

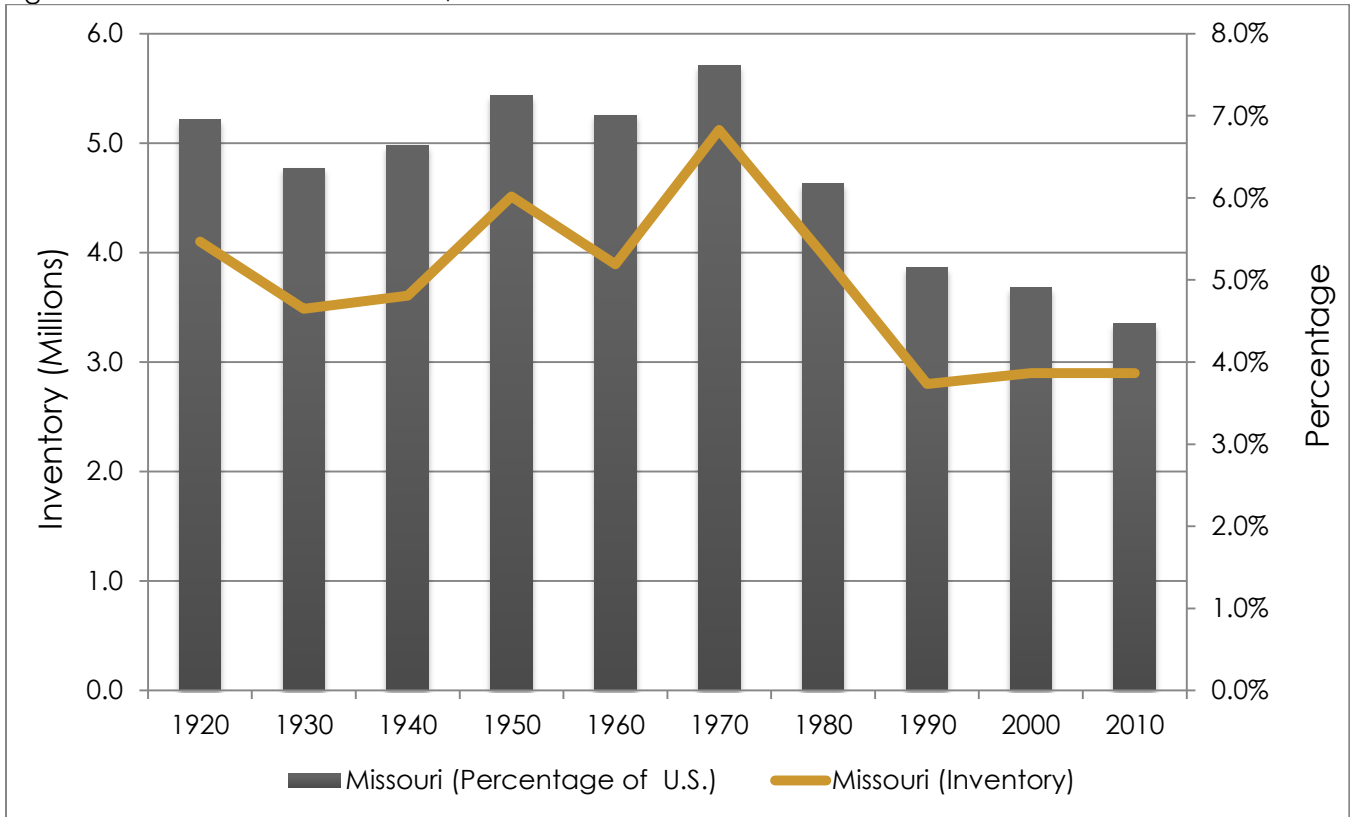
MISSOURI SWINE AUDIT

Swine production has always been and continues to be an important economic activity in the state of Missouri. This profile is intended to provide useful information on the economic importance of the Missouri swine industry as well the impact of global pork production.

REGIONAL TRENDS

Historically, Missouri has produced about 4.5 to 7.6 percent of hogs and pigs in the U.S. In recent decades this percentage has declined as a result of a decline in Missouri hog inventories and production expansions in other regions of the country. Missouri inventoried 2.9 million head of swine in 2010, an increase from 2005 levels by 200,000 head.

Figure 1. Missouri Swine Inventories, 1920-2010

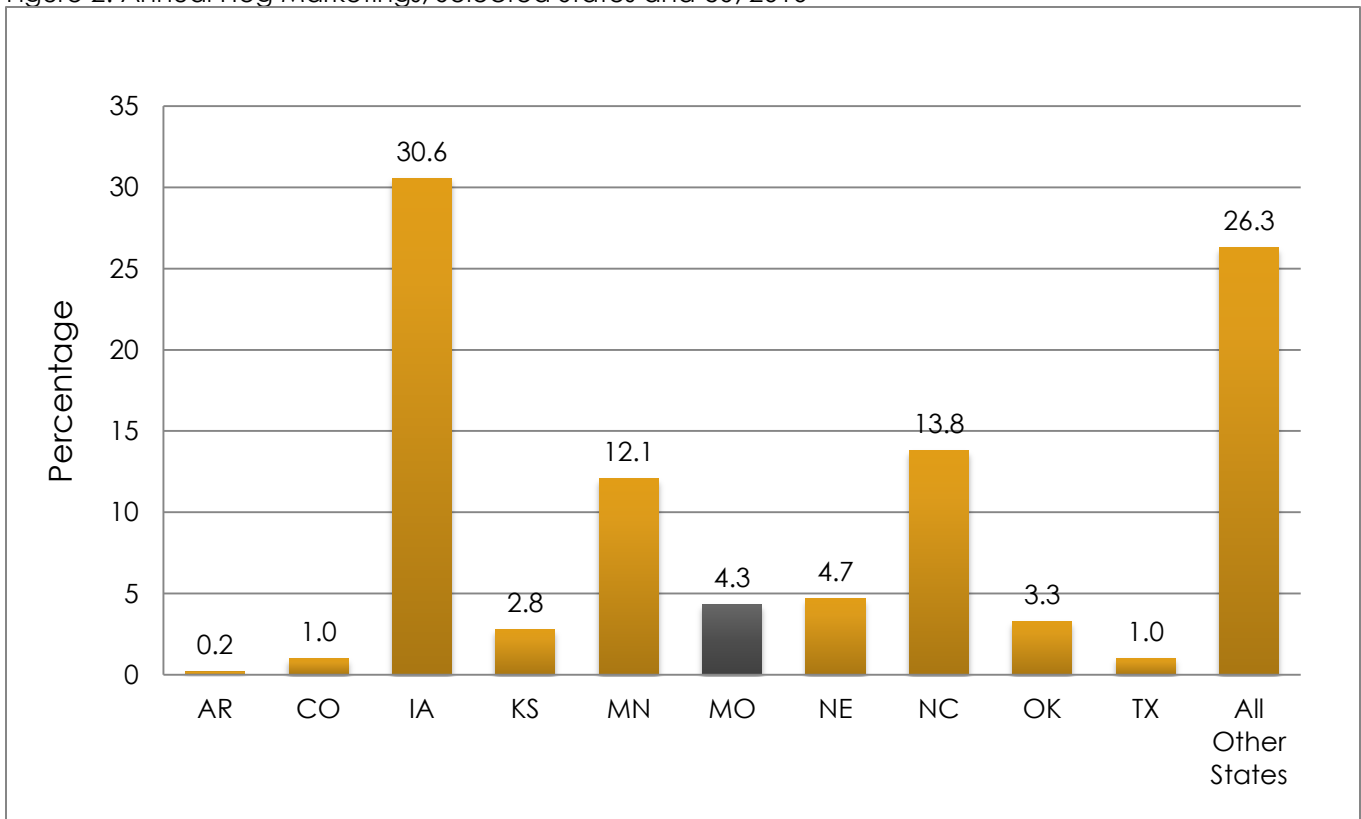


Source: USDA NASS (Quick Stats)

MISSOURI RELATIVE TO REGION AND NATION

In swine production, Missouri ranks seventh in the nation after Iowa, North Carolina, Minnesota, Illinois, Indiana and Nebraska. Annual hog marketings in the surrounding states show much of the same story, with Iowa dominating the markets with 30.6% of the U.S. Market, followed by North Carolina, Minnesota, Nebraska and Missouri (Figure 2).

Figure 2. Annual Hog Marketings, Selected States and US, 2010

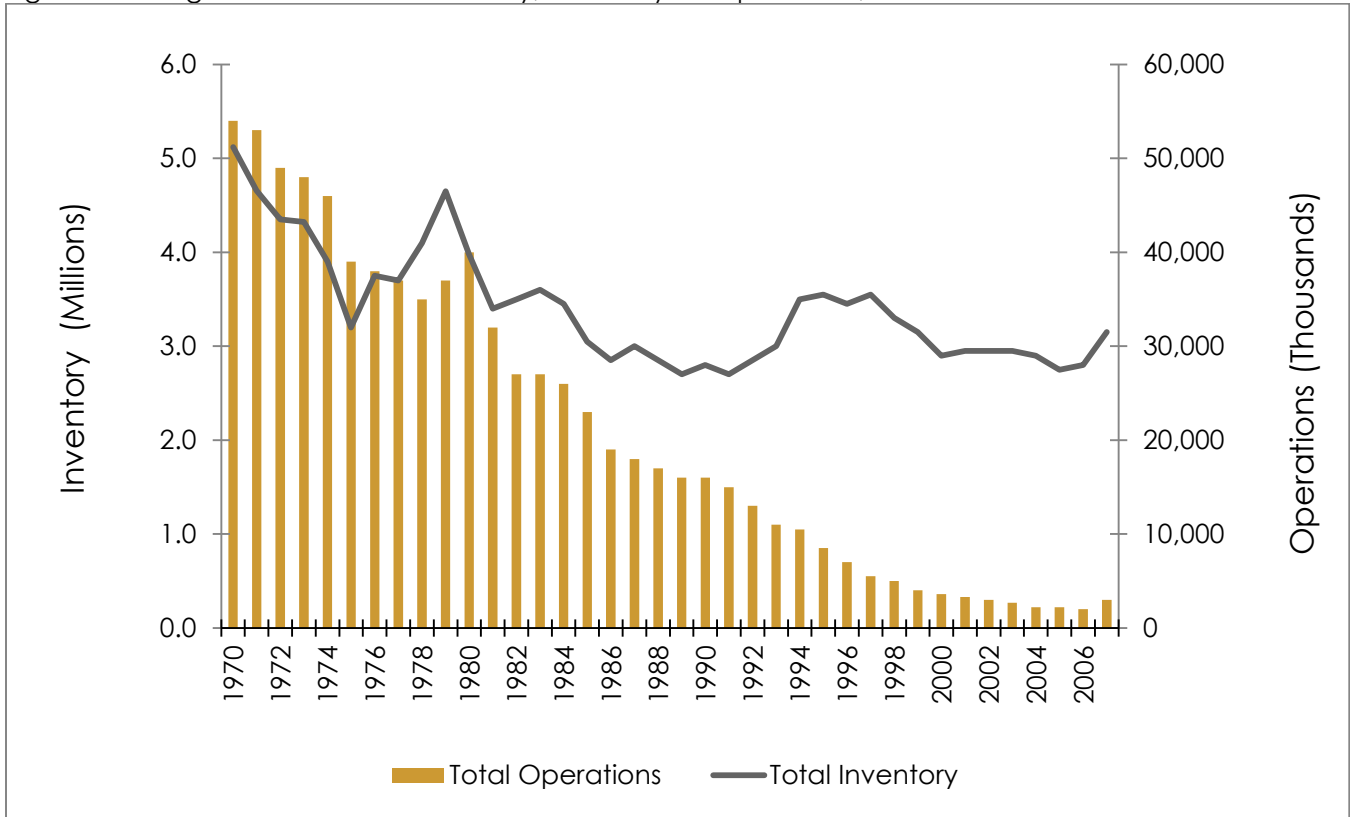


Source: USDA NASS (Quick Stats)

MISSOURI HOG FARMS

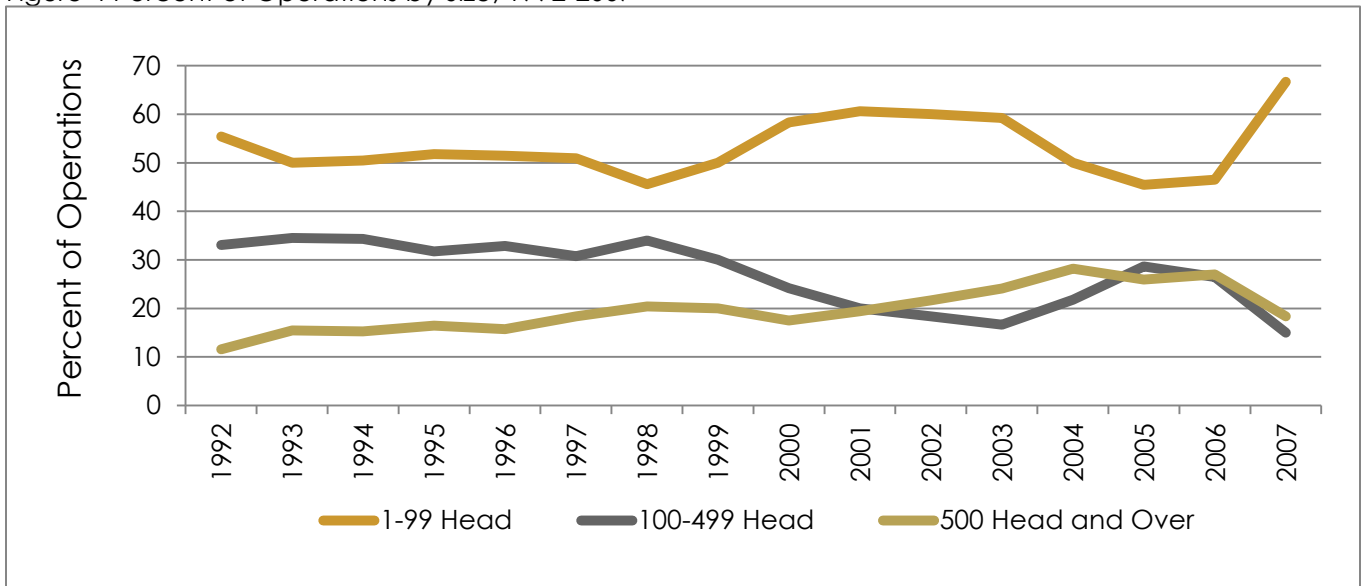
Over the last four decades there has been a declining trend in hog inventory and the number of hog farms in Missouri (Figure 3). Figure 4 illustrates the percent of hog operations by size, and while producers of 1-99 head represented a large percentage (66 %) of the operations in the state, they produced only 1.1 percent of the total inventory (Figure 5). Operations of 100+ head represented approximately 33 percent of operations in the state in 2007.

Figure 3 Changes in Missouri Pork Industry, Inventory vs. Operations, 1970-2000



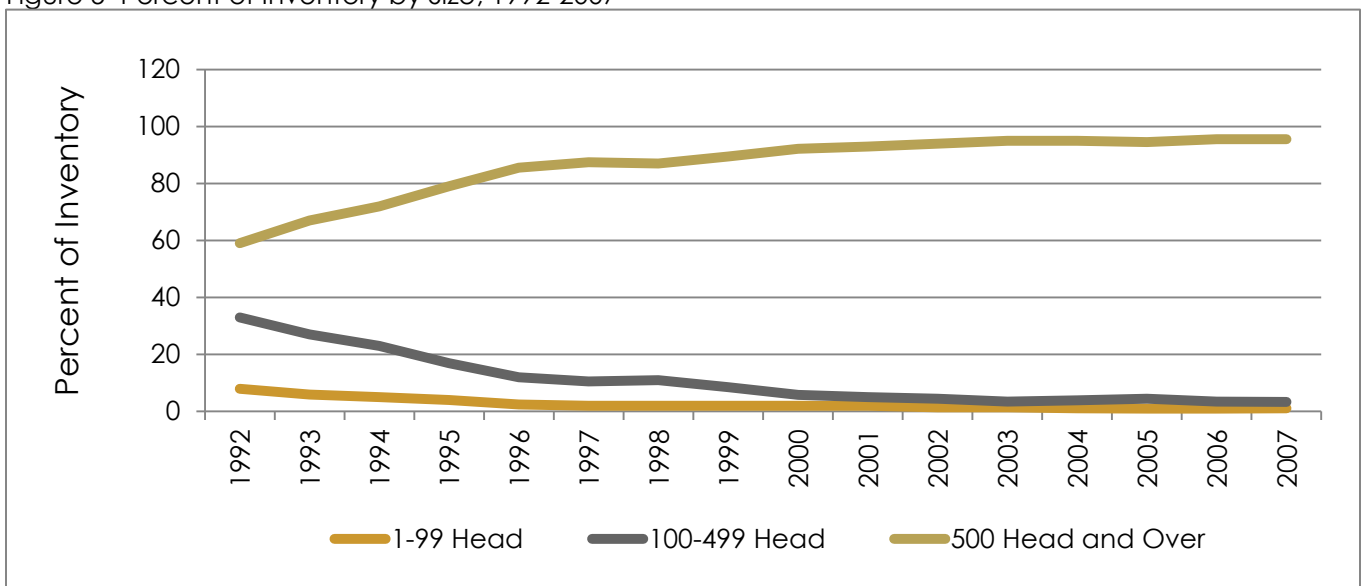
Source: USDA NASS (Quick Stats)

Figure 4 Percent of Operations by Size, 1992-2007



Source: USDA NASS (Quick Stats)

Figure 5 Percent of Inventory by Size, 1992-2007

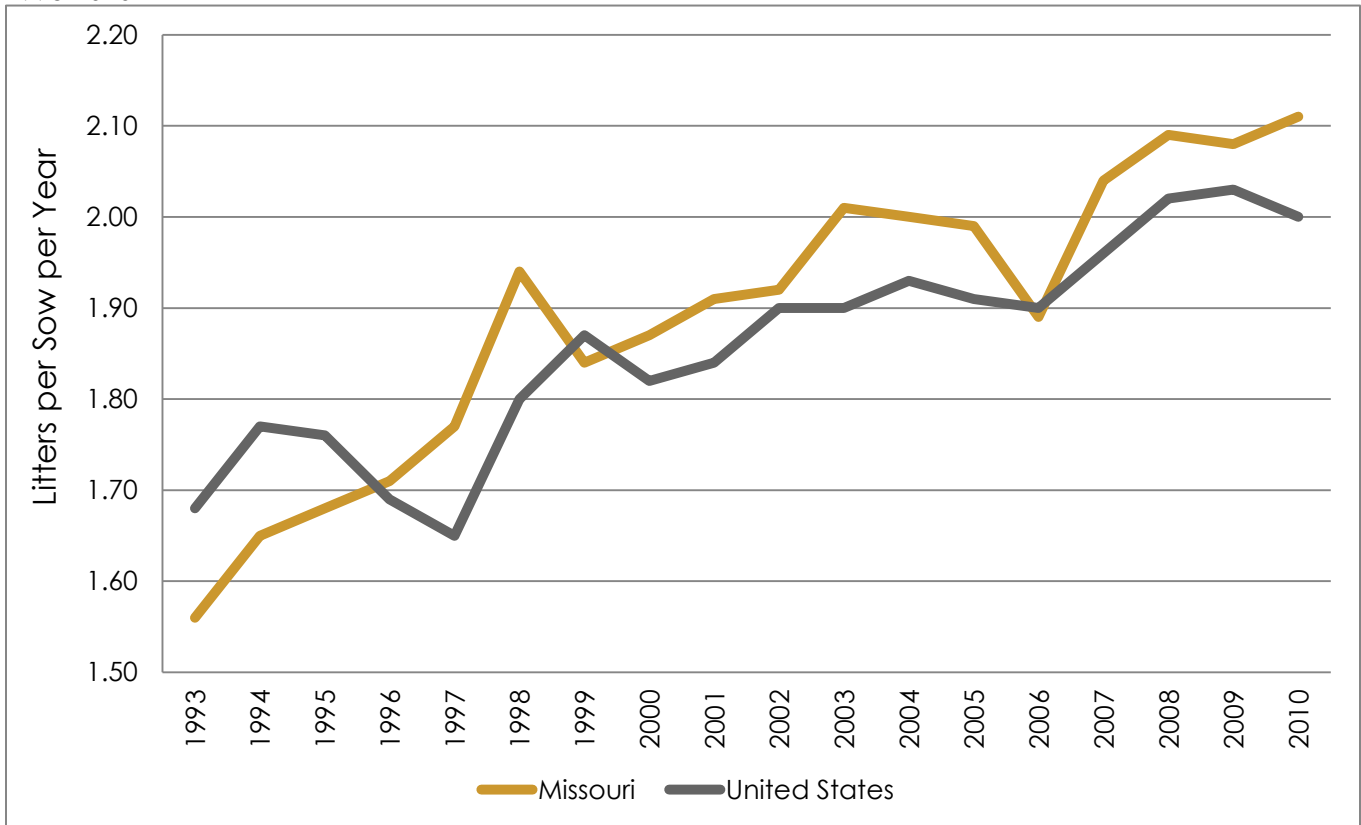


Source: USDA NASS (Quick Stats)

MISSOURI PRODUCTION EFFICIENCY

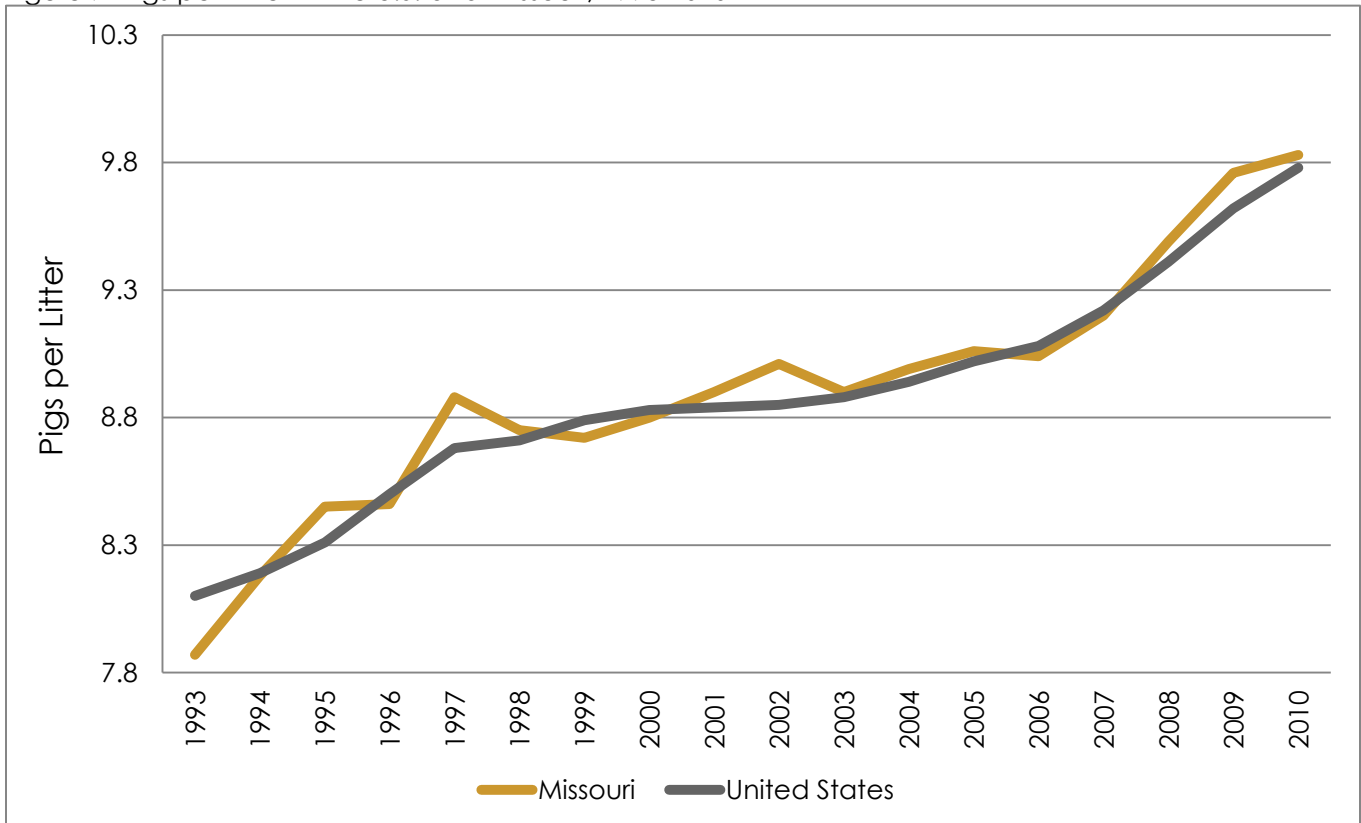
Figure 6 illustrates a steady improvement in litters per sow per year in both the U.S. and Missouri. Currently, Missouri has higher numbers for sows farrowing per average breeding herd inventory in a year than the U.S. This increased production per sow represents more pigs per year produced from each breeding unit (Figure 6).

Similar efficiency gains are observed in pigs per litter. Greater pigs per litter numbers are indicative of improved efficiencies in breeding herds. Both the national and Missouri averages closely mirror each other—in 2010, both averaged approximately 9.8 pigs per litter (Figure 7). Figure 6 Litters per Sow per Year in the U.S. and Missouri, 1993-2010



Source: USDA NASS (Quick Stats)

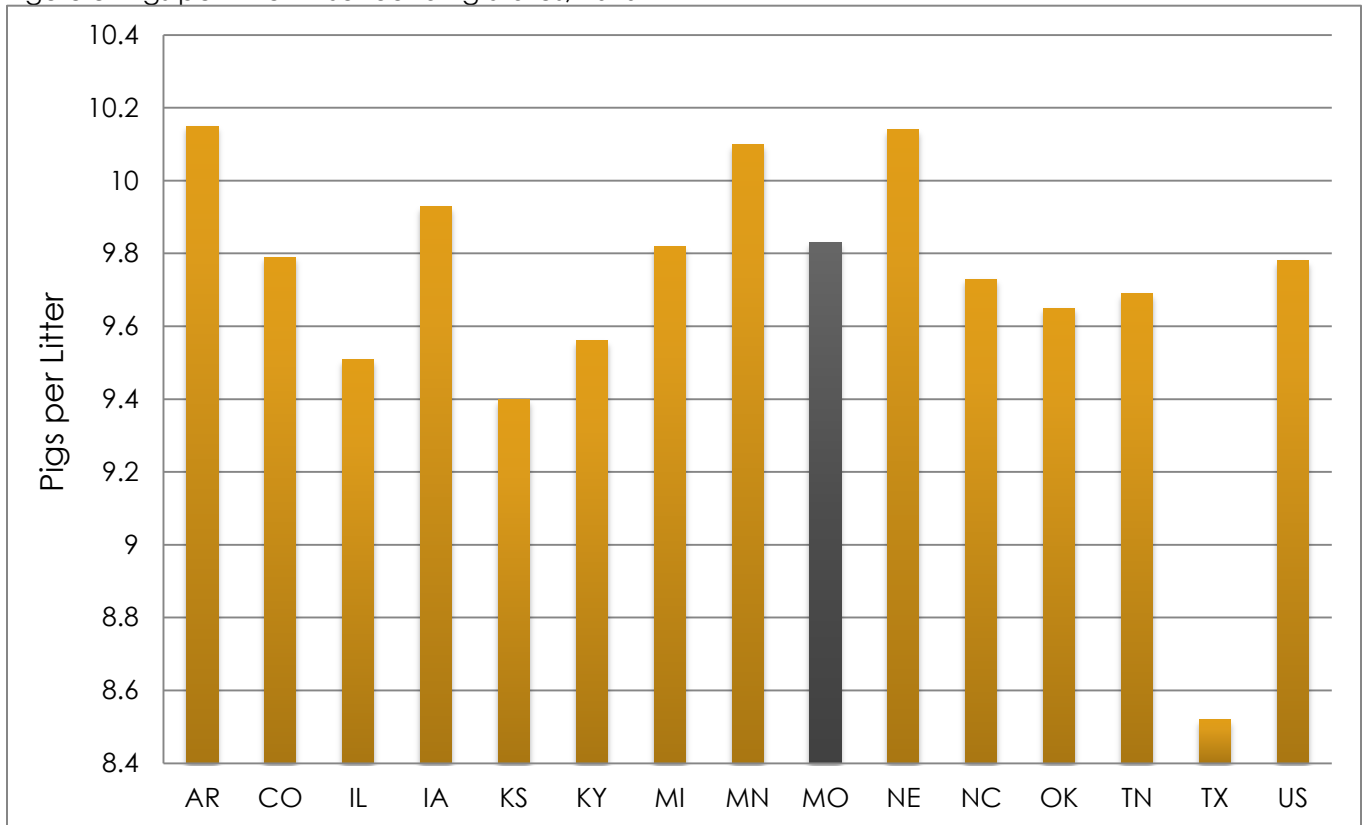
Figure 7 Pigs per Litter in the U.S. and Missouri, 1993-2010



Source: USDA NASS (Quick Stats)

Missouri compares very well to surrounding states' averages for pigs per litter (Figure 8). This places Missouri in a highly competitive position in yearly pig production numbers.

Figure 8 Pigs per Litter in Surrounding States, 2010

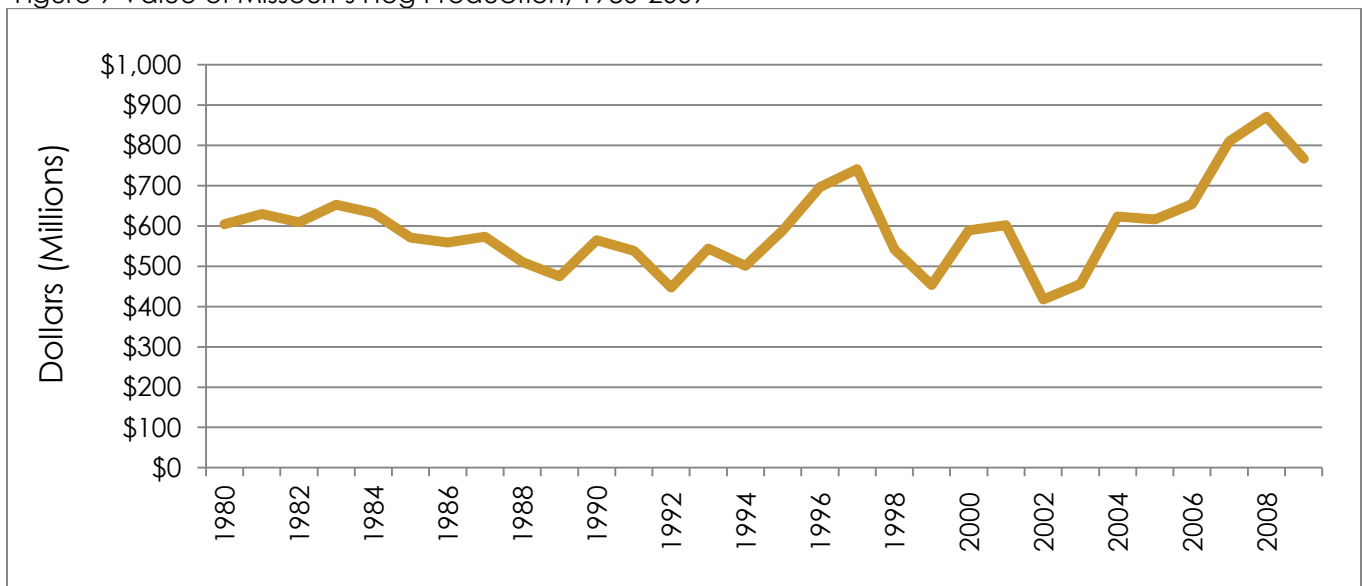


Source: USDA NASS (Quick Stats)

ECONOMIC IMPORTANCE OF MISSOURI'S SWINE INDUSTRY

In 2009, there were over \$766 million worth of hogs and pigs sold in Missouri, which represented 10 percent of all commodities produced and ranked fourth in leading commodities for the state (Figure 9).

Figure 9 Value of Missouri's Hog Production, 1980-2009



Source: USDA ERS

The total combined output effects of hog production in the state are estimated at \$1.1 billion. This impact does not include hog slaughter or processing. Pork production generated approximately 24,000 jobs. Total labor income, which represents wages and benefits, was valued at approximately \$151 million. Total value added, or pork production's contribution to gross domestic product (GDP), was approximately \$554 million. (Table 1)

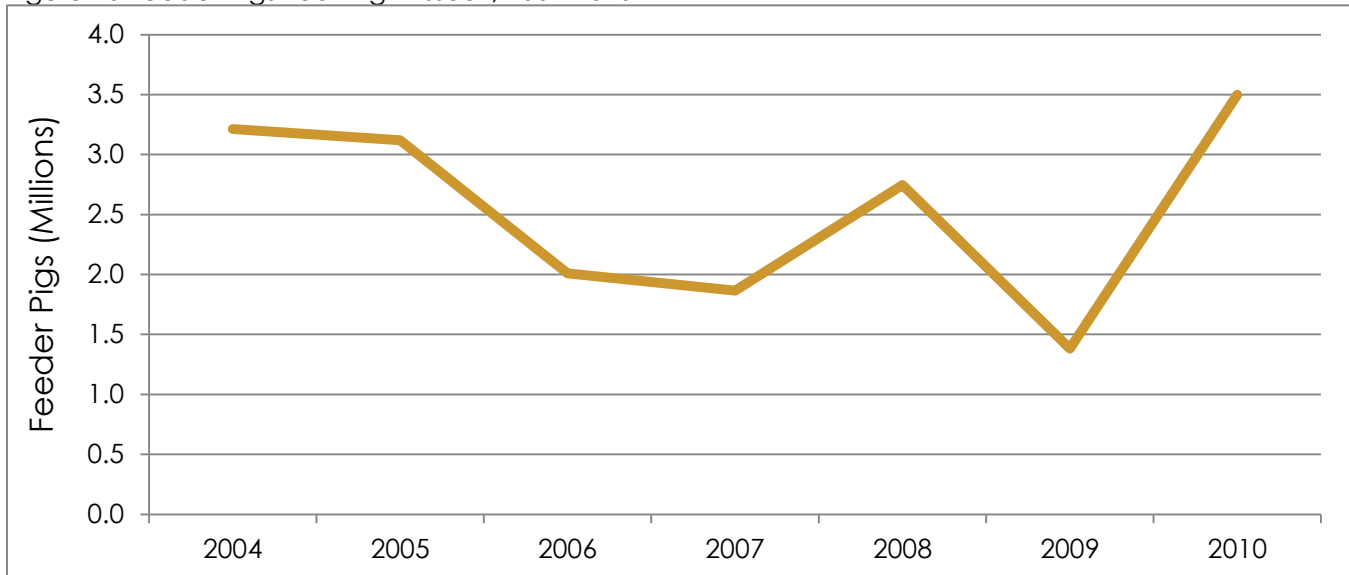
Table 1 Economic Impact of Pork Production in Missouri*

Impact Type	Employment (Jobs)	Labor Income	Total Value Added	Output
Direct Effect	21,381	\$67,592,319	\$391,995,400	\$766,564,009
Indirect Effect	2,024	\$53,038,754	\$105,831,362	\$238,122,168
Induced Effect	799	\$31,179,577	\$56,350,512	\$98,201,412
Total Effect	24,204	\$151,810,651	\$554,177,273	\$1,102,887,589

*The direct effects represent the value of production of hogs within the state. Induced effects represents money spent to purchase inputs for production and other services from allied industries. Induced effects represent the money that continues to circulate throughout the economy as a result of income paid by producers and businesses that are indirectly affected by pork production

A significant number of pigs produced in Missouri are finished in other states throughout the country. These exported pigs represent potential revenue lost to the state as well as to local economies. Figure 10 illustrates the trend in feeder pig exports from the state from 2004 -2007. Feeder pig exports have been declining since 2004, reaching a low of 1.3 pigs exported in 2009. However, exports increased substantially the following year by as much as three times 2009 levels. (Figure 10)

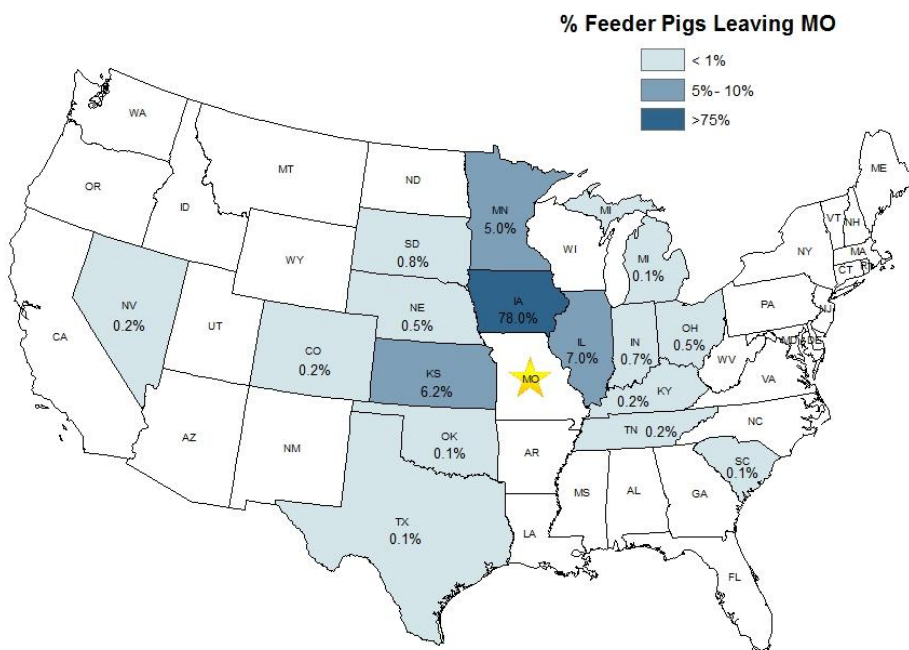
Figure 10 Feeder Pigs Leaving Missouri, 2004-2010



Source: Missouri Agricultural Statistics Service

Currently Iowa, Illinois, Kansas and Minnesota receive approximately 96.5 percent of all feeder pigs raised in Missouri (Figure 11). The swine industries of importing states are impacted positively. The allied industries to swine production in importing state, such as the feed mills and processing plants, see increased business and can subsequently increase the number of jobs that they are able to offer thus economic growth is experienced for those states. Unfortunately, it is a loss to the economy of Missouri.

Figure 11. Map of Feeder Pigs Leaving Missouri, 2010

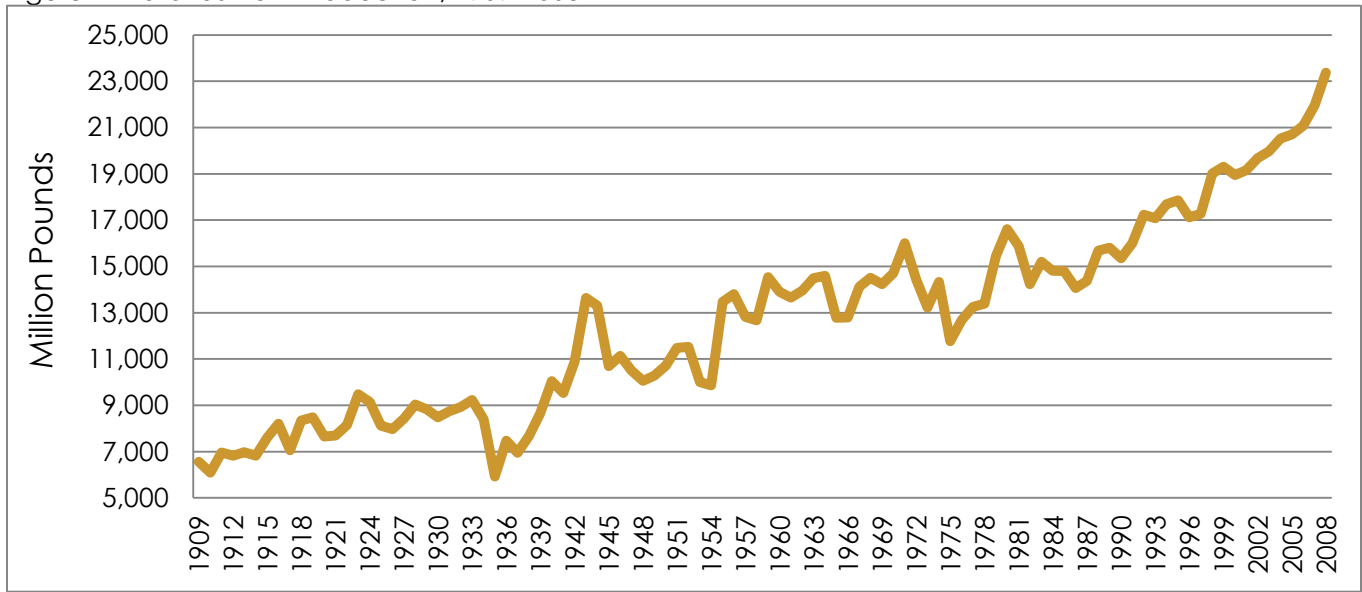


The total number of feeder pigs leaving the state in 2010 was 3.4 million

NATIONAL TRENDS

Total U.S. pork production has increased dramatically since the 1900s (Figure 12). In 2005, pork production passed the 20 billion pound level for the first time. In 2008, the U.S. produced over 23.3 billion pounds of pork (Figure 12). This increase in pork production reflects the adoption of intensive, specialized production systems, increased efficiencies, improved breeding and genetics.

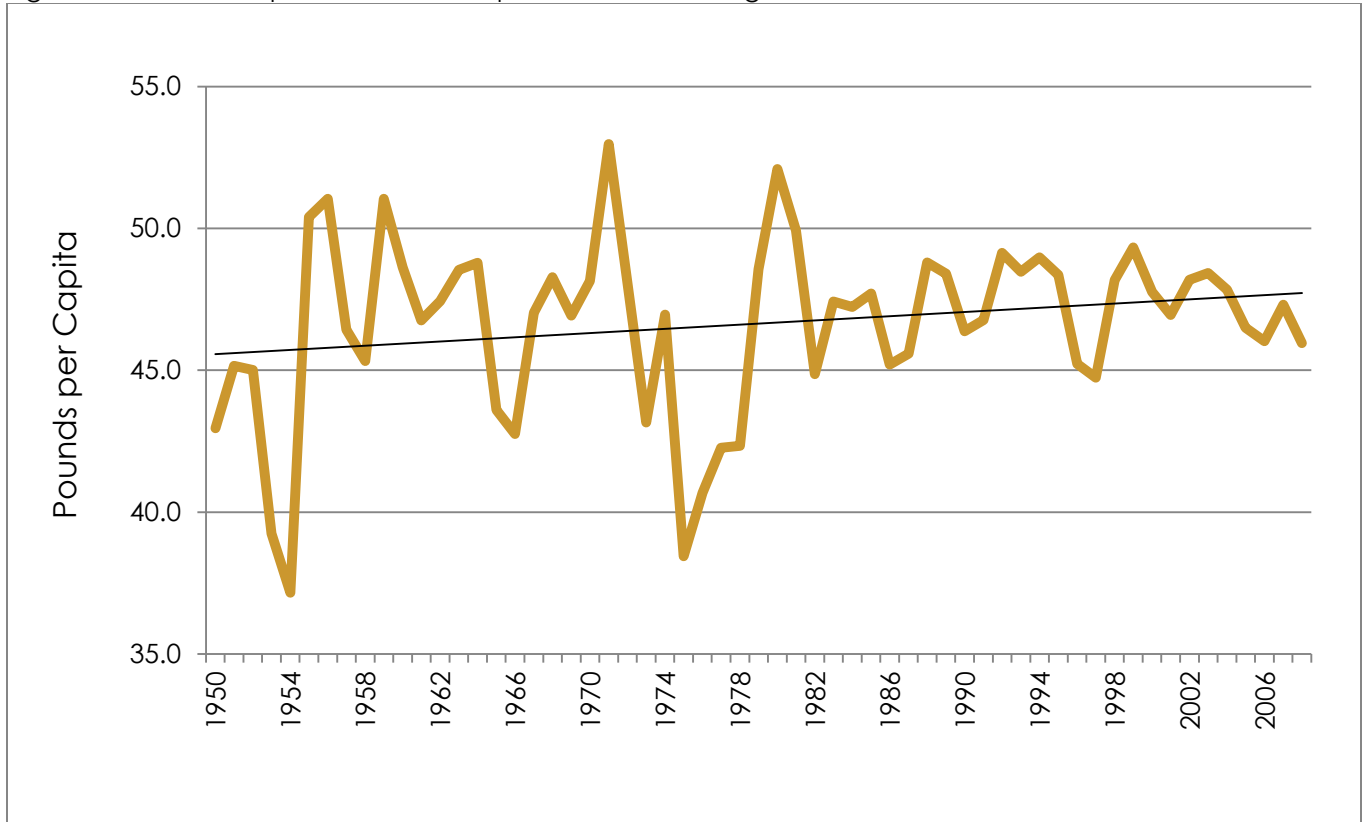
Figure 12 Total US Pork Production, 1909-2008



Source: USDA ERS

Pork consumption has remained relatively steady over the last 40 years. During this period, pork consumption ranged between 45 to 50 pounds of boneless pork per year, and in 2008, the average American consumed almost 46 pounds of boneless pork (Figure 13).

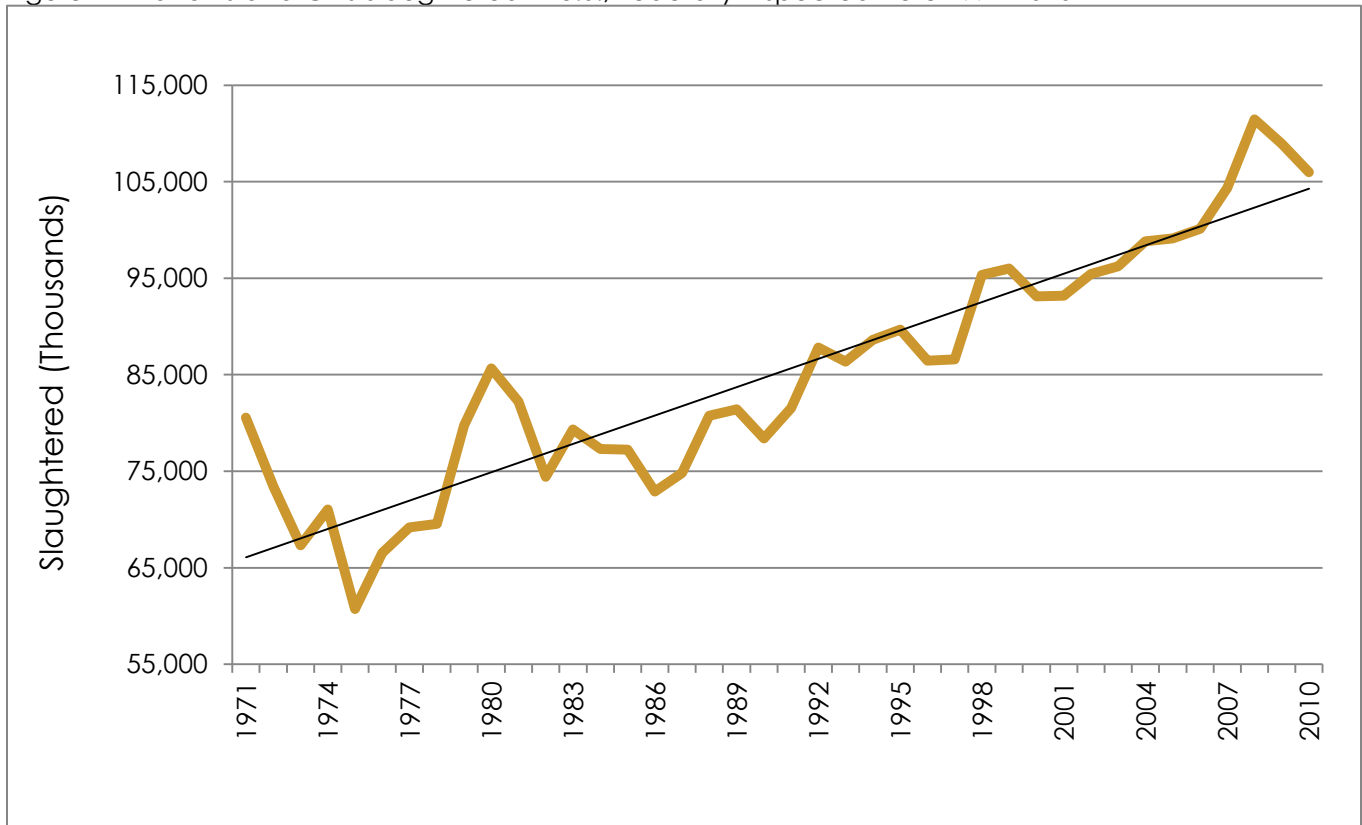
Figure 13 U.S. Per Capita Pork Consumption, Boneless Weight, 1950-2008



Source: USDA ERS

In 2010 approximately 105 million gilts and barrows were slaughtered in federally inspected plants in the U.S (Figure 14).

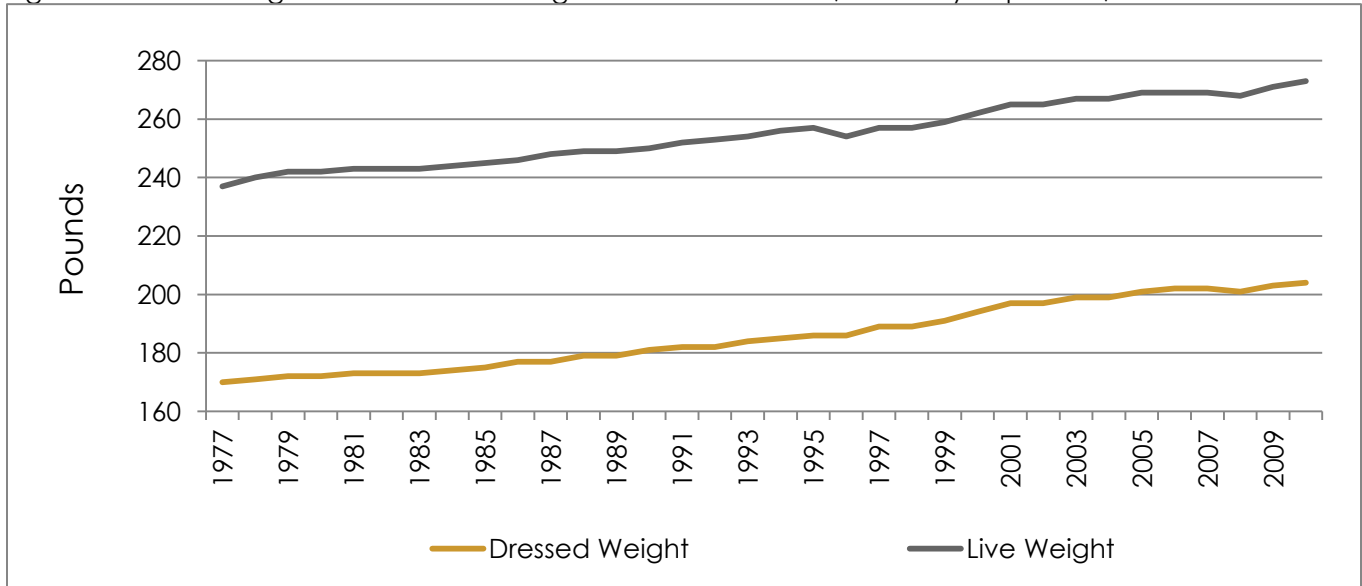
Figure 14 Barrows and Gilts Slaughtered in U.S., Federally Inspected here 1971-2010



Source: USDA NASS (Quick Stats)

The average dressed and live weights of barrows and gilts have gradually trended upwards. The average live weight in 2010 was 273 pounds compared to 245 pounds 25 years ago. This gradual increase is also reflected in dressed weights. In 2010 the average dressed weight was 204 pounds compared to 175 pounds 25 years ago (Figure 15).

Figure 15 U.S. Average Live & Dressed Weights of Barrows & Gilts, Federally Inspected, 1977-2010



Source: USDA NASS (Quick Stats)

GLOBAL PORK PRODUCTION

The U.S. role in global production is very important. The following tables provide information on global pork production, consumption, imports, and exports of the world's leading countries. China currently ranks number one in global pork production and consumption, producing and consuming approximately 51 million metric tons of pork. Following China are the European Union and United states (Table 2).

Table 2 World's Top Pork Producing and Consuming Countries, 2011

Pork Production			Domestic Consumption	
Rank	Top Producers	Production (1,000 MT)	Top Consumers	Consumption (1,000 MT)
1	China	49,500	China	49,810
2	EU-27	22,530	EU-27	20,545

3	United States	10,278	United States	8,526
4	Brazil	3,227	Russia	2,894
5	Russia	1,965	Brazil	2,646
6	Vietnam	1,960	Japan	2,481
7	Canada	1,753	Vietnam	1,990
8	Japan	1,255	Mexico	1,725
9	Philippines	1,260	South Korea	1,470
10	Mexico	1,170	Philippines	1,349
World Total		103,392	World Total	100,849

Source: USDA FAS

The top three importers of pork are Japan, Russia, and Mexico, while the top three exporters of pork are the United States, European Union, and Canada. The U.S. has increased pork exports by approximately 696,000 metric tons from 2007-2011; which is a 49 percent increase in pork exports (Table 3).

Table 3 World's Top Pork Importers and Exporters, 2011

Pork Imports			Pork Exports	
Rank	Top Importers	Imports (1,000 MT)	Top Exporters	Exports (1,000 MT)
1	Japan	1,210	United States	2,246
2	Russia	930	EU-27	2,000
3	Mexico	630	Canada	1,160
4	South Korea	625	Brazil	582
5	United States	379	China	260
6	China	550	Chile	140
7	Hong Kong	360	Mexico	75
8	Canada	195	Australia	42
9	Australia	175	Belarus	20
10	Belarus	130	Ukraine	16
World Total		6,266	World Total	6,574

Source: USDA FAS

REFERENCES

1. USDA NASS Quick Stats. <http://www.nass.usda.gov>
2. Missouri Agricultural Statistics Service. [http://www.nass.usda.gov/Statistics by State/Missouri/index.asp](http://www.nass.usda.gov/Statistics%20by%20State/Missouri/index.asp)
3. USDA Economic Research Service. <http://www.ers.usda.gov/>
4. USDA Census of Agriculture. <http://www.agcensus.usda.gov/>
5. USDA Foreign Agriculture Service. <http://www.fas.usda.gov/>