

# FOOD & KINDRED PRODUCTS

---

## SIC 2011

### MEAT PACKING PLANTS

This industry includes establishments primarily engaged in the slaughtering (for their own account or on a contract basis for the trade) of cattle, hogs, sheep, lambs, and calves for meat to be sold or to be used on the same premises in canning, cooking, curing, freezing, and in making sausage, lard, and other products. The industry also includes establishments primarily engaged in slaughtering horses for human consumption. Businesses primarily engaged in slaughtering, dressing, and packing poultry, rabbits, and other small game are classified in **SIC 2015: Poultry Slaughtering and Processing**. Those primarily engaged in slaughtering and processing animals not for human consumption are classified in **SIC 2048: Prepared Feeds and Feed Ingredients for Animals and Fowls, Except Dogs and Cats**. Businesses primarily involved in manufacturing sausages and meat specialties from purchased meats are classified in **SIC 2013: Sausages and Other Prepared Meat Products**.

### NAICS CODE(S)

311611 Animal (Except Poultry) Slaughtering

### INDUSTRY SNAPSHOT

Meat packing is one of the largest agriculture-based industries in the United States. However, in recent years changing consumer eating habits have impacted the beef and pork industries, which are by far the largest sectors in this industry category. Sheep also are included in this industry. Rapid and widespread consolidation within the industry has placed hog and beef meat packing under the control of just a handful of larger players. Operating on very thin margins, processing plants are under constant pressure to keep costs low and volume high.

Total production for all meat types in 2003 exceeded 69 billion pounds, for a value of \$42.3 billion. In January 2005, 1.92 billion pounds of beef were produced from a slaughtered 2.53 million head. Beef remains the protein of choice in the United States. Some 1.7 billion pounds of pork were produced from a slaughtered 8.48 million head. Both were slight

decreases from January 2004. Total slaughter was 46.7 million head in 2003 and 45.6 million head in 2004.

### ORGANIZATION AND STRUCTURE

The American Meat Institute (AMI) reported that there were more than 1.25 million livestock operations, raising beef cattle, hogs, and sheep destined for human consumption in the United States in the 1990s. The meat packing plants that processed these animals into food and nonfood products ranged in size from those handling small numbers of livestock to operations processing millions of animals a year. According to the United States Department of Agriculture (USDA), federally inspected slaughter and processing plants numbered 930 in 1998.

The dominance of a few major companies is demonstrated by the fact that four packers processed approximately 82 percent of the beef, and three packers processed close to 35 percent of the pork. The USDA reports that in 1998, nearly 35.5 million commercial cattle were slaughtered, representing a 2 percent decrease from 1997. Also in 1998, 101.0 million commercial hogs (an increase of 10 percent) and 3.8 million sheep and lambs (a decrease of 3 percent) were slaughtered.

According to the USDA, the U.S. meat and poultry industry is spread among all fifty states. Industry sources indicate that the midwestern states raised about 46 percent of the cattle and more than 15 percent of the hogs in the 1990s, while south central states raised more than 15 percent of the cattle and nearly 70 percent of the hogs. The top five cattle slaughtering states were Kansas, Nebraska, Texas, Colorado, and Iowa. Iowa, Illinois, Minnesota, North Carolina, and South Dakota led in the slaughter of hogs, according to the USDA. Pennsylvania, which had the largest number of federally inspected plants, representing almost 14 percent of all plants in the United States, ranked only 11th in production.

### BACKGROUND AND DEVELOPMENT

The colonial farmers of New England, who were the first meat packers in the United States, used salt to preserve meat. As the nation expanded westward, slaughterhouses were built near population centers so meat could reach the table before it spoiled. The livestock herds were driven overland or barged to these early packing plants. So many hogs

were slaughtered in Cincinnati, Ohio, that the city was called “Porkopolis.”

For sanitary reasons, meat packing operations could only be carried out during the cold winter months, with ice used for refrigeration. The development of mechanical refrigeration and refrigerated railroad cars in the second half of the nineteenth century changed this. From late 1865 until the 1920s, Chicago, a hub city for the railroads, became renowned for its array of stockyards that collected and slaughtered livestock, often under harrowing working conditions.

With the turn of the twentieth century came mechanized disassembly and conveyor procedures in the plants, and the 1950s saw major improvements in plant sanitation and packaging. By the 1980s, the meat packing industry had again dispersed. Slaughterhouses moved closer to the feedlots where the animals were raised. Not having to ship them long distances reduced the stress, weight loss, and injury to the animals that was the inevitable effect of long journeys in crowded cattle cars and trucks.

**Regulations.** Under the 1906 Meat Inspection Act, U.S. pre- and postmortem inspection of meat entering interstate and foreign commerce became mandatory. Meat to be used entirely within a single state may be inspected by that state’s agriculture department. The federal program was conducted by the Food Safety and Inspection Service (FSIS) of the USDA. During the late 1980s and throughout the 1990s, unfavorable media criticism of the inspection system spurred an overhaul of FSIS procedures.

Outbreaks of *E. coli* bacteria and lysteria resulted in several deaths and millions of dollars in meat recalls during the 1990s. This led to increased scrutiny of the federal meat inspection program and fostered the Pathogen Reduction and Hazard Analysis and Critical Control Points (HACCP) rule instituted in 1996. This required the industry to update its inspection methods, which had changed little in the previous 50 years. From 1996 to 1999 new inspection plans were initiated, with all raw meat and poultry products being inspected using methods capable of detecting invisible pathogens by January 2000. The meat industry also continues to promote safe meat handling practices in the home through consumer education programs, labeling, and advertising.

**Slaughter.** The desirability of stunning animals prior to slaughter was recognized in both Europe and the United States before the end of the nineteenth century. The practice became mandatory in the United States in 1960 with the passage of the Humane Slaughter Act. The act requires that before being slaughtered, animals must be rendered unconscious by mechanical, electrical, or chemical means in order to cause the animal a minimum of excitement or discomfort. Captive-bolt pistols or pneumatic guns may be used on cattle. Pistols, electric shock, or anesthetization in a carbon dioxide chamber is allowed for sheep and pigs. Compressed-air stunners and gas chambers for smaller animals came into use after World War II. Exceptions to federal requirements are made for ritual slaughters that satisfy the requirements of a particular faith. In kosher inspection, for example, a member of the Jewish faith cuts the throat and bleeds the animal without first stunning it and then examines it for abnormalities before approving it for food use.

After stunning, cattle are suspended by one or both hind legs, while the carotid arteries and jugular veins are cut. Hides are then removed by an automated process. A straight cut opens the center of the belly to remove the viscera. Next, the carcasses are split down the center of the backbone. Beef carcasses might then be shrouded, a procedure in which the carcasses are cooled for 24 hours after being tightly wrapped in muslin that has been soaked in warm water. The carcass fat is smooth and trim when the shroud is removed. Specialty meat items like the brains, kidneys, tail, tongue, and sweetbreads do not accompany the carcass but are an important income source for packers. The procedures for veal carcasses are similar, except that the hides are left on during chilling. Veal carcasses have very little fat and would shrink during chilling if the hides were removed.

In hog slaughter, the animals are bled after stunning by severing a large vein. The carcasses are then submerged in hot water to loosen the hair. After the removal of the hair, the carcass is eviscerated, split, and chilled.

**Grading.** While meat inspection is mandatory, grading is a voluntary program. Funded by fees paid by the packers, the service is offered by the USDA’s Agricultural and Marketing Service. Grading establishes uniform trading standards and helps to determine the value of various meat cuts. Meat carcasses are graded by both quality and yield.

The quality grades for beef are prime, choice, good, standard, commercial, utility, cutter, and canner. Carcass characteristics that determine the grade include marbling (the streaks of fat in the lean portions), the color and texture of the lean, and maturity. Consumers tend to interpret grading as an indication of taste and tenderness, although it was not designed for this purpose. Growing consumer perceptions that lean meat is healthier have increased the demand for lower-fat grades. The ratio of usable meat to bone and fat determines a carcass’ yield grade. Combined with the quality grade, it is used to establish the monetary value of a carcass.

**Working Conditions.** The slaughterhouses of the United States in the early twentieth century were grim and dangerous places to work. Low wages coupled with unsafe conditions made the stockyards of Chicago and other cities hazardous work sites. But it was not until reports on conditions there grew widespread—thanks in part to Upton Sinclair’s novel *The Jungle*, which depicted in chilling detail the deplorable environment of the stockyards of Chicago—that the government turned its attention to the industry. Slaughterhouse conditions furthered the cause of fledgling unions, which grew in strength over the ensuing years.

At the end of the twentieth century, automation had not replaced manual labor and the extensive use of sharp knives and other hand tools. Workers were still lifting and lugging heavy carcasses, abattoir floors were slippery, and workers suffered from exposure due to the need for continuous refrigeration systems. Despite American Meat Institute (AMI) and Occupational Safety and Health Administration (OSHA) guidelines, 36 percent of meat packing employees are injured on the job each year. The meat packing industry still has the highest injury rate of any U.S. industry. As long as there is no economical and reliable cutting machinery that can accom-

modate the physical variety of animal carcasses, processing will continue to be a manual operation.

In the early 1990s, the industry's rate of cumulative trauma disorders (CTDs) was higher than all other manufacturing industries. The illness usually took the form of carpal tunnel syndrome, in which repeated, rapid, and forceful motions pinch and compress the nerve that runs through the wrist to the hand. Lower back and various tendon disorders also were reported. Underreporting of injury and illness still remains a chronic problem, as the majority of the meat packing workforce is comprised of illegal aliens.

Two of the nation's largest meat packers, IBP Inc. and John Morrell, were cited in 1987 by OSHA for underreporting or failing to record injuries and illnesses. Both companies contested the OSHA fines, which were greatly reduced. More importantly, OSHA recognized that the CTDs plaguing meat industry workers needed new solutions. In 1990 OSHA issued its first ergonomic guidelines after consultation with the AMI and labor groups. The guidelines emphasized worker training in proper techniques, strengthened by refresher courses, and the importance of reporting CTD symptoms early to prevent permanent injury. Medical management by trained health care providers was another program component.

OSHA offered special incentives to meat packers who entered into voluntary agreements with the agency to lessen their ergonomic hazards. While they would still be subject to OSHA inspections, they would not be cited or penalized on ergonomic grounds. Opinions on OSHA's voluntary guidelines were mixed, and industry critics did not always agree. Phillip L. Immesote, president of the United Food and Commercial Workers Union, testified at a hearing of the House Employment and Housing Subcommittee that OSHA was about to repeat earlier disastrous experiences with "a new program of exemptions and voluntary compliance in the nation's packing houses."

By the end of the 1990s, injuries were slightly lower in the major plants, though the industry was still plagued by the problem. In November 1999 OSHA proposed new guidelines to address repetitive stress injuries in the workplace. These guidelines again focused heavily on ergonomic accommodations. While not specifically aimed at the meat packing industry, they could have an impact. Industry opposition to the guidelines was high, and it remains to be seen if the guidelines will be enacted by Congress.

Per capita meat consumption (red meat and poultry) increased from 209.3 pounds in retail weight in 1996 to 220.6 pounds in 1999. Red meat consumption remained stable throughout the 1990s, ranging between 65 and 68 pounds per year, down from a high of 79.2 pounds in 1985. The USDA has forecast larger meat supplies at lower wholesale prices, with resulting competition for consumer dollars at the retail level.

**Beef.** Meat processors have sought to improve their business outlook by expanding into the fast-growing poultry market. The number of major meat producers also engaged in production of poultry products rose dramatically throughout the 1990s. The beef industry also has been heavily advertising beef as a healthy, easy-to-prepare dinner meat, as in their

"Beef Made Easy" campaign, which features low-fat, easy-to-prepare menu options. In addition, the beef industry has been trying to market beef as a brand, rather than a generic meat, in order to boost demand.

Enhanced genetics, the introduction of new feed additives and growth stimulants, and nutritional advances all played a part in the improvements in cattle growth rate during the last quarter of the twentieth century. Consumer demand for lean beef, as well as environmental concerns, are expected to continue to have an impact on the beef industry into the twenty-first century.

**Pork.** Nationwide, the number of hog enterprises dwindled toward the end of the 1990s, as did the number of slaughtering facilities. Many of the smaller operations dropped out, while the larger outfits expanded. For pig-slaughtering operations, this reduction and consolidation of sources adversely impacted the industry in 1998 and 1999, despite a 10 percent increase in production.

According to the *Statistical Abstract of the United States: 1997*, Iowa had the largest number of hogs and pigs on farms, with 13,400. North Carolina and Illinois were the next two largest, with 8,200 and 4,800 hogs and pigs, respectively.

In the mid-1990s, the National Pork Producers Council announced a comprehensive plan to promote pork as the meat of choice both domestically and worldwide. The plan was the joint output of the National Pork Board, the National Live Stock and Meat Board's pork section, and hundreds of producers. Goals included building demand for pork by creating new products and expanding current uses; ensuring that pork met or surpassed consumer expectations of safety, quality, and value; and positioning the industry as socially responsible.

Whether the potential for larger herds and increased production could be parlayed into industry growth was dependent on other factors, such as cost competitiveness, exports, and the continued popularity of pork products. During the late 1990s the industry experienced record-high production, consumption, exports, and record low prices for live hogs. Pork producers were the most severely impacted, suffering \$2.5 billion in losses in 1998 and \$1.0 billion in losses in 1999. The pork industry continued to consolidate and move South and West, away from the traditional Midwest hog states. Efforts were being made to align production and packing facilities to avoid the problems suffered in the late 1990s due to a lack of capacity at slaughter facilities during peak production times. Nationally and internationally, demand for pork continued to rise at record rates.

In recent years the meat packing industry has undergone changes in its character and become extremely consolidated. Significant losses occurred during the early 1980s, with more than 30 plants shutting down. In the aftermath, several new industry leaders emerged, including Tyson, ConAgra, and Cargill. These companies moved meat packing plants away from urban areas, which were home to well-organized unions, to rural communities. Traditionally, animals were slaughtered in urban plants, and animal quarters were shipped to skilled butchers who prepared the meat for market. During the 1980s and 1990s, slaughtering was auto-

mated and restructured to focus on the entire process within one plant, using rapidly moving disassembly lines. Meat was then packaged, boxed, and shipped directly to the customer.

Rapid consolidation put control of 80 percent of the beef slaughter industry and 60 percent of the hog slaughter industry into the hands of Tyson, ConAgra, and Cargill. The top five beef companies (Tyson, Excel, Swift, Farmland, and Smithfield) control 89 percent of steer and heifer slaughter. Despite the large revenues of these companies, the profit margin remains precariously thin, with expected profit levels running around 2 percent. As a result, meat processing companies look to cut costs and maintain the lowest possible operating expenses.

## CURRENT CONDITIONS

Meat safety was one of the major concerns affecting this industry in the mid-2000s. According to the USDA, there are around 446,000 high-risk animals slaughtered every year. Bovine spongiform encephalopathy (BSE), commonly called "Mad Cow Disease," a fatal central nervous system disease in cattle, was not found until 2003 in the United States. At the end of that year, a BSE diagnosis was confirmed in a cow in Washington state, shaking the beef and meat packing industries. The USDA subsequently announced plans to spend \$70 million on new testing systems in order to test more than ten times the normal number of regularly tested cattle. Nonetheless, many of the major consumers of U.S. beef shut their borders to new shipments. In 2003, export values had been \$3.9 billion, but the number dropped substantially after the BSE announcement. As of the end of 2004, 25 percent of international trade had been reestablished. By early 2005 Japan was announcing its intentions to consider lifting the ban on U.S. meat.

According to the National Cattlemen's Beef Association, BSE caused an industry decline of an estimated \$3 billion. In 2004, 45.6 million head of red meat were slaughtered, a decrease from 2003 when 46.7 million head were slaughtered. Of the 2004 totals, 24.6 million head were beef, 20.5 million were pork, 199,000 were lamb and mutton, and 176,000 were veal.

## INDUSTRY LEADERS

Competition for the number one spot in the meat packing industry was strong, but South Dakota-based Tyson (formerly IBP Inc.) held on with revenues of \$17 billion and 50,000 employees. These posted earnings continued the company's growth pattern. Tyson touts itself as the world's largest producer of fresh beef, chicken, and pork.

With the acquisition of Foodbrands America Inc. in early 1997, IBP enjoyed an increased workforce. Foreign exports accounted for a small percentage of sales, most of them to the Far East (Japan, Korea, and Taiwan). IBP continues to concentrate on beef and pork slaughter and processing, leaving the diversification into poultry products to competitors like ConAgra Inc. and Cargill Meat Sector in Minneapolis. During the late 1990s, IBP also continued to grow its value-added meat products (deli meats, pizza toppings, frozen appetizers, etc.) and acquired Russer Foods, H&M

Food Systems, and Thorn Apple Valley, all smaller players in the meat market.

By relocating its slaughterhouses in 1961 to where the beef was, near Nebraska's and Iowa's cattle farms, IBP changed the meat packing industry. At the company's plant in Dakota City, Nebraska, animal carcasses were carried over more than 20 miles of conveyor systems. Within 48 hours, a 650-pound carcass could be broken, cut, and packed into 65- to 80-pound boxes for shipment to supermarkets. Pork became an important part of IBP's success starting in 1976, and by the late 1980s the company planned six plants in Iowa and Nebraska, all within a 100-mile radius of the nation's largest hog-producing area. Tyson, as IBP has now become, continues to shift plants and production to areas that offer the most strategic advantage to the meat markets. In early 2003 the company had operations in the United States and eight foreign countries.

Other industry leaders were Smithfield Foods of Smithfield, Virginia, with \$7.4 billion in revenue; Hormel Foods Corp. of Austin, Minnesota, with \$3.9 billion in revenue; ContiGroup Companies of New York, New York, with \$3.3 billion in revenue; and Seaboard Corp. of Shawnee Mission, Kansas, with \$1.8 billion in revenue.

## WORKFORCE

According to the U.S. Department of Labor, Bureau of Labor Statistics, there were nearly 513,000 people employed in the meat packing industry in 2003. Also in 2003, workers in animal production support activities totaled 25,640, with a mean salary of \$26,530. In the food industry as a whole, meat packing and processing is the largest employer. In 2003 meat trimmers and cutters earned a mean annual salary of \$23,900.

As a result of the need to keep expenses low, the meat packing industry has been a long-time opponent of workers' unions and pays well below the national average. Employing recent immigrants has become standard practice. According to David Bacon in *The American Prospect*, "Today, Spanish is the language on the floor of almost every plant. Most workers come from Mexico, with smaller numbers from Central America. Refugees from Bosnia, Vietnam, and even the Sudan are a growing presence in some areas, but the vast majority of meatpacking workers are Latinos." During the late 1990s and early 2000s, the meat packing industry received negative publicity for its employment of illegal aliens, as well as its dangerous and low-paying working conditions.

Meat packing also is a highly labor-intensive industry, and a large majority of the total employees (84 percent) were production workers, compared to 72 percent in all food preparation sectors and 67 percent in all manufacturing industries. Because of the industry's low wages, employee turnover remains high. The industry employs a large number of immigrants, which may contribute to the turnover, along with the demanding working conditions.

## FURTHER READING

Bacon, David. "The Kill-Floor Rebellion." *The American Prospect*, 1 July 2002, 20-23.

Baker, Deborah J., ed. *Ward's Business Directory of U.S. Private and Public Companies*. Detroit: Thomson Gale, 2003.

"Big Brains, No Cattle." *The Economist (US)*, 4 January 2003.

Lundeen Tim. "Feedlot BVDV May Contribute to BRD-Associated Morbidity." *Feedstuffs*, 15 December 2003.

"Meat Packing Industry 'Not Like It Used to Be.'" *Business Wire*, 3 December 2002.

"Meat Packing Takeout Multiples Cool." *Mergers & Acquisitions*, 12 August 2002.

National Cattlemen's Beef Association. "Beef Industry Facts," 20 December 2004. Available from <http://www.beefusa.org>.

National Pork Board. *U.S. Pork*. Available from <http://www.uspork.org>.

Olsson, Karen. "The Shame of Meatpacking." *The Nation*, 16 September 2002, 11.

Paul, Catherine J. Morrison. "Cost Economics and Market Power: The Case of the U.S. Meat Packing Industry." *Review of Economics and Statistics*, August 2001, 531.

U.S. Department of Agriculture. "USDA-NASS Agriculture Statistics." *National Agriculture Statistics*, 2005. Available from <http://www.usda.gov>.

"USDA to Bolster Mad Cow Testing Ten-Fold." *The Food Institute Report*, 22 March 2004.

U.S. Department of Labor. *Industry-Specific Occupational Employment Statistics*, 17 February 2005. Available from <http://www.bls.gov>.

## SIC 2013

### SAUSAGES AND OTHER PREPARED MEAT PRODUCTS

Establishments in this category are primarily engaged in manufacturing sausages, cured meats, smoked meats, canned meats, frozen meats and other prepared meats and meat specialties, from purchased carcasses and other materials. Products include bologna, bacon, corned beef, frankfurters (except poultry), headcheese, luncheon meat, pigs' feet, sandwich spreads, stew, pastrami, and hams (except poultry). Prepared meat plants operated by packinghouses as separate establishments are also included in this industry.

Establishments primarily engaged in canning or otherwise processing poultry, rabbits, and other small game are classified in **SIC 2015: Poultry Slaughtering and Processing**. Establishments primarily engaged in canning meat for baby food are classified in **SIC 2032: Canned Specialties**. Establishments primarily engaged in the cutting up and resale of purchased fresh carcasses, for the trade, are classified in **SIC 5147: Meats and Meat Products**, a wholesale trade industry.

#### NAICS CODE(S)

311612 Meat Processed from Carcasses

### INDUSTRY SNAPSHOT

Meat by-products from the sale of beef and pork, including hides, variety meats, tallow, and numerous other products, account for more than 10 percent of the total value of a carcass, which keeps prices to the consumer lower than they would otherwise be. The low-carbohydrate, high-protein diet market of the early 2000s helped enhance consumer popularity of luncheon meats, sausages, bacon, and other prepared meats, and consumers were willing to pay for quality products. In a 2005 poll conducted by the American Meat Institute (AMI), 64 percent of Americans considered hot dogs and hamburgers as American as apple pie and Uncle Sam, surpassing both pizza and chicken in rankings. AMI Senior Vice President of Public Affairs Janet Riley pointed out that national icon Uncle Sam was a meat packer.

The red meat industry, which includes meat-packing plants and establishments that produces processed pork and beef products, accounts for less than 60 percent of the entire meat industry, which included poultry and poultry products, compared to 75 percent in the 1990s. However, consumer demand for beef increased 25 percent from 1998 to 2004, according to the Cattlemen's Beef Board, and consumer beef spending in 2005 was projected to reach \$71 billion. The prepared food industry continues to formulate new products to meet consumer demands for lighter, leaner, and easier to prepare foods.

Annual per capita consumption of red meat from 2000 to 2004 averaged about 112 pounds, and studies done by both the USDA and the American Meat Institute (AMI) show that 99 percent of Americans eat meat, and 88 percent eat red meat. Total meat, poultry, and fish consumption rose by 12 pounds per person during the 1990s.

### ORGANIZATION AND STRUCTURE

The meat processing industry is vertically integrated, with approximately 1,135 establishments in the United States in 2002 shipping products valued at \$25.8 billion. The industry employed more than 98,500 workers, and paid more than \$3.6 million in employee compensation.

Prepared meat products are marketed to supermarkets and wholesale clubs, and often the "store brand" available is produced by a large company and labeled locally. The pizza topping industry, food services, and in-store delicatessens make up the rest of the market share. Companies in this category also manufacture private label meats for restaurants.

Meat processors often work closely with vendors from other industries to develop innovative packaging ideas, mindful of the importance of packaging from a marketing and practical point of view. Because meat is highly perishable, packaging must ensure that the food inside will not spoil and that it will retain its flavor for long periods of time. The packaging must also be convenient and attractive to the consumer. The concept of meeting consumer demands through marketing is reflected in packaging, which presents each product's traits, i.e. low-fat, low-sodium, etc.

In addition to the large national brands, many regional brands of ham, sausage, hot dogs, lunch meat, and other prepared meats are available for family-run companies. A pro-

liferation of processed meat products put shelf and cooler space at a premium, forcing producers to create niches in major markets and design more convenient and tastier products. The prepared meat industry's practice of creating products and the resulting demand that had not previously existed among consumers is part of a larger food industry trend called differentiation. With differentiation, similar foods are altered enough to appear different either in preparation, flavor, or packaging, and are then marketed as new products.

Prepared meat businesses owe much of their growth to the creation of variations, such as premium, economy, flavored, low-salt, low-fat, or high-protein, or more convenient versions of a basic meat product. The industry devised creations such as microwavable bacon and sausages, shelf-stable stews and dinners, low-fat deli meats, frozen microwavable hamburgers, or cheese-filled hot dogs. Reduced fat products are among the fastest growing markets of all processed meats. Changes in the production of such "healthier" versions to improve their taste and texture appeal to consumers and spawned a devoted following.

Costs and prices in this industry are greatly affected by the hog commodities market. Some companies not only operate their own packinghouses, but also raise hogs in order to avoid the price swings that often occur in the commodities market. When hog supplies increase, manufacturers' profit margins generally expand because only a small part of that savings is passed on to the consumer. When hog supplies decrease, forcing prices up, the manufacturers' profit margin narrows. Another factor affecting price is the strict guidelines aimed at safer meat processing. Techniques required to prevent bacteria and disease increased the cost of production.

**Package Labeling.** Nutrition labeling laws designed to enforce the 1990 Nutrition Labeling and Education Act were announced in 1992. The regulations require food processors to provide consumers with additional nutrition information on labels. The rules went into effect in 1995, but most companies voluntarily switched their labels before the deadline.

Labels require the manufacturer to list the total fat content, amount of saturated fat, number of calories derived from fat, and cholesterol, sodium, carbohydrates, and protein content in its products. According to the regulations, meat processors may use the term "light in sodium" if the meat product's sodium levels have been reduced 50 percent. In addition, the rules defined terms such as "lite or light," "low fat," "fat-free," "reduced calories," "low in saturated fat," "high fiber," and other terms that manufacturers have been using to tout the "healthiness" of products. In order to use any of those terms on the label, food must meet the requirements of the definition. For example, a "low-fat" product must have only three grams of fat or less in a serving. The government also established standard serving sizes for many foods so that food manufacturers could no longer decrease serving sizes in order to meet claims that products were low-calorie or low-sodium.

These regulations were designed to eliminate much of the hype routinely used by food manufacturers. Companies that bring in less than \$500,000 in annual sales were exempt from the laws. In addition to the nutrition labels, preparation guidelines for safe preparation of meat products became

common after several prominent cases of E. coli infections occurred.

**Environmental Concerns.** Many highly processed or packaged meat products provide convenience to consumers, but at a price to the environment. Disposable microwavable packages free consumers from dirty dishes, but create more waste. Products packaged in disposable containers face growing criticism because of increasing public concern about the problem of garbage disposal. Laws that require recyclable packaging could have an impact on the companies that produce some processed meat products. Environmentalists and relief workers also continue to voice their criticism of the meat industry and its use of immense amounts of grain crops, water, energy, grazing areas, and other natural resources in the development of its product.

## BACKGROUND AND DEVELOPMENT

Many of the companies in this industry began as meat-packing companies and sold nonbranded meat to stores, food services, and meat product manufacturers. They diversified, however, as it became clear that the food processing business was more profitable and less susceptible to swings in commodity prices and that the nature of the fresh pork business was cyclical. A company that processed pork earned ten times as much on every dollar of sales as a company that derived most of its income from slaughtering.

Many of the establishments that produce prepared meat products also own and run the packing houses that supply them with meat. Hormel, once a large meat packing concern, severely limited its packing operations and concentrated most of its resources on processing hot dogs, cold cuts, sausages, and other prepared meats. In some cases meat manufacturing establishments leased packing services or had exclusive contracts from meatpackers to supply only that manufacturer. Hormel leased one of its slaughtering plants to a pork processing company to operate, but provided the hogs and purchased all of the plant's prime cuts and processed product output.

As a result of consumer demands for healthier prepared meats, meat processing companies introduced many "light" or "low-fat" versions of popular products. Chicken or turkey cold cuts and hot dogs took market share from beef and pork products. According to Marketing Intelligence Service, Ltd. as reported by AMI, "more than 50 percent of the product lines in the lunch meat and hot dog categories contain a reduced fat or nutritional claim. The extra low-fat (97 percent fat-free) hot dog and bologna market has grown by more than 21 percent."

It is likely that processors will continue to diversify their product offerings. Additions of low-fat and flavor enhanced products along with faster, easier, and healthier prepared meats helped the industry grow despite slowdowns in other meat markets in the late 1990s. Sales of bacon declined, probably because of bacon's fat and cholesterol content, but sales of bacon in restaurants remained steady, suggesting that consumers allow themselves some leeway in their quest for a healthier diet. The introduction of "lower salt," "reduced fat," and "fat-free" bacon are anticipated to help compensate for this trend.

Nevertheless, the increased emphasis on healthy nutrition revolutionized the prepared meat product industry. Philip Morris's Oscar Mayer Foods Corp. cut nearly 300 slow-selling products, dropped prices on bacon, hot dogs, and bologna, and added light bologna and turkey bacon as part of an ambitious low-fat lunch meat line. ConAgra's Armour Swift-Eckrich Inc. subsidiary continues to enhance its line of Healthy Choice brand lunch meats and hot dogs to compete against Oscar Mayer's Healthy Favorites and a Weight Watchers lunch meat line, produced by Hillshire Farms, which is owned by Sara Lee Corporation.

## CURRENT CONDITIONS

According to the National Hot Dog and Sausage Council, retail sales of refrigerated dinner sausage in the top ten markets topped \$425 million from October 2003 to October 2004, with eight markets showing increases in dollar sales from the previous year, not including data on sales of sausage in other foodservice outlets, which is considered substantial. The Council estimated that Americans consume 20 billion hot dogs annually, with 837 million packages of hot dogs sold at retail stores in 2004. Low-fat and fat-free formulations accounted for approximately 12 percent of total sales. An estimated 27.5 million hot dogs will be eaten by baseball fans at major league ballparks in 2005.

The luncheon meat segment of the industry was worth \$3.2 billion in 2004, although the market was considered "flat." There was a palpable shift in volume to higher-end, deli-quality packaged lunch meats, according to Randy Newbold, senior brand manager for Sara Lee's Hillshire Farms.

The top five brands for the \$2.1 billion refrigerated bacon market in 2004 were Private Label (\$392 million); Oscar Mayer (Philip Morris) (\$389 million); Black Label (Hormel) (\$139 million); Bar-S (\$70 million); and Farmland (\$69 million).

In 2003, the first case of "mad cow disease" (bovine spongiform encephalopathy, or BSE) was documented in the United States. In June 2005, the USDA confirmed a second case, found in November 2004. The FDA concluded that the fatal BSE disease might be transmitted through the use of specified risk material, which included small intestines used for natural sausage casings. The FDA and USDA issued interim regulations barring domestic sausage makers from importing or acquiring domestically intestines that were removed from cattle after January 2004. Industry experts conservatively estimated that the U.S. cattle industry lost just over \$4 billion in export values on beef, beef variety meats, hides and tallow from December 2003 to December 2004.

## INDUSTRY LEADERS

A majority of widely recognized processed meat brands are owned by large conglomerates, many of which started out as small, regional, independent meatpacking and meat processing companies. Three national industry leaders are Sara Lee Corporation, Hormel Foods Corporation, and Oscar Mayer Foods Corporation, a subsidiary of Philip Morris Companies, Inc. There are still many localized companies,

but their sales account for a only a small percentage of total industry sales.

With the purchase of Kraft General Foods in 1988 for \$12.9 billion, Philip Morris acquired Oscar Mayer and Louis Rich meat products. In 2004 the Oscar Mayer division had revenues of \$2.1 billion and was clearly the leader in bacon, hot dogs, and luncheon meats. One of Oscar Mayer's products, Lunchables, a prepackaged lunch in a box, was marketed to parents as an easy lunchbox alternative. Containing lunch meat, crackers, cheese, etc., it was to be the ideal "take along" lunch for school children. Various consumer advocate groups claimed that Lunchables were too high in fat to be considered a nutritious lunch. In response to consumer demand for lower fat products, Oscar Mayer phased out its line of Healthy Favorites low-fat luncheon meats, replacing them with a fat-free version.

Sara Lee Corporation (known as Consolidated Foods until 1985) was one of the largest meat processing establishments in the United States. Sara Lee held the number one position in sales in three of the major categories of packaged and processed meats. The company's Hillshire Farm smoked sausage commanded a 38 percent share of the \$1 billion retail market. Its Jimmy Dean breakfasts and Ball Park hot dogs each owned a 22 percent share of their respective billion-dollar markets. Sara Lee also boasts a number of very strong regional brands, such as Bryan and Kahn, among others.

Conglomerate agribusiness ConAgra had total annual sales of more than \$14 billion in 2004 and employed more than 39,000 people in 35 countries. ConAgra acquired Armour from Greyhound in 1983 and Swift-Eckrich from the Beatrice Co. in 1990. Armour and Swift-Eckrich became a single subsidiary of ConAgra, which manufactures Sizzlean, Swift Premium Brown 'N Serve Sausage, and Eckrich sausages, as well as other Armour and Swift products. Before the acquisition, Swift had been the third largest manufacturer of processed meat after Oscar Mayer and Sara Lee. ConAgra also owns meat packing companies Swift Independent Packing and Monfort and continues to acquire smaller companies, such as Gilardi Foods.

George A. Hormel & Company was founded in Austin, Minnesota, in 1891 as a slaughterhouse and retail meat products shop. Its earnings for the first year were \$220,000. About 100 years later, the company name was changed to Hormel Foods Corporation, reflecting its change in focus from a packing and meat company to a food processing company offering meat products, frozen foods, and microwaveable products, as well as branded fresh pork and beef. One of the most widely recognized products from the line is SPAM, a pork-based luncheon meat in a can. Hormel was one of the few older meat companies that remained independent after a wave of takeovers in the 1980s. It had sales of \$4.7 billion in 2004.

Hormel became known as the industry's innovator in the late 1980s. It was one of the largest meatpackers in the country, but its president, Richard Knowlton, closed many of its slaughtering facilities in the 1980s and began focusing on producing processed and branded meat products. The portion of its revenues generated by prepared meat and other food products rose to between 65 and 75 percent. In 1986 Hormel acquired Jennie-O Foods, the nation's largest privately

owned turkey processor. New products to enter the market included *JENNIE-O* spiced and marinated turkey fillets, *HORMEL ALWAYS TENDER* fresh pork, microwave bacon, turkey pepperoni, turkey chili, and fat-free hot dogs.

Like Hormel, Smithfield Foods was an independent company, but on a smaller scale. It initially produced only pork products and spent a fraction of the more than \$70 million on advertising that Hormel spent. It became the world's largest hog producer and fresh pork processor, with sales over \$10 billion. The name recognition of Smithfield canned hams enabled it to diversify into production of hot dogs, bacon, sausages, and lunch meats from its main pork-packing operations. Smithfield continued to expand its operations nationally and internationally. In 1999 it bought Tyson Foods' pork operations for \$80 million and in 2003, acquired Cumberland Gap and Farmland Foods.

Thorn Apple Valley, Inc. was one of the largest producers of customer-owned private label meat products, as well as one of the largest regional producers of bacon, hot dogs, lunch meats, and smoked sausages. Due to difficulties in the pork market, Thorn Apple Valley declared Chapter 11 bankruptcy in 1999 and was acquired by IBP Inc., which became one of the nation's largest producers of meat products.

## AMERICA AND THE WORLD

For many foreign companies, the new label laws created by the 1990 Nutrition Labeling and Education Act were difficult to follow because businesses were not accustomed to providing such complete product content analyses. Although the labels could be considered a barrier to trade and therefore were incompatible with the General Agreement on Tariffs and Trade (GATT), it was unlikely that any challenge would endure, as foreign and domestic companies had to observe the same regulations.

Beef and beef variety meat exports were valued at approximately \$3.8 billion in 2003, representing 9.6 percent of domestic production. Trade disruption following the November 2003 case of BSE cost beef cattle producers more than \$175 per head in 2004. Meat exports were strongest to Japan, Mexico, the Republic of Korea, and Canada. Difficulties arose with economic downturns in Asia and Russia, and a European Union ban on meat treated with growth hormones. Despite these issues, exports continue to be strong, although the USDA Foreign Agricultural Service predicts the markets to be in decline rather than growth, while the Asian markets appear to be recovering.

## FURTHER READING

American Meat Institute. *Cattle and Beef Industry Statistics*. Washington, 2004. Available from <http://www.beef.org>.

———. "Meating Their Maker: Americans Name Hamburgers and Hot Dogs as American as Uncle Sam," Washington, 2005. Available from <http://www.hot-dog.org>.

"Beef Industry Facts," July 2005. Available from <http://www.bseinfo.org/BeefIndustryFacts.aspx>.

*Hoover's Online*, 2005. Available from <http://www.hoovers.com/>.

*Hormel Foods Web Site*, 2005. Available from <http://www.hormel.com>.

*International Natural Sausage Casing Association Web Site*, August 1999. Available from <http://www.insca.org/>.

*Kraft Foods Web Site*, 2005. Available from <http://www.kraftfoods.com>.

*National Hot Dog and Sausage Council Web Site*, 2005. Available from <http://www.hot-dog.org/>.

*Prepared Foods Magazine*, 1997-2005. Available from <http://www.preparedfoods.com>.

Reill, Howard. "Slicing Up Sales." *Frozen Food Age*, July 2004.

United States Census Bureau. *Annual Survey of Manufacturers*. "Statistics for Industries and Industry Groups: 2002," May 2005. Available from <http://www.census.gov>.

———. *2002 Economic Census*. "Manufacturing-Industry Series," February 2000. Available from <http://www.census.gov>.

United States Department of Agriculture. Foreign Agricultural Service. *Status of U.S. Meat Product Exports in 1998*. Available from <http://www.fas.usda.gov>.

## SIC 2015

## POULTRY SLAUGHTERING AND PROCESSING

This industry includes establishments primarily engaged in slaughtering, dressing, packing, freezing, and canning poultry, rabbits, and other small game, or in manufacturing products from such meats, for their own account or on a contract basis for the trade. This industry also includes the drying, freezing, and breaking of eggs.

## NAICS CODE(S)

311615 Poultry Processing

311999 All Other Miscellaneous Food Processing

## INDUSTRY SNAPSHOT

The U.S. poultry business evolved in the mid-1930s into a vertically integrated industry in which a few top companies accounted for most of the country's broiler chicken and turkey production. Vertical integration combined the previously independent and fragmented operations of feed mills, hatcheries, farms, slaughterers, and processors into giant conglomerates that managed all stages of production. The poultry industry is composed of approximately 95 percent of the animals slaughtered for food annually in the United States.

The five primary product categories handled within the poultry processing industry are chicken, turkeys, ducks, geese, and egg products. Available chicken types included young broilers/fryers weighing an average of three pounds; specially grown, six to eight pound young roasters; capons, surgically desexed male birds weighing more than nine pounds; heavy hens, often called stewing hens, that are over a year old and weigh four to six pounds; and Rock Cornish or Cornish game hens, young chickens weighing about one or two pounds. About 18 percent of ready-to-cook chickens are