

Production agriculture produces \$485 million in value-added in Iowa and \$400 million in North Carolina. This means that for each employed individual nearly \$30,000 in value-added is generated

## Establishing A New Industry Provides Economic Benefits to Rural Economies

A \$120 million investment into an additional processing plant and the production of \$47 million in hogs required for the processing needs of the plant resulted in an annual increase to the economy of \$68 to \$89 million from increased hog production and \$243 to \$300 in economic activity from increasing the hog processing capability in the economy.

Estimated Total Economic Impacts for Hogs, Pigs, & Swine and Meat Packing Plants by Region

	TIO*	Jobs	VA**
<b>Hog and Pig Processing Region:</b>			
Iowa	87.91	877	31.50
N. Carolina	89.43	1,008	38.49
Tennessee	81.82	1,711	20.98
Study Area <sup>1</sup>	68.05	631	12.16
<b>Meat Packing Region:</b>			
Iowa	269.84	2,070	81.34
N. Carolina	301.80	2,446	101.38
Tennessee	243.65	2,166	71.20
Study Area <sup>1</sup>	243.46	1,685	52.87

\*TIO = Total Industry Output (million \$)

\*\*VA = Value-Added (million \$)

<sup>1</sup>Carroll, Crockett, Gibson, Henderson, & Madison Counties in Tennessee.

In Tennessee, to produce sufficient numbers of hogs to a processing facility, an estimated 631 jobs will be created in the farm, input supply, and services sectors. Our analysis indicates that the top five sectors indirectly impacted include Banking; Feed Grains; Hogs, Pigs, & Swine; Wholesale Trade; and Maintenance & Repair.

**Burton C. English**, Professor; Ph.D., Iowa State, 1981. *Production economics, quantitative methods, regional and resource economics, research methodology, and agricultural policy*

**Kimberly L. Jensen**, Professor; Ph.D., Oklahoma State, 1986. *Market analysis of high value and value added agricultural products, international marketing, and agribusiness.*

**Jamey Menard**, Research Associate; M.S., University of Tennessee, 1986. *Farm management, regional and resource economics, market analysis of value added agricultural products, and international trade.*

## Contact Us...

Burton English  
or Kimberly Jensen  
Agri-Industry Modeling & Analysis Group  
Department of Agricultural Economics  
The University of Tennessee  
2621 Morgan Circle  
308 Morgan Hall  
Knoxville, TN 37996-4500

Phone: 865-974-7231

FAX: 865-974-4829

Email:

[benglish@utk.edu](mailto:benglish@utk.edu)

[kjensen@utk.edu](mailto:kjensen@utk.edu)

[jmenard@utk.edu](mailto:jmenard@utk.edu)

Visit our WWW site at:

<http://web.utk.edu/~aimag/>

## Projected Economic Impacts of the Hog Industry in Iowa, North Carolina, and Tennessee

Kim Jensen,  
Burton C. English,  
Jamey Menard



Department of Agricultural Economics  
University of Tennessee



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The hog industry has undergone dramatic structural change during the past 20 years. Vertical integration and industry concentration have been hallmarks of this change. The increasing prevalence of large-scale hog-confinement facilities has brought environmental quality of life and property rights issues to the forefront. Frequently overlooked, when attempting to address these environmental issues, is the impact this industry has on our rural economies.

### Objectives

There are two objectives to the study. The first objective is to examine the economic impacts of the hog industry to the states of Iowa, North Carolina, and Tennessee. The second objective is to explore the impacts of a large-scale hog slaughtering facility and associated hog production operations on the economy for the state of Tennessee, including a regional study area in West Tennessee.

Industry structure is very different in states with developed hog industries compared with states with less developed industries. As a result, special modeling considerations must be taken into account when attempting to project the economic impacts from the hog industry. A better estimate can be made of the economic impacts from the introduction of the hog industry to a state that is currently less developed by revising the economic activity that currently occurs within a region to reflect the economic activity that might occur once the industry is introduced.

### Methodology

The economic impacts of the current hog production and hog processing industries to the state economies of Iowa, North Carolina, and Tennessee were evaluated using IMPLAN. Variables examined include industrial output, employment, and value-added. Next, the projected impacts of the addition of a processing facility located in Milan, Tennessee was evaluated along with similar scenarios for Iowa and North Carolina. Note that a state analysis will result in larger impacts than a regional analysis because the leakages that occur within a regional economy are greater than those conducted at the state level.

Since the hog industry is mature in both Iowa and North Carolina, modification of IMPLAN's Gross Absorption Coefficients is not required. However, Tennessee currently has no large-scale hog slaughtering facilities and the average size of hog operations is small compared with those in North Carolina or Iowa. The addition of a processing facility would impact the current structure of Tennessee hog production. Consequently, impacting the Meat Packing Plants sector or the Hogs, Pigs, and Swine industry would likely produce unrealistic estimates of how a large-scale hog slaughtering facility would affect the economies of either the Tennessee or MILAN study area. To mitigate this problem several adjustments were made.

Incorporated into the analysis were:

1. A hog price of \$38.41/cwt,
2. Average weight of hogs was 245.4 pounds,
3. Market value is \$94.26/hog,
4. Number of head processed at facility is 500,000/year,
5. The value of head slaughtered by the facility per year or \$47,130,000, and
6. The estimate of "average" meat processing facility was \$120,913,600.

## Economic Impacts of the Hog Industry

The estimated total industry output for hog production and meat packing is \$7.7 billion in Iowa, \$3.5 billion in N. Carolina, and less than one billion dollars in Tennessee. In Iowa, \$2.4 billion or 31% of the estimated economic activity is a result of hog production while the remaining 69% occurs from the processing of hogs.

**Table 1. Estimated Direct Economic Activity for Hogs, Pigs, & Swine and Meat Packing Plants by Region.**

	TIO* (\$ Million)	Jobs	VA** (\$ Million)
<b>Hogs, Pigs, &amp; Swine</b>			
<b>Region:</b>			
Iowa	2,413.4	17,746	485.0
N. Carolina	1,322.9	12,982	401.7
Tennessee	106.8	1,811	7.7
Study Area <sup>1</sup>	51.7	280	2.0
<b>Meat Packing Plants</b>			
<b>Region:</b>			
Iowa	5,275.8	16,022	578.0
N. Carolina	2,237.0	6,850	228.9
Tennessee	517.7	1,585	53.0
Study Area	116.8	357	12.0

\*TIO = Total Industry Output

\*\*VA = Value-Added

<sup>1</sup>Carroll, Crockett, Gibson, Henderson, & Madison Counties in Tennessee.

Nearly 33 thousand jobs are created by the hog industry in Iowa, 20 thousand in North Carolina, and three thousand in Tennessee. The number employed during the first week in March determines the number of jobs required per unit of output. These jobs may or may not be full time positions. In Iowa, \$578 million is created in value-added (wages, profits, indirect business taxes, rents) or \$36,000 per job.