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Funding for this brief was provided in part by the Tennessee Department of Agriculture



Tennessee Hog Industry Overview*

Tennessee's Hog Industry Highlights

- In 2007, there were an estimated 138,207 hogs and pigs in the state with Weakley County having the largest number at 36,084 followed by Henry (30,824), Lawrence (8,129), Franklin (7,722), Macon (3,446), and Gibson (3,062) Counties.
- From 1970 to 2011, the hog prices received by Tennessee farmers have increased an average of 4.0 percent per year.
- Hog prices received by farmers ranged from a high of \$53.80 per hundredweight (cwt) in 2011 to a low of \$17.30 per cwt in 1972.
- For 2010, Tennessee's hog production ranks 23rd in U.S. agriculture.
- In 2007, the numbers of hogs and pigs sold in Tennessee were 470,213 from 1,160 farms with sales that totaled \$33.8 million.
- According to the Tennessee Department of Agriculture's 2011 annual summary report, cash receipts for hog and pig production for 2010 totaled \$51.0 million.



Background

Between 1970 to 2011, the number of hogs in Tennessee ranged from a high of 1.4 million head in 1979 to a low of 154,000 head in 2011 (Figure 1). For this timeframe, the number of hogs in the state decreased an average of 3.9 percent per year. The largest decrease, at 36.4 percent, occurred during the years 2006-07, followed by the 1988-89 and 1980-81 years when hog numbers decreased 30.0 percent and 21.1 percent, respectively. The largest percentage increase in hog numbers occurred during the years 2007-08 at 46.4 percent, followed by the 1982-83 and 1987-88 years when the numbers of hogs increased 26.7 percent and 22.0 percent, respectively. In 1980, there were 33,000 farms with hogs in the state. The numbers of farms with hogs has steadily declined to 1,500 farms in 2007, an average decline of 10.0 percent per year (Figure 2). The largest decline in farms with hogs occurred between the years 1988-89 (34.6 percent decrease); the largest percent

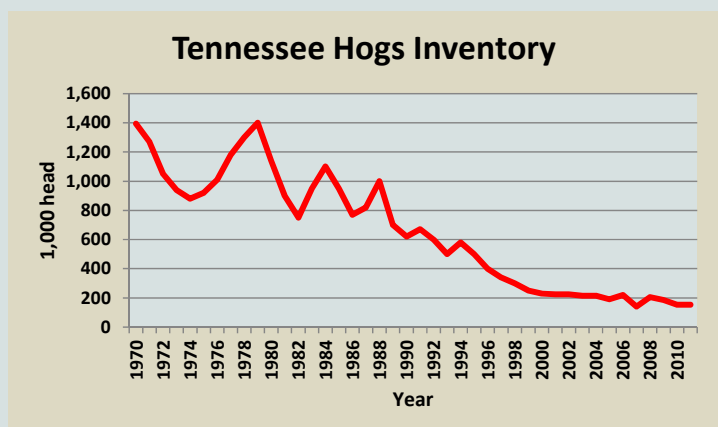


Figure 1. Tennessee Hog Inventory, 1970-2011

Source: USDA/NASS, 2012a

increase occurred between the years 2006-07 (36.4 percent increase). For 2010, Tennessee's hog production ranks 23rd in U.S. agriculture (USDA/NASS, 2012a and 2012b).

Hog prices are an important determinant influencing farmers' decisions whether to raise hogs. Prior to the decline in hog numbers for the years mentioned in the previous paragraph, hog prices increased from \$32.10 per hundredweight (cwt) in 2003 to \$47.30 per cwt in 2005, from \$43.20 per cwt in 1986 to \$50.40 per cwt in 1988, and from \$38.90 per cwt in 1978 to \$46.70 per cwt in 1979 (Figure 3). Hog prices received by farmers ranged from a high of \$53.80 per cwt in 2011 to a low of \$17.30 per cwt in 1972.

From 1970 to 2011, the hog prices received by Tennessee farmers have increased an average of 4.0 percent per year. Tennessee's hog to corn price ratio is one indicator that can be used in determining the profitability of raising hogs (Figure 4). The higher the ratio value it is more profitable to feed corn to hogs relative to selling corn as a commodity. History has revealed that with a hog to corn price ratio of 20 or greater there is a good chance that pork production will exceed previous year levels 12 to 18 months later. The converse is true if the ratio is 16 or less (National Pork Board, 2012a). The largest ratio value occurred in the years 1986-87; the lowest occurred in the years 2010-11 (USDA/NASS, 2012a).

Tennessee Number of Farms with Hogs

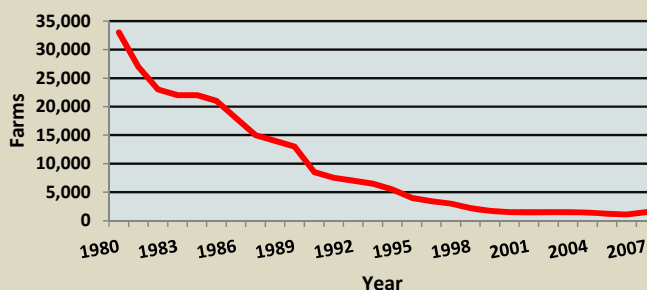


Figure 2. Tennessee Farms with Hogs, 1980-2007

Source: USDA/NASS, 2012a

Tennessee Hogs Prices Received by Farmers

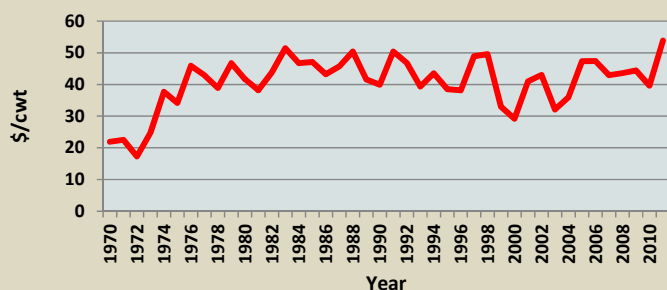


Figure 3. Tennessee Hog Prices Received by Farmers, 1970-2011

Source: USDA/NASS, 2012a

Tennessee Hog to Corn Price Ratio

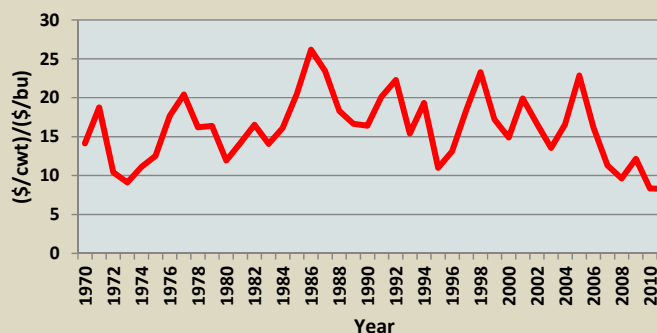


Figure 4. Tennessee Hog to Corn Price Ratio, 1970-2011

Source: USDA/NASS, 2012a

Based on data from the most recent Census of Agriculture (2007), Figures 5 through 9 represent the numbers of hog and pig farms, hogs and pigs, and hogs and pigs per farm at the county level. In 2002, there were 1,491 hog and pig farms in the state. For this timeframe, the counties with the largest numbers were Weakley with 52 farms, followed by Lawrence (47), Rutherford (38), Williamson (36), and Overton (36). In 2007, of the 1,566 farms with hogs and pigs, Lawrence County had the greatest numbers at 82, followed by Cumberland (46), Hawkins (45), Greene (45), and Knox (43) Counties. There were an estimated 230,532 hogs and pigs in the state in 2002. The top counties having the largest numbers of hogs and pigs were Henry at 59,183, followed by Weakley (51,302), Gibson (15,898), Fayette (11,378), and Franklin (9,310). Similarly, in 2007, there were an estimated 138,207 hogs and pigs in the state. Weakley County had the largest numbers at 36,084, followed by Henry (30,824), Lawrence (8,219), Franklin (7,722), Macon (3,446), and Gibson (3,062) Counties. In 2007, the top counties having the largest number of hogs and pigs per farm

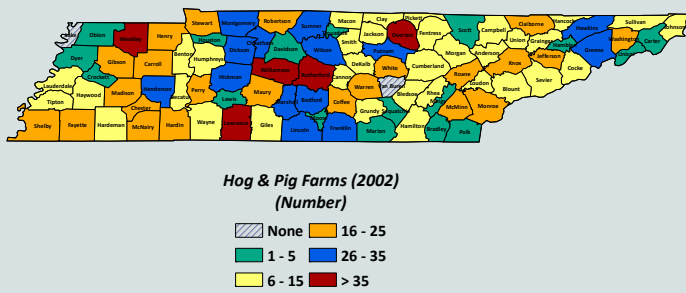


Figure 5. Hog & Pig Farms in Tennessee by County, 2002
Source: USDA/NASS, 2007

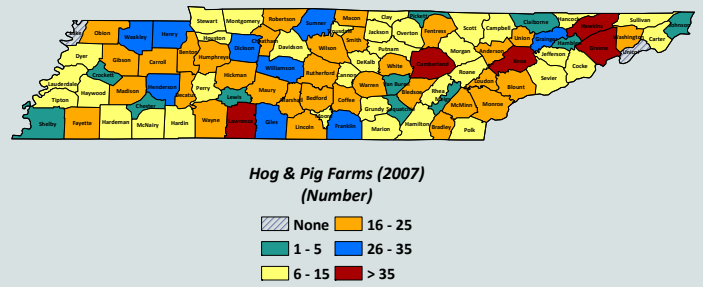


Figure 6. Hog & Pig Farms in Tennessee by County, 2007
Source: USDA/NASS, 2007

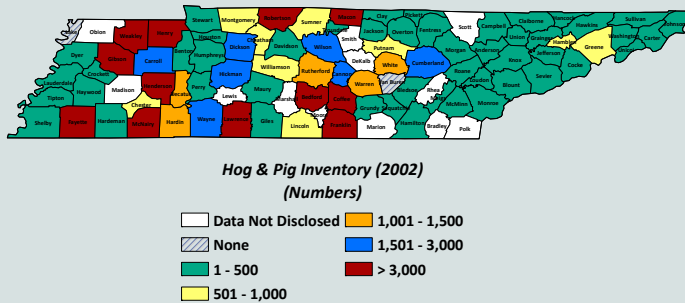


Figure 7. Number of Hogs & Pigs in Tennessee by County, 2002
Source: USDA/NASS, 2007

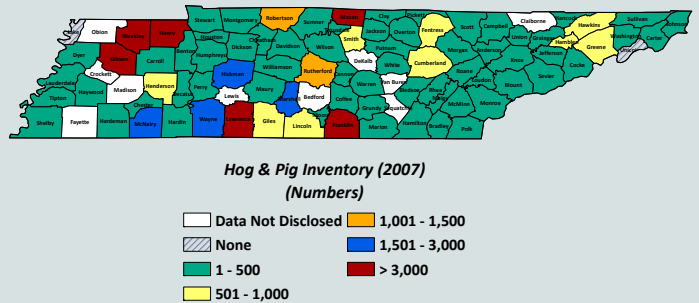


Figure 8. Number of Hogs & Pigs in Tennessee by County, 2007
Source: USDA/NASS, 2007

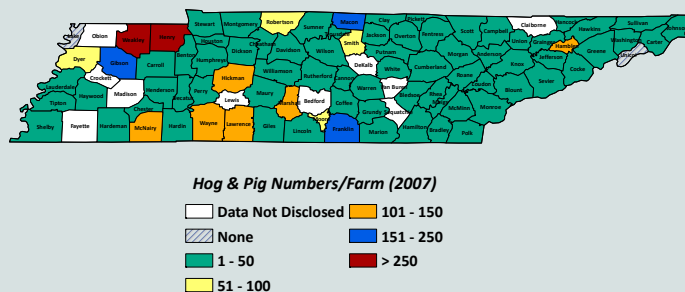


Figure 9. Number of Hogs & Pigs Per Farm in Tennessee by County, 2007
Source: USDA/NASS, 2007

Tennessee Hog & Pig Operation Types

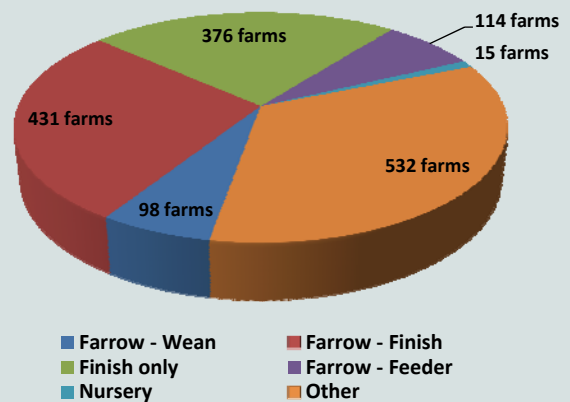


Figure 10. Types of Hog & Pig Operations in Tennessee, 2007

Source: USDA/NASS, 2007

were Henry and Weakley at 1,063 and 1,061, respectively. According to the Census, in 2007, there were 431 farrow finish hog operations in Tennessee totaling 50,234 head, 376 finish only operations totaling 45,702 head, 114 farrow to feeder operations totaling 2,968 head, 98 farrow to wean operations totaling 7,924 head, and 15 nursery operations totaling 21,621 head (Figure 10). For the category “other” there were 532 farms totaling 9,758 head (USDA/NASS, 2007).

Economics

In 2007, the numbers of hogs and pigs sold in Tennessee were 470,213 from 1,160 farms with sales that totaled \$33.8 million (Figures 11 through 13). The counties having the largest numbers of hogs and pigs sold are Weakley

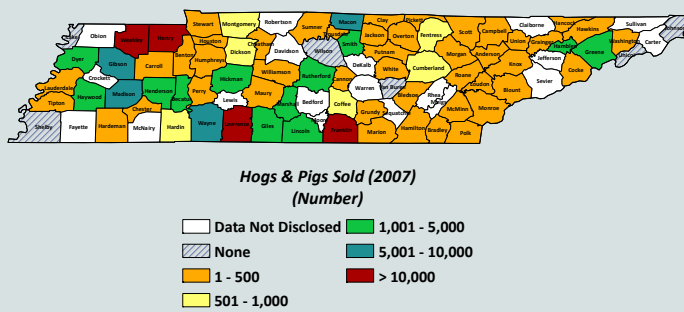


Figure 11. Number of Hogs & Pigs Sold in Tennessee by County, 2007

Source: USDA/NASS, 2007

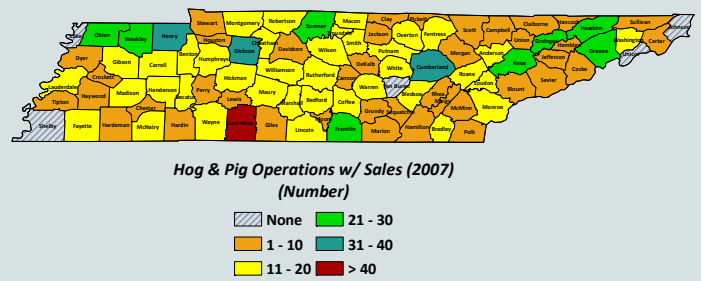


Figure 12. Hog & Pig Operations with Sales in Tennessee by County, 2007

Source: USDA/NASS, 2007

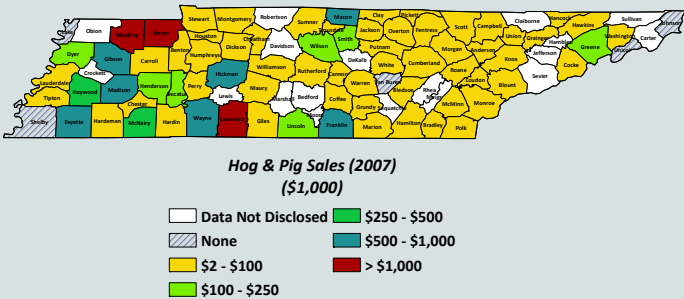


Figure 13. Hog & Pig Sales in Tennessee by County, 2007

Source: USDA/NASS, 2007

(161,072), Henry (111,237), Lawrence (31,101), and Franklin (11,818). Counties having the largest hog and pig operations with sales included Lawrence County at 57 operations, followed by Cumberland (35), Dickson (32), and Henry (31). In 2007, both Weakley and Henry Counties had sales approaching close to \$10.0 million. The next county having the highest sales value was Lawrence at \$2.4 million (USDA/NASS, 2007). When hogs/pigs are sold, producers can contribute to USDA's pork check off program to help

promote and conduct research that strengthens the pork industry in the marketplace and maintain, develop, and expand markets for pork and pork products. Currently, the check off rate is \$0.40 per \$100 of sales (National Pork Board, 2012b).

Niche Marketing of Hogs in Tennessee

Since the late 1990's, U.S. hog producers began developing alternative marketing strategies that would retain the retail dollar on the farm so they could remain in the hog business. These alternative marketing strategies were aimed at identifying consumers' preferences, special needs, or wants for differentiated or "niche" marketed pork products (organic, pasture-raised, antibiotic free, etc.). If a Tennessee hog producer chooses to market these types of pork products (whole carcasses or fresh sausage, chops, and/or burgers, for example), a targeted consumer needs to be identified along with corresponding specific marketing tactics. It is essential that hog producers identify risks associated with this type of pork production practice and plan accordingly (Conatser and Holland, 2004). Should Tennessee hog producers desire to increase direct and local sales of pork products, the locations of hog slaughtering/processing facilities contacted via a telephone survey in May of 2012 in the state are revealed in Figure 14 and listed in Table 1. In addition to slaughtering pork products for resale, some the facilities shown on the map may also slaughter for personal use (custom). Of the original 31 facilities that offer USDA slaughter/processing services (all meat types), 19 responded to the survey (5 no longer slaughtered any animals; 7 could not be contacted). Of the 19 responding, 15 of the facilities slaughtered hogs. Comparing Figures 8 and 14, it appears that USDA hog slaughtering/processing facilities in the state are strategically located in or near counties that have the greatest number of hogs. Potential market outlets for pork products sold include specialty food stores and farmers' markets. In 2009, there were approximately 258 specialized food stores in the state (Figure 15), a decline of 13.4 percent from 2007 numbers. In 2011, there were approximately 89 farmers' markets in the state (Figure 16), an increase of 37.0 percent from 2009 levels. Comparing Figure 8 with

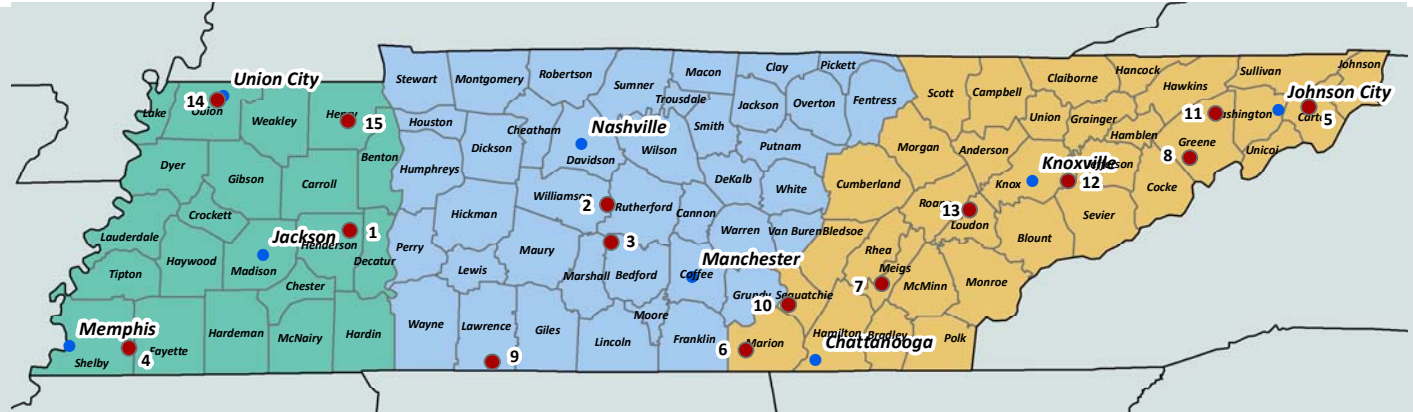


Figure 14. Location of USDA Inspected Hog Slaughtering Facilities in Tennessee, 2012

Source: USDA/FSIS, 2012

Table 1. Tennessee’s USDA Inspected Hog Slaughtering Facilities Contacted, 2012

Facility ID	Company/Address	County	USDA Inspected	Custom
1	412 Meat Processing Inc. 19690 Highway 412 E. Lexington, TN 38351 (West)	Henderson	Yes	Yes
2	C & F Meats 5247 Murfreesboro Road College Grove, TN 37046 (Middle)	Williamson	Yes	Yes
3	Cattleman’s Custom Processing 2830 Ezell Road Chapel Hill, TN 37034 (Middle)	Marshall	Yes	Yes
4	Fayette Packing Co., Inc. 16620 Highway 196 Eads, TN 38028 (West)	Fayette	Yes	Yes
5	H & H Meats 106 Nave Hollow Loop Elizabethton, TN 37643 (East)	Carter	Yes	Yes
6	H & P Meats 2421 Highway 156 South Pittsburgh, TN 37380 (East)	Marion	Yes	No
7	Hampton Meat Processing 216 Breeden Drive Decatur, TN 37322 (East)	Meigs	Yes	Yes
8	Harris Country Meats 480 Twin Barnes Road Greenville, TN 37743 (East)	Greene	Yes	Yes
9	J.C. Peters & Sons 953 Lexington Highway Loretto, TN 38469 (Middle)	Lawrence	Yes	Yes
10	R & D Custom Slaughtering 27015 US 127 Dunlap, TN 37327 (East)	Sequatchie	Yes	Yes
11	Snapps Ferry Packing Co. 5900 East Andrew Johnson Hwy. Afton, TN 37616 (East)	Greene	Yes	Yes

Table 1 (Cont.). Tennessee's USDA Inspected Hog Slaughtering Facilities Contacted, 2012

Facility ID	Company/Address	County	USDA Inspected	Custom
12	Swaggerty Sausage Co., Inc. 2827 Swaggerty Road Kodak, TN 37764 (East)	Sevier	Yes	No
13	Wamplers Farm Sausage 781 Highway 70 W Lenoir City, TN 37771 (East)	Loudon	Yes	No
14	Williams Sausage Co., Inc. 5132 Old Troy Hickman Rd. Union City, TN 38261 (West)	Obion	Yes	No
15	Yoder Brothers Meat Processing 1650 Briarpatch Rd. Paris, TN 38242 (West)	Henry	Yes	Yes

Source: USDA/FSIS, 2012

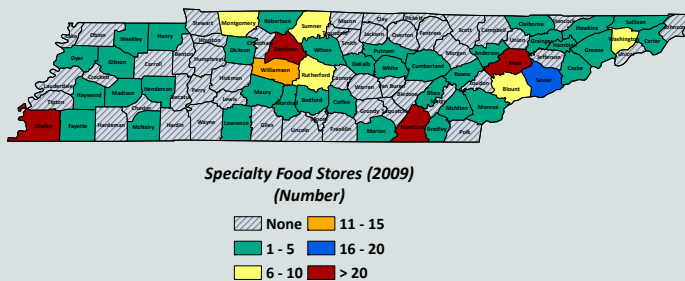


Figure 15. Location of Specialized Food Stores in Tennessee by County, 2012

Source: USDA/ERS, 2012

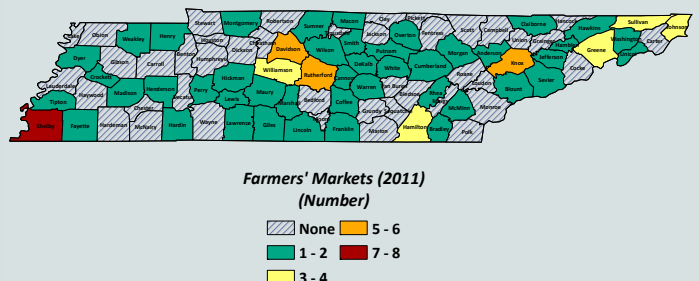


Figure 16. Location of Farmers' Markets in Tennessee by County, 2012

Source: USDA/ERS, 2012

Figures 15 and 16, it appears that Davidson, Rutherford, and Williamson Counties in middle Tennessee have a greater number of both specialty food stores and farmers' markets near counties having large hog numbers.

Economic Impacts

According to the Tennessee Department of Agriculture's 2011 annual summary report, cash receipts for hog and pig production for 2010 totaled \$51.0 million (USDA/NASS, 2012b). For 2010, the estimated direct and total economic impacts for hog and pig cash receipts are presented in Table 2. From the estimated level of direct expenditure of \$51.0 million, an estimated 3,360 jobs were financed. Total value added and indirect business taxes direct expenditures were estimated at close to \$25.0 million and \$1.4 million, respectively. Total impacts were estimated at \$77.5 million in total industry output from hog and pig cash receipts. Estimated total number of jobs was 3,642 with total value added estimated at \$39.4 million. Indirect business taxes from hog and pig cash related expenditures were estimated at \$2.5 million.

For the economic indicator total industry output the estimated multiplier is 1.52. In other words, for every dollar from hog and pig related expenditures, an additional \$0.52 in economic activity is generated throughout the state's economy. The employment multiplier is 1.08. Thus, for every job created based on hog and pig related expenditures, an additional 0.08 jobs are created in other industries throughout the state. The top five industries impacted for total industry output were real estate establishments, banking, wholesale trade businesses, imputed rental activity for owner-occupied dwellings, and other animal food manufacturing. Likewise, the top five industries impacted for employ-

Table 2. Estimated Economic Impacts from Hog and Pig Cash Receipts in Tennessee, 2010

Economic Indicators	Direct ^a	Indirect ^a	Induced ^a	Total ^a
Total Industrial Output ^b	\$51,045,000	\$15,747,771	\$10,688,613	\$77,481,384
Total Value Added ^c	\$24,919,424	\$7,946,881	\$6,546,746	\$39,413,051
Indirect Business Taxes ^d	\$1,379,400	\$568,626	\$594,900	\$2,542,926
Employment ^e	3,359.3	192.7	90.4	3,642.4

^aSee “Expenditure effects on Economy” section for further information

^bTotal Industrial Output — annual dollar value of goods and services that an industry produces

^cTotal value Added — estimated employee compensation, proprietary income, other income, and indirect business taxes

^dIndirect Business Taxes — consists of excise taxes, property taxes, fees, licenses, and sales taxes paid by businesses

^eEmployment — estimated number of total wage and salary employees (both full- and part-time), as well as self-employed

ment were support activities for agriculture and forestry, real estate establishments, food services and drinking places, cattle ranching and farming, and all other crop farming.



References

Conatser, G.E., and R.W. Holland. 2004. “Pork Industry Handbook-Developing a Niche Market for Pork.” Purdue Extension. Available at <http://www.extension.purdue.edu/extmedia/AS/11-04-04.pdf> .

Minnesota IMPLAN Group, Inc. IMPLAN System (2010 data and software), 502 2nd Street, Suite 301, Hudson, WI 54016. Available at <http://www.implan.com>.

National Pork Board, Pork Checkoff. 2012a. “Quick Facts--The Pork Industry at a Glance.” Available at <http://viewer.zmags.com/publication/5bb6aa6d#/5bb6aa6d/122>.

National Pork Board, Pork Checkoff. 2012b. “Pork Promotion, Research, And Consumer Information Act of 1985.” Available at <http://www.pork.org/AboutUs/default.aspx>.

United States Department of Agriculture, Economic Research Service (USDA/ERS). 2012. Food Environment Atlas. Available at <http://www.ers.usda.gov/data-products/food-environment-atlas/download-the-data.aspx>.

Expenditure Effects on Economy

Expenditures by Tennessee hog producers for goods and services, land, labor, capital equipment, and other materials enhance the local economy and local tax base. Economic benefits generated in an economic region from these activities can be measured in terms of number of jobs created and the amount of personal income accruing to residents. These impact measures can be further broken down in *direct*, *indirect*, and *induced* (or *ripple*) effects.

Total economic impacts attributable to increased business activity are computed as the sum of the direct, indirect, and induced effects. *Direct* effects are those attributable specifically to the new expenditures in a region (hog producers). *Indirect* effects arise from businesses’ expenditures on raw materials, supplies, and other operating expenses, which help to support jobs in other local businesses. *Induced*, or ripple effects, are created as the new income generated by the direct and indirect effects is spent and re-spent within the local economy. These impacts are measured for total industry output, employment, total value added, and indirect business taxes.

United States Department of Agriculture, Food Safety and Inspection Service (USDA/FSIS). 2012. Regulations & Policies, Meat, Poultry, & Egg Product Inspection Directory. Available at http://www.fsis.usda.gov/regulations/Meat_Poultry_Egg_Inspection_Directory/index.asp.

United States Department of Agriculture, National Agricultural Statistical Service (USDA/NASS). 2007. "Tennessee State and County Reports." 2007 Census Publications. Available at http://www.agcensus.usda.gov/Publications/2007/Full_Report/Census_by_State/Tennessee/.

United States Department of Agriculture, National Agricultural Statistical Service (USDA/NASS). 2012a. Data and Statistics. U.S. and State Data. Available at http://www.nass.usda.gov/Data_and_Statistics/Quick_Stats_1.0/index.asp#top.

United States Department of Agriculture, National Agricultural Statistical Service (USDA/NASS). 2012b. "State Statistical Summary Annual Report." Annual Statistical Bulletin. Available at http://www.nass.usda.gov/Statistics_by_State/Tennessee/Publications/Annual_Statistical_Bulletin/index.asp.



**The purpose of the hog industry brief for Tennessee is to provide a broad summary from available data so interested stakeholders may gain a better understanding of the magnitude and changes in the hog industry over time, along with providing educational materials and information that may assist in identifying additional marketing research needs.*