Economic Contributions of Beef and Dairy Cattle and Allied Industries in Florida in 2017

Executive Summary

Sponsored Project for the Florida Cattlemen's Association and Florida Dairy Farmers

Alan W. Hodges, Christa D. Court, Mohammad Rahmani, Caleb A. Stair
University of Florida-IFAS, Food and Resource Economics Department

March 6, 2019

Photo source: University of Florida-IFAS

fred.ifas.ufl.edu/economicimpactanalysis

Acknowledgements

This study was sponsored by the Florida Cattlemen's Association and the Florida Dairy Farmers, Research Checkoff fund, under project agreement AWD04060 with the University of Florida. The project was initiated by the Florida Cattlemen's Association Executive Director, Jim Handley, and President Ken Griner (now past president). Assistance to the email survey effort was provided by Joel Bockoras.

Executive Summary

The state of Florida has a long and colorful history of cattle ranching. Currently, there are 5.40 million acres of improved pasture, rangeland and woodland used for beef and dairy cattle grazing, representing 15.6 percent of the state's land area. As of January 2019, Florida had an inventory of 1.68 million cattle and calves, including 914,000 beef cows and 116,000 dairy cows. The top five Florida counties for beef and dairy cow inventory were Okeechobee (110,000), Highlands (75,500), Polk (60,600), Osceola (60,000) and Hardee (48,100). Production of cattle and calves in 2017, including a calf crop of 790,000 head, was valued at $502 million, and production of 2.5 billion pounds (300 million gallons) of milk was valued at $537 million. During the last Census of Agriculture in 2012, there were 18,433 beef cattle operations with inventory and 425 milk operations with inventory.

In addition to farm and ranch operations, the cattle industry has extensive allied sectors providing supporting inputs and services, meat and dairy processing/manufacturing, and wholesale and retail distribution. In 2017, there were 213 animal slaughtering/processing and dairy product manufacturing firms in Florida, with 5,338 employees, and paid annual wages of $224 million. Inputs and services for cattle production, including on-farm services, animal feed manufacturers, and food animal veterinarians, provided an estimated 3,193 jobs in the state, while livestock, beef, and dairy product wholesalers supported 4,491 jobs. Retail sales of beef and dairy products represented 16.9 percent of food store sales in Florida, valued at $6.40 billion, and accounted for 34,713 jobs. In 2017, Florida exported cattle, meat, and dairy products worth over one billion dollars to international markets.

As part of this study, a survey of the Florida cattle industry was conducted using the email list of over 5,000 persons maintained by the Florida Cattlemen's Association. The survey gathered information on farm/ranch area, farm enterprises, cattle inventory, annual sales, market channels, employment, capital improvement expenditures, farm practices, and open comments about economic contributions to the community. A total of 425 valid responses were received for all types of cattle-related businesses, who reported farm area of 508,903 acres, cattle herd inventory of 247,200 head, $354 million in annual sales, 2,153 fulltime and part-time employees, and $42 million in capital improvements over the past three years. Beef or dairy farms represented 84 percent of sales reported in the survey. Market channels for sales of products included processors, representing 41 percent of sales reported, auction markets (33%), contract buyers (18%), online (2%), other local markets (6%), and nonlocal markets (2%). Commonly reported farm management, marketing, and environmental practices included rotational grazing, practiced by 70 percent of farm respondents, invasive species control (49%), use of controlled release fertilizers (37%), prescribed burning (27%), fencing to exclude cattle from waterways (24%), manure land spreading for crop fertilization (11%), and water retention impoundments (10%). Survey data extrapolated to the population of cattle farms in the state estimated total capital improvements of $717 million over the past three years, or an average of $239 million annually. Open comments received from survey respondents commonly expressed a long-term commitment to maintaining

cattle on family lands, helping other farmers to establish cattle operations, providing employment for local people, and spending money for equipment and supplies in the community.

This study analyzed the economic contributions of the beef and dairy cattle production and allied industries in the State of Florida and its counties in 2017 using secondary data on direct employment and survey data on capital expenditures, together with a regional economic model created with the IMPLAN© system. Regional Input-Output/Social Accounting Matrix economic models account for multiplier effects of industry supply chain activity (indirect effects) and respending of income by employee households (induced effects).

In 2017, the cattle and allied industry sectors directly employed 58,221 direct fulltime and part-time jobs, paid $2.00 billion in employee compensation and proprietor income, and received $8.26 billion in sales revenues. Total economic contributions of the cattle and allied industries in Florida estimated in the regional model, including indirect and induced multiplier effects in other sectors estimated in the economic model, are summarized in Table ES1 and Figure ES2. For all industry groups and activities, statewide economic contributions were 118,191 fulltime and part-time jobs, $16.80 billion in industry output or revenues, $7.65 billion in value added or Gross State Product, and $4.64 billion in labor income (employee wages, salaries, benefits, and business owner income). In addition, the industries contributed $712 million in state and local government tax revenues and $1.16 billion in federal tax revenues. Indirect and induced multiplier effects accounted for employment contributions of 32,093 and 27,876 jobs, respectively.

The largest industry groups in terms of employment contributions were beef and dairy product retail stores, with 51,577 jobs, representing 43.6 percent of total employment contributions, followed by beef cattle farms (14,720 jobs, 12.5%), meat processing (14,668 jobs, 12.4%), dairy product manufacturing (12,860 jobs, 10.9%), and livestock, beef and dairy wholesalers (11,049 jobs, 9.3%). The leading sectors in terms of value added contributions were dairy product manufacturers ($1.10 billion), wholesalers ($1.21 billion), and retailers ($2.89 billion), while beef cattle and dairy farms each had value added contributions of about $500 million. Collectively, production and processing sectors, including cattle farming, support activities, and manufacturing, represented 46 percent of total employment contributions and 45 percent of value added contributions, while wholesale and retail distribution of beef and dairy products accounted for 53 percent and 54 percent, respectively.

State-level economic contribution results for the cattle industry were allocated to Florida counties based on direct output, employment, and value added. The top ten Florida counties in terms of employment contributions for all cattle-related industry sectors were Miami-Dade (16,825 jobs), Broward (8,700), Palm Beach (8,000), Hillsborough (7,248), Polk (5,859), Orange, 5,746), Duval (5,060), Pinellas (4,011), Okeechobee (2,769), and Lee (2,698). The top counties for production and processing/manufacturing sectors only (excluding wholesale-retail distribution) were Miami-Dade (7,768 jobs), Polk (4,271 jobs), Palm Beach (2,879 jobs), Hillsborough (2,765 jobs), Okeechobee (2,572 jobs), Duval (2,076 jobs), Broward (2,050 jobs), Sumter (1,762 jobs), Orange (1,665 jobs), and Hardee (1,174 jobs), as shown in Figure ES2. County-level economic contributions were also aggregated into nine functional economic regions. The mix of cattle-related industry sectors is quite different across Florida counties, with farm production mainly in rural counties, while processing/manufacturing, wholesale, and retail trade sectors are concentrated in large urban counties such as Miami-Dade, Broward, Palm Beach, Orange, Hillsborough, and Duval.

As an indication of the relative importance of the cattle and allied industries to the state of Florida, employment contributions represented 1.02 percent of the state workforce and total value added contributions represented 0.82 percent of Gross State Product (GSP) in 2016. Dependence on cattle-related industries was much higher in some rural counties, with employment and value added contributions representing over 10 percent of total economic activity in Lafayette, Okeechobee, Gilchrist, Madison, and Hardee Counties (Figure ES3).

In addition to commodity production and commercial services in the cattle and allied industries, pastures and rangelands in Florida support a variety of recreational activities for fishing, hunting, and wildlife viewing. Some large cattle ranches in Central and South Florida have partnered with the Water Management Districts to provide on-farm water storage and treatment as a low-cost option to enhance water quality and reduce flooding and pollutant loading on downstream water bodies. Other non-marketed ecosystem services provided by cattle farms and ranches include provision of wildlife habitat, maintenance of biodiversity, air and water purification, carbon storage, moderation of extreme weather events, generation and preservation of soils, and control of agricultural pests. Although these ecosystem services were not explicitly quantified in this study, secondary sources were used to estimate a value of $4.605 billion annually.

Table ES1. Summary of total economic contributions of beef and dairy cattle and allied industries in Florida in 2017

Industry-Activity	Employment (Jobs)	Labor Income (M$)	Value Added (M$)	Output (M$)
Beef cattle farms	14,720	326	509	1,362
Dairy farms	6,288	332	503	1,164
Support activities for animal production, vet services, animal feed manuf.	5,804	252	388	891
Dairy product manufacturing	12,860	670	1,102	3,387
Meat processing	14,668	627	950	3,115
Livestock and meat/dairy product wholesalers	11,049	648	1,213	1,970
Retail sales of beef and dairy products at grocery stores and meat markets	51,577	1,723	2,891	4,742
Farm capital improvements (avg. last 3 years)	1,225	60	97	168
Total All Industries-Activities	118,191	4,639	7,653	16,798
Subtotal production and processing (farming, support activities and manufacturing)	54,340	2,208	3,452	9,918
Subtotal wholesale and retail distribution	62,625	2,371	4,104	6,712

Values in 2017 dollars. Estimates include applicable direct, indirect, and induced multiplier effects.

Figure ES1. Employment contributions of beef and dairy cattle production and allied industries in Florida in 2017

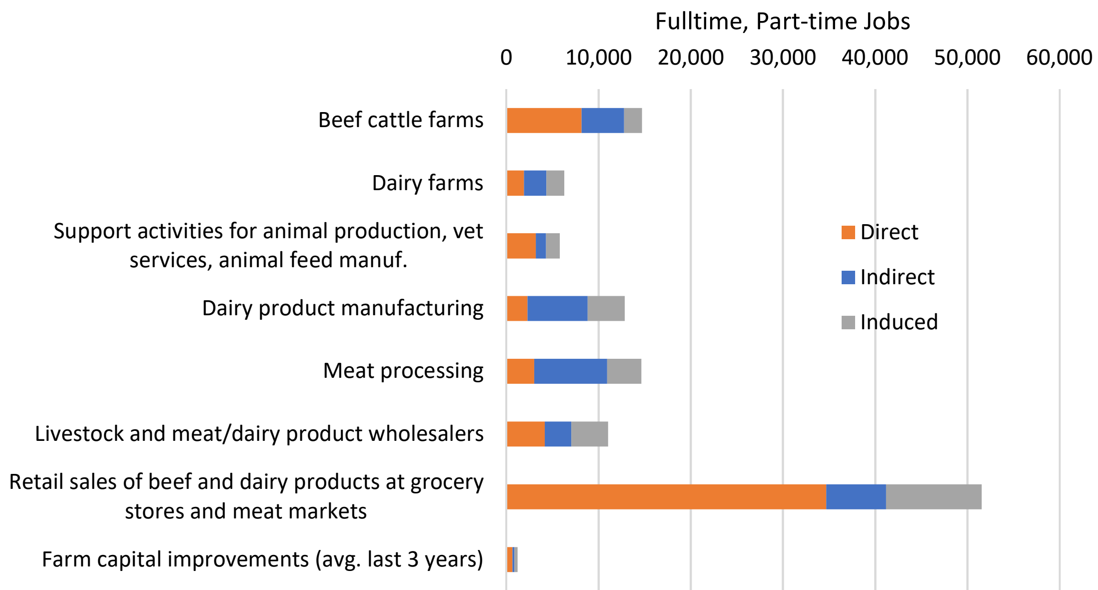

Figure ES2. Employment contributions of beef and dairy cattle production and processing industries in the top Florida counties in 2017

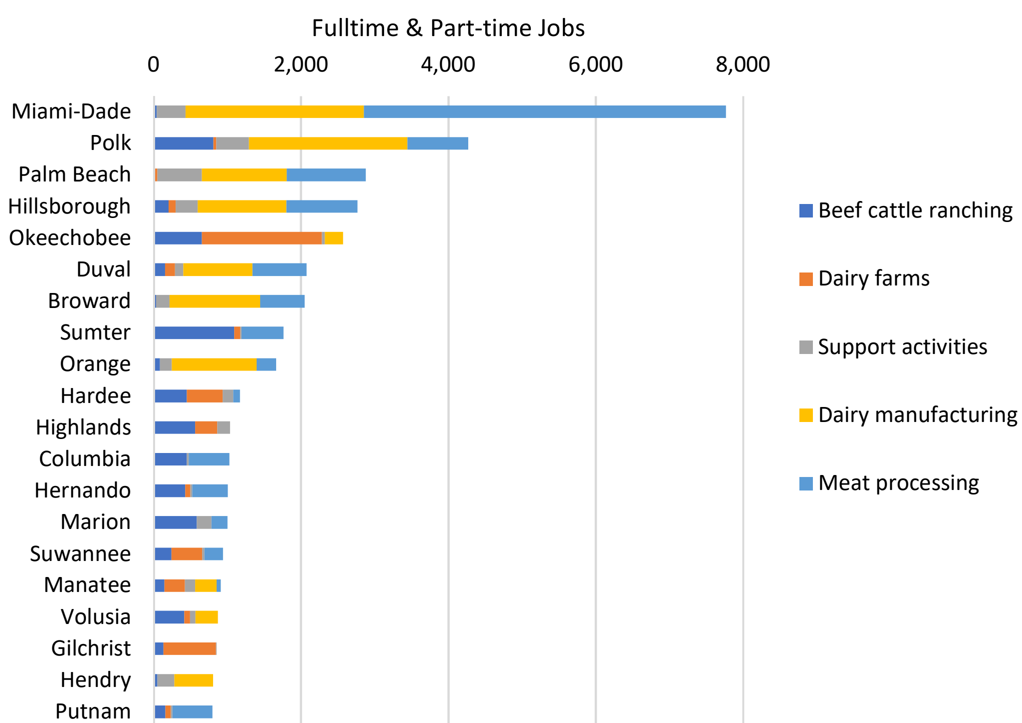

Figure ES3. Map of Florida county dependence on the cattle industry in terms of employment contributions as share of total county employment