ISSUE REVIEW

Fiscal Services Division November 4, 2019



Ground Floor, State Capitol Building

Des Moines, Iowa 50319

515.281.3566

Livestock Inventory Historical Trends

ISSUE

This *Issue Review* provides an overview of historical trends in livestock inventory based on information published by the United States Department of Agriculture (USDA) in the <u>2017</u> <u>Census of Agriculture</u>. Information on agriculture sales, market value, and exports is also presented. Specifically, information is presented on:

- Cattle (page 5).
- Hogs and pigs (page 9).
- Poultry (page 13).

Data is provided on both inventory and farm operating units. Agriculture sales in market value, lowa Gross Domestic Product, and export data are presented on pages 18 to 29.

AFFECTED AGENCIES

Department of Agriculture and Land Stewardship Economic Development Authority

CODE AUTHORITY

Iowa Code section 159.5

CENSUS HISTORY

The history of collecting agricultural data in the United States started with President George Washington, who maintained detailed records about his farmland. In 1791, Washington asked farmers for information on land values, crop acres, crop yields, livestock prices, and taxes. He then compiled an agricultural report on a region that included the current states of Maryland, Pennsylvania, Virginia, West Virginia, and the District of Columbia.

Collecting census data was authorized by the United States Constitution in 1787, which specified that a population census must be completed every 10 years. In 1839, Congress appropriated \$1,000 to complete agricultural investigations and procure agricultural statistics. In 1840, the Enumeration of the Inhabitants and Statistics of the United States was completed and included information on manufacturing, mining, and agriculture. The lowa Territory (which included Minnesota, North Dakota, and South Dakota) was included in this document. Table 1 details the number of livestock animals reported in the United States in 1840 as well as in New York, Ohio, and the lowa Territory. At the time, New York and Ohio reported the highest levels of livestock in the nation. New York reported a total of 10,558,042 animals, which represented 14.2% of the livestock animals in the United States. There were 1,900,065 swine in New York which represented 7.2% of the swine in the United States. Ohio had the second largest number

of animals in the country with a total of 6,318,741, or 8.5% of the livestock animals in the United States. Ohio had 2,090,746 swine or 7.9% of the swine in the country. The lowa Territory had less than 1.0% of the livestock animals in the United States, with the largest portion being swine at 104,899.

Table 1
Livestock Reported in 1840 Census

| | | % of | | % of | lowa | | |
|-----------|------------|-------|-----------|-------|-----------|------------|----------------------|
| Livestock | New York | Total | Ohio | Total | Territory | % of Total | United States |
| Horse | 474,543 | 10.9% | 430,527 | 9.9% | 10,794 | 0.2% | 4,335,869 |
| Cattle | 1,911,244 | 12.8% | 1,217,874 | 8.1% | 38,049 | 0.3% | 14,971,580 |
| Sheep | 5,118,777 | 26.5% | 2,028,401 | 10.5% | 15,354 | 0.1% | 19,311,374 |
| Swine | 1,900,065 | 7.2% | 2,090,746 | 7.9% | 104,899 | 0.4% | 26,361,293 |
| Poultry | 1,153,413 | 12.3% | 551,193 | 5.9% | 16,529 | 0.2% | 9,344,410 |
| Total | 10,558,042 | 14.2% | 6,318,741 | 8.5% | 185,625 | 0.2% | 74,324,526 |

Source: 1840 Enumeration of the Inhabitants and Statistics of the United States

Table 2 reports the population for New York, Ohio, the Iowa Territory, and the United States for 1840. The ratio of state or territory population to the total U.S. population is very similar to the ratio of state or territory livestock to U.S. livestock in **Table 1**.

Table 2
Population Reported in 1840 Census

| State or | | % of |
|----------------|------------|-------|
| Territory | Population | Total |
| New York | 2,428,921 | 14.2% |
| Ohio | 1,519,467 | 8.9% |
| Iowa Territory | 43,112 | 0.3% |
| United States | 17,069,453 | |

Source: 1840 Enumeration of the Inhabitants and Statistics of the United States

The U.S. Department of Commerce, Bureau of the Census, conducted the census of agriculture for 156 years (1840 to 1996). Census data was collected every 10 years until 1915, when Congress changed the frequency of the collection to every five years. In 1950, Congress required agricultural economic data to be collected in years ending in two and seven. The 1997 Appropriations Act transferred the census of agriculture to the National Agricultural Statistics Service (NASS).

Data collection for the 2017 census used the same methodology that was used in 2012. In 2017, the NASS encouraged producers to respond to the census; however, response rates declined. In the 2017 census, the NASS used capture-recapture methodology, an accepted statistical methodology, to account for farm operating units that did not respond. The methodology is documented thoroughly in Appendix A of the 2017 census.

The NASS maintains a list of farmers and ranchers from which the census mail list is created. Each record includes a name, address, telephone number, and email address. The NASS also uses outside source lists for additional information. Examples of source list providers include

governmental agencies, producer associations, seed growers, pesticide applicators, and veterinarians.

The Census of Agriculture provides comprehensive agricultural data for every state and county. The information is used by agriculture organizations, businesses, state legislatures, governmental entities, and other private organizations or companies. Examples of data provided:

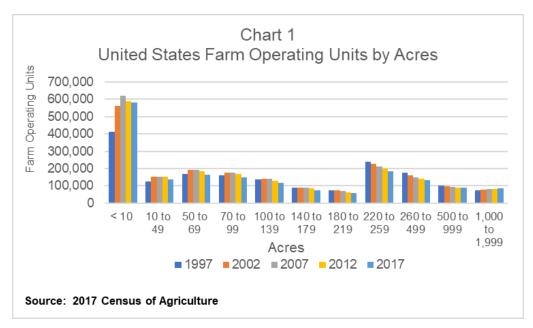
- Production revenue and expenditures.
- Demographic information and financial data on farm operating units.
- Historical agricultural trends.
- Assets such as land, buildings, machinery, and equipment needed to support agricultural production.
- Geographic data that allows agribusinesses to locate near major production areas.

FARM OPERATING UNITS

The Census of Agriculture includes all farms and ranches in the United States and the people who operate them. This includes small urban or rural plots of land where more than \$1,000 of agricultural products are produced and sold during the census year. All farms are classified into size groups based on the total land area in the farm, considered a farm operating unit. This unit includes all land owned and land rented from others. Land that is rented or assigned to a tenant is part of the tenant's farm operating unit.

The <u>2017 Census of Agriculture</u> was released on April 19, 2019. This is the 29th federal Census of Agriculture and the fifth census conducted by the U.S. Department of Agriculture (USDA). The Census provides national, state, and county data on demographics, economics, land use, and related activities, including data on livestock, from 1997 to 2017. The following data includes livestock inventories, sales, and number of farm operating units involved with livestock collected on a calendar-year basis.

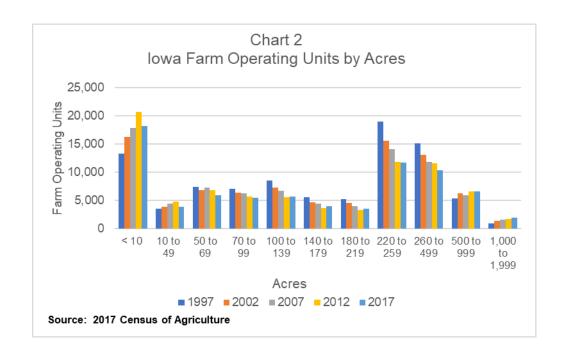
In the United States, the total number of farm operating units increased from 1,912,000 in 1997 to 2,042,000 (6.8%) in 2017. The largest increase was in farm operating units that were less than 10 acres, from 1997 to 2017, farm operating units with less than 10 acres increased from 154,000 to 273,000 (77.3%). In 2007, there were 602,000 farm operating units with less than 10 acres, and in 2012, there were 590,000 farm operating units with less than 10 acres. **Chart 1** provides information on the number of farm operating units by acres in the United States.



In lowa, the total number of farm operating units decreased from 97,000 in 1997 to 86,000 (11.3%) in 2017, as shown in the chart below. The average farm size for each of the years reviewed was:

- 1997 334 acres.
- 2002 350 acres.
- 2007 331 acres.
- 2012 345 acres.
- 2017 355 acres.

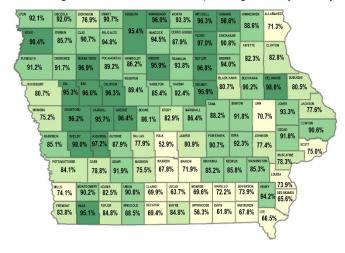
Chart 2 provides information on the number of farm operating units by acres in Iowa.



In 1997, 32,313,000 acres of land were farmed in Iowa compared to 30,564,000 acres in 2017. This is a decrease of 1,749,000 acres (5.4%). The amount of land being farmed remains somewhat constant; however, the size of the farm operating unit has become larger. **Map 1** details the percentage of land in farm operating units by county for 2017, and **Map 2** details the average farm size by county.

Map 1

Percentage of Land Area in Farm Operating Units by County



30.6 Million Acres

Total Land in Iowa Farm Operating Units in 2017

85.5%

Percentage of Iowa Land Area in Farm Operating Units in 2017

86,104

Number of Farm Operating Units in Iowa in 2017

Percentage of Land in Farm Operating Units

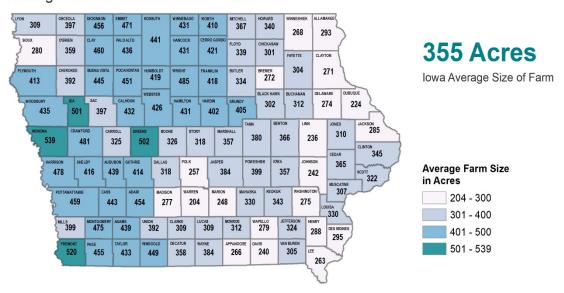
52.9% - 75.0% 75.1% - 85.0% 85.1% - 95.0%

95.1% - 98.8%

Source: 2017 Census of Agriculture

Map 2

Average Size of Farm in Acres — 2017



Source: 2017 Census of Agriculture

CATTLE

The <u>2017 Census of Agriculture</u> provides numerous reporting categories on livestock. The charts included in the section that discuss cattle includes:

- Milk cows and heifers Cows raised for milk production and heifers that have calved.
- Beef cows Cattle raised for meat production and heifers that have calved.
- Other cattle Includes milk replacement heifers that weigh 500 or more pounds, beef replacement heifers that weigh 500 or more pounds, other heifers, steers or bulls that weigh 500 or more pounds, and calves that weigh less than 500 pounds.

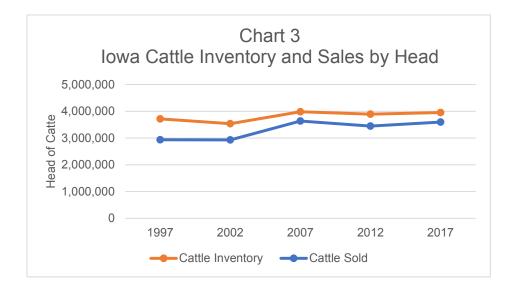
Iowa Cattle Inventories

Table 3 summarizes the lowa cattle inventories for the years 1997, 2002, 2007, 2012, and 2017.

Table 3 lowa Cattle Inventory — Head of Cattle

| Head of Cattle | 1997 | 2002 | 2007 | 2012 | 2017 | # Change 1997 - 2017 | % Change 1997 - 2017 |
|-------------------------------|-----------|-----------|-----------|-----------|-----------|-------------------------|-------------------------|
| Milk Cows/Heifers | 222,090 | 206,965 | 215,391 | 204,757 | 223,579 | 1,489 | 0.7% |
| Beef Cows/Heifers | 1,051,178 | 987,670 | 904,100 | 885,568 | 938,818 | -112,360 | -10.7% |
| Other Cattle | 2,444,126 | 2,341,310 | 2,862,853 | 2,803,358 | 2,788,523 | 344,397 | 14.1% |
| Total Cattle Inventory | 3,717,394 | 3,535,945 | 3,982,344 | 3,893,683 | 3,950,920 | 233,526 | 6.3% |

Total cattle inventory increased from 3,717,000 head in 1997 to 3,951,000 head (6.3%) in 2017. Cattle sales increased from 2,937,000 head in 1997 to 3,595,000 head (22.4%) in 2017. **Chart 3** provides information on cattle inventory and sales by the number of cattle.

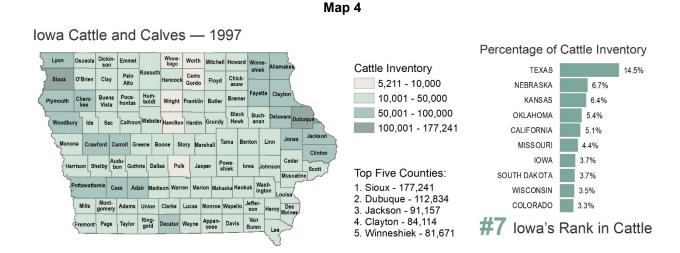


Map 3 summarizes cattle inventories by Iowa county in 2017. The top five counties in 2017 were Sioux, Lyon, Dubuque, Delaware, and Plymouth. Sioux County is the top producer partly because it is also a top producer of corn that is used to feed cattle. In 2017, Sioux County had a total of 1,724 farm operating units, 1,486 of which had cropland. In 2017, Sioux County had the largest number of farm operating units that produced corn, with 1,039 farm operating units producing 47,800,000 bushels of corn. Sioux County had 591 farm operating units that produced cattle with more than 418,000 cattle and calves.

Map 3

Iowa Cattle and Calves - 2017 Percentage of Cattle Inventory Cattle Inventory **TEXAS** 13.4% Palo Alto Clay Sioux Floyd Gordo 2,552 - 10,000 NEBRASKA 7.2% 10,001 - 50,000 6.7% Chero-kee KANSAS 50,001 - 100,000 CALIFORNIA 5.5% Grundy lamilton Hardin 100,001 - 418,058 OKLAHOMA 5.4% Jones Crawford Carroll Greene Story MISSOURI 4.3% Clinton SOUTH DAKOTA 4.3% Harrison Shelby bon Guthrie Dallas Powe-shiek Polk lowa Top Five Counties: IOWA 4.2% 1. Sioux - 418,058 Marion Mahaska Keokuk Wash-ington Cass WISCONSIN 3.7% 2. Lyon - 192,413 COLORADO Union Clarke Lucas Monroe 3. Dubuque - 131,199 4. Delaware - 122,280 Ring-gold ## lowa's Rank in Cattle 5. Plymouth - 111,852

Map 4 summarizes cattle inventories by Iowa county in 1997. The top five counties in 1997 were Sioux, Dubuque, Jackson, Clayton, and Winneshiek. Sioux County, the top producer, had over 177,000 cattle and calves.



Iowa Cattle Farm Operating Units

The number of cattle farm operating units with cattle inventory in Iowa decreased by 14,400 (36.2%), from 39,800 units in 1997 to 25,400 units in 2017. Cattle farm operating units that sold cattle decreased by 16,300 (41.1%), from 39,700 units in 1997 to 23,400 units in 2017. **Chart 4** provides information on the number of farm operating units based on cattle inventory and cattle sales.

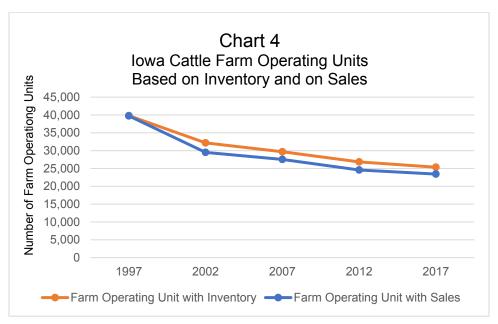


Table 4 summarizes the number of lowa farm operating units that sold cattle by their cattle inventory. Although total cattle farm operating units decreased, the number of cattle farm operating units with more than 500 head of cattle increased from 827 in 1997 to 1,506 in 2017 (82.1%). The last two columns of the table shows the change in farm operating units from 1997 to 2017.

Table 4
owa Farm Operating Units by Head of Cattle

| | IO | wa rann Ope | rating Units i | Jy nead of Ca | attie | | |
|----------------------|--------|-------------|----------------|---------------|--------|-------------|-------------|
| Farm Operating Units | | | | | | Change | % Change |
| by Head of Cattle | 1997 | 2002 | 2007 | 2012 | 2017 | 1997 - 2017 | 1997 - 2017 |
| 1 to 9 Head | 8,341 | 5,101 | 5,795 | 5,189 | 4,984 | -3,357 | 40.3% |
| 10 to 19 Head | 7,999 | 5,186 | 4,454 | 4,101 | 3,446 | -4,553 | -56.9% |
| 20 to 49 Head | 12,458 | 9,025 | 7,450 | 6,004 | 5,448 | -7,010 | -56.3% |
| 50 to 99 Head | 5,895 | 4,957 | 4,158 | 3,638 | 3,869 | -2,026 | -34.4% |
| 100 to 199 Head | 2,697 | 2,586 | 2,546 | 2,305 | 2,368 | -329 | -12.2% |
| 200 to 499 Head | 1,511 | 1,662 | 1,624 | 1,965 | 1,806 | 295 | 19.5% |
| More Than 500 Head | 827 | 998 | 1,508 | 1,371 | 1,506 | 679 | 82.1% |
| Total | 39,728 | 29,515 | 27,535 | 24,573 | 23,427 | -16,301 | -41.0% |

Table 5 details the average dollar amount of lowa cattle sales based on the number of cattle at a farm operating unit. The last two columns of the table shows the change by dollar amount and percentage when comparing 1997 sales to 2017 sales. The only sales decrease in this time period was in farm operating units with 50 to 99 head of cattle. In 2012, average sales in this category were \$72,722, and in 2017, average sales were \$70,313.

Table 5 lowa Average \$ Sales by Head of Cattle

| Farm Operating Units by Head of Cattle | | 1997 | 2002 | 2007 | | 2012 | | 2017 | | Change 97 - 2017 | % Change 1997 - 2017 |
|--|----------------|----------|-----------------|-----------------|-----|-----------|-----------|-----------|-----|---------------------|-------------------------|
| 1 to 9 Head | \$ | 2,517 | \$ 2,992 | \$ 3,990 | \$ | 4,504 | \$ | 4,513 | \$ | 1,996 | 79.3% |
| 10 to 19 Head | (5 | 6,633 | \$ 7,973 | \$ 10,715 | \$ | 13,123 | \$ | 13,519 | \$ | 6,886 | 103.8% |
| 20 to 49 Head | \$ | 15,439 | \$ 18,436 | \$ 24,294 | \$ | 31,070 | \$ | 31,981 | \$ | 16,542 | 107.1% |
| 50 to 99 Head | \$ | 37,278 | \$ 42,130 | \$ 55,257 | \$ | 72,722 | \$ | 70,313 | \$ | 33,035 | 88.6% |
| 100 to 199 Head | \$ | 82,140 | \$ 89,436 | \$ 117,427 | \$ | 160,967 | \$ | 150,782 | \$ | 68,642 | 83.6% |
| 200 to 499 Head | \$ | 204,950 | \$ 218,514 | \$ 286,552 | \$ | 390,348 | \$ | 391,880 | \$ | 186,930 | 91.2% |
| More Than 500 Head | \$1 | ,050,859 | \$ 1,095,841 | \$ 1,827,023 | \$2 | 2,070,033 | \$2 | 2,111,687 | \$` | 1,060,828 | 100.9% |
| Statewide Average | \$ | 47,483 | \$ 71,826 | \$ 145,309 | \$ | 183,306 | \$ | 203,199 | \$ | 155,716 | 327.9% |

Table 6 details the lowa market value for the sale of cattle and calves. This information is from the 2017 Census of Agriculture and includes the total market value of products sold. Total market value of products sold combines total sales not under production contract, total sales under production contract, and government payments to the farm operating unit. Examples of government program payments include the Conservation Reserve Program (CRP), the Wetlands Reserve Program (WRP), and the Conservation Reserve Enhancement Program (CREP). From 1997 to 2017, the market value increased by \$2.894 billion for cattle and calves (155.1%).

Table 6 lowa Market Value of Cattle and Calves Sales

(billions)

| | | | | | | \$ | % |
|-------------------------|----------|----------|----------|----------|----------|----------|--------|
| | | | | | | Change | Change |
| | | | | | | 1997 - | 1997 - |
| Category | 1997 | 2002 | 2007 | 2012 | 2017 | 2017 | 2017 |
| Cattle and Calves Sales | \$ 1.866 | \$ 2.119 | \$ 3.606 | \$ 4.504 | \$ 4.760 | \$ 2.894 | 155.1% |
| Percent of Total | 15.3% | 17.3% | 17.7% | 14.6% | 16.4% | 17.2% | |
| Total Ag Sales | \$12.162 | \$12.273 | \$20.418 | \$30.821 | \$28.956 | \$16.794 | 138.1% |

HOGS AND PIGS

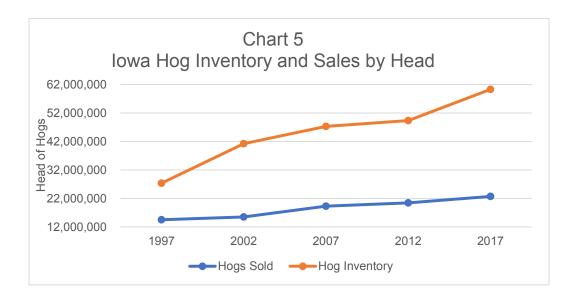
The 2017 Census of Agriculture provides numerous reports on hogs and pigs. Definitions for the hogs and pigs charts include:

- Farrow-to-wean facility A facility that has breeding stock and newborn pigs that are not yet weaned. The weaned pigs are sold to other producers to raise until they are sold as feeder pigs.
- Farrow-to-finish facility A facility that has breeding and farrowing sows, where the breeding stock pigs are raised from birth until they weigh about 240 to 280 pounds and then are sold for slaughter.
- Finish facility A facility that keeps pigs or market hogs for about 16 weeks in a finishing barn. The final weight of the pig will be around 280 pounds.
- Farrow-to-feeder facility A facility that has breeding and farrowing sows where the piglets are sold to finishing operations when they weigh 30 to 60 pounds and are considered feeder pigs. The feeder pigs are then sold to producers to raise until they are sold for slaughter.

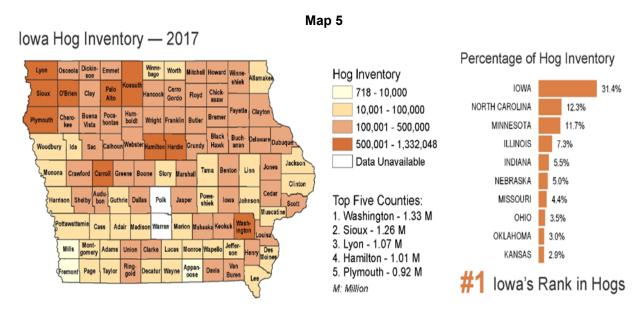
- Nursery A facility where weaned pigs are raised until they reach the size of feeder pigs.
- Breeding herd Animals used for reproduction, including sows, gilts, and boars.
- Market hog Also known as a butcher hog. A pig that weighs between 220 and 280 pounds, is approximately six months old, and was raised for slaughter.
- Feeder pig A young pig that is weaned, is at least eight weeks old, and weighs between 40 to 100 pounds. The pig is sold for slaughter.

lowa Hog Inventories

Hog inventories increased from 14,513,000 head in 1997 to 22,732,000 head in 2017 (56.6%). Hog sales increased from 27,342,000 head in 1997 to 60,293,000 head (120.5%) in 2017. **Chart 5** provides information on hog inventory and sales by head.



Map 5 summarizes hog inventories by Iowa county in 2017. The top five counties in 2017 were Washington, Sioux, Lyon, Hamilton, and Plymouth.



Map 6 summarizes hog inventories by Iowa county in 1997. The top five counties in 1997 were Sioux, Plymouth, Hamilton, Washington, and Hardin.

Map 6 Iowa Hog Inventory — 1997 Percentage of Hog Inventory Worth Mitchell Howard Winnershiek Hog Inventory IOWA 23.7% Hancock Floyd Gordo 5,207 - 10,000 NORTH CAROLINA 15.7% 10,001 - 100,000 Wright Franklin Butler MINNESOTA 9.3% 100,001 - 500,000 ILLINOIS 7.6% 500,001 - 758,686 INDIANA 6.4% Jackson MISSOURI Clinton Harrison Shelby Bon Guthrie Dallas NEBRASKA Polk Top Five Counties: Jasper lowa Muscatine 1. Sioux- 0.76 M OKLAHOMA Wash-ington Cass Adair Madison Warren Marion Mahaska Keokuk 2. Plymouth - 0.46 M OHIO 2.8% 3. Hamilton - 0.45 M Union Clarke Lucas Monroe Wapello KANSAS 2.6% 4. Washington - 0.43 M Davis 5. Hardin - 0.39 M Iowa's Rank in Hogs M: Million

Iowa Hog Farm Operating Units

The number of hog farm operating units with inventory decreased from 17,600 units in 1997 to 5,700 units in 2017 (67.6 %). Hog farm operating units with sales decreased from 18,700 farm operating units in 1997 to 6,200 farm operating units in 2017 (66.8%). **Chart 6** provides information on the number of hog farm operating units based on inventory and sales.

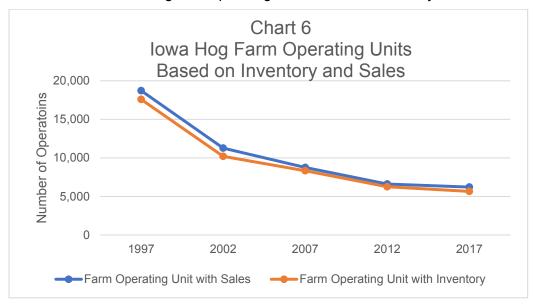


Table 7 summarizes the number of farm operating units that sold hogs. Although the total number of hog farm operating units decreased from 1997 to 2017, hog farm operating units with more 5,000 head of hogs increased by 30.5%.

Sale of Hogs — Farm Operating Units by Head of Hogs

| Farm Operating Units by Head of Hogs | 1997 | 2002 | 2007 | 2012 | 2017 | # Change 1997 - 2017 | % Change 1997 - 2017 |
|---|--------|--------|-------|-------|-------|-------------------------|-------------------------|
| 1 to 24 Head | 1,146 | 663 | 710 | 527 | 891 | -255 | -22.3% |
| 25 to 49 Head | 713 | 267 | 232 | 152 | 141 | -572 | -80.2% |
| 50 to 99 Head | 1,155 | 365 | 289 | 147 | 122 | -1,033 | -89.4% |
| 100 to 199 Head | 1,862 | 519 | 321 | 170 | 122 | -1,740 | -93.4% |
| 200 to 499 Head | 3,857 | 1,438 | 931 | 407 | 268 | -3,589 | -93.1% |
| 500 to 999 Head | 3,667 | 1,748 | 1,066 | 542 | 308 | -3,359 | -91.6% |
| 1,000 to 1,999 Head | 2,155 | 2,140 | 1,145 | 758 | 479 | -1,676 | -77.8% |
| 2,000 to 4,999 Head | 2,196 | 2,181 | 1,674 | 1,485 | 1,323 | -873 | -39.8% |
| Over 5,000 Head | 1,967 | 1,954 | 2,390 | 2,428 | 2,567 | 600 | 30.5% |
| Total Farm Operating Units | 18,718 | 11,275 | 8,758 | 6,616 | 6,221 | -12,497 | -66.8% |

Table 8 summarizes the number of hog farm operating units by type of operation. This data was not included in the 1997 Census of Agriculture, so the data compares 2002 to 2017. The total number of hog farm operating units decreased, with the largest decreases in farrow-to-finish and farrow-to-feeder operations.

Table 8
Sale of Hogs — Farm Operating Units by Type of Operation

| | - 9 | • p • | | ,, ,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,, | P 0 1 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 4 | |
|-------------------------|--------|-------|-------|--|---|-------------|
| Farm Operating Units by | | | | | # Change | % Change |
| Type of Operation | 2002 | 2007 | 2012 | 2017 | 2002 - 2017 | 2002 - 2017 |
| Farrow-to-Wean | 466 | 310 | 212 | 217 | -249 | -53.4% |
| Farrow-to-Finish | 3,925 | 2,299 | 1,282 | 1,217 | -2,708 | -69.0% |
| Finish Only | 5,836 | 4,712 | 3,931 | 3,776 | -2,060 | -35.3% |
| Farrow-to-Feeder | 451 | 208 | 128 | 113 | -338 | -74.9% |
| Nursery | 381 | 453 | 459 | 377 | -4 | -1.0% |
| Other | 557 | 778 | 604 | 521 | -36 | -6.5% |
| Total Operations | 11,616 | 8,760 | 6,616 | 6,221 | -5,395 | -46.4% |

Table 9 summarizes the sale of hogs by type of operation. This data was not included in the 1997 Census of Agriculture, so the data compares 2002 to 2017. The total number of hogs sold increased by 14,890,000 (32.8%), with the largest increases in farrow-to-wean and nursery operations. The largest decrease was in farrow-to-feeder operations.

Table 9
Farm Operating Units That Sold Hogs by Type of Operation

(millions)

| Farm Operating Units by | | | | | # Change | % Change |
|-------------------------|--------|--------|--------|--------|-------------|-------------|
| Type of Operation | 2002 | 2007 | 2012 | 2017 | 2002 - 2017 | 2002 - 2017 |
| Farrow-to-Wean | 6.540 | 6.257 | 5.659 | 11.327 | 4.787 | 73.2% |
| Farrow-to-Finish | 8.791 | 7.127 | 6.504 | 8.104 | -0.687 | -7.8% |
| Finish Only | 20.819 | 23.397 | 25.991 | 31.195 | 10.376 | 49.8% |
| Farrow-to-Feeder | 1.543 | 1.707 | 0.526 | 0.352 | -1.191 | -77.2% |
| Nursery | 3.130 | 4.602 | 5.712 | 5.392 | 2.262 | 72.3% |
| Other | 4.580 | 4.188 | 4.964 | 3.922 | -0.658 | -14.4% |
| Total Hogs Sold | 45.400 | 47.280 | 49.360 | 60.290 | 14.890 | 32.8% |

Table 10 details the lowa market value for the sale of hogs and pigs. This information is from the <u>2017 Census of Agriculture</u> and includes the total market value of products sold. Total market value of products sold combines total sales not under production contract, total sales under production contract, and government payments to the farm operating unit. Examples of government program payments include the CRP, the WRP, and the CREP. From 1997 to 2017, the market value increased by \$4.784 billion for hogs and pigs (158.8%).

Table 10 lowa Market Value of Hog and Pig Sales

(billions)

| | | , | J | | | | |
|-------------------|----------|----------|----------|----------|----------|----------|--------|
| | | | | | | \$ | % |
| | | | | | | Change | Change |
| | | | | | | 1997 - | 1997 - |
| Category | 1997 | 2002 | 2007 | 2012 | 2017 | 2017 | 2017 |
| Hog and Pig Sales | \$ 3.012 | \$ 3.078 | \$ 4.827 | \$ 6.767 | \$ 7.796 | \$ 4.784 | 158.8% |
| Percent of Total | 24.8% | 25.1% | 23.6% | 22.0% | 26.9% | 28.5% | |
| Total Ag Sales | \$12.162 | \$12.273 | \$20.418 | \$30.821 | \$28.956 | \$16.794 | 138.1% |

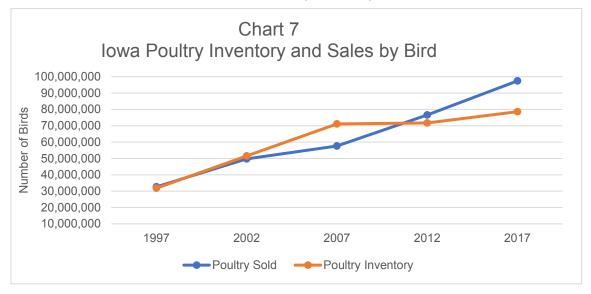
POULTRY

The <u>2017 Census of Agriculture</u> provides numerous reports on poultry. <u>Definitions</u> for the poultry charts include:

- Layer A chicken raised for laying eggs for commercial egg production. A layer hen starts laying eggs when it is 18 to 19 weeks old.
- Pullet A young chicken hen that is under one year of age and has not started laying eggs.
- Broiler A young chicken raised for meat. Also called a roaster or fryer.
- Turkey A large domesticated bird with white plumage, raised for meat.
- Other poultry Includes ducks, geese, emu, pheasants, pigeons, quail, squab, and others.

Iowa Poultry Inventories

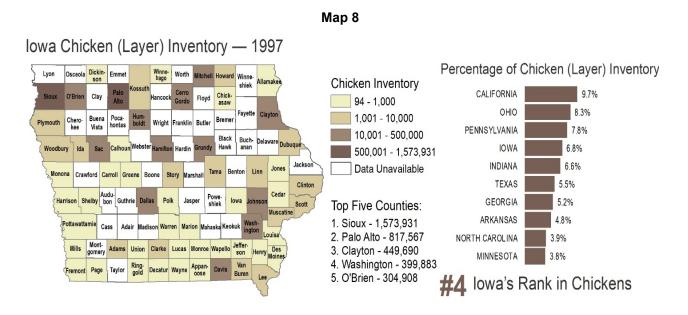
Poultry inventories increased from 31,814,000 birds in 1997 to 78,609,000 birds in 2017 (147.1%). Poultry sales increased from 32,668,000 birds in 1997 to 97,432,000 birds in 2017 (198.2%). **Chart 7** provides information on poultry inventory and sales.



Map 7 summarizes chicken layer inventories by Iowa county in 2017. The top five counties in 2017 were Wright, Humboldt, Dallas, Mitchell, and Johnson. Wright County had the largest number of chickens, with almost 10,000,000 birds. National producers Centrum Valley Farms, Daybreak Foods, Decoster Egg Farms, and Iowa Cage Free make Wright County one of the country's leaders in egg production.

Map 7 Iowa Chicken (Layer) Inventory — 2017 Percentage of Chicken (Layer) Inventory Osceola Dickin-Lyon Emmet Worth Chicken Inventory Cerro IOWA 15.4% O'Brien Clay Floyd 153 - 1,000 Alto Gordo OHIO 7.8% 1,001 - 10,000 Hum-boldt Wright Chero-Vista INDIANA 7.2% 10,001 - 500,000 Hawk PENNSYLVANIA 7.1% Grundy 500,001 - 9,968,233 TEXAS 5.7% Data Unavailable Linn Crawford Carroll Greene Boon 4.9% Clinton **GEORGIA** Harrison Shelby bon Guthrie Dallas Powe-shiek Iowa Jasper MICHIGAN 4.1% Scott Top Five Counties: CALIFORNIA 3.9% 1. Wright - 9.968.233 Adair Madison Warren Marion Mahaska Keokuk Cass 2. Humboldt - 350,216 NORTH CAROLINA 3.8% Mills Montgomery Adams Union Clarke Lucas Monroe Wapello Jeffe 3. Dallas - 248,947 ARKANSAS 4. Mitchell - 204,613 Taylor 5. Johnson - 204,387 Iowa's Rank in Chickens

Map 8 summarizes chicken layer inventories by Iowa county in 1997. The top five counties in 1997 were Sioux, Palo Alto, Clayton, Washington, and O'Brien.



Iowa Poultry Farm Operating Units

Farm operating units with poultry inventory increased from 4,000 in 1997 to 8,400 in 2017 (110.0%). Poultry farm operating units with sales increased from 1,276 in 1997 to 2,698 in 2017 (111.4%). **Chart 8** provides information on the number of poultry farm operating units with inventory and sales.

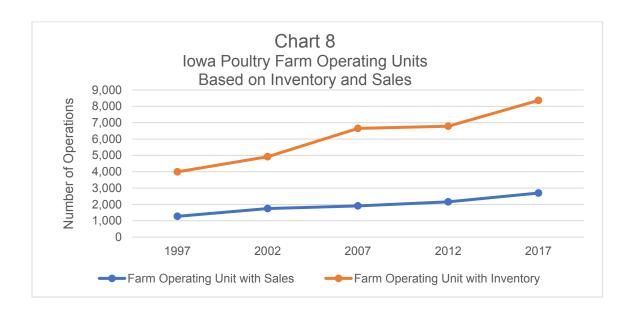


Table 11 summarizes poultry inventory by number of farm operating units and compares the number of farm operating units with poultry inventory in 1997 to 2017. The total number of poultry farm operating units has increased for all types of poultry, with the largest increases in the production of other poultry and layers.

Table 11 Inventory of Poultry by Farm Operating Units

| | | | | | | # Change | % Change |
|----------------------------|-------|-------|-------|-------|-------|-------------|-------------|
| Poultry Type | 1997 | 2002 | 2007 | 2012 | 2017 | 1997 - 2017 | 1997 - 2017 |
| Layers (Chicken) | 1,892 | 1,934 | 2,966 | 3,821 | 4,425 | 2,533 | 133.9% |
| Pullets (Chicken) | 389 | 472 | 425 | 499 | 636 | 247 | 63.5% |
| Broilers (Chicken) | 628 | 661 | 738 | 730 | 884 | 256 | 40.8% |
| Turkeys | 344 | 355 | 417 | 402 | 462 | 118 | 34.3% |
| Other Poultry | 739 | 1,499 | 2,104 | 1,331 | 1,956 | 1,217 | 164.7% |
| Total Farm Operating Units | 3,992 | 4,921 | 6,650 | 6,783 | 8,363 | 4,371 | 109.5% |

Table 12 summarizes poultry sales by number of farm operating units and compares the number of farm operating units with poultry inventory in 1997 to 2017. The total number of poultry farm operating units has increased for all types of poultry, with the largest increase in the production of layers, other poultry, and pullets.

Table 12
Sale of Poultry by Farm Operating Units

| | Ouic oi i | calay by i | aiiii Opo | uuiig Oiii | | | |
|----------------------------|-----------|------------|-----------|------------|-------|-------------|-------------|
| | | | | | | # Change | % Change |
| Poultry Type | 1997 | 2002 | 2007 | 2012 | 2017 | 1997 - 2017 | 1997 - 2017 |
| Layers (Chicken) | 269 | 337 | 508 | 643 | 790 | 521 | 193.7% |
| Pullets (Chicken) | 56 | 174 | 86 | 124 | 126 | 70 | 125.0% |
| Broilers (Chicken) | 519 | 629 | 568 | 704 | 1,041 | 522 | 100.6% |
| Turkeys | 206 | 200 | 235 | 262 | 229 | 23 | 11.2% |
| Other Poultry | 226 | 408 | 511 | 424 | 512 | 286 | 126.5% |
| Total Farm Operating Units | 1,276 | 1,748 | 1,908 | 2,157 | 2,698 | 1,422 | 111.4% |

Table 13 provides information on the number of farm operating units selling layers, pullets, or broilers. The information was not available for all types of poultry and was not available for 1997. The largest growth in farm operating unit size for layers was in the 10,000 to 19,999 bird range. When comparing 2002 to 2017, there was a 400.0% increase in the number of poultry farm operating units. In the broilers category, there has been growth of 136.8% in operations with more than 100,000 birds.

Table 13 lowa Farm Operating Units by Number of Birds

| | | J | y ivainis | | " 01 | 0/ 01 |
|-------------------------|------|------|-----------|-------|-------------|-------------|
| Farm Operating Units By | 0000 | 0007 | 0040 | 0047 | # Change | % Change |
| Number of Birds | 2002 | 2007 | 2012 | 2017 | 2002 - 2017 | 2002 - 2017 |
| Layers | | | | | | |
| 1 to 999 Birds | 206 | 385 | 515 | 587 | 381 | 185.0% |
| 1,000 to 3,199 Birds | 46 | 69 | 37 | 96 | | 108.7% |
| 3,200 to 9,999 Birds | 14 | 19 | 34 | 31 | 17 | 121.4% |
| 10,000 to 19,999 Birds | 6 | 4 | 11 | 30 | 24 | 400.0% |
| 20,000 to 49,999 Birds | 12 | 4 | 12 | 13 | 1 | 8.3% |
| 50,000 to 99,999 Birds | 16 | 6 | 3 | 10 | -6 | -37.5% |
| 100,000 or more Birds | 37 | 21 | 31 | 23 | -14 | -37.8% |
| Layers Total | 337 | 508 | 643 | 790 | 453 | 134.4% |
| Pullets | | | | | | |
| 1 to 1,999 Birds | 130 | 51 | 67 | 76 | -54 | -41.5% |
| 2,000 to 15,999 Birds | 12 | 7 | 12 | 9 | -3 | -25.0% |
| 16,000 to 29,999 Birds | 3 | 4 | 5 | 10 | 7 | 233.3% |
| 30,000 to 59,999 Birds | 4 | 8 | 18 | 9 | 5 | 125.0% |
| 60,000 to 99,999 Birds | 4 | 0 | 0 | 2 | -2 | -50.0% |
| 100,000 or more Birds | 21 | 16 | 22 | 20 | -1 | -4.8% |
| Pullets Total | 174 | 86 | 124 | 126 | -48 | -27.6% |
| Broilers | | | | | | |
| 1 to 1,999 Birds | 557 | 542 | 663 | 930 | 373 | 67.0% |
| 2,000 to 15,999 Birds | 29 | 27 | 19 | 46 | 17 | 58.6% |
| 16,000 to 29,999 Birds | 9 | 2 | 1 | 6 | -3 | -33.3% |
| 30,000 to 59,999 Birds | 13 | 6 | 2 | 13 | 0 | 0.0% |
| 60,000 to 99,999 Birds | 2 | 1 | 1 | 1 | -1 | -50.0% |
| 100,000 or more Birds | 19 | 20 | 18 | 45 | 26 | 136.8% |
| Broilers Total | 629 | 598 | 704 | 1,041 | 412 | 65.5% |

Table 14 details the lowa market value for the sale of poultry and eggs. This information is from the <u>2017 Census of Agriculture</u> and includes the total market value of products sold. Total market value of products sold combines total sales not under production contract, total sales under production contract, and government payments to the farm operating unit. Examples of government program payments include the CRP, the WRP, and the CREP. From 1997 to 2017, the market value increased by \$1.164 billion (280.9%) for poultry and eggs.

Table 14
Iowa Market Value of Poultry and Egg Sales

(billions)

| | | | | | | \$ | % |
|-----------------------|----------|----------|----------|----------|----------|----------|--------|
| | | | | | | Change | Change |
| | | | | | | 1997 - | 1997 - |
| Category | 1997 | 2002 | 2007 | 2012 | 2017 | 2017 | 2017 |
| Poultry and Egg Sales | \$ 0.415 | \$ 0.512 | \$ 0.872 | \$ 1.291 | \$ 1.579 | \$ 1.164 | 280.5% |
| Percent of Total | 3.4% | 4.2% | 4.3% | 4.2% | 5.5% | 6.9% | |
| Total Ag Sales | \$12.162 | \$12.273 | \$20.418 | \$30.821 | \$28.956 | \$16.794 | 138.1% |

ECONOMIC TRENDS

Definitions

lowa economic trends in agriculture and livestock will include the following:

- Market Value of Iowa Agriculture Sales. This information is from the 2017 Census of
 Agriculture and includes the total market value of agricultural products sold. Total market
 value of products sold combines total sales not under production contract, total sales under
 production contract, and government payments to the farm operating unit. Examples of
 government program payments includes the CRP, the WRP, and the CREP.
- **Iowa Gross Domestic Product (GDP).** This information is from the <u>federal Bureau of Economic Analysis</u>, which defines GDP as the value of the goods and services produced in Iowa. The economy can be evaluated by measuring the growth or shrinkage of the GDP from one period to the next. Industry data that contributes to the GDP is included and is based on the 2012 North American Industry Classification System (NAICS).
- lowa Agriculture Exports. Iowa exports goods and services to other countries. Exports are one of the components of international trade. Export information is from the <u>USDA</u>
 <u>Economic Research Service</u>, the <u>United States Census Bureau</u>, and the <u>World Institute for Strategic Economic Research</u> (WISERTrade).

Market Value of Agriculture Sales

The market value of total agriculture sales for lowa increased from \$12.162 billion in 1997 to \$28.956 billion in 2017 (138.1%). The U.S. Census includes all agriculture products sold and includes food marketing practices and value-added products. **Chart 9** shows total agriculture sales, livestock sales, and grain sales.

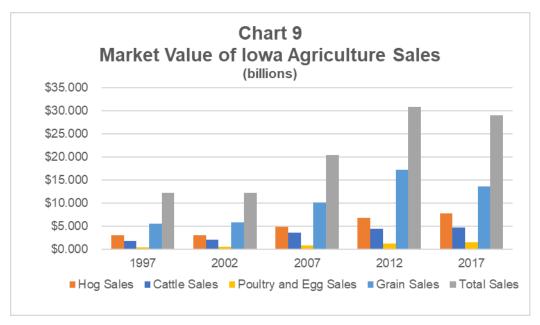
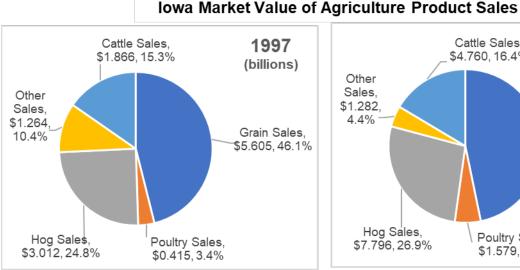
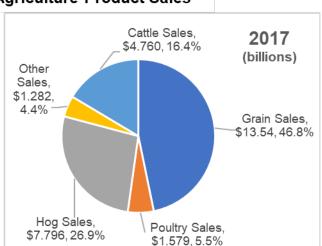


Chart 10 provides the market value of agriculture product sales and compares 1997 to 2017.

Chart 10



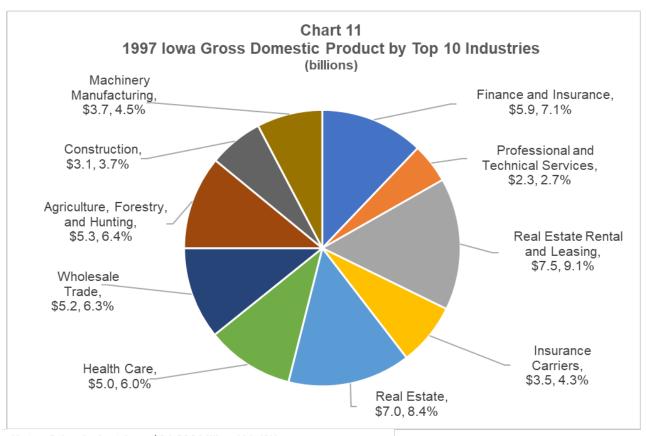


Although the dollar amount of sales increased substantially in all categories (except for other sales), the percent of the total comprised by each category did not change drastically. The most significant change occurred in poultry sales. In 1997, poultry sales comprised 3.4% of the market value, whereas in 2017, they made up 5.5%. In 1997, other sales accounted for 10.4% of the total market value, and in 2017, they comprised 4.4%.

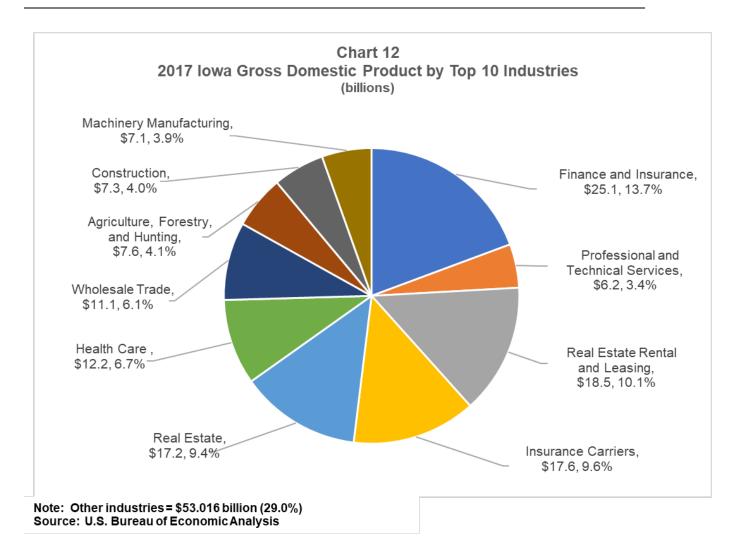
Products in the other sales category include: milk from cows, greenhouse horticulture, other crops and hay, sheep and goats, aquaculture, vegetables, horses and mules, other animals, fruits and berries, and Christmas trees.

Iowa Gross Domestic Product

lowa GDP is in billions of current dollars (not adjusted for inflation), and the industry detail is based on the 2012 NAICS. **Chart 11** lists the top 10 industries comprising total lowa GDP for 1997, and **Chart 12** lists them for 2017. In 2017, the agriculture, forestry, fishing, and hunting industry accounted for 4.1% of lowa's GDP.



Note: Other industries = \$34.200 billion (41.4%) Source: U.S. Bureau of Economic Analysis



IOWA AGRICULTURE EXPORTS

Total Iowa Agriculture Exports

lowa exports goods and services to other countries. Exports are one of the components of international trade. Export information is from the <u>USDA Economic Research Service</u>, the <u>United States Census Bureau</u>, and <u>WISERTrade</u>.

Total dollar value of agriculture exports from lowa increased from \$3.939 billion in 2002 (1997 data was not included in dataset) to \$10.295 billion in 2017 (161.4%). **Table 15** details the top 10 states in terms of dollar value of all agriculture exports. This includes livestock, grains, and other products. The top 10 states export more than half of the agricultural products in the country. Iowa ranked second in agriculture exports from 2002 to 2017 (1997 data was not available). California, Texas, Kansas, North Dakota, and Missouri experienced growth over the past 15 years, and the other five states experienced growth from 2002 to 2012, with a slight decline in 2017.

Table 15

Top 10 Agricultural Export States — All Agricultural Products

(billions)

| | | | | _ \ | | | | | | |
|--------------|-------------|------|--------|-----|--------|----|--------|---------------------|-------------------------|--|
| State | 2002 | 2007 | | | 2012 | | 2017 | Change 02 - 2017 | % Change 2002 - 2017 | |
| California | \$ 7.210 | \$ | 11.562 | \$ | 20.183 | \$ | 23.051 | \$ 15.840 | 219.7% | |
| Iowa | \$ 3.939 | \$ | 6.832 | \$ | 11.552 | \$ | 10.295 | \$ 6.356 | 161.4% | |
| Illinois | \$ 3.379 | \$ | 5.857 | \$ | 8.750 | \$ | 8.158 | \$ 4.779 | 141.4% | |
| Texas | \$ 2.809 | \$ | 4.926 | \$ | 5.971 | \$ | 7.195 | \$ 4.385 | 156.1% | |
| Minnesota | \$ 2.518 | \$ | 4.460 | \$ | 7.801 | \$ | 6.869 | \$ 4.351 | 172.8% | |
| Nebraska | \$ 2.487 | \$ | 4.184 | \$ | 6.791 | \$ | 6.397 | \$ 3.911 | 157.2% | |
| Kansas | \$ 2.052 | \$ | 3.401 | \$ | 4.410 | \$ | 4.831 | \$ 2.779 | 135.5% | |
| Indiana | \$ 1.804 | \$ | 3.244 | \$ | 5.060 | \$ | 4.600 | \$ 2.796 | 155.0% | |
| North Dakota | \$ 1.622 | \$ | 3.074 | \$ | 4.437 | \$ | 4.535 | \$ 2.913 | 179.5% | |
| Missouri | \$ 1.309 | \$ | 2.590 | \$ | 3.881 | \$ | 4.027 | \$ 2.719 | 207.7% | |

Source: USDA Economic Research Service

Table 16 summarizes the top 10 states that export animal products. This includes beef, pork, hides, broilers, other poultry, dairy, and other livestock. Iowa is ranked number one in exporting animal products, and when comparing 2002 to 2017, Iowa had a sales increase of \$2.470 billion (326.6%).

Table 16

Top 10 Agriculture Export States — Animal Products
(billions)

| | | | 1-0 | | | | | | |
|----------------|-------------|-------------|-----|-------|----|-------|------|----------|-------------|
| | | | | | | | \$ (| Change | % Change |
| State | 2002 | 2007 | | 2012 | | 2017 | | 2 - 2017 | 2002 - 2017 |
| Iowa | \$ 0.756 | \$ 1.489 | \$ | 2.988 | \$ | 3.226 | \$ | 2.470 | 326.6% |
| Texas | \$ 0.955 | \$ 1.190 | \$ | 2.046 | \$ | 2.005 | \$ | 1.050 | 110.0% |
| Nebraska | \$ 0.739 | \$ 0.868 | \$ | 1.525 | \$ | 1.800 | \$ | 1.061 | 143.6% |
| California | \$ 0.528 | \$ 1.083 | \$ | 1.877 | \$ | 1.695 | \$ | 1.167 | 220.9% |
| Minnesota | \$ 0.436 | \$ 0.859 | \$ | 1.593 | \$ | 1.600 | \$ | 1.163 | 266.7% |
| North Carolina | \$ 0.537 | \$ 0.983 | \$ | 1.643 | \$ | 1.461 | \$ | 0.924 | 172.2% |
| Kansas | \$ 0.644 | \$ 0.699 | \$ | 1.206 | \$ | 1.369 | \$ | 0.725 | 112.7% |
| Wisconsin | \$ 0.315 | \$ 0.703 | \$ | 1.144 | \$ | 1.216 | \$ | 0.901 | 285.7% |
| Oklahoma | \$ 0.374 | \$ 0.479 | \$ | 0.874 | \$ | 0.862 | \$ | 0.489 | 130.8% |
| Indiana | \$ 0.192 | \$ 0.386 | \$ | 0.778 | \$ | 0.816 | \$ | 0.623 | 324.3% |

Source: USDA Economic Research Service

Table 17 shows the top five exports from lowa for 2002, 2007, 2012, and 2017. The export of meat and offal (edible internal animal organs) accounted for approximately 10.0% of the exported goods from lowa in 2002, 2012, and 2017.

Table 17
lowa Exports
(billions)

| | | % of | | % of | | % of | | % of |
|----------------------|-------------|--------|-------------|--------|--------------|--------|--------------|--------|
| Commodity | 2002 | Total | 2007 | Total | 2012 | Total | 2017 | Total |
| Industrial Machinery | \$ 1.022 | 21.5% | \$ 2.134 | 22.1% | \$ 3.110 | 21.3% | \$ 2.115 | 15.8% |
| Vehicles | \$ 0.662 | 13.9% | \$ 1.291 | 13.4% | \$ 2.216 | 15.2% | \$ 1.653 | 12.3% |
| Meat and Offal | \$ 0.512 | 10.8% | \$ 0.616 | 6.4% | \$ 1.568 | 10.7% | \$ 1.449 | 10.8% |
| Cereals | \$ 0.107 | 2.3% | \$ 0.478 | 5.0% | \$ 0.993 | 6.8% | \$ 1.317 | 9.8% |
| Animal Feed | \$ 0.162 | 3.4% | \$ 0.506 | 5.2% | \$ 0.672 | 4.6% | \$ 0.925 | 6.9% |
| Other Commodities | \$ 2.288 | 48.1% | \$ 4.630 | 48.0% | \$ 6.063 | 41.5% | \$ 7.460 | 55.6% |
| Total lowa Exports | \$ 4.754 | 100.0% | \$ 9.655 | 100.0% | \$ 14.622 | 100.0% | \$ 13.422 | 100.0% |

Source: United States Census Bureau

Iowa Beef Product Exports

lowa beef product exports for 2017 and the countries that import beef products are illustrated in **Map 9**. In 2017, lowa exported a total of \$359.0 million in beef. Of this, nearly 41.9%, or \$150.6 million, was exported to Japan.

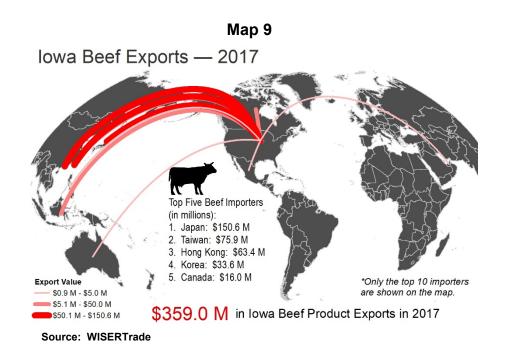


Table 18 details the top 15 countries to which lowa beef was exported during 2017 and provides information on lowa's beef exports from 2012 through 2017.

Table 18 Iowa Beef Product Exports — 2012 Through 2017

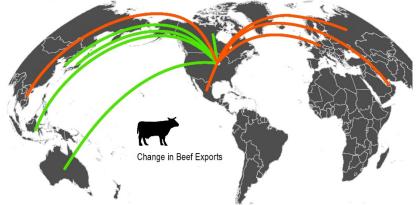
| Country | 2012 | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------|---------------|---------------|---------------|----------------|---------------|---------------|
| Japan | \$ 19,108,170 | \$ 35,987,877 | \$135,776,357 | \$ 97,500,261 | \$132,753,396 | \$150,576,900 |
| Taiwan | \$ 16,455,912 | \$ 30,894,977 | \$ 77,734,425 | \$ 72,014,774 | \$ 75,732,823 | \$ 75,932,364 |
| Hong Kong | \$ 14,454,206 | \$ 63,626,935 | \$ 99,080,053 | \$ 62,471,095 | \$ 55,664,951 | \$ 63,435,142 |
| Korea | \$ 23,472,641 | \$ 22,065,482 | \$ 62,097,934 | \$ 43,665,194 | \$ 29,745,754 | \$ 33,550,271 |
| Canada | \$ 11,356,028 | \$ 6,169,851 | \$ 9,881,481 | \$ 11,418,013 | \$ 13,883,225 | \$ 16,034,543 |
| Indonesia | \$ 1,657,478 | \$ 3,602,340 | \$ 3,678,284 | \$ 2,763,835 | \$ 3,358,368 | \$ 7,708,852 |
| Philippines | \$ 1,544,170 | \$ 2,617,566 | \$ 3,047,595 | \$ 3,776,289 | \$ 2,549,994 | \$ 2,518,989 |
| Mexico | \$ 7,705,572 | \$ 11,666,982 | \$ 7,229,884 | \$ 4,875,996 | \$ 4,163,912 | \$ 1,628,649 |
| Australia | \$ 500,328 | \$ 347,600 | \$ 562,714 | \$ 370,336 | \$ 666,570 | \$ 1,497,663 |
| United Arab Emirates | \$ 2,652,808 | \$ 957,490 | \$ 2,375,885 | \$ 992,732 | \$ 1,324,510 | \$ 943,944 |
| Lebanon | \$ 75,547 | \$ 209,936 | \$ 0 | \$ 357,906 | \$ 630,012 | \$ 731,184 |
| Vietnam | \$ 20,380,571 | \$ 3,847,596 | \$ 800,176 | \$ 1,498,432 | \$ 547,050 | \$ 664,154 |
| Kuwait | \$ 1,634,364 | \$ 483,066 | \$ 1,294,604 | \$ 873,164 | \$ 938,823 | \$ 506,373 |
| Thailand | \$ 0 | \$ 0 | \$ 0 | \$ 326,174 | \$ 295,884 | \$ 353,968 |
| China | \$ 480,895 | \$ 0 | \$ 0 | \$ 0 | \$ 0 | \$ 322,357 |
| Subtotal | \$121,478,690 | \$182,477,698 | \$403,559,392 | \$ 302,904,201 | \$322,255,272 | \$356,405,353 |
| Other Countries | \$ 10,599,539 | \$ 6,670,954 | \$ 13,989,772 | \$ 15,156,263 | \$ 4,665,436 | \$ 2,593,606 |
| Total Beef Exports | \$132,078,229 | \$189,148,652 | \$417,549,164 | \$ 318,060,464 | \$326,920,708 | \$358,998,959 |

Source: WISERTrade

The change in Iowa beef product exports is illustrated in **Map 10**.

Map 10

Change in Iowa Beef Exports — 2012-2017



+\$226.9 M Overall Increase in Beef Exports Since 2012 (+172.0%)

Five Largest Increases

- (in millions with % change): 1. Japan: \$131.5 M (+688.0%)
- 2. Korea: \$10.1 M (+42.9%)
- 3. Indonesia: \$6.1 M (+365.1%)
- 4. Canada: \$4.7 M (+41.2%)
- 5. Australia: \$1.0 M (+199.3%)

Five Largest Decreases (in millions with % change):

- 1. Vietnam: \$-19.7 M (-96.7%)
- 2. Mexico: \$ -6.1 M (-78.9%)
- 3. Russia: \$-5.5 M (-100.0%)
- 4. United Arab Emirates: \$-1.7 M (-64.4%)
- 5. Germany: \$-1.1 M (-100.0%)

Source: WISERTrade

Iowa Pork Product Exports

lowa pork product exports for 2017 and the countries that import pork products are illustrated in **Map 11**. In 2017, lowa exported a total of \$1.159 billion in pork products, with \$405.9 million (35.0%) being exported to Japan.

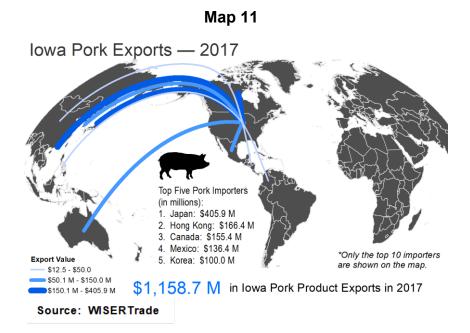


Table 19 details the top 15 countries to which lowa pork products were exported during 2017 and provides information on lowa's exports from 2012 through 2017.

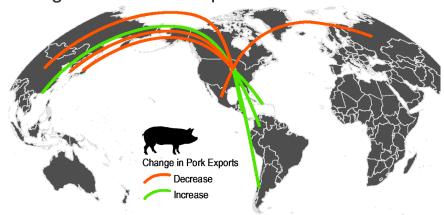
Table 19 lowa Pork Product Exports — 2012 Through 2017

| Country | | 2012 | | 2013 | | 2014 | | 2015 | | 2016 | | 2017 |
|--------------------|------|---------------|-----|--------------|-----|---------------|-----|---------------|------|---------------|-----|--------------|
| Japan | \$ | 518,420,317 | \$ | 566,379,261 | \$ | 598,366,086 | \$ | 488,528,858 | \$ | 479,871,998 | \$ | 405,850,591 |
| Hong Kong | \$ | 56,620,281 | \$ | 57,509,358 | \$ | 105,646,700 | \$ | 105,517,494 | \$ | 125,697,494 | \$ | 166,405,253 |
| Canada | \$ | 163,360,747 | \$ | 157,195,697 | \$ | 187,765,169 | 65 | 163,238,378 | \$ | 143,130,137 | \$ | 155,376,773 |
| Mexico | \$ | 149,289,639 | \$ | 124,584,074 | \$ | 147,675,046 | \$ | 107,236,875 | \$ | 128,207,085 | \$ | 136,389,172 |
| Korea | \$ | 154,939,227 | \$ | 104,510,611 | \$ | 141,741,331 | \$ | 119,824,004 | \$ | 67,882,513 | \$ | 100,037,318 |
| Australia | \$ | 56,771,360 | \$ | 43,621,542 | \$ | 65,896,837 | \$ | 50,851,667 | \$ | 43,490,182 | \$ | 59,677,133 |
| China | \$ | 177,397,645 | \$ | 141,811,764 | \$ | 39,533,333 | \$ | 24,952,606 | \$ | 37,113,336 | \$ | 48,915,055 |
| Colombia | \$ | 10,357,628 | \$ | 15,866,722 | \$ | 21,331,455 | \$ | 9,987,950 | \$ | 4,469,156 | \$ | 13,815,773 |
| Philippines | \$ | 23,387,028 | \$ | 27,220,540 | \$ | 25,688,692 | \$ | 14,495,767 | \$ | 4,984,781 | \$ | 12,810,184 |
| Honduras | \$ | 6,042,296 | \$ | 8,524,762 | \$ | 7,776,010 | \$ | 7,876,079 | \$ | 9,304,228 | \$ | 12,498,570 |
| Guatemala | \$ | 7,810,112 | \$ | 3,845,744 | \$ | 5,692,079 | \$ | 5,561,948 | \$ | 10,653,188 | \$ | 10,626,634 |
| Taiwan | \$ | 11,385,117 | \$ | 13,726,534 | \$ | 12,546,644 | \$ | 11,350,656 | \$ | 6,956,009 | \$ | 7,867,251 |
| Chile | \$ | 2,096,192 | \$ | 3,408,853 | \$ | 2,418,960 | \$ | 1,130,486 | \$ | 4,224,877 | \$ | 5,255,760 |
| New Zealand | \$ | 4,605,422 | \$ | 4,119,618 | \$ | 9,179,817 | 69 | 5,126,970 | \$ | 4,806,300 | \$ | 4,591,029 |
| Dominican Republic | \$ | 148,463 | \$ | 131,411 | \$ | 83,092 | \$ | 869,292 | \$ | 1,086,995 | \$ | 3,218,938 |
| Subtotal | \$ | 1,342,631,474 | \$1 | ,272,456,491 | \$1 | 1,371,341,251 | \$ | 1,116,549,030 | \$ | 1,071,878,279 | \$1 | ,143,335,434 |
| Other Countries | \$ | 132,172,551 | \$ | 30,021,080 | \$ | 40,197,722 | \$ | 13,710,535 | \$ | 14,688,749 | \$ | 15,390,902 |
| Total Pork Exports | \$ 1 | 1,474,804,025 | \$1 | ,302,477,571 | \$1 | 1,411,538,973 | \$1 | 1,130,259,565 | \$ 1 | 1,086,567,028 | \$1 | ,158,726,336 |

Source: WISERTrade

The change in Iowa pork exports is illustrated in **Map 12**.

Map 12 Change in Iowa Pork Exports — 2012-2017



-\$316.1 M Overall Decrease in Pork Exports Since 2012 (-21.4%)

Five Largest Increases

(in millions with % change): 1. Hong Kong: \$109.8 M (+193.9%)

2. Honduras: \$6.5 M (+106.9%)

3. Colombia: \$3.5 M (+33.4% 4. Chile: \$3.2 M (+150.7%)

5 Dominican Republic: \$3.1 M (+2,068.2%)

Source: WISERTrade

Five Largest Decreases

(in millions with % change): 1. China: \$-128.5 M (-72.4%)

2. Japan: \$-112.6 M (-21.7%)

3. Russia: \$-107.9 M (-100.0%) 4. Korea: \$-54.9 M (-35.4%)

5. Mexico: \$-12.9 M (-8.6%)

Iowa Chicken Product Exports

lowa chicken product exports for 2017 and the countries that import chicken products are illustrated in Map 13. During 2017, lowa exported a total of \$34.3 million of chicken products, with \$14.2 million (41.4%) exported to Japan and \$13.6 million (39.7%) exported to Canada.

Map 13

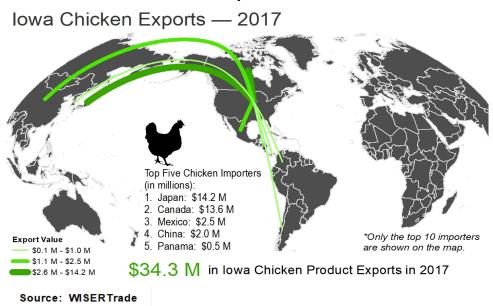


Table 20 shows the top 15 countries to which lowa chicken products were exported during 2017 and provides information on lowa's chicken product exports from 2012 through 2017. In 2012, lowa exported \$9.0 million in chicken products to Korea, but in 2017 only exported \$153,000. This was related to the 2014 avian influenza outbreak in lowa. In 2017, the top four countries (Japan, Canada, Mexico, and China) represented 94.1% of lowa's chicken product exports.

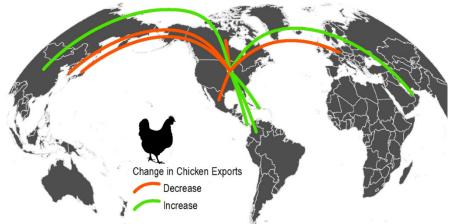
Table 20 lowa Chicken Product Exports — 2012 Through 2017

| Country | 2012 | | 2013 | | 2014 | 2015 | 2016 | 2017 |
|-----------------------|------------------|-----------|------------|----------------|------------|------------------|------------------|------------------|
| Japan | \$ 25,645,498 | \$ | 28,032,081 | \$ | 23,659,712 | \$ 10,082,013 | \$ 12,404,327 | \$ 14,157,962 |
| Canada | \$ 20,951,006 | \$ | 15,756,151 | (S) | 21,320,867 | \$ 13,022,261 | \$ 7,340,147 | \$ 13,632,470 |
| Mexico | \$ 6,618,286 | \$ | 4,918,873 | 65 | 5,354,944 | \$ 5,021,231 | \$ 2,799,214 | \$ 2,453,167 |
| China | \$ 146,592 | \$ | 245,618 | \$ | 221,078 | \$ 0 | \$ 0 | \$ 1,971,635 |
| Panama | \$ 83,016 | \$ | 0 | 65 | 1,153,115 | \$ 1,335,323 | \$ 1,277,217 | \$ 512,180 |
| Colombia | \$ 0 | \$ | 0 | 65 | 0 | \$ 0 | \$ 313,007 | \$ 421,986 |
| United Arab Emirates | \$ 75,007 | \$ | 112,662 | 65 | 762,752 | \$ 790,271 | \$ 297,527 | \$ 186,659 |
| Chile | \$ 100,535 | \$ | 334,400 | \$ | 283,580 | \$ 478,038 | \$ 343,597 | \$ 174,397 |
| Korea | \$ 9,033,785 | \$ | 8,184,696 | \$ | 9,968,013 | \$ 657,096 | \$ 60,865 | \$ 153,060 |
| Honduras | \$ 77,577 | \$ | 3,050 | \$ | 0 | \$ 46,200 | \$ 0 | \$ 125,062 |
| Taiwan | \$ 18,287 | \$ | 0 | \$ | 55,295 | \$ 0 | \$ 0 | \$ 103,013 |
| El Salvador | \$ 20,942 | \$ | 0 | \$ | 70,000 | \$ 0 | \$ 0 | \$ 97,795 |
| Dominican Republic | \$ 0 | \$ | 43,119 | \$ | 79,886 | \$ 123,579 | \$ 262,773 | \$ 87,718 |
| Thailand | \$ 0 | \$ | 0 | \$ | 0 | \$ 9,658 | \$ 218,309 | \$ 73,640 |
| Hong Kong | \$ 315,372 | \$ | 1,310,580 | \$ | 429,547 | \$ 182,244 | \$ 174,540 | \$ 63,450 |
| Subtotal | \$ 63,085,903 | \$ | 58,941,230 | \$ | 63,358,789 | \$ 31,747,914 | \$ 25,491,523 | \$ 34,214,194 |
| Other Countries | \$ 3,899,716 | \$ | 2,654,307 | \$ | 3,645,914 | \$ 838,970 | \$ 281,397 | \$ 129,294 |
| Total Chicken Exports | \$ 66,985,619 | \$ | 61,595,537 | \$ | 67,004,703 | \$ 32,586,884 | \$ 25,772,920 | \$ 34,343,488 |

Source: WISERTrade

The change in lowa chicken exports is illustrated in **Map 14**. The decrease is related to the 2014 avian influenza outbreak in lowa.

Map 14
Change in Iowa Chicken Exports — 2012-2017



-\$32.6 M Overall Decrease in Chicken Exports Since 2012 (-48.7%)

Five Largest Increases

(in millions with % change):

- 1. China: \$1.8 M (+1,245.0%)
- 2. Panama: \$0.4 M (+517.0%)
- 3. Colombia: \$0.4 M (n/a)
- 4. United Arab Emirates: \$0.1 M (+148.9%)
- 5. Dominican Republic: \$0.1 M (n/a)

Source: WISERTrade

Five Largest Decreases

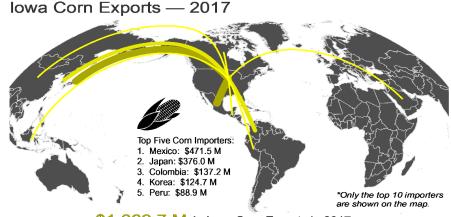
(in millions with % change):

- 1. Japan: \$-11.5 M (-44.8%)
- 2. Korea: \$-8.9 M (-98.3%)
- 3. Canada: \$-7.3 M (-34.9%) 4. Mexico: \$-4.2 M (-62.9%)
- 5. Germany: \$-1.7 M (-100.0%)

Iowa Corn Exports

To provide additional export information, **Map 15** shows 2017 lowa corn exports, with \$1.670 billion exported. This includes \$471.5 million (28.2%) in exports to Mexico and \$376.0 million (22.5%) to Japan.

Map 15

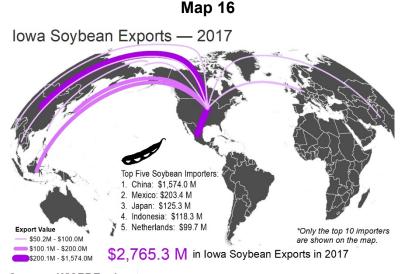


\$1,669.7 M in Iowa Corn Exports in 2017

Source: WISERTrade

Iowa Soybean Exports

To provide additional export information, **Map 16** details 2017 lowa soybean exports, with \$2.765 billion exported. This includes \$1,574.0 million (56.9%) in exports to China and \$203.4 million (7.4%) to Mexico.



Source: WISERTrade

SUMMARY

The data presented in the 2017 Census of Agriculture shows that the number of Iowa farm operating units has decreased for cattle and hog operations over the past 20 years. Cattle farm operating units with inventory decreased by 14,400 (36.2%) from 1997 to 2017. Hog farm operating units with inventory decreased by 17,600 (67.6%) from 1997 to 2017. Poultry farm operating units with inventory increased by 4,400 (110.0%), from 4,000 in 1997 to 8,400 in 2017.

The number of animals raised on farm operating units has increased. Cattle inventories increased from 3,717,000 head in 1997 to 3,951,000 head (6.3%) in 2017. Hog inventories increased from 14,513,000 head in 1997 to 22,732,000 head (56.6%) in 2017. Poultry inventories increased from 31,814,000 birds in 1997 to 78,610,000 (147.1%) in 2017.

The sale of livestock has also increased. Cattle sales increased from 2,937,000 head in 1997 to 3,595,000 head (22.4%) in 2017. Hog sales increased from 27,342,000 head in 1997 to 60,293,000 head (120.5%) in 2017. Poultry sales increased 32,668,000 birds in 1997 to 97,432,000 birds (198.2%) in 2017.

This increase in livestock sales in Iowa has contributed to an increase in market value. Total agriculture products sales increased by 138.1% from 2002 to 2017, and livestock sales contributed to that growth. Iowa's market value from selling cattle increased by 155.1%, hogs by 158.8%, and chickens by 280.9%.

Livestock sales and agricultural products have also contributed to the growth of the Iowa GDP. Agriculture is in the top 10 industries and in 2017 had sales of \$7.569 billion, or 4.1% of Iowa's GDP. Agriculture, forestry, and hunting has decreased from 6.4% of Iowa GDP in 1997 to 4.1% of Iowa GDP in 2017.

lowa agriculture exports also increased from 2002 to 2017, and lowa is second in the country to California in agricultural exports. Although livestock exports have varied over the years, lowa

beef exports for 2017 were at \$359.0 million, pork exports were at \$1.159 billion, and chicken exports were at \$34.3 million.

LSA Staff Contact: Deb Kozel (515.281.6767) deb.kozel@legis.iowa.gov

1048437