish taco trend has really exploded,” confirms Edward O'Donnell, director of marketing for Philadelphia-based Samuels and Son Seafood, which specializes in providing fish and shellfish to high-end, white-tablecloth restaurants, in addition to retail seafood shops and other high-volume accounts. “Moving out of street-food stalls and Cuban and Mexican restaurants, tacos are showing up on more and more mainstream menus.

“Tacos are very cost-effective for the operator,” continues O'Donnell. “They can be made with frozen seafood, which makes them affordable and available year-round. You can store the fish in the frozen state until it's needed.”

Chefs have definitely become more creative with fish and shellfish, says O'Donnell. But educating foodservice patrons as well as servers and salespeople about the benefits of seafood, such as health and environmental concerns, is still very important. As part of this, sustainability has become a larger issue, which is the reason Samuels and Son and other organizations have moved to support products from Alaska.

“We're seeing increased appreciation of the Alaska brand,” he explains. “When given information with a compelling sourcing and sustainability story behind it, chefs menu more Alaska seafood, and, in turn, convey that to servers.” In the end, this raises awareness among patrons about [that quality and sustainability story].

Beyond tacos, fish and shellfish can be incorporated into casual, more affordable options of all kinds, including sandwiches, burgers and sliders, salads, pizza toppings, appetizers, sushi and kebabs and other skewered foods.

Food costs are held in check because portion sizes are smaller than those required for a traditional center-of-plate entrée. In addition, trim and odd-size pieces, such as broken shrimp, can be up-cycled into premium menu specialties, and overproduction can be deployed in new items such as salmon salad.

In addition, many existing menu specialties based on red meat or poultry can be recreated using fish or seafood. Though protein portion sizes will be the same, this strategy creates a completely different menu item utilizing the same inventory and prep but for the fish—an extremely efficient way to offer more variety with minimal impact on the kitchen but maximum appeal for customers.

To that end, the Alaska Seafood Marketing Institute (ASMI) has created the SWAP Meat for Alaska Seafood program to encourage chefs to replace beef, pork, lamb or poultry specialties with seafood. The initiative is also being implemented by Alaska seafood supporters such as Samuels and Son, which will be launching a SWAP Meat for Alaska Seafood recipe contest in early 2016.

“Chefs are creative and competitive by nature, and they love the publicity provided by contests,” says O'Donnell. “We think our chef-customers will have a lot of fun with this.”

TRENDING FISH

Generally, what is trending in the seafood arena is contributed by many factors such as what's the sustainable choice, what's in season, and what's local. Here are some of the “fish of the moment” cravings by the consumer.

Octopus – If you don't think octopus belongs on your menu, think again. Octopus is on restaurant menus everywhere and not without good cause. It's low cost and versatile. Once considered too exotic, octopus has increasingly gained acceptance. I am commonly seeing it offered as a small plate.

SOURCES: Food Consumption Reference: Food Availability Per Capita Data System. Seafood Supply and Commercial Fisheries Reference: National Marine Fisheries Service, 2017. Fisheries of the United States 2017. Alaska Seafood Marketing Institute. Unilever Food Solutions

Grill it so it has a nice char, yet still tender and meaty, and pair with chorizo, baby potatoes and pickled red onions.



Mackerel – You name it, mackerel can take it. You can cook it and mix it in brandade, make a spread or pâté with it, etc. Plus, it's delicious smoked in a Caesar salad, grilled with a lentil tabbouleh or with a tangy rhubarb relish or pickled in escabeche.

Crab – The sweet, delicate meat is perfect in a gourmet fish rolls, salads, crab cakes or as a soup topping. Smoke it, cook it, steam it. Go spicy with a Cajun or Indian spice. Consumers are very comfortable with crab so you can really get creative without scaring anyone off. Besides, who doesn't love a good crab roll?

Razor Clams – This variety has been popular in countries like Spain and Italy, but long undervalued in North America. Barbecue and serve with salsa verde like the Spanish, toss them in an Italian seafood pasta, prepare them Chinese style with black bean sauce and scallions, or make an elegant broth with their liquids and serve with the clams and fresh peas.

Sardine – Whether canned or fresh, these little fish add big flavor and personality to dishes. Often overlooked in Mediterranean cooking, they're a staple in that region's cuisine. When fried and served with a creamy sriracha dip, they make an amazing appetizer. Or you can enhance pasta dishes by incorporating their unique, salty flavor.

Barramundi – Barramundi is a type of Asian sea bass that's also common in Australian waters. Its flavor is similar to halibut and grouper without having an overpowering “fishy” taste. It's very good at picking up the essence of the ingredients it's cooked with, making it an ideal protein for you to customize and experiment with.



SMOKED SALMON

Laying a piece of cold smoked salmon over cold cream cheese on top of a toasted bagel with a few capers and black pepper is delightful. Smoked salmon is a preparation of salmon, typically a fillet that has been cured and hot or cold smoked. Due to its moderately high price, smoked salmon is considered a delicacy.

Smoking is used to preserve salmon against microorganism spoilage. During the process of smoking salmon, the fish is cured and partially dehydrated, which impedes the activity of bacteria. An important example of this is Clostridium botulinum, which can be present in seafood, and which is killed by the high heat treatment which occurs during the smoking process.

Smoked salmon has been featured in the cultures of the Native Americans for a long time. Smoked salmon was also a common dish in Greek and Roman culture throughout history, often eaten at large gatherings and celebrations. During the Middle Ages, smoked salmon became part of people's diet and was consumed in soups and salads. The first smoking factory was from Poland in the 7th century A.D. The 19th century marked the rise of the American smoked salmon industry on the West Coast, processing Pacific salmon from Alaska and Oregon.

COLD SMOKING

Most smoked salmon is cold smoked, typically at 37 °C (99 °F). Cold smoking does not cook the fish, resulting in a delicate texture. Although some smoke houses go for a deliberately 'oaky' style with prolonged exposure to smoke from oak chips, industrial production favors less exposure to smoke and a blander style, using cheaper woods. To preserve indefinitely in modern times, the fish is typically pressure-cooked.

HOT SMOKING

Commonly used for both salmon and trout, hot smoking 'cooks' the salmon, making it less moist, and firmer, with a less delicate taste. It may be eaten like cold smoked salmon, or mixed with salads or pasta. It is essential to brine the salmon sufficiently and dry the skin enough to form a pellicle prior to smoking. Without a sufficient pellicle, albumin will ooze out of the fish as it cooks, resulting in an unsightly presentation.



BRINING SALMON

There are three main curing methods that are typically used to cure salmon prior to smoking.

1. **Wet brining:** Brining in a solution containing water, salt, sugar, spices, with (or without) sodium nitrite, for a number of hours or days.
2. **Dry curing:** This method is a method often used in Europe, in which salmon fillets are covered with a mix of salt, sugar, and sometimes other spices (traditional London Cure smoked salmon uses salt only). Dry curing tends to be faster than wet brining, as the salt tends to draw out moisture from the fish during the curing process and less drying time is needed in the smokehouse.
3. **Injection:** This is the least common method as it damages the delicate flesh of salmon. This is the fastest method of all as it injects the curing solution — hence allowing a faster cure throughout the flesh.

The proteins in the fish are modified (denatured) by the salt, which enables the flesh of the salmon to hold moisture better than it would if not brined. In the United States, the addition of salt is regulated by the FDA as it is a major processing aid to ensure the safety of the product. The sugar is hydrophilic, and also adds to the moistness of the smoked salmon. Salt and sugar are also preservatives, extending the storage life and freshness of the salmon. Table salt (iodized salt) is not used in any of these methods, as the iodine can impart a dark color and bitter taste to the fish.

PROCESSING

The two main processing techniques for salmon jerky are wet-brining and dry salting. In both cases the salmon is trimmed into narrow slices and then stored cold for less than one day. After being skinned and frozen, if the fish is to undergo the brining method it will require an additional step in which the salmon is left soaking in wet brine (salt solution) for one hour. It is then removed and the excess water is discarded. After this, in both the wet-brining and dry salting method, ingredients such as non-iodized salt, potato starch, or light brown sugar are added. In some smoked salmon jerky products, preservatives may also be added to extend the shelf life of the final product. The salmon is then minced with the additives and reformed into thin strips that will be smoked for twenty hours. Between the brining and salting methods for smoked salmon jerky, the brining method has been found to leave the salmon more tender, with up to double the moisture content of salted jerky. The salmon jerky that undergoes the dry salting method has a tougher texture due to the lower moisture content and water activity.

Both forms of salmon jerky still have a much lower moisture content than is found in raw salmon.

Here is an explanation of the different types of smoked salmon and their cooking styles:

ATLANTIC SMOKED SALMON

Atlantic smoked salmon is a very broad category that can include many different types of smoked salmon which is found throughout Northern Europe and on the Eastern Seaboard of North America. Norway originally pioneered Atlantic salmon farming, smoked salmon from all over the world is labeled, incorrectly, Norwegian smoked salmon.

PACIFIC SMOKED SALMON

A category used to describe different species and types of salmon usually found in the Pacific Ocean, most commonly from Alaska and the Pacific Northwest, and Canada. The most popular Pacific salmon found smoked in stores are:

- **King Salmon/Chinook:** also called the spring or king salmon, with ivory white to deep red flesh. Also called Canadian King Salmon.
- **Chum:** also known as dog salmon; for its canine-resembling teeth; also known as Keta (an Asian aboriginal name). Their flesh ranges from pale to medium-red in color. These are the least common of the Pacific species of salmon.
- **Coho (Silver):** Coho, or silver salmon, is known for its red color flesh.
- **Sockeye (red):** Sockeye, also known as red salmon (and also sometimes labeled Nova, after the style used in its smoking process), has a bright and deep red-orange, firm flesh.
- **Pink (lumpback):** Known as humpback or humpie, is the smallest and most common of the North American Pacific salmon. It has a light-colored flesh, and a delicate taste, with a low fat content.

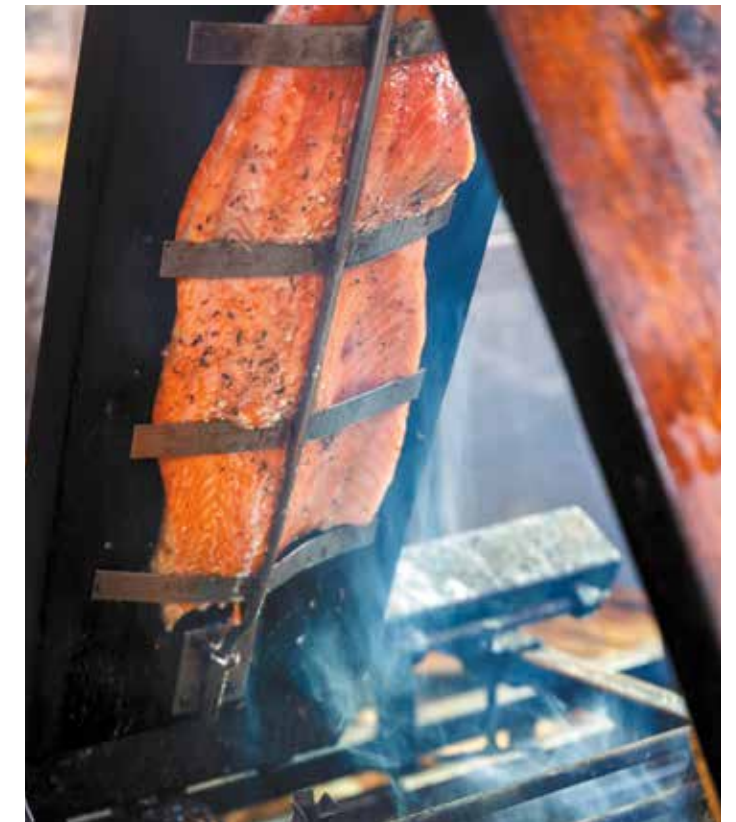
TYPES OF CURED AND SMOKED SALMON

- **Lox** – An Anglicization of the German and Scandinavian words for salmon. Lox was a technique of preserving salmon popular during the 19th Century and early 20th Century, where wild Pacific salmon was cured in brine very heavy in salt (there was really no smoking involved). The result was a very fishy flavor, which later went out of style and popularity. Today, "lox" is used to describe basically any type of smoked salmon, Nova, Nova Scotia smoked salmon, belly lox.
- **Nova** – Nova is a term that usually refers to a wet-cured, lightly salty farmed smoked salmon. The fish could come from anywhere, and the flavor is very mild and not very salty. The name owes its origins to the wild Nova Scotia

Atlantic salmon, a fish species that was over-fished to extinction.

- **Balyk** – This delicious prime cut of smoked salmon refers to the top portion (tenderloin) of the fish, carefully hand-cut and trimmed, lightly smoked and salted for the most perfectly crafted smoked salmon product. You'll only find this at very sophisticated specialty stores, as it is pricey (but worth it).
- **Gravadlax** – A specialty product, gravadlax is salmon that has undergone a traditional Scandinavian curing technique in which the salmon is marinated in a mixture of dill, sugar and special herbs, then cleaned and filleted, and the mixture removed. The salmon is then lightly smoked for full flavor. The term 'gravadlax' is literally "salmon from the grave", as the northern peoples would bury the salmon underneath the earth throughout the curing process.
- **Alaskan Smoked Salmon** – A species of salmon found wild in the cold waters off Alaska. Widely available due the large numbers and sustainable populations, this salmon can also be classified as Pacific smoked salmon. Also known as the King salmon, it can be found wild or farmed. They are typically hot smoked, using traditional Native American techniques. Its texture varies, depending on the brining process, but most prefer to have it silky or firm.

SOURCES: Gourmet Foodstore.com, DuckTrapRiverofMaine.com and Wikipedia.org





SAUCES

There is nothing better than a great sauce that can really elevate a meat, fish or pasta dish. In cooking, a sauce is a liquid, cream, or semi-solid food, served on or used in preparing other foods. Most sauces are not normally consumed by themselves; they add flavor, moisture, and visual appeal to a dish. Sauce is a French word taken from the Latin *salsa*, meaning salted. Possibly the oldest recorded European sauce is *garum*, the fish sauce used by the Ancient Romans; while *doubanjiang*, the Chinese soy bean paste is mentioned in *Rites of Zhou* in the 3rd century B.C. Sauces need a liquid component. Sauces are an essential element in cuisines all over the world. Sauces may be used for sweet or savory dishes. They may be prepared and served cold, like mayonnaise; prepared cold but served lukewarm, like pesto; cooked and served warm, like bechamel; or cooked and served cold, like apple sauce. They may be freshly prepared by the cook, especially in restaurants, but today many sauces are sold premade and packaged like Worcestershire sauce, HP Sauce, soy sauce or ketchup. Sauces for salad are called salad dressing. Sauces made by deglazing a pan are called pan sauces. In this chapter we review the history of sauce making and the basic variety of cooking sauces used today.

A chef who specializes in making sauces is called a *saucier*. The word “sauce” is a French word that means a relish to make our food more appetizing. Sauces are liquid or semi-liquid foods devised to make other foods look, smell and taste better, and hence be more easily digested and more beneficial.

Because of the lack of refrigeration in the early days of cooking, meat, poultry, fish and seafood didn’t last long. Sauces and gravies were used to mask the flavor of tainted foods.

200 A.D. – The Romans used sauces to disguise the taste of the food. Possibly to conceal doubtful freshness. According to the article *Food & Cooking in Roman Britain* by Marian Woodman:

The main course, or *primae mensae*, varied both in the number and elaboration of dishes. Roast and boiled meat, poultry, game or other meat delicacies would be served. No dish was complete without its highly flavored and seasoned sauce. Contrary to present day preference, the main object seemed to be to disguise the natural taste of food – possibly to conceal doubtful freshness, possibly to demonstrate the variety of costly spices available to the host. Sometimes so many ingredients were used in a sauce it was impossible to single out any one flavor. One Roman cook bitterly complained that some of his fellow cooks “When they season their dinners, they don’t use condiments for seasoning, but screech owls, which eat out the intestines

of the guests alive.” Apicius wrote at the end of one of his recipes for a particularly flavorful sauce, “No one at table will know what he is eating.” These sauces were usually thickened with wheat flour or crumbled pastry. Honey was often incorporated into a ‘sweet-sour’ dish or sauce.

Highly flavored sauces often containing as many as a dozen ingredients were extensively used to mask the natural flavors of Roman food. The most commonly used seasoning was *liquamen*, the nearest equivalent today being a very strong fish stock, with anchovies as its main ingredient. This was so popular that it was factory-produced in many towns in the Roman empire.

THERE ARE FIVE FOUNDATION SAUCES OR BASIC SAUCES

Two of them have a record of two hundred years behind them; they are the “bechamel” and the “mayonnaise”. They have lasted so long, not only because they are very good, but also because they are so adaptable and provide a fine basis for a considerable number of other sauces.

The other three, which also date back to the 18th century, are the “veloute,” the “brune,” and the “blonde.” These five sauces still provide the basis for making of many modern sauces, but no longer of most of them.

Modern sauces may be divided into two classes: the “Careme” and “Escoffier” classes. Among the faithful, in the great kitchen of the world, Escoffier is to Careme what the New Testament is to the Old. See “Mother Sauces” for descriptions of the five basic sauces.

Aioli – Aioli is a thick garlic sauce used in the cooking of Provence, France, and of Catalonia in Spain. It is often compared to mayonnaise in its texture, but it is not actual mayonnaise. It is thought by culinary historians that Aioli is a Roman sauce, the one the Romans called “*aleatum*” made of garlic and oil.

Bearnaise sauce – It is a variation of hollandaise sauce. White wine or vinegar, diced shallots, tarragon and peppercorns are cooked together and reduced, then sieved and added to hollandaise sauce. The spice tarragon is what gives it a distinctive taste. The sauce is served with beef and some shellfish.



Bechamel Sauce – As the housewife in the 17th Century did not have the luxury of modern refrigeration, they were wary of using milk in their recipes. Peddlers were known to sell watered down or rancid produce. Basically, only the rich or royalty could use milk in their sauces. In France, it is one of the four basic sauces called “meres” or “mother sauces” from which all other sauces derive. It is also known as “white sauce.” It is a smooth, white sauce made from a roux made with flour, boiled milk and butter. It is usually served with white meats, eggs and vegetables. It forms the basis of many other sauces.

Chasseur Sauce – Chasseur is French for hunter. It is a hunter-style brown sauce consisting of mushrooms, shallots and white wine (sometimes tomatoes and parsley). It is most often served with game and other meats. Chasseur, or “Hunter Style”, was meant for badly shot game or tough old birds. The birds were always cut up to remove lead shot or torn parts, and often cooked all day on the back of the range if they were old or tough. Originally the veggies used were ones hunters would find while they hunted. This can be scaled up.



Coulis –

1. A French culinary term. It is a type of a sauce, usually a thick one, which derives its body (either entirely or in part), from pureed fruits or vegetables. A sauce of cooked down tomatoes can be a tomato coulis as can a puree of strained blackberries.
2. Today coulis also means a thick soup made with crayfish, lobster, prawns and other crustaceans – the word being used where bisque has formerly been used.

History: In old English cookbooks, the word “cullis” is found but this has fallen into disuse and “coulis” has taken its place. At one time, coulis were sauces and also the juices which flowed from roasting meat. Some cooks called liquid purees coulis, but only those prepared with chicken, game, fish, crustaceans and some vegetables.

Hollandaise Sauce – Hollandaise mean Holland-style or from Holland. Uses butter and egg yolks as binding. It is served hot with vegetables, fish and eggs (like egg benedict). It will be a pale lemon color, opaque, but with a luster not appearing oily. The basic sauce and its variations should have a buttery-smooth texture, almost frothy, and an aroma of good butter. Making this emulsified sauce requires a good deal of practice — it is not for the faint of heart. Bearnaise sauce, which is “related” to hollandaise sauce, is most often served with steak.

Marinara – Means “sailor” in Italian (sailor style of tomato sauce). A spicy, quickly cooked pasta sauce of Italian origins but far more popular in American restaurants featuring southern Italian cuisines than in most of Italy.

Mayonnaise – Mayonnaise is an emulsion consisting of oil, egg, vinegar, condiments and spices.

Most authorities believe the first batch of this mixture of egg yolks, oil and seasonings was whipped up to celebrate the 1756 French capture of Mahon, a city on the Spanish Isle of



Minorca, by forces under Louis-Francois-Armand de Vignerot du Plessis, duc de Richelieu (1696-1788). The Duke, or more likely, his personal chef, is credited with inventing mayonnaise, as his chef created a victory feast that was to include a sauce made of cream and eggs. Realizing that there was no cream in the kitchen, the chef substituted olive oil for the cream and a new culinary creation was born. Supposedly the chef named the new sauce “Mahonnaise” in honor of the Duc’s victory. Besides enjoying a reputation as a skillful military leader, the Duke was also widely known as a bon vivant with the odd habit of inviting his guests to dine in the nude.

Early French immigrant cooks that originally lived in Fort Mahon brought the original recipe to Minnesota. An old superstition is that a woman should not attempt to make mayonnaise during menstruation time, as the mayonnaise will simply not blend together as well.

Newburg Sauce – An American sauce that was created at the famous Delmonico Restaurant in New York City by their French chef, M. Pascal. This elegant sauce is composed of butter, cream, egg yolks, sherry and seasonings. It is usually served over buttered toast points. The sauce is also used with other foods, in which case the dish is usually given the name “Newburg.”

Mother Sauces – Also called Grand Sauces. These are the five most basic sauces that every cook should master. Antonin Careme, founding father of French “grande cuisine,” came up with the methodology in the early 1800’s by which hundreds of sauces would be categorized under five Mother Sauces, and there are infinite possibilities for variations, since the sauces are all based on a few basic formulas. Sauces are one of the fundamentals of cooking. Know the basics and you’ll be able to prepare a multitude of recipes like a professional. Learn how to make the basic five sauces and their most common derivatives. The five Mother Sauces are:

- Béchamel Sauce (white)
- Velouté Sauce (blond)
- Brown (demi-glace) or Espagnole Sauce
- Hollandaise Sauce (butter)
- Tomato Sauce (red)

Remoulade – A chilled flavored mayonnaise used in French cuisine. It includes mayonnaise, anchovies or anchovy paste, mustard, capers, and chopped pickles that are served as a dressing for cold meats, poultry or seafood.

Veloute Sauce – Also called sauce blanche grasse or fat white sauce, rich white sauce. One of the five “mother sauces.” It is a stock-based white sauce that can be made from chicken, veal, or fish stock thickened with white roux. See Mother Sauces for more information.

Allemande Sauce – Veal veloute with egg yolk and cream liaison.

Supreme Sauce – Chicken veloute reduced with heavy cream

Vin Blanc Sauce – Fish veloute with shallots, butter and fines herbs

In the end nobody enjoys a bland piece of meat or fish. Sauces accentuate and elevate the flavors in food combining a variety of ingredients to give the taste buds that extra boost of excitement.

SOURCES: Whatscookingamerica.net, Wikipedia, TheCulinaryPro.com, Foodrepublic.com



BASIC RED WINE REDUCTION SAUCE RECIPE

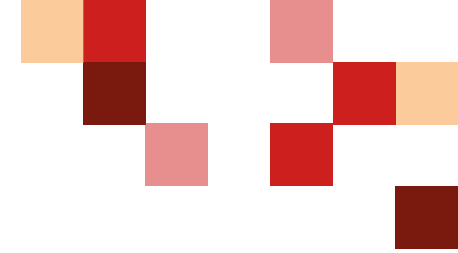
Prep Time: 5 minutes	Level of Difficulty: Easy
Cook Time: 10 to 15 minutes	Serving Size: 2 servings

Ingredients:

- Olive oil, for coating the pan
- 1/2 cup beef stock
- 1/4 cup shallots, minced
- 2 tablespoons butter
- 1/2 cup red wine
- 1 tablespoon rosemary, chopped, optional

Directions:

1. In a saute pan, over medium-high heat, add enough olive oil to coat the pan.
2. Add the shallots and cook until translucent.
3. Add the red wine and the stock and reduce by half.*
4. Add the butter and chopped rosemary.



SOUPS

It's so easy to paint the familiar picture of the young boy walking into his house after a long walk home in the winter snow and Mom has a hot pot of fresh soup on the stove. This chapter is about the joys of soup and the vast varieties of it. Soup is thought to be as old as the history of cooking, with the first evidence of soup-making going as far back as 20,000 years ago. This is far earlier than historians and archeologists first estimated, based on evidence previously found. Our deepened insight into soup's history is due to a discovery archeologists made in 2012 in a Chinese cave containing ancient cookware that had been exposed to fire. Historians believe these early humans were boiling meats and other foods to break down the fat and create a sort of broth from bones and nuts. Of course, due to its age, scientists can't be certain what exactly these people were boiling in the pottery but the waterproof and heatproof nature of the artifacts makes their purpose clear.

Cooking soup held certain advantages to our culinary ancestors, and became quite appealing when trying to draw out different flavors. Unlike the hot air rising from a roasting fire, boiling water comes into full contact with submerged foods. This allows for a quicker cooking time and more complete, even cooking. When they were lacking in ingredients or overall flavor, our ancestors made due with the simple things.

WHAT'S THE WORD?

The word "soup" comes from French *soupe* (soup or broth), which stems from the Latin "suppa" or bread soaked in broth. If you look back far enough you'll find that these forms come from a Germanic source, from which also comes the word "sop", a piece of bread used to soak up soup or a thick stew.

The modern restaurant industry can tip its hat to soup, because soup is most likely the reason restaurants started becoming more widespread. In the 1500's *restoratifs* (restoratifs) were the first items served in public restaurants in 18th century Paris. Soups were consumed for their herbal properties and were regarded as treatments for certain physical ailments or sickness. It's no wonder grandmothers advocate for chicken soup when someone is ill, and why moms pair a classic dish of tomato soup with grilled cheese when a child needs comforting. We've been feeding soup to sick people for eons: clear broths for upset stomachs and a delicious chicken noodle for a stuffy nose.

Soup's simplicity makes it an ideal meal for hard times when food is scarce and people have limited ingredients. Soup's simple constitution makes it accessible to rich and poor alike, and simple ingredients make it easy to digest in good times and bad. Throughout history, cultures have adopted

their own variations with the ingredients on hand. From Russian borscht to Italian minestrone, the basics remain the same. Though every soup is extremely similar to one another, at their core we still see how soups have become points of pride for certain cultures, because they reflect the ingredients and tastes available to a region.

Advancements in science enabled soups to take many forms: canned, portable, dehydrated and microwave-ready. Canned and dehydrated soups were available in the 19th century and supplied the military, covered wagon trains, cowboy chuck wagons and the home pantry. Blount's easy-to-heat noodle bowls are a prime example of just how far food packaging and preservation has come.

Today, nothing can compete with a delicious soup recipe, well made with premium ingredients sourced locally whenever possible.

Some soups are served with large chunks of meat or vegetables left in the liquid, while others are served as a broth. A broth is a flavored liquid usually derived from boiling a type of meat with bone, a spice mix or a vegetable mix for a period of time in a stock.

A potage is a category of thick soups, stews or porridges, in some of which meat and vegetables are boiled together with water until they form a thick mush.

Bisques are heavy cream soups traditionally prepared with shellfish, but can be made with any type of seafood or other base ingredients. Cream soups are dairy based soups. Although they may be consumed on their own, or with a meal, the canned, condensed form of cream soup is sometimes used as a quick sauce in a variety of meat and pasta convenience food dishes, such as casseroles. Similar to bisques, chowders are thick soups usually containing some type of starch.

Coulis were originally meat juices, and now are thick purées.

Some soups are served only cold, and other soups can optionally be served cold.

SOURCES: themodernproper.com, Blount Foods.com and Wikipedia



CHICKEN TORTILLA SOUP RECIPE

Cook Time: 22 minutes

Serving Size: 4 servings

Ingredients:

- 4 (6") corn tortillas, divided
- 2 tablespoons neutral vegetable oil, such as grapeseed, plus more for brushing
- 1/4 cup canned refried beans
- 1 1/2 teaspoons kosher salt, plus more
- 1 teaspoon ground cumin, plus more for dusting
- 1/2 cup shredded Monterey Jack cheese (about 2.5 ounces)
- 1 small onion, chopped
- 2 large garlic cloves, finely chopped
- 4 cups low-sodium chicken broth

- 1 (14-ounce) can diced tomatoes, preferably fire-roasted
- 1 teaspoon finely chopped canned chipotle chiles, plus 1 teaspoon adobo sauce
- 1/2 teaspoon freshly ground black pepper, plus more
- 1 pound boneless, skinless chicken breasts, cut crosswise into 1/2"-thick strips, strips cut in half lengthwise if large
- 2 tablespoons fresh lime juice (from about 1 1/2–2 limes), plus 1 lime, cut into wedges
- Sliced avocado, sliced radish, and cilantro leaves with tender stems (for serving; optional)

Directions:

1. Arrange a rack in top third of oven; preheat to 425°F. Arrange 2 tortillas on a rimmed baking sheet and brush with oil. Bake 5 minutes, then flip and continue to bake until crispy, 4–5 minutes more. Carefully spread each tortilla with 2 Tbsp. refried beans; season lightly with salt and dust with cumin. Top with cheese. Return to oven and bake until cheese is melted and browned, about 5 minutes more. Transfer to a cutting board and let cool slightly. Cut each tortilla into 4 wedges to create nachos.
2. Meanwhile, cut remaining 2 tortillas into 1" pieces. Heat remaining 2 Tbsp. oil in a large pot over medium-high. Add onion and tortilla pieces and cook, stirring occasionally, until softened and lightly browned, about 3 minutes. Add garlic and remaining 1 tsp. cumin and cook, stirring, until fragrant, 30–60 seconds. Immediately add broth, tomatoes, chiles and sauce, 1 tsp. salt, and 1/2 tsp. pepper. Cover pot, increase heat to high, and bring to a gentle simmer. Uncover, reduce heat to medium, and add chicken. Gently simmer over medium heat until chicken is cooked through, about 5 minutes.
3. Remove pot from heat. Stir in 2 Tbsp. lime juice. Season with adobo sauce, salt, or pepper, if needed. Ladle soup into bowls. Garnish with nachos, lime wedges, avocado, radish, and cilantro, if using. Season with pepper, if needed, and serve immediately.

CURRIED PUMPKIN COCONUT SOUP RECIPE

Prep Time: 1 hour

Serving Size: 6 servings

Cook Time: 20 minutes

Calories: 432

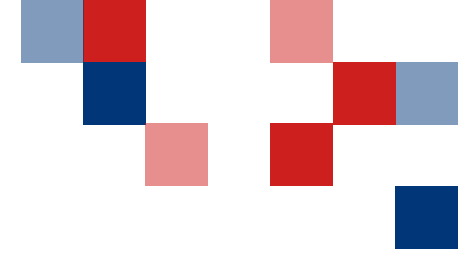
Ingredients:

- 2 1/2 lbs sugar pumpkin, seeded, skinned and cubed
- 1 1/2 lbs butternut squash seeded, skinned and cubed
- 3 tbsp olive oil
- 2 onions, finely chopped
- 3 garlic cloves, finely chopped
- 2 tbsp curry powder
- 1/2 tsp grated nutmeg
- 1/2 tsp ground ginger
- 1/2 tsp red pepper (optional)
- 1 tsp sea salt
- 1/2 tsp freshly ground pepper (more for serving)
- 6 cups chicken or vegetable stock
- 1/2 cup coconut milk (more for serving)
- Jalapeno, seeded, sliced (optional)
- Cilantro (optional)
- Pumpkin seeds (optional)

Directions:

1. Prepare the pumpkin and butternut squash, if you have a sharp peeler, it actually works quite well to use it to remove the skins from the squash. Cube the pumpkin and squash flesh into 2-3" chunks.
2. Heat the oil in a large dutch oven or heavy soup pot; sauté onions until translucent, about 5 minutes. Add garlic and sauté for 2 more minutes.
3. Add the pumpkin, squash, curry, nutmeg, ginger, red pepper, salt and pepper and stock. Stir and bring to a boil. Reduce to a simmer and cook until squash is tender and can be pierced with a fork, about 15-20 minutes.
4. Puree the soup in a food processor or blender in small batches.
5. Once your soup is nice and creamy return it to the pot. Add the coconut milk, additional salt and pepper if needed and warm it back up over medium heat.
6. Serve with pumpkin seeds, a swirl of extra coconut milk, sliced jalapenos and a little cilantro. Enjoy!





FRENCH CUISINE

French cuisine has developed throughout the centuries and has been influenced by the many surrounding cultures of Spain, Italy, Switzerland, Germany and Belgium, in addition to its own food traditions on the long western coastlines of the Atlantic, the Channel and of course inland. In the 14th century, Guillaume Tirel, a court chef known as “Taillevent”, wrote *Le Viandier*, one of the earliest recipe collections of medieval France. In the 17th century, chefs François Pierre La Varenne and Marie-Antoine Carême spearheaded movements that shifted French cooking away from its foreign influences and developed France’s own indigenous style. Cheese and wine are a major part of the cuisine. They play different roles regionally and nationally, with many variations and appellation d’origine contrôlée (AOC) (regulated appellation) laws.

French cuisine was made important in the 20th century by Auguste Escoffier to become the modern haute cuisine; Escoffier, however, left out much of the local culinary character to be found in the regions of France and was considered difficult to execute by home cooks. Culinary tourism and the Guide Michelin helped to acquaint people with the cuisine bourgeoise of the urban elites and the peasant cuisine of the French countryside starting in the 20th century. Gascon cuisine has also had great influence over the cuisine in the southwest of France. Many dishes that were once regional have proliferated in variations across the country.

Knowledge of French cooking has contributed significantly to Western cuisines. Its criteria are used widely in Western cookery school boards and culinary education. In November 2010, French gastronomy was added by the UNESCO to its lists of the world’s “intangible cultural heritage.”

French regional cuisines use locally grown vegetables, such as pomme de terre (potato), blé (wheat), haricots verts (a type of French green bean), carotte (carrot), poireau (leek), navet (turnip), aubergine (eggplant), courgette (zucchini) and échalotte (shallot).

French regional cuisines use locally grown fungi, such as truffe (truffle), champignon de Paris (button mushroom), chanterelle ou girolle (chanterelle), pleurote (en huître) (oyster mushrooms) and cèpes (porcini).

Common fruits include oranges, tomatoes, tangerines, peaches, apricots, apples, pears, plums, cherries, strawberries, raspberries, redcurrants, blackberries, grapes, grapefruit and blackcurrants.

Varieties of meat consumed include poulet (chicken), pigeon

(squab), canard (duck), oie (goose, the source of foie gras), bœuf (beef), veau (veal), porc (pork), agneau (lamb), mouton (mutton), caille (quail), cheval (horse), grenouille (frog) and escargot (snails). Commonly consumed fish and seafood include cod, canned sardines, fresh sardines, canned tuna, fresh tuna, salmon, trout, mussels, herring, oysters, shrimp and calamari.

Eggs are fine quality and often eaten as omelettes, hard-boiled with mayonnaise, scrambled plain, scrambled haute cuisine preparation, œuf à la coque.

Herbs and seasonings vary by region, and include fleur de sel, herbes de Provence, tarragon, rosemary, marjoram, lavender, thyme, fennel and sage.

Fresh fruit and vegetables, as well as fish and meat, can be purchased either from supermarkets or specialty shops. Street markets are held on certain days in most localities; some towns have a more permanent covered market enclosing food shops, especially meat and fish retailers. These have better shelter than the periodic street markets.

BREAKFAST

Le petit déjeuner (breakfast) is traditionally a quick meal consisting of tartines (slices) of French bread with butter and honey or jam (sometimes brioche), along with café au lait (also called “café crème”), or black coffee or tea and, rarely, hot chicory. Children often drink hot chocolate in bowls or cups along with their breakfasts. Croissants, pain aux raisins or pain au chocolat (also named chocolatine in the southwest of France) are mostly included as a weekend treat. Breakfast of some kind is always served in cafés opening early in the day.

There are also savoury dishes for breakfast. An example is “le petit déjeuner gaulois” or “petit déjeuner fermier” with the famous long narrow bread slices topped with soft white cheese or boiled ham, called mouillettes, which is dipped in a soft-boiled egg, and some fruit juice and hot drink.

Another variation called “le petit déjeuner chasseur”, meant to be very hearty, is served with pâté and other charcuterie products. A more classy version is called “le petit déjeuner du voyageur”, where delicatessens serve gizzard, bacon, salmon, omelet or croque-monsieur, with or without soft-boiled egg and always with the traditional coffee/tea/ chocolate along with fruits or fruit juice. When the egg is cooked sunny-side over the croque-monsieur, it is called a croque-madame.

LUNCH

Le déjeuner (lunch) is a two-hour mid-day meal or a one-hour lunch break. In some smaller towns and in the south of France, the two-hour lunch may still be customary. Sunday lunches are often longer and are taken with the family. Restaurants normally open for lunch at noon and close at 2:30 pm. Some restaurants are closed on Monday during lunch hours.

In large cities, a majority of working people and students eat their lunch at a corporate or school cafeteria, which normally serves complete meals as described above; it is not usual for students to bring their own lunch to eat. For companies that do not operate a cafeteria, it is mandatory for white-collar workers to be given lunch vouchers as part of their employee benefits. These can be used in most restaurants, supermarkets and traiteurs; however, workers having lunch in this way typically do not eat all three courses of a traditional lunch due to price and time constraints. In smaller cities and towns, some working people leave their workplaces to return home for lunch. Also, an alternative, especially among blue-collar workers, is eating sandwiches followed by a dessert; both dishes can be found ready-made at bakeries and supermarkets at budget prices.

DINNER

Le dîner (dinner) often consists of three courses, hors d'œuvre or entrée (appetizers or introductory course, sometimes soup), plat principal (main course), and a cheese course or dessert, sometimes with a salad offered before the cheese or dessert. Yogurt may replace the cheese course, while a simple dessert would be fresh fruit. The meal is often accompanied by bread, wine and mineral water. Most of the time the bread would be a baguette which is very common in France and is made almost every day. Main meat courses are often served with vegetables, along with potatoes, rice or pasta. Restaurants often open at 7:30 pm for dinner, and stop taking orders between the hours of 10:00 p.m. and 11:00 p.m. Some restaurants close for dinner on Sundays.

BEVERAGES AND DRINKS

In French cuisine, beverages that precede a meal are called apéritifs (literally: that opens the appetite), and can be

served with amuse-bouches (literally: mouth amuser). Those that



end it are called digestifs.

APÉRITIFS

The apéritif varies from region to region: Pastis is popular in the south of France, Crémant d'Alsace in the eastern region. Champagne can also be served. Kir, also called Blanc-cassis, is a common and popular apéritif-cocktail made with a measure of crème de cassis (blackcurrant liqueur) topped up with white wine. The phrase Kir Royal is used when white wine is replaced with a Champagne wine. A simple glass of red wine, such as Beaujolais nouveau, can also be presented as an apéritif, accompanied by amuse-bouches. Some apéritifs can be fortified wines with added herbs, such as cinchona, gentian and vermouth. Trade names that sell well include Suze (the classic gentiane), Byrrh, Dubonnet and Noilly Prat.

DIGESTIFS

Digestifs are traditionally stronger, and include Cognac, Armagnac, Calvados, Eau de vie and fruit alcohols.

The 1960s brought about innovative thought to the French cuisine, especially because of the contribution of Portuguese immigrants who had come to the country fleeing the forced drafting to the Colonial Wars Portugal was fighting in Africa. Many new dishes were introduced, as well as techniques.

This period is also marked by the appearance of the nouvelle cuisine. The term “nouvelle cuisine” has been used many times in the history of French cuisine which emphasized the freshness, lightness and clarity of flavor and inspired by new movements in world cuisine. In the 1740s, Menon first used the term, but the cooking of Vincent La Chapelle and François Marin was also considered modern. In the 1960s, Henri Gault and Christian Millau revived it to describe the cooking of Paul Bocuse, Jean and Pierre Troisgros, Michel Guérard, Roger Vergé and Raymond Oliver. These chefs were working toward rebelling against the “orthodoxy” of Escoffier’s cuisine. Some of the chefs were students of Fernand Point at the Pyramide in Vienne, and had left to open their own restaurants. Gault and Millau “discovered the formula” contained in ten characteristics of this new style of cooking.

The first characteristic was a rejection of excessive complication in cooking. Second, the cooking times for most fish, seafood, game birds, veal, green vegetables and pâtés was greatly reduced in an attempt to preserve the natural flavors. Steaming was an important trend from this characteristic. The third characteristic was that the cuisine was made with the freshest possible ingredients. Fourth, large menus were abandoned in favor of shorter menus. Fifth, strong marinades for meat and game ceased to be used. Sixth, they stopped using heavy sauces such as espagnole and béchamel thickened with flour based “roux”, in favor of seasoning their dishes with fresh herbs, quality butter, lemon juice and vinegar. Seventh, they used regional dishes for inspiration instead of haute cuisine dishes. Eighth, new techniques were embraced and modern equipment

was often used; Bocuse even used microwave ovens. Ninth, the chefs paid close attention to the dietary needs of their guests through their dishes. Tenth and finally, the chefs were extremely inventive and created new combinations and pairings.

Some have speculated that a contributor to nouvelle cuisine was World War II when animal protein was in short supply during the German occupation. By the mid-1980s food writers stated that the style of cuisine had reached exhaustion and many chefs began returning to the haute cuisine style of cooking, although much of the lighter presentations and new techniques remained.

To say French food or French cooking would be a general statement, but when you peel back the layers of what true French cuisine is you need to review each region of France to completely embrace all styles, flavors and dishes of what has made French cooking the ultimate in gourmet cuisine. Here is a list of the main French regions that contribute to French cuisine.

PARIS AND ÎLE-DE-FRANCE

Paris and Île-de-France are central regions where almost anything from the country is available, as all train lines meet in the city. Over 9,000 restaurants exist in Paris and almost any cuisine can be obtained here. High-quality Michelin Guide-rated restaurants proliferate here.

CHAMPAGNE, LORRAINE, AND ALSACE

Game and ham are popular in Champagne, as well as the special sparkling wine simply known as Champagne. Fine fruit preserves are known from Lorraine as well as the quiche Lorraine. Alsace is influenced by the German cuisine, especially the one from the Palatinate and Baden region. As such, beers made in the area are similar to the style of bordering Germany. Dishes like choucroute (the French word for sauerkraut) are also popular. Many “Eaux de Vie” (alcoholic distillation) also called schnaps is from this region, due to a wide variety of local fruits (cherry, raspberry, pear, grapes) and especially prunes (mirabelle, plum).

NORD PAS-DE-CALAIS, PICARDY, NORMANDY, AND BRITTANY

The coastline supplies many crustaceans, sea bass, monkfish and herring. Normandy has top-quality seafood, such as scallops and sole, while Brittany has a supply of lobster, crayfish and mussels. Normandy is home to a large population of apple trees; apples are often used in dishes, as well as cider and Calvados. The northern areas of this region, especially Nord, grow ample amounts of wheat, sugar beets and chicory. Thick stews are found often in these northern areas as well. The produce of these northern regions is also considered some of the best in the country, including cauliflower and artichokes. Buckwheat grows widely in Brittany as well and is used in the region’s galettes, called jalet, which is where this dish originated.

AUVERGNE-RHÔNE-ALPES

The area covers the old province of Dauphiné, once known as the “larder” of France, that gave its name to Gratin dauphinois. The Gratin Dauphinois is traditionally made in an old large baking dish rubbed with garlic. Layers of successively potatoes, salt, pepper and cream are piled up to the top of the dish. It is baked in the oven at low temperature for 2 hours. Fruit and young vegetables are popular in the cuisine from the Rhône valley, as are great wines like Hermitage AOC, Crozes-Hermitage AOC and Condrieu AOC. Walnuts and walnut products and oil from Noix de Grenoble AOC, lowland cheeses, like St. Marcellin, St. Félicien and Bleu du Vercors-Sassenage. Poultry from Bresse, guinea fowl from Drôme and fish from the Dombes, a light yeast-based cake, called Pogne de Romans and the regional speciality, Raviole du Dauphiné, and there is the short-crust “Suisse”, a Valence biscuit speciality. Lakes and mountain streams in Rhône-Alpes are key to the cuisine as well. Lyon and Savoy supply sausages while the Alpine regions supply their specialty cheeses like Beaufort, Abondance, Reblochon, Tomme and Vacherin. Mères lyonnaises are female restaurateurs particular to this region who provide local gourmet establishments. Celebrated chefs from this region include Fernand Point, Paul Bocuse, the Troisgros brothers and Alain Chapel. The Chartreuse Mountains, also in the region, are the source of the green and yellow Digestif liquor, Chartreuse produced by the monks of the Grande Chartreuse. Since the 2014 administrative reform, the ancient area of Auvergne is now part of the region. One of its leading chefs is Regis Marcon.

POITOU-CHARENTES AND LIMOUSIN

Oysters come from the Oléron-Marennes basin, while mussels come from the Bay of Aiguillon. High-quality produce comes from the region’s hinterland, especially goat cheese. This region and in the Vendée is grazing ground for Parthenaise cattle, while poultry is raised in Challans. The region of Poitou-Charentes purportedly produces the best butter and cream in France. Cognac is also made in the region along the Charente River. Limousin is home to the Limousin cattle, as well as sheep. The woodlands offer game and mushrooms. The southern area around Brive draws its cooking influence from Périgord and Auvergne to produce a robust cuisine.

BORDEAUX, PÉRIGORD, GASCONY, AND BASQUE COUNTRY

Bordeaux is known for its wine, with certain areas offering specialty grapes for wine-making. Fishing is popular in the region for the cuisine, sea fishing in the Bay of Biscay, trapping in the Garonne and stream fishing in the Pyrenees. The Pyrenees also support lamb, such as the “Agneau de Pauillac”, as well as sheep cheeses. Beef cattle in the region include the Blonde d’Aquitaine, Boeuf de Chalosse, Boeuf Gras de Bazas and Garonnaise. Free-range chicken, turkey, pigeon, capon, goose and duck prevail in the region as well. Gascony and Périgord cuisines includes patés, terrines,

confits and magrets. This is one of the regions notable for its production of foie gras, or fattened goose or duck liver. The cuisine of the region is often heavy and farm based. Armagnac is also from this region, as are prunes from Agen.

TOULOUSE, QUERCY, AND AVEYRON

Gers, a department of France, is within this region and has poultry, while La Montagne Noire and Lacaune area offers hams and dry sausages. White corn is planted heavily in the area both for use in fattening the ducks and geese for foie gras and for the production of millas, a cornmeal porridge. Haricot beans are also grown in this area, which are central to the dish cassoulet. The finest sausage in France is commonly acknowledged to be the saucisse de Toulouse, which also finds its way into their version of cassoulet of Toulouse. The Cahors area produces a specialty “black wine” as well as truffles and mushrooms.

This region also produces milk-fed lamb. Unpasteurized ewe’s milk is used to produce the Roquefort in Aveyron, while in Laguiole is producing unpasteurized cow’s milk cheese. The Salers cattle produce milk for cheese, as well as beef and veal products. The volcanic soils create flinty cheeses and superb lentils. Mineral waters are produced in high volume in this region as well. Cabécou cheese is from Rocamadour, a medieval settlement erected directly on a cliff, in the rich countryside of Causses du Quercy. This area is one of the region’s oldest milk producers; it has chalky soil, marked by history and human activity, and is favourable for the raising of goats.

ROUSSILLON, LANGUEDOC, AND CÉVENNES

Restaurants are popular in the area known as Le Midi. Oysters come from the Etang de Thau, to be served in the restaurants of Bouzigues, Meze, and Sète. Mussels are commonly seen here in addition to fish specialties of Sète, Bourride, Tielles and Rouille de seiche. In the Languedoc jambon cru, sometimes known as jambon de montagne, is produced. High quality Roquefort comes from the brebis (sheep) on the Larzac plateau. The Les Cévennes area offers mushrooms, chestnuts, berries, honey, lamb, game, sausages, pâtés and goat cheeses. Catalan influence can be seen in the cuisine here with dishes like brandade made from a purée of dried cod wrapped in mangold leaves. Snails are plentiful and are prepared in a specific Catalan style known as a cargolade. Wild boar can be found in the more mountainous regions of the Alps.

PROVENCE-ALPES-CÔTE D’AZUR

The Provence and Côte d’Azur region is rich in quality citrus, vegetables, fruits and herbs; the region is one of the largest suppliers of all these ingredients in France. The region also produces the largest amount of olives, and creates superb olive oil. Lavender is used in many dishes found in Haute Provence. Other important herbs in the cuisine include thyme, sage, rosemary, basil, savory, fennel, marjoram, tarragon, oregano, and bay leaf. Honey is a prized ingredient

in the region. Seafood proliferates throughout the coastal area and is heavily represented in the cuisine. Goat cheeses, air-dried sausages, lamb, beef and chicken are popular here. Garlic and anchovies are used in many of the region’s sauces, as in Poulet Provençal, which uses white wine, tomatoes, herbs, and sometimes anchovies, and Pastis is found everywhere that alcohol is served. The cuisine uses a large amount of vegetables for lighter preparations. Truffles are commonly seen in Provence during the winter. Thirteen desserts in Provence are the traditional Christmas dessert, e.g. quince cheese, biscuits, almonds, nougat, apple and fougasse.

Rice is grown in the Camargue, which is the northernmost rice growing area in Europe, with Camargue red rice being a specialty. Anibal Camous, a Marseillais who lived to be 104, maintained that it was by eating garlic daily that he kept his “youth” and brilliance. When his eighty-year-old son died, the father mourned: “I always told him he wouldn’t live long, poor boy. He ate too little garlic!” (cited by chef Phili)

CORSICA

Goats and sheep proliferate on the island of Corsica, and lamb are used to prepare dishes such as “stufato”, ragouts and roasts. Cheeses are also produced, with “brocciu” being the most popular. Chestnuts, growing in the Castagniccia forest, are used to produce flour, which is used in turn to make bread, cakes and polenta. The forest provides acorns used to feed the pigs and boars that provide much of the protein for the island’s cuisine. Fresh fish and seafood are common. The island’s pork is used to make fine hams, sausage and other unique items including coppa (dried rib cut), lonzu (dried pork fillet), figatella, salumu (a dried sausage) salcietta, Panzetta, bacon, figatellu (smoked and dried liverwurst) and prisuttu (farmer’s ham). Clementines (which hold an AOC designation), lemons, nectarines and figs are grown there. Candied citron is used in nougats, while and the aforementioned brocciu and chestnuts are also used in desserts. Corsica offers a variety of wines and fruit liqueurs, including Cap Corse, Patrimonio, Cédratine, Bonapartine, liqueur de myrte, vins de fruit, Rappu and eau-de-vie de châtaigne.

FRENCH GUIANA

French Guianan cuisine or Guianan cuisine is a blend of the different cultures that have settled in French Guiana. Creole and Chinese restaurants are common in major cities such as Cayenne, Kourou and Saint-Laurent-du-Maroni. Many indigenous animal species such as caiman and tapir are used in spiced stews.

SOURCES: Bon Appetit.com and Wikipedia.org

DUCK CONFIT WITH SPICY RAISINS

Ingredients:

- 18 skin-on, bone-in duck legs
- 4 garlic cloves, thinly sliced
- 1 teaspoon freshly ground black pepper, plus more freshly cracked
- 2 tablespoons plus 1 teaspoon kosher salt
- 9 sprigs thyme, divided
- 6 dried chiles de árbol, crushed, or 1 crushed red pepper flakes, divided
- 1/2 cup white wine vinegar
- 1/4 cup sugar
- 2 teaspoons brown mustard seeds
- 1 sprig rosemary
- 1 1/2 cups golden raisins

Directions:

1. Using the tip of a knife or the sharp tines of a carving fork, prick duck leg skin all over. Rub with garlic (slices should stick to skin) and season with 1 tsp. ground pepper and 2 Tbsp. salt.
2. Preheat oven to 250° F. Arrange duck, skin side down, in a roasting pan or large Dutch oven and add 8 thyme sprigs, 4 chiles (or 1 tsp. red pepper flakes), and 1/2 cup water. Cover pan with foil or lid and cook until fat is rendered (don’t be surprised; there will be lots), about 2 hours. Turn duck skin-side up and nestle it into rendered fat. Cover pan and continue to cook until meat is very tender and bones easily wiggle when pulled, 2–2 1/2 hours longer.
3. Meanwhile, bring vinegar, sugar, mustard seeds, rosemary sprig, remaining thyme sprig, 2 chiles (or 1/2 tsp. red pepper flakes), 1 tsp. salt and 1 cup water to a boil in a medium saucepan. Reduce heat and simmer, stirring occasionally, until sugar is dissolved, about 3 minutes. Mix in raisins, remove from heat and let cool at least 1 hour.
4. Increase oven temperature to 400°. Remove duck from fat and place, skin side up, on a rimmed baking sheet; reserve fat for another use (it will keep 3 weeks in refrigerator or 3 months in freezer; reheat and strain before using). Season duck with cracked pepper and roast until skin is brown and crisp, 30–35 minutes. Serve duck with pickled raisins.

Do Ahead: Raisins can be pickled 1 week ahead. Cover and chill; bring to room temperature before serving. Duck can be cooked 1 week ahead. Pack duck in fat in an airtight container and chill.





ITALIAN CUISINE

Italian cuisine is widely known and popular around the world. Its characteristics are in simplicity, focusing on two to four main ingredients. Although simple in preparation, the flavors and quality of ingredients play into its popularity. The history of Italian cuisine is as old and interesting as the country itself. External factors and availability of ingredients often played a role in dish creation. The origins of Italian cuisine have many Arabic influences that have changed since antiquity. Further introduction of ingredients from the New World also added variety to the dishes and styles of cooking.

Many elements influenced what we know today as Italian food. Some of that influence came from other cultures and the various discoveries of distant lands. The Romans, known for lavish feasts that included elaborate dishes and copious amounts of wine, did everything in excess. The rich hosted over-the-top banquets that experimented with different dishes and flavors that often required elaborate preparation and complex ingredients. The Roman culinary style was a fusion of different flavors, often brought from conquered lands. Middle Eastern spices, grains from Northern Africa, fish from the Mediterranean and all kinds of meats dominated Roman tables. With the ample availability of wine, olive oil and grain, the three became the staple of the Roman diet. The fertility of the soil also provided a healthy mix of vegetables, cheeses and legumes.

As the Roman Empire neared its end, invading northern Barbarian tribes introduced their own flavors. Butter and beer entered the culinary spectrum, mainly in the north. This led to new flavors and ingredients entering what eventually became known as northern Italian cuisine. With the rise of Christianity much influence came from the views on acceptable behavior and food consumption. As the church imposed strict rules on its subject, meat became associated with sin and immorality. Gone were the lavish banquets of the past and all associated excesses. Abstinence and fasting, especially among the clergy, became the norm.

While the rest of the peninsula bowed under the rule of the Catholic Church, things were different in Sicily. Invaded by the neighboring Arab conquerors, the people living on the island became exposed to a very different influence. Exotic spices, dried fruit and dried pasta made their way into the Sicilian diet. While the Arabic rulers brought pasta with them because of its convenience, the Italians made an art of it. Pasta spread throughout the land and into Europe.

Over time, religious austerity gave way to more moderate celebrations that combined both fasting and excess. As the city-states became prosperous and wealthy, food once again became a symbol of wealth. Traditions of the past were rediscovered in culinary preparation and consumption. While lemons, oranges, sugar cane and almonds became

part of southern cooking, there was more experimentation happening in the north. Newly wealthy classes saw food as a status symbol and demanded new creations and refinement. It wasn't until the 16th century that tomatoes entered the scene, forever changing what we know as Italian cuisine. Potatoes, cabbage, sugar beets and peppers became the new staples, along with meat and fish. Tuscan hills became the source of wine and olive oil, infiltrating the kitchens of the time.

In the late 19th century, most restaurant food of note in the U.S. was Germanic: spaetzle, sausages, and often served in beer halls. But as a wave of Italian migrants began to arrive, mostly from that country's southern region, so did their meals, which were heavy on pasta.

For most of the 20th century, the Italian food served in restaurants came from southern Italy: olive oil, pasta with red sauce and meatballs and pizza. By the 1940s, the Works Progress Administration of the New Deal created a project on restaurants in New York City, marking Italian restaurants as "interesting, sometimes cheap, exciting places to eat." As such, it was becoming a popular food.

Eventually, Italian food gained its current place as an essentially American food. Today, Italian food is so Americanized that it can be found in uber-populist forms, like box macaroni and cheese, that are stripped of their cultural roots.

Today, out of 800,000 restaurants in the U.S., about 100,000 serve Italian food. But while the bulk are pizzerias and casual restaurants, there's also a significant component of fine dining restaurants. Meanwhile, there are about 40,000 each of Chinese and Mexican restaurants, with far fewer fine dining options among them.

THE MAIN INGREDIENTS

Italian cuisine is essentially shaped by around 15 essential ingredients. Amazingly these same ingredients can come together to form totally different dishes.

Olive oil – is the liquid gold that holds all Italian cooking together. There's a theory that says cooking with ingredients from the same region will always ensure a harmonious final dish. If that's the case, it's little wonder that Italian food just wouldn't taste the same without olive oil.

Pasta – with a shape and texture for every sauce under the sun could be the favorite staple of all. It pulls together any ingredient and help carry the immense flavor of the dish.

Garlic – is delicious and infuses everything it touches with a flavor so divine and out of respect for the Italians and never used jarred garlic. The chemicals in alliums like garlic are



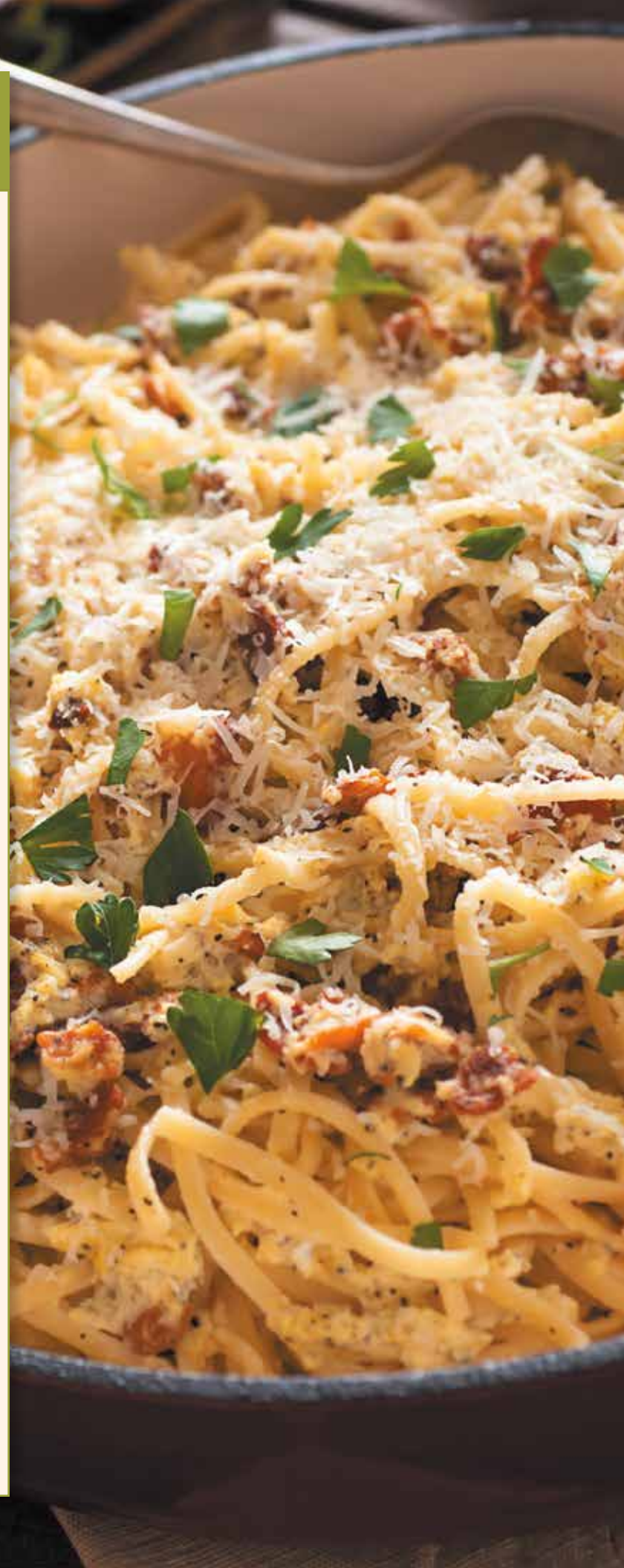
SPAGHETTI ALLA CARBONARA

Ingredients:

- 1 pound dry spaghetti
- 2 tablespoons extra-virgin olive oil
- 4 ounces pancetta or slab bacon, cubed or sliced into small strips
- 4 garlic cloves, finely chopped
- 2 large eggs
- 1 cup freshly grated Parmigiano-Reggiano, plus more for serving
- Freshly ground black pepper
- 1 handful fresh flat-leaf parsley, chopped

Directions:

1. Prepare the sauce while the pasta is cooking to ensure that the spaghetti will be hot and ready when the sauce is finished; it is very important that the pasta is hot when adding the egg mixture, so that the heat of the pasta cooks the raw eggs in the sauce.
2. Bring a large pot of salted water to a boil, add the pasta and cook for 8 to 10 minutes or until tender yet firm (as they say in Italian, “al dente.”) Drain the pasta well, reserving 1/2 cup of the starchy cooking water to use in the sauce if you wish.
3. Meanwhile, heat the olive oil in a deep skillet over medium flame. Add the pancetta and saute for about 3 minutes, until the bacon is crisp and the fat is rendered. Toss the garlic into the fat and saute for less than 1 minute to soften.
4. Add the hot, drained spaghetti to the pan and toss for 2 minutes to coat the strands in the bacon fat. Beat the eggs and Parmesan together in a mixing bowl, stirring well to prevent lumps. Remove the pan from the heat and pour the egg/cheese mixture into the pasta, whisking quickly until the eggs thicken, but do not scramble (this is done off the heat to ensure this does not happen.) Thin out the sauce with a bit of the reserved pasta water, until it reaches desired consistency. Season the carbonara with several turns of freshly ground black pepper and taste for salt. Mound the spaghetti carbonara into warm serving bowls and garnish with chopped parsley. Pass more cheese around the table.



released and degraded when the cloves are broken down and they just won't have the right flavor after being stored in a glass jar.

Tomatoes – are the reason for the red on the Italian flag, the beating heart of Bella Italia, the start and finish of every great pizza or spaghetti dish; Italian cooking wouldn't be Italian without tomatoes!

Basil – known as the ‘king of herbs’, no Caprese salad, Margherita pizza or Panzanella would be complete without the robust soft leaves of basil. Especially at home amongst garlic, tomato and lemon, it's probably one of most iconic of Italian ingredients.

Anchovies – which can be a little controversial. Some people are turned off by the hyper fishy, excessively salty profile of anchovies. A load of them on a pizza can be a bit overwhelming but when one is stirred into some garlic and olive oil as the base of a pasta sauce, a miraculous savory depth emerges that is really second to none.

Rosemary – if basil is the king of herbs, basking in the summer sunshine of Tuscany, then rosemary is the queen, presiding over winter with a gentle, warming aromatic gaze. While basil is perfect for salads, quickly woodfired pizzas or speedy pasta, rosemary holds its own in a slow-cooked porchetta or silky mushroom risotto.

Ricotta – the mild, creamy cheese made from sheep, cow, goat or water buffalo milk, ricotta is perfect when adding creaminess to savory dishes, and just divine in desserts or pancakes.

Parmesan – the hard cheese is protected destination of origin, which is why its name gets a fancy capital letter. Find this yellow pyramid lending its definitive flavor to pasta, risotto, soups, stews, polenta and just about anything worth eating.

Lemon – in many forms zested, juiced, preserved, baked gets a serious workout in Italian cuisine. Use it to cut through richness, to form a beautiful simple vinaigrette with extra virgin olive oil, or to finish off a perfect pasta.

Polenta – is maize or cornmeal product, served as a hot porridge side or allowed to cool and then baked, fried or grilled. The key to a really good polenta is leaning into its thirstiness and not forgetting seasoning. Cook it with stock, a little milk, and plenty of Parmesan, salt and pepper.

Wine – if the Italians do it...it's got to be good for you. To be truly authentic, The Italians don't believe in cooking with any drop that isn't fit to drink, so double up and get a decent bottle for yourself and your pot.

Porcini mushroom – are a strong, nutty mushroom, porcini is perfect for adding a ‘meaty’ character to vegetarian dishes, and creating a rich flavour profile wherever it goes. Porcini literally means ‘piglets’ in Italian. This fungus, with a very thick stem, can be found fresh or dried.

Prosciutto – The best saved for last. Arguably the most popular of the dry-cured ham products from Italy, finely

sliced prosciutto is the beautiful salty product of sometimes years of ageing pig or wild boar leg. It's wonderful in antipasti, on pizza and pasta (of course).

These ingredients are the essentials for Italian cooking in every shape and form.

POPULAR DISHES TODAY

Some of the most popular dishes today are true examples of the combination of simple ingredients that create the immense flavors of Italian cuisine.

Caprese – Salad with Pesto Sauce. There's nothing like a fresh tomato salad in summers! A great antipasto bite to start your meal with, this combination of juicy tomatoes and mozzarella cheese salad topped with freshly made pesto sauce is a distinct yet simple one. It offers a twist to the classic caprese salad.

Panzenella – A Tuscan bread salad ideal for summer dining. It does not follow a specific recipe, but the two ingredients that do not change are tomatoes and bread. This salad is great with a chilled glass of Prosecco and lots of sunshine!

Bruschetta – An antipasto dish, bruschetta has grilled bread topped with veggies, rubbed garlic and tomato mix. A country bread sliced and topped with different toppings - the evergreen tomato-basil and an inventive mushroom-garlic. The classic Italian starter!

Focaccia Bread – Fresh dough is topped with caramelized onions, olives, tomato slices, basil leaves and grated parmesan cheese and baked delicious!

Pasta Carbonara – This simple Roman pasta dish derives its name from ‘carbone’ meaning coal. It was a pasta popular with the coal miners. The original recipe calls for guanciale, which is pig's cheek, but since its not easily available, the chef has used bacon instead.

Margherita Pizza – Fancy a pipping hot pizza, fresh out of the oven? Create one at home! Margherita Pizza is to many the true Italian flag. One of the most loved Italian dishes, it just takes a few simple ingredients and you get insanely delicious results! You just can't go wrong with that tomato, basil and fresh mozzarella combo.

Mushroom Risotto – A plateful of buttery risotto with the goodness of mushrooms. A healthy bowl of mushroom risotto has more benefits than you can think of. A great source of protein, powerful antioxidant and even has cancer-fighting properties. This risotto recipe with mushrooms is a delicious recipe besides being easy and quick! Great to feed a hungry horde!

Pasta Con Pomodoro E Basilico – This is the most basic and simplest cooked pasta sauce, hence it is the benchmark of a good Italian home cook. This one boasts of being among the original Italian recipes of pasta. Easy and quick, this pasta recipe can be made under a half hour. Serve as a breakfast, pack for kid's lunch or savor as an evening snack. You can



even cook this for a casual and lazy dinner and pair this up with red wine.

Tiramisu – The ‘pick-me-up’ cake. The delightful tiramisu recipe with sponge fingers soaked in coffee, layered around and smeared with a creamy mascarpone mixture. The word ‘tiramisu’ in Italian means ‘pick-me-up’. Owing to its caffeine kick, it sure does!

Lasagna – The ultimate Italian dish has to be this recipe of Lasagna. A secret to the best lasagna recipe lies in the perfectly made, homemade Bolognese sauce and this bacon and lamb lasagna boasts of a delicious one! Loaded with parmesan cheese and layered with a mix of vegetables, bacon strips and minced lamb, this lasagna recipe is nothing short of perfect.

AND THEN THERE IS PIZZA.....

There are not many nations that can say their national dish has become an international phenomenon. Italy has two such dishes, pasta and, of course, pizza.

In America, pizza usually falls into two categories: thick and cheesy Chicago style or thin and more traditional New York pizza. In Italy pizza also falls into two distinct categories: Italian pizza and the rest of the world. It might seem silly considering the basic ingredients, but one taste of a true Italian pizza and that’s it. You will never feel the same about this simple and delicious food again.

Pizza in its most basic form as a seasoned flatbread has a long history in the Mediterranean. Several cultures including the Greeks and Phoenicians ate a flatbread made from flour and water. The dough would be cooked by placing on a hot stone and then seasoned with herbs. The Greeks called this early pizza plankuntos and it was basically used as an edible plate when eating stews or thick broth. It was not yet what we would call pizza today but it was very much like modern focaccia. These early pizzas were eaten from Rome to Egypt to Babylon and were praised by the ancient historians Herodotus and Cato the Elder.

The word “pizza” is thought to have come from the Latin word pinsa, meaning flatbread. A legend suggests that Roman soldiers gained a taste for Jewish Matzoth while stationed in Roman occupied Palestine and developed a similar food after returning home. However a recent archeological discovery has found a preserved Bronze Age pizza in the Veneto region. By the Middle Ages, these early pizzas started to take on a more modern look and taste. The peasantry of the time used what few ingredients they could get their hands on to produce the modern pizza dough and topped it with olive oil and herbs. The introduction of the Indian Water Buffalo gave pizza another dimension with the production of mozzarella cheese. Even today, the use of fresh mozzarella di buffalo in Italian pizza cannot be substituted. While other cheeses have made their way onto pizza (usually in conjunction with fresh mozzarella), no Italian Pizzeria would ever use the dried shredded type used on so many American pizzas.



The introduction of tomatoes to Italian cuisine in the 18th and early 19th centuries finally gave us the true modern Italian pizza. Even though tomatoes reached Italy by the 1530’s it was widely thought that they were poisonous and were grown only for decoration. However the innovative (and probably starving) peasants of Naples started using the supposedly deadly fruit in many of their foods, including their early pizzas. Since that fateful day the world of Italian cuisine would never be the same, however it took some time for the rest of society to accept this crude peasant food. Once members of the local aristocracy tried pizza they couldn’t get enough of it, which by this time was being sold on the streets of Naples for every meal. As pizza popularity increased, street vendors gave way to actual shops where people could order a custom pizza with many different toppings. By 1830 the “Antica Pizzeria Port’Alba” of Naples had become the first true pizzeria and this venerable institution is still producing masterpieces.

The popular pizza Margherita owes its name to Italy’s Queen Margherita who in 1889 visited the Pizzeria Brandi in Naples. The Pizzaiolo (pizza maker) on duty that day, Rafaele Esposito created a pizza for the Queen that contained the three colors of the new Italian flag. The red of tomato, white of the mozzarella and fresh green basil, was a hit with the Queen and the rest of the world. Neapolitan style pizza had now spread throughout Italy and each region started designing their own versions based on the Italian culinary rule of fresh, local ingredients.

Neapolitan style pizza is not only special for its relevance in the history of the dish, but also because, since 2010, it holds a STG qualification granted by the EU. STG means that Neapolitan pizza, or Pizza Verace Napoletana, as it is known (original neapolitan pizza), is a specialità tradizionale garantita (guaranteed traditional specialty): its ingredients are controlled and regulated by law, just as its shape, the way the dough is prepared and cut, and where it can be consumed. Yes, that’s right: to be so, a pizza verace napoletana must be consumed in the same premises where it has been baked, which means take out pizzas lose their STG qualification. The STG qualification is a guarantee for the consumer that the product roots its origins in the culinary tradition of a certain area and, even more important, that it has been made following regulations apt to keep it authentic.

ITALIAN TRADITIONAL PIZZA

Pizza Margherita may have set the standard, but there are numerous popular varieties of pizza made in Italy today.

Pizza from a Pizzeria is the recognized round shape, made to order and always cooked in a wood fired oven. Regional varieties are always worth trying such as pizza Marinara, a traditional Neapolitan pizza that has oregano, anchovies and lots of garlic. Pizza Capricciosa features a topping of mushrooms, prosciutto, artichoke hearts, olives and 1/2 a

boiled egg! Pizza Pugliese makes use of local capers and olives, while pizza Veronese has mushrooms and tender prosciutto crudo. Pizzas from Sicily can have numerous toppings ranging from green olives, seafood, hard-boiled eggs and peas.

Besides regional styles there are several varieties that are popular throughout Italy. Quattro Formaggi uses a four cheese combination of fresh mozzarella and three local cheeses such as gorgonzola, ricotta and parmigiano-reggiano, or stronger cheeses such as fontina or taleggio, depending on the areas of Italy. Italian tuna packed in olive oil is also a popular topping along with other marine products like anchovies, shellfish and shrimp.

Quattro Stagioni is a pizza similar to the Capricciosa that represents the four seasons and makes a good sampler pizza with sections of artichokes, salami or prosciutto cotto, mushrooms and tomatoes. In Liguria you may find pizza topped with basil pesto and no tomato sauce. Of course there are hundreds more to discover and all of them are delicious!

NEW TRENDS IN PIZZA

Pizza al Taglio – also known as pizza rustica, is sold everywhere in Italy, usually by weight and often piled with marinated mushrooms, onions or artichokes. This style of pizza is cooked on a sheet pan at street stalls and makes a good quick lunch.

Focaccia – is typical of Liguria and is characterized by a base usually thicker than that of pizza, topped with olive oil and rosemary. More toppings can be added, olive, caramelized onions and cheese being among the more common.

Sfincione – is a thick Sicilian sheet pizza that uses tomato sauce, anchovies (usually anchovy paste), breadcrumbs and caciocavallo (or another local variety) cheese.

Italian calzone – (no surprise here!) is smaller than its American cousin and is often filled with either meats or fresh vegetables (a favorite is spinach) and mozzarella. A newer trend that is gaining popularity is the emergence of sweet pizzas and traditional Italian pizzerias are trying to accommodate this trend by using unique ingredients. These dessert pizzas often have flavor combinations such as Nutella, honey, fruit jam, yogurt, even mustard and liquor.

One thing to keep in mind when ordering pizza in an Italian pizzeria is that the product is personal size. Each person at a table should order their own individual pizza – one bite will explain why. In certain areas outside Italy, there are a few pizzaioli who keep to their homeland traditions as best as they can with the ingredients they have, but it really isn’t the same. In the end there is no going back once you try a real Italian pizza, no delivery or frozen product will ever stimulate your taste buds the way a real pizza will.

Sources: The fascinating history of Italian cuisine among stromans, 15 Essential Ingredients for Italian Cooking by HelloFresh, Food Network -Tyler Florence, The American way of eating – Tracie McMillan, Life in Italy – Justin Demitri, Food Network – Bobby Flay

MEXICAN CUISINE

The history of Mexican food is a long and diverse one. It is believed that it all began about 9,000 years ago, when agricultural communities such as the Maya formed, domesticating maize, creating the standard process of maize nixtamalization, and establishing their foodways. Successive waves of other Mesoamerican groups brought with them their own cooking methods. These included the Olmec, Teotihuacanos, Toltec, Huastec, Zapotec, Mixtec, Otomi, Purépecha, Totonac, Mazatec, Mazahua and Nahuatl. The Mexica establishment of the Aztec Empire created a multi-ethnic society where many different foodways became infused. The staples are native foods, such as corn (maize), beans, squash, amaranth, chia, avocados, tomatoes, tomatillos, cacao, vanilla, agave, turkey, spirulina, sweet potato, cactus and chili pepper. Corn tortillas with bean paste were a common food item; but they also ate wild game, tropic fruits and fish. In the mid 1300's, The Aztec Empire was thriving, and though the Mayan food staples were still in use, chili peppers, honey, salt and chocolate found its way into their cooking. Some of the wild game, such as turkey and duck, had now become domesticated. In 1521 Spain invaded Mexico. Spanish foods had the most influence on the Mexican cuisine. They introduced new livestock, such as sheep, pigs and cows. They brought with them dairy products and garlic, as well as many different herbs, wheat and spices. It was at this time that the Mexican people saw the assimilation of many other cuisines including Caribbean, South American, French, West African and Portuguese. Because of this, Mexican foods today are diverse, yet dishes vary from region to region.

COOKING METHODS, PAST AND PRESENT

The early natives of Mexico did not have ovens, instead they heated food over an open fire, using cast iron skillets and ceramic ware. Another method was steaming. They would suspend meat wrapped in cactus or banana leaves over boiling water in a deep pit. Frying was also a popular method.

They used a 'metate y mano', which is a large tool made of lava rock or stone that they would use as a grinding stone, or the 'molcajete', which was smaller, to grind and smash ingredients. The molcajete, or mortar and pestle, is a small bowl-shaped container that can be made of stone, pottery, hard wood or marble, and the pestle is baseball-bat shaped.

A BRIEF HISTORY OF FAVORITE MEXICAN DISHES

Salsa was sold in the Aztec marketplaces. Salsa, the Spanish word for sauce, is uncooked and sometimes pureed until chunky, smooth, or chopped. Large red tomatoes, tomatillo, chipotle (a staple in the Aztec diet) and the avocado are

found in the modern salsa and are the same core ingredients used in the past. We can thank the Aztecs for Chocolate. It was through them that the Spaniards brought the product to Europe in 1657.

The term enchilada was first referenced in the U.S. in 1885. Yet the concept of tortillas being used as a wrap can be clearly linked to the Aztecs. The word enchilada means "in chile."

The tomatillo is a fruit that dates to at least 800 BC, the word meaning "round and plump." The Aztecs domesticated it, and when the Europeans came to Mexico, they documented the local foods and often confused the names by shortening the words. Though never popular with Europeans, it thrived in Italy. Today a relative of the fruit is common in the U.S. Tomatillo, a member of the night shade family, provides tart flavor in many different green sauces.

The Portuguese aided the spread of the chili pepper plants. The earliest mention was in 1542 when a German herbalist, Leonhart Fuchs, described and illustrated several types of peppers. Though for people of Europe, the history of the pepper began in the late 15th century, when Columbus brought the peppers home. There is archaeological evidence that peppers were in use since 5000 BC.

Pre-Columbus is how far back the Tamale can be traced. The Friar Bernardino de Sahagun documented that the Spaniards were served tamales by the Aztecs in the 1550s.

Other foods that we associate with Mexican cuisine are not traditionally so. The Flan was discovered in Medieval Europe. And ceviche is an Inca discovery, who ate their catch of the day raw with only a few seasonings. It was not until the late 15th century when Native American chefs of Ecuador and Peru began to add the citrus fruits with the South American fish, thus creating the dish that we know today.

Flavors from around the world have influenced Mexican dishes. The same can be said about Mexican traditional favorites affecting other countries' menus. In just about every culture you look at, you can find a hint of Mexico.

Mexican cuisine is a complex and ancient cuisine, with techniques and skills developed over thousands of years of history. It is created mostly with ingredients native to Mexico, as well as those brought over by the Spanish conquistadors, with some new influences since then. Mexican cuisine has been influenced by its proximity to the US-Mexican border. For example, burritos were thought to have been invented for easier transportation of beans by wrapping them in tortillas for field labor. Modifications like these brought Mexican cuisine to the United States, where states like Arizona further adapted burritos by deep frying them, creating the modern chimichanga.





In addition to staples such as corn and chile peppers, native ingredients include tomatoes, squashes, avocados, cocoa and vanilla, as well as ingredients not generally used in other cuisines, such as edible flowers, vegetables like huauzontle and papaloquelite, or small criollo avocados, whose skin is edible. Chocolate originated in Mexico and was prized by the Aztecs. It remains an important ingredient in Mexican cookery.

Vegetables play an important role in Mexican cuisine. Common vegetables include zucchini, cauliflower, corn, potatoes, spinach, Swiss chard, mushrooms, jitomate (red tomato), green tomato, etc. Other traditional vegetable ingredients include Chili pepper, huitlacoche (corn fungus), huauzontle and nopal (cactus pads), to name a few.

European contributions include pork, chicken, beef, cheese, herbs and spices, as well as some fruits.

Tropical fruits, many of which are indigenous to Mexico and the Americas, such as guava, prickly pear, sapote, mangoes, bananas, pineapple and cherimoya (custard apple) are popular, especially in the center and south of the country.

Edible insects have been enjoyed in Mexico for millennia. Entomophagy, or insect-eating, is becoming increasingly popular outside of poor and rural areas for its unique flavors, sustainability and connection to pre-Hispanic heritage. Popular species include chapulines (grasshoppers or crickets), escamoles (ant larvae), cumiles (stink bugs) and ahuatle (water bug eggs).

CORN

Despite the introduction of wheat and rice to Mexico, corn is the most commonly consumed starch in almost all areas of the country and serves as the main ingredient in many local recipes (e.g. corn tortillas, atole, pozol, menudo, tamal). While it is eaten fresh, most corn is dried, nixtamalized and ground into a dough called masa. This dough is used both fresh and fermented to make a wide variety of dishes, from drinks (atole, pozol, etc.) to tamales, sopes and much more. However, the most common way to eat corn in Mexico is in the form of a tortilla, which accompanies almost every dish. Tortillas are made of corn in most of the country, but other versions exist, such as wheat in the north or plantain, yuca and wild greens in Oaxaca.

CHILI PEPPERS

The other basic ingredient in all parts of Mexico is the chile pepper, a food that has a reputation for being very spicy, but with a wide range of flavors. While many spices are used for cooking, not all are spicy. Many dishes also have subtle flavors. Chiles are indigenous to Mexico and their use dates back thousands of years. They are used for their flavors and not just their heat, with Mexico using the widest variety. If a savory dish or snack does not contain chile pepper, hot sauce is usually added. Chile pepper is often added to fresh fruit and sweets.

The importance of the chile goes back to the Mesoamerican period, where it was considered to be as much of a staple as corn and beans. In the 16th century, Bartolomé de las Casas wrote that without chiles, the indigenous people did not think they were eating. Even today, most Mexicans believe that their national identity would be at a loss without chiles and the many varieties of sauces and salsas created using chiles as their base.

Many dishes in Mexico are defined by their sauces and the chiles those sauces contain (which are usually very spicy), rather than the meat or vegetable that the sauce covers. These dishes include entomatada (in tomato sauce), adobo or adobados, pipians and moles. A hominy soup called pozole is defined as white, green or red depending on the chile sauce used or omitted. Tamales are differentiated by the filling which is again defined by the sauce (red or green chile pepper strips or mole). Dishes without a sauce are rarely eaten without a salsa or without fresh or pickled chiles. This includes street foods, such as tacos, tortas, soup, sopes, tlacoyos, tlayudas, gorditas and sincronizadas. For most dishes, it is the type of chile used that gives it its main flavor. Chipotle, smoked-dried jalapeño pepper, is very common in Mexican cuisine.

MANY DISHES IN MEXICO ARE DEFINED BY THEIR SAUCES AND THE CHILES THOSE SAUCES CONTAIN...RATHER THAN THE MEAT OR VEGETABLE THE SAUCE COVERS.

SPANISH FOOD CONTRIBUTIONS

The Spanish contributed pechuga adobada, chicken breast in adobo with a side of chayote, mushrooms, corn and poblano rajás. Adobo, including a key item, vinegar, arrived with the Spanish. A common characteristic of Mexican adobo is its incorporation of chile ancho.

Next to corn, rice is the most common grain in Mexican cuisine. According to food writer Karen Hursh Graber, the initial introduction of rice to Spain from North Africa in the 14th century led to the Spanish introduction of rice to Mexico at the port of Veracruz in the 1520s. This, Graber says, created one of the earliest instances of the world's greatest Fusion cuisines.

Some of the main contributions of the Spanish were several kinds of meat, dairy products and wheat to name a few, as the Mesoamerican diet contained very little meat besides domesticated turkey, and dairy products were absent. The Spanish also introduced the technique of frying in pork fat. Today, the main meats found in Mexico are pork, chicken, beef, goat and sheep. Native seafood and fish remains popular, especially along the coasts.

Cheese making in Mexico has evolved its own specialties. It is an important economic activity, especially in the north,

and is frequently done at home. The main cheese-making areas are Chihuahua, Oaxaca, Querétaro and Chiapas. Goat cheese is still made, but it is not as popular and is harder to find in stores.

In most of Mexico, especially in rural areas, much of the food is consumed in the home. Cooking for the family is usually considered to be women's work, and this includes cooking for celebrations as well. Traditionally girls have been considered ready to marry when they can cook, and cooking is considered a main talent for housewives.

The main meal of the day in Mexico is the "comida", meaning 'meal' in Spanish. This refers to dinner or supper. It sometimes begins with soup, often chicken broth with pasta or a "dry soup", which is pasta or rice flavored with onions, garlic or vegetables. The main course is meat served in a cooked sauce with salsa on the side, accompanied with beans and tortillas and often with a fruit drink.

In the evening, it is common to eat leftovers from the comida or sweet bread accompanied by coffee or chocolate. Breakfast can consist of meat in broth (such as pancita), tacos, enchiladas or meat with eggs. This is usually served with beans, tortillas and coffee or juice.

Mexican cuisine is elaborate and often tied to symbolism and festivals, one reason it was named as an example of the Intangible Cultural Heritage of Humanity by UNESCO. Many of the foods of Mexico are complicated because of their relation to the social structure of the country. Food preparation, especially for family and social events, is an investment to maintain social relationships. Even the idea of flavor is social, with meals prepared for certain dinners and certain occasions when they are considered the tastiest.

The ability to cook well, called "sazón" (lit. seasoning) is considered to be a gift generally gained from experience and a sense of commitment to the diners. For the Day of the Dead festival, foods such as tamales and mole are set out on altars and it is believed that the visiting dead relatives eat the essence of the food. If eaten afterwards by the living it is considered to be tasteless. In central Mexico, the main festival foods are mole, barbacoa, carnitas and mixiotes. They are often prepared to feed hundreds of guests, requiring groups of cooks. The cooking is part of the social custom meant to bind families and communities.

Mexican regional home cooking is completely different from the food served in most Mexican restaurants outside Mexico, which is usually some variety of Tex-Mex. The original versions of Mexican dishes are vastly different from their

Tex-Mex evolution. For example, the version of nachos are chilaquiles, which are common to eat for breakfast. They are simple in comparison: tortilla chips topped with green or red salsa, cream, goats' cheese, onion, cilantro and optional egg or chicken.

Some of Mexico's traditional foods involved complex or long cooking processes, including cooking underground (such as cochinita pibil). Before industrialization, traditional women spent several hours a day boiling dried corn then grinding it on a metate to make the dough for tortillas, cooking them one-by-one on a comal griddle. In some areas, tortillas are still made this way. Sauces and salsas were also ground in a mortar called a molcajete. Today, blenders are more often used, though the texture is a bit different. Most people in Mexico would say that those made with a molcajete taste better, but few do this now.

The most important food for festivals and other special occasions is mole, especially mole poblano in the center of the country. Mole is served at Christmas, Easter, Day of the Dead and at birthdays, baptisms, weddings and funerals, and tends to be eaten only for special occasions because it is such a complex and time-consuming dish. While still dominant in this way, other foods have become acceptable for these occasions, such as barbacoa, carnitas and mixiotes, especially since the 1980s. This may have been because of economic crises at that time, allowing for the substitution of these cheaper foods, or the fact that they can be bought ready-made or may already be made as part of the family business.

Another important festive food is the tamale, also known as tamal in Spanish. This is a filled cornmeal dumpling, steamed in a wrapping (usually a corn husk or banana leaf) and one of the basic staples in most regions of Mexico. It has its origins in the pre-Hispanic era and today is found in many varieties in all of Mexico. Like mole, it is complicated to prepare and best done in large amounts. Tamales are associated with certain celebrations such as Candelmas. They are wrapped in corn husks in the highlands and desert areas of Mexico and in banana leaves in the tropics.

STREET FOOD

Mexican street food can include tacos, quesadillas, pambazos, tamales, huaraches, alambres, al pastor and food not suitable to cook at home, including barbacoa, carnitas, and since many homes in Mexico do not have or make use of ovens, roasted chicken. One attraction of street food in Mexico is the satisfaction of hunger or craving without all the social and emotional connotation of eating at home, although longtime customers can have something of a friendship/familial relationship with a chosen vendor.

SOURCES; World Food and Wine.com, simplyrecipes.com and Wikipedia

Tacos are the top-rated and most well-known Mexican street food. It is made up of meat or other fillings wrapped in a tortilla often served with cheese added. The vegetarian stuffing are mushrooms, potatoes, rice, or beans.

COMMON MEXICAN POPULAR DISHES TODAY

Enchiladas – tortillas wrapped around either beans, chicken, pork, shrimp or beef with cheese and a variety of different sauces on top.

Tacos – soft corn or flour tortillas or even hard corn shell with chicken, pork, shrimp, fish and or beef inside usually garnished with lettuce, tomatoes, red or green sauce, cheese, onions, cilantro and even sour cream.

Burritos – large flour tortilla wrapped around chicken, fish, beef or pork with rice, beans, lettuce tomatoes, red or green sauce, cheese, onions, cilantro and even sour cream.

Taquitos – deep fried corn tortilla wrapped tightly around either beef or chicken with usually nothing else inside. Then served with guacamole to dip the taquitos into.

Quesadillas – large flour tortilla stuffed with either beef, shrimp or chicken and cheese folded over flat and fried in a sauté pan until golden brown. Then served with salsa and guacamole as a garnish.

Chile con Carne - is a spicy stew containing chili peppers, meat, and often tomatoes and beans. Other seasonings may include garlic, onions and cumin.

Guacamole – avocados chopped up and mashed with onions, cilantro, salsa and lime added in for flavor. Used as a garnish or an ingredient in a variety of Mexican dishes.

Salsa – tomatoes are diced up, grilled onions added, along with chili peppers, cilantro and green peppers. Used as a garnish or an ingredient in a variety of Mexican dishes.

Flautas – deep-fried flour tortillas with chicken and or beef inside, rolled and dipped into guacamole and or salsa.

Chili Relleno - poblano pepper stuffed with egg and cheese and usually served with a brown mole sauce.

Flan – caramel custard, egg pudding or caramel pudding is a custard dessert with a layer of clear caramel sauce.

Churro – a deep-fried dough pastry sprinkled with sugar and cinnamon.

Huevos Rancheros – is a breakfast dish consisting of fried eggs served over corn tortillas with salsa, cilantro, onions, beans, cheese and a brown mole sauce over the top.



HUEVOS RANCHEROS RECIPE

Cook Time: 20 minutes

Serving Size: 2 - 4 servings

Ingredients:

- 1 tablespoon extra virgin olive oil
- 1/2 medium onion, chopped (about a half cup)
- 1 15-ounce can whole or crushed tomatoes, preferably fire-roasted (or 1 - 2 large fresh vine-ripened tomatoes, when in season)
- Chipotle chili powder, adobo sauce, or ground cumin to taste (optional)

- 1/2 of 6-ounce can diced green Anaheim chiles
- 4 corn tortillas
- Butter
- 4 fresh eggs
- 2 tablespoons fresh cilantro, chopped (optional)

Directions:

1 Make the sauce: Sauté the onions in a little olive oil in a large skillet on medium heat. Once the onions are translucent, add the tomatoes and their juices. If using whole canned tomatoes, break them up with your fingers or a spatula as you put them in the pan.

If you are using fresh tomatoes, chop them before adding to the skillet. Note that fresh tomatoes will take longer to cook as canned tomatoes are already cooked.

Add chopped green chilies. Add additional chili to taste, using either chipotle chili powder, adobo sauce, regular chili powder, or ground cumin.

Bring to a simmer, reduce heat to low, and let simmer while you do the rest of the cooking, stirring occasionally. Reduce to warm heat once it has been simmering for 10 minutes. Add salt to taste if needed.

2 Warm the plates: Heat the oven to a warm 150° F, then place serving plates in the oven to keep warm.

3 Prepare the tortillas: Heat a teaspoon of olive oil in a large non-stick skillet on medium high, coating the pan with the oil.

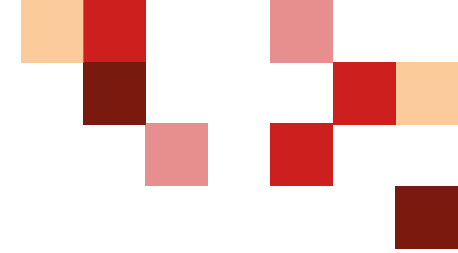
One by one (or more if your pan is large enough), heat the tortillas in the pan for a minute or two per side, until they are heated through, softened, and pockets of air bubble up inside of them.

Remove the tortilla(s) and stack on one of the warming plates in the oven to keep warm while you continue cooking the rest of the tortillas and the eggs.

4 Fry the eggs: Using the same skillet as was used for the tortillas, add a little butter to the pan, about two teaspoons for 4 eggs. Heat the pan on medium high heat. Crack 4 eggs into the skillet and cook for 3 to 4 minutes for runny yolks, or longer for firmer eggs.

5 Assemble and serve: To serve, spoon a little of the sauce onto a warmed plate. Top with a tortilla, then a fried egg. Top with more sauce and sprinkle with cilantro if desired.





ASIAN CUISINE

A cuisine is a characteristic style of cooking practices and traditions, usually associated with a specific culture. Asia, being the largest and most populous continent, is home to many cultures, many of which have their own characteristic cuisine.

Ingredients common to many cultures in the East and Southeast regions of the continent include rice, ginger, garlic, sesame seeds, chilies, dried onions, soy and tofu. Stir frying, steaming, and deep frying are common cooking methods.

While rice is common to most Asian cuisines, different varieties are popular in the various regions. Basmati rice is popular in the Indian subcontinent, Jasmine rice is often found across the Southeast Asia, while long-grain rice is popular in China and short-grain in Japan and Korea.

Curry is a common dish in South Asia, Southeast Asia and East Asia. Curry dishes have their origins in the Indian subcontinent. With present-day Northern India, Bangladesh and Pakistan mainly using a yogurt base, those in present-day Southern India, Sri Lanka and Southeast Asia generally use coconut milk as their foundation.

THE THREE CUISINE AREAS OF ASIA

- The South West – India, Pakistan, Sri Lanka, Burma
- The North East – China, Korea, Japan
- The South East – Thailand, Laos, Cambodia, Vietnam, Indonesia, Malaysia, Singapore, Brunei

Curries are very important to the cuisines of the South East and South West, and less so in the cuisine of the North East. South Western curries are generally based on yogurt, whereas the curries of the South East and North East are generally based on coconut milk.

Rice is a staple starch in all three cuisines areas. In addition to rice, South Western cuisines include a variety of leavened and unleavened breads and South East and North East cuisines include rice and egg noodles.

In the South West, the major oil used in frying is ghee, or clarified butter. In the South East and North East, the major oils are vegetable oils.

Garlic and ginger are used in all three cuisine areas, as are chili peppers, although chilies are much more common in the South West and South East. The North Eastern cuisines use soy sauce in nearly everything; the South East substitutes fish sauce. There is no equivalent in South Western cooking. In the South East, there are two additional

flavorings that are not used in the other cuisines—galangal and lemon grass.

The wok is the most important piece of cooking equipment in Southeast Asia and China. If you plan to do much of this region's cooking you should invest in a good wok. A cast iron fry pan will serve in a pinch, but the rounded bottom of the wok provides a range of cooking temperatures in one pan, which can be important in stir frying.

Southeast Asian curries are normally based on curry pastes which are made from a variety of fresh and dried ingredients ground together using a mortar and pestle. This is the recommended process if you are cooking curries daily, but the pastes have a limited shelf life. If you are only cooking them from time to time, it is more convenient to make up curry powders in advance and add the fresh ingredients at cooking time. Below are some common core Asian ingredients that are used in many recipes.

CHILI PASTE

The chili paste referred to in recipes can be made at home by grinding fresh chilies using a mortar and pestle or food processor. A little salt and vinegar may be added to thin the mixture slightly. Alternately, you may buy a prepared chili paste, but be sure it contains only chilies (with a little salt and vinegar as above). Obviously the color of the paste will depend on the color of the chilies used to make it. Use red chili paste in a red curry and green chili paste in a green curry if you can. If you can't, don't worry, the color of the finished product may not live up to the name of the recipe, but the taste will basically be the same.

COCONUT MILK

When coconut milk is specified in a recipe, use canned coconut milk with no dilution. When making curry, the first part of most recipes calls for you to add about 1/2 cup of coconut milk to a pan and heat it up. It is VERY important that you not shake the can first. Open the can and skim the top cream off and heat it until you see the oils starting to separate. Then add the curry paste/powder.

TAMARIND LIQUID

The tamarind liquid referred to in recipes can be made as follows: take 3 tablespoons of tamarind pulp and soak it in 1/2 cup warm water for 10 minutes. Knead and rub with your fingers until the pulp dissolves. Strain the liquid to remove the seeds and fibers. Tamarind liquid may also be made from concentrate by soaking 1 tablespoon of concentrate in 1/2 cup warm water, but the concentrate tends to be very dark in color which can adversely affect the color of the dish.



PAD THAI RECIPE

What is Pad Thai?

Pad Thai is a stir-fried rice noodle dish ubiquitous with Thai cuisine in the United States, but it wasn't always popular in Thailand. With World War II nearing, the Thai government created the dish to promote a sense of national unity. "Noodle is Your Lunch" was a national campaign in which people were given free carts if they were willing to sell pad Thai and restaurants were handed recipes. Fast forward to 2002, when the government launched the (wildly successful) "Global Thai" program to promote tourism and increase popularity in Thai cuisine.

Ingredients:

- Kosher salt
- 8 oz. wide rice noodles
- 2 Tbsp. lime juice
- 2 Tbsp. brown sugar
- 1 Tbsp. fish sauce
- 1 Tbsp. low-sodium soy sauce
- 1/4 Tsp. cayenne pepper
- 2 Tbsp. vegetable oil

Directions:

1. In a large pot of salted boiling water, cook noodles until al dente. Drain.
2. In a small bowl, whisk together lime juice, brown sugar, fish sauce, soy sauce and cayenne pepper. Set aside.
3. In a large nonstick pan over medium-high heat, heat oil. Add bell pepper and cook until tender, about 4 minutes. Stir in garlic and cook until fragrant, about 1 minute more. Add the shrimp and season with salt and pepper. Cook until pink, about 2 minutes per side.
4. Push the shrimp and vegetables to one side of the pan and pour in the egg. Scramble until just set then mix with the shrimp mixture. Add the cooked noodles and toss until combined. Pour in the lime juice mixture and toss until the noodles are coated.
5. Garnish with green onions and roasted peanuts before serving.

How do I cook the eggs?

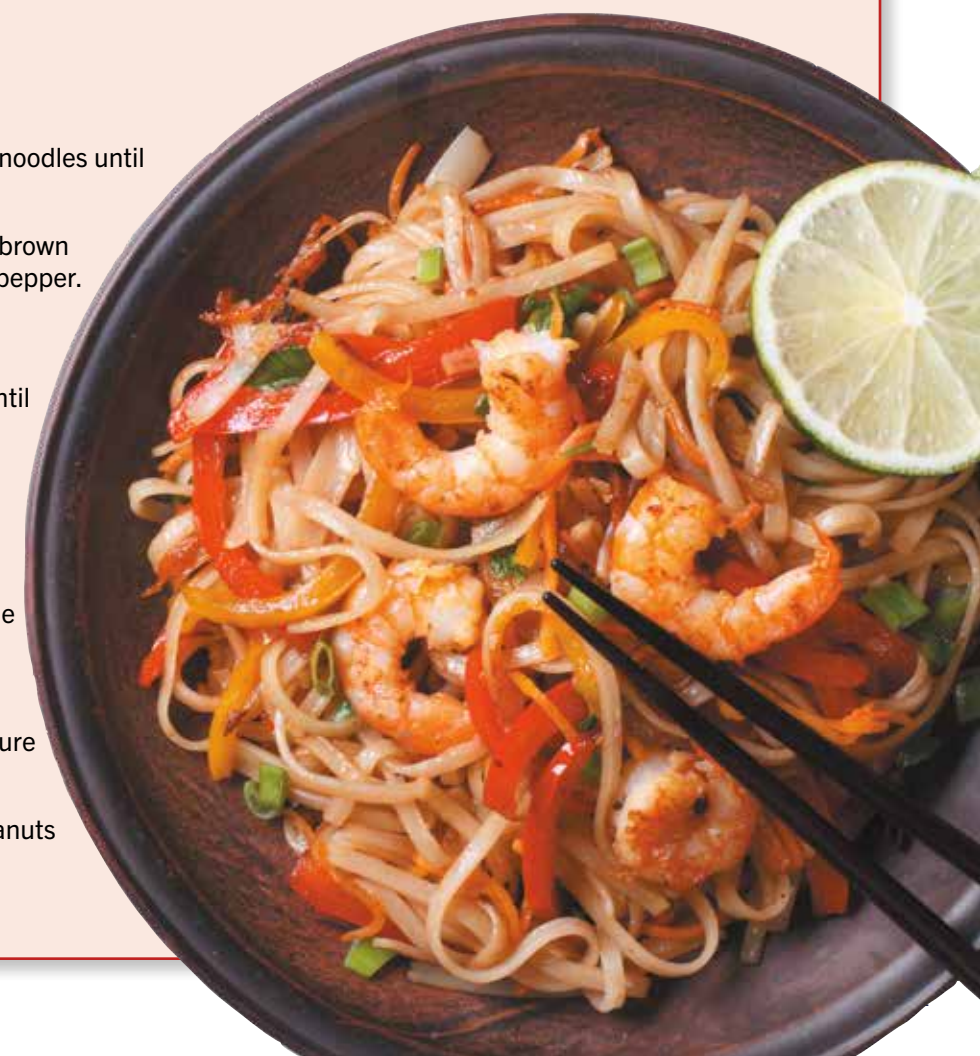
Sauté the shrimp and the veggies, then push them to one side of the pan. Add the beaten eggs and cook them like you would scrambled eggs. It's our technique for fried rice too.

Prep Time: 10 Mins

Total Time: 25 Mins

Serving Size: 4 Servings

- 1 bell pepper, thinly sliced
- 2 cloves garlic, minced
- 2 eggs, lightly whisked
- 1 lb. shrimp, peeled and deveined
- Freshly ground black pepper
- 2 green onions, thinly sliced
- 1/4 c. roasted peanuts, chopped



Kumis is a widespread drink among Turkic peoples, especially in Central Asia. Central Asia is also noted for being the birthplace of yogurt. Like kumis, yogurt is widespread among Turkic peoples.

East Asian Cuisine includes Chinese, Japanese, Korean, Mongolian, Taiwanese and Tibetan food. Considering this is the most populated region of the world, it has many regional cuisines (especially in China). Examples of staple foods include rice, noodles, mung beans, soybeans, seafood (Japan has the highest per capita consumption of seafood), mutton (Mongolia), bok choy (Chinese cabbage) and tea.

North Asian Cuisine is often synonymous with Russian cuisine due to all of Northern Asia being a part of the Russian Federation. However, some cultures or areas of Siberia have in-depth cuisine, such as the Yakuts (or Sakha) and Yamal cuisine. Buryats also have their own cuisine, although it is very similar to that of the related Mongolians. Pelmeni, originally a Permic or Ugric dish, has entered into mainstream Russian cuisine as a well-known dish, but it can still be considered part of the Yamal cuisine for its area of origin. Some speculate them to be a simplified version of the Chinese wonton. In Siberia, pelmeni is frozen outdoors to preserve the meat inside throughout the long winter. In Yamal, other types of drying and preservation are common. Key ingredients in most northern Siberian cuisine include fish and cowberries, sometimes known as lingonberries in Europe and North America. Yakuts, like many other Turkic-speaking peoples, traditionally enjoy kumis as a common drink.

South Asian Cuisine includes the cuisines from the Indian subcontinent. Foods in this area of the world are flavored with various types of chili, black pepper, cloves and other strong herbs and spices, and often with butter and ghee as well. Turmeric and cumin are often used to make curries. Common meats include lamb, goat, fish and chicken. Beef is less common than in Western cuisines because cattle have a special place in Hinduism. Prohibitions against beef extend

to the meat of cows as well as yaks to some extent. Pork is considered a taboo food item by all Muslims and is avoided by some Hindus. Southeast Asian cuisine includes a strong emphasis on lightly prepared dishes with a strong aromatic component that features such flavors as citrus and herbs like lime, coriander/cilantro and basil. Ingredients in the region contrast with those in the East Asian cuisines, substituting fish sauces for other sauces and using ingredients such as galangal, tamarind and lemongrass. Cooking methods include a balance of stir-frying, boiling and steaming.

West Asian cuisine significantly overlaps with the Middle Eastern cuisine and the inclusion of the Caucasus. West Asian cuisine is the cuisine of the various countries and peoples of West Asia. The cuisine of the region is diverse while having a degree of homogeneity. Some commonly used ingredients include olives and olive oil, pitas, honey, sesame seeds, dates, sumac, chickpeas, mint and parsley. Some popular dishes include kibbeh and shawarma. Cereals constitute the basis of the West Asian diet, both historically and today. Wheat and rice are the major and preferred sources of staple foods. Barley is also widely used in the region and maize has become common in some areas as well. Bread is a universal staple, eaten in one form or another by all classes and groups practically at every meal. Lamb and mutton have always been the favored meats of West Asia. Pork is prohibited in both Islam and Judaism, and as such is rarely eaten in the region. Prominent among the meat preparations are grilled meats, or kebabs. Meat and vegetable stews, served with rice, bulgur, or bread, are another form of meat preparation in the region. Vegetables and pulses are the predominant staples of the great majority of the people in the West Asia. They are boiled, stewed, grilled, stuffed and cooked with meat and rice. Among the green leafy vegetables, many varieties of cabbage, spinach, and chard are widely used. Root and bulb vegetables, such as onions and garlic, as well as carrots, turnips, and beets are equally common.

SOURCES: Asian-recipe.com and Wikipedia

SUSHI

As with many ancient foods, the history of sushi is surrounded by legends and folklore. In an ancient Japanese wives tale, an elderly woman began hiding her pots of rice in osprey nests, fearing that thieves would steal them. Over time, she collected her pots and found the rice had begun to ferment. She also discovered that fish scraps from the osprey's meal had mixed into the rice. Not only was the mixture tasty, the rice served as a way of preserving the fish, thus starting a new way of extending the shelf life of seafood.

While it's a cute story, the true origins of sushi are somewhat more mysterious. A fourth century Chinese dictionary mentions salted fish being placed in cooked rice, causing it to undergo a fermentation process. This may be the first time the concept of sushi appeared in print. The process of using fermented rice as a fish preservative originated in Southeast Asia several centuries ago. When rice begins to ferment, lactic acid bacilli are produced. The acid, along with salt, causes a reaction that slows the bacterial growth in fish. This process is sometimes referred to as pickling, and is the reason why the sushi kitchen is called a *tsuke-ba* or pickling place. The dish is today known as *narezushi*, and was introduced to Japan around the *Yayoi* period. In the *Muromachi* period, people began to eat the rice as well as the fish. During the *Edo* period, vinegar, rather than fermented rice, began to be used. In pre-modern times and modern times, it has become a form of food strongly associated with Japanese culture.

The earliest reference to sushi in Japan appeared in 718 in the *Yōrō Code*. However, there is no way to know what this "sushi" was or even how it was pronounced. By the 9th and 10th century, the "sushi" was similar to today's *narezushi*.

For almost the next 800 years, until the early 19th century, sushi slowly changed and the Japanese cuisine changed as well. The Japanese started eating three meals a day, rice was boiled instead of steamed, and of large importance was the development of rice vinegar. While sushi continued to be produced by fermentation of fish with rice, the addition of rice vinegar greatly reduced the time of fermentation and the rice used began to be eaten along with the fish. In the *Muromochi* Period (1336 to 1573), the process of producing *oshizushi*

was gradually developed where in the fermentation process, the use of salt was abandoned and vinegar was used instead. In the *Azuchi-Momoyama* period (1573–1603), *namanare* was invented. A 1603 Japanese-Portuguese dictionary has an entry for *namanrina* sushi, literally "half-made" sushi. The *namanare* was fermented for a shorter period than the *narezushi* and possibly marinated with rice vinegar. It still had the distinctive smell of *narezushi*.

The smell of *narezushi* was likely one of the reasons for shortening and eventually skipping the fermentation process. It is commonly described as "a cross between blue cheese, fish, and rice vinegar". A story from *Konjaku Monogatari* written in early 12th century makes it clear

that it was not an attractive smell, even if it tasted good. In the early 18th century, *oshizushi* was perfected in Osaka and it came to Edo by the middle of 18th century. These sushi were sold to customers, but because they still required a little fermentation time, stores hung a notice and posters to customers on when to come for a sushi. Sushi was also sold near a park during a *hanami* period and a theater as a type of *Bento*. *Inarizushi* was sold along *oshizushi*. *Makizushi* and *chirashizushi* also became popular in Edo period. There

were three famous sushi restaurants in Edo, *Matsunozushi* and *Kenukizushi* but there were thousands more sushi restaurants. They were established in a span of barely twenty years at the start of the 19th century. *Nigirizushi* was an instant hit and it spread through Edo like wildfire. In the book *Morisadamanko* published in 1852, the author writes that for a *cho* (100 meters by 100 meters or 10,000 square meters) section of Edo there were one or two sushi restaurants, but that only one *soba* restaurant could be found in 1 or 2 *cho*. This means that there were nearly 2 sushi restaurants for every *soba* restaurant.

These early *nigirizushi* were not identical to today's varieties. Fish meat was marinated in soy sauce or vinegar or heavily salted so there was no need to dip into soy sauce. Some fish was cooked before it was put onto a sushi. This was partly out of necessity as there were no refrigerators. Each piece was also larger, almost the size of two pieces of today's sushi.



The advent of modern refrigeration allowed sushi made of raw fish to reach more consumers than ever before. The late 20th century saw sushi gaining in popularity all over the world.

The Oxford English Dictionary notes the earliest written mention of sushi in an 1893 book, *Japanese Interiors*, where it mentions that "Domestics served us with tea and sushi or rice sandwiches". However, there is also mention of sushi in a Japanese-English dictionary from 1873, and an 1879 article on Japanese cookery in the journal *Notes and Queries*. Additionally, the 1879 best-selling book *A Tour Around the World* by General Grant by James Dabney McCabe describes former president Ulysses S. Grant dining on the "shashimi" version of sushi during his visit to Japan.

Sushi was already being served in the United States by the early 1900s, following an influx of Japanese immigration after the Meiji Restoration. The first sushi shop in the U.S. reportedly opened in 1906 in the Little Tokyo neighborhood of Los Angeles. H.D. Miller, food historian of Lipscomb University, has written that a wave of Japanophilia in American high society resulted in the serving of sushi at social functions. Popularity of Japanese food peaked circa 1905 when it was being served at Japanese-themed social gatherings across the United States, including in mid-western cities such as Minneapolis, Minnesota, St. Louis, Missouri and Bismarck, North Dakota. According to Miller, the earliest published mention of sushi eaten by an American, in America, was an 18 August 1904 article in the *Los Angeles Herald* about a luncheon served in Santa Monica by the socialite Fern Dell Higgins.

Several years later, a wave of anti-Japanese nativism sentiments and restrictions on Japanese immigration, starting with the *Gentlemen's Agreement* of 1907, caused a subsequent decline in the acceptance of Japanese cuisine. After the outbreak of World War II, Japanese-American restaurants on the West Coast were generally forced to close and sell off their businesses due to internment orders on their proprietors. One restaurant that reopened after the war to serve sushi was *Matsuno Sushi* (*Matsu-no-sushi*) in Little Tokyo, Los Angeles. This restaurant had been in business at least since 1938 or 1939, and by 1949, it was back serving sushi (featuring local bluefin tuna) for lunch. But the maki and inari they served was not shaped by hand by trained chefs, but molded in cookie-cutters.

The *Kawafuku* restaurant in Little Tokyo has been credited with being the "first true sushi bar" in the United States, that is to say, the first to serve sushi from a trained sushi chef in the country. Some sources accept the claim made by a man named Noritoshi Kanai that he was the person instrumental in persuading *Kawafuku's* owner to start the sushi section. Kanai has also claimed to be the person who coined the term "sushi bar". Kanai headed the Tokyo-based arm of *Mutual Trading*, an importer of Japanese food ingredients

SOURCES: PBS.org author Torri Avey, Wikipdia.com and Delishably.com

that served *Kawafuku* and other restaurants. The first sushi chef in America according to this account was Shigeo Saito, and some sources paint the chef as the principal figure who brought real sushi to the U.S.

The California roll was invented in Los Angeles by substituting a slice of avocado for the seasonal toro (fatty tuna) in a traditional maki roll.

Today there are thousands of sushi restaurants all over North America as Japanese sushi bars and restaurants have become a staple in American mainstream cuisine.

5 MAIN TYPES OF SUSHI

Nigiri – A topping, usually fish, served on top of sushi rice. Not all nigiri is raw, though this dish is best for people who want to appreciate the flavor of the fish, shellfish, or other toppings.

Sashimi – Fish or shellfish served alone (no rice). This is best for people who really love to taste the fish or shellfish since it comes with nothing else.

Maki – Rice and filling wrapped in seaweed. This is what most people think of when they think of sushi rolls

Uramaki – Similar to the above, but rice is on the outside and seaweed wraps around the filling. These rolls often have lots of toppings and sauces; they may either be cooked or raw.

Temaki – Sushi that has been hand-rolled into a cone shape. The cones are not as easy to share as the rolls (though very delicious!).





AMERICAN CUISINE

What makes a food “American”? American cuisine reflects the history of the United States, blending the culinary contributions of various groups of people from around the world, including indigenous American Indians, African Americans, Asians, Europeans, Pacific Islanders and Latin Americans. Though much of American cuisine is a fusion reflecting global cuisine, many regional cuisines have deeply rooted ethnic heritages, including Cajun, Louisiana Creole, Native American, New Mexican, Pennsylvania Dutch, Soul food and Tlingit. Early Native Americans utilized a number of cooking methods in early American cuisine that have been blended with early European cooking methods to form the basis of what is now considered American cuisine. The European settlement of the Americas introduced a number of ingredients, spices, herbs and cooking styles to the continent. The various styles of cuisine continued expanding well into the 19th and 20th centuries, proportional to the influx of immigrants from many different nations. This influx nurtured a rich diversity in food preparation throughout the country.

Nearly all of the popular foods in the U.S. today (apple pie, hot dogs, hamburgers, pizza, tacos, chocolate, jelly beans, ice cream, steak, potato salad and watermelon) originated in other countries. Their ingredients and recipes were introduced to our shores by colonists, settlers and immigrants. Native ingredients play a key role, but they do not tell the entire story. In fact, many of the “new world” foods arrived at the U.S. via Europe.

“American foods” —These generally fall into six categories:

1. **Native foods** – There are several varieties of vegetables, nuts, mammals and fish that are indigenous to North America, most notably beans, corn and squash (the “Three Sisters” upon which several Native American diets were based) and the American bison. Some of these foods also had “Old World” varieties (strawberries). Indigenous recipes included succotash, corncakes and baked squash.
2. **Hybrid dishes** – Old world recipes adapted to include new world ingredients. Example: cornbread
3. **Ethnic blends** – When diverse cultures/cuisines settle together in a region, foods mix. Example: Chop Suey
4. **Regional specialties** – The American Melting Pot stirs up taste of place. Example: Tex-Mex
5. **Generic traditions and food fads** – Caution: the history of these items can be traced to the Old World. Examples: corn dogs, Chex mix, and Rice Krispies Treats.
6. **Manufactured goods** (items foreigners typically

associate with the United States) – The sky is the limit here. Take your pick: Campbell’s tomato soup, Moon Pies, Kool-Aid, Jell-O, Kraft Macaroni & Cheese dinner, TV dinners, Coca Cola, McDonalds, Hershey Bars

In the 20th century, highly industrialized processed foods became a dominant feature of American diets. Fusion of the food traditions of various immigrant groups to the U.S. contributed to the development of distinct ethnic-American dishes. “Dainty” fare became the norm at fashionable luncheons and teas in areas like New York City, including dishes like grapefruit with cherries, fruit served in cantaloupe, strawberry tarts or egg soufflé, other types of tea sandwiches, small decorated cakes and gelatin-based desserts. This style of dainty fare was highly decorated and ladylike and it was intended to be consumed only by women. These decorative and ornate foods were a symbol of distinction between men and women, as the former were associated with less refined foods. Tea parties were fashionable for well-to-do women and dainty fare remained a symbol of upper middle class luxury. Dozens of articles published in women’s magazines promoted the “dainty” quality of tea parties. From one 1911 issue of *Good Housekeeping*: “The secret of a successful tea room is daintiness, first in the service, and then in the quality of the food served.”

PROCESSED FOOD

During the Progressive Era (1890s–1920s) food production and presentation became more industrialized.

From 1888 through 1908 the machine double-crimped, compound-sealed, open-top, so-called “sanitary can” was perfected, replacing individually crafted and manually soldered hole-in-top style cans). Also during this time, the can manufacturing industry consolidated. These improvements in canning made fruits and vegetables increasingly available to chefs outside of the regular harvest season.

During that same time frame, grain-feeding of cattle during low pasture months made milk increasingly available year-round. The invention of milking machines lowered production costs. Pasteurization, homogenization, evaporation, condensation and refrigeration, along with glass milk bottles, wax paper cartons, and then plastic bottles, made milk increasingly available and safe for urban consumers. Milk became a staple food item and an increasingly important ingredient in American cuisine. Examples include the root beer float and the milkshake.

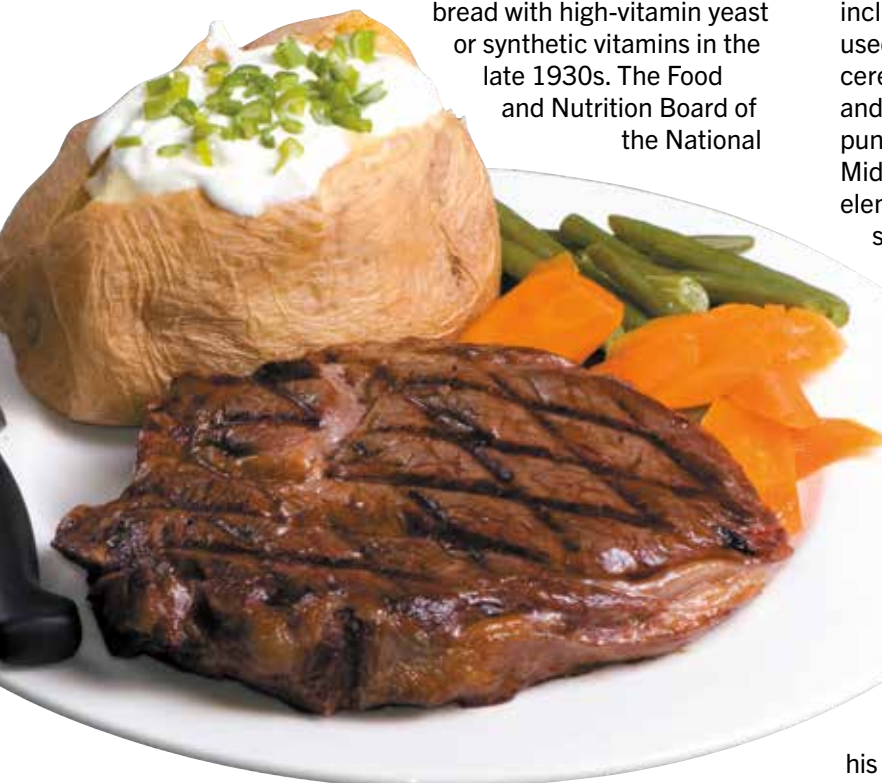
Major railroads featured upscale cuisine in their dining cars. Restaurant chains emerged with standardized decor

and menus, including the Fred Harvey restaurants along the route of the Sante Fe Railroad in the Southwest. Fast food restaurants with standardized product and franchised service models began to appear and spread with the development of the highway system. White Castle was one of the first examples in 1916. Franchising was introduced in 1921 by A&W Root Beer. The McDonalds brothers created their “Speedee Service System” in 1948.

At the universities, nutritionists and home economists taught a new scientific approach to food. In the early 1900s muckraking journalists raised public concern about the wholesomeness of industrialized food products that contained various preservatives and adulterants of unknown safety. From 1902 to 1912 Harvey Washington Wiley, a chemist at the U.S. Department of Agriculture, supervised “hygienic table trials” to test the safety of food additives and preservatives. His work contributed to the enactment of the Pure Food and Drug Act of 1906. He became the first commissioner of the Food and Drug Administration and later led the laboratories of Good Housekeeping Magazine.

During World War I the Progressives’ moral advice about food conservation was emphasized in large-scale state and federal programs designed to educate housewives. Large-scale foreign aid during and after the war brought American standards to Europe.

From 1912 to the end of the 1930s researchers discovered and popularized the role of various vitamins and minerals in human health. Starting with iodized salt in 1924, commercially distributed food began to be fortified with vitamins and minerals. In 1932, milk began to be fortified with viosterol, a purified vitamin D2 product. Synthetic thiamin (vitamin B1) first became available after 1936 and bakers began voluntarily enriching bread with high-vitamin yeast or synthetic vitamins in the late 1930s. The Food and Nutrition Board of the National



Academy of Science established the first set of “Recommended Dietary Allowances” in 1941. In 1943, the US War Foods Administration issued the War Food Order No. 1, which made enriched bread the temporary law of the land. In 1945 George Stigler published an article on “The cost of subsistence” which described the so-called Stigler diet, his solution to the problem of providing a diet that met the RDA at a minimum cost.

The logistical requirements of the U.S. military during World War II and the Korean War spurred the development and growth of the processed-foods industry in the U.S. These wars encouraged production of shelf-stable ingredients processed on a vast industrial scale. Examples include powdered milk, powdered eggs, potato flakes and frozen concentrated orange juice.

After the war, low cost, highly processed foods became one of the foundational elements of an era of mass prosperity. Many companies in the American food industry developed new products requiring minimal preparation, such as frozen entrees. One such example is the TV dinner, in which a multi-course meal was assembled in aluminum packaging in a food factory and flash frozen, then reheated at home in a thermal oven to be served while watching TV. Convenience foods of the era were designed to simplify home preparation. One example is macaroni and cheese, created using a powdered artificial cheese product that is reconstituted at home with fresh milk. Newspapers and magazines ran recipe columns, aided by research from corporate kitchens which were major food manufacturers like General Mills, Campbell’s and Kraft Foods. For example, the General Mills Betty Crocker’s Cookbook, first published in 1950, was a popular book in many American homes.

Highly processed foods of the mid-twentieth century included novelty elements like multi-colored Jell-O, which used various chemical food colorings, prepared breakfast cereals marketed to children with large amounts of sugar and artificial colors (e.g. Froot Loops) and fruit-flavored punches made with artificial fruit flavorings (e.g. Tang, Hi-C). Mid-twentieth century foods also added novelty packaging elements like spray cheese in an aerosol can, pimento stuffed olives and drink pouches.

The development of the microwave oven resulted in the creation of industrial food products and packaging that is intended to take advantage of the unique opportunities, and overcome the unique challenges, of the technology. Microwave popcorn is an example of such a product.

Throughout the second half of the 20th century the U.S. commercial food system became increasingly dependent on subsidized maize (corn) production to provide feed for livestock and ingredients for human foods such as high-fructose corn syrup. It is estimated that the typical American gets 70 percent of his or her carbon intake from maize (corn) sources.

The last half of the 20th century also saw the development of controversial technological innovations intended to lower the cost of, improve the quality of, or increase the safety of commercial food, including food irradiation, genetically modified organisms, livestock treated with antibiotics/hormones and concentrated animal feeding operations. Activists have raised concerns about the wholesomeness, safety or humaneness of these innovations and recommend alternatives such as organic produce, veganism/vegetarianism and locavore diets.

ETHNIC INFLUENCES

One signature characteristic of American cooking is the fusion of multiple ethnic or regional approaches into completely new cooking styles. For example, spaghetti is Italian, while hot dogs are German; a popular meal, especially among young children, is spaghetti containing slices of hot dogs. Since the 1960s Asian cooking has played a particularly large role in American fusion cuisine.

Some dishes that are typically considered American have their origins in other countries. American cooks and chefs have substantially altered these dishes over the years, to the degree that the dishes now enjoyed around the world are American. Hot dogs and hamburgers are both based on traditional German dishes, but in their modern popular form they can be reasonably considered American dishes.

Pizza is based on the traditional Italian dish, brought by Italian immigrants to the United States, but varies highly in style based on the region of development since its arrival. For example, “Chicago” style has focus on a thicker, taller crust, whereas a “New York Slice” is known to have a much thinner crust which can be folded. These different types of pizza can be advertised throughout the country and are generally recognizable and well-known, with some restaurants going so far as to import New York City tap water from a thousand or more miles away to recreate the signature style in other regions.

Some dishes that Americans think of as being of “foreign” in origin and/or associated with an immigrant group were in fact invented in America and customized to American tastes. For example, General Tso’s chicken was invented by Chinese or Taiwanese chefs working in New York City in the early 1970s. The dish is unknown in China. The fortune cookie was likewise invented in California in the early 1900s and is known in Asia only as an American style food.

A wave of celebrity chefs began with Julia Child and Graham Kerr in the 1970s, with many more following after the rise of cable channels like Food Network. By the beginning of the 21st century regional variations in consumption of meat began to reduce, as more meat was consumed overall. Stating that men and teenage boys eat too much protein, the 2015–2020 Dietary Guidelines for Americans asked this group to increase their consumption of under-consumed foods like vegetables.

NEW AMERICAN

During the 1980s upscale restaurants introduced a mixing of cuisines that contain Americanized styles of cooking with foreign elements, commonly known as New American cuisine. New American cuisine refers to a type of fusion cuisine which assimilates flavors from the melting pot of traditional American cooking techniques mixed with flavors from other cultures and sometimes molecular gastronomy components.

SOURCES: Foodtimeline.org, Wikipedia.org and Tasteofhomerecipes.com

FAVORITE AMERICAN DISHES BY REGION

NATIONAL

- Hamburger (Cheeseburger) & Fries
- Hotdog (Corn Dog)
- Milkshake
- Roasted Turkey & Cornbread stuffing
- Soda – Cola
- Jello
- Apple Pie

EAST COAST

- New England Clam Chowder
- Eggs Benedict
- Lobster Roll

WEST COAST

- Scrambled Eggs & Avocado Toast
- Fish Tacos
- Sushi

MIDWEST

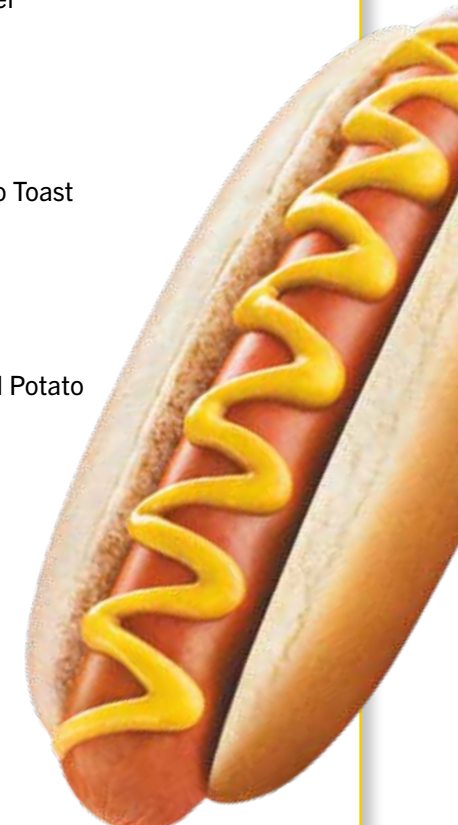
- Grilled BBQ Steak & Baked Potato
- Tuna Casserole
- Macaroni & Cheese
- Grill Pork Chops & Yams

SOUTH

- Cajun Rice and Shrimp
- Andouille Sausage

SOUTHWEST

- Smoked BBQ Brisket
- Baby Back Pork Ribs
- Pork & Beans



CLAM CHOWDER RECIPE

What is New England Clam Chowder?

New England clam chowder normally contains clams, potatoes, onions, salted pork and milk or cream. The addition of dairy is considered the biggest difference from

other chowders. New England clam chowder is a classic American staple, first eaten by settlers as early as the 1700s.

Ingredients

- 4 center-cut bacon strips
- 2 celery ribs, chopped
- 1 large onion, chopped
- 1 garlic clove, minced
- 3 small potatoes, peeled and cubed
- 1 cup water
- 1 bottle (8 ounces) clam juice
- 3 teaspoons reduced-sodium chicken bouillon granules
- 1/4 teaspoon white pepper
- 1/4 teaspoon dried thyme
- 1/3 cup all-purpose flour
- 2 cups fat-free half-and-half, divided
- 2 cans (6 1/2 ounces each) chopped clams, undrained

Directions

1. In a Dutch oven, cook bacon over medium heat until crisp. Remove to paper towels to drain; set aside. Sauté celery and onion in the drippings until tender. Add garlic; cook 1 minute longer. Stir in the potatoes, water, clam juice, bouillon, pepper and thyme. Bring to a boil. Reduce heat; simmer, uncovered, until potatoes are tender, 15-20 minutes.
2. In a small bowl, combine flour and 1 cup half-and-half until smooth. Gradually stir into soup. Bring to a boil; cook and stir until thickened, 1-2 minutes.
3. Stir in clams and remaining half-and-half; heat through (do not boil). Crumble the cooked bacon, sprinkle over each serving.



MEDITERRANEAN CUISINE

Mediterranean cuisine often brings to mind foods such as hummus, pita and olive oil. However, most people do not realize just how diverse Mediterranean cuisine is due to its influence from a variety of cultures and regions.

This delicious cuisine originates as far back as Ancient Egypt between the third and fourth centuries A.D. In this chapter we will look at the origins of Mediterranean cuisine and some of the most common similarities and distinctions that make this type of cooking so popular and well accepted across the globe. Additionally, we will reference some of the most popular menu options for a full understanding of the very popular Mediterranean diet.

COMMON ELEMENTS OF MEDITERRANEAN CUISINE

The concept of Mediterranean cuisine has its roots in an area near the Mediterranean Sea that grows the olive tree in abundance. Here, the most well-recognized and popular ingredient in Mediterranean cuisine, olive oil, is produced, distributed, and even exported worldwide for use in traditional Mediterranean dishes. The three core ingredients that make up Mediterranean cuisine, regardless of region of influence, are olives, wheat and grapes.

OLIVES – The olive appears to come from the region of Persia and Mesopotamia, at least 6,000 years ago. It spread from there to nearby areas, and has been cultivated since the early Bronze Age (up to 3,150 BC) in southern Turkey, the Levant and Crete. The ten countries with the largest harvests (in 2011) are all near the Mediterranean (Portugal being the tenth largest); together, they produce 95% of the world’s olives.

The olive yields bitter fruits, made edible by curing and fermentation, and olive oil. Some 90% of the fruit production (1996) goes into olive oil. The Mediterranean region accounts for the world’s highest consumption of olive oil: in 2014, the highest-consuming country, Greece, used 17 kg per head; Italy, 12 kg, Spain, 13 kg; the United States for comparison used only 1 kg per head.

WHEAT – Wheat was domesticated in the Fertile Crescent, in and near the Levant some 10,000 years ago. Its ancestors include wild emmer wheat; this was hybridised, harvested and sown to create domestic strains with larger grains, in ears that shatter less readily than wild forms. It was spread across the Mediterranean region as far as Spain by 5,000 BC.

Wheat is a staple food in the Mediterranean region. Wheat bread was already critically important in the empire of

Ancient Rome, which included the entire region; at that time, around 2,000 years ago, North Africa was the “breadbasket” of the empire. Other staple wheat-based Mediterranean foods include pasta and semolina (wheat middlings) products such as couscous and bulgur. In turn, these are made into dishes such as the Greek dessert galaktoboureko (milk börek), consisting of filo pastry parcels around a custard made with semolina. A widespread wheat dish from Turkey and the Levant to Iran and India is halva, a dessert of sweetened semolina with butter, milk and pine kernels.

GRAPES – The grape was domesticated between 7,000 and 4,000 BC between the Black Sea and Persia; archaeological evidence shows that wine was being made there by 6,000 BC, reaching Greece and Crete in the fifth millennium BC and Spain by the last millennium BC. Winemaking started in Italy in the ninth century BC, and in France around 600 BC.

Grapes are mostly grown for making wine and vinegar as basic components of the Mediterranean diet, as well for drying as raisins or for eating as table grapes. Raisins and table grape varieties are chosen for their flavor. Grape production remains important in the Mediterranean area, with Southern Europe accounting for 21% of the world’s harvest. In 2014, Italy produced 6.9 million tons (mt) of grapes, Spain 6.2 mt, France 6.2 mt, Turkey 4.2 mt, and Germany 1.2 mt. Wine production for Southern Europe was 37% of the world total in 2014, with Italy producing 4.8 mt, Spain 4.6 mt, France 4.3 mt, and Germany 0.

OTHER WIDELY USED INGREDIENTS

In addition to the three main staples of Mediterranean cuisine, other commonly used ingredients that round out a traditional Mediterranean meal include:

- **Fresh Vegetables.** Roasted, sautéed, grilled, pureed and served fresh in salads. Eggplant, artichoke, tomatoes, cucumber, spinach, lettuce and onions are served up daily as well as in salads, sandwiches, pasta and pizza.
- **Meat & Seafood.** Meats such as chicken, beef and pork are typically grilled and served as kabobs or skewers. Additionally, seafood is regularly included in a Mediterranean meal.
- **Spices.** Fresh herbs dominate Mediterranean cuisine, giving it the unique and fresh flavor that everyone has come to know and love. The Mediterranean region is known for growing herbs such as basil, oregano, thyme and rosemary, to name a few, making it only natural to add these tasty, flavor-boosting herbs to Mediterranean dishes.





BUT WHAT ABOUT THE MEDITERRANEAN DIET?

Though often used interchangeably, Mediterranean cuisine is not always meant to mean the same thing as the popular Mediterranean Diet that people refer to for healthy diet. In fact, many chefs that create one-of-a-kind Mediterranean dishes are only concentrating on the ingredients, not whether the food offers a health benefit.

That being said, lots of Mediterranean cuisine is healthy and can be attributed to the ingredients that are used in most Mediterranean style foods and make up the basis of the Mediterranean diet.

COMMON DISTINCTIONS OF MEDITERRANEAN CUISINE

The region spans a wide variety of cultures with distinct cuisines, in particular (going counterclockwise around the region) the Maghrebi, Egyptian, Levantine, Ottoman (Turkish), Greek, Italian, Provençal (French) and Spanish, though some authors include additional cuisines.

The historical connections of the region, as well as the impact of the Mediterranean Sea on the region's climate and economy, mean that these cuisines share dishes beyond the core trio of oil, bread and wine, such as roast lamb or mutton, meat stews with vegetables and tomato (for example, Spanish andrajos), vegetable stews (Provençal ratatouille, Spanish pisto, Italian ciabatta), and the salted cured fish roe, bottarga, found across the region. Spirits based on anise are drunk in many countries around the Mediterranean.

The cooking of the area is not to be confused with the Mediterranean diet, made popular because of the apparent health benefits of a diet rich in olive oil, wheat and other grains, fruits, vegetables and a certain amount of seafood, but low in meat and dairy products. Mediterranean cuisine encompasses the ways that these and other ingredients, including meat, are dealt with in the kitchen, whether they are health-giving or not.

Maghrebi – Maghrebi cuisine includes the cuisines of Algeria, Libya, Morocco and Tunisia. One of the most characteristic dishes of the region is couscous, a steamed, small-grained wheat semolina, served with a stew. The dish is ancient, mentioned by the Medieval traveler Ibn Battuta, and found for example also in the Western Sicilian cuisine, especially in the province of Trapani, where it was re-introduced after 1600.

THE REGION SPANS A WIDE VARIETY OF CULTURES... THE MAGHREBI, EGYPTIAN, LEVANTINE, OTTOMAN (TURKISH), GREEK, ITALIAN, PROVENÇAL (FRENCH), AND SPANISH

One stew that may be served with couscous is the Moroccan tagine, a hearty, somewhat dry dish of meat and vegetables, cooked slowly in a pot (called a tagine) with a tall conical lid. Dishes from the Maghreb region of North Africa are often colored and flavored with the hot spice mixtures harissa and containing such spices as cumin, coriander, saffron, cinnamon, cloves, chilies and paprika. Other characteristic flavorings of the region are preserved lemons and dried apricots and raisins.

Egyptian – Egyptian cuisine has ancient roots, with evidence that, for example, cheese has been made in Egypt since at least 3,000 BC. Falafel are small fried croquettes of bean or chickpea flour, eaten across the Levant and the West, but originating in Egypt; they are claimed as theirs by Coptic Christians. Duqqa is a dip made of pounded herbs, hazelnuts and spices, eaten with bread. Kushari is a foreign derived 19th century dish of rice, lentils and pasta, variously garnished; it began as food for the poor, but has become a national dish.

Levantine – Levantine cuisine is the cooking of the Levant (including the Middle Eastern Mediterranean coast, east of Egypt). Among the most distinctive foods of this cuisine are traditional small meze dishes such as tabbouleh, hummus and baba ghanoush. Tabbouleh is a dish of bulgur cracked wheat with tomatoes, parsley, mint and onion, dressed with olive oil and lemon juice. Baba ghanoush, sometimes called “poor man’s caviar”, is a puree of aubergine with olive oil, often mixed with chopped onion, tomato, cumin, garlic, lemon juice and parsley. The dish is popular across the whole of the Eastern Mediterranean and North Africa.

Full medames, originally from Egypt and still a national dish there, consists of fava beans with oil and cumin; it is popular throughout the Levant. The dish may be ancient: dried beans of Neolithic age have been found near Nazareth.

Ottoman – Ottoman cuisine has given rise to the cuisines of modern Turkey, parts of the Balkans, Cyprus and Greece. A distinctive element is the family of small flaky pastries called börek. These are popular and widespread across the Eastern Mediterranean region, and date as far back as ancient Roman times. Börek are made of thin sheets of filo pastry, filled with mixtures such as meat, caramelized onion and sweet peppers.

Another widespread and popular dish is moussaka, a baked dish of aubergine or potato with various other ingredients: often minced meat and tomatoes, sometimes a layer of egg custard or béchamel sauce on top. In its Greek variant, well known outside the region, it includes layers of aubergine and



minced meat with custard or béchamel sauce on top, but that version is a relatively recent innovation, introduced by the chef Nikolaos Tselementes in the 1920s.

Greek – Much of Greek cuisine is part of the larger tradition of Ottoman cuisine, the names of the dishes revealing Arabic, Persian or Turkish roots: moussaka, tzatziki, yuvarlakia, keftes and so on. Many dishes' names probably entered the Greek vocabulary during Ottoman times, or earlier in contact with the Persians and the Arabs. However, some dishes may be pre-Ottoman, only taking Turkish names later; the historians of food John Ash and Andrew Dalby, for example, speculate that grape-leaf dolmade's were made by the early Byzantine period, while Alan Davidson traces tarhana to the ancient Greek tragos and skordalia to the ancient Athenian skorothalmi. Greek cookery makes wide use of vegetables, olive oil, grains, fish, wine and meat (white and red, including lamb, poultry, rabbit and pork).

Italian – Mediterranean Italian cuisine includes much of Italy outside the north and the mountainous inland regions. It is a diverse cuisine, but among its best-known and most characteristic foods are risotto, pizza in Neapolitan and Sicilian styles and pasta dishes such as spaghetti.

Risotto is a dish made using Italian short-grain rice, which is both highly absorbent and resistant to turning into a pudding when cooked with stock and flavored with onions and garlic, cooked in butter. Anna Gosetti della Salda's book of Italian regional cookery lists 37 risotto recipes, 18 of them from the Veneto. Variations among Veneto risottos include additions of fish and white wine; chicken; eel; mushrooms and grated Parmesan cheese; quails; small pieces of beef; courgettes (zucchini); clams; ragù; beans; mussels; prawns; cuttlefish; and asparagus.

Pizza, or as David notes "pissaladina or pissaladière" in Provence (the cuisines of Mediterranean France and Italy having something in common), is a piece of bread dough rolled out thin, with a topping which varies from place to place, but is generally much simpler than those in the English-speaking world. In Naples this is tomato, anchovies

and buffalo mozzarella. In San Remo it is onions cooked in olive oil, with salted sardines. The Provençal variety uses onions, black olives and anchovies.

Spaghetti dishes also vary. It may be eaten as David says, "simply with olive oil and garlic", without cheese, or with a sauce of "very red and ripe peeled tomatoes", cooked briefly and flavored with garlic and either basil or parsley. One Sicilian variant includes pieces of bacon, onions fried in fat, garlic, stoned olives and anchovies, served with olive oil and grated Parmesan cheese.

French – Mediterranean French cuisine includes the cooking styles of Provence, Occitania and the island of Corsica. Distinctive dishes that make use of local ingredients include bouillabaisse and salad.

Bouillabaisse is a substantial dish from the French port of Marseille, capital of Provence. It is a stew for at least eight people, because it should contain many kinds of fish such as crayfish, gurnard, John Dory, monkfish, conger eel, whiting, sea bass and crab. These are cooked with Mediterranean vegetables and herbs, namely onions, garlic, tomatoes, thyme, fennel, parsley, bay and orange peel.

Salade niçoise is a colorful salad of tomatoes, tuna, hard-boiled eggs, Niçoise olives and anchovies, dressed with a vinaigrette.

Spanish – Spain's varied Mediterranean cuisines includes the cooking of Andalusia, Murcia, Catalonia, Valencia and the Balearic islands. Paella is a characteristic Spanish dish, originally from Valencia, radiating early on to Catalonia and Murcia along Spain's Mediterranean coast. It comes in many versions, and may contain a mixture of chicken, pork, rabbit, or shellfish, sautéed in olive oil in a large shallow pan, with vegetables, and typically round-grain rice (often of the local albufera, arròs bomba, sénia varieties or similar) cooked to absorb the water and colored with saffron. The dish may be varied with artichoke hearts, peas, sweet peppers, lima beans, string beans or sausages.

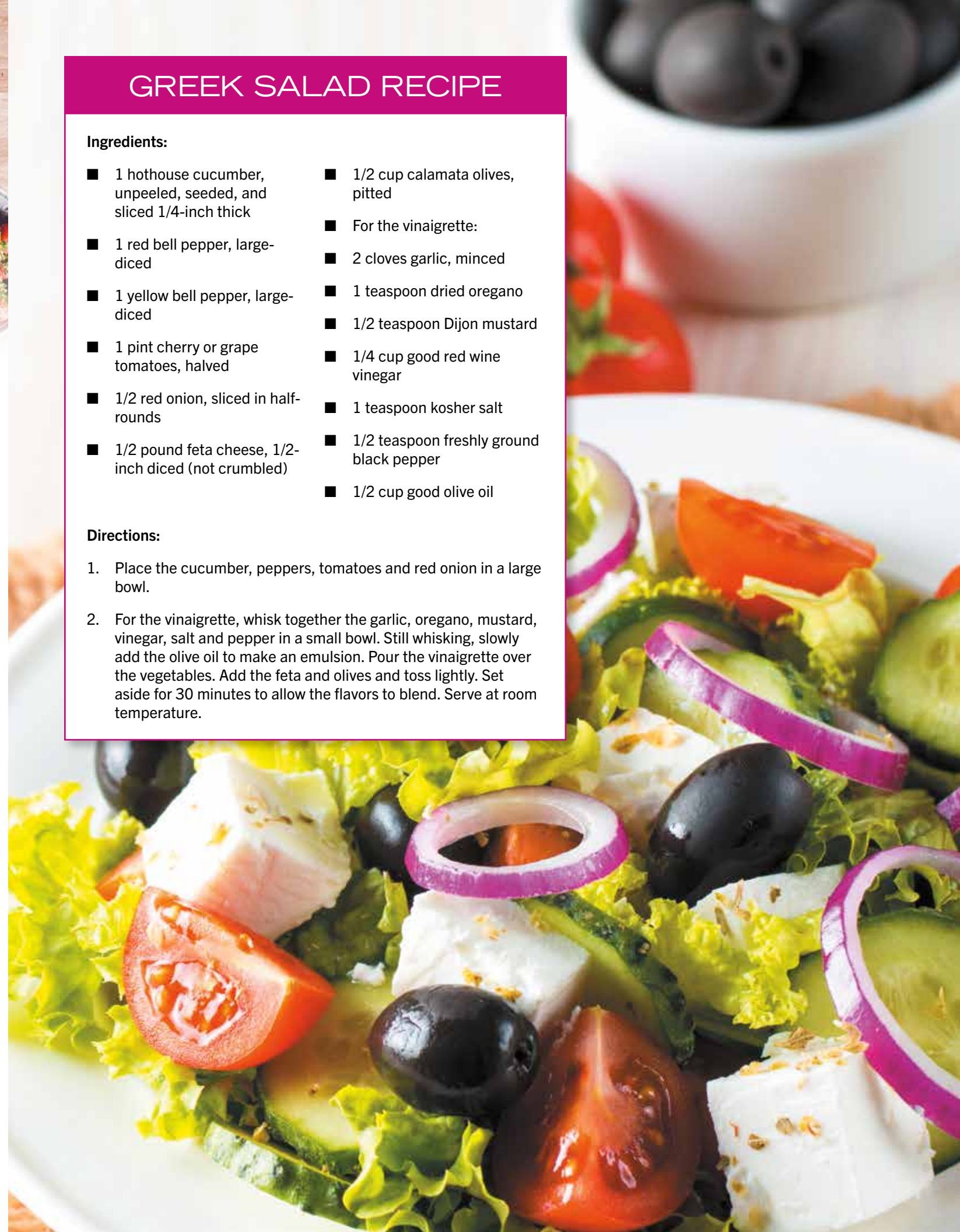
GREEK SALAD RECIPE

Ingredients:

- 1 hothouse cucumber, unpeeled, seeded, and sliced 1/4-inch thick
- 1 red bell pepper, large-diced
- 1 yellow bell pepper, large-diced
- 1 pint cherry or grape tomatoes, halved
- 1/2 red onion, sliced in half-rounds
- 1/2 pound feta cheese, 1/2-inch diced (not crumbled)
- 1/2 cup calamata olives, pitted
- For the vinaigrette:
 - 2 cloves garlic, minced
 - 1 teaspoon dried oregano
 - 1/2 teaspoon Dijon mustard
 - 1/4 cup good red wine vinegar
 - 1 teaspoon kosher salt
 - 1/2 teaspoon freshly ground black pepper
 - 1/2 cup good olive oil

Directions:

1. Place the cucumber, peppers, tomatoes and red onion in a large bowl.
2. For the vinaigrette, whisk together the garlic, oregano, mustard, vinegar, salt and pepper in a small bowl. Still whisking, slowly add the olive oil to make an emulsion. Pour the vinaigrette over the vegetables. Add the feta and olives and toss lightly. Set aside for 30 minutes to allow the flavors to blend. Serve at room temperature.





EASTERN FOOD CUISINE

As the rise of civilizations transformed the region's agricultural landscape, the Middle East secured a vital role in food history. Evidence of the earliest forms of plant domestication have been found in what is called the Fertile Crescent — an area that consists of modern-day Syria, Lebanon, Northern Egypt, Israel and Southern Iraq. As empires grew, more time was spent refining how food was cooked and consumed, a transition seen in two ancient tablets dated 1550 BC. Made from clay, the texts-tablets have proven to be the oldest examples of cookbooks from Babylon and contained recipes for dishes that were passed down for generations. Likely, these recipes weren't meant for the common person, given that most people ate the same food every day. The luxury of food choice was left to the wealthy who had access to abundant resources.

The location of the Middle East also contributes to the region's rich culinary history. At a geographic crossroad between Asia, Africa and Europe, the area served as the conduit that connected trade routes between empires on the famous Silk Road. Along this route, diverse goods were traded, permanently transforming the cuisines of participating areas. From 130 BCE until 1453 CE, the foods of the Middle East were widely sought out. Deep-flavored spices such as coriander, cinnamon, cassia, turmeric, saffron and garlic were popular and became building blocks of the regional cuisine. Much of the protein in the area at this time was neither fatty nor flavorful and came from ruminant animals. Historically, we see cows and goats in many Middle Eastern recipes out of a principle of sheer practicality: use the protein that's most prevalent and use it all. Traditionally, goats are slow-roasted whole over a fire, adding tenderness and smoke, allowing for the deep flavors of the spices to penetrate the meat. Early culinary traditions such as these were based upon survival but continue today through religious practices.

The area was also influenced by dumplings from Mongol invaders; turmeric, cumin, garlic and other spices from India; cloves, peppercorns and allspice from the Spice Islands; okra from Africa; and tomatoes from the New World. Religion has also influenced the cuisine; neither Jews nor Muslims eat pork, making lamb the primary meat. The consumption of wine and other drinks are made in countries such as Lebanon, where vineyards like Château Ksara, Chateau Kefraya and Chateau Masaya have gained international fame for their wines. Prior to its Islamic regime, Iran was also noted for its winemaking. Château Ksara is also very popular for its arak Ksarak, an alcoholic drink produced in the Levant. Al-Maza is Lebanon's primary brewery, which was also, at one time, the Middle East's only beer-producing factory. Lebanon has always been well known in the region for its wines and arak, making it an exception when it comes to lack of alcohol in the region.

Under the Ottoman Empire, sweet pastries of paper-thin phyllo dough and dense coffee were brought to the area.

GRAINS

Grains constitute the basis of the Middle Eastern diet, both historically and today. Wheat and rice are the major and preferred sources of staple foods. Barley is also widely used in the region and maize has become common in some areas as well. Bread is a universal staple—eaten in one form or another by all classes and groups, practically at every meal.

Aside from bread, wheat is also used in the forms of bulghur and couscous. Burghul is cracked wheat, made by partially cooking the wheat grains in water, drying it in an oven or in the sun, then breaking it into pieces, in different grades of size. Typically, it is cooked in water, with flavorings, much like rice. Burghul is also used in making meat pies and as an ingredient in salads, notably in tabbouleh, with chopped parsley, tomato, lemon and oil. Freekeh is another common grain, made from immature green wheat.

There are many types of rice produced and consumed in the region. Plain rice is served under grilled meats or with meat/vegetable stews. In more complex rice dishes, there are layers of meat, vegetables, sauces, nuts or dried fruits.

FLAVORINGS

Butter and clarified butter (also known as smen) are traditionally the preferred medium of cooking. Olive oil is prevalent in the Mediterranean coastal areas. Christians use it during Lent, when meat and dairy products are excluded, and Jews use it in place of animal fats such as butter to avoid mixing meat and dairy products.

Most regions in the Middle East use spices. Typically, a stew will include a small amount of cinnamon, nutmeg, cloves, cumin and coriander. Black pepper is common, and chili peppers are used occasionally, especially as a separate sauce or as a pickle. Parsley and mint are commonly used both in cooking and in salads. Thyme and thyme blends (za'atar) are common in Syria, Lebanon, Jordan, Palestine and Israel, and a mixture of dried thyme and sumac (crushed sour berries) is a common breakfast item with oil and bread. Sumac is also sprinkled over grilled meat. Garlic is common to many dishes and salads.

MEAT

Lamb and mutton have always been the favored meats of the Middle East. Pork is prohibited in both Islam and Judaism, and as such is rarely eaten in the region. Prominent among the meat preparations are grilled meats, or kebabs. There are a wide variety of these grills, with many regional

specialties and styles. The most common are the cubed cuts on skewers, known as shish kebab in most places. Chicken may also be grilled in the same fashion. Another common variety is kofta kebab, made from ground meat, sometimes mixed with onions and spices, shaped around the skewer like a long sausage and grilled. Kebabs are typically a street or restaurant food, served with bread, salad and pickles. It is not usually prepared in domestic kitchens.

Meat and vegetable stews, served with rice, bulgur, or bread, are another form of meat preparation in the region. Kibbeh is a pie or dumpling made with meat and cereal. The most common are made with ground meat (typically lamb) and burghul, worked together like a dough, and then stuffed with minced meat that has been fried with onion, aromatics, and, sometimes, pine nuts or almonds and raisins. This can either be in the form of individual small dumplings (usually shaped like a torpedo), or in slices like a cake, baked on an oven tray with the stuffing placed between two layers of the dough. One variation is kibbeh naye, raw kibbeh, which is made by pounding raw meat and burghul together with seasoning and served with dips of lemon juice and chili sauce.

VEGETABLES

Vegetables and pulses are the predominant staple of the great majority of the people in the Middle East. They are boiled, stewed, grilled, stuffed, and cooked with meat and with rice. Among the green leaf vegetables, many varieties of cabbage, spinach, and chard are widely used. Root and bulb vegetables, such as onions and garlic, as well as carrots, turnips and beets are equally common. Squash, tomato, eggplants, and okra are distinctive elements in the cookery of the region. (Use your own discretion with this commentary, as Squash and tomatoes originate from the Americas, and are not 'distinctive' to the region as the above suggested.) Eggplant is often fried in slices and dressed in yogurt and garlic, or roasted over an open fire, then pulped and dressed with tahini (sesame paste), lemon juice, garlic and cumin, a dish known as baba ghanoush. Tomato is the most ubiquitous ingredient in Middle Eastern cookery. It is used fresh in a variety of salads, cooked in almost every stew and broth, and grilled with kebab.

Beans and pulses are crucial to the diet of the region, second only to cereals. Fava beans are eaten both green and dried. Dried, they are boiled into one of the most popular Egyptian foods: ful medames, a domestic and street food, eaten for breakfast or any other meal, mashed and dressed in oil, lemon and chili. Similar dishes are found in all other parts of the region. The famous Falafel, now popular in Europe and America, was originally made from dried fava, crushed and formed into a rissole with herbs and spices, then fried. It is also made from chickpeas or a mixture of the two. Green fava is cooked like other green beans, boiled and dressed in oil, or stewed with meat. The haricot beans and black-eyed beans are also common. Lentils, split peas, and chickpeas are widely used in soups, with rice, in salads, or with meat. Hummus, made from chickpeas and sesame paste, originated in Syria and Lebanon.

DISHES

Stuffed vegetables are a dish most associated with the Middle East in the popular mind.

They are commonly called dolma, the Turkish word meaning "stuffed," but also the Arabic mahshi. Grape leaves, chard, and cabbage are stuffed with rice, ground meat, pine nuts and spices, and then stewed in oil and tomato. Many vegetables are similarly stuffed and stewed or baked, such as squash, onion, tomato, eggplant, peppers and even carrots.

Mezze is common throughout the Middle East. It consists of a number of small dishes that are picked at leisure: cheese, melon, nuts, various salads and dips, such as tabbouleh, hummus and mutabbal, pickles and also more substantial items, such as grilled meat, kibbeh, and sausage.

Middle Easterners commonly consume milk, fresh or soured. Yogurt, a Turkish contribution, is commonly consumed plain, used in cooking, used in salad dressing or diluted as a drink. White cheeses, like the Greek feta and halloumi, are the most common in the region.

BEVERAGES

Turkish coffee is the most well-known beverage of the region. It is thicker than regular coffee and is made by boiling finely ground coffee in water and then letting the grounds settle. In the 1980s, instant coffee also became popular. Aside from coffee, there is also an alcoholic drink called arak. It is most famous for its potency and milky-white color when water is added, producing the drink nicknamed "the milk of lions". Water and ice are almost always added because of an alcohol content between 30% and 60%. Arak is colorless in its pure form and is aniseed-flavored. In the Middle East, arak is served in social settings and with mezze. Some Christians in the Middle East, such as the Assyrians and Armenians produce their own homemade beer and wine. A common drink among Muslims served during Ramadan is Qamar Al Deen, a thick and sweet apricot drink. The apricots are boiled with sugar and water until they are thick and placed on wooden planks left in the sun until dry. A fruit leather is left, which is then melted with water and sugar and drunk. Another popular drink is Jallab. It is made by diluting a mixture grape molasses, dates, and rose water and served with crushed ice. Some also serve it with raisins or pine nuts. Ayran (and Doogh) is a beverage made from yogurt very popular in certain Middle Eastern countries such as Turkey and Iran.

SOURCES: KCET.org (Author Kenneth Feldmeier), Wikipedia.org, Saveur.com/baklava



CASHEW BAKLAVA RECIPE

Yield: serves 4-6

Time: 2 hours, 15 minutes

Ingredients:

- 1 stick plus 6 tbsp. unsalted butter, melted
- 1 cup (6 oz.) cashews
- 6 tbsp. packed light brown sugar
- 1/2 tsp. ground cinnamon
- 1/2 tsp. kosher salt
- 1/2 cup (3 1/2 oz.) granulated sugar
- Finely grated zest of 1/2 lemon
- 2 tbsp. fresh lemon juice
- 3 (16-by-13-inch) sheets phyllo

Directions:

1. Heat the oven to 350° F. In a food processor, combine 6 tablespoons butter with the cashews, brown sugar, cinnamon and salt and pulse until the filling is finely chopped.
2. In a small saucepan, combine the granulated sugar with 1/4 cup water. Bring to a boil and cook, stirring, until the sugar dissolves, about 2 minutes. Remove the syrup from the heat, stir in the lemon zest and juice, and let stand for 15 minutes. Pour the lemon syrup through a fine sieve into a glass measuring cup and let cool; discard the zest.
3. Grease an 8-inch square metal baking pan with some of the remaining melted butter. On a work surface, lay 1 sheet of phyllo dough so the short sides are parallel to you. Brush the sheet with some butter and place the second sheet over the first. Brush the phyllo with butter and cover with the third sheet. Brush the last phyllo sheet with butter, cut the phyllo stack in half lengthwise, and then cut each rectangle crosswise into 5 equal small rectangles. Arrange 2 tablespoons of the cashew filling in a line along the long edge of 1 of the phyllo rectangles. Roll the phyllo around the filling into a log and place the log in the prepared baking pan. Repeat with the remaining filling and phyllo rectangles to make 9 more logs, arranging each log against the others so they fit snugly in a single layer in the pan.
4. Brush the remaining melted butter over the top of the logs and bake until light brown and crisp, about 35 minutes. Remove the baking pan from the oven, pour the cooled syrup over the baklava logs, and let cool to room temperature. Invert each log and let stand for 15 minutes to allow the syrup to redistribute itself in the logs before serving.



DESSERTS

Have you ever found yourself indulging in a luscious dessert and wondering what mastermind came up with such a scrumptious delight? You are not alone; the question of why desserts were first eaten has crossed the minds of many. In this chapter of our Food Guide we explore the history, and many categories, of Desserts.

HISTORY

The word “dessert” originated from the French word *desservir*, meaning “to clear the table.” This origin is apt, considering that the first-known purpose of desserts was to use something sweet to wash down the aftertaste of a large meal. Desserts throughout history, such as in the middle ages, revolved more around sweet, fruity foods such as jellies and wafers mixed with exotic fruits, nuts and butter. Indeed, the custard is known to be one of the first desserts ever eaten in the middle ages. The next few reported desserts include apple pies in 1381 and gingerbread in the 1400s. Custards eventually evolved into sweet puddings in the 19th century, and then the industrial revolution brought forward the mass production of sweet foods such as cakes.

Up until the 17th century, desserts were meshed together with savory dishes and were used as nothing more than palate cleansers. However, the seventeenth century saw the advent of dessert cookbooks. This spread in popularity of desserts is owed to the vast sugar plantations in the New World that allowed sugar costs to go down. With reduced sugar prices, sugar could be used abundantly for sweet foods instead of being relegated to a rare flavoring.

The 17th century also saw the move to reserving desserts for the end of meals as opposed to having several small dessert courses as palate cleansers throughout a meal. Today, the dessert course usually consists of sweet foods, such as confections, and possibly a beverage, such as dessert wine or liqueur. However, in the United States it may include coffee, cheeses, nuts or other savory items regarded as a separate course elsewhere. In some parts of the world, such as much of central and western Africa and most parts of China, there is no tradition of a dessert course to conclude a meal. The term dessert can apply to many confections, such as biscuits, cakes, cookies, custards, gelatins, ice creams, pastries, pies, puddings, sweet soups and tarts. Fruit is also commonly found in dessert courses because of its naturally occurring sweetness. Some cultures sweeten foods that are more commonly savory to create desserts.

The term “dessert” is most commonly used for this end-of-meal course in Australia, Canada, Ireland, New Zealand and the United States. Terms like “pudding”, “sweet”, or more colloquially, “afters” are used in the United Kingdom and some other Commonwealth countries, including Hong Kong and India.

There are hundreds of varieties of confectionery desserts in India alone. In certain parts of India, these are called *mithai* or sweets. Sugar and desserts have a long history in India: by about 500 BC, people in India had developed the technology to produce sugar crystals. In the local language, these crystals were called *khand*, which is the source of the word “candy.”

Sweets were fed to the gods in ancient Mesopotamia and in ancient India and other ancient civilizations. Dried fruit and honey were probably the first sweeteners used in most of the world, but the spread of sugarcane around the world was essential to the development of dessert.

Sugarcane was grown and refined in India before 500 BC and was crystallized, making it easy to transport, by AD 500. Sugar and sugarcane were traded, making sugar available to Macedonia by 300 BC and China by AD 600. In the Indian subcontinent, the Middle East and China, sugar has been a staple of cooking and desserts for over a thousand years. Sugarcane and sugar were little known and rare in Europe until the twelfth century or later, when the Crusades and then colonization spread its use.

Herodotus mentions that, as opposed to the Greeks, the main Persian meal was simple, but they would eat many desserts afterwards.

Europeans began to manufacture sugar in the Middle Ages, and more sweet desserts became available. Even then sugar was so expensive that usually only the wealthy could indulge on special occasions. The first apple pie recipe was published in 1381. The earliest documentation of the term cupcake was in “Seventy-five Receipts for Pastry, Cakes, and Sweetmeats”, America’s first baking cookbook, by Eliza Leslie.

The Industrial Revolution in Europe, and later America, caused desserts (and food in general) to be mass-produced, processed, preserved, canned and packaged. Frozen foods, including desserts, became very popular starting in the 1920s when freezing emerged. These processed foods became a large part of diets in many industrialized nations. Many countries have desserts and foods distinctive to their nations or region.

INGREDIENTS

Sweet desserts usually contain cane sugar, palm sugar, honey or some type of syrup such as molasses, maple syrup, treacle or corn syrup. Other common ingredients in Western-style desserts are flour or other starches, cooking fats such as butter or lard, dairy, eggs, salt, acidic ingredients such as lemon juice and spices and other flavoring agents such as chocolate, peanut butter, fruits and nuts. The proportions of these ingredients, along with the preparation methods, play a major part in the consistency, texture and flavor of the end product.

Sugars contribute moisture and tenderness to baked goods. Flour or starch components serves as a protein and give the dessert structure. Fats contribute moisture and can enable the development of flaky layers in pastries and pie crusts. The dairy products in baked goods keep the desserts moist. Many desserts also contain eggs in order to form custard or to aid in the rising and thickening of a cake-like substance. Egg yolks specifically contribute to the richness of desserts. Egg whites can act as a leavening agent or provide structure. Further innovation in the healthy-eating movement has led to more information being available about vegan and gluten-free substitutes for the standard ingredients, as well as replacements for refined sugar.

Desserts can contain many spices and extracts to add a variety of flavors. Salt and acids are added to desserts to balance sweet flavors and create a contrast in flavors. Some desserts are coffee-flavored, for example an iced coffee soufflé or coffee biscuits. Alcohol can also be used as an ingredient to make alcoholic desserts.

VARIETIES

Desserts can be defined as a usually sweeter course that concludes a meal. This definition includes a range of courses, from fruits or dried nuts to multi-ingredient cakes and pies. Many cultures have different variations of dessert. In modern times the variations of desserts have usually been passed down or come from geographical regions. This is one reason for the variation of desserts.

Following are some major categories in which desserts can be placed, along with facts about some of the favorite desserts of today.

Ice Cream – Ice creams can be dated back to the 3,000th century B.C. The first known instance of ice creams is probably best described as what we now know as snow cones or shaved ice. Roman Emperor Nero used to ask for fruits to put over ice as the fruity juices would enhance the sweetness.

The earliest advent of using milk for ice cream is from China in 600 AD. The exact date when ice creams like we know them today came into being is unknown, but speculations cite Marco Polo for bringing the secrets of ice creams along with his travels. The first known traditional ice cream recipes were found in the mid-1800s.

Chocolate – While chocolate is not a dessert in and of itself, it is a widely used ingredient in many sweet foods. Chocolate was first used for its bitter properties by the ancient Mayan civilizations. However, after being introduced in Europe, it was mixed with sugar and milk to take the form that we know today.

In earlier history, the Aztecs even revered chocolate so much that it was used as a form of currency. The U.S colonies first saw chocolate in 1641 via a Spanish ship in what is now Florida.

Chocolate is typically a sweet, usually brown food preparation of Theobroma cacao seeds that have been roasted, ground and often flavored. Pure unsweetened chocolate contains primarily cocoa solids and cocoa butter in varying proportions. Much of the chocolate currently consumed is in the form of sweet chocolate, combining chocolate with sugar. Milk chocolate is sweet chocolate that additionally contains milk powder or condensed milk. White chocolate contains cocoa butter, sugar, and milk, but no

cocoa solids. Dark chocolate is produced by adding fat and sugar to the cacao mixture, with no milk or much less than milk chocolate.

Candy – Also called sweets or lollies, candy is a confection that features sugar as a principal ingredient. Many candies involve the crystallization of sugar which varies the texture of sugar crystals. Candies come in many forms including caramel, marshmallows and taffy.

Custards and Puddings – Phirni and Kheer are two of the most popular puddings in the Indian subcontinent.

These kinds of desserts usually include a thickened dairy base. Custards are cooked and thickened with eggs. Baked custards include crème brûlée and flan. Puddings are thickened with starches such as corn starch or tapioca. Custards and puddings are often used as ingredients in other desserts, for instance as a filling for pastries or pies.

Deep-fried Desserts – These desserts consist of variations of flavors, textures and appearances.

Biscuits or Cookies – Biscuits, from the Old French word *bescuit*, originally meaning twice-baked in Latin, are also known as “cookies” in North America. These are flattish bite-sized or larger short pastries generally intended to be eaten out of the hand. Biscuits can have a texture that is crispy, chewy or soft. Examples include layered bars, crispy meringues and soft chocolate chip cookies.

Cakes – Cakes are sweet tender breads made with sugar and delicate flour. Cakes can vary from light, airy sponge cakes to dense cakes with less flour. Common flavorings include dried, candied or fresh fruit, nuts, cocoa or extracts. They may be filled with fruit preserves or dessert sauces (like pastry cream), iced with buttercream or other icings, and decorated with marzipan, piped borders or candied fruit. Cake is often served as a celebratory dish on ceremonial occasions, for example weddings, anniversaries and birthdays. Small-sized cakes have become popular in the form of cupcakes and petits fours.

Many cuisines include a dessert made of deep-fried starch-based batter or dough. In many countries, a doughnut is a flour-based batter that has been deep-fried. It is sometimes filled with custard or jelly. Fritters are fruit pieces in a thick batter that have been deep fried. Gulab jamun is an Indian dessert made of milk solids kneaded into a dough, deep-fried, and soaked in honey. Churros are a deep-fried and sugared dough that is eaten as dessert or a snack in many countries. Doughnuts are most famous for being a trademark favorite of fictional character Homer Simpson from the animated television series *The Simpsons*.

Frozen Desserts – Ice cream, gelato, sorbet and shaved-ice desserts fit into this category. Ice cream is a cream base that is churned as it is frozen to create a creamy consistency.

SOURCES: Wikipedia.org, Food and wine.com

Gelato uses a milk base and has less air whipped into it than ice cream, making it denser. Sorbet is made from churned fruit and is not dairy-based. Shaved-ice desserts are made by shaving a block of ice and adding flavored syrup or juice to the ice shavings.

Jellied Desserts – Jellied desserts are made with a sweetened liquid thickened with gelatin or another thickening agent. They are traditional in many cultures. Grass jelly and annin tofu are Chinese jellied desserts. Yōkan is a Japanese jellied dessert. In English-speaking countries, many dessert recipes are based on gelatin with fruit or whipped cream added.

Pastries – Pastries are sweet baked products. Pastries can either take the form of light and flaky bread with an airy texture, such as a croissant, or unleavened dough with a high fat content and crispy texture, such as shortbread. Pastries are often flavored or filled with fruits, chocolate, nuts and spices. Pastries are sometimes eaten with tea or coffee as a breakfast food.

Pies and Cobblers – Pies and cobblers are a crust with a filling. The crust can be made from either a pastry dough or crumbs. Pie fillings range from fruits to puddings; cobbler fillings are generally fruit-based. Clafoutis are a batter with fruit-based filling poured over the top before baking.

Sweet Soups – Tong sui, literally translated as “sugar water” and also known as tim tong, is a collective term for any sweet, warm soup or custard served as a dessert at the end of a meal in Cantonese cuisine. Tong sui are a Cantonese specialty and are rarely found in other regional cuisines of China. Outside of Cantonese-speaking communities, soupy desserts generally are not recognized as a distinct category, and the term tong sui is not used.

DESSERT WINES

Dessert wines are sweet wines typically served with dessert. There is no simple definition of a dessert wine. In the UK, a dessert wine is considered to be any sweet wine drunk with a meal, as opposed to the white fortified wines (fino and amontillado sherry) drunk before the meal, and the red fortified wines (port and madeira) drunk after it. Thus, most fortified wines are regarded as distinct from dessert wines, but some of the less strong fortified white wines, such as Pedro Ximénez sherry and Muscat de Beaumes-de-Venise, are regarded as honorary dessert wines. In the United States, by contrast, a dessert wine is legally defined as any wine over 14% alcohol by volume, which includes all fortified wines, and is taxed at higher rates as a result. Examples include Sauternes and Tokaji Aszú.



MOLTEN LAVA CAKE RECIPE

Ingredients:

- 1 stick (4 ounces) unsalted butter
- 6 ounces bittersweet chocolate, preferably Valrhona
- 2 eggs
- 2 egg yolks
- 1/4 cup sugar
- Pinch of salt
- 2 tablespoons all-purpose flour

Directions:

1. Preheat the oven to 450° F. Butter and lightly flour four 6-ounce ramekins. Tap out the excess flour. Set the ramekins on a baking sheet.
2. In a double boiler over simmering water, melt the butter with the chocolate. In a medium bowl, beat the eggs with the egg yolks, sugar and salt at high speed until thickened and pale.
3. Whisk the chocolate until smooth. Quickly fold it into the egg mixture along with the flour. Spoon the batter into the prepared ramekins and bake for 12 minutes, or until the sides of the cakes are firm but the centers are soft. Let the cakes cool in the ramekins for 1 minute, then cover each with an inverted dessert plate. Carefully turn each one over, let stand for 10 seconds and then unmold. Serve immediately.

Make Ahead:

The batter can be refrigerated for several hours; bring to room temperature before baking.

Serve With:

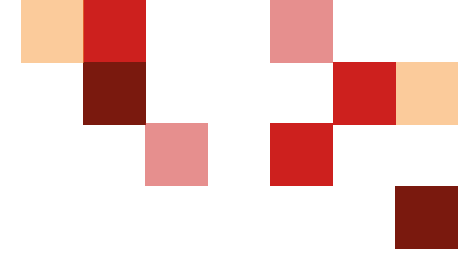
While these cakes easily stand alone, they're over-the-top when served with whipped cream or vanilla ice cream.



Notes:

Molten chocolate cakes are easily one of the ultimate Valentine's Day desserts—simple, sexy and indulgent. For an extra surprise, try one of these recipes for molten cakes filled with caramel or molten cakes filled with raspberry sauce.





BEVERAGES AND COCKTAILS

As important as food is for the consumer, the beverage plays an equal, if not more important, role in driving consumer decisions and expectations. That being said, it's important to offer operators a new variety of "beverage." Gone are the days when beverages were simply about taste and price. Beyond wanting to know how beverages are prepared, consumers are inquiring about the health benefits of the individual ingredients, how those ingredients were sourced and if the people who sourced them were treated and compensated fairly. Consumers are quenching their thirst in a rapidly changing variety of ways, guzzling drinks boosted with healing "adaptogens," next-gen energy boosters, heart-healthy fats, proteins and more. They're also indulging in new forms of beverages, from nitrogenated tea to spiked seltzer.

There are four primary sectors of the global commercial beverage market: hot drinks, milk drinks, soft drinks and alcoholic drinks. Hot drinks include tea and coffee. Soft drinks have five main categories: bottled water; carbonated soft drinks; dilutables (squash, powders, cordials and syrups); fruit juices (100% fruit juice and nectars 25–99% juice content); and still drinks, including ready-to-drink (RTD) teas, sports drinks and other noncarbonated products with less than 25% fruit juice. Alcoholic drinks include beer, wine, spirits, cider, sake and flavored alcoholic beverages. Among the different types of beverages, milk, soft drinks and fruit juices are the most important and are consumed in high amounts.

Beverages could be also classified into non-alcoholic and alcoholic categories. An alcoholic beverage is a drink that contains ethanol. A non-alcoholic beverage is a drink that contains little or no alcohol. This category includes low-alcohol beer, non-alcoholic wine and apple cider if they contain less than 0.5% alcohol by volume and are called soft drinks.

UNCOMPLICATED PROVES THE LATEST TWIST DRIVING CRAFT COCKTAIL MOVEMENT

Craft cocktails are here to stay. Proven to have found a permanent spot in higher-end bars and restaurants nationwide, bartenders continue to explore new spirits, mixers, pairings and recipes that advance the craft cocktail movement. Not to mention, booze is where the business is at.

For many restaurants, the bar is more important to the bottom line than the food, according to Josh Goldman, a master mixologist and founder of a bar consultancy group. As far as margins, you're never going to find the margins you can on food as you do on beverages. Chefs are doing great things with food but diners also expect bartenders to keep

wowing them and shocking them with new drinks, as long as it feels "authentic to the space."

At first the foodservice operator had a guy or gal who made drinks and tended the bar. Then mixologists hit the horizon and drinks took three hours to enjoy. There was even a brief stint with bar chefs. Now the "bartender" is back on the scene. All of these changes have also given rise to "culinary consultants" to advise on this important menu item. These cocktail geniuses are taking bar programs and training of bar staff to a whole new level. Food is no longer the main or only attraction; the cocktail menu is a big draw and has a point of view as strong as what's coming out of the kitchen. Rock star consultants are pushing the envelope and creating cocktail programs that stand out among the crowd.

WHAT'S OLD IS NEW AGAIN

Bartenders today seem to be moving away from the overly complex and elaborate drinks of a few years ago, reducing the number of ingredients and focusing on even higher-quality selections.

"We're going back to simple and refined classic drinks," says Kasey McDonald, a former mixologist and culinary R&D manager at CSSI, a food marketing and culinary innovation firm in Chicago. "I'm seeing more bartenders keep things clean and easy with five ingredients and that's it, versus drinks loaded with Blue Curacao and a million other add-ins."

Goldman agrees. "Over-the-top ingredients are going away and things are becoming more thoughtful and functional," he says. "We've become more focused on championing the friendly bartender again, and focusing on improving service, consistency and hospitality. If it takes 20 minutes to make a cocktail, that doesn't always work if you're doing 300 or 400 covers a night. A lot of young bartenders have great ideas and so much excitement, but they still need to learn how to edit themselves."

Cocktails making a comeback include negronis, the pisco sour, the Ramos gin fizz and old fashioned. All now feature simple ingredients like fresh-squeezed lemon and lime juice, quality or homemade bitters and egg white for a little froth.

The old fashioned cocktail, in particular, has had the most growth on menus nationwide, according to Datassential. In 2016, it was mentioned on 13 percent of menus, up 313 percent compared to the prior 4 years.

The gimlet also showed strong growth. Even with just 5 percent of menu mentions, this was an increase of 78 percent during the prior 4 years. And Manhattans appear on 17 percent of menus, but have grown 55 percent during the prior 4 years, according to Datassential.

The trends revealed below are insights into what the future of beverages looks like to satisfy the taste of the consumer and their expectations and ever-changing drinking demands in 2020 and beyond.

THE FUTURE OF BEVERAGES: 2020 TREND FORECAST

Trend 1: Nitrogenation: Cold Brew 2.0

Daily cold brew coffee consumption has increased by more than 1,000% since 2015, according to the National Coffee Association. In 2017, about 10% of coffee drinkers reported drinking cold brew daily. Whereas iced coffee is typically brewed like strong hot coffee and then chilled and poured over ice, cold brew is made by steeping ground coffee in cold water for an extended period of time. The result is a highly caffeinated, smoother tasting brew, often with more chocolaty notes and less acid.

By 2018, the cold brew coffee sensation had expanded into the mainstream. A flood of ready-to-drink options hit convenience stores and major restaurant chains. Hardee's, McDonald's and Dunkin', to name a few, began updating their drink menus with cold brew options.

The industry is now seeing Cold Brew 2.0. The concept has expanded beyond coffee to include other beverages, most notably tea, which can be steeped in cold water in just a couple of hours. This creates a beverage that has fewer tannins than conventionally brewed tea and a generally smoother taste. Cold brew tea was the top-scoring future trend in the S&D Coffee & Tea survey, with more than a third of respondents seeing it as an upcoming trend for 2020. Expect more variations of cold brew, too, such as coffee cherry (the husk of the coffee fruit), which is also being steeped cold brew style.

Another format, nitro cold brew, has moved into the mainstream. Similar to carbonation, nitrogenation involves permeating liquid with nitrogen, resulting in a creamy brew with tiny bubbles. Nitro coffee's mouthfeel is similar to that of Guinness® and other Irish stout beers, which are also produced using nitrogenation.

Nitro coffee is now so widespread that convenience store chain 7-Eleven introduced it at a test store that opened in Dallas, Texas, in March 2019. The product proved so popular that the chain has since expanded it to other select locations in coastal areas, including San Diego and New York's Long Island. Coffee is not alone. Tea is also being nitrogenated



MIXOLOGY

with increasing frequency. As tea is lighter than coffee or beer, the effect is more subtle.

Some independent restaurants make their own cold brew, allowing for customization and specialty drinks. Atlanta's Dairies Coffeehouse and Cold Brew Bar, for example, serves 10 drinks on tap, including regular cold brew, nitro cold brew, a nitro latte and a nitro matcha latte.

Others buy cold brew coffee prepared offsite and delivered in kegs, which helps operators offer maximum variety with minimum effort. Chicago-headquartered Fairgrounds Craft Coffee and Tea, for example, offers a flight of three cold brews which gives customers a chance to try more of its rotating selection on tap.

Another way operators deliver the cold brew beverage consumers crave with ease and consistency is by using a concentrate. Depending on your employee and consumer demographic and space constraints, this may be a great option to begin your cold coffee journey.

As cold brew continues to evolve and grow in popularity, the industry will expect to see more of it in 2020, and in new and surprising formats. Because the term evokes a sense of artisanal craftsmanship, it is anticipated to also be used to reference drinks that are naturally made cold, such as lemonade or agua fresca.

Trend 2: Sustainable Sourcing

Sustainability is an increasingly important consideration when it comes to beverages. About 20% of operators take sustainability issues (such as fair-trade sourcing) into account when deciding which beverages to serve, and nearly double that number recognized sustainability as a growing trend for 2020.

Consumers care about sustainability, too. This is especially true for millennials. According to Datassential, 86% of them are willing to pay more for a cup of sustainably produced coffee, and 46% think more positively about a venue that offers sustainable coffee.

In light of these trends, many American roasters are shifting away from commodity product and toward beans sourced directly from farmers or farming collectives. Mary Allen Lindemann and Alan Spear have taken this approach at Portland, Maine-based Coffee By Design since the 1990s, but they didn't promote it until their customers began showing interest in the coffee's origin story. Developing these types of relationships with growers and their communities may help them secure financial and technical assistance, or connect with institutions that can help them in other ways. The result is more prosperous farmers with better education and economic resources to safeguard their environment and, as an important bonus, grow better coffee.

To help operators capture the loyalty of coffee drinkers committed to supporting environmentally and socially conscious providers, S&D Coffee & Tea launched Raiz Sustainability® in 2015. This proprietary sustainable sourcing platform provides small and medium-sized farmers with immediate access to training and technical assistance to help adopt best practices in agriculture and business management.

Waste reduction is equally important to beverage operators, who have gotten creative in their approaches to this universal challenge. For example, Jessica Weinstein, corporate beverage director for the Jamie Leeds Restaurant Group in Washington, D.C., repurposes leftover avocado pits from the kitchen to create a variation of orgeat syrup, which is typically made with sweetened almonds and rosewater. Weinstein roasts and grinds the pits, then uses the pulp as the main

flavoring agent in cocktails that feature the syrup.

Denver-based bartender McLain Hedges, meanwhile, has figured out how to reuse garnishes that would otherwise be thrown out. He freezes those that pair well — mint, citrus and cinnamon, for example — and then turns to a local extraction facility to capture the garnishes' essential oils. The unique extract that results then finds its way into a variety of cocktails he serves.

Trend 3: Drinks That Sparkle

Traditional soda consumption is down, but it isn't because bubbles have fallen out of favor with consumers. In fact, seltzer sales have nearly tripled since 2008, according to Beverage Marketing Corporation. Global research firm Technavio expects that trend to continue into 2020, noting that

high obesity rates in the Americas are motivating consumers to switch to lower-calorie drinks. The operators surveyed pointed to sparkling water as the drink their customers were most likely to switch to over the next five years.

Independent operators are making their own carbonated drinks and also using smaller-production "craft" sodas. According to menu research firm Datassential, "craft soda" appears on 211% more menus now than it did four years ago, and mention of "hand-crafted soda" is up by 45% over that period. Oak at Fourteenth in Boulder, Colorado, offers house-made ginger beer and root beer, as well as seasonal sodas with flavors such as blood orange, kumquat-tarragon and cucumber basil.

Bubbles also have a role to play in coffee and tea. Although nitrogen is the bubble-maker of choice in coffee these days, more than 20% of operators said carbonated or sparkling tea would be an upcoming trend for 2020.

Trend 4: Next-Level Frozen Beverages

The emergence of "frosé," or frozen rosé, on bar menus a few years ago has led to a renaissance in the frozen drinks category. Some are reimagined frozen margaritas and daiquiris, whereas others are brand-new creations.

The Peppermint Bark Velvet Ice that PJ's Coffee brought back for the 2019 holidays, for example, is both nostalgic and indulgent. The seasonal favorite blends white chocolate and peppermint flavors with espresso concentrate and ice, and is topped with whipped cream, chocolate syrup and crushed peppermint candies.

Other frozen offerings evoke a sense of healthfulness. The Frozen Blended Lattes that Main Squeeze Juice Co. added to its permanent menu, for example, blend almond milk with either matcha tea powder or chai spice, almond butter, maple syrup, ice and Brain Octane (MCT) Oil, a proprietary oil supplement meant to improve brain function.

Bartenders have taken to a new technique called “switching,” according to Adam Hodak, beverage director of Bonanno Concepts in Denver. In this process, a high-proof spirit is frozen to super-cold temperatures so the water separates out. Then the frozen water is replaced with a different liquid, such as juice or tea, which allows for new flavors to be added to a spirit without diluting it.

Drink website punchdrink.com, reports that bartenders at The Aviary in Chicago and Mace in New York City, as well as bartenders abroad, are experimenting with the process, and it points out that the only barrier to entry is a relatively inexpensive chest freezer, which costs \$600 or less, and a bartender’s creative ambition. That means that once switching takes off, it could spread quickly.

Trend 5: Beverages With Benefits

Many consumers are looking for more from their drinks than just refreshment and maybe a jolt of caffeine. They’re buying drinks with added protein, oils thought to improve brain function and a whole range of ingredients known as adaptogens, which proponents claim support the body’s natural ability to deal with stress and “adapt” their function according to the specific needs of the body.

Adaptogens growing in popularity, particularly in beverages, include the roots ginseng and rhodiola and the herb ashwagandha, as well as several kinds of mushrooms, including cordyceps, chaga and lion’s mane.

Those mushrooms are often ground into powder and either brewed with coffee or mixed with instant coffee to make a drink that tastes similar to coffee but has additional perceived health benefits like immune support.

More than one-third of operators say they already offer functional beverages such as energy drinks. Another 10% say they will likely add functional coffees to their menus in 2020.

“I think more than before, people are looking for beverages that will sustain them, as opposed to [giving] them a quick hit like you get with caffeine,” says Michaela O’Malley, director of marketing for Matthew Kenney Cuisine, which recently introduced a line of adaptogenic pumpkin seed “elixirs” under the Seeva brand.

With names like “Energy” and “Longevity,” these drinks are named for the health and wellness benefits they aim to deliver. For example, the elixir named “Energy” contains cacao, maca root, the South American fruit lucuma and he shou wu, an herb in Chinese medicine thought to restore youth. “Longevity,” meanwhile, contains chai spices and chaga mushrooms.

Protein, particularly collagen, is also being added to more drinks. Collagen is said to be good for hair, skin and nails, as well as joint health and overall well-being. Vital Proteins recently introduced a line of dairy-free Collagen Creamers made from fortified coconut milk and meant to be added to coffee. The company also offers a line of collagen waters in flavors such as lemon ginger and blueberry mint.

Another popular addition to coffee is medium-chain triglyceride oil. Better known as MCT oil, its proponents say it promotes weight loss, improves brain function and enhances athletic performance, among other benefits.

Trend 6: The Promise of CBD

The market for beverages containing cannabidiol (or CBD) is expected to reach \$260 million in the United States by 2022, according to Toronto-based financial services company Canaccord Genuity, and nearly 30% of operators say CBD is a growing beverage trend.

Regulations around its use in food and drink remain murky. The Food and Drug Administration has yet to give the okay for CBD to be offered on restaurant menus, and in the meantime, oversight of restaurant and bar use has fallen to state and local health departments. Despite that patchwork of complex and evolving regulations, more than one in 10 operators say they’re considering adding it to coffee in their operations, and more than a quarter are considering putting it in tea.

It’s already happening at the Art, a hotel in Denver, which partnered with local roaster and CBD specialist Stráva Craft Coffee in October to create a CBD coffee cart for the holidays.

CBD doesn’t deliver the high of cannabis, from which it is derived, but it is believed to have various therapeutic qualities, including a calming effect. A spokeswoman for the Art says the coffee cart, which is available to guests at no charge when they check in, features optional seasonal syrups such as peppermint and pumpkin, along with festive toppings, and is intended to help ease the stress of the holidays.

The Art is also using Strongwater Mountain Elixirs’ CBD Herbal Bitters in its cocktails, including Still Life with Berries, which also contains pisco, muddled raspberry, lime, St. Germain elderflower liqueur and mint syrup, and the Waltz of the Flowers, which features gin, rosy red hemp tea syrup and St. Germain.

High Tea, a tea merchant based in Kingston, New York, specializes in infusions containing hemp and assorted phytocannabinoids, including CBD. Flavor offerings include a green tea blended with coconut and pineapple and Healing Heaven, which combines green tea with jasmine, echinacea, lemongrass, lotus, St. John’s wort and cat’s claw, a plant with anti-inflammatory properties.

CBD was a topic of enthusiastic discussion at a dinner held by the Brewers Association, a craft beer trade group, in New York City earlier this year. Many participants said their customers are clamoring for it and that they’re simply waiting for the green light from their lawyers to start adding it to their beer.

Trend 7: Revitalized Energy Drinks

Traditional energy drinks are strong and sweet and provide a sudden jolt of energy. The latest generation of performance beverages, however, are more complex, and include brain function enhancers (known as nootropics) such as choline, L-theanine and acetyl-L-carnitine.

One such drink is Neu, which has nine natural cognitive enhancers. Mastermind Coffee takes a less complex approach by simply adding the nootropic South American herb yerba mate to coffee.

Koios Beverage Corp., meanwhile, loads its drinks with even more neurologic functionality, including MCT oil, adaptogenic mushrooms like lion’s mane, several nootropics, caffeine from green tea and electrolytes.

These drinks are popular with athletes and non-athletes alike. The global gaming hardware company Razer offers a line of functional drinks, named after its Respawn entertainment division, to enhance the mental performance of its gamer community. Sold exclusively in the United States, Respawn comes in pomegranate watermelon, green apple, blue raspberry and tropical pineapple flavors. It contains caffeine from green tea, as well as ginger, B vitamins and choline.

Conceived by three siblings, one of whom is a neurologist, Honeybrains offers a menu focused on brain health and function. Both New York City locations sell grab-and-go juices, including Happy Greens, which is made with cucumber, broccoli, celery, spinach, lemon juice, ginger, blue-green algae, sage, ginseng, saffron and L-theanine derived from green tea. This combination of ingredients is high in folate, which our bodies convert into the mood enhancer serotonin.

Trend 8: H2O-Plus

Vitamin Water, a brand as well as a category, is widely recognized by operators, 60% of whom said they’re familiar with the concept. There is good reason operators are so familiar with Vitamin Water.

According to Nielsen, the American “value-added water” category was \$1.7 billion for the year ending October 5, 2019 — an annual increase in sales of around 9% — and 47 million American households purchased some kind of value-added water in the past year, an increase of nearly 9%.

Recent research from Mintel, published by Beverage Industry, said consumers are interested in a variety of attributes not normally associated with water, among them antioxidants, improved immunity, ease of digestion and protein or caffeine. They seem to be interested in other qualities, such as low acidity, as well.

Alkaline water, which is less acidic than regular water, is so popular, in fact, that Hoshizaki, a manufacturer of ice



machines and water dispensers, recently introduced a machine that serves not just hot, cold and sparkling water, but also alkaline water that it treats with high-pH minerals.

Water kefir is another trending functional water. A vegan cousin of both the fermented tea drink kombucha and the liquid yogurt-like beverage kefir, water kefir is made by adding lactic acid, bacteria and yeast to either water or coconut water and letting it ferment. The resulting beverage is sour but loaded with bacteria that's supposed to be good for the gut.

Juice Press, a vegan and largely raw-food chain based in New York City, offers an assortment of functional waters, including Cleansing Aloe, made simply with aloe vera and filtered water, and Stress Free Rose Water, made with filtered water and Bulgarian rose extract.

Trend 9: Plant-Based

A hybrid of the “value-added” water trend and plant-based trend sweeping the food and beverage industry, Chlorophyll Water combines purified water with chlorophyll (the green substance that plants use in photosynthesis) and vitamins A, B12, C and D. Its maker touts the product's antioxidant qualities, as well as the magic of chlorophyll itself: “Through photosynthesis, this transformation of sunlight into energy is responsible for life on earth.”

Persistence Market Research estimated earlier this year that the global demand for plant-based beverages would grow at a compound rate of 6% annually through 2028. The alternative milk category is comprised of plenty of plant-based drinks, in fact, from coconut milk to Matthew Kenney's new pumpkin-seed elixirs.

This category includes other drinks based in fruits and vegetables, ranging from the classic V8 to the soon-to-be-classic coconut water and a growing array of high-priced and highly prized cold-pressed juices. Juice Press, for example, features vegetable-forward drinks such as Mother Earth, a blend of cucumber, celery, kale, swiss chard, dandelion, parsley, lemon and ginger. They also offer fruitier options such as the Lucky Seven, with beet, ginger, carrot, orange, pineapple, apple and lemon.

Trend 10: Better-for-You Booze

Increasingly, customers are stepping back from high-alcohol cocktails, beer and wine and sampling lighter fare. Sometimes it's beverages with purported curative properties (CBD in beer, for example) and sometimes it's those with fewer calories, like the refreshing, low-alcohol Aperol Spritz, made with Prosecco, Aperol and soda water.

White Claw, the breakaway hit of the summer, is a “hard seltzer” similar to its predecessors, which included “malternatives” like Smirnoff Ice at the turn of the century and Zima a dozen years earlier. It's light, refreshing, appeals to men and women alike, and only has 100 calories.

This category also includes craft cocktails with functional ingredients such as CBD, sunflower and palo santo, a South American bark used to treat anxiety, headaches and the common cold. Apotheke, a bar in New York City's Chinatown offers cocktails made with organic herbs and botanicals.

Its menu (aka, “Prescription List”) is organized into health and wellness-driven sections — among them “Painkillers,” “Stimulants” and “Stress Relievers.” The latter features the Pink Panther, made with rum, blood orange, guava, coconut milk, lime, agave and palo santo. Under “Stimulants,” customers will find the Dragonfly, which combines Mezcal and Japanese green tea with the Mexican herb epazote, nectarine, wheatgrass, lime, habanero bitters and sunflower, which is promoted as a supporter of maintaining steady energy levels, bone health and brain function.

Alcohol-free adult beverages are also on the rise. Several of Athletic Brewing Co.'s no-alcohol beers, for example, are made with organic grain for an added health halo. Many restaurants have added “spirit-free cocktails”, a more respectful label than “mocktails”, to their bar menus as well. Made with similar attention to detail, these no-alcohol alternatives often cost nearly as much as their boozy counterparts. Some bars don't even serve alcohol. This so-called “sober curious” movement is driven by young people: According to recent Nielsen data, two-thirds of millennials are trying to reduce their alcohol consumption.

Examples of “sober bars” that cater to this desire include Listen Bar, a monthly pop-up in New York City's East Village, and Sans Bar in Austin, Texas, which was founded by people “who recognize that life can be fun without alcohol.” The Sans Bar website also proudly declares, “We are sober; we are on the move; and we believe that real connection happens when people are sober.”

The biggest takeaway from what could easily be described as the “Starbuckian” decade is that the right beverage menu drives traffic. This quite literal revenue “stream” may never have flowed as powerfully as it does today. Put simply, customers love to drink, both when they dine and when they don't. The key, however, is that not just any drink will do. Today's diners demand variety in beverages that are both nutritious and delicious, while also providing some type of memorable “experience” or even a great story about its origins or properties.

As if all that wasn't enough, today's imbibers want it weird, too. The idea is to take that steamy cup of coffee, and put it in the deep freeze, or add something offbeat, tropical or ethnic. In fact many may find this hard to believe — leave out the alcohol in some of the offerings. General rule: don't skimp on style just because that teetotaler or designated driver wants to stay sober.

SOURCES: National Restaurant News, Research Gate, Foodservice Equipment and Supplies, QSR Web





FAST FOOD

Today there are 198,337 fast food restaurants in the U.S. Fast food is a name for food that is made and presented to customers in a short amount of time. It is usually made with preheated or precooked ingredients, prepared in bulk and sold in packages for take-away. A fast food restaurant, also known as a quick service restaurant (QSR) within the industry, is a specific type of restaurant that serves fast food cuisine and has minimal table service. The food served in fast food restaurants is typically part of a “meat-sweet diet”, offered from a limited menu, cooked in bulk in advance and kept hot, finished and packaged to order, and usually available for take away, though seating may be provided. Fast food restaurants are typically part of a restaurant chain or franchise operation that provides standardized ingredients and/or partially prepared foods and supplies to each restaurant through controlled supply channels. The term “fast food” was recognized in a dictionary by Merriam-Webster in 1951.

Arguably, the first fast food restaurants originated in the United States with White Castle in 1921. Today, American-founded fast food chains such as McDonald’s (est. 1940) and KFC (est. 1952) are multinational corporations with outlets across the globe.

Variations on the fast food restaurant concept include fast casual restaurants and catering trucks. Fast casual restaurants have higher sit-in ratios, offering a hybrid between counter-service typical at fast food restaurants and a traditional table service restaurant. Catering trucks (also called food trucks) often park just outside worksites and are popular with factory workers.

Most historians agree that the American company White Castle was the first fast food outlet, starting in Wichita, Kansas in 1916 with food stands and founding in 1921, selling hamburgers for five cents apiece from its inception, while spawning numerous competitors and emulators. What is certain, however, is that White Castle made the first significant effort to standardize the food production in appearance and operation of fast food hamburger restaurants. William Ingram’s and Walter Anderson’s White Castle System created the first fast food supply chain to provide meat, buns, paper goods and other supplies to their restaurants, pioneered the concept of the multi-state hamburger restaurant chain, standardized the look and construction of the restaurants themselves and even developed a construction division that manufactured and built the chain’s prefabricated restaurant buildings.

The hamburger restaurant most associated by the public with the term “fast food” was created by two brothers originally from Nashua, New Hampshire. Richard and Maurice McDonald opened a barbecue drive-in in 1940 in

the city of San Bernardino, California. After discovering that most of their profits came from hamburgers, the brothers closed their restaurant for three months and reopened it in 1948 as a walk-up stand offering a simple menu of hamburgers, french fries, shakes, coffee and Coca-Cola served in disposable paper wrapping. As a result, they could produce hamburgers and fries constantly, without waiting for customer orders, and could serve them immediately; hamburgers cost 15 cents, about half the price of a typical diner burger. Their streamlined production method, which they named the “Speedee Service System”, was influenced by the production line innovations of Henry Ford.

By 1954, The McDonald brothers’ stand was restaurant equipment manufacturer Prince Castle’s biggest purchaser of milkshake blending machines. Prince Castle salesman Ray Kroc traveled to California to discover why the company had purchased almost a dozen of the units as opposed to the normal one or two found in most restaurants of the time. Enticed by the success of the McDonald’s concept, Kroc signed a franchise agreement with the brothers and began opening McDonald’s restaurants in Illinois. By 1961, Kroc had bought out the brothers and created what is now the modern McDonald’s Corporation. One of the major parts of his business plan was to promote cleanliness of his restaurants to growing groups of Americans that had become aware of food-safety issues. As part of his commitment to cleanliness, Kroc often took part in cleaning his own Des Plaines, Illinois outlet by hosing down the garbage cans and scraping gum off the cement. Another concept Kroc added was great swaths of glass which enabled the customer to view the food preparation, a practice still found in chains such as Krispy Kreme. A clean atmosphere was only part of Kroc’s grander plan which separated McDonald’s from the rest of the competition and attributes to their great success. Kroc envisioned making his restaurants appeal to suburban families.

At roughly the same time Kroc was conceiving what eventually became McDonald’s Corporation, two Miami, Florida businessmen, James McLamore and David Edgerton, opened a franchise of the predecessor to what is now the international fast food restaurant chain Burger King. McLamore had visited the original McDonald’s hamburger stand belonging to the McDonald brothers; sensing potential in their innovative assembly line-based production system, he decided he wanted to open a similar operation of his own. The two partners eventually decided to invest their money in Jacksonville, Florida-based Insta-Burger King. Originally opened in 1953, the founders and owners of the chain, Kieth J. Kramer and his wife’s uncle Matthew Burns, opened their first stores around a piece of equipment known as the Insta-Broiler. The Insta-Broiler oven proved so successful at cooking burgers, they required all of their franchises to carry

the device. By 1959 McLamore and Edgerton were operating several locations within the Miami-Dade area and were growing at a fast clip. Despite the success of their operation, the partners discovered that the design of the insta-broiler made the unit's heating elements prone to degradation from the drippings of the beef patties. The pair eventually created a mechanized gas grill that avoided the problems by changing the way the meat patties were cooked in the unit. After the original company began to falter in 1959, it was purchased by McLamore and Edgerton who renamed the company Burger King.

While fast food restaurants usually have a seating area in which customers can eat the food on the premises, orders are designed to be taken away, and traditional table service is rare. Orders are generally taken and paid for at a wide counter, with the customer waiting by the counter for a tray or container for their food. A "drive-through" service can allow customers to order and pick up food from their cars.

Nearly from its inception, fast food has been designed to be eaten "on the go" and often does not require traditional cutlery and is eaten as a finger food. Common menu items at fast food outlets include fish and chips, sandwiches, pitas, hamburgers, fried chicken, french fries, chicken nuggets, tacos, pizza and ice cream, although many fast food restaurants offer "slower" foods like chili, mashed potatoes and salads.



CUISINE

Modern commercial fast food is highly processed and prepared on a large scale from bulk ingredients using standardized cooking and production methods and equipment. It is usually rapidly served in cartons, bags or in a plastic wrapping, in a fashion which reduces operating costs by allowing rapid product identification and counting, promoting longer holding time, avoiding transfer of bacteria and facilitating order fulfillment. In most fast food operations, menu items are generally made from processed ingredients prepared at central supply facilities and then shipped to individual outlets where they are cooked (usually by grill, microwave, or deep-frying) or assembled in a short amount of time, either in anticipation of upcoming orders (i.e., "to stock") or in response to actual orders (i.e., "to order"). Following standard operating procedures, pre-cooked products are monitored for freshness and disposed of if holding times become excessive. This process ensures a consistent level of product quality, and is key to delivering the order quickly to the customer and avoiding labor and equipment costs in the individual stores.

Because of commercial emphasis on taste, speed, product

safety, uniformity and low cost, fast food products are made with ingredients formulated to achieve an identifiable flavor, aroma, texture and "mouth feel" and to preserve freshness and control-handling costs during preparation and order fulfillment. This requires a high degree of food engineering. The use of additives, including salt, sugar, flavorings and preservatives, and processing techniques may limit the nutritional value of the final product.

VALUE MEALS

A value meal is a group of menu items offered together at a lower price than they would cost individually. A hamburger, side of fries and drink commonly constitute a value meal—or combo depending on the chain. Value meals at fast food restaurants are common as a merchandising tactic to facilitate bundling, up-selling and price discrimination. Most of the time they can be upgraded to a larger side and drink for a small fee. The perceived creation of a "discount" on individual menu items in exchange for the purchase of a "meal" is also consistent with the loyalty marketing school of thought.

TECHNOLOGY

To make quick service possible and to ensure accuracy and security, many fast food restaurants have incorporated hospitality point of sale systems. This makes it possible for kitchen crew people to view orders placed at the front counter or drive through in real time. Wireless systems allow orders placed at drive through speakers to be taken by cashiers and cooks.

Drive through and walk through configurations will allow orders to be taken at one register and paid at another. Modern point of sale systems can operate on computer networks using a variety of software programs. Sales records can be generated and remote access to computer reports can be given to corporate offices, managers, troubleshooters and other authorized personnel. Most fast food restaurants today offer online APPs that can be downloaded and consumers can order over their phone so that when they arrive at the restaurant location they don't have to wait in line. Their meal is waiting for them at the counter or via the drive thru.

Food service chains partner with food equipment manufacturers to design highly specialized restaurant equipment, often incorporating heat sensors, timers and other electronic controls into the design. Collaborative design techniques, such as rapid visualization and computer-aided design of restaurant kitchens are now being used to establish equipment specifications that are consistent with restaurant operating and merchandising requirements.



CONSUMER SPENDING

In the United States, consumers spent about \$110 billion on fast food in 2000 (which increased from \$6 billion in 1970). The National Restaurant Association forecasted that fast food restaurants in the U.S. would reach \$142 billion in sales in 2006, a 5% increase over 2005. In comparison, the full-service restaurant segment of the food industry was expected to generate \$173 billion in sales. Fast food has been losing market share to so-called fast casual restaurants, which offer more robust and expensive cuisines

Many fast food operations have more local and regional roots, such as White Castle in the Midwest United States, along with Hardee's (owned by CKE Restaurants, which also owns Carl's Jr.), whose locations are primarily on the United States' West Coast.

International brands dominant in North America include McDonald's, Burger King and Wendy's, the number three burger chain in the U.S.; Dunkin' Donuts, a New England-based chain; automobile-oriented Sonic Drive-Ins from Oklahoma City; Starbucks, Seattle-born coffee-based fast food beverage corporation; KFC and Taco Bell, which are

both part of the largest restaurant conglomerate in the world; Yum! Brands; and Domino's Pizza, a pizza chain known for popularizing home delivery of fast food.

Subway is known for their sub sandwiches and are the largest restaurant chain to serve such food items. Quiznos, a Denver-based sub shop, is another fast-growing sub chain, yet with over 6,000 locations it is still far behind Subway's 34,000 locations. Other smaller sub shops include Blimpie, Jersey Mike's Subs, Mr. Goodcents, Jimmy John's and Firehouse.

A&W Restaurants was originally a United States and Canada fast food brand, but it is currently an International fast food corporation in several countries.

In all, the Fast Food segment is a major financial contributor to the U.S. Food industry and remains a highly popular way to eat for nearly everyone on a daily basis. Fast food offers a wide variety of different types of food to consumers who are hungry three times every day.

SOURCES: ibisworld.com, historyoffastfood.com., Wikipedia.org

FOOD-ON-DEMAND AND DELIVERY

If you have not yet downloaded a food-on-demand app like Grub Hub, Door Dash or Uber Eats, you may be aware that it really is a step into a new era of ordering food. From apps that deliver food, like UberEATS, to healthy meal-delivery services, like Factor, the food delivery industry is booming. In fact, according to Forbes, it's estimated that the industry will have annual sales of \$365 billion worldwide by 2030! But when and where did these services become so popular? The answer begins much further back than you may realize.

HISTORY OF FOOD ON DEMAND

Ancient Rome (753 B.C. – 476 A.D.) Believe it or not, historians trace meal-delivery services all the way back to ancient Rome! The Romans loved convenient meals as much as we do today, and they called their fast food restaurants Thermopolium. They served meals at a counter out of large clay pots that kept the food hot, which is similar to how we serve fast food today. According to smithsonianmag.com, archaeologists have discovered upward of 80 of these “fast food restaurants” in sites such as Pompeii. For ancient Romans, the Thermopolium was a chance for them to have a hot, prepared meal on the go. With otherwise limited access to hot meals, the Thermopolium proved to be extremely popular.

MILK DELIVERY

Historically, if you had access to fresh milk, your family probably owned a dairy cow. But as the United States began to industrialize, fewer people lived in rural areas. As such, people began to purchase their milk from local dairy farmers. Because milk is perishable and few people had access to refrigeration, daily deliveries were a necessity. As a result, milk delivery became a standard way of life for many Americans.

Pizza delivery may have been popularized by college students on a budget, but it actually dates back to the late-1800s. The story goes that on a visit to Naples, King Humberto and Queen Margherita, the king and queen of Italy, decided to forgo their diet of fancy French cuisine. Instead, they opted to have pizza brought to them. The chefs topped the queen's favorite pizza variety with mozzarella, tomato and basil. This was then named the Margherita pizza. And so, pizza delivery was born.

Around 125 years ago, while under British rule, India developed the dabbawala meal delivery system in busy metropolitan areas, such as Mumbai. In response to the increased number of workers in cities, this meal delivery system relied on delivery men called dabbawalas. The dabbawalas delivered meals directly to people at their place of work. This intricate meal delivery system is now more modern, and users take advantage of the service using text

messaging and email.

WWII (1939 – 1945)

In London during WWII, citizens spent a great deal of time seeking shelter from bomb threats. To ensure the wellness of the British people, the government enlisted chefs and volunteers to deliver meals. After the war, this service continued to help veterans get back on their feet. This idea was so popular, it quickly spread to the United States and Australia.

FAST FOOD DELIVERY (1950s)

Perhaps the most popular invention of the 1950s was the TV. As more families had their own TV, people were more likely to stay home and enjoy meals together while watching their favorite shows. As a result, restaurants were seeing a steady decline in their bottom lines. To combat their declining trade, many restaurants introduced carry-out and delivery options. Perhaps the best example of this was pizza delivery. Soldiers returning from war had grown accustomed to Italian cuisine and popularized this new idea.

MEALS ON WHEELS (1954)

In response to a deep economic decline in the 1950s, Doris Taylor, Member of the Order of the British Empire, sought to help the disadvantaged and home-bound by providing hot meals. Eleven volunteers delivered the first meals to 8 recipients on August 9, 1954. Over the years, Meals on Wheels has grown to thousands of volunteers, and many countries have duplicated its organizational model. In the United States, for example, there are more than 2.4 million seniors who benefit from the Meals on Wheels service each year.

FOOD TRUCKS (1960 – PRESENT)

The concept of food trucks began many years ago as a way to provide convenient meals and snacks to workers on job sites. Formerly nick-named “roach coaches,” these trucks weren't initially known for their sanitation. However, over the years, food trucks have evolved into a popular way to enjoy restaurant-quality meals in an outdoor setting. In fact, opening a food truck is an excellent way for aspiring restaurant owners to get started. This is due to much lower startup costs.

HMR – HOME MEAL REPLACEMENT (1995-2006)

Grocery stores started to prepare gourmet meals that were ready to be picked up and taken home. All the consumer had to do is either place the meal in the oven or the microwave



and heat it up to serve and enjoy. Busy parents on their way home from a soccer game or coming home late from work would stop and pick up a prepared lasagne, beef stew or chicken fajita kit to take home to feed the family.

ONLINE FOOD ORDERING (2004 – PRESENT)

Beyond meal kits, new players in the meal-delivery game are taking convenience a step further by providing logistical services for restaurants. Apps such as GrubHub and UberEATS allow customers to order from an assortment of local restaurants. As a result, restaurants that may have previously only offered dine-in or carry-out options can now deliver meals directly to your home or office.

MEAL KITS (2007 – PRESENT)

Pretty much everyone enjoys a good home-cooked meal! However, due to increased time demands in today's fast-paced culture, good old-fashioned home cooking has become a luxury few enjoy. In response, home-delivered meal kits have grown in popularity since the business model was invented in 2007. Companies such as Blue Apron and Marley Spoon allow you to choose a recipe and will deliver pre-portioned ingredients directly to your door. The meals typically take around 30 minutes to make and allow consumers to save time by eliminating the need to shop. It's estimated that as of 2017, the meal kit industry was worth \$2.2 billion.

TAMPER-EVIDENT PACKAGING (2014-PRESENT)

As food-on-demand driver stories escalated about how they sometimes could not control themselves and began eating the french fries from their customer's bag, restaurants grew tired of the complaints and began ordering tamper evident sealable to-go bags in order to prevent the drivers from accessing the food. Plastic to-go container manufacturers also began making tamper evident cups, portion cups, containers and even sealed cutlery kits to help consumers feel safe with what they ordered.

However, while meal kits initially redefined convenient eating, 30 minutes in the kitchen preparing and cleaning is still a lot of time. The meal-delivery service evolved yet again when companies began offering fully-prepared, home-delivered meals that take 3-minutes or less to prepare. Demand skyrocketed. Today, many food-on-demand companies offer a rotating menu of gluten-free, soy-free, preservative-free and non-GMO meals. With delivery coverage spanning the entire contiguous United States, you can have convenient, healthy meals delivered straight to your door.

SOURCES: TheFactor.com

RESTAURANT MANAGEMENT

Managing a restaurant is like watching over the gears of a complicated machine. Not only do you have the usual managerial concerns of employees and customers, but you are dealing with unique baggage that comes along with all of that every day.

As a new restaurant manager, this can be overwhelming. It is a demand for psychology and artistry coming at you at 100 mph. Following are some helpful restaurant management tips.

Restaurant management tips often deal with ways to streamline the day-to-day operations of the restaurant itself. But what about you—the manager—who dictates those day-to-day operations? Could you use some tips to help you manage better? In reality, we all could.

Working on yourself is as important as, if not more important than, working on the operations of the business. That's because everything you do affects some aspect of the restaurant—from the food quality to the atmosphere to the employee demeanor.

So instead of looking for ways to improve the business, let's look for ways to improve ourselves and our management style. If we do that, everything around us will improve as well. This article will consider 15 restaurant management tips that can get you on the path to managerial success.

DISPLAY A POSITIVE ATTITUDE

Your positive attitude—or lack thereof—can dramatically affect the mood of the entire restaurant, customers included. A negative attitude on your part can trickle down through the employees and seep into your guests. This, in turn, colors their dining experience in a bad way. That's a recipe for disaster.

Work on keeping a positive attitude at all times. Of course you'll feel irritable and grouchy from time to time, but try to remember the passion that brought you to this job in the first place. That passion can fuel your positive attitude, which can make all aspects of the business better.

PROMOTE TRANSPARENCY WITH YOUR EMPLOYEES

Transparency is an important aspect of restaurant management in the 21st century. Millennial employees, in particular, want to know what's going on and what you're doing in the restaurant. This stems from the younger generation's need to feel connected and part of something larger.

If you can foster transparency with your employees, they will feel more a part of your team and be engaged and motivated to perform at the highest levels.

If you aren't already, conduct regular staff meetings to keep employees up to date on the business. During work hours, keep in constant communication with employees so you know what's going on. And don't forget to provide positive encouragement when appropriate.

BE A MODEL OF STABILITY FOR YOUR EMPLOYEES

The restaurant business can be notoriously inconsistent. One day can differ from the next, which can differ from the next. This can wear away at employee efficiency because they have no idea what to expect from day to day.

You provide the stability your employees need to perform at their best. Keep communication lines open and be consistent with your expectations. This will help employees stay grounded when everything else changes.

PLAN AHEAD

In order to perform at your best, it's important to plan ahead. Anticipating needs and problems, and being proactive in the management of these issues can go a long way toward keeping stress and chaos at bay.

Try making a list of things you need to do in the next few months. Then prioritize those items by importance and get to work. If "hire a new server to replace one that's leaving" and "update inventory" are on there, those should go at the top of the list. If you get those done sooner rather than later, you'll avoid the problems that come with being short-staffed and without important supplies.

INNOVATE

The restaurant business may not seem like a prime place for innovation, but it actually is. Whether it's simpler point-of-sale technology, adopting a farm-to-fork initiative, or revamping the accounting systems, these innovations can keep a restaurant successful.

For example, the emergence in recent years of employee scheduling software like Sling has streamlined the management of employee groups both small and large. But Sling is more than just a calendar where you list who's working.

Because it's designed specifically for restaurants, Sling helps you schedule more efficiently by offering suggestions and alerting you when there are conflicts. It's these kinds of innovations that you need to be aware of in order to keep your business competitive.



DELEGATE

On most days, there are just too many things for you to handle effectively. That's why it's important to learn to delegate. Start by delegating the less-critical day-to-day chores to trusted employees you know can get the job done. This frees you up to focus on the bigger, more important issues your restaurant will face.

In addition, delegating some of your many tasks to your employees helps them see what is involved in day-to-day operations (transparency) and trains them to take on more responsibility later.

LEAD BY EXAMPLE

If you want your employees to perform at a high level, you have to perform that way first. You can try to explain it in your employee handbook all you want, but leading by example makes the point crystal clear.

If you want your servers to keep an eye on the dining room and help out if the busboys get behind, show them how it's done—not in a formal training situation, but every day. If they see you reacting to the needs of the business without being asked, they'll be more likely to emulate your behavior.

BE ACCOUNTABLE FOR YOUR MISTAKES

We all make mistakes. It's just a fact of life. And just because you're a restaurant manager doesn't mean you're somehow exempt. The important part to focus on is not that the mistake occurred in the first place, but what you're going to do to fix it. This means being accountable for your mistakes, moving past them, and finding a solution.

Take the time during a staff meeting to mention a mistake you made, apologize for it, and then brainstorm with your employees how to prevent such mistakes in the future. This can be a great way to train your staff to exhibit the same behavior.

WORK ON THE BUSINESS

Working ON the business is perhaps one of the most important tasks on the restaurant manager's list. It's drastically different than just working IN the restaurant. Working ON the restaurant is a way to keep it up-to-date, fresh and functioning over the long haul, not just day-to-day.

Working IN the restaurant, on the other hand, is a way to keep it functioning from open to close. While the latter is important in the short-term, the former is more important in the long-term.

Take the time to examine dining trends, marketing results and overall business practices. Working ON the business in this way will help keep your restaurant open and successful for years to come.

SOCIAL MEDIA / WEBSITE ONLINE ORDERING / FOOD ON DEMAND

If you have not already engaged on this segment of your business, realize that it is becoming extremely important to the survival of the restaurant. Generation X, Y, Z and millennials all use apps to order their food online as many of them prefer to pick up takeout or even have it delivered to them through a Food-on-Demand service. Your social media presence and the ease of ordering on your website need to be constantly worked on in order to ensure that your



competition is not out-marketing you and luring in valued customers with specials offered on the web.

CATERING

Some restaurants actually drive more revenue through their restaurant from catering sales than from in-store or takeout dining. Catering parties, office lunches and/or large corporate events can be sizeable to your restaurant's sales. If you have not already done so you need to evaluate whether your menu and your customer demographic would be ideal to offer a catering program to in order to drive new sales onto your books.

CELEBRATE SUCCESS

Everyone needs encouragement now and again. Your employees are no different. Positive reinforcement can go a long way toward making your staff perform at their best. When you celebrate success, your employees see the value of doing a good job and know that you appreciate their efforts.

If you see someone doing a good job or notice how they handled a problem really well, take a moment to pull them aside and commend them. This one-on-one attention

can make the employee feel like they're respected and a valuable member of the team.

Additionally, make it a point to highlight successes at staff meetings so that everyone can learn what constitutes a good job in your restaurant.

MANAGING YOUR DISTRIBUTORS

There are many ways for a restaurant to buy their food and supplies in order to run their restaurant. Some restaurants only use one source which might be a local Club store or farmer's market. Other larger restaurants might use a

distributor to bring them their food and supplies. Chain restaurants might even have a fixed ordering guide and be told by their Corporate office which distributor to order from every week. As a restaurant manager it is imperative that no matter what your source is for food and supplies you need to understand that pipeline of supply so that if something were to happen and the supply turned off you have a back-up plan to immediately cover the restaurant's needs. The ideal scenario for a restaurant manager is to use two different distributors so that you have a back up plan to move orders around if one of the distributors is out of stock on a product you need. A manager must also develop a relationship with the distributor sales rep and the distributor management team so that when it's time to ask for a favor the distributor is familiar with your business and would be willing to accommodate your request.

BROKER COMMUNITY

As a manager it is critical that you always keep your door open for the local broker to meet with you on new products, new city ordinances, new trends and to new ways of using products to help your business thrive. In the broker community there are Food Brokers, Paper and Packaging Brokers as well as Janitorial Supply Brokers. There are even some Broker agencies that offer all three segments. The broker is your friend and a great resource to help save your restaurant money, time and even improve your overall food and supplies because of their knowledge and expertise in the industry.

ALWAYS PUT CUSTOMER SATISFACTION FIRST

Whether you call it customer satisfaction, customer service, customer happiness or customer care, make this value one of your top priorities. Think about all the unpredictable customer interactions you're going to face during a normal workday:

- Diners who mosey in fifteen minutes before closing
- Customers who need the food prepared just so because of dietary restrictions
- Last-minute, large-group reservations during your prime seating time
- A customer who's unhappy with the food

The list goes on and on and could literally fill a book. And that's just a normal workday. The situations you face on an unusual day could have you scratching your head in confusion and amazement.

The way you deal with these situations and scenarios goes a long way toward influencing how customers perceive your restaurant.

It's that perception that can have a profound effect on the success or failure of everything you do in the business. The way you deal with your customers also influences how your

employees will react when put in a similar position. Your example is what they will draw on when they're faced with these challenges. As you can see, a lot is riding on your customer-service skills.

But how can you train yourself to always put customer satisfaction first? By weighing every situation on how it will affect the business, your employees, and the customer. It's very much like passing water through a series of filters.

What may start as a muddy mess eventually distills down to something that's good for everyone. The decision you have to make regarding a strange customer request or an abnormal situation starts out like that muddy mess. But after weighing how the various options will affect the business, the employees, and the customer, your decision often becomes clear.

To illustrate, let's go back to the example of the customer who is unhappy with the food—in this case, a pizza. He calls you over to complain, and you can see that he's taken a bite out of a number of slices. He explains that he was trying to see if it was the whole pie or just one piece that tasted

bad. You take a bite and discover that it tastes exactly as it should.

What do you do? In this case, maybe you don't even take a bite, but what you certainly should do is weigh how your decision could impact this customer's experience, the business and your employees.

The impact to your employees is pretty much zero because, for example, there wasn't a specific instance of a server dropping a glass of wine on someone's white clothing. That leaves the business and the customer as to whom it impacts.

What you're looking for is a solution that will affect the customer in a positive way without affecting the business in a significantly negative way. You could just dismiss the customer's complaint as unfounded, but that would make the customer even more unhappy and likely have him talking badly about your restaurant (bad word-of-mouth can be the death of a restaurant).

Instead, you could apologize for the pizza, make him another one, and comp him his entire meal. The customer is now extremely happy and will likely talk your restaurant up to his friends, and you're only out, at most, \$50. That's a small price to pay for positive word-of-mouth advertising.

This is just one instance of the myriad customer service situations that will present themselves throughout the day. But regardless of the scenario, always look for a solution that puts customer service first without hurting the business or your employees.

BE TOUGH BUT SENSITIVE

It may seem like a contradiction in terms, but a great restaurant manager needs to be tough but sensitive, rigid but flexible. You need to set high standards and goals and expect your employees to produce results.

That may mean that you have to push your employees outside their comfort zone once in a while. But that's really the only way they are going to grow and improve in the restaurant industry. Adversity and challenge breeds experience and skill.

But being tough doesn't mean that you have to forsake sensitivity and flexibility. You can reach your goals and drive your employees to improve while at the same time being sensitive to their needs and flexible to the demands of the situation.

A fairly obvious example would be if a valued employee's parent or spouse or close relative died suddenly in an accident. They would take some time off, sure, but chances are, they would still be suffering from shock and grief when they returned to work.

In that case, they might not be performing up to your normal standards (whatever those standards may be). Does that mean they need to be let go? Of course not. Now if the behavior persists past a certain point, you may have to

consider that as an option.

But for the time being, you need to be sensitive to their life outside the walls of your restaurant. You also need to be flexible enough to, perhaps, schedule them for slower shifts, or give them a reduced workload. This will give them time to heal and return to the previous high level of job performance.

Not every situation that demands sensitivity and flexibility will be this cut and dried. Instead, it could be something as subtle as a friction or disagreement between two employees that demands that you don't schedule them together for awhile.

Or, it could be a situation where a bartender has just been promoted to head bartender and isn't performing the same as before. You need to be sensitive enough to realize that she now has a lot more responsibility and is just trying to find her way into this new role.

GET COMFORTABLE WITH MULTITASKING

Yes, there will be times when you're able to concentrate on one thing for an hour or two. But for the most part, your job as a manager is going to demand that you are comfortable with, if not an expert at, multitasking.

Your employees are going to be coming to you with questions about all sorts of things. Suppliers are going to be calling to schedule deliveries. Customers are going to want to talk. And that's just the "people" side of the business.

You've got schedules to put together, finances to reconcile, advertising and marketing to arrange...and that's just the beginning of the list. Your day is filled to overflowing with countless tasks and innumerable interruptions.

You need to be able to give your attention to one task for a period of time, allow yourself to be pulled away to a second task when necessary, and then be proficient enough to step right back into that first task without hesitation.

That's multitasking in a nutshell and should be the cornerstone of every restaurant manager's skill set. Without the ability to multitask, you're going to feel overwhelmed and incredibly frustrated in very short order.

If you're having trouble getting comfortable with multitasking, try these simple suggestions:

Work on related tasks together. This helps minimize the toll on your neurons when your brain has to adjust.

Keep your to-do list visible. This reminds you what really needs to get done and where your focus should always return.

Take in new information when you're sure you won't be interrupted. This can help ensure that the new information gets committed to memory.

With a bit of practice and determination, you can improve your ability to multi task just like you can improve other parts

of your job.

WORK ON YOURSELF LIKE YOU WORK ON THE BUSINESS

Working on yourself, like working on the business, can be a daunting task. Thankfully, working on yourself takes a single step to get started. If you feel that you're lacking in any of the skills above, pick out the one that's the most important to you and make an effort to improve.

When you feel like you've integrated that skill into your management style, pick another skill from this list and work on it. By improving yourself and your management style, you can effectively improve your staff, your employees, and your restaurant as a whole.

EMPLOYEE COMMUNICATION

There are a variety of ways to improve the communications with your staff. For example, employee messaging, company newsfeed and task list make Sling a powerful solution for managing, scheduling, organizing and communicating with



your employees. It really is the key to improving the way you work and the way your business operates.

For more free resources to help you better manage your business, organize and schedule your team and track and calculate labor costs, visit getsling.com.

BE CONSISTENT

No two days in a restaurant are the same. New crises pop up in a restaurant at the drop of a hat like no other business. Things move fast, and the worst thing a manager can do in that kind of situation is take an inconsistent approach to how he responds and resolves issues.

What do you need to be consistent in?

- How you communicate
- How you maintain rules
- What your expectations are

When there's a rush happening at the door and a small circus in the kitchen, your employees need to know that you are going to be consistent. Your consistency makes it possible for them to handle the high-stress loads without cracking.

MANAGE PROACTIVELY

In the restaurant business, things come at you fast. You need to be proactive and stay ahead of the curve instead of being reactive. This means that you look and work in the future, not in the current moment, for managing decisions such as:

- Staffing needs
- Menu changes and updates
- Marketing campaigns
- Inventory
- Spotting consumer trends
- Updating technology

If you're not proactive, you won't manage the restaurant, it'll manage you.



LEARN THE OPERATION BY DOING THE WORK YOURSELF

As a manager, the more actual experience you have in working the business, the better you will be in problem-solving when something goes haywire.

Be a manager who isn't afraid to get your hands dirty, who knows how the kitchen operates, what the cooks are dealing with and the stresses of the servers. Talk to your employees about what they do and why they use the methods they use. You'll gain respect (and knowledge) from your employees and have a better foundation for making decisions that affect them and the customers they are serving.

PRIORITIZE STAFF RETENTION

According to a recent survey, 46% of restaurant managers and owners said that hiring, training and then retaining staff is their number-one challenge.

Not sales. Not inventory. Not trends. Staffing.

Make staff retention a priority. Constantly replacing staff is a huge expense in an industry that already has tight profit margins. Customers in restaurants come for the experience (as we'll talk about in a minute), and part of that experience is becoming comfortable with the staff they expect to see at their regular haunt.

BUDGETING - KNOW YOUR COSTS

As a manager it is absolutely critical that you know and understand your true monthly fixed and variable costs in order to create a budget to run the restaurant cost effectively and profitably. Make time for yourself to sit down and review the monthly bills in order to ensure that your business is on track to meet the profit threshold you budgeted for at the beginning of the month. It's so easy to spend and a lot more difficult to hold back and look for more cost effective ways to offer the same great food and service but at less expense. Budgeting is probably the most important component of managing a restaurant; if you don't know where your costs are derived from and have no control over how to correct shortfalls, you'll be out of business very quickly.

KEEP YOUR EYE ON CUSTOMER SATISFACTION

Managing customer expectations in any business is difficult, but a restaurant tops that list. You're dealing with everything from food preferences, dietary issues, traffic flow in the restaurant, irate customers, last-minute reservations and people who show up to eat five minutes before you're ready to close.

Customer satisfaction is the end goal for every decision you make when a customer issue pops up. How you go about getting that satisfaction may vary, but the end result is always the same. No joke: a basic understanding of psychology wouldn't hurt.

One word of caution: get to customer satisfaction without sacrificing your staff. Protect your staff from customer tempers and wrath. Remember, you don't want to lose staff, either.

IMPROVE THE CUSTOMER EXPERIENCE

The restaurant industry now commands nearly half of the food dollar in the United States. That's a lot of people eating out instead of cooking at home.

There are practical reasons for this shift from a budget for grocery to eating out (e.g. people don't want to cook at home because of convenience issues). But there's more to it than convenience.

Food isn't just food. According to the National Restaurant Association, 56% of surveyed adults said they'd rather spend money on an experience than simply going to the store to buy food. You might think you're merely managing the preparation and delivery of food, but you're also managing the customer experience.

It's easy to get caught up in the obvious concerns of good food and efficiency, but if you lack concern for the overall experience your diners are having, you miss the big picture. Managing customer experience involves a mix of ambiance, cleanliness (restrooms especially!), friendly staff, fair prices, unique food and even no-fuss no-wait seating. If people are willing to pay to eat out because they are looking for experiences, a grumpy server or 40-minute wait at the door won't impress.

TAKE WORD-OF-MOUTH SERIOUSLY

The most popular way people choose a restaurant is by word-of-mouth from friends (78%). The second most popular? Social media. These are essentially the same in that they originate not from your message (what you control) but what others say about you.

Online reviews matter. Making a unique and memorable experience that gets people to talk about your restaurant matters. Have a social media presence matters (as long as you can manage it well). Monitoring what is said about your restaurant on social media matters.

And remember, word-of-mouth can go both ways. It can be positive, or it can be negative.

INVEST IN ADVERTISING

A restaurant can't live by word-of-mouth alone.

You will still need advertising. You need signs, you need print ads, you need online ads— advertising is especially important in a competitive market or when you are a new restaurant.

As a manager, the trick is to establish a budget and stick with it. Obvious, sure, but a smart advertising budget is built on gathering data that fits the needs of your restaurant. You have to be gathering necessary data, which includes demographics. (Who eats at your restaurant? Advertise where they are.) Social media ads can work well and have ample audience targeting capabilities.

That kind of data is useful for many of the decisions you make about your restaurant, but it's vital if you want to avoid throwing money away on thoughtless advertising.

TAKE CARE OF YOUR HEALTH

On top of all of the usual managerial tips, this last one is the most forgotten: take care of yourself.

This sounds odd, but let's be realistic: restaurant work is hard work. A restaurant manager isn't sitting at a desk lordling over everyone all day. She's out there on the floor, in the thick of it, pulling long hours, standing on her feet, pinch-hitting in multiple roles.

It's tiring. And physical weariness can lead to emotional and mental weariness.

Take care of your health, and stay fit. Your staff and restaurant will thank you for it.

FIND A MENTOR

Many of the best restaurant management tips will come from someone who actually has experience in the food service industry. Our final tip is to find someone who's already covered the ground you're facing. If you can't find one in person, go to websites like Quora or Reddit. Find forums where managers are asking and sharing.

And remember, don't lose your head on what doesn't matter. Keep the big picture—customer experience—always at the forefront. Everything must point to that one main thing.

SOURCES: When I Work.com, GetSling.co



MENU ENHANCEMENT

When a consumer sits down inside of a restaurant the menu is the one marketing tool that, when strategically designed well, can boost sales and profits by as much as 15%. A restaurant's menu is more than a list of items that are available to order. It's a guide for customers to decide what to buy. A restaurant owner or a manager can improve or enhance a restaurant menu to convince customers to buy certain items, choose larger sizes and to even try the latest specials -- but it takes work. Restaurant managers need to know what they are doing when they create a menu and why certain factors make customers spend more.

Before you redesign your menu, consider these 17 key factors that could make or break your sales goals for the next year.

PROMOTE THE SALE OF SPECIFIC ITEMS WITH PHOTOS.

Most people are visual learners and respond to visual stimulation, which means seeing a picture of the food they're considering ordering can convince them to buy it. In some studies, restaurants were able to boost sales by 30% by adding photos of food along with the text. Psychologists at Iowa State University conducted a study with YMCA campers in a cafeteria. Kids who saw a photo of the salad they could order were 70% more likely to choose it than if text was the only promo for the food item. The kids responded to the image in the same way they would respond to a plate of food in front of them.

Not only can a restaurant enhance their menu by adding images to it, a manager can also test promoting specific meals by including images of them instead of others. If a manager is trying to sell a specific menu item, a high-quality image could make customers buy it more.

IMPROVE A RESTAURANT MENU WITH MORE COLORFUL AND DESCRIPTIVE TITLES.

There are certain words that customers respond to when they read a menu. Terms like fresh, organic, crispy, spicy and savory all provide information about the food that they are about to order while eliciting an emotional response.

Consider the two descriptions below:

Farmhouse salad with arugula, tomato, cucumber, and bacon.

Farmhouse salad with fresh arugula, tomato, cucumber, and crispy bacon.

Adding a few descriptive words makes the menu item seem more appealing and higher quality.

Along with featuring adjectives on your digital menu signage, consider changing the names to better express your theme. Using the same example above, a farmhouse salad sounds more organic and rustic than simply calling it a salad. This title would work for a fast-casual Southern chain, regardless of whether a farmhouse actually had anything to do with the food.

A little creativity can help customers latch on to the memories associated with the food and convince them to buy your food based on their emotions -- not just their stomachs and wallets.

INVEST IN DIGITAL SIGNS/BOARDS.

One way a restaurant manager can constantly improve the menu is with digital signage boards. More fast-casual restaurants are moving toward this option in order to save money on printing fees and embrace the flexibility that comes with digital content.

A few reasons to consider making the switch to digital signage include:

1. The manager can constantly update content with better designs and layouts.
2. The manager can easily and affordably test different layouts to see what works.
3. The manager can remove out-of-stock products to prevent customer confusion and manage inventory.
4. The manager does not have to keep breakfast, lunch and dinner options up all day. You can change your menu content at different times of day using time-parting.
5. The customers can clearly read and understand your menu.
6. The manager can quickly change content to meet FDA requirements for menus.

Even companies that have a relatively static menu without changing specials or different options through the day can benefit from digital signage. Digital menu boards allow brands to constantly improve and create designs that grow their businesses.

PAY ATTENTION TO HOW YOUR CUSTOMER'S EYES TRAVEL.

Along with making sure the menu content is clear and easy to read, there are a few tricks a manager can implement to convince customers to buy items with high-profit margins for the restaurant.

For example:

- Customers tend to read a menu starting with the top right corner, making this a prime spot for dish placement.
- Placing the most expensive dish in the first spot can boost sales, while making the rest of the dishes seem more affordable by comparison.
- A third of diners consider ordering the first dish they see.

Starbucks is a great example of this menu placement. In the typical franchise, the customer's eye starts in the top-right corner of the menu boards. This is where many locations post drink specials, lattes and frappuccinos. After these more expensive items, the menu boards present drip coffee and tea, two of the less expensive categories.

Comparatively, a drip coffee seems less expensive than a latte, though many customers decide to order a seasonal item or frappuccino because they are the first items that they see.

UPDATE YOUR MENUS WITH SEASONAL ITEMS AND SPECIALS.

Seasonal items and specials increase foot traffic and encourage customers to buy higher-ticketed items. When customers realize they only have a limited time to buy an item, they're likely to make an effort to stop by and enjoy it while supplies last. The McDonald's Shamrock Shake and McRib are two key examples of this.

Even monthly or weekly specials can encourage your regular customers to stray from their normal menu items and consider buying something new (and a little more expensive).

The key to selling these items is placement. By featuring the special items prominently close to the top-right corner of your menu -- or creating a special call-out sign or poster for it -- restaurant owners can ensure that their customers are informed about the new items and are eager to try them.

The keys to improving a restaurant menu are testing and flexibility. Brands that try to improve their signage by following the latest, best practices are more likely to grow their sales than those who keep static signage for several months or years.

TAKE A HARD LOOK AT THE MENU PRICES.

Pricing products is one of the most difficult things that any business owner has to do. At it's simplest, a restaurant manager tries to calculate prices that will cover their costs and earn enough of a profit to make it worth staying in business. But, what if you're leaving money on the table by pricing the

food items too low? Or, vice versa, what if the menu is priced too high and the restaurant is losing sales volume? Either scenario could affect profitability in a major way.

Developing an optimal pricing strategy is half art and half science -- entire books have been written on the subject, so it is too complex to cover in detail here. What it boils down to, however, is matching the prices to the value that the customers perceive in the food items. If customers perceive that a \$12.99 burger, with locally raised, grass fed, ground chuck, represents an appropriate value, they'll be happy to pay it -- regardless of what it costs to make.

So, how can a restaurant manager gauge their customers' perceptions of value and price accordingly? Start with the direct competition. Are they pricing the same burger for \$8? If so, then, all other things being equal, they are probably stealing some of your sales. On the other hand, if they are pricing it at \$15, then there may be an opportunity to raise the price a little and increase the businesses profitability.

ELIMINATE THE CLUTTER.

Are there food items on your menu that just don't sell? Does the menu have so many items on it that a small, hard to read font is needed in order to fit it all in? If yes to either of these questions, consider ridding the menu of the clutter. Of course keep the classics, customer favorites and high profit items, but it may be time to get rid of the rest. Too many options on the menu will overwhelm the customers, create a large amount of inventory that will be thrown away, and leave the restaurant with increased labor costs, all of which reduces profitability.

Consider taking the restaurant's sales mix report and eliminating the bottom half of the items; the ones that are not selling. Then, take the top half and really evaluate where in the kitchen these items are prepared, using that to organize and balance the menu. For example, have a grilled items section, sautéed selections, fried foods, etc. O'Dell suggests no more than 20 main course dishes, including sandwiches, 4-6 starters, and 2-3 salads. If there is a pizza on the menu, it is suggested to make up 2/3 of your main course selections and consider only offering it in a maximum of 3 sizes. One should still accommodate special requests but have a special price for those requests. Cleaning up the menu and getting rid of the clutter will give the customers better food and better service in addition to allowing the restaurant to serve more people.

TRY A NEW DESIGN.

A fresh perspective and a new look to the menu is a great way to upgrade your brand and improve profitability. Consider investing in the services of a graphic designer or a marketing professional who can use their tricks of the trade to make the menu more attractive and eye catching. Or, look



into online companies who offer professional templates, like Vistaprint, to complete this task on your own. Regardless of who does it, design does make a difference. It's all about the text font and size, the illustrations and images, colors used, and even the shape, thickness, and texture of your menu. It's also about making sure that the final menu fits in with the concept and atmosphere of the restaurant.

CONSIDER ITEM PLACEMENT AND POSITIONING.

When organizing a menu, here are a few fun facts that may be helpful to increase sales. According to SoftCafe, a developer of menu software for restaurants, customers often remember and order the first two items and the last two items in each category on the menu. On a tri-panel menu, people look at the center panel first and move their attention counter clockwise. Place the highest margin items in these areas, and it could just substantially increase profitability.

OFFER SPECIALS.

Customers will come to a restaurant not only looking for deals, but also for menu items that they cannot get anywhere else. Consider a specials menu or insert with the regular menu that is changed out every so often to push high-margin items. A great example of a company that utilizes this strategy is Red Lobster, which has different, short lived, specials like Shrimp Fest, Crab Fest and Lobster Fest at various times of year.

Play up seasonal offerings during the holidays or offer certain items related to commercialized events like the Super Bowl

or the premier of a popular television show in the area. Specials keep a menu interesting and it allows the manager to use up inventory that might otherwise go to waste.

MAKE YOUR MENU EASILY ACCESSIBLE.

In this day and age, people want information in an instant and make their decisions based on the information available to them. Included in this is your restaurant's menu. As a result the goal is to get that information to the customers as soon as possible. One of the best ways to offer the menu even before any customer walks in is online through a mobile friendly website, app, or on any of the social media sites. When customers can access the menu from anywhere, it may just be the deciding factor that pulls their cars into the parking lot.

CONSIDER THE CUSTOMER DEMOGRAPHICS OF THE AREA.

A good restaurant manager should know who their customer is and what would appeal to them. When a restaurant menu appeals to a customer, especially the news customers, they are likely to return for more. For example, if a restaurant business caters to families, it makes sense to offer a separate kids menu. If the restaurant is located in a college town, offer pricing that appeals to the average college student. Or, if the restaurant is upscale it might make sense to offer a menu that caters to the customer in both variety and in design.

CATEGORIZE MENU ITEMS BASED ON POPULARITY AND PROFIT.

Some restaurants focus on just four distinct categories to drive menu design. These four categories are not the typical appetizers, entrées, desserts and beverages. The four really have to do with profitability and popularity.

Category 1 - Very popular and highly profitable dishes.

Category 2 - Also popular but have low profitability.

Category 3 - Highly profitable but not very popular.

Category 4 - Not very popular or profitable.

A restaurant needs popular food items on the menu to lure in customers but the focus on a menu should always be more on the profitable food items.

PLACE HIGH-MARGIN ITEMS IN THE GOLDEN TRIANGLE.

The Golden Triangle is the area of the menu that customers read first. A good manager will display high-margin items in the menu's Golden Triangle. The Golden Triangle seems to be that spot on the menu where our eyes typically move to the middle first, before traveling to the top right corner, and then, finally, to the top left.

HIGHLIGHT ONE HIGH-MARGIN ITEM PER CATEGORY.

Putting high-margin menu items within the Golden Triangle isn't enough. By "calling-out" specific menu items in this area, a menu can help guide a customer's decision-making process even further. Using bold text, place menu items in italics and add ribbons and boxes to menu items to get people to notice.

But make sure not to overdo the number of items that are highlighted. If too many items are highlighted then none will be clearly visible. A good guideline to follow is to highlight only one item per category on the menu.

INCLUDE MENU MODIFIERS TO UPSELL.

Most restaurants use menu modifiers on their menus and POS to upsell and drive sales. Classic examples of modifiers include offering an extra side to a main or an extra topping to a dessert.

However, what about unconventional modifiers? What about coffee with dessert? Or offering a burger by the ounce? What about upselling the option to include a liqueur with their dessert.

UPDATE YOUR MENU FOR CROSS-SELLING.

Cross selling is a way to get customers to purchase complementary products to increase a company's revenue. While cross-selling is popular and effective with online retailers (Amazon credits up to 35% of their revenue to cross-selling), it can also work for restaurant owners.

- **Analyze the current menu for pairings.**
Review the POS data of the menu to see what items are frequently purchased together. For example, customers may buy specific wines when they have certain dishes.
- **Group complementary items.**
Group those pairings in a spreadsheet for easy reference. Because not all items will be suitable for cross-selling purposes (some may have low margins), take note only of items that will add a good boost for sales.
- **Highlight chosen items on the menu.**
One of our earlier restaurant menu design tips was to "highlight high-margin items on the menu" to cross-sell. For example, right below a main dish, you could feature a suitable wine just below the menu description. This approach helps your customer choose while increasing your bottom line.

USE COLOR TO GET PEOPLE TO BUY.

Different colors trigger different associations and can impact what we buy. So a smart use of color in menus can improve sales. But what colors should a menu focus on?

Green implies that the food is fresh and orange stimulates the appetite. Yellow is a happy hue and is used to capture the diners' attention. Red encourages action and is used to persuade to buy the meals with the highest profit margins.

Bonus tip: If you're looking for some ideas on how restaurants use color in their menus, check out some inspirational Pinterest boards.

USE DECOY DISHES.

Finally, there are decoy dishes. Decoy dishes – as the name suggests – are a way to lure people away from an intended course (pun intended). In this case, you can place expensive dishes at the top of the menu to create the perception that the other items are better value. By getting people to think they've found a bargain, chances are they'll spend more.

While the first instinct may be to increase all prices in response to rising labor costs, thoughtful revisions to your restaurant menu design will bring a restaurant's bottom line better results.

SOURCES: Spectrio, Tables Chairs and Barstools.com, Touchbistro.com



FOOD CATERING

The catering market in the United States is huge—and growing. According to Technomic’s 2017 “Catering Usage and Preferences” report, the catering market topped \$58 billion that year. Of that market, more than a third—over \$22 billion—went to business catering (B2B), and the balance of nearly \$36 billion went to social catering (B2C). These commanding numbers suggest that catering is a big business opportunity that’s only getting bigger.

HISTORY

Catering has a rich history, dating back to the 4th millennium BC in China. Officially, the Ancient Greeks made catering a trade by offering services at their inns and hostels which lasted into the Roman Empire. Throughout the centuries, catering was primarily for feasts and banquets for Kings and Noblemen.

In America, catering dates back to our country’s beginning and has continued to evolve as our nation progresses. Take a look at this brief timeline, noting some of the catering industry’s major milestones in the United States.

1778 – A ball in Philadelphia, catered by Caesar Cranshell, was the first major catering event in the United States.

1820 – Catering became a respectable and profitable business, and it was mainly founded by African Americans. In the early years of catering many caterers were waiters and other restaurant staff.

1840 – Robert Bogle is known as the “Originator of Catering”; he made it possible for the industry to personalize what they wanted catering to be. Many catering businesses began to partner and combine with their restaurants.

1930 – Around this time catering businesses started to simplify their menus in order to ration their food supply during World War II. During the time of the war, catering was a great way for people to stay in business.

1960 – Home-cooked meals were no longer the norm for most people. They had become used to eating in public catering facilities in order to preserve and ration the food supply during the war.

1970’s-2000’s – By the 2000’s catering really started to become popular, especially with more women starting to enter the workforce. Housewives used to try to do their own catering out of their homes; however, it was not sustainable due to their limited kitchens and space. They would bring their food to parties/events and help serve the food. As they started to legitimize their business practices and embrace new styles of cooking, the catering industry became held in higher regard, right next many to 5-Star restaurants.

2006-Present – Many restaurants and organizations have also begun adding “Catering” departments to their business models to enhance their brand. Today when you seek out a legitimate catering company to provide food for your event, they will usually provide a lot more services than just the food. Many will have an event planner on their staff and provide table decor and event details like licensing for fireworks. The services provided by catering companies are meant to be everything that is needed or required for your event to be successful.

A food cart is a motorless trailer that can be hauled by automobile, bicycle, or hand to the point of sale, often a public sidewalk or park. Carts typically have an onboard heating and/or refrigeration system to keep the food ready for consumption. Foods and beverages often served from carts include:

- Hot dogs and other sausages in the United States
- Tacos, burritos and other Mexican-style food that can be held in the hand
- Halal food, such as lamb or chicken over rice, or in a gyro
- Ice cream and other frozen treats
- Coffee, bagels, donuts, egg sandwiches, e.g., bacon, egg, and cheese, and other breakfast items
- Pig roast, often served in a bread bun or baguette with apple sauce or sage and onion stuffing
- BBQ – popular food items include burgers, sausages and chicken.

MOBILE CATERING FOR INDIAN RAILWAYS

A catering truck enables a vendor to sell a larger volume than a cart and to reach a larger market. The service is similar; the truck carries a stock of prepared foods that customers can buy. Ice cream vans are a familiar example of a catering truck in Canada, the United States and United Kingdom.

A food truck or mobile kitchen is a modified van with a built-in barbecue grill, deep fryer or other cooking equipment. It offers more flexibility in the menu since the vendor can prepare food to order, as well as fresh foods in advance. A vendor can choose to park the van in one place, as with a cart, or to broaden the business’s reach by driving the van to several customer locations. Examples of mobile kitchens include taco trucks on the west coast of the United States, especially Southern California, and fish and chips vans in the United Kingdom. These vehicles are sometimes





disparagingly called “roach coaches.”

Here are the different types of catering services:

- Corporate Catering
- Wedding Catering
- Social Event Catering
- Cocktail Reception
- Concession Catering
- Food Truck Catering
- Buffet Catering
- Sit-down Catering

To most people, a catering spread looks like lunch. But to many restaurants, it is a business opportunity. More brands are embracing the robust business of catering. Subway and KFC, for instance, have entered that world. So has Chick-fil-A, whose webpage displays fried chicken strips and elegantly packaged meals to hook customers who eat with their eyes first. Even retailers such as Costco, Walmart and Target have skin in the game. When a brand as large as KFC makes such an accommodation—offering to “Feed your next party, office get-together, or family reunion with Catering by KFC®.”—it clearly hopes to tap into a lucrative market.

THE CASE FOR BUSINESS CATERING

Before you begin building your catering operation, understand which customer segments you intend to reach. While operators may be most familiar with the Grubhubs of consumer delivery and with social catering (think buckets of wings and platters of sliders for the big game), the business-catering market is worth considering, too. Not only did business catering haul in over \$22 billion last year, but the segment has grown by more than 20 percent from 2014 to 2017, based on annual catering-growth reports from Technomic from 2015 to 2017. Business catering is expected to grow, too, at 5.6 percent annually through 2019. Another advantage is that consumers of business catering tend to place steady repeat orders, offering a potentially better return on investment than social-catering customers, who order less frequently.

FORCES AFFECTING THE CATERING MARKET

The Office – What’s fueling the business catering market? Changes in how people work. The rise of the gig economy and more flexible work arrangements means employers have to fight to keep talented staff working in their offices, and they’ve quickly learned that food is a great incentive. Indeed, studies have shown that productivity tends to rise when workers can eat at the office instead of dipping out for a 90-minute lunch break. This phenomenon has created a climate in which more businesses are spending money on office catering. Employers view catering as an investment in employee retention that must be made regularly, rather than

occasionally as a rare perk. By Technomic’s numbers, 78 percent of customers of business catering placed an order at least once a month, up from 71 percent the year before. This is all good news for those in the catering business.

Sales and Human Resources – It’s not just the office that is plugged in to the wonder of business catering. Food has become an expected fixture at training sessions, client meetings, pitch sessions and other corporate gatherings, too. Try scheduling a noon meeting these days without it, and notice the disappointed faces around the room. Office meals keep a team engaged and add value to a presentation or pitch. Over 80 percent of sales reps and HR and training managers report ordering catering at least once per month, reports Technomic.

Fractionalized Consumer Market – Naturally, your restaurant would like a slice of this business opportunity. The good news is that the pie—\$22 billion—is a fractionalized consumer market. The business-catering market segment is still evolving in the industry, and few brands have a large enough national footprint to dominate market share. Even a brand synonymous with office catering, Panera, only owns about 2 percent of the business catering market. Because the market isn’t dominated by any one brand, anyone can potentially get a slice.

Behavioral Patterns – You’ll also be pleased to hear something else: no office wants to order catering from the same restaurant constantly. This behavioral pattern further fractionalizes the market in a way that can benefit your venture. Office managers who make decisions on catering are wary of meal fatigue; they know their employees don’t want to see the same delivery box every day. So, if the group’s idea is to order Mexican food on Mondays, your Mexican restaurant doesn’t have to compete with Greek restaurants or salad chains: you just have to be the best

Mexican catering option in town. You can differentiate your business and earn regular orders not just with your menu, but by keeping the following four factors in mind as you execute:

- Easy ordering
- Accurate orders
- Timely delivery
- Quality food

If you can outperform other Mexican restaurants on these fronts, you’re poised to corner your local market.

THE BENEFITS

What’s in it for you if you win that recurring Monday order? Great margins. According to Technomic, the median bill for a catering order last year was \$180. That figure is relatively handsome, compared to the less than \$10 that quick-service restaurants are estimated to receive from a dine-in check, according to a different Technomic study. The numbers tell us that a quick-service restaurant could see a catering order bring in 18 times the money that a single dine-in customer would spend. And because catering orders are prepared, filled, and delivered in bulk, a catering order is typically more efficient to produce, allowing for higher margins.

Clearly, you should consider the size of the business catering market—a market strengthened by consumer trends—because the enormity of that market could lead to incremental sales and margins. This consideration should be part of your strategy as you look to grow your brand. If you have not already, it’s time to grab a slice of the pie!

SOURCES: tgiscatering.com, EZcater.com and Wikipedoa.org



GROCERY STORES

The first grocery store was the Piggly Wiggly which opened in 1916 in Memphis, Tennessee. From that date on, a new style of food retail distribution was introduced that changed America. After World War II the suburbs exploded with families who needed nearby food supplies and ingredients to cook at home. The modern-day grocery stores began to pop up all over the country. Today the average grocery store is about 50,000 square feet, stocks anywhere from 30,000 SKUs and sells about \$2 million of product annually. The food retail industry comprises foods sold at food retailers such as grocery stores, mass merchandisers, drug stores, convenience stores and foodservice facilities. Total retail and food service sales in the United States amounted to about \$6 trillion in 2019. This is roughly triple the sales numbers that were generated in 1992, not adjusting for inflation.

LEADING RETAILERS AND STORE TYPES

In 2019, the leading food and grocery retailer in the United States was by far Walmart, which generated sales numbers of over \$270 billion that year. The Kroger Co., Costco Wholesale Club and Ahold Delhaize were also among the top U.S. retailers. With a grocery market share of almost 60 percent, the supermarket was the top store type in 2018. The warehouse clubs and superstores category stood in second place, accounting for almost a quarter of the U.S. market.

CONSUMER HABITS

The American consumer made an average of one-and-a-half trips to the grocery store per week in 2019. The average amount of trips has noticeably decreased, compared to a decade earlier. In recent times, online grocery shopping has also become an option for consumers. The concept is projected to grow considerably in the coming years, reaching



roughly \$60 billion worth of sales in the United States by 2023.

SUPERMARKET

Although the term supermarket is used interchangeably with the term grocery store, a supermarket is typically much larger in size, around 70,000 square feet, has 60,000 SKUs and sells over \$4 million annually. The supermarket typically has aisles for meat, fresh produce, dairy and baked goods. Shelf space is also reserved for canned and packaged goods and for various non-food items such as kitchenware, household cleaners, pharmacy products and pet supplies. Some supermarkets also sell other household products that are consumed regularly, such as alcohol (where permitted), medicine and clothing, and some sell a much wider range of non-food products: DVDs, sporting equipment, board games and seasonal items (e.g., Christmas wrapping paper in December).

A larger full-service supermarket combined with a department store is sometimes known as a hypermarket. Other services may include those of banks, cafés, childcare centers, insurance (and other financial services), mobile-phone services, photo processing, video rentals, pharmacies and gas stations. If the eatery in a supermarket is substantial enough, the facility may be called a “grocerant”, a blend of “grocery” and “restaurant”.

The traditional supermarket occupies a large amount of floor space, usually on a single level. It is typically situated near a residential area in order to be convenient for consumers. The basic appeal is the availability of a broad selection of goods under a single roof, at relatively low prices. Other advantages include ease of parking and frequently the convenience of shopping hours that extend into the evening or even 24 hours of the day. Supermarkets usually allocate large budgets to advertising, typically through newspapers. They



also present elaborate in-shop displays of products.

Supermarkets are typically chain stores, supplied by the distribution centers of their parent companies, thus increasing opportunities for economies of scale. Supermarkets usually offer products at relatively low prices by using their buying power to buy goods from manufacturers at lower prices than smaller stores can. They also minimize financing costs by paying for goods at least 30 days after receipt and some extract credit terms of 90 days or more from vendors. Certain products (typically staple foods such as bread, milk and sugar) are very occasionally sold as loss leaders so as to attract shoppers to their store. Supermarkets make up for their low margins by a high volume of sales, and with higher-margin items bought by the attracted shoppers. Self-service with shopping carts or baskets reduces labor costs, and many supermarket chains are attempting further reduction of costs by shifting to self-service check-out.

In the early days of retailing, products generally were fetched by an assistant from shelves behind the merchant's counter while customers waited in front of the counter and indicated the items they wanted. Most foods and merchandise did not come in individually wrapped consumer-sized packages, so an assistant had to measure out and wrap the precise amount desired by the consumer. This offered opportunities for social interaction; many regarded this style of shopping as “a social occasion” and would often pause for conversations with the staff or other customers”. These practices were by nature slow and had high labor intensity, and were therefore also quite expensive. The number of customers who could be attended to at one time was limited by the number of staff employed in the store. Shopping for groceries also often involved trips to multiple specialty shops, such as a greengrocer, butcher, bakery, fishmonger and dry goods store, in addition to a general store. Milk and other items of short shelf life were delivered by a milkman.

The concept of an inexpensive food market relying on large economies of scale was developed by Vincent Astor. He founded the Astor Market in 1915, investing \$750,000 of his fortune into a 165' by 125' (50x38-metre) corner of 95th and Broadway, Manhattan, creating, in effect, an open-air mini-mall that sold meat, fruit, produce and flowers. The expectation was that customers would come from great distances, but in the end, even attracting people from ten blocks away was difficult, and the market folded in 1917.

The concept of a self-service grocery store was developed by entrepreneur Clarence Saunders and his Piggly Wiggly stores. Saunders was awarded several patents for the ideas he incorporated into his stores. The stores were a financial success and Saunders began to offer franchises.

The general trend since then has been for grocery stores to stock shelves at night so that customers, the following day, can obtain their own goods and bring them to the front of the store to pay for them. Although there is a higher risk of shoplifting, the costs of appropriate security measures are ideally outweighed by reduced labor costs.

In the 1950s, supermarkets frequently issued trading stamps as incentives to customers. Today, most chains issue store-specific “membership cards”, “club cards”, or “loyalty cards”. These typically enable the cardholder to receive special members-only discounts on certain items when the credit card-like device is scanned at check-out. Sales of selected data generated by club cards is becoming a significant revenue stream for some supermarkets.



Traditional supermarkets in many countries face intense competition from discounters such as Wal-Mart, Aldi and Lidl, which typically is non-union and operates with better buying power. Other competition exists from warehouse clubs such as Costco that offer savings to customers buying in bulk quantities. Superstores, such as those operated by Walmart and Asda, often offer a wide range of goods and services in addition to foods. In Australia, Aldi, Woolworths and Coles are the major players running the industry, with fierce competition among all three. The rising market share of Aldi has forced the other two to cut prices and

increase their private label product ranges. The proliferation of such warehouse and superstores has contributed to the continuing disappearance of smaller, local grocery stores; increased dependence on the automobile; suburban sprawl because of the necessity for large floor space; and increased vehicular traffic. For example, in 2009, 51% of Walmart's \$251 billion domestic sales were recorded from grocery goods. Some critics consider the chains' common practice of selling loss leaders to be anti-competitive. They are also wary of the negotiating power that large, often multinationals have with suppliers around the world.

ORGANIC AND ENVIRONMENTALLY-FRIENDLY SUPERMARKETS

Some supermarkets are focusing on selling more (or even

exclusively) organically certified produce. Others are trying to differentiate themselves by selling fewer (or no) products containing palm oil. This as the demand of palm oil is a main driver for the destruction of rainforests. As a response to the growing concern on the heavy use of petroleum-based plastics for food packaging, so-called “zero waste” and “plastic-free” supermarkets and groceries are on the rise.

STORE LAYOUT STRATEGIES

Most merchandise is already packaged when it arrives at the supermarket. Packages are placed on shelves, arranged in aisles and sections according to the type of item. Some items, such as fresh produce, are stored in bins. Those requiring an intact cold chain are in temperature-controlled display cases.

While branding and store advertising will differ from company to company, the layout of a supermarket remains virtually unchanged. Although big companies spend time giving consumers a pleasant shopping experience, the design of a supermarket is directly connected to the in-store marketing that supermarkets must conduct to get shoppers to spend more money while there.

Every aspect of the store is mapped out and attention is paid to color, wording and even surface texture. The overall layout of a supermarket is a visual merchandising project that plays a major role. Stores can creatively use a layout to alter customers' perceptions of the atmosphere. Alternatively, they can enhance the store's atmospherics through visual communications (signs and graphics), lighting, colors and even scents. For example, to give a sense of the supermarket being healthy, fresh produce is deliberately located at the front of the store. In terms of bakery items, supermarkets usually dedicate 30 to 40 feet of store space to the bread aisle.

Supermarkets are designed to give each product section a sense of individual difference and this is evident in the design of what is called the anchor departments: fresh produce, dairy, delicatessen, meat and the bakery. Each section has different floor coverings, style, lighting and sometimes even individual service counters to allow shoppers to feel as if there are a number of markets within one supermarket.

Marketers use well-researched techniques to try to control purchasing behavior. The layout of a supermarket is considered by some to consist of a few rules of thumb and three layout principles. The high-draw products are placed in separate areas of the store to keep drawing the consumer

through the store. High impulse and high margin products are placed in the most predominant areas to grab attention. Power products are placed on both sides of the aisle to create increased product awareness, and end caps are used to receive a high exposure of a certain product whether on special, promotion or in a campaign, or a new line.

The first principle of the layout is circulation. Circulation is created by arranging product so the supermarket can control the traffic flow of the consumer. Along with this path, there will be high-draw, high-impulse items that will influence the consumer to purchase which he or she did not intend. Service areas such as restrooms are placed in a location which draws the consumer past certain products to create extra buys. Necessity items such as bread and milk are found at the rear of the store to increase the start of circulation. Cashiers' desks are placed in a position to promote circulation. The entrance will be on the right-hand side because research has shown that consumers who travel in a counter-clockwise direction spend more.

The second principle of the layout is coordination.

Coordination is the organized arrangement of product that promotes sales. Products such as fast-selling and slow-selling lines are placed in strategic positions in aid of the overall sales plan. Managers sometimes place different items in fast-selling places to increase turnover or to promote a new line.

The third principle is consumer convenience. The layout of a

supermarket is designed to create a high degree of convenience to the consumer to make the shopping experience pleasant and increase customer spending. This is done through the character of merchandising and product placement. There are many different ideas and theories in relation to layout and how product layout can influence the purchases made. One theory suggests that certain products are placed together or near one another that are of a similar or complementary nature to increase the average customer spend. This strategy is used to create cross-category sales similarity. In other words, the toothpaste is next to or adjacent the toothbrushes and the tea and coffee are down the same aisle as the sweet biscuits. These products complement one another and placing them near is one way marketers try to increase purchases.

For vertical placement, cheap generic brands tend to be on the lowest shelves, products appealing to children are placed at the mid-thigh level, and the most profitable brands are placed at eye level.

The fourth principle is the use of color psychology and the

locations of the food, similar to its use in fast food branding.

Consumer psychologists suggest that most buyers tend to enter the store and shop to their right first. Some supermarkets, therefore, choose to place the entrance to the left-hand side as the consumer will likely turn right upon entry, and this allows the consumer to do a full counterclockwise circle around the store before returning to the checkouts. This suggests that supermarket marketers should use this theory to their advantage by placing their temporary displays of products on the right-hand side to entice customers to make an unplanned purchase. Furthermore, aisle ends are extremely popular with product manufacturers, who pay top dollar to have their products located there. These aisle ends are used to lure customers into making a snap purchase and to also entice them to shop down the aisle. The most obvious place supermarket layout influences consumers are at the checkout. Small displays of chocolates, magazines and drinks are located at each checkout to tempt shoppers while they wait to be served.

In an average-size modern-day supermarket, dry groceries consist of only 24% of the store's total sales. The bulk of the



remainder consist of pharmacy, non-food grocery, meat, fish, prepared deli products, bakery and produce. However, what lures in customers on a daily basis are three key areas of the store: upscale delis, bakeries and a vast and fresh selection of produce.

IN-STORE BAKERIES

The modern bakery in a supermarket today only yields about 3% of the total sales of the store each year. However, it's that consumer psychology that lures the buyer into the store to smell those fresh baked pies, cookies and cakes that supermarkets have come to know and understand. The average consumer may only buy one thing in the bakery, but they may choose to drive the extra distance to buy that one fresh-baked pie for dinner. The supermarkets know this and so, in order to get them into the store, they may choose to spend more money on the in-store bakery to lure in these customers, and then make up the cost on the sale in other less-expensive departments.

PREPARED FOOD DELIS

The modern day deli in a supermarket has really been upgraded from years past. Although supermarket delis only consist of 4% of the store's total sales, what they offer as a whole is so important to the store's overall success that a deli is absolutely required. For example, today's supermarket delis offer a spike in sales during the lunch hour, for example, or offer the soccer mom or dad a quick prepared dinner option on their way home. The rotisserie chicken counter is a high profit SKU for the store and those chickens that don't sell are sometimes chopped up and converted into chicken salad that is later set out the next day in a deli container. Delis sell cheese, a variety of international cured meats, prepared ready to cook and serve meals and salads. Like the bakery section in a supermarket, the deli is also a lure for consumers that supermarkets know are a must-have for an overall successful store.

PRODUCE

The produce section in a modern supermarket just might be the most critical product segment to lure in

repeat consumers. How many times have you been into a supermarket and discover that their produce is bad? Produce represents 13.5% of a supermarket's total annual sales. If consumers cannot get the fresh, sweet-tasting fruit and vegetables that they need for dinner, they will go to another store. The rationale is that if they have to go to another store for fresh produce, then why go back to the original supermarket at all. That is why so many modern-day supermarkets use 30% or more of their floor real estate to display and promote produce. It is also almost always located on the right side of the store where, as noted above, consumers begin their shopping.

In the end, whether it's a smaller grocery store or larger supermarket, this retail food segment is vastly important to food distribution to the consumer market segment and represents \$6 trillion annually to our nation's GDP.

WHAT LURES IN CUSTOMERS ON A DAILY BASIS ARE THREE KEY AREAS OF THE STORE WHICH ARE: UPSCALE DELIS, BAKERIES AND A VAST AND FRESH SELECTION OF PRODUCE.



FOOD PROCESSORS

Primary food processing turns agricultural products, such as raw wheat kernels or livestock, into something that can eventually be eaten. This category includes ingredients that are produced by ancient processes such as drying, threshing, winnowing and milling grain, shelling nuts and butchering animals for meat. It also includes deboning and cutting meat, freezing and smoking fish and meat, extracting and filtering oils, canning food, preserving food through food irradiation and candling eggs, as well as homogenizing and pasteurizing milk.

Contamination and spoilage problems in primary food processing can lead to significant public health threats, as the resulting foods are used so widely. However, many forms of processing contribute to improved food safety and longer shelf life before the food spoils. Commercial food processing uses control systems such as hazard analysis and critical control points (HACCP) and failure mode and effects analysis (FMEA) to reduce the risk of harm.

SECONDARY FOOD PROCESSING

Secondary food processing is the everyday process of creating food from ingredients that are ready to use. Baking bread, regardless of whether it is made at home, in a small bakery or in a large factory, is an example of secondary food processing. Fermenting fish and making wine, beer and other alcoholic products are traditional forms of secondary food processing. Sausages are a common form of secondary processed meat, formed by comminution (grinding) of meat that has already undergone primary processing. Most of the secondary food processing methods known to humankind are commonly described as cooking methods.

TERTIARY FOOD PROCESSING

Tertiary food processing is the commercial production of what is commonly called processed food. These are ready-to-eat or heat-and-serve foods, such as TV dinners and re-heated airline meals.

HISTORY

Food processing dates back to the prehistoric ages when crude processing incorporated fermenting, sun drying, preserving with salt and various types of cooking (such as roasting, smoking, steaming and oven baking). Such basic food processing involved chemical enzymatic changes to the basic structure of food in its natural form, as well served to build a barrier against surface microbial activity that caused rapid decay. Salt-preservation was especially common for foods that constituted warrior and sailors' diets until the introduction of canning methods. Evidence for the existence of these methods can be found in the writings

of the ancient Greek, Chaldean, Egyptian and Roman civilizations as well as archaeological evidence from Europe, North and South America and Asia. These tried and tested processing techniques remained essentially the same until the advent of the industrial revolution. Examples of ready-meals also date back to before the preindustrial revolution, and include dishes such as Cornish pasty and Haggis. Both during ancient times and today in modern society these are considered processed foods.

Modern food processing technology developed in the 19th and 20th centuries was developed in a large part to serve military needs. In 1809 Nicolas Appert invented a hermetic bottling technique that would preserve food for French troops which ultimately contributed to the development of tinning, and subsequently canning by Peter Durand in 1810. Although initially expensive and somewhat hazardous due to the lead used in cans, canned goods would later become a staple around the world. Pasteurization, discovered by Louis Pasteur in 1864, improved the quality and safety of preserved foods and introduced the wine, beer and milk preservation.

In the 20th century, World War II, the space race and the rising consumer society in developed countries contributed to the growth of food processing with such advances as spray drying, evaporation, juice concentrates, freeze drying and the introduction of artificial sweeteners, coloring agents and such preservatives as sodium benzoate. In the late 20th century, products such as dried instant soups, reconstituted fruits and juices and self-cooking meals such as MRE food ration were developed. By the 20th century, automatic appliances like the microwave oven, blender and rotomatic paved the way for convenience cooking.

In western Europe and North America, the second half of the 20th century witnessed a rise in the pursuit of convenience. Food processing companies marketed their products especially towards middle-class working wives and mothers. Frozen foods (often credited to Clarence Birdseye) found their success in sales of juice concentrates and "TV dinners." Processors utilized the perceived value of time to appeal to the postwar population, and this same appeal contributes to the success of convenience foods today.

BENEFITS

- Benefits of food processing include toxin removal, preservation, easing marketing and distribution tasks and increasing food consistency. In addition, it increases year-round availability of many foods, enables transportation of delicate perishable foods across long distances and makes many kinds of foods safe to eat by deactivating spoilage and pathogenic micro-organisms.

Modern supermarkets would not exist without modern food processing techniques, and long voyages would not be possible.

- Processed foods are usually less susceptible to early spoilage than fresh foods and are better suited for long-distance transportation from the source to the consumer. When they were first introduced, some processed foods helped to alleviate food shortages and improved the overall nutrition of populations as it made many new foods available to the masses.
- Processing can also reduce the incidence of food-borne disease. Fresh materials, such as fresh produce and raw meats, are more likely to harbor pathogenic microorganisms (e.g. Salmonella) capable of causing serious illnesses.
- The extremely varied modern diet is only truly possible on a wide scale because of food processing. Transportation of more exotic foods, as well as the elimination of much hard labor gives the modern eater easy access to a wide variety of food unimaginable to their ancestors.
- The act of processing can often improve the taste of food significantly.
- Mass production of food is much cheaper overall than individual production of meals from raw ingredients. Therefore, a large profit potential exists for the manufacturers and suppliers of processed food products. Individuals may see a benefit in convenience, but rarely see any direct financial cost benefit in using processed food as compared to home preparation.
- Processed food freed people from the large amount of time involved in preparing and cooking “natural” unprocessed foods. The increase in free time allows people much more choice in lifestyle than previously allowed. In many families the adults are working away from home and therefore there is little time for the preparation of food based on fresh ingredients. The food industry offers products that fulfill many different needs: e.g. fully prepared ready meals that can be heated up in the microwave oven within a few minutes.
- Modern food processing also improves the quality of life for people with allergies, diabetics and other people who cannot consume some common food elements. Food processing can also add extra nutrients such as vitamins.



DRAWBACKS

- Processing of food can decrease its nutritional density. The amount of nutrients lost depends on the food and processing method. For example, heat destroys vitamin C. Therefore, canned fruits possess less vitamin C than their fresh alternatives. The USDA conducted a study of nutrient retention in 2004, creating a table of foods, levels of preparation and nutrition.
- New research highlighting the importance to human health of a rich microbial environment in the intestine indicates that abundant food processing (not fermentation of foods) endangers that environment.
- Using some food additives represents another safety concern. The health risks of any given additive vary greatly from person to person; for example, using sugar as an additive endangers diabetics. In the European Union, only European Food Safety Authority (EFSA) approved food additives (e.g., sweeteners, preservatives, stabilizers) are permitted at specified levels for use in food products. Approved additives receive an E number (E for Europe), simplifying communication about food additives included in the ingredient list for all the different languages spoken in the EU. As effects of chemical additives are learned, changes to laws and regulatory practices are made to make such processed foods safer.
- Food processing is typically a mechanical process that utilizes extrusion, large mixing, grinding, chopping and emulsifying equipment in the production process. These processes introduce a number of contamination risks. Such contaminants are leftover material from a previous operation, animal or human bodily fluids, microorganisms, nonmetallic and metallic fragments. Further processing of these contaminants will result in downstream equipment failure and the risk of ingestion by the consumer. Example: A mixing bowl or grinder is used over time, metal parts in contact with food will tend to fail and fracture. This type of failure will introduce into the product stream small to large metal contaminants. Further processing of these metal fragments will result in downstream equipment failure and the risk of ingestion by the consumer. Food manufacturers utilize industrial metal detectors to detect and reject automatically any metal fragment. Large food processors will utilize many metal detectors within the processing stream to reduce both damages to processing machinery as well as risk to consumer health.

Food processing does have some benefits, such as making

food last longer and making products more convenient. However, heavily processed foods also have drawbacks. Whole foods and those that are only minimally processed, like frozen vegetables without any sauce, tend to be

healthier. An unhealthy diet high in fat, added sugar and salt, such as one containing much highly processed food, can increase the risk for cancer, type 2 diabetes and heart disease, according to the World Health Organization.

A HISTORICAL TIMELINE OF FOOD PROCESSING

The 40s: Feeding the troops

- 1940** Putman Publishing Co. creates Food Equipment Preview magazine.

FDA transferred from the Dept. of Agriculture to the Federal Security Agency, with Walter Campbell appointed as the first Commissioner of Food and Drugs.
- 1941** M&M’s Plain Chocolate Candies introduced. Legend has it they are developed so soldiers can eat candy without getting their hands sticky.

Rex Whinfield and James Dickson in Manchester, England, develop polyethylene terephthalate (PET or PETE).

Borden’s iconic Elsie the Cow eats one of gossip columnist Hedda Hopper’s hats and cavorts with the Radio City Rockettes. In her heyday, she is besieged with fan mail.
- 1942** General Food Corp.’s Maxwell House instant coffee supplied to U.S. troops; sold to consumers in 1945.
- 1943** U.S. issues enrichment guidelines on adding iron, B vitamins, thiamine and riboflavin to bread and other grain products to offset nutrient deficiencies.
- 1945** To encourage banana consumption, the United Fruit Co. creates colorful spokesfruit Chiquita Banana.

The first microwave oven weighs in at 670 lbs., stands 62 inches tall and measures nearly 2-feet deep and wide. It sells for more than \$2,000, the equivalent of about \$20,000 today. Raytheon builds prototype for reheating meals on airplanes.
- 1946** Cherry Burrell Corp. develops continuous pasteurization system. It produces 7,000 lbs of butter from cream to final package in two hours.

More than 400 million pounds of frozen vegetables begin to compete in grocery stores with canned veggies.
- 1947** Pillsbury Pie Crust Mix, Hot Roll Mix and Cake Mix debut to the delight of moms.

Reynolds Metals Co. uses surplus aluminum from World War II to make Reynolds Wrap aluminum foil.

Putman Publishing Co. changes name of Food Equipment Preview to Food Processing Preview.

- 1948** Made with real dairy cream, Reddi-Whip is the first major U.S. aerosol food product.

Nestle USA launches Nestea instant tea and Nestle Quik Chocolate Powder. Mascot and dog puppet Farfel sings “N-E-S-T-L-E-S Nestle’s makes the very best...chocolate.”

Campbell Soup Co. introduces V-8 Cocktail Vegetable Juice.

Technology for making frozen concentrate orange juice is patented by members of the Florida Citrus Commission.

Cheetos brand cheese-flavored snack invented by the Frito Co.
- 1949** FDA publishes guidance to industry for the first time. “Procedures for the Appraisal of the Toxicity of Chemicals in Food”; becomes known as the “black book.”

To celebrate the company’s 80th birthday, Pillsbury holds the “Grand National Recipe and Baking Contest.” The overwhelming response sparks the Pillsbury Bake-Off Contest.

Sara Lee Cheese Cake, named after the daughter of baker Charles Lubin, introduced.

The 50s: The good life

- After years of rationing, consumption of meat, poultry and dairy soar to new levels. Cake mixes, developed by General Mills and Pillsbury, make it easier for families to celebrate. Refrigeration and the rise of suburbia lead to the creation of supermarkets. America’s new highway system allows for more efficient distribution of food and the rise of fast food chains. Television becomes the entertainment of choice, and Zenith invents a remote-control device, appropriately called Lazy Bones. Sales of new kitchen appliances go through the roof, prepared foods proliferate and more convenient packaging makes food preparation less time-consuming.
- 1950** Minnesota Valley Canning Co. becomes Green Giant Co.

Swanson’s introduces first frozen Chicken Pot Pie, and sells 5,000 units in its first year, and 10 million in its second year.

Putman Publishing Co. changes name of Food Processing Preview to Food Processing.
 - 1952** Clarence Birdseye introduces first frozen peas.

Mrs. Paul's debuts frozen fish sticks.

- 1953** Kraft's Cheez Whiz introduced. Originally created as an easy way to make Welsh rarebit, this stable cheese sauce comes in a jar with Worcestershire sauce, mustard flour and orange coloring. A survey finds 1,300 possible uses for the product.
- 1954** C.A. Swanson & Sons introduces the first TV dinner: roast turkey with stuffing and gravy, sweet potatoes and peas. It sells for 98 cents and comes in an aluminum tray (few kitchens had microwave ovens). Supposedly, executive Gerald Thomas came up with the idea when the company had tons of leftover turkey from Thanksgiving.
- Swift's Butterball brand and self-basting turkey introduced. Through genetics, Swift develops a broad-breasted bird without the tough tendons and uses a hot-water bath to remove feathers.
- 1955** The Tappan Stove Co. introduces the first microwave oven for home use. It features a more compact but less powerful microwave generating system. Price tag is \$1,300.
- Ray Kroc opens the first franchised McDonald's in Des Plaines, Ill. On opening day, a two-patty hamburger is 15 cents and french fries are 10 cents.
- Instant oatmeal invented by the Quaker Oats Co.
- 1957** General Foods introduces Tang breakfast beverage crystals. Initially intended as a breakfast drink, sales didn't take off until NASA takes it on an orbit around the Earth in 1965 on John Glenn's Friendship 7 Mercury flight.
- A market crisis looms with the first widespread public interest in dietary fats and cholesterol. An article in Food Processing warns consumers soon will be asking, "Which foods can I buy that contain the 'good' type of fat?"
- For the first time, margarine sales exceed those of butter.
- 1958** Jolly Green Giant born. He appears on TV, but he looks like a monster and scares kids. So they lighten him up a bit, add "Ho, ho, ho" and a catchy jingle.
- Sweet 'n Low introduced as an artificial sweetener (granulated saccharin, dextrose, cream of tartar and calcium silicate), and receives U.S. trademark patent no. 1,000,000.
- Diet Rite, the first diet soft drink, introduced by the Royal Crown Co.
- Food Additives Amendment enacted, requiring manufacturers of new food additives to establish safety. The Delaney proviso prohibits the approval of any food additive shown to induce cancer in humans

or animals.

FDA publishes the first list of substances generally recognized as safe (GRAS) in the Federal Register. The list contains nearly 200 substances.

The 60s: Age of advertising

High-fructose corn syrup, a substitute for sugar, lowers the costs for food producers. The food industry makes the supply chain more efficient, creates products and technologies that cost less and uses its marketing expertise through advertising to show consumers the added value of food products.

- 1960** Aluminum cans first used commercially for foods and beverages.
- 1961** Coca-Cola introduces the 12-oz can.
- Boiling bags – frozen plastic packages of food that can be dropped in boiling water to heat them for serving – introduced.
- Green Giant enters the frozen food business with peas, corn, green beans and baby Lima beans in pouches with butter sauce.
- Star-Kist Foods brings Charlie the Tuna onboard.
- Frito-Lay Inc. formed by the merger of the Frito Co. and the H. W. Lay Co.
- 1962** General Foods Corp. introduces jingle, "Oh I wish I were an Oscar Meyer weiner..."
- 1963** Ermal Cleon Frazee revolutionizes the beverage industry with his invention of pull-tab openers for cans. He sells his invention to Alcoa. Schlitz Brewing Co. introduces first pop-top beer can.
- Coca-Cola introduces Tab, its first diet soft drink; Diet Pepsi follows next year.
- Irradiation used for the first time to sterilize dried fruits and vegetables, in order to stop sprouting and control insect infestation.
- 1964** Plastic milk container introduced commercially.
- 1965** PepsiCo founded through a merger of Pepsi-Cola Co. and Frito-Lay.
- Giggling his way to stardom, Pillsbury Doughboy Poppin' Fresh is born in the offices of Leo Burnett.
- 1967** Raytheon introduces the first domestic countertop 100-volt microwave oven, which costs just under \$500, and the market explodes. Raytheon, under the Amana brand name, becomes the dominant player in the home microwave oven business.
- Easy Open Front Ring pull-tab introduced to Spam can.

Gatorade, the original sports drink, developed by the University of Florida for their football team.

- 1968** Food Processing introduces Foods of Tomorrow section. Among the first items: fruit and spice microcapsules with full flavor impact at the moment of consumption.
- Alexander Liepa invents Pringles, packaged in a tubular can with a foil-coated interior and a resealable plastic lid. His children later honor his request by burying part of his cremated remains in a Pringles container in his grave.
- 1969** Cyclamate, a non-caloric sweetener, is banned by FDA after it's found to cause cancer in laboratory rats. Cyclamate is still used in many countries around the world.
- Carnation Spreadables – canned, meat-based sandwich spreads -- go to the moon on Apollo 11.
- General Foods introduces Hamburger Helper, which stretches a pound of hamburger to feed a family of five.
- ## The 70s: Changing demographics
- Americans hunger for more spice and flavor, and begin experimenting with Vietnamese and Chinese food. Chef Alice Waters at Chez Panisse fuels a food revolution by cooking with natural, seasonal ingredients, an almost forgotten concept because of the packaged-food boom. As Americans spend more time in front of the TV, they begin to pack on the pounds, so industry responds with "lite" products. USDA develops the first standard nutrition label, and health and disease prevention begins to appear on the consumer radar. Tracking consumer purchase behavior becomes commonplace, and the computer technology revolution begins. Nearly 11 million Americans live alone, a 54 percent increase from 1960. Birth rates drop by 22 percent, and the divorce rate increases 20 percent during the decade.
- 1970** Orville Redenbacher introduces his Gourmet Popping corn.
- 1971** Rival trademarks Crock-Pot.
- Starbucks founded at Pike Place Market in Seattle by Howard Schultz.
- 1973** Nathaniel Weyth receives patent for PET beverage bottles. This is the first safe plastic strong enough to hold carbonated beverages without bursting. DuPont will create the first commercial soda bottle two years later.
- Nestle acquires Stouffer's. Nestle also debuts Friskies Mighty Dog, the first single-serve canned dog food.
- 1974** Pepsi-Cola is first consumer product manufactured, distributed and sold in the former Soviet Union.

On June 26, at a Marsh Supermarket in Troy, Ohio, a 10-pack of Wrigley's Juicy Fruit is run through a hand-made laser scanner – the first use of supermarket scanners. By the end of the year, 1,000 food & beverage companies are registered and have assigned codes.

Miller rolls out Miller Lite, the first major-label light beer (Rheingold and Meister Brau had tried it earlier).

- 1976** FDA bans Red No. 2 color in food.
- Fortified cereal products and fiber-added products hit the shelves.
- Beech Nut becomes the first baby food company to remove added salt, in addition to added refined sugar, beginning the "natural" baby food movement.
- 1978** Coca-Cola, the only packaged drink allowed in the country, introduced to China.
- 1979** Green Giant merges with the Pillsbury Co.

The 80s: Nutrition guidelines and labeling take center stage

Microwave ovens are in almost every home, and the industry responds with a tremendous variety of frozen meals in plastic containers designed for microwave cooking. Health and obesity concerns are heightened, and industry responds with lower-calorie products.

- 1980** The January issue of Food Processing predicts the next 10 years will be "the decade of nutrition guidelines, fortification guidelines and nutritional labeling."
- 1981** G.D. Searle's aspartame approved; marketed as NutraSweet, it quickly replaces saccharin in diet soft drinks.
- Nestle debuts Lean Cuisine calorie-controlled frozen entrees.
- 1982** PepsiCo introduces Pepsi Free and Diet Pepsi Free, the first caffeine-free colas by a major brand.
- On a lark, Paul Newman and A.E. Hotchner found Newman's Own. After taxes, all proceeds are donated to educational and charitable organizations.
- 1984** LaBatt Brewing Co. introduces the twist-off cap on a refillable bottle.
- 1985** Modified Atmosphere Packaging (MAP) enters marketplace.
- Philip Morris Cos. Inc. purchases General Foods Corp. for \$5.6 billion.
- R.J. Reynolds buys Nabisco Foods for \$4.9 billion,

creating RJR Nabisco

Coca-Cola introduces New Coke, a sweeter formula. Three months later, after consumer backlash, Coca-Cola "Classic" returns.

- 1987** Snapple introduces bottled iced tea, beginning a new soft drink category.
- 1988** Philip Morris Cos. purchases Kraft for \$12.9 billion.
- Food and Drug Administration Act of 1988 officially establishes FDA as an agency of the Dept. of Health and Human Services.
- Lunchables introduced by Kraft.
- Minnesota adopts the blueberry muffin as the state muffin and designates it into law as Minnesota Statute 1.1496.00.
- 1989** ConAgra rolls out Healthy Choice, a line of low-fat, low-cholesterol, low-sodium foods developed after CEO Charles Harper has a heart attack.
- General Foods and Kraft merge to become Kraft General Foods.

The 90s: Packaging and globalization

Microwave packaging becomes more sophisticated and simulates conventional ovens for slow-cooking and browning. On the health front, food & beverage companies roll out nutraceutical and functional food products, energy bars, fortified drinks and fat-free, low-fat or reduced fat foods.

- 1990** Nutrition Labeling and Education Act requires all packaged foods to bear nutrition labeling, and all health claims for foods must be consistent with terms defined by the Secretary of Health and Human Services. The food ingredient panel, serving sizes and terms such as "low fat" and "light" are standardized.
- 1991** Coca-Cola introduces first bottle made with recycled plastic, an industry innovation.
- Frito-Lay launches Sunchips, its first multigrain snack.
- 1992** Nabisco introduces Snackwell line of reduced-fat baked goods.
- USDA introduces the first Food Guide Pyramid.
- Nutrition Facts panel (from 1990) now is required.
- 1994** China gets cheese-less Cheetos, the first time a major snack-food brand is changed in China for Chinese tastes.
- Cadbury-Schweppes buys Snapple for \$1.7 billion.
- 1995** Cadbury Schweppes completes takeover of 7Up.

- 1996** Betty Crocker's portrait is updated for the seventh time in eight decades, the latest rendition created in honor of her 75th birthday.
- 1997** Frito-Lay buys the 104-year-old snack, Cracker Jack, the icon candy-coated mix of popcorn and peanuts, from Borden Foods Corp.
- 1998** PepsiCo acquires Tropicana Products from Seagram Co. Ltd., the biggest acquisition ever undertaken by PepsiCo.
- FDA approves two new cholesterol-lowering margarines — Benecol (a plant stanol ester derived from pine trees) from McNeil Consumer Health Care and Take Control (a soybean extract plant sterol ester) from Unilever Plc's Lipton.
- 1999** Dean Foods Co. introduces its Milk Chug plastic single-serve package, designed to counter flagging per capita fluid milk consumption.

The 2000s: Slimming down on all fronts

Fewer dollars spent on R&D and consolidation mean fewer employees must do more work. Product development times are shorter, and there is less time to build brands – which are under fire from less expensive private label products. Foods are marketed to generational niches, especially aging baby boomers, and health solutions turn to reducing sodium and adding probiotics, fiber and omega-3s.

- 2000** Kraft General Foods acquires Nabisco Holdings Corp. for \$19.2 billion.
- 2001** International Multifoods acquires Pillsbury dessert and baking mix business.
- PepsiCo acquires South Beach Beverage Co., whose innovative SoBe brand makes it one of industry's most successful companies, for \$370 million.
- General Mills acquires the Pillsbury Co. and Green Giant.
- Nestle acquires Ralston Purina pet foods.
- PepsiCo Inc. acquires The Quaker Oats Co.
- 2003** Mad Cow disease spotted in Canada; curiously it doesn't affect U.S. meat consumption.
- To help consumers choose heart-healthy foods, the FDA requires food labels to include trans fat content, the first substantive change to the nutrition facts panel since the label was inaugurated in 1993.
- An obesity working group established by the Commissioner of Food and Drugs.
- 2004** The Food Allergy Labeling and Consumer Protection Act requires the labeling of any food that contains a protein derived from peanuts, soybeans, cow's milk, eggs, fish, crustacean shellfish, tree nuts and wheat.

J.M. Smucker Co. acquires International Multifoods for \$840 million.

Nestle acquires Chef America (Hot Pockets, Lean Pockets, Croissant Pockets) for \$2.6 billion.

- 2006** Nestle takes full ownership of Dreyer's ice cream; also enters weight-management market with acquisition of Jenny Craig for \$600 million.
- 2007** Nestle completes acquisition of Gerber baby food brand for \$5.5 billion.
- Tropicana launches Tropicana Healthy Heart with Omega-3s, the first national orange juice to include omega-3s.
- Walkers (PepsiCo's British chips brand) becomes the first major food brand in the world to display a carbon footprint reduction logo on its packs.

Altria Group Inc., formerly Philip Morris Cos., spins off Kraft Foods.

- 2008** FDA issues non-objection letters on new sweetener stevia; within days, Cargill Inc. (teamed with Coca-Cola) rolls out Truvia and Whole Earth Sweetener/Merisant (teamed with PepsiCo) debuts PureVia.

2009 Frito-Lay SunChips begins using the first fully compostable snack chip bag made from plant-based materials to significantly improve the environmental impact.

2010 Kraft Foods buys Cadbury for \$19 billion.

Nestle acquires Kraft's frozen pizza business for \$3.7 billion.

Betty Crocker Cookbook available for the iPad mobile digital device, featuring 2,500 of the most popular Betty Crocker recipes, high-resolution images and step-by-step cooking instructions.

Consumers take to websites like Yelp and start posting pictures on social media sites like Facebook and Twitter to remark on the loudness of Frito-Lay's SunChips compostable bag. Frito-Lay stops production of the compostable snack chip bag.

SOURCES: Food processing.com and Wikipedia.org



FOOD HANDLING & SAFETY

Have you ever had food poisoning? If you have then you know what an awful experience it can be. You then also become more cautious about eating certain types of food and are more careful in how it is prepared. Foodborne illnesses (sometimes called “Food Poisoning”) are caused by eating or drinking something that is contaminated with germs (such as bacteria, viruses, or parasites) or chemicals (such as toxins or metals) that can make people sick. Many foodborne illnesses can cause sudden symptoms like upset stomach, diarrhea, and vomiting, but most people get better in a few days without treatment. Some foodborne illnesses can cause other serious symptoms, resulting in hospitalization, long-term health problems, or even death.

The U.S. Center for Disease Control or CDC has estimated that every year in the United States:

- 48 million (or 1 in 6) people get sick from a foodborne illness
- 128,000 people are hospitalized because of a foodborne illness
- 3,000 people die from a foodborne illness

CONTAMINATED FOOD & DRINKS

The things we eat and drink can be contaminated in many different ways. Germs can get into food when the food is being grown or made, when the food is being transported or distributed, and even when the food is being prepared at a restaurant or in your home.

Germs can contaminate food and drinks if:

- Infected animals are used to produce meat or dairy products
- Contaminated water is used to grow or wash food
- People who are infected prepare or serve food to others

Germs can then multiply and produce toxins, especially when food and drinks are not refrigerated or stored properly.

Select types of foods are more likely than others to be contaminated with germs and make people sick. These include:

- Raw or undercooked meat, poultry, and seafood (including beef, chicken, and oysters)
- Raw or unpasteurized milk, dairy products, and juice (including soft cheeses, ice cream, and apple cider)
- Raw or undercooked eggs

¹ SOURCE: National Restaurant Association Educational Foundation (NRAEF).

- Fresh fruits and vegetables (including sprouts, leafy greens, and unwashed produce)
- Raw flour (such as flour that is in raw cookie dough)

When food and drinks are not cooked properly or pasteurized, any germs inside are still alive and can make you sick when you eat or drink them.

METHODS AND GUIDELINES FOR THAWING TCS FOOD¹

- **Refrigeration** – Thaw food in a cooler keeping its temperature at 41°F (5°C) or lower.
- **Running water** – Submerge food under running, drinkable water at 70°F (21°C) or lower. The flow of the water must be strong enough to wash loose food bits into the drain.

Always use a clean and sanitized food-prep sink when thawing food this way.

NEVER let the temperature of the food go above 41°F (5°C) for longer than four hours. This includes the time it takes to thaw the food plus the time it takes to prep or cool it.

- **Microwave** – Thaw food in a microwave oven if it will be cooked immediately after thawing.

The food must be cooked in conventional cooking equipment, such as an oven, once it is thawed.

- **Cooking** – Thaw food as part of the cooking process.

COOKING REQUIREMENTS FOR SPECIFIC TYPES OF FOOD¹

165°F (74°C) for <1 second (instantaneous)

- Poultry—including whole or ground chicken, turkey, or duck
- Stuffing made with fish, meat, or poultry
- Stuffed meat, seafood, poultry, or pasta
- Dishes that include previously cooked TCS ingredients (raw ingredients should be cooked to their minimum internal temperatures)

155°F (68°C) for 17 seconds

- Ground meat—including beef, pork, and other meat

- Meat mechanically tenderized with needles or blades or by injecting it with brine or flavors (e.g., brined ham or flavor-injected roasts)
- Meat vacuum-tumbled with marinades or other solutions
- Ground meat from game animals commercially raised and inspected
- Ratites—including ostrich and emu
- Ground seafood—including chopped or minced seafood
- Shell eggs that will be hot-held for service

145°F (63°C) for 15 seconds

- Seafood—including fish, shellfish, and crustaceans
- Steaks/chops of pork, beef, veal, and lamb
- Commercially raised game
- Shell eggs that will be served immediately

145°F (63°C) for 4 minutes

- Roasts of pork, beef, veal, and lamb
- Roasts may be cooked to these alternate cooking times and temperatures depending on the type of roast and oven used:

130°F (54°C)	112 minutes
131°F (55°C)	89 minutes
133°F (56°C)	56 minutes
135°F (57°C)	36 minutes
136°F (58°C)	28 minutes
138°F (59°C)	18 minutes
140°F (60°C)	12 minutes
142°F (61°C)	8 minutes
144°F (62°C)	5 minutes

135°F (57°C) (no minimum time)

- Food from plants, including fruits, vegetables, grains (e.g., rice, pasta), and legumes (e.g., beans, refried beans) that will be hot-held for service

COOLING¹

TCS food must be cooled correctly before storing it. Follow these steps.

1. First cool the food from 135°F to 70°F (57°C to 21°C) within two hours.
2. Then cool it from 70°F to 41°F (21°C to 5°C) or lower in the next four hours.

Cooling Methods

- Ice-water baths
- Ice Paddles
- Adding ice or cold water as an ingredient
- Blast Chiller

TEMPERATURES FOR FOOD DELIVERIES¹

Cold TCS food

- Receive at 41°F (5°C) or lower, unless otherwise specified.

Live shellfish (oysters, mussels, clams, and scallops)

- Receive at an air temperature of 45°F (7°C) and an internal temperature no greater than 50°F (10°C).
- Cool the shellfish to 41°F (5°C) or lower in four hours.

Shucked shellfish

- Receive at 45°F (7°C) or lower.
- Cool the shellfish to 41°F (5°C) or lower in four hours.

Milk

- Receive at 45°F (7°C) or lower.
- Cool the milk to 41°F (5°C) or lower in four hours.

Shell eggs

- Receive at an air temperature of 45°F (7°C) or lower.

Hot TCS food

- Receive at 135°F (57°C) or higher.

Frozen food

- Frozen food should be frozen solid when received.
- REJECT frozen food for the following reasons:

1. Fluids or water stains appear in case bottoms or on packaging.
2. There are ice crystals or frozen liquids on the food or the packaging. This may be evidence of thawing and refreezing, which shows the food has been time-temperature abused.

STORAGE ORDER¹

If all of your food has to be stored in the same place, make sure you use the correct top-to-bottom order. This order is based on the minimum internal cooking temperature of each food.

- Ready-to-Eat
- Seafood
- Whole Cuts of beef and pork
- Ground Meat and Ground Fish
- Whole and Ground Poultry

HANDLING MEDICAL CONDITIONS¹

IF the food handler has an infected wound or boil that is not properly covered.

- **Restrict** the food handler from working with exposed food, utensils, and equipment.

IF the food handler has a sore throat with a fever.

- **Restrict** the food handler from working with exposed food, utensils, and equipment.
- **Exclude** the food handler from the operation if you primarily serve a high-risk population.

The food handler can return to the operation and/or work with or around food when he or she has a written release from a medical practitioner.

IF the food handler has persistent sneezing, coughing, or a runny nose that causes discharges from the eyes, nose, or mouth.

- **Restrict** the food handler from working with exposed food, utensils, and equipment.

IF the food handler has at least one of these symptoms from an infectious condition:

- Vomiting
- Diarrhea
- Jaundice (yellow skin or eyes)
- **Exclude** the food handler from the operation.
- **Vomiting and diarrhea**
Food handlers must meet one of these requirements before they can return to work:
 - Have had no symptoms for at least 24 hours.
 - Have a written release from a medical practitioner.
- **Jaundice**
 - Food handlers with jaundice must be reported to the regulatory authority. Food handlers who have had jaundice for seven days or less must be excluded from the operation.
 - Food handlers must have a written release from a medical practitioner and approval from the regulatory authority before returning to work.

BIG SIX PATHOGENS

According to the Food and Drug Administration (FDA), there are over 40 kinds of bacteria, viruses, parasites, and molds that can occur in food and cause a foodborne illness. Of these, six have been singled out by the FDA. These have been dubbed the Big Six because they are highly contagious and can cause severe illness. These bacteria and viruses are described below.

SALMONELLA TYPHI

- **Source** – Salmonella Typhi lives only in humans. People with typhoid fever carry the bacteria in their bloodstream and intestinal tract.

Eating only a small amount of these bacteria can make a person sick. The severity of symptoms depends on the health of the person and the amount of bacteria eaten. The bacteria are often in a person's feces for weeks after symptoms have ended.

Food Linked with the Bacteria

- Ready-to-eat food
- Beverages

Prevention Measures

- Exclude food handlers who have been diagnosed with an illness caused by Salmonella Typhi.
- Wash hands.
- Cook food to minimum internal temperatures.

NONTYPHOIDAL SALMONELLA

- **Source** – Many farm animals carry nontyphoidal Salmonella naturally. Eating only a small amount of these bacteria can make a person sick. How severe symptoms are depends on the health of the person and the amount of bacteria eaten. The bacteria are often in a person's feces for weeks after symptoms have ended.

Food Linked with the Bacteria

- Poultry and eggs
- Meat
- Milk and dairy products
- Produce, such as tomatoes, peppers, and cantaloupes

Prevention Measures

- Cook poultry and eggs to minimum internal temperatures.
- Prevent cross-contamination between poultry and ready-to-eat food.
- Exclude from the operation food handlers who are

vomiting or have diarrhea and have been diagnosed with an illness from nontyphoidal Salmonella.

SHIGELLA SPP.

- **Source** – Shigella spp. is found in the feces of humans. Food that is easily contaminated by with the illness. Most illnesses occur when people eat or drink contaminated food or water. Flies can also transfer the bacteria from feces to food. Eating only a small amount of these bacteria can make a person sick. High levels of the bacteria are often in a person's feces for weeks after symptoms have ended.

Food Linked with the Bacteria

- Food that is easily contaminated by hands, such as salads containing TCS food (potato, tuna, shrimp, macaroni, and chicken)
- Food that has made contact with contaminated water, such as produce

Prevention Measures

- Exclude from the operation food handlers who have diarrhea and have been diagnosed with an illness caused by Shigella spp.
- Wash hands.
- Control flies inside and outside the operation.

SHIGA TOXIN-PRODUCING ESCHERICHIA COLI, ALSO KNOWN AS E. COLI

- **Source** – Shiga toxin-producing E. coli can be found in the intestines of cattle. The bacteria can contaminate meat during slaughtering. The bacteria is also found in infected people. Eating only a small amount of the bacteria can make a person sick. Once eaten, it produces toxins in the intestines, which causes the illness. The bacteria are often in a person's feces for weeks after symptoms have ended.

Food Linked with the Bacteria

- Ground beef (raw and undercooked)
- Contaminated produce

Prevention Measures

- Exclude from the operation food handlers who have diarrhea and have been diagnosed with a disease from the bacteria.
- Cook food, especially ground beef, to minimum internal temperatures.
- Purchase produce from approved, reputable suppliers.
- Prevent cross-contamination between raw meat and ready-to-eat food.

GENERAL GUIDELINES FOR THE EFFECTIVE USE OF CHLORINE, IODINE, AND QUATS

	Chlorine		Iodine	Quats
Water temperature	≥100°F (38°C)	≥75°F (24°C)	68°F (20°C)	75°F (24°C)
Water pH	≤10	≤8	≤5 or as per manufacturer's recommendation	As per manufacturer's recommendation
Water hardness	As per manufacturer's recommendation		As per manufacturer's recommendation	
Sanitizer concentration	50-99 ppm	50-99 ppm	12.5-25 ppm	As per manufacturer's recommendation
Sanitizer contact time	≤7 seconds	≤7 seconds	≤30 seconds	≤30 seconds

HEPATITIS A

- **Source** – Hepatitis A is mainly found in the feces of people infected with it. The virus can contaminate water and many types of food. It is commonly linked with ready-to-eat food. However, it has also been linked with shellfish from contaminated water. The virus is often transferred to food when infected food handlers touch food or equipment with fingers that have feces on them. Eating only a small amount of the virus can make a person sick. An infected person may not show symptoms for weeks but can be very infectious.

Cooking does not destroy Hepatitis A.

■ Food Linked with the Virus

- Ready-to-eat food
- Shellfish from contaminated water

■ Prevention Measures

- Exclude from the operation food handlers who have been diagnosed with Hepatitis A.
- Exclude from the operation food handlers who have had jaundice for seven days or less.
- Wash hands.
- Avoid bare-hand contact with ready-to-eat food.
- Purchase shellfish from approved, reputable suppliers.

NOROVIRUS

- **Source** – Like Hepatitis A, Norovirus is commonly linked with ready-to-eat food. It has also been linked with contaminated water. Norovirus is often transferred to food when infected food handlers touch food or equipment with fingers that are contaminated by feces. Eating only a small amount of Norovirus can make a person sick. It is also very contagious. People become contagious within a few hours after eating it. The virus is often in a person's feces for days after symptoms have ended.

■ Food Linked with the Virus

- Ready-to-eat food
- Shellfish from contaminated water

■ Prevention Measures

- Exclude from the operation food handlers who are vomiting or have diarrhea and have been diagnosed with Norovirus.
- Wash hands.
- Avoid bare-hand contact with ready-to-eat food.
- Purchase shellfish from approved, reputable suppliers.

OTHER ORGANISMS THAT CAUSE FOODBORNE ILLNESS

BACTERIA

BACILLUS CEREUS

- **Source** – *Bacillus cereus* is a spore-forming bacteria found in dirt. It can produce two different toxins when allowed to grow to high levels. The toxins cause different illnesses.

- **Illness** – *Bacillus cereus* gastroenteritis

LISTERIA MONOCYTOGENES

- **Source** – *Listeria monocytogenes* is found in dirt, water, and plants. Unlike other bacteria, it grows in cool, moist environments. The illness is uncommon in healthy people, but high-risk populations are especially vulnerable— particularly pregnant women.

- **Illness** – Listeriosis

CLOSTRIDIUM PERFRINGENS

- **Source** – *Clostridium perfringens* is found in dirt, where it forms spores that allow it to survive. It is also carried in the intestines of both animals and humans. *Clostridium perfringens* does not grow at refrigeration temperatures. It does grow rapidly in food in the temperature danger zone. Commercially prepped food is not often involved in outbreaks. People who get sick usually do not have nausea, fever, or vomiting.

- **Illness** – *Clostridium perfringens* gastroenteritis

CLOSTRIDIUM BOTULINUM (KLOS-TRID-EE-UM BOT- CHEW-LINE-UM)

- **Source** – *Clostridium botulinum* forms spores that are often found in water and dirt. These spores can contaminate almost any food. The bacteria do not grow well in refrigerated or highly acidic food or in food with low moisture. However, *Clostridium botulinum* grows without oxygen and can produce a lethal toxin when food is time-temperature abused. Without medical treatment, death is likely.

- **Illness** – Botulism

CAMPYLOBACTER JEJUNI

- **Source** – Though *Campylobacter jejuni* is commonly associated with poultry, it has been known to contaminate water. Illness often occurs when poultry is incorrectly cooked and when raw poultry has been allowed to crosscontaminate other food and food-contact surfaces. *Campylobacteriosis* is best controlled through correct cooking and the prevention of cross-contamination.

- **Illness** – *Campylobacteriosis*

BACTERIA STAPHYLOCOCCUS AUREUS

- **Source** – *Staphylococcus aureus* can be found in humans—particularly in the hair, nose, and throat; and in infected cuts. It is often transferred to food when people carrying it touch these areas on their bodies and then handle food without washing their hands. If allowed to grow to large numbers in food, the bacteria can produce toxins that cause the illness when eaten. Cooking cannot destroy these toxins, so preventing bacterial growth is critical.

- **Illness** – Staphylococcal gastroenteritis

BACTERIA VIBRIO VULNIFICUS AND VIBRIO PARAHAEMOLYTICUS

- **Source** – These bacteria are found in the waters where shellfish are harvested. They can grow very rapidly at temperatures in the middle of the temperature danger zone. People with chronic conditions (such as diabetes or cirrhosis) who become sick from these bacteria may get primary septicemia. This severe illness can lead to death.

- **Illness** – *Vibrio gastroenteritis*
Vibrio vulnificus primary septicemia

PARASITES

ANISAKIS SIMPLEX

- **Source** – People can get sick when they eat raw or undercooked fish containing this parasite.

- **Illness** – Anisakiasis

CRYPTOSPORIDIUM PARVUM

- **Source** – *Cryptosporidium parvum* can be found in the feces of infected people. Food handlers can transfer it to food when they touch food with fingers that have feces on them. Day-care and medical communities have been frequent locations of person-to-person spread of this parasite. Symptoms will be more severe in people with weakened immune systems.

- **Illness** – Cryptosporidiosis

PARASITE GIARDIA DUODENALIS, ALSO KNOWN AS G. LAMBLLIA OR G. INTESTINALIS

- **Source** – *Giardia duodenalis* can be found in the feces of infected people. Food handlers can transfer the parasite to food when they touch food with fingers that have feces on them.

- **Illness** – Giardiasis

CYCLOSPORA CAYETANENSIS

- **Source** – *Cyclospora cayetanensis* is a parasite that has been found in contaminated water and has been associated with produce irrigated or washed with contaminated water. It can also be found in the feces of

infected people. Food handlers can transfer the parasite to food when they touch it with fingers containing feces. For this reason, food handlers with diarrhea must be excluded from the operation. It is also critical to purchase produce from approved, reputable suppliers.

- **Illness** – Cyclosporiasis

TOXINS

HISTAMINE

- **Source** – Histamine poisoning can occur when high levels of histamine in scombroid and other species of fish are eaten. When the fish are time-temperature abused, bacteria on the fish make the toxin. It cannot be destroyed by freezing, cooking, smoking, or curing.

- **Illness** – Scombroid poisoning (SKOM-broyd)

CIGUATOXIN

- **Source** – Ciguatoxin is found in some marine algae. The toxin builds up in certain fish when they eat smaller fish that have eaten the toxic algae. Ciguatoxin cannot be detected by smell or taste. It is not eliminated by cooking or freezing the fish. Symptoms may last months or years depending on how severe the illness is.

- **Illness** Ciguatera fish poisoning

SAXITOXIN

- **Source** – Some types of shellfish can become contaminated as they filter toxic algae from the water. People get sick with paralytic shellfish poisoning (PSP) when they eat these shellfish. Saxitoxin cannot be smelled or tasted. It is not destroyed by cooking or freezing. Death from paralysis may result if high levels of the toxin are eaten.

- **Illness** – Paralytic shellfish poisoning

BREVETOXIN

- **Source** – Some types of shellfish can become contaminated as they filter toxic algae from the water. People get sick with neurotoxic shellfish poisoning (NSP) when they eat these shellfish. Brevetoxin cannot be smelled or tasted. It is not destroyed by cooking or freezing.

- **Illness** – Neurotoxic shellfish poisoning (NSP)

DOMOIC ACID

- **Source** – Some types of shellfish can become contaminated as they filter toxic algae from the water. People get sick with amnesic shellfish poisoning (ASP) when they eat these shellfish. The severity of symptoms depends on the amount of toxin eaten and the health of the person. Domoic acid cannot be smelled or tasted. It is not destroyed by cooking or freezing.

- **Illness** – Amnesic shellfish poisoning (ASP)

FOOD SAFETY THROUGH THE YEARS

Historical accounts of foodborne illness date back to antiquity. The first suggested documented case of a known foodborne illness dates back to 323 B.C. According to doctors at the University of Maryland who studied historical accounts of Alexander the Great's symptoms and death, the ancient ruler is believed to have died from typhoid fever, which was caused by *Salmonella typhi*.

Although the science and technology we benefit from today did not exist hundreds of years ago, people have long been concerned about food quality and safety. It is believed that the first English food law – the Assize of Bread – was proclaimed by King John of England in 1202, prohibiting adulteration of bread with ingredients such as ground peas or beans. American colonists enacted a replica of the Assize of Bread regulation in 1646, and later passed the Massachusetts Act Against Selling Unwholesome Provisions in 1785, which is believed to be the first U.S. food safety law.

MAJOR FOOD SAFETY DEVELOPMENTS INCLUDE:

1862 – USDA and FDA Formed

President Abraham Lincoln formed the U.S. Department of Agriculture (USDA) and appointed chemist Charles M. Wetherill to lead the Division of Chemistry, which would become the Bureau of Chemistry in 1901 and the Food and Drug Administration in 1906.

1906 – Pure Food and Drug Act and Federal Meat Inspection Act Passed

The first U.S. laws addressing the safety of our food supply were passed – the Pure Food and Drug Act and the Federal Meat Inspection Act. The Pure Food and Drug Act prevented the manufacture, sale or transportation of adulterated or misbranded foods, drugs, medicines and liquors. The Federal Meat Inspection Act prohibited the sale of adulterated or misbranded meat and meat products for food and ensured that meat and meat products were slaughtered and processed under sanitary conditions.

1938 – Pure Food and Drug Act Revised

Congress passed a complete revision of the 1906 Pure Food and Drug Act in 1938. The Federal Food, Drug, and Cosmetics Act of 1938 contained several new provisions, including: requiring safe tolerances be set for unavoidable

poisonous substances; authorizing standards of identity, quality, and fill-of-container for foods; authorizing factory inspections; and adding the remedy of court injunctions to the previous penalties of seizures and prosecutions.

1949 – “Procedures for the Appraisal of the Toxicity of Chemicals in Food” Published

The FDA published its first guidance to the industry: “Procedures for the Appraisal of the Toxicity of Chemicals in Food.” This gave the FDA a way to influence industry actions without mandating specific requirements.

1957 – Poultry Products Inspection Act Passed

Congress passed the Poultry Products Inspection Act which mandated the inspection of poultry products sold in interstate commerce, in response to the expanding market for ready-to-cook and processed poultry products.

1958 – Federal Food, Drug, and Cosmetics Act of 1938 Amended

The Federal Food, Drug, and Cosmetics Act of 1938 was amended to include the Food Additive Amendment, due to consumer concerns about the impact of unknown chemicals in the food they consumed. The amendment ensured the safety of ingredients used in processed foods.

1962 – Consumer Bill of Rights Introduced

President John F. Kennedy proclaimed the Consumer Bill of Rights, which stated that consumers have a right to safety, to be informed, to choose and to be heard. These rights have a direct correlation to the many food safety acts and amendments that preceded it, and that were yet to come.

1967 – Fair Packaging and Labeling Act Enacted

The Fair Packaging and Labeling Act was enacted to prevent unfair or deceptive packaging and labeling of many household products, including foods. The Act requires the identification of the commodity, the name and location of the manufacturer, packer, or distributor, and the net quantity of contents in terms of weight, measure or numerical count.

1970 – Centers for Disease Control (CDC) Began Keeping Records on Foodborne Illness

The Centers for Disease Control (CDC) began keeping records on foodborne illness related deaths in the U.S., marking the beginning of modern data collection on foodborne illness outbreaks.



1973 – First Major Food Recall in U.S.

The first major food recall in the U.S. occurred, following a nationwide illness outbreak from canned mushrooms. More than 75 million cans of mushrooms were removed from store shelves.

1977 – Food Safety and Quality Service Created

The Food Safety and Quality Service was created to perform meat and poultry grading and inspection. It was later reorganized and renamed the Food Safety and Inspection Service (FSIS) in 1981.

1996 – Pathogen Reduction/HACCP Systems Landmark Rule Issued

FSIS issued its landmark rule, Pathogen Reduction/HACCP Systems. The rule focuses on the prevention and reduction of microbial pathogens on raw products that can cause illness. HACCP was implemented in all FSIS- and state-inspected meat and poultry slaughter and processing establishments across the nation, between January 1997 and January 2000.

1997 – Food and Drug Modernization Act Amended

In 1997, the Food and Drug Modernization Act amended the Federal Food, Drug, and Cosmetic Act. Among the major provisions in the Act is an expansion of the FDA's authority to regulate health and nutrient content claims, and to establish processes related to the food contact substances in new products.

2000 – Global Food Safety Initiative (GFSI) Created

Food industry leaders created the Global Food Safety Initiative (GFSI) to collaboratively drive industry improvement to reduce food safety risks and increase consumer confidence in the delivery of safe food.

2011 – Food Safety Modernization Act (FSMA) Signed Into Law

The Food Safety Modernization Act (FSMA) was signed into law. FSMA enables the FDA to focus on food safety preventative measures rather than being reactionary when an outbreak occurs. The FDA will have a legislative mandate to require comprehensive, science-based preventive controls across the food supply, including: mandatory preventive controls for food facilities, mandatory produce safety standards, and the authority to prevent intentional contamination. In addition, FSMA provides the FDA with the necessary tools for inspection, compliance, and incident response.

2019 – Blueprint for a New Era of Smarter Food Safety

The FDA announced its intention to develop a Blueprint for a New Era of Smarter Food Safety addressing several areas including traceability, digital technologies, and evolving food business models.

DESPITE PROGRESS, MORE WORK TO BE DONE

Food safety has come a long way since Abraham Lincoln formed the USDA more than 150 years ago. And still, an estimated 48 million Americans become infected from foodborne illnesses every year. As bacteria, viruses and parasites continue to evolve and adapt, everyone who comes into contact with food must be vigilant to prevent the proliferation and spread of these dangerous microorganisms.

Food safety is used as a scientific discipline describing handling, preparation, and storage of food in ways that prevent food-borne illness. The occurrence of two or more cases of a similar illnesses resulting from the ingestion of a common food is known as a food-borne disease outbreak. This includes a number of routines that should be followed to avoid potential health hazards. In this way food safety often overlaps with food defense to prevent harm to consumers. The tracks within this line of thought are safety between industry and the market and then between the market and the consumer. In considering industry to market practices, food safety considerations include the origins of food including the practices relating to food labeling, food hygiene, food additives and pesticide residues, as well as policies on biotechnology and food and guidelines for the management of governmental import and export inspection and certification systems for foods. In considering market to consumer practices, the usual thought is that food ought to be safe in the market and the concern is safe delivery and preparation of the food for the consumer.

Food can transmit pathogens which can result in the illness or death of the person or other animals. The main mediums are bacteria, viruses, mold, and fungus (which is Latin for mushroom). It can also serve as a growth and reproductive medium for pathogens. In developed countries there are intricate standards for food preparation, whereas in lesser developed countries there are fewer standards and less enforcement of those standards. Another main issue is simply the availability of adequate safe water, which is usually a critical item in the spreading of diseases. In theory, food poisoning is 100% preventable. However this cannot be achieved due to the number of persons involved in the supply chain, as well as the fact that pathogens can be introduced into foods no matter how many precautions are taken. The five key principles of food hygiene, according to WHO, are:

1. Prevent contaminating food with pathogens spreading from people, pets and pests.
2. Separate raw and cooked foods to prevent contaminating the cooked foods.
3. Cook foods for the appropriate length of time and at the appropriate temperature to kill pathogens.
4. Store food at the proper temperature.
5. Use safe water and safe raw materials.

GS-1 – BARCODING FOR TRACE

What is GS1 and how does it apply to the food industry? GS1 is a not-for-profit organization that develops and maintains global standards for business communication. The best known of these standards is the barcode, a symbol printed on products that can be scanned electronically. GS1 barcodes are scanned more than six billion times every day. GS1 has 114 local member organizations and 1.5 million user companies. GS1 standards are designed to improve the efficiency, safety and visibility of supply chains across physical and digital channels in 25 sectors. They form a business language that identifies, captures and shares key information about products, locations assets and more. The reason a GS-1 barcode is so important is because it can be used to trace cases in the supply pipeline that might be linked to bacteria or salmonella or some other virus-related bacteria in food. The scanning of a bar code allows the operator to trace precisely where that case or lot of inventory might be in order to contain it.

HISTORY

The first product to be purchased in a store by scanning its UPC barcode:

In 1969, the retail industry in the US was searching for a way to speed up the check-out process in shops. The Ad Hoc Committee for a Uniform Grocery Product Identification Code was established to find a solution.

In 1973, the Universal Product Code (UPC) was selected by this group as the first single standard for unique product identification, and in 1974, the Uniform Code Council (UCC) was founded to administer the standard. On 26 June 1974, a pack of Wrigley's chewing gum became the first ever product with a barcode to be scanned in a shop.

In 1976, the original 12-digit code was expanded to 13 digits, which opened the doors for the identification system to be used outside the U.S. In 1977, the European Article Numbering Association (EAN) was established in Brussels and with founding members from 12 countries.

In 1990, EAN and UCC signed a global cooperation agreement and expanded overall presence to 45

countries. In 1999, EAN and UCC launched the Auto-ID Centre to develop Electronic Product Code (EPC) enabling GS1 standards to be used for RFID.

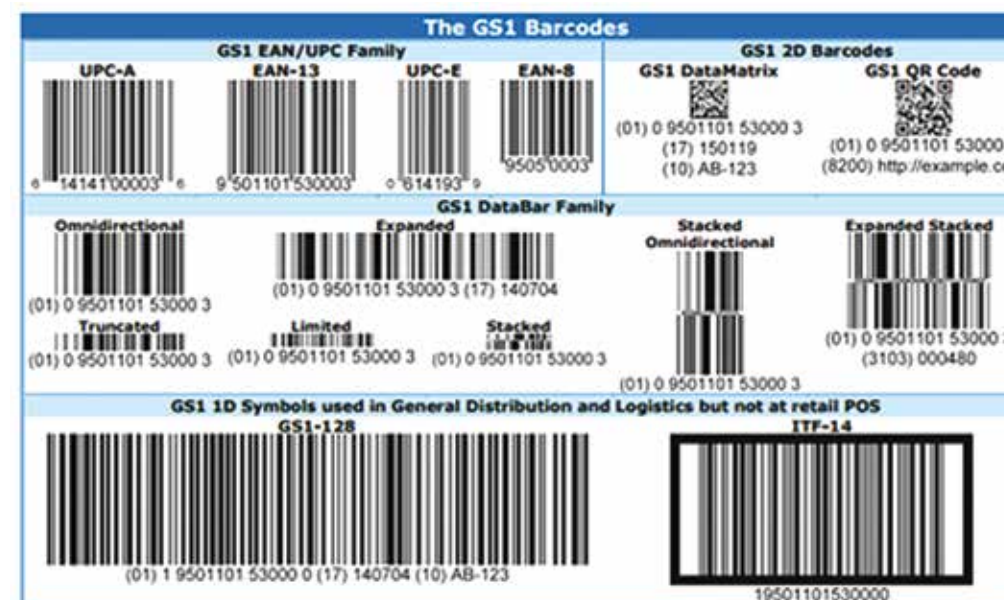
In 2004, EAN and UCC launched the Global Data Synchronization Network (GDSN), a global, internet-based initiative that enables trading partners to efficiently exchange product master data.

By 2005, the organization was present in over 90 countries which started to use the name GS1 on a worldwide basis. While "GS1" is not an acronym, it refers to the organization offering one global system of standards.

In August of 2018, GS1 Web URI Structure Standard was ratified, allowing unique ID's to be added to products by storing a URI (a webpage-like address) as a QR code.

Barcodes defined by GS1 standards are very common. GS1 introduced the barcode in 1974. They encode a product identification number that can be scanned electronically, making it easier for products to be tracked, processed, and stored.

Barcodes allow for greater safety, reliability, speed and efficiency of supply chains. They have a crucial role in the retail industry, moving beyond just faster checkout to improved inventory and delivery management and the opportunity to sell online on a global scale. In the UK alone, the introduction of the barcode in the retail industry has resulted in a savings of 10.5 billion pounds per year.



FOOD CONTAMINATION

Food contamination happens when foods are corrupted with another substance. It can happen in the process of production, transportation, packaging, storage sales and the cooking process. The contamination can be physical, chemical and biological.

PHYSICAL CONTAMINATION

Physical contaminants (or 'foreign bodies') are objects such as hair, plant stalks or pieces of plastic and metal. When the foreign object comes into the food, it is a physical contaminant. If the foreign objects are bacteria, both a physical and biological contamination will occur.

Common sources to create physical contaminations are: hair, glass or metal, pests, jewelry, dirt and fingernails.

CHEMICAL CONTAMINATION

Chemical contamination happens when food is contaminated with a natural or artificial chemical substance. Common sources of chemical contamination can include: pesticides, herbicides, veterinary drugs, contamination from environmental sources (water, air or soil pollution), cross-contamination during food processing, migration from food packaging materials, presence of natural toxins or use of unapproved food additives and adulterants.

Chemical contaminations usually share the following characteristics:

- They are not intentionally added.
- Contamination can happen at one or more stages in food production.
- Illness is likely to result if consumers ingest enough of them.

BIOLOGICAL CONTAMINATION

Biological contamination refers to food that has been contaminated by substances produced by living creatures, such as humans, rodents, pests or microorganisms. This includes bacterial contamination, viral contamination or parasite contamination that is transferred through saliva, pest droppings, blood or fecal matter. Bacterial contamination is the most common cause of food poisoning worldwide. If an environment is high in starch or protein, water, oxygen, has a neutral pH level and maintains a temperature between 5 °C and 60 °C (danger zone) for even a brief period of time (~0–20 minutes), bacteria are likely to survive.

Example of biological contamination: Tainted Romaine Lettuce

In May 2018, 26 states in the United States confirmed an outbreak of the bacteria strain E. coli O157:H7. Several investigations show the contamination might have come

from the Yuma, Ariz. growing region. This outbreak, which began April 10, was the largest U.S. flare-up of E. coli in a decade. One person in California died. At least 14 of the people affected developed kidney failure. The most common symptoms of E. coli include diarrhea, bloody diarrhea, abdominal pain, nausea and vomiting.

SAFE FOOD HANDLING PROCEDURES (FROM MARKET TO CONSUMER)

Proper storage, sanitary tools and work spaces, heating and cooling properly and to adequate temperatures, and avoiding contact with other uncooked foods can greatly reduce the chances of contamination. Tightly sealed water and air-proof containers are good measures to limit the chances of both physical and biological contamination during storage. Using clean, sanitary surfaces and tools, free of debris, chemicals, standing liquids and other food types (different than the kind currently being prepared, i.e. mixing vegetables/meats or beef/poultry) can help reduce the chance of all forms of contamination. However, even if all precautions have been taken and the food has been safely prepared and stored, bacteria can still form over time during storage. Food should be consumed within one to seven (1-7) days while it has been stored in a cold environment, or one to twelve (1-12) months if it was in a frozen environment (if it was frozen immediately after preparation). The length of time before a food becomes unsafe to eat depends on the type of food it is, the surrounding environment and the method with which it is kept out of the danger zone.

- Always refrigerate perishable food within 2 hours—1 hour when the temperature is above 90 °F (32.2 °C).
- Check the temperature of your refrigerator and freezer with an appliance thermometer. The refrigerator should be at 40 °F (4.4 °C) or below and the freezer at 0 °F (-17.7 °C) or below.

For example, liquid foods like soup kept in a hot slow cooker (65 °C) may last only a few hours before contamination, but fresh meats like beef and lamb that are promptly frozen (-2 °C) can last up to a year. The geographical location can also be a factor if it is in close proximity to wildlife. Animals like rodents and insects can infiltrate a container or prep area if left unattended. Any food that has been stored while in an exposed environment should be carefully inspected before consuming, especially if it was at risk of being in contact with animals. Consider all forms of contamination when deciding if a food is safe or unsafe, as some forms of contamination will not leave any apparent signs. Bacteria may not be visible to the naked eye, debris (physical contamination) may be underneath the surface of a food, and chemicals may be clear or tasteless; the contaminated food may not change in smell, texture, appearance, or taste, and could still be contaminated. Any foods deemed contaminated should be disposed of immediately, and any surrounding food should be checked for additional contamination.

ISO 22000 is a standard developed by the International Organization for Standardization dealing with food safety. This is a general derivative of ISO 9000. ISO 22000 standard: The ISO 22000 international standard specifies the requirements for a food safety management system that involves interactive communication, system management, prerequisite programs and HACCP principles. ISO 22000 was first published in 2005. It is the culmination of all previous attempts from many sources and areas of food safety concern to provide an end product that is as safe as possible from pathogens and other contaminants. Every 5 years standards are reviewed to determine whether a revision is necessary, to ensure that the standards remain as relevant and useful to businesses as possible.

A 2003 World Health Organization (WHO) report concluded that about 30% of reported food poisoning outbreaks in the WHO European Region occur in private homes. According to the WHO and CDC, in the U.S. alone, annually, there are 76 million cases of foodborne illness leading to 325,000 hospitalizations and 5,000 deaths.

SOURCES: IFT.org and Wikipedia.org





FOODSERVICE DISTRIBUTION SUPPLY PIPELINE

Every vegetable, baked loaf of bread, fruit, steak, chicken and shrimp needs a way to get from where it was harvested to its ultimate destination. A foodservice distribution supply pipeline is the channel that is used for food to get from farm to fork. So what is a distribution supply pipeline? It is a network of trucks, warehouses, grocery stores and even restaurants that food travels through and in and out of in order to ultimately end up on someone's plate. The foodservice distributors play a vital role in the U.S. economy, according to a report by the International Foodservice Distributors Association, McLean, Va. With annual foodservice distribution industry sales at \$280 billion in 2017, the foodservice distribution industry operates 153,000 total vehicles, employs 131,000 drivers and impacts more than 1 million jobs nationwide.

GROWTH OF AN INDUSTRY

This is the story of how foodservice distribution grew to be a \$280 billion industry by 2018, logistically sophisticated, high-tech, indispensable and extremely competitive.

EARLY PIONEERS

1800s: Hundreds of small, entrepreneurial businesses start popping up to sell and deliver a few items such as butter and eggs, dry goods, dairy or produce. They ply their trade from garages or small stores, delivering products by horse-drawn wagons, train and riverboats.

DEMAND FOR MEALS AWAY FROM HOME

Mid 1800s: As the nation's infrastructure grows and the American public becomes more mobile, demand for food away from home grows as well. Food distributors begin to expand their product lines to fill the needs of this flourishing industry.

FIRST ROOTS IN THE INDUSTRY

1850s: Many foodservice distributors can trace their roots to companies that supplied wagon trains heading west with provisions. Monarch Foods, for example, traces its roots to Reid-Murdoch Co., a Dubuque, Iowa, company founded in 1853. Monarch Foods later became a part of U.S. Foods.

AMERICA OPENS UP

1869: The Golden Spike completes the transcontinental railway in Utah Territory. America is now officially on the move and people on the move need to eat away from home.

FEEDING A NATION ON THE MOVE

1870s: A fledging industry –feeding people in gathering places and as they travel –is born. As the early food emporiums grow, food distribution grows.

PRECURSOR TO FIRST BUYING GROUP

1885: James Capers begins peddling groceries for a wholesaler in Richmond, Va. His business grows into Pocahontas Foods, which distributes branded products to restaurants and foodservice outlets.

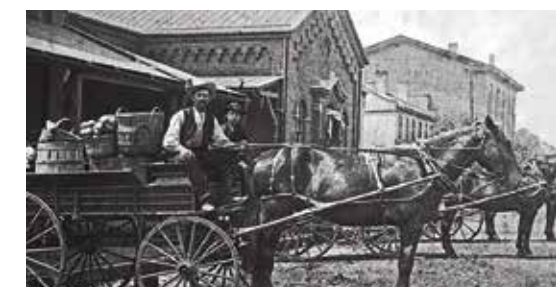
FOOD SERVICE TIMELINE

1800

1850

1870

1885





1894

MCLANE FAMILY ENTERS GROCERY BUSINESS

1894: Robert McLane opens his first retail grocery business in Cameron, Texas. In 1903, the retail operations shifted into the wholesale grocery business, marking the beginning of McLane Company, Inc. The business expanded into the convenience and foodservice distribution markets in the twentieth century.



1900

GORDON FOODS HUMBLE BEGININGS

1897: Isaac van Westenbrugge founds an egg and butter delivery service with \$300 borrowed from his brother. In 1916, Ben Gordon joined the company and soon married Van Westenbrugge's daughter. In 1942 Ben and his brother, Frank, renamed the company Gordon Food Service.



NATIONAL WHOLESALE GROCERS ASSOCIATION IS BORN

1906: A group of food wholesalers concerned with advancing legislation to ensure food safety founds the National Wholesale Grocers' Association (NWGA).

THE FROZEN FOODS PHENOMENON

1924: Prior to the late '20s, food either was purchased fresh, dry or in cans. Clarence Birdseye is credited with introducing the quick-freezing method in 1924. Frozen foods take off during World War II as cans are being used for metals for the war effort.

1930

COLD STORAGE AND TRANSPORT

1930s: Frozen products –primarily French fries and fish portions –make their way into foodservice. This phenomenon spurs the growth of systems that preserve the integrity of frozen food: freezer storage in warehouses and freezer compartments in delivery trucks.



NATIONAL FROZEN & REFRIGERATED FOODS ASSOCIATION DEBUTS

1945: A group of frozen food distributors gathers in New York to act as a body in margin and price negotiations with the Federal Office of Price Administration. They form the National Wholesale Frozen Food Distributors Association, the precursor to what would come to be known as the National Frozen Food Association (NFFA).

1945

SCHOOL LUNCH ACT OPENS NEW DOORS

1946: Thanks to new government legislation mandating that lunch be served in public schools throughout the nation, a new food-away-from-home market emerges.



SCHOOL LUNCH MARKET SPURS GROWTH

Late 1940s: School lunch proves to be an important event in foodservice distribution by providing the first guaranteed mass market. The measure encourages a number of formerly retail-focused wholesalers to turn their attention to foodservice distribution.



FIRST FOOD SHOW

1950: Robert Orr & Co., Nashville, sponsors what is thought to be the first food show for operator customers. Many others soon follow suit and today the food show is a widely used marketing tool for foodservice distributors of all types.

1950



GROWTH OF BROADLINE DISTRIBUTORS

1950s: Foodservice distributors continue to transform their business models from retail to foodservice and from specialty to broadline. The advantages of broadline are: larger order sizes, one-stop shopping for operators, more efficient delivery and more comprehensive customer service.

REDISTRIBUTION IS BORN

1960: From the back of their family station wagon, Dot Foods' founders Robert and Dorothy "Dot" Tracy launch what becomes known as redistribution. Redistributors purchase large volumes of products, warehouse them and then sell and deliver them in less-than-truckload quantities or consolidated mixed full loads to distributors.

CUSTOMIZED/SYSTEMS DISTRIBUTION TAKES SHAPE

1960s: Once-specialized manufacturers servicing the growing fast-food market take on additional lines and enter the distribution business, with many exclusively serving chains such as McDonald's, Wendy's and Burger King.

ID MAGAZINE LAUNCHED

1965: Founding editor Pat Patterson creates Institutional Distribution (ID) magazine to cover the burgeoning foodservice distribution industry. At the time, the entire food-away-from-home market was called "institutional."

AWAY-FROM-HOME SPENDING

1965: Americans spent just 20 cents of every food dollar for food away from home. Institutional Distribution magazine estimates total distributor sales to be \$20 billion, and the average institutional distributor has an annual volume of \$1.5-\$2 million.

SYSCO FOUNDATION FORMED

1969: John Baugh, founder of Zero Foods, convinces the owners of eight other small food distributors to combine their companies and form a national foodservice distribution organization. The resulting company is named SYSCO, an acronym for Systems and Services Company.

NAWGA ADDS INSTITUTIONAL FOODSERVICE DIVISION

1969: NAWGA merges with the U.S. Wholesale Grocers Association and that organization's Institutional Food Distributors of America (IFDA) becomes NAWGA's foodservice division.

TECHNOLOGY ADVANCES

1980s: The industry's first automated warehouse sorting and shipping system is implemented by Gordon Food Service, sowing the seeds for a wave of warehouse technology advancements to come.

INDUSTRY CONSOLIDATION CREATES NATIONAL COMPANIES

1982: Foodservice distribution is now a \$69 billion industry. The five companies considered "national distributors" are PYA/Monarch, John Sexton & Company, Sysco Corporation, CFS Continental, Inc. and Kraft Foodservice. The five companies have a total of 168 distribution centers covering major portions of the country.

1950



1960



1965



1970



1980



1982





1984

TECHNOLOGY ADVANCES

1984: Ritter Food Corp. (later acquired by Sysco), unveils the industry's first completely mechanized warehouse. PYA/Monarch phases in a data processing system capable of processing data for each of the company's 22 branches. Frosty Acres invests in their first computer for coding invoices.



1987

FIRST FOODSERVICE PRODUCE BUYING GROUP FORMED

1985: Gordon Food Service's leader, Paul Gordon, recognized that foodservice distributors and operators have unique needs relative to produce. He brings together a group of leading foodservice distributors to create the industry's first fresh produce cooperative, MARKON.



PFG FOUNDED

1987: Bob Sleddof Taylor & Sledd and Michael Gray of Pocahontas Foods USA create a holding company that is the precursor to Performance Food Group. The holding company is named Pocahontas Food Group, under which the Pocahontas Foods USA buying group operates.

PFG THROUGH THE YEARS

1987: The first distributors to align themselves with Pocahontas Food Group are Caro Produce and Institutional Foods and Kenneth O. Lester Co. The company changes its name to Performance Food Group in 1992.

1990

INDUSTRY COLLABORATION ON PRODUCT DATA

1990s: Working with the USDA Nutrient Database for Standard Reference, IFDA develops the Standard Product Data Exchange Format. It facilitates the exchange of product information, including nutrient data, between food manufacturers, distributors and their customers throughout the food chain.



INDUSTRY EMBRACES EFFICIENT FOODSERVICE RESPONSE (EFR)

1990s: Inspired by the success of the ECR (Efficient Consumer Response) initiative in retail, the foodservice supply chain begins to coalesce around EFR (Efficient Foodservice Response). The goal is to build a platform for profitable growth and to save an estimated \$14 billion by cutting waste through supply-chain efficiencies.



1997

"FOODSERVICE 2005" FORESEES STRONG INDUSTRY GROWTH

1997: "Foodservice 2005," a McKinsey & Company study commissioned by IFDA, identifies shifts in diner preferences in favor of foodservice – to the tune of \$100 billion in anticipated foodservice industry growth by 2005.



MARKET CONTINUES TO EVOLVE

2019: Broadline distribution has grown to become the largest segment of industry. The largest foodservice distribution companies are still finding success servicing all types of customers with all types of products. But smaller companies are finding a focus on alternative channels and specialization are the key to their future. Foodservice delivery, technology and health trends are changing the foodservice landscape, with younger generations leading the charge. For instance, 69% of students eat off-campus at least once a week, while 45% of students say it's important that their school is transparent about how ingredients are sourced.

2019



Likewise, nearly 72% of retailers are digitizing their supply chains to enable real-time visibility through tools like automation, sensors and analytics, according to research released by Logistics Trends & Insights, Atlanta, and American Global Logistics, Atlanta. And, many retailers are turning to outside expertise to help fuel their digital innovation, spending \$50.7 billion on third-party logistics providers in 2018. For retailers, the overarching goals of IT investment are to increase transit speeds, predict trends, minimize the impact of disruptions and plan further in advance.

HOW FOODSERVICE DISTRIBUTORS FUEL GROWTH

One of the key challenges facing today's foodservice distributors is the need to stay ahead of trends and innovation.

Operators will search for value by aggregating or consolidating purchased goods and services with other operators. In fact, 79% of all operator purchases in 2020 will be made through a centralized purchasing organization, according to a report published by The Hale Group, Danvers, Mass. And, today's foodservice distributors are in position to fuel growth to the industry. For instance, Dot Transportation, Inc., a subsidiary of Dot Foods, Inc., Mt. Sterling, Ill., partnered with Orange EV, Riverside, Mo., to deploy Orange EV T-Series pure electric terminal truck at Dot's distribution center in Modesto, Calif. Orange EV's patent-pending technology is said to increase energy efficiency by more than 400% over traditional diesel systems.

Sysco Corp. opened its "Sysco Power Patch" solar garden sites in the Houston and Dallas areas. The project, part of a 25 megawatt, 10-year renewable energy agreement with a subsidiary of NRG Energy, Inc., Houston, Texas, will support the majority of Sysco's electricity load in Texas, including its corporate headquarters in Houston, Texas.

US Foods Holding Corp., Rosemont, Ill., opened the doors to its newly renovated Fife, Wash., distribution facility, complete with a state-of-the-art kitchen and training center for product demonstrations and customer ideation, a technology center where customers can learn about the company's mobile apps and web-based business solutions and several energy and environmental improvements, such as a highly efficient cascade refrigeration system and energy saving high-output fluorescent and LED lighting. (Look for Refrigerated & Frozen Foods' September 2019 issue, where US Foods receives the 2019 Foodservice Distributor of the Year award).

Gordon Food Service and Square Roots, Brooklyn, N.Y., announced plans for the first urban farm campus location to be constructed on the site of Gordon Food Service's headquarters in Wyoming, Mich. Gordon Food Service also broke ground on a new distribution center in Ajax, Ontario, Canada, which contains numerous automated features, including product selection, sorting and truck loading.

SOURCES: IFDA, Refrigerated frozen food.com

UNFI, Providence, R.I., announced plans to optimize its distribution center network in the Pacific Northwest. This plan includes building a new facility and expanding another to enhance customer product offerings, create more efficient inventory management, streamline operations and incorporate best-in-class technology.

And, The Chefs' Warehouse, Inc., Ridgefield, Conn., leased a new 231,000-square-foot facility in City of Industry, Calif., which will contain state-of-the-art meat and seafood processing facilities to focus on the development of the company's center-of-the-plate brands, as well as a temperature-controlled specialty produce space.

CHALLENGES VS. TRENDS

Here's a breakdown of some of the common challenges and trends impacting foodservice distributors:

Grab and go. Meal kit mania continues to overhaul the industry, as meal kit delivery services and grocery retailers work together to deliver product to both channels. Automated order and delivery processes will continue to grow, and dining out will continue to evolve, as restaurants begin offering better-for-you menu options.

More SKUs than ever before. Thanks to the influx of e-commerce, refrigerated and frozen food processors and distributors are managing more SKUs and varieties than ever before. This equates to more turnover, more shipments and a more complex supply chain. Achieving just-in-time delivery is the key to success.

Technology takes the industry forward. Mobile apps, smartphone technologies, location-based services and other digital capabilities enable customers to purchase groceries for pick-up or delivery, thus blurring the lines between brick and mortar and direct-to-consumer. Other technologies include automation, state-of-the-art transportation and storage options and picking solutions, improved loading and route planning software solutions, IoT, blockchain, renewable packaging, AI, virtual reality, reverse logistics, digital supply chain twin and advanced analytics.

A survey produced by JDA Software, Inc., Scottsdale, Ariz., and KPMG LLP, Switzerland, and conducted by Incisiv, West New York, N.J., reveals that supply chain traceability and visibility continues to be the highest investment area for supply chain executives (77%).

Ever-changing consumer. Today's consumer wants variety, portability, convenience, customization, transparency and better-for-you ingredients. And, they want it all now. This makes for a complicated supply chain. But, also provides opportunity for innovation.

Driver shortage. Over 44% of respondents ranked driver shortage and capacity crunch as the biggest challenge for supply chains in 2019, according to a survey conducted by Kuebix, Maynard, Mass.

THE FUTURE OF FOOD

If we go back in time, the “Future of Food” concept began nearly 15 years ago, when genetically modified foods (GMOs) were introduced in the United States. Now, in 2020, the question of what and how we will be eating in the future is continuously evolving. International food demand is expected to continue to increase by 14% per decade, meaning food production needs to be nearly double its current rate in order to keep up. So, what will we be eating in the next 20 years and how will we feed more than 10 billion people across the globe by 2050?

Here are some very interesting ingredient innovations that will represent the future of our food and, perhaps, enhance food security, help feed the world’s growing food demands and promote a sustainable global food production.

HIGH PROTEIN INSECTS

How would you feel about consuming burgers, flour and snack bars made out of insects? Yes, insect-eating, also known as entomophagy, represents the future of food. In fact, it is already a common practice in Thailand, China, Brazil, Mexico and some African countries. For food security purposes, insect farming is actually considered a sustainable way to provide an ecologically viable food source to the world’s population. Certain species of insects, typically crickets, grasshoppers and mealworms, are becoming the talk of the town in the field of high-protein food products. The aim of this innovation is two-fold:

1. Primarily tackle the war on malnutrition in under-developed countries.
2. Significantly reduce the environmental impact of the meat-heavy western diet.

PLANT-BASED MEAT SUBSTITUTES

We are quickly realizing the impact meat production has on the global ecosystem and biodiversity. Are we moving toward a meat-free dinner plate? Well, the trend is increasing. The health-conscious generation is asking for more plant-based products on the market, with clean labeling. Some companies are progressively making foods that taste just like meat. Examples include:

- **Beyond Meat** – This Los Angeles-based company made the first plant-based burger. Other products include plant-based sausages, soy and pea protein-based chicken strips, and pea protein-based beef crumble.
- **Fry Family** – This South Africa-based company, similar to Beyond Meat, has over 15 different plant-based meat substitutes.

- **Impossible Foods** – This California-based startup has done the impossible and made a plant-based burger that actually sizzles and bleeds like a meat burger, as demonstrated in their video. The company’s Impossible Burger recently became certified as Kosher.

- **Algae** – Algae farming could represent a potential game-changer in the way we eat food. Abundantly produced in both marine and freshwater environments, algae is seen as a solution for the problem of food shortages. An agricultural practice that has already begun in Asia, algae can be used to feed both humans and animals and could become the world’s biggest crop industry.

All of these plant-based innovations will reduce the need to raise and slaughter cattle and other livestock for human consumption. This could go a long way toward reducing animal cruelty, as well as tackling the issue of climate change. Moving toward plant-based substitutes could result in 15 times less water utilization, a reduction in methane gas emission, and saving our beautiful rainforests from further destruction. However, we should still consider the consumption of less processed foods and more real cooking with nutrient-dense foods to prevent nutritional deficiencies.

LAB-GROWN MEAT

So, what’s in stock for meat lovers? In the hope of curbing global warming, while still providing meat for people who love their meat products, scientists have come up with the idea of producing synthetic meat grown in the lab. This scientific innovative technology began as early as 2013 and involves the culturing of ground beef from cow stem cells. Lab-grown meat, also known as cultured or in-vitro meat, apparently looks, cooks, smells, and tastes like ground beef.

But what does that mean from a legal and regulatory perspective? Conversations about this aspect have already begun by various associations. For example, the United States Cattlemen’s Association is arguing about the legal definition of ‘beef’ and ‘meat’. Similarly, in Australia, the Food Standards Australia and New Zealand (FSANZ) Authority will ensure that a public health and safety assessment is performed on each different lab-grown meat product. Australians love their meat, no question about that. Hence, Australian regulators want to ascertain that the claims being made would not mislead their consumers and breach consumer laws.

SCIENCE OF FOOD

Before 1928, no one had tasted bubblegum. In the late 1930s, frozen cream desserts threw off their reputation for being as hard as rock with the US invention of soft-serve ice cream (often called Mr Whippy in the UK). Popping candy



introduced children's mouths to a bizarre effervescence 20 years later. And in the late 1990s, Red Bull showcased a strange medicinal flavour that's since become synonymous with energy drinks. The foods we eat are always evolving and new tastes are being created. By 2028, you can expect to be tucking into foods unlike anything you've experienced before.

These days, science may have dissected almost every element of our diet, but many of us still feel at sea. Even



when sticking to official advice, healthy foods that seem to energize one person can cause another to feel fatigued and bloated. In 2015, a team of scientists from Israel tracked blood sugar levels in the blood of 800 people over several days, making the surprising discovery that individuals' biological response to identical foods varied wildly. Some people had a blood glucose 'spike' after eating sugary ice cream, while others' glucose levels only increased with starchy rice – a finding at odds with conventional wisdom.

In the next 10 years, the emerging field of 'personalized nutrition' will offer healthy eating guidance tailored to the individual.

Our bodies' idiosyncratic handling of nutrients seems to be down to our genetics, the microbes in our gut, and variations in our organs' internal physiology. Clinical trials like those pioneered by Lind have given us general dietary guidelines, but nutrition research tends to assume all humans are the same, and so can miss the nuances and specific needs of the individual.

In the next 10 years, the emerging field of 'personalized nutrition' will use genetic tests to fill in those gaps to offer healthy eating guidance tailored to the individual. Some companies, so-called 'nutrigenetics services', already test your DNA and offer dietary advice – but the advice can be hit-and-miss. By 2028, we will understand much more about our genetics. Dr Jeffrey Blumberg, a professor of nutrition science and policy at Tufts University in Massachusetts, is one of the most outspoken advocates of this new science. He insists that DNA testing will unlock personalized nutrition. "I'll be able to tell you what kinds of fruits, what kinds of vegetables and what kinds of wholegrains you should be choosing, or exactly how often," he says.

Sadly, personalized nutrition looks set to make cooking meals for the whole family just that little bit more taxing.

IN 2028 FOOD WILL BE ENGINEERED TO BE MORE NUTRITIOUS

'Natural' is a buzz term food marketers love to use, but barely any of our current produce ever existed in the natural world. The fruit and vegetables that we enjoy today have been selectively bred over thousands of years, often mutated out of all recognition from the original wild crop. Carrots weren't originally orange, they were scrawny and white; peaches once resembled cherries and tasted salty; watermelons were small, round, hard and bitter; aubergines used to look like white eggs.

But the selective breeding for bulky and tasty traits, combined with intensive farming practices, has sometimes come at a nutritional cost. Protein, calcium, phosphorus, iron, riboflavin (vitamin B2) and vitamin C have all waned in fruit and vegetables over the past century, with today's vegetables having about two-thirds of the minerals they used to have.

By 2028, genetics and biomolecular science should have redressed the balance, so that DNA from one organism is

inserted into another, eliminating the need to undertake generations of selective breeding to acquire desirable traits.

Just last year, researchers from Australia showcased a banana with high levels of provitamin A, an important nutrient not normally present in the fruit. To create this fruit, the researchers snipped out genes from a specific type of Papua New Guinean banana that's naturally high in provitamin A, then inserted them into the common banana variety.

More controversially, DNA can be transplanted from completely different organisms to create varieties that would never occur with selective breeding. Corn has been successfully given a boost of methionine – a key nutrient missing in the cereal – by splicing in DNA from a bacterium. Even the genetic code itself can be edited to develop 'superpowers': in 2008, for example, researchers created modified carrots that increase the body's absorption of calcium.

There have been hundreds of examples of these incredible botanical creations: potatoes, corn and rice containing more protein; linseed having more omega-3 and omega-6 fats; tomatoes containing antioxidants originally found in snapdragons; and lettuce that carries iron in a form that's easily digestible by the body.

Over the next ten years, the number of nutritionally enhanced crops will probably explode. Precise DNA-editing technology – namely a technique called CRISPR-Cas9 – now allows alteration of plant genetic code with unprecedented accuracy. Get ready for tasty apples with all the goodness of their bitter forebears, peanuts that don't trigger allergies and lentils that have a protein content equivalent to meat. It will be like creating the orange carrot all over again!

THE FUTURE OF FOOD

It is highly unlikely that, in the future, people will be taking a food pill rather than dining on meat, dairy, greens and grains. These days, science may have dissected almost every element of our diet, but not everyone's digestive system reacts the same. Some people are gluten-intolerant; others are allergic to various types of food like peppers, shellfish or even sugar. Doctors have long prescribed that if you can properly feed your digestive system, you can enhance your immunity to germs and diseases. Even when sticking to official advice, healthy foods that seem to energize one person can cause another to feel fatigued and bloated. In 2015, a team of scientists from Israel tracked blood sugar levels of 800 people over several days, making the surprising discovery that individuals' biological response to identical foods varied wildly. Some people had a blood glucose spike after eating sugary ice cream, while others' glucose levels only increased with starchy rice – a finding at odds with conventional wisdom.

In the next 10 years, the emerging field of "personalized nutrition" will offer healthy-eating guidance tailored to the individual. Our bodies' idiosyncratic handling of nutrients seems to be down to our genetics, the microbes in our gut and variations in our organs' internal physiology.

Some companies, so-called "nutrigenetics services", already test your DNA and offer dietary advice – but the advice can be hit-or-miss. By 2028, we will understand much more about our genetics. Dr Jeffrey Blumberg, a professor of nutrition science and policy at Tufts University in Massachusetts, is one of the most outspoken advocates of this new science. He insists that DNA testing will unlock personalized nutrition. "I'll be able to tell you what kinds of fruits, what kinds of vegetables and what kinds of whole grains you should be choosing, or exactly how often," he says. Sadly, personalized nutrition looks set to make cooking meals for the whole family just that little bit more taxing. In the coming years, food will be engineered to be more nutritious, but personalized for each of us based on our own DNA and unique digestive tracts.

IN 2028 FOOD WILL BE DIFFERENT FROM ANYTHING YOU HAVE TASTED BEFORE

New flavors arrive unpredictably as food manufacturers create new products. Silicon Valley – well known for attracting the brightest minds – is becoming the global hub for food innovation. A start-up currently making waves is Impossible Foods, mentioned earlier, which has created a meat-free burger that sizzles in the pan, tastes like meat and 'bleeds'. Designed to be sustainable and environmentally friendly, the patties are made with wheat protein, coconut oil, potato protein and flavorings. The secret ingredient is heme – the oxygen-carrying molecule that makes both meat and blood red – and seems to give meat much of its flavor. The heme that Impossible Foods uses has been extracted from plants and produced using fermentation. It's a growth industry, with competitors such as Beyond Meat and Moving Mountains cooking up similar burgers, and plans are afoot for plant-based steaks and chicken. It doesn't stop there, however: other start-ups are pioneering animal-free milk and egg whites. Expect to get used to the new tastes of meat-free meat and dairy-free dairy products.

It's now been more than a decade since chef Heston Blumenthal first served his famous 'sound of the seas' dish, for which diners listened to a recording of breaking waves to heighten the salty flavors of seafood. It is well established that all senses inform the flavor of food: desserts taste creamier if served in a round bowl rather than on a square plate; background hissing or humming makes food taste less sweet; and chips feel softer if we can't hear them crunching in the mouth. The emerging field of 'neurogastronomy'

brings together our latest understanding of neurology and food science and will be a big player in our 2028 dining.

Today, you might hear James Blunt crooning in your favorite eatery, but in the restaurant of 2028, there may be aromatic mists, subtle sound effects and controlled lighting, all optimized to make your steak and fries taste better than you thought possible. At home, augmented reality headsets that superimpose digital imagery on the real world could offer a tranquil seascape for a fish dish, or the wilds of Texas for barbecued ribs.

Unusual processed foods will make a splash in the years to come, including novelties like edible spray paint, algae protein snack bars, beer made with wastewater and even lollipops designed to cure hiccups. We don't know exactly what will be on tomorrow's supermarket shelves (if supermarkets still exist, that is) due to the secretive nature of the multinational food corporations. But we do know that ice cream and chocolate that don't melt in warm weather are definitely under development. Researchers are currently devising nanoparticles that give delayed bursts of flavor in the mouth, and earlier this year, a team of chemists created tiny magnetic particles that bind to and remove off-tasting flavor compounds in red wine while preserving its full aroma.

Cookbooks in 2028 will have some strange recipes. By analysing foods for their flavour compounds – aroma-carrying substances that convey flavour – ingredients can be paired to create novel experiences. In 2016, researchers from the

International Society of Neurogastronomy demonstrated a menu with hitherto untried ingredient blends, designed to be flavourful for people who had lost their sense of taste and smell through chemotherapy. A lip-smacking highlight was clementine upside-down cake with a dab of basil and pistachio pesto, crowned with a scoop of olive oil gelato.

Perhaps the most outlandish proposal to enhance the eating experience is to 'hack' the brain. The Defense Advanced Research Projects Agency (DARPA) is designing implantable 'neural interfaces' that aim to boost human senses by transmitting high-resolution audiovisual information, and potentially smells and tastes, directly to the brain.

IN 2028 FOOD WILL BE GUILT FREE

Humans just keep getting heavier. Today around 40 percent of all adults are overweight or obese and every single nation on Earth is getting fatter. Obesity-related diseases, such as type 2 diabetes, are soaring on a trajectory that will cripple many health services. Most troubling, there have been no success stories in the past 33 years – not one country has been able to halt the growth of the bulge. Processed, calorie-dense foods continue to become more widely available worldwide and, short of an international catastrophe like

a global famine or mass outbreak of war, turning the tide is going to take some truly innovative thinking.

A short-term solution is to re-engineer calorific 'junk' food to have less fat, sugar, salt and fewer calories, while still giving the same satisfaction. There are artificial sweeteners, but they can have unpleasant side effects and can't be cooked as sugar can. Low-calorie sugar substitutes, such as sugar-alcohols like sorbitol, taste like the real thing but cause flatulence and diarrhea if eaten excessively. But food technologists have managed to coat inert mineral particles with sugar, increasing the surface area that contacts the tongue, so that less sugar can be used to provide the same sweetness.

In the longer term, fine-tuning our biology could allow us to eat without guilt. Few people realize that our appetite is precisely regulated. Overeat on a Monday, and you usually eat less on Tuesday and Wednesday. Our hunger is usually set to a level almost identical to the number of calories we need. Unfortunately, the hunger 'thermostat' is set a little too high, by an average of about 0.4 per cent (or 11 calories a day). Left to our own devices, we will each tend to eat an extra peanut's worth of calories each day. That doesn't sound like much, but it adds up to a little over a pound of weight gain each year. Our unfortunate tendency to develop 'middle-aged spread' has presumably evolved as an insurance against the next famine.

The hunt is on to nudge the appetite-set point down by 11 calories or more. Many hormones swirl around the blood to tell us when to eat

and when to stop. One hormone, CCK, is released by the gut when food enters it, making us feel full. Another hormone, leptin, is released by body fat and apparently tells the body when our fat stores are adequate. It's a complex picture and attempts at manipulating individual hormone levels have been unsuccessful. Everyone is hoping that we will soon untangle the web of brain-hormone messages and managed to devise supplements, foods or medicine that can make even a tiny tweak to the dial.

IN 2028 FOOD WILL BE MORE CREATIVE

Kitchen creativity has few limits. From Weetabix ice cream to liquid nitrogen cocktail balls, exciting dishes are made by chefs who love to surprise, but few such culinary masterpieces make it into the home, owing to a reliance on specialist equipment and professional skills. Expect that to change as equipment becomes more affordable. Even today, the sous-vide water bath that was once reserved for fine dining restaurants can be purchased for less than a set of pans. In the coming years, the spiralizer will have been eclipsed by a handheld spherificator or foam-making espuma gun. For the ambitious home cook, getting creative is going to be a lot more fun.

When skills are lacking, a robotic sous-chef may lend a helping hand. Imagine being able to send a message your Robo-Chef while on the commute home to prepare a recipe of your choice. Within moments, android arms will be gathering ingredients from the fridge, julienning the turnips and deboning the chicken.

It's not completely pie-in-the-sky, either. UK-based Moley Robotics has already developed a 'robotic kitchen', set for consumer release this year. Consisting of two articulated arms, cooking hobs, oven and touchscreen interface, this is a robot that can chop, whisk, stir, pour and clean. It's no clumsy Dalek either: each hand has 20 motors, 24 joints and 129 sensors to mimic the movements of human hands. Skills are 'learned' by replicating the movements of chefs and other cooks, and their recipes can be selected via an iTunes-like recipe catalogue. The speed and dexterity of the robotic kitchen will have foodies salivating at the possibilities. But with the first devices expected to cost around \$13,000 each, it might be worth holding out until they throw in a dishwasher.

Elsewhere, 3D-printed food offers endless opportunities for creating intricate dishes that are impossible to create by human hands alone. Everything from toys to airplane parts, from prosthetics to clothing – even whole houses – are already being made with 3D printers. And the food frontier has been crossed. Custom sweets can be designed and made using sugar-rich 'ink' to construct anything from interlocking candy cubes and chewable animal shapes, to lollipops in the shape of Queen Elizabeth's head.

Until recently, 3D printing has been sugar-based, but technology is emerging that reliably prints savory and fresh ingredients. Natural Machines has developed one such kitchen appliance that can be loaded with multiple ingredient capsules to create and cook all manner of weird and wonderful foods. These include crackers shaped like coral, hexagonal crisps, heart-shaped pizzas and hollow croutons that dissolve in sauce. With the promise of cutting waste by repurposing 'ugly' food and offcuts for food capsules, Natural Machines has the potential to drastically reduce packaging and transport costs. Not yet sold on the idea? Imagine wowing your nearest and dearest by serving up the ultimate romantic meal finished off with a personalized chocolate torte, where an invisible series of grooves in the chocolate surface plays their favorite song when placed in a special 'record player'. Delicious!

In conclusion, the urge to assure food security, prevent food shortages and malnutrition, avoid food intolerances and allergies, protect global biodiversity, advocate for clean food production and minimize animal cruelty will prompt these types of innovations to drive the way we will be eating in the decades to come. Algae, synthetically grown meat, plant-based meat alternatives, edible insect burgers and protein

SOURCES: Sciencefocus.com, prescouter.com and Wikipedia.org



bars could well be on the global menu. Importantly, it is yet to be seen what sorts of regulations will be enforced in various countries regarding the claims and supply of these advanced food products.

INDUSTRY ASSOCIATIONS AND TERMINOLOGY

The foodservice industry is served by a plethora of associations, which cover virtually every aspect of the business. In recent years, many of these groups have been challenged by the sputtering economy, but so far have weathered the storm. At a time when operators and suppliers need innovative ideas more than ever, these powerhouse organizations are making a difference.

AMERICAN CULINARY FEDERATION (ACF) acfchefs.org

Since its 1929 inception, the American Culinary Federation, a professional organization for chefs and cooks, has been promoting the image of American chefs worldwide by educating culinarians at all levels.

ACF is the largest professional chefs organization in North America and boasts upward of 20,000 members in more than 225 chapters in four regions across the United States. In addition to chefs and cooks, members include culinary educators, culinary students, foodservice representatives and food enthusiasts.

The organization, which offers culinary competitions, U.S. government-approved certification, a national apprenticeship program, regional and national events as well as publications, helps to foster the growth of professional chefs in the foodservice industry.

ACF is also home to ACF Culinary Team USA, the official representative in major international culinary competitions, and to the Chef & Child Foundation, which was started in 1989 to promote proper nutrition in children and combat childhood obesity.

COUNCIL OF RESTAURANT AND HOTEL TRAINERS (CHART) chart.org

The Council of Restaurant and Hotel Trainers develops hospitality-training professionals to advance training practices and improve operational results. The organization helps members largely by providing access to education, tools and resources. Currently there are 450 members from more than 300 multi-unit restaurant and hotel companies.

The membership is made up of 40 percent representing full-service restaurants, 25 percent quick service or fast casual, 10 percent fine dining and 23 percent from hotels and resorts.

Members usually have between one and six years of tenure in the training profession. However, more than 26 percent of the membership has over 10. Titles include vice presidents of training and development or human resources, chief

people officers, directors of training or human resources, and field trainers.

CALIFORNIA RESTAURANT ASSOCIATION (CRA) calrest.org

Is a non-profit restaurant association focused on helping the growth and development of all its restaurant members in the state of California. They are the uniting force of the restaurant industry that brings together local communities, they impact legislation, they cultivate relationships and the CRA provides valuable resources to help restaurants run their businesses. The CRA also promotes and protects industry interests and practices through aggressive lobbying, monitoring the legislative process, initiating grassroots campaigns, boosting political action committees and fighting for policies that support the industry at all levels of government.

The CRA chapter network offers members the opportunity to network, sharing ideas and energy, with like-minded professionals. Each chapter provides advanced education, workshops, seminars and community-based action groups across California. Chapters work to support important political initiatives, local schools, charities and other worthwhile organizations.

Independently governed chapters are at work in Sacramento, San Diego County, Los Angeles, Orange County and Fresno. The CRA provides statewide advocacy representation and events strategically focused on restaurant-rich areas, including Silicon Valley and the Bay Area.

INTERNATIONAL CORPORATE CHEFS ASSOCIATION (ICCA) corpchefs.com

The International Corporate Chefs Association is the first association designed exclusively for corporate chefs from the nation's largest chains and multi-unit operations. Currently the organization has about 145 members, but can accommodate up to 200. The group, which costs \$395 to join, provides chefs the tools to advance their careers while creating a network of corporate chefs from the nation's largest multi-unit foodservice operations.

The group, which was founded by Kevin Ryan, who now serves as executive director, was started because as Ryan met corporate chefs, he learned they didn't know one another. "That prompted the idea and it was the best decision I have ever made," he says.

To join, the corporate chef must be the highest-ranking

culinarian from one of the top 200 multi-unit operators. Also, ICCA requires that both the company and the individual chef must apply for membership.

Members assemble once a year at an annual conference. Networking opportunities also take place at some of the nation's largest events, including the NRA Show, COEX and CIA Worlds of Flavor Conference.

Benefits include access to up-to-date information on trends, training techniques, current issues, menu development and other topics that affect daily operations. This is done through a variety of education programs and hands-on training at the conference, plus ongoing web-based news and information.

INTERNATIONAL FOODSERVICE MANUFACTURERS ASSOCIATION (IFMA)

Founded in 1952, the International Foodservice Manufacturers Association is the premier organization for the industry's suppliers. Boasting the industry's most coveted operators' award, the Gold and Silver Plate, the group comprises the leading 300 suppliers. Its membership represents manufacturers, large and small, across every food category, as well as equipment and disposables. The organization also maintains strong relationships with hundreds of operators and distributors. Cost of membership is based on the size of the member company.

The Chicago-based organization offers services in three areas: Forums for connectivity, such as COEX, Presidents Conference, Monthly Operator Forums and the Gold & Silver Plate Celebration; Market Insights, which features Food Service Fundamental Seminars, Forecast & Outlook

Conference, and the Sales & Marketing Conference; and also Best Practices, which is the industry wide GS-1 effort (or global standardizing of product identifiers) and Center of Innovation Excellence (cie).

INTERNATIONAL FRANCHISE ASSOCIATION (IFA) franchise.org

Among the 1,150 franchisor members of the International Franchise Association, restaurants and other foodservice businesses make up about 40 percent of the membership. In addition, about 12,000 among franchisees belong to the association.

While education and networking are the standout member benefits, this year the association rolled out its web-based On-Track-Performance Benchmarking for Franchisors tool, which allows IFA members to compare the performance of their franchise systems with their peers in five areas.

It also gives members access to reports to see comparisons on franchise leads and closing costs, training and support costs per franchise unit, same-store sales, net growth and employee allocations.

The new intelligence may make the annual membership fee a little more palatable for franchisor members, whose dues are based on their number of units and system-wide revenues (it can range from \$1,500 to \$30,000 annually). Members receive access to research studies on important topics, such as credit and capital access, and a franchise leader survey. Product and service suppliers also can join IFA for \$2,900 a year.

Membership also gives credibility to franchisors as they



are listed on the IFA website and printed directory. Within the past year, IFA launched a mentoring program called Franship, segmented by franchisors, franchisees and suppliers.

NATIONAL RESTAURANT ASSOCIATION (NRA) restaurant.org

The Daddy of all foodservice associations, the National Restaurant Association has its finger on the industry pulse, and membership allows access to research and benchmarking best practices to the 400,000 member locations with about 40,000 organizational members.

The NRA has a dual membership agreement with 53 state restaurant associations, and as a result, the cost to join NRA varies by state.

Industry advocacy is one of NRA's standout features, benefiting members and nonmembers. Membership, however, provides the opportunity to engage in the advocacy process.

The association also serves as a trusted adviser on important issues, like health care reform, food safety, credit card processing and sustainability. In areas like these, it develops programs, materials, webinars and research reports.

While NRA's annual Restaurant, Hotel-Motel Show is the premier industry trade show, the state associations offer their own bevy of networking and education events.

Executive study groups focusing on topics like human resources, information technology, and tax and finance, meet once or twice a year in a conference format to share best practices.

Training the next generation of foodservice operators is another main focus of NRA through its Education Foundation, providing scholarships, and its ProStart two-year program for high school students, complete with culinary competitions.

NRA members come from all segments of restaurants and foodservice operations as well as allied industries, such as suppliers, distributors, consultants and educators and students.

MULTICULTURAL FOODSERVICE & HOSPITALITY ALLIANCE (MFHA) mfha.net

Membership in the Multicultural Foodservice & Hospitality Alliance is especially useful for foodservice operations that want to brand themselves as culturally diverse. A total of 67 foodservice operations have done so, as well as 700 manufacturers and individuals who are committed to the association's cause to help companies attract, develop and retain diverse and multicultural talent.

Much of MFHA's strength is in its founder and president Gerald "Gerry" Fernandez Sr., who knows the dedication and competencies of nearly every foodservice leader and

company that is committed to workplace diversity. He refers to them in phone calls, presentations and in print, thus helping to brand them as culturally inclusive. "We are the multicultural 'Yellow Pages.' If you want something, you call us," he says.

Membership is expensive, \$10,000–\$25,000 for corporate members, \$900–\$1,500 for small companies, \$5,000 for the next level up, and \$75 for individuals. Besides touting multicultural corporations on its website and elsewhere, MFHA representatives are out selling the foodservice industry to multicultural schools and groups nationally and communicate with minority publications. The association also has a benchmarking survey on key issues, offers training, and helps companies build diversity programs and disaster plans in the event of a cultural faux pas. MFHA offers webinars and networking conference calls and sets up receptions and events in conjunction with other foodservice conferences.

Terrian Barnes, global diversity and inclusion officer for Yum! Brands Inc., in Louisville, Kentucky, was an MFHA founding board member and remains active. "I appreciate the fact that MFHA pushes me out of my comfort zone and allows me to experience the full depth and breadth of diversity and inclusion," she says.

RESEARCH CHEFS ASSOCIATION (RCA) culinology.com

The Research Chefs Association's 2,300 members, who are largely culinarians, food scientists, students and manufacturers, are a microcosm of the food research and development world, reflecting the R&D process from concept to market. RCA's focus is clear, promoting its coined term and discipline culinology, the blending of culinary arts and the science of food.

Annual membership fees vary by discipline: \$135 for culinology and chef members and \$400 for suppliers, distributors and sales and marketing professionals. Among the tangible benefits of an RCA membership are subscriptions to RCA and related publications, access to members-only online features like the membership directory, access to a list of job postings and discounts to RCA events, workshops and certification programs.

WOMEN CHEFS & RESTAURATEURS (WCR) womenschefs.org

Women, Chefs & Restaurateurs covers the entire spectrum of culinary disciplines.

Members come from the ranks of chefs, restaurateurs, educators, cookbook writers, private and personal chefs, sommeliers, beverage managers, restaurant front-of-house managers, consultants and publicists.

The organization, which offers networking and educational opportunities through its local exchanges, national conference and online forums, is dedicated to creating and expanding the professional and business opportunities for women in the industry. WCR also aims to provide support and foster an environment that ensures women equal access to the position, power and rewards offered by the restaurant industry.

Currently there are nearly 2,000 members of the organization. Membership costs vary from \$45 a year for a student to \$1,650 for a corporation and 10 employees. A beginning professional is charged \$55 annually while an executive pays \$195 annually.

The small-business rate is \$280 a year, and that tier allows for three company members. WCR also boasts a scholarship and internship program designed for both culinary students and seasoned professionals.

Other benefits include a business listing online that is linked to the members' company, cookbook guide linked to point of sale and member exposure through the website and monthly newsletter.

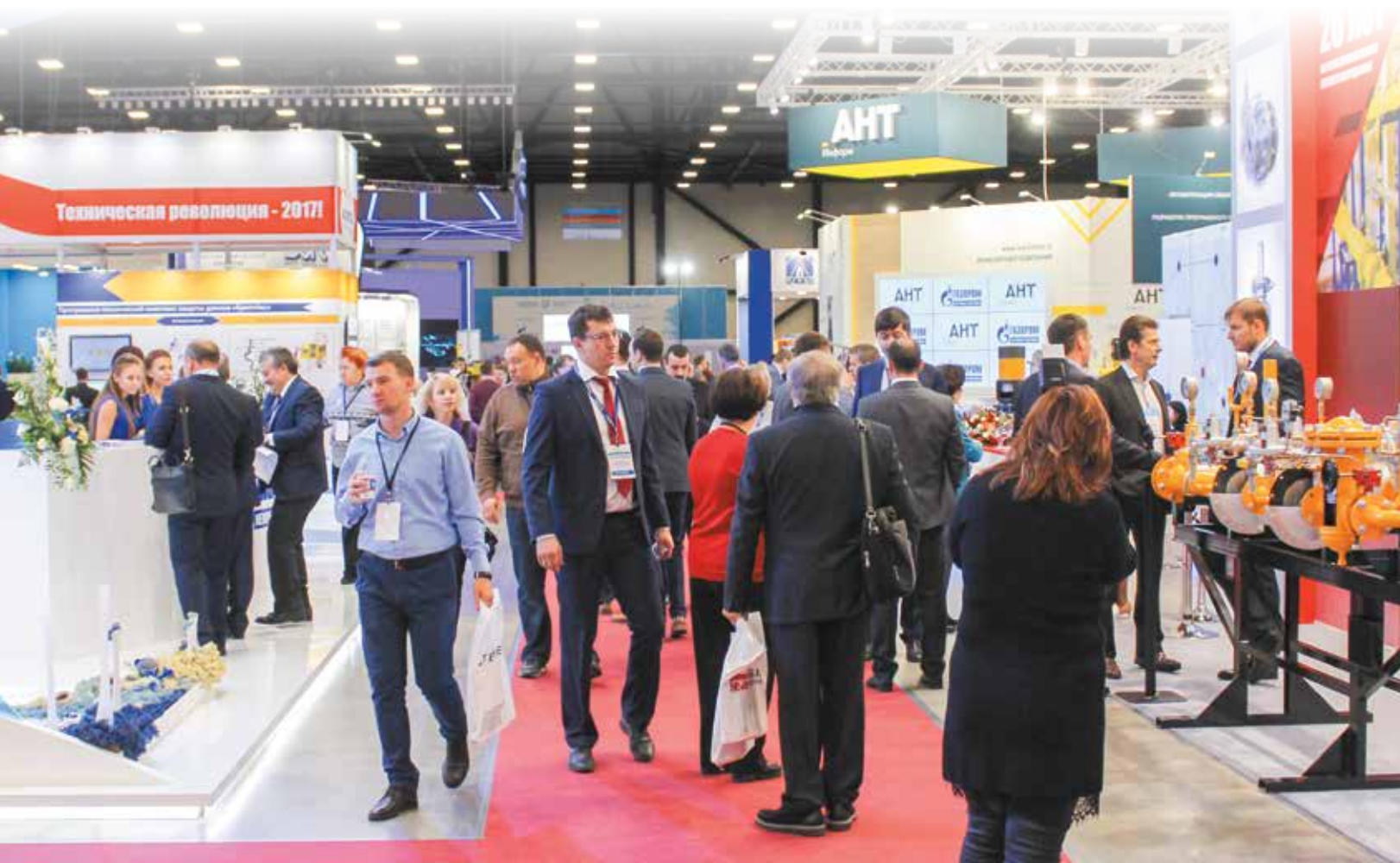
WOMEN'S FOODSERVICE FORUM (WFF) womensfoodserviceforum.com

The Women's Foodservice Forum helps women make strategic connections and develop as leaders in the foodservice industry. Focusing on 12 core competencies women must have to succeed, WFF's website offers free leadership competency assessment for members, from emerging leaders to executives, allowing them to choose programming based on their assessment and developmental needs.

While WFF has 3,700 members, it estimates it has touched more than 10,000 people, and its goal is to engage more than 100,000, says Gretchen Sussman, who recently signed on fulltime as vice president of business development and industry relations. That will happen through the annual leadership conference, webinars (which some companies use as lunch-and-learns), and other leadership development tools. It conducts educational and networking programs called Regional Connects in about 40 cities—made possible by members who serve as volunteers, which helps to build their leadership skills.

WFF recently introduced the newly reduced individual membership rate of \$199 providing the industry access to leadership development programming throughout their career.

The association also announced a new partnership with the Center for Executive Women at Kellogg School of Management at Northwestern University to offer WFF members enhanced educational programming leading to leadership certification.



THE A TO Z GUIDE TO RESTAURANT LINGO

There are many common terms in the foodservice industry, the likes of “5 Out”: When a chef yells out “5 out!” they are trying to tell the other cooks that the dish they are working on will be ready for plating in 5 minutes. “86” is a common term you’ll have heard multiple times if you’ve worked in the restaurant industry long enough. “86” is used when a restaurant is unable to prepare a certain dish, whether because they have some external constraint or simply run out of the ingredients required.

Below is a list of some of the most common terminology in the business:

A

A La Carte: A la carte is the opposite of a set restaurant menu and refers to when a customer orders an individual dish from the menu.

A La Mode: with Ice Cream

Adam and Eve on a Raft: Even if you’ve worked in the restaurant industry for years, this one might be a term you’ve never heard of, and that’s because it’s primarily used in the states. Adam and Eve on a raft refers to when a customer orders two eggs (poached or scrambled) on a piece of toast.

All Day: The term “All Day” refers to the total number of items that needs to be sent out from the kitchen. The term is usually slapped on the end of a long sentence. “I need eight scrambled eggs, five soup of the days, three cups of coffee, five pancakes with butter on the side all day.”

B

Back of House (BOH): The back of the house refers to everything in the restaurant behind the dining room. This usually includes the kitchen, storage rooms, offices and any prep rooms. The back end of the restaurant, typically the kitchen, prep and storage areas.

Bartender: A bartender is someone employed at a restaurant, usually behind a bar, to prepare and serve alcoholic and non-alcoholic beverages. Bartenders are referred to by many different names, which include barkeep, barman, bar chef, mixologist and barmaid.

Bev Nap: Bev naps are the small square paper napkins that are used in lieu of a coaster. Customers can use this for wiping their hands or table, but conventionally these are meant to be placed under a beverage.

Blue-Plate Special: A blue plate special is a type of dish almost exclusive to the United States and Canada. Other countries serve a variation of this concept, but don’t refer to

them as ‘blue plate specials’. This dish refers to a low cost menu item that changes everyday and is typically served at diners and cafes.

C

Camper: A camper is a busy restaurant’s least-favorite kind of customer. The term refers to someone that has already paid for and finished their meal but will not leave their table. Campers lead to longer wait times when a restaurant is packed and on a waitlist.

Can’t cook their way out of a paper bag: This is usually said about someone that is terrible at cooking but is in denial about it.



Charcuterie: This term refers to a specific kind of cooking that is focused primarily on the preparation of meats such as sausage, ham and bacon.

Check Back: This refers to when a server checks on how the customer’s meal went while also dropping the check at the same time, as opposed to having them be two separate events.

Chef: A chef is someone that is trained professionally in the

art of food preparation and cooking. Most trained chefs will focus on one specific cuisine, but it is not unheard of for a chef to be proficient in multiple cuisines.

Chef de Partie: More commonly referred to as a line cook, a Chef de Partie refers to a chef that is usually at the beginning of their career and can fit into multiple chef roles. The next role for a Chef de Partie is usually as a Sous Chef once they get promoted.

Chef’s Table: A Chef’s Table experience is probably one of the most luxurious ways you can dine at a restaurant. With its location right in the kitchen, Chef’s Tables are reserved for special guests only and provide them with a custom curated dinner that they would otherwise not get in the normal dining room.

Combination Meal: A combination meal, sometimes referred to as a “combo”, is a meal type that includes everything one needs for a complete meal. You will mostly see these kinds of dishes at fast food chains, but they are not uncommon to fast casual and fine dining restaurants. A combo meal will usually include a main course, a side and a beverage.

Commis: A commis usually refers to a beginner chef that works right below the Chef de Partie. Similar to an internship or apprenticeship, their main goal is to learn as much as they

can about their kitchen responsibilities.

Comp: “Comping” something means giving something away for free to your customer. Usually this is to smooth things over with a disgruntled customer who has had some part of their meal go wrong.

Cooked to Order: This is a type of dish that is cooked to a customer’s specific instructions. Not something that is pre-prepared.

Counter Meal: A counter meal is very similar to a “Blue Plate Special” except for the fact that counter meals are more popular at bars and pubs in Australia. These are usually set meals that are changed daily and are eaten at the countertop.

Cover: A cover refers to a single paying customer. A reservation for 5 people translates to 5 covers.

Cut: A slice of meat.

Dead Plate: A dead plate is a dish that can in no way be served to customers. This can be for a number of reasons but includes poor appearance, incorrect temperature, taking too long to serve the dish, or wrong ingredients.

Deuce: A table that can only seat two customers.

Dine and Dash: This term is not too foreign, and people that don’t even work in the restaurant industry will know what it means. To dine and dash means a customer finishes their meal and sneaks out before having to pay the bill.

Double: Having to work two shifts in a row.

Douse It: When a customer requests to have their dish covered in extra sauce.

Drop: To start cooking an accessory item; e.g. “The burger is almost done grilling, drop the fries into the fryer.”

Drop the Check: Bringing the guest’s bill to their table.

Dupe: A dupe is the information that gets passed to the kitchen from the front of house staff so the chefs know what to prepare for the customers.

Early Bird Dinner: An early bird dinner usually takes place earlier than peak dinner times and is primarily aimed at elderly couples and tourists that are looking to eat as much as they can for as little as possible. A very common offering for buffets.

Expeditor: The employee responsible for arranging food



from the kitchen and sending it out to the dining room for the servers.

F

Family Meal: A family meal, sometimes referred to as a staff meal, is a daily meal that the restaurant serves its employees, usually outside peak hours. Sometimes these meals will be prepared using leftover or unused ingredients, and often times a chef will use family meals as an opportunity to test new recipes.

Fire: Orders given by the head of the kitchen to start preparing a certain dish.

Flash: When a particular meat is undercooked, a chef might “flash it” in an oven to raise the temperature slightly and cook it the remainder of the way.

Foodie: A foodie is someone that believes they know everything they need to know about food and cooking.

Free Lunch: A free lunch is a strategy restaurants use with the aim of bringing in customers and increasing revenue generated. By promising a free lunch with the purchase of a drink, restaurant owners are hoping that customers will order more than one drink or become loyal long-time customers.

Front of House (FOH): The front of house of a restaurant is everything that your customers can see. This includes the dining room and bar.

G

Garde Manger: The garde manger is the part of the kitchen where chef prepare cold menu items such as salads, desserts, and cold appetizers.

Ghost Restaurant: A ghost restaurant is a restaurant that is usually empty and generates almost all of its revenue through food delivery.

Gueridon Service: This term usually refers to tableside food preparation. This requires that a gueridon (trolley) is used to transport ingredients to a guest table where a dish is prepared live for the customer.

H

Happy Hour: Happy hours are ways for restaurants to drive more traffic into their restaurant during their off-peak hours. Most of the time happy hour offers include free drinks, a free dish, discounts, or even a free meal.

Hockey Puck: A reference to a well cooked hamburger patty.

I

In the Weeds: In the weeds is a term that refers to both the front and back of house staff and it is used to describe a situation where the kitchen staff is pressed for time and required to do a huge task such as dropping the check to 12 tables at once.

J

Jumpin: A colloquial term to describe a very popular and busy restaurant.

K

Kid’s Meal: A kid’s meal is a meal that is catered to and targeted to children. They usually include a fun toy or something to entertain a child.

Kill It: To overcook something, usually by the customer’s request.

L

Line Cook: Line cooks are tasked with preparing ingredients and assembling dishes according to the restaurant recipes. Line cooks are essential to the basic functioning of a busy restaurant kitchen.

M

Main Course: The main course section of a menu displays dishes that are the main focus of a meal. Usually follows an appetizer.

Maitre d’Hotel: A Maitre d’Hotel is usually something exclusive to high-end restaurants, and is someone that welcomes guests, assigns their tables, takes reservations and just makes sure that the guest has a generally good time.

Meat and Three: This type of restaurant offering is exclusive to the Southern United States and refers to a set menu where your customer can choose one meat and three side dishes for a special price.

Menu: A menu at a restaurant is a list of everything that your establishment can serve to your customers. This usually includes pictures and descriptions of each dish to entice your customers to make an order.

Mise en Place: This is a french term which refers to “putting everything in place” and is most commonly referenced when kitchen staff are required to follow a certain procedure before being able to start cooking.

Monkey Dish: A small dish that is used to serve condiments or nuts. It can also be used to dispose of bones when eating meat.

N

No-Show: A guest that makes a reservation at your restaurant and then doesn’t show up.

Nuke it: When kitchen staff microwave a dish to heat it up or cook it.

O

Omakase: Coming from the Japanese term which means “Leave it up to you”, Omakase refers to when customers let the chef choose the course of their meal as opposed to ordering each dish a la carte.

On the Fly: Something that needs to be done urgently.

One Bowl with Two Pieces: This term is primarily used in China and refers to ordering a pot of tea along with two dim sum.

Online Food Delivery: Ordering food from a restaurant online, whether that be from a restaurant website or restaurant aggregator app.

Overhead: Overhead refers to any additional factors that go into calculating food cost at your restaurant. This includes the electricity that is required to prepare a dish, the cost of labor, and even shipping costs.

P

Party: The size of a group dining at your restaurant.

Pick Up: This is when one server takes over another server’s tables.

Pump it Out: Preparing food quickly.

Push It: Selling a particular item. Actively trying to get rid of stock of one particular dish.

Q

Quote: When a restaurant is busy, a quote time is the time that a member of restaurant staff tells a customer they will need to wait before being able to get a table.

R

Rollup: Dining utensils that are rolled up in napkins.

Runner: A person whose job is not to be assigned to certain tables such as servers, but rather to just run back and forth between the kitchen and dining room delivering dishes.

S

Sacked: Fired.

Saucier: A chef de partie that is responsible for any item that is sautéed.

Serving Cart: A serving cart is a small cart that is used to help transport dishes to a table. Sometimes a serving cart is

even used to display certain items.

Server: Refers to a waiter or waitress.

Shelf Life: How long a particular ingredient can sit on the shelf before losing quality or expiring.

Shorting: When a supplier charges a restaurant a larger amount than the cost of the products they've received.

Sidework: Busy work that is done by the front of house staff that is required to keep the restaurant operational. Includes drying and polishing silverware, refilling salt and pepper shakers, refilling toothpicks and napkins.

Signature Dish: A signature dish is a menu item that is a speciality of the restaurant or particular chef.

Sizzle Platter: A heavy duty metal plate that is used to serve sizzling dishes such as fajitas or nachos. Really good at maintaining heat.

Sommelier: An employee whose speciality is wine. Usually the one to make recommendations to customers about which wine pairs best with their dish of choice.

SOS: An abbreviation for "sauce on the side".

Sous-Chef: The second in command at your kitchen. The sous chef will be in charge when your main chef is off.

Starch: Starch refers to starchy sides such as rice, potatoes and pasta as alternatives to vegetables.

Station: A set number of tables that a server is assigned.

Stiffed: When a customer leaves without leaving a tip.

Still Mooing: Usually used to refer to a steak that is ordered rare.

Stretch It: Something that is done when a restaurant is running low on a certain ingredient, and they do whatever they can to "stretch" whatever is left to last them the entire night.

T

Table d'Hôte: A multi-course set menu that is offered at a fix price.

Table Service: Table service is when a restaurant serves food right to the customer's table rather than having them pick up it up from the counter such as with fast food restaurants.

Table Sharing: Table sharing is when a restaurant will seat multiple parties at the same or adjoining tables.

Table Turns: Table turns refers to the number of times that a specific table has gone through the entire meal process (from being seated to paying) each shift.

SOURCE: FSR Magazine, EAT restaurant.eat app

Take-Out: When a customer orders food from your restaurant with the intention of eating it somewhere else.

Tare: The weight of the container that a product is delivered in, this number should be subtracted from the total weight of the product as to pay for an accurate weight.

The Boogie Man: A health inspector.

Three Martini Lunch: A special restaurant offering that usually takes place around noon in the United States and is primarily catered towards business people and lawyers.

Top: The number of customers in a party. A seven top refers to a dining party of seven people.

Toss: When a food vendor alters the appearance of a product to make it look like the box is full when it is in fact not.

Tourne: When a vegetable is cut in the shape of a small tapered cork.

Turn and Burn: To turn tables very quickly, usually a result of a busy restaurant with a long waiting list.

Two Second Rule: An unspoken rule in the restaurant industry where dropped ingredients are okay as long as they've only touched the floor for no more than two seconds.

U

Upsell: When an employee tries to sell a guest something that is more expensive than what they have requested.

V

Value meal: A value meal is a combination of restaurant items that are bundled and offered together for a very low price. This is usually done to increase revenue at a restaurant by increasing the number of items ordered.

Veg: Any veggies that accompany a main course.

VIP: A customer that is very important such as a food blogger, critic, relative of the restaurant owner, or a celebrity.

W

Walk-In: A walk-in can refer to two things at a restaurant. A walk-in freezer where meats and perishable items are stored. A customer that walks into your restaurant looking for a table without making a reservation.

Walked: Very similar to "dine and dash", refers to a customer that leaves without paying. Can also refer to an employee that has left half-way through their shift.

Well Drinks: Alcoholic drinks that are made from cheap house liquors.

Window: A heated shelf where a prepared dish is placed to keep it warm while it waits for a server to take it to the customer.

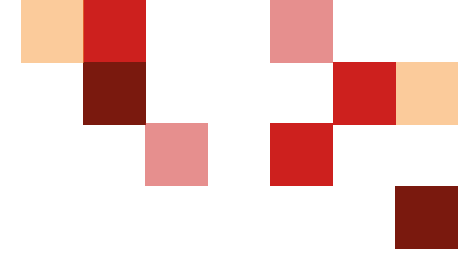
CONCLUSION

We hope this Food Guide served you as well as it did all of us here at Nexus. In order to gather the information to write this guide, we dug deep into conversations with chefs, restaurant managers and restaurant buyers, and spent countless hours online researching statistical data and the history behind select food dishes, plus a collection of recipes, to create this wonderful educational publication. We hope you enjoyed the tour of the different types of cuisines from around the world, the history behind it all, the nutritional information and a glimpse into what is to come. The intention of the guide is to provide you with new ideas and to give you a deeper and more thorough understanding of the world of food. Even if you have only learned a new thing or two, we hope this guide has served its purpose as an educational tool. On behalf of all of us here at Nexus, we want to thank you for reading it. Please contact us if you have any questions or specific needs that we may be able to help you with in order to enhance your business and help it become a more efficient, productive and profitable foodservice establishment.

Thank You

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