Potential Economic Impacts of the

# PROPOSED ALACHUA COUNTY MEAT PROCESSING FACILITY


Christa D. Court, PhD, Assistant Professor
João Pedro Ferreira, PhD, Research Assistant Professor
Xiaohui Qiao, PhD, Research Assistant Professor
Eyrika Orlando, Graduate Research Assistant
Ethan Lantzy, Student Assistant


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Gainesville, Florida



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# ACKNOWLEDGEMENTS

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# INTRODUCTION

As of 2019, agriculture, natural resource, and food industries produce $4.955 billion in sales revenues and directly support 48,609 jobs within the functional economic region that includes Alachua County[1], of which $2.415 billion in sales revenues and 26,783 jobs are in Alachua County. Within Alachua County, 3,571 of these jobs and $150.0 million in sales revenues are in the primary production sectors of crop, livestock, forestry, and fisheries production and 756 jobs and $198 million in sales revenues are in food and kindred product manufacturing, which includes meat processing (Court et al., 2023). In addition, in 2020, Florida was ranked as 13th in the United States for beef cattle, with a total of 904,000 head (USDA-NASS, 2021).

Data from the United States Department of Agriculture (USDA) Food Safety and Inspection Service (FSIS) suggest that there are 60 facilities within 100 miles of Alachua County that are involved in some type of meat or poultry slaughter, inspection, identification, processing, or certification, 39 of which are involved in meat processing and only 11 of which are noted to be involved in meat slaughter (Figure 1). The 1996 Hazard Analysis and Critical Control Point (HACCP) Final Rule defines size classes for meat processor establishments based on employment or sales numbers and not on production volume. The size classes are 'Very Small' (fewer than 10 employees or less than $2.5 million in annual sales), 'Small' (10–499 employees), and 'Large' (500+ employees); there is no category for mid-scale processors.

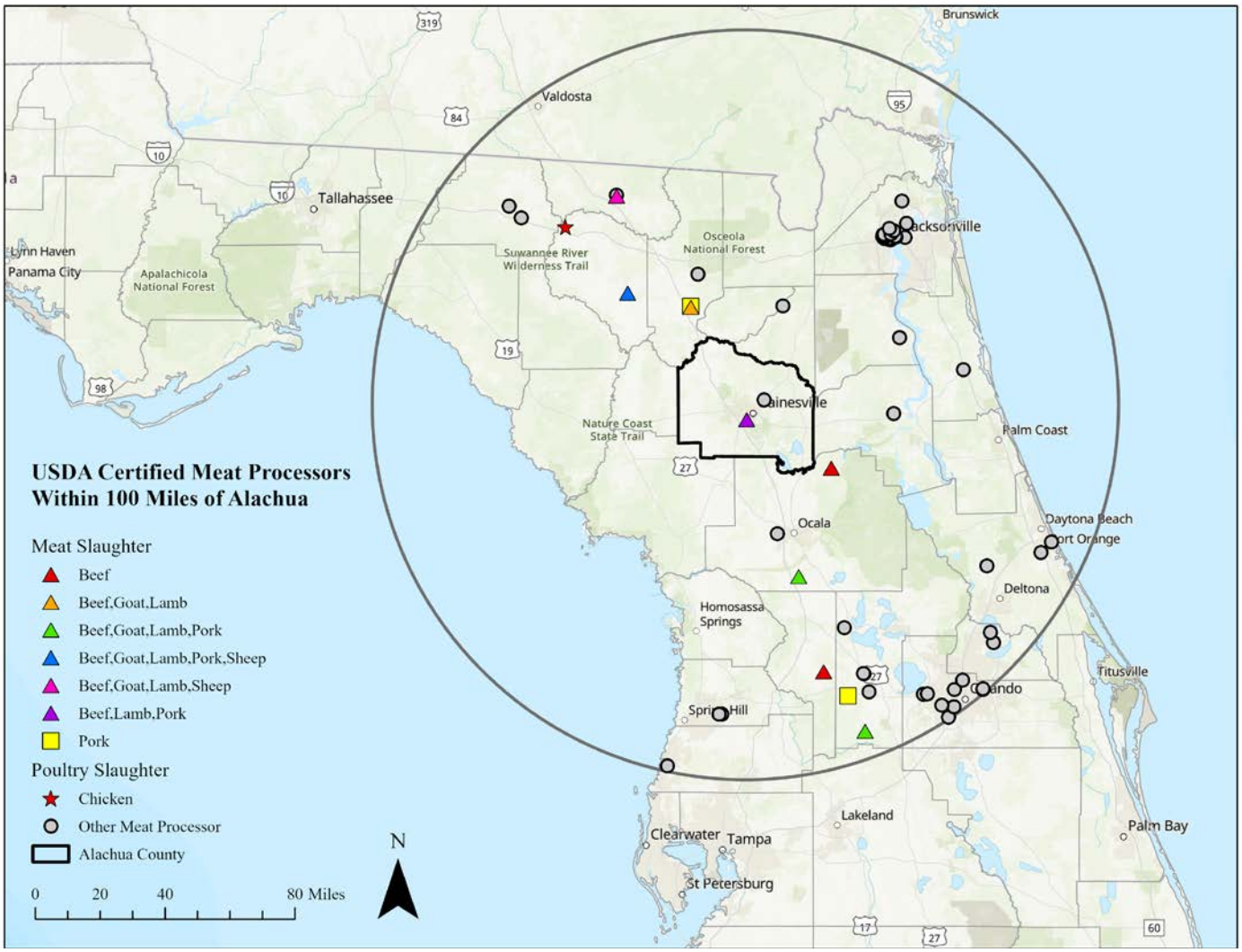


**Figure 1.** *Meat processing facilities and livestock populations within 100 miles of the center of Alachua County, Florida. Data sources: https://www.fsis.usda.gov/inspection/establishments/meat-poultry-and-egg-product-inspection-directory Note: The map only shows the meat processing facilities that produce meat, poultry, and/or egg products and are regulated by USDA Food Safety and Inspection Service (USDA-FSIS, 2022).*

[1] This functional economic region includes the counties of Alachua, Bradford, Columbia, Dixie, Gilchrist, Lafayette, Levy, Suwannee, and Union.

Of the 60 facilities within 100 miles of Alachua County, 42 facilities reported a HACCP size. Amongst these, 50% were designated 'Very Small' and another 43% were designated 'Small'; only 3 facilities were designated as 'Large'. These percentages are in line with the size distribution of meat processor establishments at the national level (Thistlethwaite et al., 2020).

Changes associated with the COVID-19 pandemic illuminated tradeoffs between efficiency and resilience in many sectors throughout the nation's economy, and indeed, around the world. During the pandemic, grocery stores and retailers saw a 125% increase in retail beef prices due to industry-wide supply shortages (Allen et al., 2020). Although the industry has largely recovered from the initial impacts of the COVID-19 pandemic, pandemic-related effects for farmers and ranchers remain. An estimated 15% of cattle producers are projected to leave the industry in the next ten years, due to fear of risk to revenue and increasing feed prices (Allen et al., 2020). In response, the USDA has launched several initiatives not only to assist current market participants, but to encourage new small-medium producers to enter the market. These programs include the Local Agriculture Market Program (LAMP), the Pandemic Response and Safety (PRS) Grant Program, and the Coronavirus Food Assistance Program (CFAP) (USDA-NASS, 2022).

Local governments, including Alachua County, have begun to explore the options that might emerge from successful applications for funds from these programs, often in partnership with private businesses and/or state-funded institutions. The Alachua County Office of Sustainability, Equity, and Economic Development Strategies is exploring the opportunity to construct a meat processing facility near Newberry, FL that will serve the local ranching and animal production community. The proposed meat processing facility is expected to be roughly 10,000 square feet in size, requiring capital expenditures of $5.25 million. When fully operational, it is expected that this new facility will employ 8-12 individuals, some of which are part-time employees.

This analysis was commissioned by the Alachua County Office of Sustainability, Equity, and Economic Development Strategies to evaluate the potential economic impacts of the proposed Alachua County meat processing facility to the county, and the state in support of informed decision-making.

# METHODS

Potential economic impacts of the proposed Alachua County meat processing facility were estimated using data provided by Alachua County representatives and consultants on capital expenditures as well as employment associated with operations and maintenance, as well as regional economic models for Alachua County and the State of Florida. Short-term economic impacts of the construction phase were estimated separately from the ongoing economic impacts resulting from the longer-term operation and maintenance activities of the proposed facility. Appendix A contains a glossary of economic terms used throughout this report.

## Construction Expenditures

Estimated capital expenditures associated with both structures and equipment for the proposed facility are $525 per square foot with a final construction cost of $5.25 million for a facility of around 10,000 square feet, as shown in Table 1. Data published by the United States Census Bureau in the 2018 Annual Capital Expenditures Survey (ACES) for Food Manufacturing businesses (NAICS 311[2]) indicates that, on average, the costs of structures make up 25.68% of total capital expenditures and the costs of equipment comprises the remaining 74.32% (US Census Bureau, 2021). The cost of land acquisition was not included in the analysis because it represents an asset transfer rather than new final demand.

## Operations and Maintenance Expenditures

Data on the ongoing costs of operations and maintenance at a typical meat processing facility of this size were also provided by the Alachua County representatives and consultants. Estimated sales revenues associated with operations and maintenance of the proposed meat processing facility depend on the number of carcasses processed per day. Table 2 displays five potential levels of economic activity for operations and maintenance of the proposed meat processing facility. Potential employment (fulltime and part-time jobs) values were provided by Alachua County consultants. Employment in Scenario 1 includes 1 plant manager (~$85,000/year in salary/wages/benefits), 1 Quality Assurance/Quality Control manager ($75,000/year in salary/wages/benefits), 4 skilled labor positions ($55,000/year in salary/wages/benefits, each), and 2 unskilled labor positions ($40,000/year in salary/wages/benefits, each). Scenarios 2–5 use the same baseline employment configuration as Scenario 1 but each scenario increases by 1 skilled labor position as the carcass count increases. Corresponding values of sales revenue, labor income, and value added were imputed by IMPLAN (2021 Data for model regions Alachua County and State of Florida). Estimated sales revenues of a facility processing 4–15 animals a day range from $5.56 million to over $8.33 million with corresponding labor income and value added ranges of $690,000–$1.035 million and $998,000–$1.497 million, respectively.

**Table 1.** *IMPLAN events for economic impact analysis of meat processing facility construction in Alachua County, Florida.*

| IMPLAN Industry Sector | Facility Size (Square Feet) | Investment (2023 USD) | Employment (Jobs, Imputed) | Event Year |
|---|---|---|---|---|
| 55 Construction of New Commercial Structures, Including Farm Structures | 10,000 | $1,354,000 | 11 | 2023 |
| 266 Food Product Machinery Manufacturing | | $3,896,000 | 12 | |

*Values in 2023 dollars. Employment is reported in fulltime and part-time jobs. Labor income includes employee wages, salaries and benefits, and proprietor income.*
*Source: Recommendations from Alachua County representatives and consultants and IMPLAN 2021 data for Alachua County, Florida (IMPLAN Group LLC).*

[2] NAICS 311 includes 311611: Animal (except Poultry) Slaughtering, 311612: Meat Processed from Carcasses, and 311613: Rendering and Meat Byproduct Processing.

**Table 2.** *IMPLAN events for economic impact analysis of meat processing facility operation phase in Alachua County, Florida.*

| Scenario | IMPLAN Industry Sector | Carcasses per Day | Industry Sales (2023 USD) | Employment (Jobs) | Labor Income (2023 USD) | Value Added (2023 USD) |
|---|---|---|---|---|---|---|
| 1 | 89 – Animal, except poultry, slaughtering | 4 | $5,556,000 | 8 | $690,000 | $998,000 |
| 2 | | 6 | $6,251,000 | 9 | $776,000 | $1,123,000 |
| 3 | | 8 | $6,945,000 | 10 | $863,000 | $1,248,000 |
| 4 | | 10 | $7,640,000 | 11 | $949,000 | $1,372,000 |
| 5 | | 15 | $8,334,000 | 12 | $1,035,000 | $1,497,000 |

*Values in 2023 dollars. Employment is reported in fulltime and part-time jobs. Labor income includes employee wages, salaries, and benefits, as well as proprietor income.*
*Source: Recommendations from Alachua County representatives and consultants and IMPLAN 2021 data for Alachua County, Florida (IMPLAN Group LLC).*

## Regional Economic Impact Analysis

The potential economic impacts of capital expenditures and operation and maintenance activity associated with the potential Alachua County meat processing facility were estimated with regional economic models representing the economic structure for Alachua County and the State of Florida, constructed with the IMPLAN software and data representing the corresponding regional economic structures (Alachua County or State of Florida) for 2021 (IMPLAN Group, LLC). This is a class of economic models known as input-output models, which are a standard tool in regional economic modeling. The IMPLAN models enable the estimation of regional economic impacts for a given change in final demand or direct employment in specific industry sectors, and account for region-specific economic multiplier effects arising from industry supply chain activity, known as indirect effects, and household re-spending of income, or induced effects (Miller and Blair, 2022).

Relevant expenditure and employment values were assigned to the appropriate industry sector and entered into the IMPLAN models as summarized in Tables 1 and 2. The model automatically imputes direct sales revenues that correspond to employment entries along with employee and proprietor earnings for each industry sector based on regional averages. The model also applies retail trade margins, when appropriate, to express values in producer price terms.

To estimate broader regional economic impacts, the capital expenditure values for the construction phase were entered into the IMPLAN models in sector 55 – *Construction of new commercial structures, including farm structures* and sector 266 – *Food product machinery manufacturing*, as shown in Table 1. For simplicity, it was assumed that all construction and equipment purchases take place within 2023. It is worth noting that activity in sector 266 does not currently exist in Alachua County so all purchases made from this sector when using the Alachua County model are assumed to come from locations outside of Alachua County. Employment values for the operations and maintenance phase were entered into sector 89 – *Animal, except poultry, slaughtering*. The IMPLAN software applied output deflators to express imputed sales revenue, labor income, and value added values in model year dollars (2021), then re-inflated the resulting impacts using industry-specific Gross Domestic Product (GDP) deflators to express results in current year (2023) dollars. All of the locally purchased input goods and services (e.g. materials, utilities, and other services), margins, and taxes paid are accounted for within the modeling framework.

# RESULTS

Results of the economic impact analyses for the proposed Alachua County meat processing facility are presented separately for analyses that employ the regional economic model for Alachua County and the regional economic model for the State of Florida.

## Alachua County Results

Results of the economic impact analyses using the Alachua County regional economic model are presented in Tables 3 and 4. Table 3 displays the county-level results for the short-term construction impacts of the proposed Alachua County meat processing facility. Potential economic impacts within Alachua County resulting from constructing the Alachua County facility include 16 job-years[3], $2.084 million in industry output (sales revenues), $1.018 million in total value added (GDP), and $766,000 in labor income (Table 3).

**Table 3.** *Summary of economic impacts in Alachua County resulting from the construction of the proposed meat processing facility in Alachua County, Florida.*

| Impact Type (Multiplier Effect) | Employment (Job-Years) | Labor Income (2023 USD) | Value Added (2023 USD) | Industry Output (2023 USD) |
|---|---|---|---|---|
| Direct Effect | 12 | $549,000 | $612,000 | $1,354,000 |
| Indirect Effect | 2 | $102,000 | $175,000 | $337,000 |
| Induced Effect | 2 | $115,000 | $231,000 | $394,000 |
| **Total Effect** | **16** | **$766,000** | **$1,018,000** | **$2,084,000** |

*Values in 2023 dollars. Employment is reported in fulltime and part-time job-years. Labor income includes employee wages, salaries, and benefits, as well as proprietor income.*
*Source: IMPLAN 2021 data for Alachua County, Florida (IMPLAN Group LLC).*

[3] A job-year represents one job for the duration of one year.

Table 4 displays the county-level results for the ongoing operations and maintenance phase of the proposed Alachua County meat processing facility. Potential economic impacts within Alachua County resulting from the operations and maintenance phase of the proposed Alachua County facility vary by the number of carcasses processed per day and range from 53–80 job-years, $10.793–$16.191 million in industry output (sales revenues), $3.434–$5.151 million in total value added (GDP), and $2.240–$3.360 million in labor income (Table 4).

**Table 4.** *Summary of economic impacts in Alachua County resulting from operations and maintenance spending for the proposed meat processing facility in Alachua County, Florida.*

| Scenario | Impact Type (Multiplier Effect) | Employment (Job-Years) | Labor Income (2023 USD) | Value Added (2023 USD) | Industry Output (2023 USD) |
|---|---|---|---|---|---|
| 1 | Direct Effect | 8 | $690,000 | $998,000 | $5,556,000 |
| | Indirect Effect | 38 | $1,192,000 | $1,716,000 | $4,010,000 |
| | Induced Effect | 7 | $358,000 | $720,000 | $1,227,000 |
| | **Total Effect** | **53** | **$2,240,000** | **$3,434,000** | **$10,793,000** |
| 2 | Direct Effect | 9 | $776,000 | $1,123,000 | $6,251,000 |
| | Indirect Effect | 42 | $1,341,000 | $1,930,000 | $4,512,000 |
| | Induced Effect | 8 | $403,000 | $810,000 | $1,380,000 |
| | **Total Effect** | **60** | **$2,520,000** | **$3,863,000** | **$12,143,000** |
| 3 | Direct Effect | 10 | $863,000 | $1,248,000 | $6,945,000 |
| | Indirect Effect | 47 | $1,490,000 | $2,145,000 | $5,013,000 |
| | Induced Effect | 9 | $447,000 | $900,000 | $1,534,000 |
| | **Total Effect** | **66** | **$2,800,000** | **$4,293,000** | **$13,492,000** |
| 4 | Direct Effect | 11 | $949,000 | $1,372,000 | $7,640,000 |
| | Indirect Effect | 52 | $1,639,000 | $2,359,000 | $5,514,000 |
| | Induced Effect | 10 | $492,000 | $990,001 | $1,687,000 |
| | **Total Effect** | **73** | **$3,080,000** | **$4,721,001** | **$14,841,000** |
| 5 | Direct Effect | 12 | $1,035,000 | $1,497,000 | $8,334,000 |
| | Indirect Effect | 57 | $1,788,000 | $2,574,000 | $6,016,000 |
| | Induced Effect | 11 | $537,000 | $1,080,000 | $1,841,000 |
| | **Total Effect** | **80** | **$3,360,000** | **$5,151,000** | **$16,191,000** |

*Values in 2023 dollars. Employment is reported in fulltime and part-time job-years. Labor income includes employee wages, salaries, and benefits, as well as proprietor income.*
*Source: IMPLAN 2021 data for Alachua County, Florida (IMPLAN Group LLC).*

## State of Florida Results

Results of the economic impact analyses using the State of Florida regional economic model are presented in Tables 5 and 6. Table 5 displays the state-level results for the short-term construction impacts of the proposed Alachua County meat processing facility. Potential economic impacts within the State of Florida resulting from constructing the proposed Alachua County facility include 54 job-years, $10.985 million in industry output (sales revenues), $5.451 million in total value added (GDP), and $3.906 million in labor income (Table 3).

**Table 5.** *Summary of economic impacts in the State of Florida resulting from the construction of the proposed meat processing facility in Alachua County, Florida.*

| Impact Type (Multiplier Effect) | Employment (Job-Years) | Labor Income (2023 USD) | Value Added (2023 USD) | Industry Output (2023 USD) |
|---|---|---|---|---|
| Direct Effect | 23 | $1,821,000 | $2,155,000 | $5,250,000 |
| Indirect Effect | 15 | $1,175,000 | $1,614,000 | $2,793,000 |
| Induced Effect | 16 | $911,000 | $1,682,000 | $2,941,000 |
| **Total Effect** | **54** | **$3,906,000** | **$5,451,000** | **$10,985,000** |

*Values in 2023 dollars. Employment is reported in fulltime and part-time job-years. Labor income includes employee wages, salaries, and benefits, as well as proprietor income.*
*Source: IMPLAN 2021 data for State of Florida (IMPLAN Group LLC).*

Table 6 displays the state-level results for the ongoing operations and maintenance phase of the proposed Alachua County meat processing facility. Potential economic impacts within the State of Florida resulting from the operations and maintenance phase of the proposed Alachua County facility vary by the number of carcasses processed per day and range from 56–83 job-years, $13.671–$20.506 million in industry output (sales revenues), $4.781–$7.171 million in total value added (GDP), and $3.219–$4.828 million in labor income (Table 4).

**Table 6.** *Summary of economic impacts in the State of Florida resulting from operations and maintenance spending for the proposed meat processing facility in Alachua County, Florida.*

| Scenario | Impact Type (Multiplier Effect) | Employment (Job-Years) | Labor Income (2023 USD) | Value Added (2023 USD) | Industry Output (2023 USD) |
|---|---|---|---|---|---|
| 1 | Direct Effect | 8 | $642,000 | $916,000 | $5,556,000 |
| | Indirect Effect | 34 | $1,834,000 | $2,494,000 | $5,717,000 |
| | Induced Effect | 13 | $743,000 | $1,371,000 | $2,398,000 |
| | **Total Effect** | **56** | **$3,219,000** | **$4,781,000** | **$13,671,000** |
| 2 | Direct Effect | 9 | $722,000 | $1,031,000 | $6,251,000 |
| | Indirect Effect | 39 | $2,063,000 | $2,805,000 | $6,431,000 |
| | Induced Effect | 15 | $836,000 | $1,543,000 | $2,697,000 |
| | **Total Effect** | **62** | **$3,621,000** | **$5,379,000** | **$15,379,000** |
| 3 | Direct Effect | 10 | $803,000 | $1,145,000 | $6,945,000 |
| | Indirect Effect | 43 | $2,292,000 | $3,117,000 | $7,146,000 |
| | Induced Effect | 17 | $929,000 | $1,714,000 | $2,997,000 |
| | **Total Effect** | **69** | **$4,024,000** | **$5,976,000** | **$17,088,000** |
| 4 | Direct Effect | 11 | $883,000 | $1,260,000 | $7,640,000 |
| | Indirect Effect | 47 | $2,521,000 | $3,429,000 | $7,860,000 |
| | Induced Effect | 18 | $1,022,000 | $1,885,000 | $3,297,000 |
| | **Total Effect** | **76** | **$4,426,000** | **$6,574,000** | **$18,797,000** |
| 5 | Direct Effect | 12 | $963,000 | $1,374,000 | $8,334,000 |
| | Indirect Effect | 51 | $2,750,000 | $3,740,000 | $8,575,000 |
| | Induced Effect | 20 | $1,115,000 | $2,057,000 | $3,597,000 |
| | **Total Effect** | **83** | **$4,828,000** | **$7,171,000** | **$20,506,000** |

*Values in 2023 dollars. Employment is reported in fulltime and part-time job-years. Labor income includes employee wages, salaries, and benefits, as well as proprietor income.*
*Source: IMPLAN 2021 data for State of Florida (IMPLAN Group LLC).*

# CONCLUSIONS

This analysis provides estimates of the potential economic impacts of the proposed Alachua County meat processing facility within Alachua County or the State of Florida, in support of informed decision-making. The accuracy of the results will depend on how closely the actual construction and operations and maintenance activity levels come to those estimated by the Alachua County representatives and consultants. It is also worth noting that these estimates are based on industry-level expenditure patterns and interindustry relationships within Alachua County and the State of Florida as they existed in 2021. The extent to which the economic impacts of Hurricane Ian, Hurricane Nicole, and other recent state, national, and global events might change these relationships is currently unknown.

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# APPENDIX A: GLOSSARY OF TERMS

**Employee compensation** is comprised of wages, salaries, commissions, and benefits such as health and life insurance, retirement, and other forms of cash or non-cash compensation.

**Employment** is a measure of the number of jobs, including fulltime, part-time, and seasonal positions. It is not a measure of fulltime equivalents (FTEs).

**Final demand** represents sales to final consumers, including households, governments, and exports from the region.

**Gross State Product (GSP)** is a measure of total economic activity in a region, or total income generated by all goods and services. It represents the sum of total value added by all industries in that region, and is equivalent to Gross Domestic Product (GDP) for the nation.

**IMPLAN** is a computer-based input-output modeling system that enables users to create regional economic models and multipliers for any region consisting of one or more counties or states in the United States The current version of the IMPLAN software, IMPLAN Cloud, accounts

for commodity production and consumption for 546 industry sectors, 10 household income levels, taxes to local/state and federal governments, capital investment, imports and exports, transfer payments, and business inventories. Regional datasets for individual counties or states are purchased separately.

**Impact** or **total impact** is the change in total regional economic activity (e.g. output or employment) resulting from a change in final demand, direct industry output, or direct employment, estimated based on regional economic multipliers.

**Income** is the money earned within the region from production and sales. Total income includes labor income such as wages, salaries, employee benefits, and business proprietor income, plus other property income.

**Input-Output (I-O) model and Social Accounting Matrix (SAM)** is a representation of the transactions between industry sectors within a regional economy that captures what each sector purchases from every other sector to produce its output of goods or services. Using such a model, flows of economic activity associated with any change in spending may be traced backwards through the supply chain.

**Local** refers to goods and services that are sourced from within the region, which can be defined as a county, multi-county cluster, or state. Non-local refers to economic activity originating outside the region.

**Multipliers** capture the total effects, both direct and secondary, in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers are derived from an input-output model of the regional economy. Multipliers can be expressed as ratios of sales, income, or employment, or as ratios of total income or employment changes relative to direct sales. Multipliers express the degree of interdependency between sectors in a region's economy and therefore vary considerably across regions and sectors. A **sector-specific multiplier** gives the total changes to the economy associated with a unit change in output or employment in a given sector (i.e. the **direct economic effect**) being evaluated. **Indirect effects** represent the changes in sales, income, or employment within the region in backward-linked industries supplying goods and services to businesses (e.g., increased sales in input supply firms resulting from more meat processing industry sales). **Induced effects** represent the increased sales within the region from household spending of the income earned in the direct and supporting industries for housing, utilities, food, etc.

**Other property income** represents income received from investments, such as corporate dividends, royalties, property rentals, or interest on loans.

**Output** is the dollar value of a good or service produced or sold, and is equivalent to sales revenues plus changes in business inventories.

**Producer prices** are the prices paid for goods at the factory or point of production. For manufactured goods, the purchaser price equals the producer price plus a retail margin, a wholesale margin, and a transportation margin. For services, the producer and purchaser prices are equivalent.

**Proprietor income** is income received by non-incorporated private business owners or self-employed individuals.

**Purchaser prices** are the prices paid by the final consumer of a good or service.

**Region** or **Regional economy** is the geographic area and the economic activity it contains for which impacts are estimated. It can consist of an individual county, an aggregation of several counties, a state, or an aggregation of states. These aggregations are sometimes defined on the basis of worker commuting patterns.

**Sector** is an individual industry or group of industries that produce similar products or services, or have similar production processes. Sectors are classified according to the North American Industrial Classification System (NAICS).

**Tax on Production and Imports** are taxes paid to governments by individuals or businesses for property, excise and sales taxes, but do not include income taxes.

**Value added** is a broad measure of income, representing the sum of employee compensation, proprietor income, other property income, indirect business taxes, and capital consumption (depreciation), that is comparable to Gross Domestic Product. Value added is a commonly used measure of the contribution an industry makes to a regional economy because it avoids the inclusion of intermediate sales.

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UF/IFAS Food & Resource Economics Department
PO Box 110240, Gainesville, FL
Contact: Email: ccourt@ufl.edu; Telephone: 352-294-7675

*On the cover: Feeding meat through a grinder.*