
Food Processing Occupations

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Significant Points

- Most workers in manual food processing jobs require little or no training prior to being hired.
- As more jobs involving cutting and processing meat shift from retail stores to food processing plants, job growth will be concentrated among lesser skilled workers, who are employed primarily in manufacturing.
- Highly skilled bakers should be in demand.

Nature of the Work

Food processing occupations include many different types of workers who process raw food products into the finished goods sold by grocers, wholesalers, restaurants, or institutional food services. These workers perform a variety of tasks and are responsible for producing many of the food products found in every household. Some of these workers are bakers, others process meat, and still others operate food processing equipment.

Bakers mix and bake ingredients according to recipes to produce varying quantities of breads, pastries, and other baked goods. Bakers commonly are employed in grocery stores and specialty shops and produce small quantities of breads, pastries, and other baked goods for consumption on premises or for sale as specialty baked goods. While the quantities are often small, the varieties of bread usually are not. Specialty handcrafted—or artisan—bread, comes with seeds, nuts, fruits, olives, and cheese, which can be included in a crusty loaf, round loaf, flat or even focaccia bread. Bakers can also add a variety of flavors, too, such as rosemary, pecan, fig, garlic, red pepper, sesame, and anise.

In manufacturing, bakers produce goods in large quantities, using high-volume mixing machines, ovens, and other equipment. Goods produced in large quantities usually are available for sale through distributors, grocery stores, supermarkets, or manufacturers' outlets.

Other food processing workers convert animal carcasses into manageable pieces of meat, known as boxed meat or case-ready meat, suitable for sale to wholesalers and retailers. The nature of their jobs varies significantly depending on the stage of the process in which they are involved. Butchers and meat cutters, for example, work primarily in groceries and wholesale establishments that provide meat to restaurants and other retailers; whereas, meat, poultry, and fish cutters and trimmers commonly work in animal slaughtering and processing plants.

In animal slaughtering and processing plants, slaughterers and *meat packers* slaughter cattle, hogs, goats, and sheep, and cut the carcasses into large wholesale cuts, such as rounds, loins, ribs, tenders, and chucks, to facilitate the handling, distribution, marketing, and sale of meat. In most plants, some slaughterers and meat packers further process the large parts into cuts that are ready for retail stores. Retailers and grocers

increasingly prefer such prepackaged meat products because a butcher isn't needed to display and sell them. Slaughterers and meat packers also produce hamburger meat and meat trimmings, preparing sausages, luncheon meats, and other fabricated meat products. They usually work on assembly lines, with each individual responsible for only a few of the many cuts needed to process a carcass. Depending on the type of cut, these workers use knives; cleavers; meat saws; bandsaws; or other potentially dangerous equipment.

Poultry cutters and trimmers slaughter and cut up chickens, turkeys, and other types of poultry. Although the poultry processing industry is becoming increasingly automated, many jobs, such as trimming, packing, and deboning, are still done manually. Most poultry cutters and trimmers perform routine cuts on poultry as it moves along production lines.

Meat, poultry, and fish cutters and trimmers also prepare ready-to-heat foods, usually at processing plants. This preparation often entails filleting meat, poultry, or fish; cutting it into bite-sized pieces or tenders; preparing and adding vegetables; and applying sauces and flavorings, marinades, or breading. These case-ready products are gaining in popularity as they offer quick and easy preparation for consumers while, in many cases, also offering a healthier option.

Manufacturing and retail establishments are likely to employ fish cutters and trimmers, also called *fish cleaners*. These workers primarily scale, cut, and dress fish by removing the head, scales, and other inedible portions and cutting the fish into steaks or fillets. In retail markets, these workers may also wait on customers and clean fish to order.

Butchers and meat cutters process meat at later stages of production. Those who work for large grocery stores, wholesale establishments that supply meat to restaurants, or institutional food service facilities separate wholesale cuts of meat into retail cuts or smaller pieces, known as primals. These butchers cut meat into steaks and chops, shape and tie roasts, and grind beef for sale as chopped meat. Boneless cuts are prepared using knives, slicers, or power cutters, while bandsaws and cleavers are required to cut bone-in pieces of meat. Butchers and meat cutters in retail food stores also may weigh, wrap, and label the cuts of meat; arrange them in refrigerated cases for display; and prepare special cuts to fill unique orders by customers.



In large grocery stores, butchers and meat cutters separate wholesale cuts of meat into retail cuts or individually sized servings.

Others in food processing occupations include *food batch-makers*, who set up and operate equipment that mixes, blends, or cooks ingredients used in the manufacture of food products according to formulas or recipes; *food cooking machine operators and tenders*, who operate or tend cooking equipment, such as steam-cooking vats, deep-fry cookers, pressure cookers, kettles, and boilers to prepare food products, such as meat, sugar, cheese, and grain; and *food and tobacco roasting, baking, and drying machine operators and tenders*, who use equipment to reduce the moisture content of food or tobacco products or to prepare food for canning. The machines they use include hearth ovens, kiln driers, roasters, char kilns, steam ovens, and vacuum drying equipment.

Work environment. Working conditions vary by type and size of establishment. Most traditional bakers work in bakeries, cake shops, hot-bread shops, hotels, restaurants, cafeterias, and in the bakery departments of supermarkets. Bakers may work under hot and noisy conditions. They typically work under strict order deadlines and critical time-sensitive baking requirements, both of which can induce stress.

Although many bakers often work as part of a team, they also may work alone when baking particular items. These workers may supervise assistants and teach apprentices and trainees. Bakers in retail establishments may be required to serve customers. Bakers usually work odd hours in shifts and may work early mornings, evenings, weekends, and holidays.

In animal slaughtering and processing plants and in large retail food establishments, butchers and meat cutters work in large meat cutting rooms equipped with power machines and conveyors. In small retail markets, the butcher or fish cleaner may work in a cramped space behind the meat or fish counter. To prevent viral and bacterial infections, work areas are kept clean and sanitary.

Butchers and meat cutters, poultry and fish cutters and trimmers, and slaughterers and meatpackers often work in cold, damp rooms. Refrigerated work areas prevent meat from spoiling; they are damp because meat cutting generates large amounts of blood, condensation, and fat. Cool, damp floors increase the likelihood of slips and falls. In addition, cool temperatures, long periods of standing, and repetitious physical tasks make the work tiring. As a result, butchers as well as meat, poultry, and fish cutters and trimmers are more susceptible to injury than are most other workers.

Injuries include cuts and occasional amputations, which occur when knives, cleavers, or power tools are used improperly. Also, repetitive slicing and lifting often lead to cumulative trauma injuries, such as carpal tunnel syndrome. To reduce the incidence of cumulative trauma injuries, some employers have reduced employee workloads, added prescribed rest periods, redesigned jobs and tools, and promoted increased awareness of early warning signs as steps to prevent further injury. Nevertheless, workers in the occupation still face the serious threat of disabling injuries.

Workers who operate food processing machinery typically work in production areas that are specially designed for food preservation or processing. Food batchmakers, in particular, work in kitchen-type, assembly-line production facilities. Because this work involves food, work areas must meet govern-

mental sanitary regulations. The ovens, as well as the motors of blenders, mixers, and other equipment, often make work areas very warm and noisy. There are some hazards, such as burns, created by the equipment that these workers use.

Food batchmakers; food and tobacco roasting, baking, and drying machine operators; and food cooking machine operators and tenders spend a great deal of time on their feet and generally work a regular 40-hour week that may include evening and night shifts.

Training, Other Qualifications, and Advancement

Training varies widely among food processing occupations. However, most manual food processing workers require little or no training before being hired.

Education and training. Bakers often start as apprentices or trainees. Apprentice bakers usually start in craft bakeries, while trainees usually begin in store bakeries, such as those in supermarkets. Bakers need to become skilled in baking, icing, and decorating. Knowledge of bakery products and ingredients, as well as mechanical mixing and baking equipment, is also important. Many apprentice bakers participate in correspondence study and may work towards a certificate in baking. Working as a baker's assistant or at other activities that involve handling food is also a useful way to train.

The skills needed to be a baker are often underestimated. Bakers need to know about ingredients and nutrition, government health and sanitation regulations, business concepts, applied chemistry—including how ingredients combine and how they are affected by heat, and production processes, including how to operate and maintain machinery. Computers often operate high-speed automated equipment typically found in modern food plants.

Most butchers as well as poultry and fish cutters and trimmers acquire their skills through on-the-job training programs. The length of training varies significantly. Simple cutting operations require a few days to learn, while more complicated tasks, such as eviscerating slaughtered animals, generally require several months of training. The training period for highly skilled butchers at the retail level may be 1 or 2 years.

Generally, trainees begin by doing less difficult jobs, such as making simple cuts or removing bones. Under the guidance of experienced workers, trainees learn the proper use and care of tools and equipment, while also learning how to prepare various cuts of meat. After demonstrating skill with various meat cutting tools, trainees learn to divide carcasses into wholesale cuts and wholesale cuts into retail and individual portions. Trainees also may learn to roll and tie roasts, prepare sausage, and cure meat. Those employed in retail food establishments often are taught operations, such as inventory control, meat buying, and recordkeeping. In addition, growing concern about food-borne pathogens in meats has led employers to offer numerous safety seminars and extensive training in food safety to employees.

On-the-job training is common among food machine operators and tenders. They learn to run the different types of equipment by watching and helping other workers. Training can last anywhere from a month to a year, depending on the complexity of the tasks and the number of products involved.

Projections data from the National Employment Matrix

Occupational Title	SOC Code	Employment, 2006	Projected employment, 2016	Change, 2006-16	
				Number	Percent
Food processing occupations	51-3000	705,000	764,000	59,000	8
Bakers	51-3011	149,000	164,000	15,000	10
Butchers and other meat, poultry, and fish processing workers....	51-3020	398,000	431,000	34,000	8
Butchers and meat cutters	51-3021	131,000	134,000	2,500	2
Meat, poultry, and fish cutters and trimmers.....	51-3022	144,000	160,000	16,000	11
Slaughterers and meat packers.....	51-3023	122,000	138,000	16,000	13
Miscellaneous food processing workers	51-3090	158,000	169,000	10,000	7
Food and tobacco roasting, baking, and drying machine operators and tenders	51-3091	19,000	21,000	2,000	11
Food batchmakers	51-3092	95,000	105,000	10,000	11
Food cooking machine operators and tenders.....	51-3093	44,000	42,000	-2,100	-5

NOTE: Data in this table are rounded. See the discussion of the employment projections table in the *Handbook* introductory chapter on *Occupational Information Included in the Handbook*.

A degree in an appropriate area—dairy processing for those working in dairy product operations, for example—is helpful for advancement to a lead worker or a supervisory role. Most food batchmakers participate in on-the-job training, usually from about a month to a year. Some food batchmakers learn their trade through an approved apprenticeship program.

Other qualifications. Bakers need to be able to follow instructions, have an eye for detail, and communicate well with others.

Meat, poultry, and fish cutters and trimmers need manual dexterity, good depth perception, color discrimination, and good hand-eye coordination. They also need physical strength to lift and move heavy pieces of meat. Butchers and fish cleaners who wait on customers should have a pleasant personality, a neat appearance, and the ability to communicate clearly. In some States, a health certificate is required for employment.

Certification and advancement. Bakers have the option of obtaining certification through the Retail Bakers of America. While not mandatory, obtaining certification assures the public and prospective employers that the baker has sufficient skills and knowledge to work at a retail baking establishment.

The Retail Bakers of America offer certification for four levels of competence with a focus on several broad areas, including baking sanitation, management, retail sales, and staff training. Those who wish to become certified must satisfy a combination of education and experience requirements prior to taking an examination. The education and experience requirements vary by the level of certification desired. For example, a certified journey baker requires no formal education but a minimum of 1 year of work experience. On the other hand, a certified master baker must have earned the certified baker designation, and must have completed 30 hours of sanitation coursework approved by a culinary school or government agency, 30 hours of professional development courses or workshops, and a minimum of 8 years of commercial or retail baking experience.

Food processing workers in retail or wholesale establishments may progress to supervisory jobs, such as department managers or team leaders in supermarkets. A few of these workers may become buyers for wholesalers or supermarket chains. Some food processing workers go on to open their

own markets or bakeries. In processing plants, workers may advance to supervisory positions or become team leaders.

Employment

Food processing workers held 705,000 jobs in 2006. Employment among the various types of food processing occupations was distributed as follows:

Bakers.....	149,000
Meat, poultry, and fish cutters and trimmers.....	144,000
Butchers and meat cutters.....	131,000
Slaughterers and meat packers.....	122,000
Food batchmakers.....	95,000
Food cooking machine operators and tenders.....	44,000
Food and tobacco roasting, baking, and drying machine operators and tenders.....	19,000

Thirty-four percent of all food processing workers were employed in animal slaughtering and processing plants. Grocery stores employed another 24 percent. Most of the remainder worked in other food manufacturing industries. Butchers, meat cutters, and bakers are employed in almost every city and town in the Nation, while most other food processing jobs are concentrated in communities with food processing plants.

Job Outlook

Job opportunities should be available in all food processing specialties due to the need to replace experienced workers who transfer to other occupations or leave the labor force. Overall employment is expected to increase about as fast as average.

Employment change. Overall employment in the food processing occupations is projected to increase 8 percent during the 2006-16 decade, about as fast as the average for all occupations. Increasingly, cheaper meat imports from abroad will have a negative effect on domestic employment in many food processing occupations. As more jobs involving cutting and processing meat shift from retail stores to food processing plants, job growth will be concentrated among lesser skilled workers, who are employed primarily in manufacturing.

As the Nation's population grows, the demand for meat, poultry, and seafood should continue to increase. Successful marketing by the poultry industry is likely to increase de-

mand for chicken and ready-to-heat products. Similarly, the development of prepared food products that are lower in fat and more nutritious promises to stimulate the consumption of red meat. The trend toward preparing case-ready meat at the processing level also should contribute to demand for animal slaughterers and meat packers, especially as those products become available at lower prices.

Lesser skilled meat, poultry, and fish cutters and trimmers—who work primarily in animal slaughtering and processing plants—should experience 11 percent growth, about as fast as the average for all occupations, and employment of slaughters and meat packers is expected to increase 13 percent, also about as fast as the average. With the growing popularity of labor-intensive, ready-to-heat poultry products, demand for poultry workers should rise steadily. Potentially offsetting growth will be increased automation and plant efficiency, although some technological breakthroughs may be years away. Fish cutters also will be in demand, as the task of preparing ready-to-heat fish goods gradually shifts from retail stores to processing plants. Advances in fish farming, or “aquaculture,” should also help meet the growing demand for fish and produce job growth for fish cutters.

Employment of more highly skilled butchers and meat cutters, who work primarily in large supermarkets, is expected to grow 2 percent, which is considered little or no change in employment. The proliferation of case-ready meat products and automation in the animal slaughtering and processing industries are enabling employers to transfer employment from higher paid butchers to lower wage slaughterers and meat packers in meat packing plants. At present, most red meat arrives at grocery stores partially cut up, but a growing share of meat is being delivered prepackaged with additional fat removed to wholesalers and retailers. This trend is resulting in less work and, thus, fewer jobs for retail butchers.

While high-volume production equipment limits the demand for lesser skilled bakers in manufacturing, overall employment of bakers, particularly highly skilled bakers, should increase 10 percent, about as fast as the average for all occupations, due to growing numbers of bakers in stores, specialty shops, and traditional bakeries. In addition to the growing numbers of cookie, muffin, and cinnamon roll bakeries, the numbers of specialty bread and bagel shops have been growing, spurring demand for artisan bread and pastry bakers.

Employment of food batchmakers and food and tobacco cooking and roasting machine operators and tenders, are expected to grow 11 percent each, about as fast as the average for all occupations. However, as more of this work is being done at the manufacturing level rather than at the retail level, potential employment gains may be offset by productivity gains from automated blending and roasting equipment.

Employment of food cooking machine operators and tenders is expected to decline moderately, about 5 percent, as cooking equipment such as steam vats, deep fryers, kettles, and broilers is increasingly automated.

Job prospects. Jobs should be available in all food processing specialties because of the need to replace experienced workers who transfer to other occupations or leave the labor force. Highly skilled bakers should be especially in demand

because of growing demand for specialty products and because of the time it takes to learn to make them.

Earnings

Earnings vary by industry, skill, geographic region, and educational level. Median annual earnings of bakers were \$22,030 in May 2006. The middle 50 percent earned between \$17,720 and \$28,190. The highest 10 percent earned more than \$35,380, and the lowest 10 percent earned less than \$15,180. Median annual earnings in the industries employing the largest numbers of bakers in May 2006 are given in the following tabulation:

Bakeries and tortilla manufacturing.....	\$22,580
Grocery stores	22,170
Specialty food stores	21,900
Full-service restaurants.....	20,770
Limited-service eating places	19,990

Median annual earnings of butchers and meat cutters were \$26,930 in May 2006. The middle 50 percent earned between \$20,630 and \$35,240. The highest 10 percent earned more than \$43,260 annually, while the lowest 10 percent earned less than \$16,520. Butchers and meat cutters employed at the retail level typically earn more than those in manufacturing. Median annual earnings in the industries employing the largest numbers of butchers and meat cutters in May 2006 were:

Other general merchandise stores.....	\$34,190
Grocery stores	27,830
Grocery and related product wholesalers.....	25,690
Specialty food stores	23,180
Animal slaughtering and processing.....	23,080

Meat, poultry, and fish cutters and trimmers typically earn less than butchers and meat cutters. In May 2006, median annual earnings for these lower skilled workers were \$20,370. The middle 50 percent earned between \$17,100 and \$24,120. The highest 10 percent earned more than \$29,070, while the lowest 10 percent earned less than \$14,960. The following tabulation shows median annual earnings in the industries employing the largest numbers of meat, poultry, and fish cutters and trimmers in May 2006:

Other general merchandise stores.....	\$25,150
Grocery stores	20,680
Animal slaughtering and processing.....	20,530
Specialty food stores	19,990
Seafood product preparation and packaging.....	18,180

Median annual earnings of food batchmakers were \$23,100 in May 2006. The middle 50 percent earned between \$17,730 and \$30,120. The highest 10 percent earned more than \$37,930, and the lowest 10 percent earned less than \$15,060. The following tabulation presents median annual earnings in the industries employing the largest numbers of food batchmakers in May 2006:

Dairy product manufacturing.....	\$28,570
Fruit and vegetable preserving and specialty food manufacturing.....	25,100
Other food manufacturing	23,550
Sugar and confectionery product manufacturing	22,370
Bakeries and tortilla manufacturing.....	21,720

In May 2006, median annual earnings for slaughterers and meat packers were \$21,690. The middle 50 percent earned between \$18,290 and \$25,440. The highest 10 percent earned more than \$28,570, and the lowest 10 percent earned less than \$15,950. Median annual earnings in animal slaughtering and processing, the industry employing the largest number of slaughterers and meat packers, were \$21,730 in May 2006.

Median annual earnings for food cooking machine operators and tenders were \$21,280 in May 2006. The middle 50 percent earned between \$17,160 and \$27,140. The highest 10 percent earned more than \$34,350, and the lowest 10 percent earned less than \$14,600. Median annual earnings in grocery stores, the industry employing the largest number of food cooking machine operators and tenders, were \$19,400 in May 2006.

In May 2006, median annual earnings for food and tobacco roasting, baking, and drying machine operators and tenders were \$23,510. The middle 50 percent earned between

\$18,820 and \$31,540. The highest 10 percent earned more than \$38,740, and the lowest 10 percent earned less than \$15,910.

Food processing workers generally received typical benefits, including pension plans for union members or those employed by grocery stores. However, poultry workers rarely earned substantial benefits. In 2006, 21 percent of all food processing workers were union members or were covered by a union contract. Many food processing workers are members of the United Food and Commercial Workers International Union.

Related Occupations

Food processing workers must be skilled at both hand and machine work and must have some knowledge of processes and techniques that are involved in handling and preparing food. Other occupations that require similar skills and knowledge include chefs, cooks, and food preparation workers.

Sources of Additional Information

For information on various levels of certification as a baker, contact:

► Retail Bakers of America, 8201 Greensboro Dr., Suite 300, McLean, VA, 22102

State employment service offices can provide information about job openings for food processing occupations.