CHAPTER 6

CHAPTER 6

Overview of U.S. Livestock, Poultry, and Aquaculture Production in 2008

Available Statistics

Official statistics for U.S. livestock, poultry, and aquaculture populations are published by the National Agricultural Statistics Service (NASS) of the U.S. Department of Agriculture (USDA). These statistics are based on the Census of Agriculture conducted every 5 years (e.g., 2002 and 2007) and surveys conducted monthly, quarterly, or annually as determined by the particular commodity.

The Census of Agriculture, a complete enumeration of the entire agricultural segment of the economy, is conducted every 5 years and is the only source of detailed, county-level data of all farms and ranches in all 50 States selling or intending to sell agricultural products worth $1,000 or more in a year. During spring 2008, the most recent Census of Agriculture (2007) was conducted. Animal inventory levels were those as of December 31, 2007, and productivity measures such as births, deaths, and sales were for the calendar year 2007. Census 2007 reports are available at *www.agcensus.usda.gov/*.

In NASS' ongoing sample survey and estimation programs, data are collected and estimates are published within the same month to provide users with the most up-to-date and timely information. This information is collected and published even during years the Census is conducted. The massive data-collecting, editing, and summarizing effort required to prepare the Census naturally results in a publication lag. Sample survey estimates and final Census reports rarely show exactly the same numbers. However, the ongoing sample surveys provide the most up-to-date statistics between the Census years and are themselves subject to revision when current-year estimates are made. In fact, after each 5-year Census of Agriculture, NASS reviews all of the previous 5 years' worth of sample survey estimates, revises the figures, and publishes the results as "Final Estimates." For these reasons, statistics in the 2007 Animal Health Report for one year, compared to similar statistics published for 2007 in the 2008 Animal Health Report, may not always match.

Number of Farms

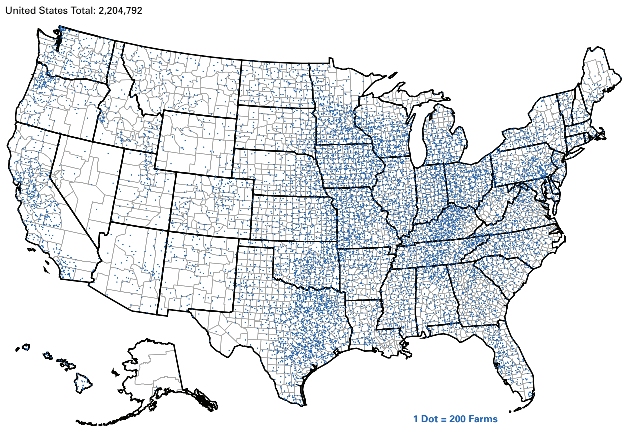
Estimates for the number of U.S. farms were based on the definition of a farm as "any establishment from which $1,000 or more of agricultural products were sold or would be normally sold during the year." Map 1 illustrates the distribution of farms across the United States based on the 2007 Census. In general, there were fewer farms in the western half of the United States; however, western farms and ranches were generally larger than those in the eastern half of the United States (map 2). A higher percentage of land area in the Central United States was dedicated to land in farms (map 3). In 2008, there were 2.2 million farms, 0.2 percent fewer than in 2007. Total land in farms was 919.9 million acres in 2008, which represents a decrease from 921.5 million acres in 2007. The average farm size was 418 acres in 2008, unchanged from the previous year.

Relative Magnitude of Industries, by Value of Production

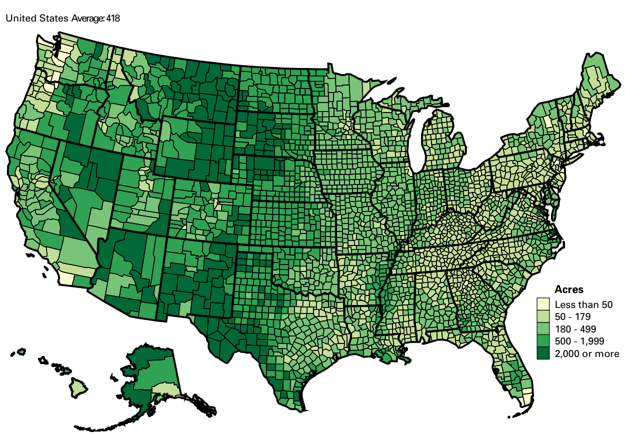
The Central and Eastern States had a higher value of livestock and poultry in 2007, compared with the Western States (map 4). In recent years, the total value of production has been split nearly equally between crop and livestock (and poultry) production. In the 2007 Census of Agriculture, 51.7 percent of total value of production came from livestock and poultry. The coastal areas and North Central portions of the United States generally made a smaller livestock and poultry contribution to the total market value (map 5). These areas had heavy concentrations of crop, fruit, and vegetable products.

Table A1.1 in appendix 1 identifies specific major livestock, poultry, and crop commodity

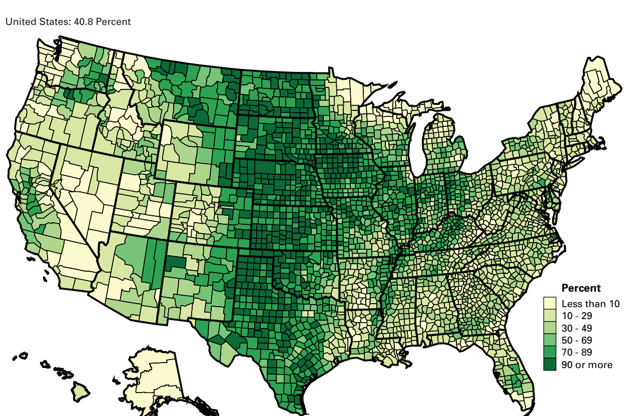
Map 1: Number of farms, 2007



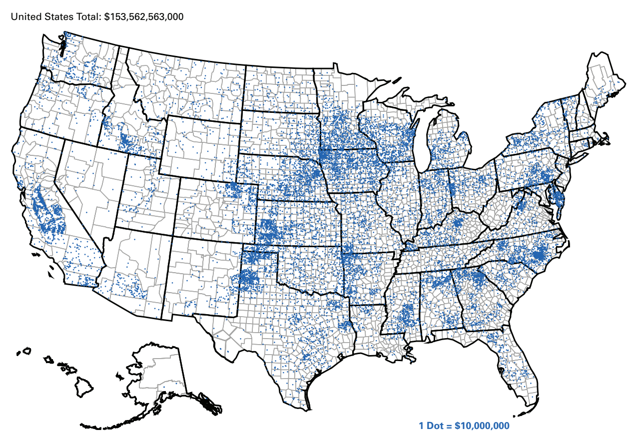
Map 2: Average size of farms in acres: 2007



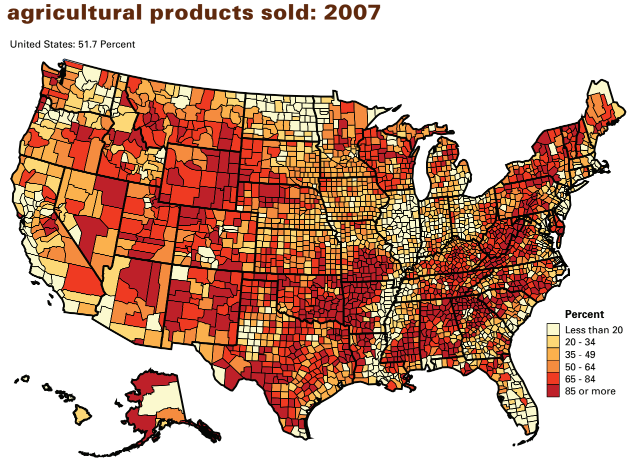
Map 3: Acres of land in farms as percent of land area in acres: 2007



Map 4: Value of livestock, poultry, and their products sold: 2007

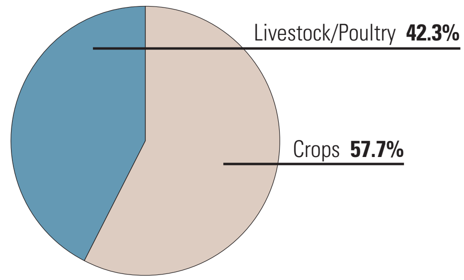


Map 5: Value of livestock, poultry, and their products sold as percent of total market value of agricultural products sold: 2007



values for 2008. Figure 6.1 shows that livestock and poultry accounted for less than half the total value of production (42.3 percent). Note that poultry contributed 29.6 percent of the total value of livestock, poultry, and their products (fig. 6.2).

Figure 6.1: Value of production in 2008: crops *v.* livestock and poultry as a percentage of total*



*Specific commodities

Introduction to the Livestock, Poultry, and Aquaculture Industries

In 2008, almost half the farms in the United States had cattle and calves. (USDA defines a cattle operation as any place having one or more head of cattle on December 31, 2007. This is a change from the previous definition of an operation as any place having one or more head on hand at any time during the year.) Only a small number of cattle operations (67,000) were dairies (milk production). Numbers of operations with hogs and operations with sheep were roughly similar (73,150 and 82,330, respectively), although the comparative values of production were dissimilar (table 6.1). *Note:* Detailed statistics for each commodity are provided in tables A1.1 through A1.13 in appendix 1.

Figure 6.2: Value of production in 2008: specific commodities as a percentage of respective total livestock, poultry, and their products

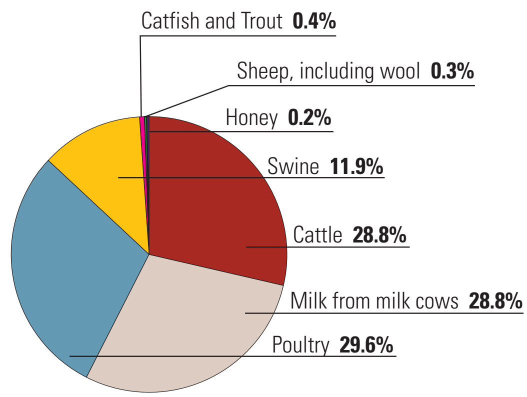


TABLE 6.1: Livestock, poultry, and aquaculture statistics for 2008

Commodity	Inventory (1,000)	Number of operations[1]	Value of production ($1,000)	Appendix reference for detail
All cattle and calves	[2]94,491	956,500	34,858,846	A1.2
Milk cows	[2]9,333	67,000	[3]NA	A1.3
Milk	[6]Detail	NA	34,976,573	A1.3
Beef cows	[2]31,671	757,000	NA	A1.4
Cattle on feed	[2]13,851	82,170	NA	A1.5
Hogs and pigs	[4]66,768	73,150	14,435,204	A1.6
Sheep and lambs (plus wool)	[2]5,747	82,330	382,665	A1.7
Goats	[2]3,070	149,800	NA	A1.7
Poultry	[6]Detail	NA	35,876,569	A1.8
Equine	[5]5,317	NA	NA	A1.9
Catfish	[6]Detail	[7]1,306	409,998	A1.10
Trout	[6]Detail	[8]463	79,709	A1.10
Honey	[6]Detail	NA	226,814	A1.11

[1] Number of operations—For cattle, beef cow, milk cow, hog and pig, sheep and lamb, and goat and kid operations, any place having one or more head on hand on December 31.
[2] Inventory as of January 1, 2009.
[3] Not available.
[4] Inventory as of December 1, 2008.
[5] Inventory as of January 1, 1999.
[6] Detailed breakout of inventory is shown in respective appendixes.
[7] Number of operations as of January 1, 2009.
[8] Number of operations selling trout.

Cattle and Calves (Beef and Dairy)

In 2007, the Nation's nearly 100 million cattle and calves (beef and dairy) were dispersed widely across the country, with a greater concentration generally in the Central States (map 6).

Overall, the number of cattle and calves in the United States increased from 1869 to 1975 and then declined during the next two decades, despite a slight upturn in the mid-1990s. Historically, changes in the cattle population cycle occur at roughly 10-year intervals. Recently, the Nation's inventory of cattle and calves has remained relatively steady (fig. 6.3).

Map 6: Cattle and calves—inventory 2007

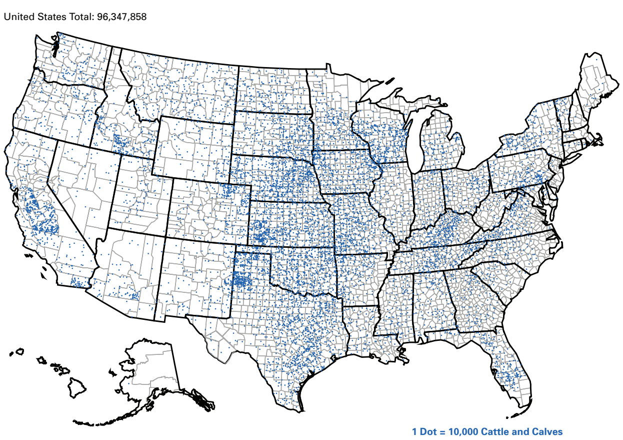
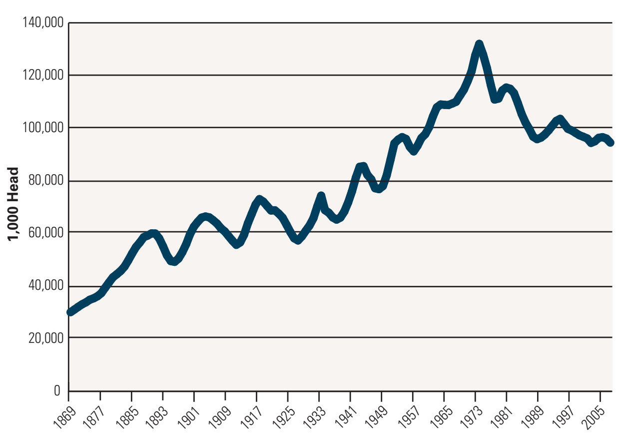
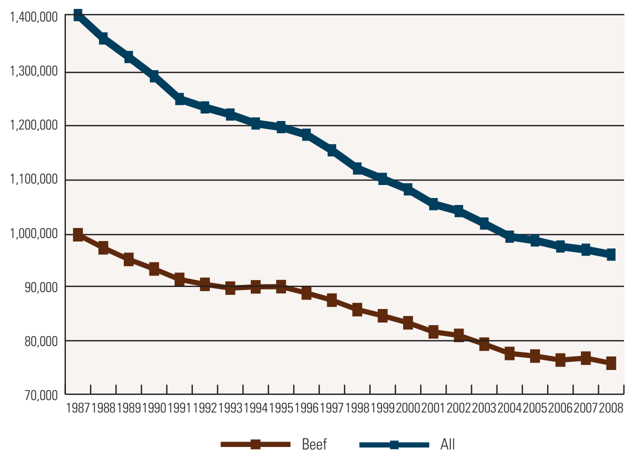


Figure 6.3: Cattle and calves: U.S. inventory on January 1 for selected years, 1869–2009
2009 inventory = 94.5 million



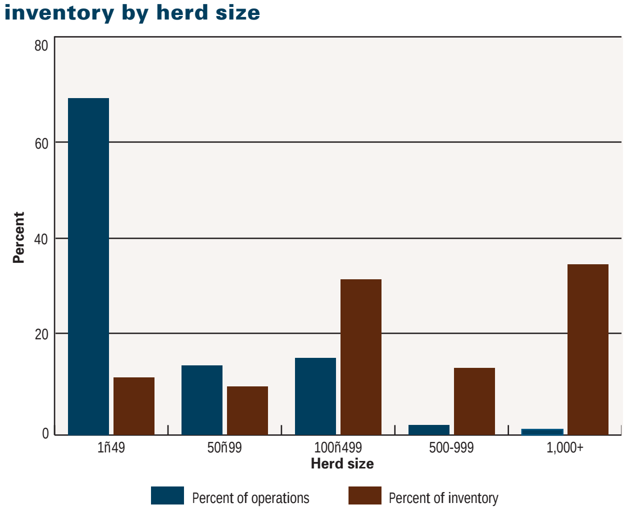
The number of operations with cattle (or calves) has declined steadily during the past 15 years. A general decline has also occurred in the number of beef cow operations, except increases were noted in 1994, 1995, and 2007 (fig. 6.4). These declines are due primarily to a decrease in the number of small operations, or operations with fewer than 50 head of cattle.

Figure 6.4: Number of all cattle and beef cow operations, United States, 1988–2008



In 2008, small cattle operations (1–49 head) accounted for 67.6 percent of all operations but only 11.5 percent of the total inventory of cattle and calves. Large operations (500 or more head) accounted for just 3.1 percent of all operations but accounted for 47.6 percent of the total U.S. inventory of cattle and calves (fig. 6.5 and also table A1.2 in appendix 1).

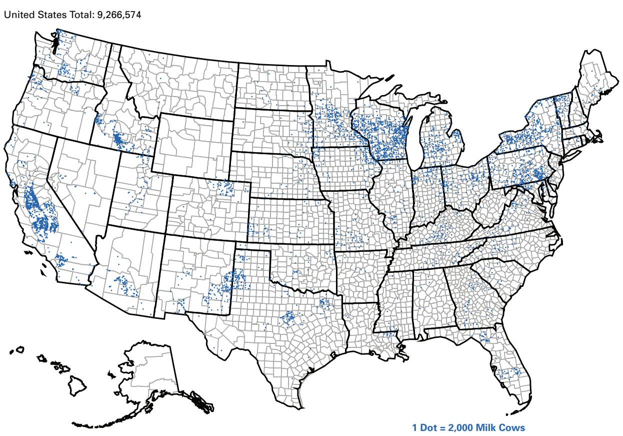
Figure 6.5: Cattle and calves: percent operations and inventory by herd size



Milk Cows—Dairy

In the United States, milk cows are concentrated in California, Wisconsin, Minnesota, and States in the Northeast (map 7).

Map 7: Milk cows—inventory: 2007



The U.S. population of milk cows has remained relatively stable over the last 10 years. In contrast, the number of milk cow operations in 2008 was only 57.2 percent of the number of milk cow operations in 1998 (fig. 6.6). Large operations (500 or more milk cows) were a small percentage of all milk cow operations, but accounted for a large percentage of the total number of milk cows (fig. 6.7).

Figure 6.6: Milk cows: number of operations, 1988–2008

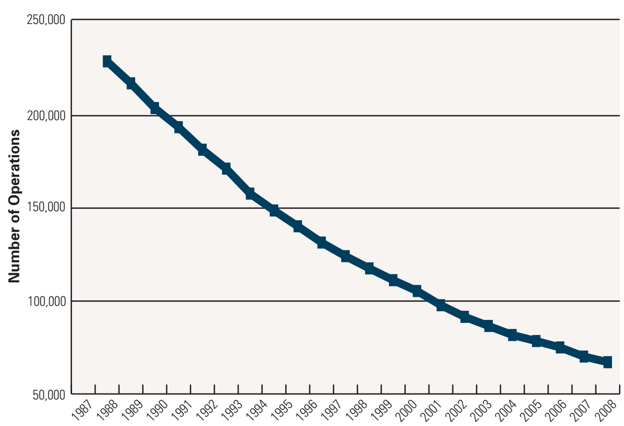
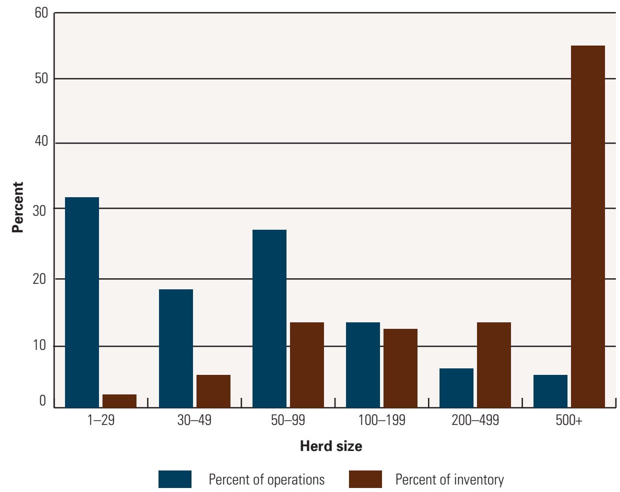


Figure 6.7: Milk cows: percent operations and inventory by herd size

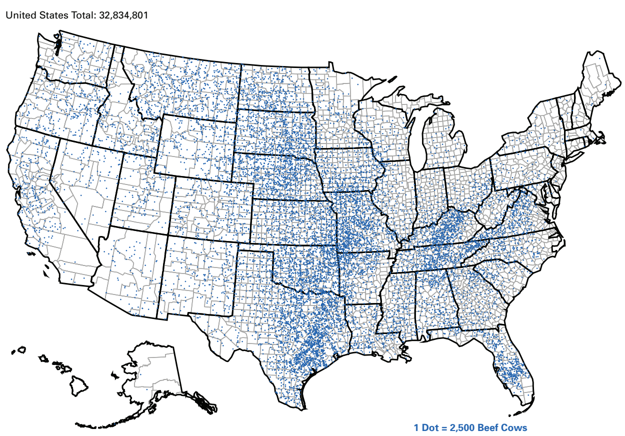


Annual milk production per cow increased from 17,185 pounds in 1998 to 20,396 pounds in 2008—a 17-percent increase. Table A1.3 in appendix 1 documents dairy production for 2007 and 2008.

Beef Cows

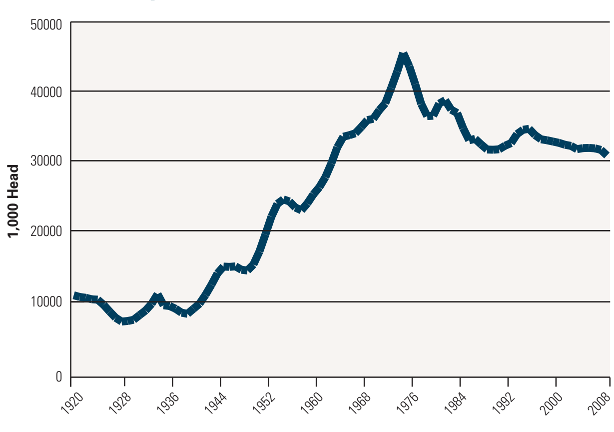
In 2007, beef cows were distributed widely across the United States. In general, however, States in the central part of the Nation had a higher number of beef cows (map 8).

Map 8: Beef cows—inventory: 2007



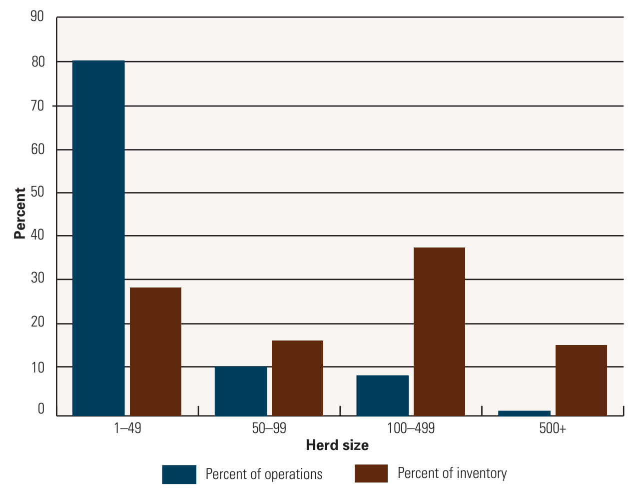
The trend in the number of beef cows (fig. 6.8) follows the overall trend shown for the total inventory of cattle and calves (fig. 6.3). Essentially, inventory levels have remained stable over the last decade. Beef cows accounted for 77.2 percent of the total cow inventory on January 1, 2009.

Figure 6.8: Beef cows: U.S. inventory on January 1 for selected years, 1920–2009



In 2008, there were 757,000 beef cow operations in the United States. The number of beef cow operations has declined from 1995 to 2006, followed by an increase in 2007 and a decrease in 2008. This decrease is most notable in the number of small operations (1–49 head). Following a common trend seen in other livestock commodities, the population of beef cows on large operations (100 or more head) has increased and now accounts for 54.4 percent of total U.S. beef cow inventory as of January 1, 2009 (fig. 6.9 and table A1.4 in appendix 1). These large operations account for only 9.7 percent of all beef cow operations in the United States, but have more than half the total beef cow inventory.

Figure 6.9: Beef cows: percent operations and inventory by herd size



Cattle on Feed

Cattle on feed are fed a ration of grain or other concentrate in preparation for slaughter, and the majority are in feedlots in States with large grain supplies.

On January 1, 2009, three States (Kansas, Nebraska, and Texas) accounted for nearly two-thirds (66.1 percent) of the inventory of cattle on feed. Large numbers of cattle on feed are in relatively few feedlots; 128 feedlots (0.1 percent of all feedlots) accounted for 39.9 percent of the total U.S. cattle-on-feed inventory (table A1.5 in appendix 1). Inventory numbers in feedlots typically reach high points in December, January, and February, and low points in August and September because of the seasonal availability of grazing resources and the predominance of spring-born calves (fig. 6.10). As a result, commercial cattle slaughter typically reaches a high point in May and June (fig. 6.11). Steers and heifers accounted for 80.0 percent of federally inspected slaughter cattle in 2008. Of the 34.4 million head of commercially inspected cattle slaughtered, 98.4 percent were federally inspected (table A1.2 in appendix 1).

Figure 6.10: U.S. cattle on feedlots with capacity of 1,000 or more head, 2006–08

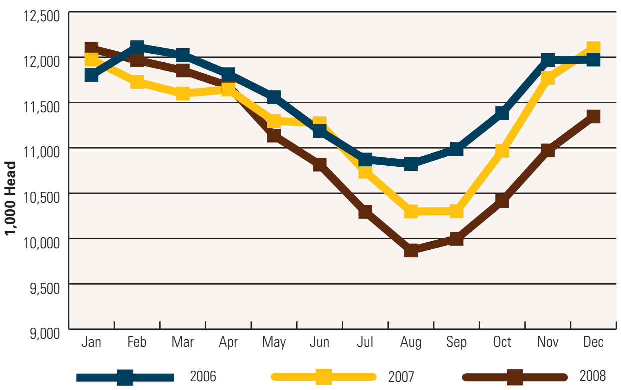
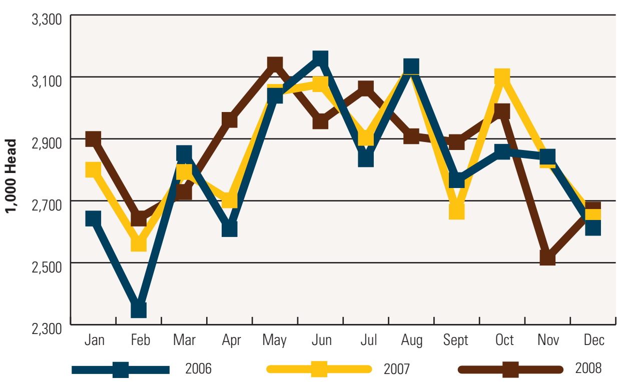


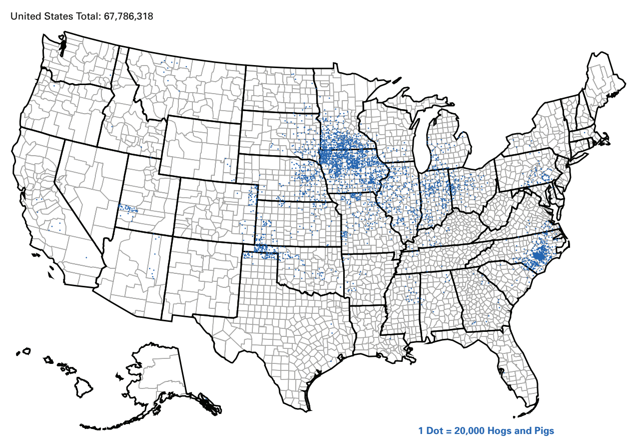
Figure 6.11: Cattle: U.S. commercial slaughter by month, 2006–08



Hogs

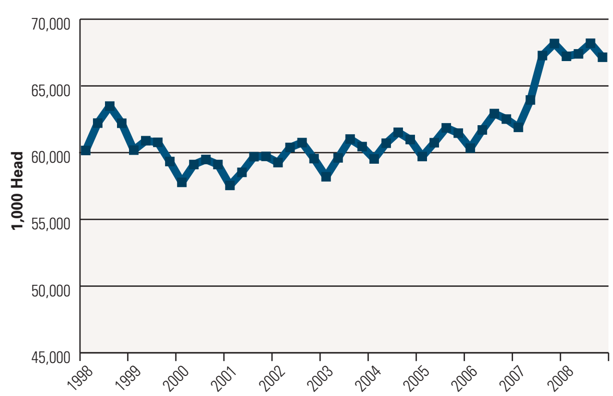
Historically, hog production has been most common in the upper Midwest (map 9). On December 1, 2008, Iowa, the largest hog-producing State, had 29.6 percent of the U.S. inventory of all hogs and pigs. During the past two decades, North Carolina has increased its production and is now the Nation's second-largest hog-producing State, with 14.4 percent of the inventory. The practice of shipping pigs from production areas (e.g., North Carolina) to grower–finisher areas in the upper Midwest continued in 2008.

Map 9: Hogs and pigs—inventory: 2007



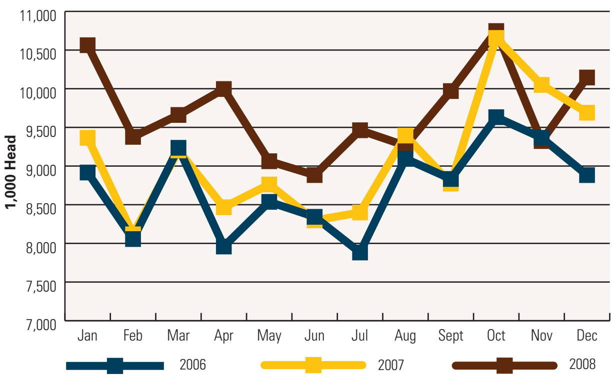
In the United States, hog and pig inventory levels are estimated and published quarterly (December, March, June, and September). Over the past decade, the U.S. inventory of all hogs and pigs has fluctuated from quarter to quarter. Typically, inventory numbers reach a low point on March 1 and peak on September 1 (fig. 6.12).

Figure 6.12: Hogs and Pigs: U.S. inventory, by quarter, 1998–2008



In 2 of the last 3 years, the number of hogs slaughtered commercially reached a low point in June, then peaked in October (fig. 6.13) in preparation for the holiday season. Commercial hog slaughter totaled 116.5 million head in 2008, 7 percent higher than 2007.

Figure 6.13: Hogs: U.S. commercial slaughter, by month, 2006–08



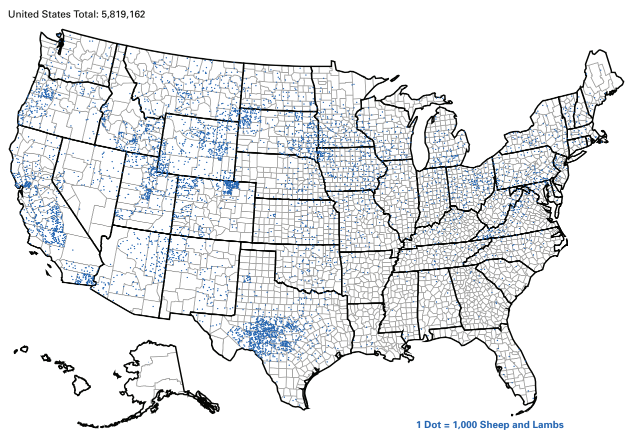
The number of operations with hogs (and pigs) declined steadily during the past decade, decreasing by 35.6 percent over the last 10 years (since 1998). The majority of hog operations (69.3 percent) had fewer than 100 head, but these operations accounted for only 0.9 percent of the inventory. During the past decade, there has been a steady increase in the number of large operations (5,000 or more head), with the exception of a slight decline in 2003. Large operations (4.0 percent of all operations) now maintain more than half (61.1 percent) of the U.S. hog inventory.

In 2008, the United States had 73,150 hog operations with a production value of $14.4 billion (table A1.6 in appendix 1).

Sheep and Goats

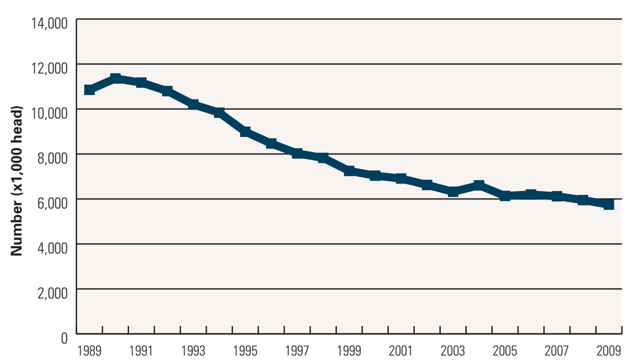
The U.S. sheep industry is located primarily in the Western and Central States (map 10). Typically, the Western States are characterized by large range flocks, whereas those in the Central and Eastern States are mostly small, fenced flocks.

Map 10: Sheep and lambs—inventory: 2007



The number of sheep has declined steadily since the late 1980s (10.9 million head in 1988), with the exception of a brief peak in inventory in 1990 (11.4 million head); however, there were small increases noted on both January 1, 2005, and January 1, 2006, followed by decreases on January 1 of the next 3 years (fig. 6.14). Total sheep and lamb inventory on January 1, 2009, was 5.75 million head.

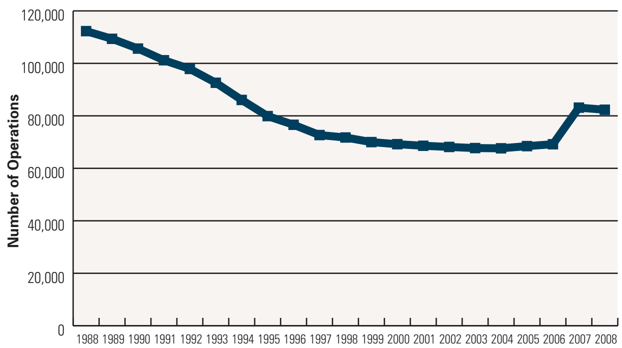
Figure 6.14: Sheep and lambs: U.S. inventory on January 1, 1989–2009



The number of operations with sheep since the late 1980s has declined gradually until 2005 and

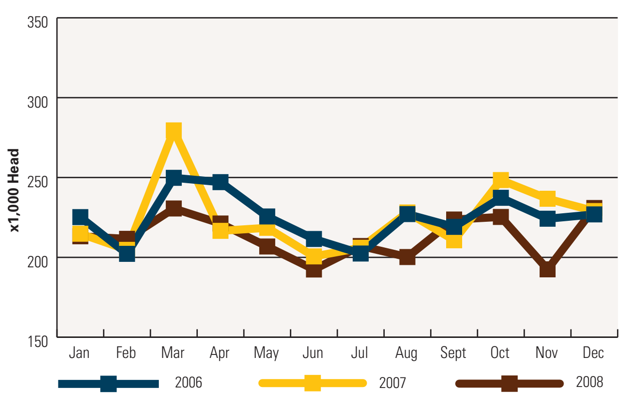
2006 (1-percent increases, respectively). However, a 20-percent increase was shown between 2006 and 2007, followed by a slight decrease in 2008 to 82,330 operations (fig. 6.15).

Figure 6.15: Sheep and lambs: U.S. number of operations, 1988–2008



Almost one-third of all sheep (32.6 percent) are located on a large number of small operations (1–99 head); 92.5 percent of the 82,330 total operations had fewer than 100 head of sheep and lambs (table A1.7 in appendix 1). Commercial sheep and lamb slaughter totaled 2.6 million head in 2008. Slaughter typically peaks in March or April (fig. 6.16).

Figure 6.16: Sheep: U.S. commercial slaughter, by month 2006–08



There were 3.07 million goats in the United States on January 1, 2009, which represents a 1.5-percent decrease over the January 1, 2008, population. Breeding goats accounted for 2.5 million head and there were 528,000 market goats. Breeding goats were comprised of 1.9 million does, 185,000 bucks, and 460,000 replacement kids under 1 year old. The number of kids born during 2008 was estimated at 1.96 million head. The number of Angora goats decreased 9.8 percent (205,000 and 185,000 head, respectively), while the number of milk goats increased 3.7 percent (323,000 and 335,000 head, respectively). Meat and other goats totaled 2.6 million head, which was down 1.5 percent from January 1, 2008. There were 149,800 operations with goats in the United States in 2008 (table A1.7 in appendix 1).

Poultry Industries

The poultry industries are economically important to the Eastern States—especially the Southeastern States (map 11). The value of poultry and eggs is a high percentage of the total value of agricultural products sold in these States. In terms of value of production, the broiler segment of the poultry industries dominates other segments—eggs, turkeys, and chickens (excluding broilers). Broilers account for nearly two-thirds of the value of production (fig. 6.17). The quantity of production for each segment has increased rapidly over the past 50 years (figs. 6.18–20).

Map 11: Value of poultry and eggs sold as percent of total market value of agricultural products sold: 2007

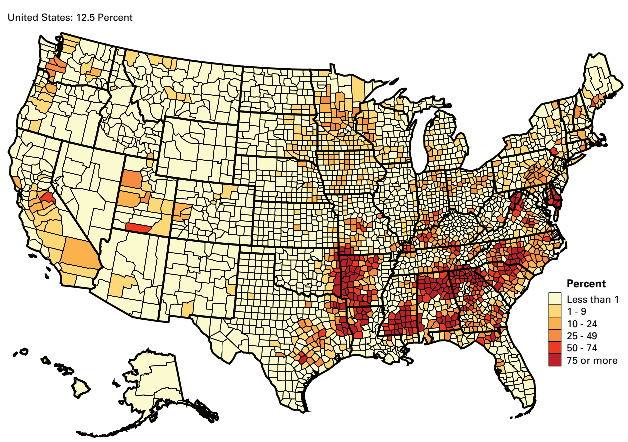


Figure 6.17: U.S. value of production: Broilers, eggs, turkeys, chickens, and total, 1998–2008

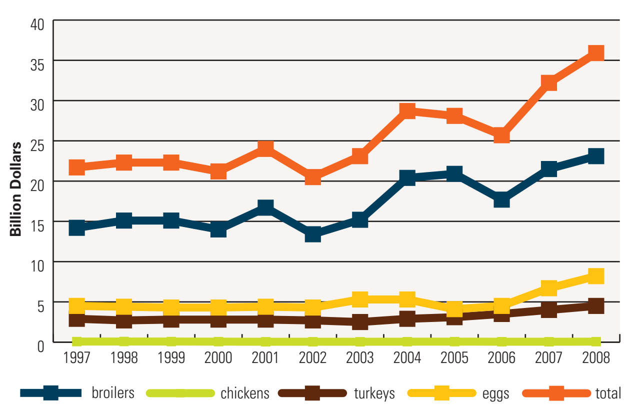


Figure 6.18: U.S. broiler production 1960–2008

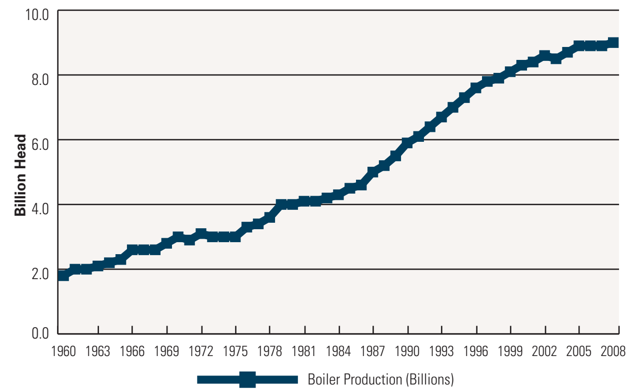


Figure 6.19: U.S. egg production 1960–2008

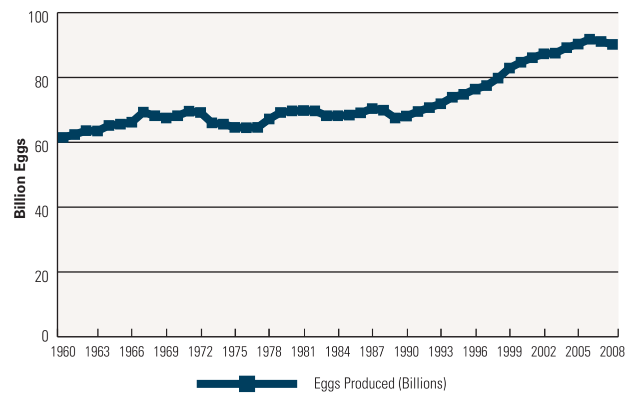
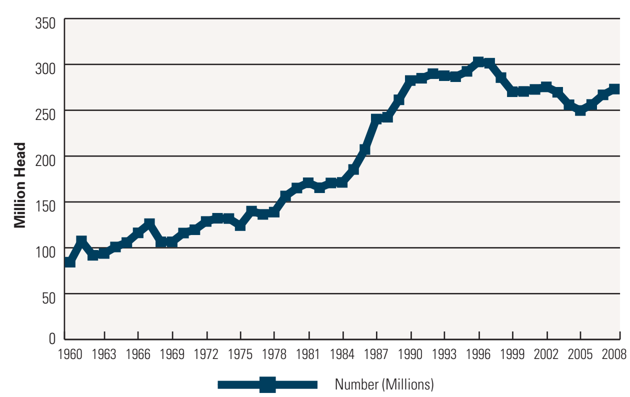
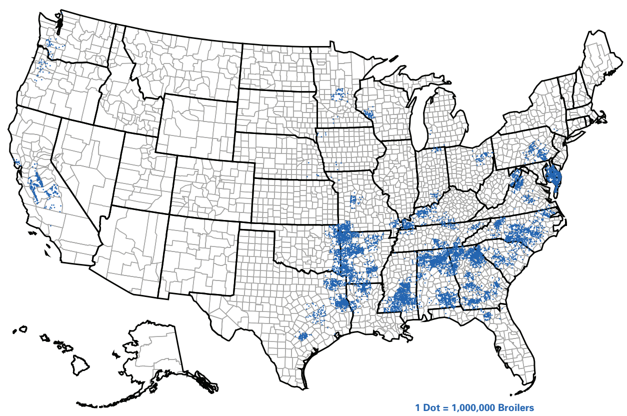


Figure 6.20: U.S. turkey production 1960–2008

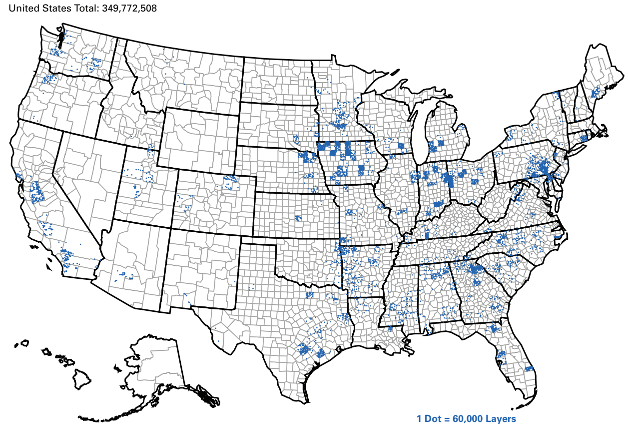


Broiler production is concentrated heavily in the Southeast (map 12), whereas layers are dispersed more widely over the Central and Eastern States (map 13).

Map 12: Number of broilers and other meat-type chickens sold: 2007

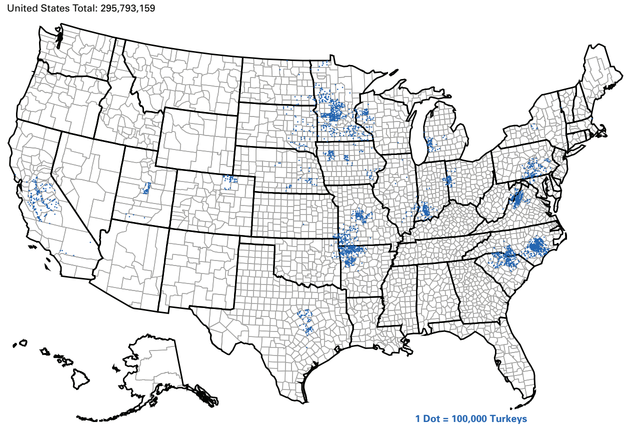


Map 13: Layers—inventory 2007



Turkey production is concentrated in the eastern half of the United States (map 14). Arkansas, Minnesota, and North Carolina accounted for 43.6 percent of the 273 million turkeys raised in 2008.

Map 14: Number of turkeys sold: 2007



The broiler and layer industries are characterized by a relatively small number of large companies. USDA does not provide annual estimates of the number of companies or production sites. The value of broiler production was 64.4 percent of the $35.9 billion poultry industries' production in 2008. Egg production accounted for 22.9 percent of the total value of production (table A1.8 in appendix 1).

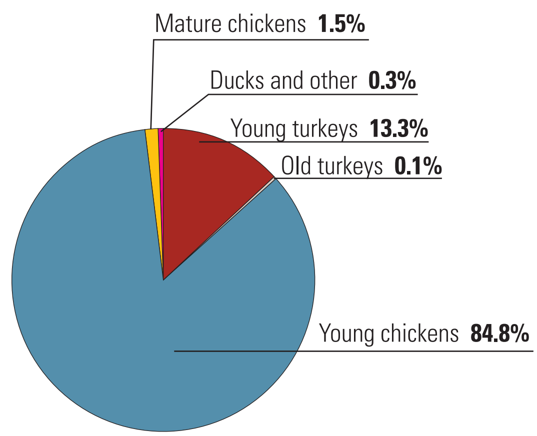
Hatchery statistics for 2008 include 9.46 billion broiler-type chickens hatched, 467 million egg-type chicks hatched, and 306 million poults hatched in turkey hatcheries. The collective capacity of the 318 chicken hatcheries on January 1, 2009, was 904 million eggs, and the capacity of the 55 turkey hatcheries was 39.5 million eggs.

More than 99 percent of total U.S. poultry slaughter of the major species is done in federally inspected slaughter plants.

In 2008, approximately 320 plants slaughtered poultry under Federal inspection. Young chickens were slaughtered in 35 States, and young turkeys were slaughtered in 26 States.

Slaughter of young chickens[14] accounted for 84.8 percent of the total live weight of poultry slaughtered in 2008 (fig. 6.21). The average live weight of young chickens slaughtered has steadily increased over the previous decade.

Figure 6.21: Poultry: total live weight slaughtered in 2008



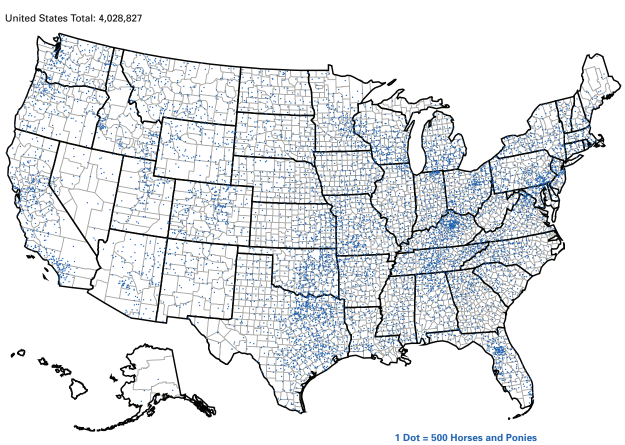
[14] Young chickens are commercially grown broilers, fryers, and other young, immature birds (e.g., roasters and capons).

Equine Industry

Statistics on the demographics of the U.S. equine industry are sparse. USDA does not have an equine statistics program; the only estimates available for the entire domestic equine population date from 1998 and 1999.

The 2007 Census of Agriculture estimated 4.03 million horses and ponies reported on 575,942 farms. Map 15 illustrates the broad and even distribution of horses and ponies across the United States. The 2007 Census also reported 283,806 mules, burros, and donkeys located on 99,746 farms. *Note:* The Census estimates do not include equids on nonfarm places. The current definition of a farm, first used in 1974, is a place that could or did actually sell $1,000 of agricultural products annually. In addition, as of 1987 any operation that has five or more equids (other than commercial enterprises such as race tracks) qualifies as a farm, even if it has no other agricultural activity.

Map 15: Horses and ponies—inventory: 2007



The Census figures may be compared with the last statistics published by USDA for equine inventories on all places. As of January 1, 1998, the inventory of equids on both farms and nonfarms totaled 5.25 million head. A year later, that figure was 5.32 million head (table A1.9 in appendix 1). In addition, 39.1 percent of the January 1, 1998, total was estimated to be on nonfarm locations. The estimated value of equine sales was $1.64 billion for 1997 and $1.75 billion for 1998.

USDA publishes no estimates for the number of all operations with equids and collects no information by size of equid operation for the United States.

Fish and Other Aquaculture Products

The 2007 Census of Agriculture estimated the value of aquaculture products (domestic farm-raised) sold at $1.4 billion, or about 1 percent of the total $153.6 billion sales for all livestock, poultry, and their products in the United States. Combined catfish and trout sold accounted for 47.1 percent of the $1.4 billion total. NASS collects information on the catfish and trout industries through monthly catfish processing surveys, semiannual catfish production surveys, and an annual trout survey (table A1.10 in appendix 1).

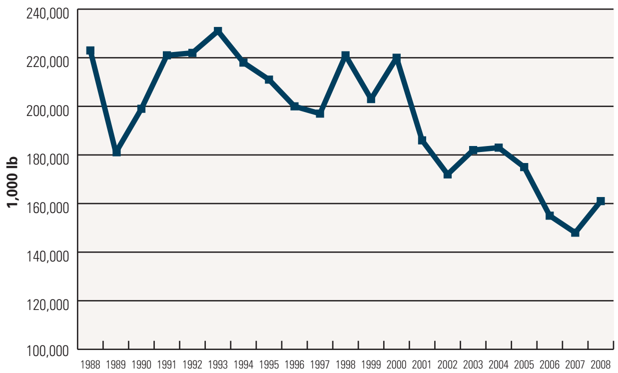
Domestic catfish production in 2008 was concentrated in three Southern States: Alabama, Arkansas, and Mississippi. Mississippi accounted for 49.0 percent of the total pounds of food-size catfish. At $410.0 million, the total value of catfish sales for 2008 was down 9.8 percent from 2007 (table A1.10 in appendix 1). Food-size catfish accounted for 94.9 percent of total sales.

Domestic trout production was dispersed more widely across the United States. Idaho accounted for 44.3 percent of the total value of fish sold, followed by California at 10.4 percent and North Carolina at 9.0 percent. The total value of all trout sales, both fish and eggs, was $86.4 million in 2008—a decrease of 9.6 percent from 2007.

Honey Production

In 2008, honey production from producers with five or more colonies totaled 160.9 million pounds, which represents an 8-percent increase from 2007 (table A1.11 in appendix 1; fig. 6.22). This increase, combined with a 31-percent increase in honey prices, resulted in a $226.8 million value of production in 2008, up 42.0 percent from the previous year. The distribution of honey production is widespread across the United States, although North Dakota accounted for 21.8 percent of the total production.

Figure 6.22: U.S. honey production, 1988–2008



Miscellaneous

The 2007 Census of Agriculture reported several miscellaneous livestock and poultry commodities, which are shown in table A1.12 in appendix 1.

Number of Livestock Slaughter Plants in the United States

On January 1, 2009, there were 818 federally inspected U.S. slaughter plants. Federally inspected plants are those that transport meat interstate and must employ Federal inspectors to ensure compliance with USDA standards. There are additional plants considered federally inspected, called Talmedge–Aiken plants. Although USDA is responsible for inspection in these plants, actual Federal inspection is carried out by State employees, who ensure that Federal regulations are being followed. During 2008, 630 plants slaughtered cattle (table A1.13 in appendix 1), and 14 of these largest plants slaughtered 55 percent of the total cattle slaughtered. Six of the 251 plants that slaughtered calves accounted for 55 percent of the total, and 4 of the 496 plants that slaughtered sheep or lambs in 2008 produced 65 percent of the total number of head slaughtered. In 2008, 412 plants slaughtered goats. Hogs were slaughtered at 618 plants; 12 of the largest plants accounted for 55 percent of the total.

Iowa, Kansas, Nebraska, and Texas accounted for 49.7 percent of U.S. commercial red-meat production in 2008. Monthly commercial red-meat production typically reaches a low point in February (fig. 6.23). Beef and pork dominated commercial red-meat production in 2008 (52.9 and 46.5 percent, respectively), as shown in figure 6.24.

Figure 6.23: U.S. commercial red meat production, by month, 2006–08

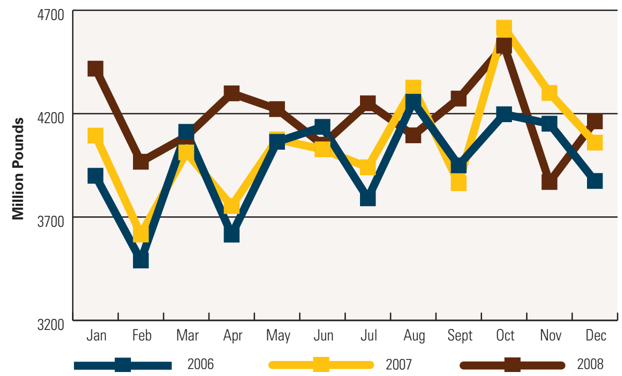
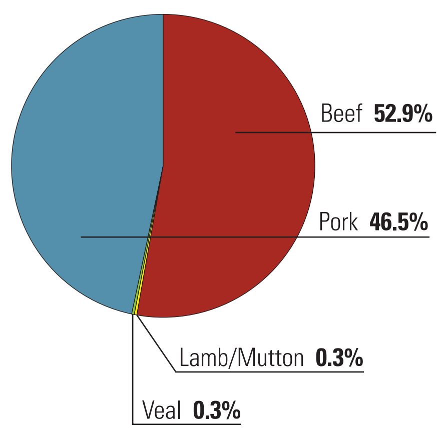


Figure 6.24: U.S. commercial red meat production, by percentage, 2008



On January 1, 2009, there were 2,030 slaughter plants in the United States that were State-inspected or custom-exempt, compared with 2,119 such plants on January 1, 2008. State-inspected plants sell and transport exclusively intrastate. State inspectors ensure compliance with individual State standards as well as with Federal meat and poultry inspection statutes. Custom-exempt plants do not sell meat, but operate on a custom-slaughter basis only. The animals and meat are not federally inspected, but the facilities must meet local health requirements.