

Economic Importance of Food and Fiber in the Georgia Economy, 2017

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Center Report: CR-19-12
September, 2019



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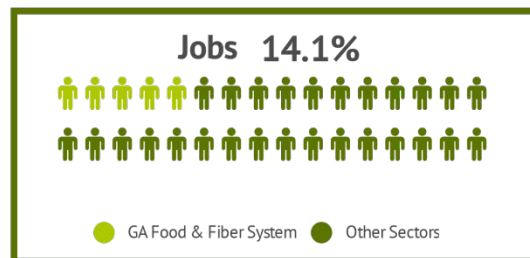
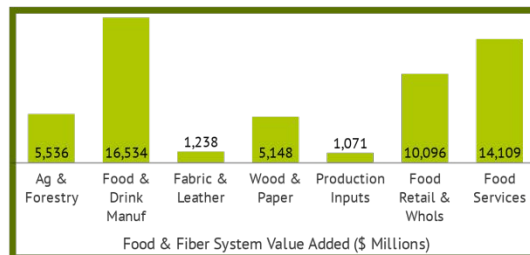
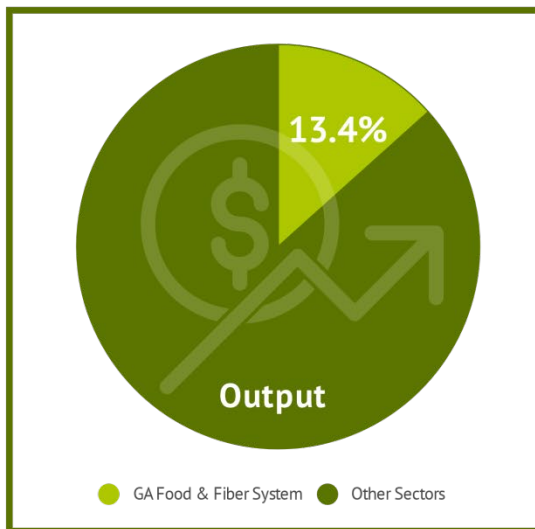
Economic Importance of Food and Fiber in the Georgia Economy, 2017

Executive Summary

Economic activity that begins with production of food and fiber products forms an integrated system that impacts the Georgia economy. The food and fiber system is composed of industries involved in agricultural and forestry production, including support services; food and fiber processing and manufacturing; production inputs; food retail and wholesale trade; and food services. Employment in the total food and fiber sector accounts for 858,128 jobs and is more than any other individual sector within the economy. Sales of \$129.2 billion rank the total food and fiber sector first among all Georgia economic sectors, while the specific food and drink manufacturers account for more employment and output value than any other Georgia manufacturing sector. Overall, food and fiber accounts for 14.1% of employment, 13.4% of output, and 10.0% of value added in the Georgia economy for 2017.



The food and fiber system is composed of industries involved in agricultural and forestry production, including support services; food and fiber processing and manufacturing; production inputs; food retail and wholesale trade; and food services. Employment in the total food and fiber sector of 858,128 employees is more than any other individual sector in the Georgia economy.

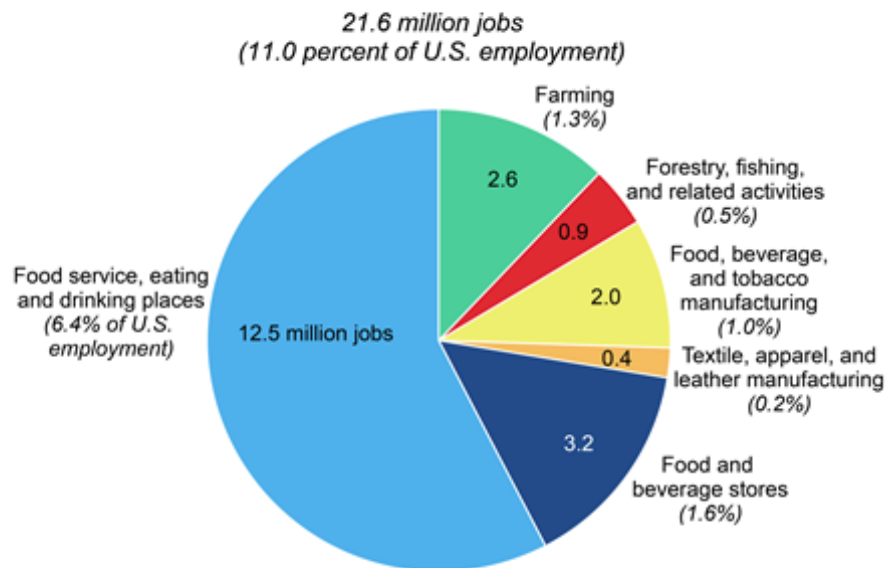


Source: UGA Center for Agribusiness and Economic Development. Calculations by authors using IMPLAN software.

Economic Importance of Food and Fiber in the Georgia Economy, 2017²

The USDA's Economic Research Service (ERS)³ finds that agriculture, food, and related industries comprise approximately 11 percent of U.S. employment (2017). In this report, we explore a similar approach to examine the economic importance of food and fiber industries in the Georgia economy. The economic activity that begins with the production of food and fiber products – with a Farm Gate Value of over \$13.7 billion (UGA/CAED, 2017) – forms the basis of an integrated system with ripple effects throughout many sectors of the economy. The food and fiber system includes not only the traditional commodity production, but also production inputs, direct processing, further processing, distribution, and retail consumption. In the following report, we define the sectors included in the Georgia food and fiber system and quantify their role in the state economy in terms of employment (full- and part-time), output (sales or revenue) and value added (final sales less the cost of materials purchased).

Employment* in agriculture, food, and related industries, 2017



*Full- and part-time jobs. Categories may not sum to total due to rounding.
Source: USDA, Economic Research Service using data from U.S. Department of Commerce, Bureau of Economic Analysis. Data as of September 25, 2018.

Economic Sectors of the Georgia Food and Fiber System

Previous studies serve as a framework in defining the sectors included in the Georgia food and fiber system. Farm and farm-related employment has been defined as industries having 50% or more of their work force employed in providing goods and services necessary to satisfy the final demand for agricultural products, while related (indirect) sectors have between 32% and 50% of their

² Based on earlier Center for Agribusiness and Economic Development Report, Economic Importance of Food and Fiber, by Sharon P. Kane, and John McKissick, Feb. 2010, CR-10-02, available online at <http://caed.uga.edu/publications/2010/pdf/CR-10-02.pdf>. Methodology based on earlier publications of the same nature.

³ <https://www.ers.usda.gov/data-products/chart-gallery/gallery/chart-detail/?chartId=58282>, accessed online January 9, 2019. The data in this study is not collected or analyzed in exactly the same manner as that in this report.

employment providing goods and services related to agricultural products. (USDA, ERS 2005). An exploration of the Georgia food and fiber economy by Kriesel and Jones (1998) is patterned after a study by Sporleder, Hushak, and Pai (1990), in which they find that the food and fiber system comprised 16% of total employment, 16% of output and 12% of value added in the Georgia economy in 1995.

This analysis follows elements of these studies (USDA, ERS 2005, Kriesel and Jones 1998) while proposing a revised listing of sectors to include in the food and fiber system to utilize available data.⁴ Categories of the food and fiber system are: 1) agricultural and forestry production, including support services, 2) food and fiber processing and manufacturing (including food and drink manufacturing, fabric and leather manufacturing, and wood and paper manufacturing), 3) production inputs, 4) food retail and wholesale trade (including food warehousing and storage), and 5) food services (restaurants and all other food and drinking places). Food and fiber employment, output (sales or revenue), and value added⁵ are derived from the IMPLAN model database.⁶

For this analysis, the food commodities are regarded as food throughout the system, from production to final consumption – from the farm to the table. In contrast, fiber commodities are considered as fiber only up to a point in processing and manufacturing. Beyond this point, fiber commodities are viewed as a finished product beyond the stage of a fiber commodity. For example, from the broad sector of textiles, only fabrics and leather are included as fiber commodities while an article of clothing or a purse made of leather would not. Included in fiber manufacturing are yarn and thread mills, as well as fabric mills. Manufacturing processes beyond fabric manufacturing are excluded. Leather tanning and product manufacturing are included, but footwear manufacturing is excluded. Wood products are excluded as fiber for the manufacturing sectors of manufactured or mobile homes, prefabricated wood buildings, and furniture. Paper products exclude paper office supplies, envelopes, stationery, and other converted paper manufacturing. Table 1 presents employment, output, and value added of the Georgia food and fiber system as defined above and figures for the other sectors within the economy as well.

Economic Importance of the Georgia Food and Fiber System

Employment in the total food and fiber sector of 858,128 employees is more than any other individual sector in the economy, with agriculture and forestry production and support accounting for 129,115 jobs. Sales/output of \$129.2 billion rank the total food and fiber sector first among all Georgia economic sectors, while total value added of \$53.7 billion is a close second to the largest sector of wholesale and retail trade (non-ag).

The food and fiber sector accounts for 14.1% of employment, 13.4% of sales/output, and 10.0% of value added in the Georgia economy. Food and drink manufacturing has more employment, output, and value added than any other Georgia manufacturing sector. The aggregate food and drink

⁴ The data used in this analysis is secondary data purchased from IMPLAN Group LLC, 16905 Northcross Drive, Suite 120, Huntersville, NC 28078

⁵ Value added is defined as final sales less the cost of materials purchased to produce output (Shaffer, Deller, and Marcouiller, 2004) and is referred to as gross state product in some contexts.

⁶ The IMPLAN model contains 536 aggregated sectors of the economy. In some cases, only portions of an IMPLAN sector are applied as part of the food and fiber system based on industry proportions from the most recently available data from the Economic Census for Georgia.

manufacturing employment of 83,724 jobs is much larger than textile manufacturing with 38,944 jobs, the next highest manufacturing sector. Within the food and fiber system, the food services component has the most employment with 445,582 jobs. Food and drink manufacturing is the largest segment of the food and fiber sector in terms of output and value added.

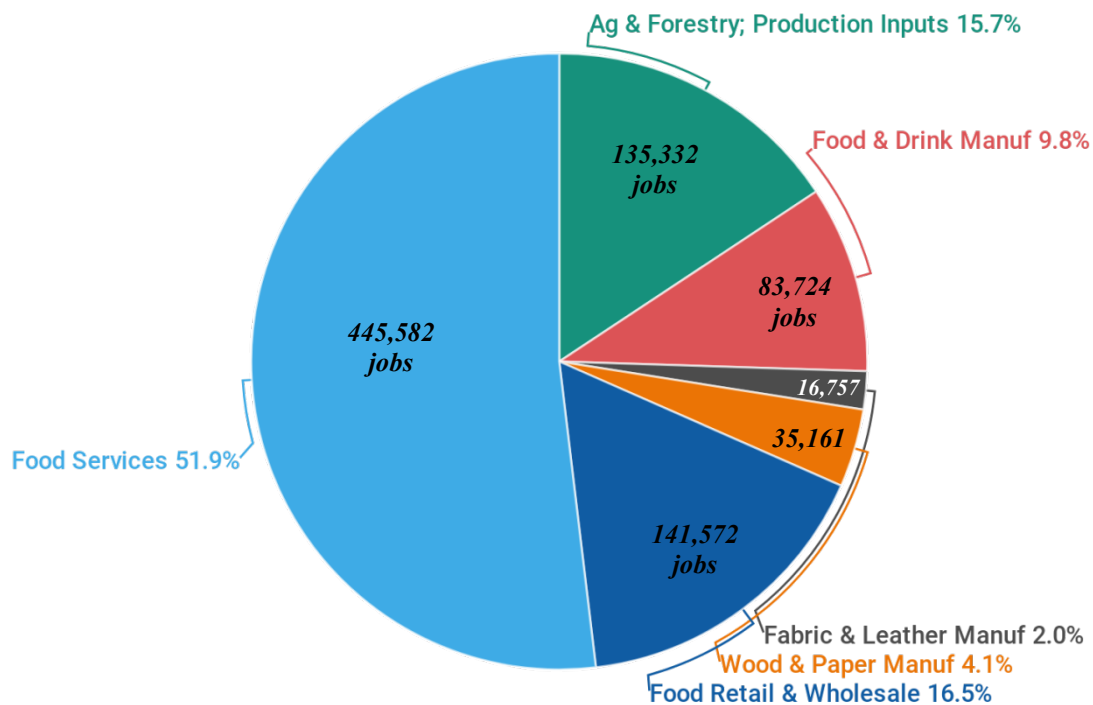
Summary

The food and fiber system is composed of industries involved in agricultural and forestry production, including support services; food and fiber processing and manufacturing; production inputs; food retail and wholesale trade; and food services. Employment in the total food and fiber sector of 858,128 employees is more than any other individual sector in the Georgia economy, as aggregated. This means that more than one in seven Georgians were employed within the food and fiber system in 2017.

Sales of \$129.2 billion rank the total food and fiber sector first among all Georgia economic sectors, while the specific food and drink manufacturers account for more employment and output value than any other Georgia manufacturing sector. Overall, food and fiber accounts for 14.1% of employment, 13.4% of output, and 10.0% of value added in the Georgia economy for 2017.

Employment in Georgia Food and Fiber System, 2017

858,128 Full and Part Time Jobs*



Source: UGA Center for Agribusiness and Economic Development. Calculations by authors using IMPLAN software (www.implan.com).

*Throughout this report, we use the IMPLAN model definition of employment (the same as used by Bureau of Labor Statistics and Bureau of Economic Analysis) that includes full-time, part-time, and seasonal workers. The figure does not represent full time equivalents. (See implan.com glossary).

Table 1. Georgia Employment, Output, and Value Added by Industrial Sector, 2017

| Sector | Employment | Output | Value Added |
|---|------------------|----------------|----------------|
| | # | - \$ Million - | |
| Agricultural & Forestry Products | 129,115 | 13,706 | 5,536 |
| Food & Drink Manufacturing | 83,724 | 48,174 | 16,534 |
| Fabric & Leather Manufacturing | 16,757 | 5,030 | 1,238 |
| Wood & Paper Manufacturing | 35,161 | 16,572 | 5,148 |
| Production Inputs | 6,217 | 3,457 | 1,071 |
| Food Retail & Wholesale Trade | 141,572 | 15,557 | 10,096 |
| Food Services | 445,582 | 26,686 | 14,109 |
| Total Food & Fiber | 858,128 | 129,183 | 53,732 |
| Food & Fiber Percent of Economy | 14.1% | 13.4% | 10.0% |
| Mining | 9,909 | 2,266 | 1,450 |
| Utilities | 21,242 | 23,071 | 8,807 |
| Construction | 315,322 | 54,146 | 25,063 |
| Textiles Manufacturing | 38,944 | 12,162 | 3,557 |
| Paper & Printing | 18,223 | 4,178 | 1,901 |
| Petroleum & Chemicals | 22,262 | 19,858 | 6,179 |
| Nonmetals Manufacturing | 39,992 | 14,117 | 5,073 |
| Metals Manufacturing | 38,826 | 12,747 | 4,141 |
| Machinery & Equipment Manufacturing | 16,513 | 7,151 | 2,574 |
| Electronics Manufacturing | 24,644 | 11,352 | 4,289 |
| Automotive Manufacturing | 26,053 | 15,049 | 2,973 |
| Aircraft Manufacturing | 21,037 | 14,419 | 3,933 |
| Other Transportation Manufacturing | 5,822 | 2,637 | 518 |
| Miscellaneous Manufacturing | 25,427 | 6,118 | 2,279 |
| Wholesale & Retail Trade (Not ag-related) | 630,527 | 86,599 | 55,544 |
| Transportation & Warehousing (Not ag-related) | 277,547 | 46,035 | 23,743 |
| Information Services | 137,169 | 78,140 | 43,536 |
| Finance & Insurance | 276,153 | 77,703 | 43,778 |
| Real Estate, Rental & Leasing | 257,782 | 53,674 | 37,207 |
| Professional Services | 450,500 | 66,686 | 41,876 |
| Health & Social Services | 628,655 | 65,035 | 39,430 |
| Other Support Services | 605,899 | 58,398 | 36,908 |
| Other Personal Svcs, Entertainment & Recreation | 424,047 | 23,051 | 13,469 |
| State & Local Government | 558,688 | 44,680 | 43,928 |
| Federal Government | 196,256 | 24,944 | 24,527 |
| Non-classified & Other | 137,652 | 11,835 | 7,900 |
| Total Non-Food & Fiber | 5,205,092 | 836,050 | 484,582 |
| Total for Georgia | 6,063,221 | 965,233 | 538,315 |

Source: IMPLAN Group, LLC, IMPLAN System (data and software), 16905 NorthCross Drive, Suite 120, Huntersville, NC 28078. www.implan.com. Calculations by authors.

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University of Georgia, Center for Agribusiness and Economic Development, Farm Gate Value Report, 2017. www.caed.uga.edu

Appendix 1. IMPLAN Sectoring Scheme (536)

| IndustryCode | Description |
|--------------|--|
| 0 | Total |
| 1 | Oilseed farming |
| 2 | Grain farming |
| 3 | Vegetable and melon farming |
| 4 | Fruit farming |
| 5 | Tree nut farming |
| 6 | Greenhouse, nursery, and floriculture production |
| 7 | Tobacco farming |
| 8 | Cotton farming |
| 9 | Sugarcane and sugar beet farming |
| 10 | All other crop farming |
| 11 | Beef cattle ranching and farming, including feedlots and dual-purpose ranching and farming |
| 12 | Dairy cattle and milk production |
| 13 | Poultry and egg production |
| 14 | Animal production, except cattle and poultry and eggs |
| 15 | Forestry, forest products, and timber tract production |
| 16 | Commercial logging |
| 17 | Commercial fishing |
| 18 | Commercial hunting and trapping |
| 19 | Support activities for agriculture and forestry |
| 20 | Extraction of natural gas and crude petroleum |
| 21 | Extraction of natural gas liquids |
| 22 | Coal mining |
| 23 | Iron ore mining |
| 24 | Gold ore mining |
| 25 | Silver ore mining |
| 26 | Lead and zinc ore mining |
| 27 | Copper ore mining |
| 28 | Uranium-radium-vanadium ore mining |
| 29 | Other metal ore mining |
| 30 | Stone mining and quarrying |
| 31 | Sand and gravel mining |
| 32 | Other clay, ceramic, refractory minerals mining |
| 33 | Potash, soda, and borate mineral mining |
| 34 | Phosphate rock mining |
| 35 | Other chemical and fertilizer mineral mining |
| 36 | Other nonmetallic minerals |
| 37 | Drilling oil and gas wells |
| 38 | Support activities for oil and gas operations |
| 39 | Metal mining services |
| 40 | Other nonmetallic minerals services |
| 41 | Electric power generation - Hydroelectric |
| 42 | Electric power generation - Fossil fuel |
| 43 | Electric power generation - Nuclear |
| 44 | Electric power generation - Solar |
| 45 | Electric power generation - Wind |
| 46 | Electric power generation - Geothermal |
| 47 | Electric power generation - Biomass |
| 48 | Electric power generation - All other |

Appendix 1. IMPLAN Sectoring Scheme (536)

| | |
|----|--|
| 49 | Electric power transmission and distribution |
| 50 | Natural gas distribution |
| 51 | Water, sewage and other systems |
| 52 | Construction of new health care structures |
| 53 | Construction of new manufacturing structures |
| 54 | Construction of new power and communication structures |
| 55 | Construction of new educational and vocational structures |
| 56 | Construction of new highways and streets |
| 57 | Construction of new commercial structures, including farm structures |
| 58 | Construction of other new nonresidential structures |
| 59 | Construction of new single-family residential structures |
| 60 | Construction of new multifamily residential structures |
| 61 | Construction of other new residential structures |
| 62 | Maintenance and repair construction of nonresidential structures |
| 63 | Maintenance and repair construction of residential structures |
| 64 | Maintenance and repair construction of highways, streets, bridges, and tunnels |
| 65 | Dog and cat food manufacturing |
| 66 | Other animal food manufacturing |
| 67 | Flour milling |
| 68 | Rice milling |
| 69 | Malt manufacturing |
| 70 | Wet corn milling |
| 71 | Soybean and other oilseed processing |
| 72 | Fats and oils refining and blending |
| 73 | Breakfast cereal manufacturing |
| 74 | Beet sugar manufacturing |
| 75 | Sugar cane mills and refining |
| 76 | Nonchocolate confectionery manufacturing |
| 77 | Chocolate and confectionery manufacturing from cacao beans |
| 78 | Confectionery manufacturing from purchased chocolate |
| 79 | Frozen fruits, juices and vegetables manufacturing |
| 80 | Frozen specialties manufacturing |
| 81 | Canned fruits and vegetables manufacturing |
| 82 | Canned specialties |
| 83 | Dehydrated food products manufacturing |
| 84 | Fluid milk manufacturing |
| 85 | Creamery butter manufacturing |
| 86 | Cheese manufacturing |
| 87 | Dry, condensed, and evaporated dairy product manufacturing |
| 88 | Ice cream and frozen dessert manufacturing |
| 89 | Animal, except poultry, slaughtering |
| 90 | Meat processed from carcasses |
| 91 | Rendering and meat byproduct processing |
| 92 | Poultry processing |
| 93 | Seafood product preparation and packaging |
| 94 | Bread and bakery product, except frozen, manufacturing |
| 95 | Frozen cakes and other pastries manufacturing |
| 96 | Cookie and cracker manufacturing |
| 97 | Dry pasta, mixes, and dough manufacturing |
| 98 | Tortilla manufacturing |

Appendix 1. IMPLAN Sectoring Scheme (536)

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|-----|---|
| 99 | Roasted nuts and peanut butter manufacturing |
| 100 | Other snack food manufacturing |
| 101 | Coffee and tea manufacturing |
| 102 | Flavoring syrup and concentrate manufacturing |
| 103 | Mayonnaise, dressing, and sauce manufacturing |
| 104 | Spice and extract manufacturing |
| 105 | All other food manufacturing |
| 106 | Bottled and canned soft drinks & water |
| 107 | Manufactured ice |
| 108 | Breweries |
| 109 | Wineries |
| 110 | Distilleries |
| 111 | Tobacco product manufacturing |
| 112 | Fiber, yarn, and thread mills |
| 113 | Broadwoven fabric mills |
| 114 | Narrow fabric mills and schiffli machine embroidery |
| 115 | Nonwoven fabric mills |
| 116 | Knit fabric mills |
| 117 | Textile and fabric finishing mills |
| 118 | Fabric coating mills |
| 119 | Carpet and rug mills |
| 120 | Curtain and linen mills |
| 121 | Textile bag and canvas mills |
| 122 | Rope, cordage, twine, tire cord and tire fabric mills |
| 123 | Other textile product mills |
| 124 | Hosiery and sock mills |
| 125 | Other apparel knitting mills |
| 126 | Cut and sew apparel contractors |
| 127 | Mens and boys cut and sew apparel manufacturing |
| 128 | Womens and girls cut and sew apparel manufacturing |
| 129 | Other cut and sew apparel manufacturing |
| 130 | Apparel accessories and other apparel manufacturing |
| 131 | Leather and hide tanning and finishing |
| 132 | Footwear manufacturing |
| 133 | Other leather and allied product manufacturing |
| 134 | Sawmills |
| 135 | Wood preservation |
| 136 | Veneer and plywood manufacturing |
| 137 | Engineered wood member and truss manufacturing |
| 138 | Reconstituted wood product manufacturing |
| 139 | Wood windows and door manufacturing |
| 140 | Cut stock, resawing lumber, and planing |
| 141 | Other millwork, including flooring |
| 142 | Wood container and pallet manufacturing |
| 143 | Manufactured home (mobile home) manufacturing |
| 144 | Prefabricated wood building manufacturing |
| 145 | All other miscellaneous wood product manufacturing |
| 146 | Pulp mills |
| 147 | Paper mills |
| 148 | Paperboard mills |

Appendix 1. IMPLAN Sectoring Scheme (536)

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|-----|---|
| 149 | Paperboard container manufacturing |
| 150 | Paper bag and coated and treated paper manufacturing |
| 151 | Stationery product manufacturing |
| 152 | Sanitary paper product manufacturing |
| 153 | All other converted paper product manufacturing |
| 154 | Printing |
| 155 | Support activities for printing |
| 156 | Petroleum refineries |
| 157 | Asphalt paving mixture and block manufacturing |
| 158 | Asphalt shingle and coating materials manufacturing |
| 159 | Petroleum lubricating oil and grease manufacturing |
| 160 | All other petroleum and coal products manufacturing |
| 161 | Petrochemical manufacturing |
| 162 | Industrial gas manufacturing |
| 163 | Synthetic dye and pigment manufacturing |
| 164 | Other basic inorganic chemical manufacturing |
| 165 | Other basic organic chemical manufacturing |
| 166 | Plastics material and resin manufacturing |
| 167 | Synthetic rubber manufacturing |
| 168 | Artificial and synthetic fibers and filaments manufacturing |
| 169 | Nitrogenous fertilizer manufacturing |
| 170 | Phosphatic fertilizer manufacturing |
| 171 | Fertilizer mixing |
| 172 | Pesticide and other agricultural chemical manufacturing |
| 173 | Medicinal and botanical manufacturing |
| 174 | Pharmaceutical preparation manufacturing |
| 175 | In-vitro diagnostic substance manufacturing |
| 176 | Biological product (except diagnostic) manufacturing |
| 177 | Paint and coating manufacturing |
| 178 | Adhesive manufacturing |
| 179 | Soap and other detergent manufacturing |
| 180 | Polish and other sanitation good manufacturing |
| 181 | Surface active agent manufacturing |
| 182 | Toilet preparation manufacturing |
| 183 | Printing ink manufacturing |
| 184 | Explosives manufacturing |
| 185 | Custom compounding of purchased resins |
| 186 | Photographic film and chemical manufacturing |
| 187 | Other miscellaneous chemical product manufacturing |
| 188 | Plastics packaging materials and unlaminated film and sheet manufacturing |
| 189 | Unlaminated plastics profile shape manufacturing |
| 190 | Plastics pipe and pipe fitting manufacturing |
| 191 | Laminated plastics plate, sheet (except packaging), and shape manufacturing |
| 192 | Polystyrene foam product manufacturing |
| 193 | Urethane and other foam product (except polystyrene) manufacturing |
| 194 | Plastics bottle manufacturing |
| 195 | Other plastics product manufacturing |
| 196 | Tire manufacturing |
| 197 | Rubber and plastics hoses and belting manufacturing |
| 198 | Other rubber product manufacturing |

Appendix 1. IMPLAN Sectoring Scheme (536)

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| 199 | Pottery, ceramics, and plumbing fixture manufacturing |
| 200 | Brick, tile, and other structural clay product manufacturing |
| 201 | Flat glass manufacturing |
| 202 | Other pressed and blown glass and glassware manufacturing |
| 203 | Glass container manufacturing |
| 204 | Glass product manufacturing made of purchased glass |
| 205 | Cement manufacturing |
| 206 | Ready-mix concrete manufacturing |
| 207 | Concrete block and brick manufacturing |
| 208 | Concrete pipe manufacturing |
| 209 | Other concrete product manufacturing |
| 210 | Lime manufacturing |
| 211 | Gypsum product manufacturing |
| 212 | Abrasive product manufacturing |
| 213 | Cut stone and stone product manufacturing |
| 214 | Ground or treated mineral and earth manufacturing |
| 215 | Mineral wool manufacturing |
| 216 | Miscellaneous nonmetallic mineral products manufacturing |
| 217 | Iron and steel mills and ferroalloy manufacturing |
| 218 | Iron, steel pipe and tube manufacturing from purchased steel |
| 219 | Rolled steel shape manufacturing |
| 220 | Steel wire drawing |
| 221 | Alumina refining and primary aluminum production |
| 222 | Secondary smelting and alloying of aluminum |
| 223 | Aluminum sheet, plate, and foil manufacturing |
| 224 | Other aluminum rolling, drawing and extruding |
| 225 | Nonferrous metal (exc aluminum) smelting and refining |
| 226 | Copper rolling, drawing, extruding and alloying |
| 227 | Nonferrous metal, except copper and aluminum, shaping |
| 228 | Secondary processing of other nonferrous metals |
| 229 | Ferrous metal foundries |
| 230 | Nonferrous metal foundries |
| 231 | Iron and steel forging |
| 232 | Nonferrous forging |
| 233 | Custom roll forming |
| 234 | Crown and closure manufacturing and metal stamping |
| 235 | Cutlery, utensil, pot, and pan manufacturing |
| 236 | Handtool manufacturing |
| 237 | Prefabricated metal buildings and components manufacturing |
| 238 | Fabricated structural metal manufacturing |
| 239 | Plate work manufacturing |
| 240 | Metal window and door manufacturing |
| 241 | Sheet metal work manufacturing |
| 242 | Ornamental and architectural metal work manufacturing |
| 243 | Power boiler and heat exchanger manufacturing |
| 244 | Metal tank (heavy gauge) manufacturing |
| 245 | Metal cans manufacturing |
| 246 | Metal barrels, drums and pails manufacturing |
| 247 | Hardware manufacturing |
| 248 | Spring and wire product manufacturing |

Appendix 1. IMPLAN Sectoring Scheme (536)

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|-----|---|
| 249 | Machine shops |
| 250 | Turned product and screw, nut, and bolt manufacturing |
| 251 | Metal heat treating |
| 252 | Metal coating and nonprecious engraving |
| 253 | Electroplating, anodizing, and coloring metal |
| 254 | Valve and fittings, other than plumbing, manufacturing |
| 255 | Plumbing fixture fitting and trim manufacturing |
| 256 | Ball and roller bearing manufacturing |
| 257 | Small arms ammunition manufacturing |
| 258 | Ammunition, except for small arms, manufacturing |
| 259 | Small arms, ordnance, and accessories manufacturing |
| 260 | Fabricated pipe and pipe fitting manufacturing |
| 261 | Other fabricated metal manufacturing |
| 262 | Farm machinery and equipment manufacturing |
| 263 | Lawn and garden equipment manufacturing |
| 264 | Construction machinery manufacturing |
| 265 | Mining machinery and equipment manufacturing |
| 266 | Oil and gas field machinery and equipment manufacturing |
| 267 | Food product machinery manufacturing |
| 268 | Semiconductor machinery manufacturing |
| 269 | Sawmill, woodworking, and paper machinery |
| 270 | Printing machinery and equipment manufacturing |
| 271 | All other industrial machinery manufacturing |
| 272 | Optical instrument and lens manufacturing |
| 273 | Photographic and photocopying equipment manufacturing |
| 274 | Other commercial service industry machinery manufacturing |
| 275 | Air purification and ventilation equipment manufacturing |
| 276 | Heating equipment (except warm air furnaces) manufacturing |
| 277 | Air conditioning, refrigeration, and warm air heating equipment manufacturing |
| 278 | Industrial mold manufacturing |
| 279 | Special tool, die, jig, and fixture manufacturing |
| 280 | Cutting tool and machine tool accessory manufacturing |
| 281 | Machine tool manufacturing |
| 282 | Rolling mill and other metalworking machinery manufacturing |
| 283 | Turbine and turbine generator set units manufacturing |
| 284 | Speed changer, industrial high-speed drive, and gear manufacturing |
| 285 | Mechanical power transmission equipment manufacturing |
| 286 | Other engine equipment manufacturing |
| 287 | Pump and pumping equipment manufacturing |
| 288 | Air and gas compressor manufacturing |
| 289 | Measuring and dispensing pump manufacturing |
| 290 | Elevator and moving stairway manufacturing |
| 291 | Conveyor and conveying equipment manufacturing |
| 292 | Overhead cranes, hoists, and monorail systems manufacturing |
| 293 | Industrial truck, trailer, and stacker manufacturing |
| 294 | Power-driven handtool manufacturing |
| 295 | Welding and soldering equipment manufacturing |
| 296 | Packaging machinery manufacturing |
| 297 | Industrial process furnace and oven manufacturing |
| 298 | Fluid power cylinder and actuator manufacturing |

Appendix 1. IMPLAN Sectoring Scheme (536)

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|-----|---|
| 299 | Fluid power pump and motor manufacturing |
| 300 | Scales, balances, and miscellaneous general purpose machinery manufacturing |
| 301 | Electronic computer manufacturing |
| 302 | Computer storage device manufacturing |
| 303 | Computer terminals and other computer peripheral equipment manufacturing |
| 304 | Telephone apparatus manufacturing |
| 305 | Broadcast and wireless communications equipment manufacturing |
| 306 | Other communications equipment manufacturing |
| 307 | Audio and video equipment manufacturing |
| 308 | Bare printed circuit board manufacturing |
| 309 | Semiconductor and related device manufacturing |
| 310 | Capacitor, resistor, coil, transformer, and other inductor manufacturing |
| 311 | Electronic connector manufacturing |
| 312 | Printed circuit assembly (electronic assembly) manufacturing |
| 313 | Other electronic component manufacturing |
| 314 | Electromedical and electrotherapeutic apparatus manufacturing |
| 315 | Search, detection, and navigation instruments manufacturing |
| 316 | Automatic environmental control manufacturing |
| 317 | Industrial process variable instruments manufacturing |
| 318 | Totalizing fluid meter and counting device manufacturing |
| 319 | Electricity and signal testing instruments manufacturing |
| 320 | Analytical laboratory instrument manufacturing |
| 321 | Irradiation apparatus manufacturing |
| 322 | Watch, clock, and other measuring and controlling device manufacturing |
| 323 | Blank magnetic and optical recording media manufacturing |
| 324 | Software and other prerecorded and record reproducing |
| 325 | Electric lamp bulb and part manufacturing |
| 326 | Lighting fixture manufacturing |
| 327 | Small electrical appliance manufacturing |
| 328 | Household cooking appliance manufacturing |
| 329 | Household refrigerator and home freezer manufacturing |
| 330 | Household laundry equipment manufacturing |
| 331 | Other major household appliance manufacturing |
| 332 | Power, distribution, and specialty transformer manufacturing |
| 333 | Motor and generator manufacturing |
| 334 | Switchgear and switchboard apparatus manufacturing |
| 335 | Relay and industrial control manufacturing |
| 336 | Storage battery manufacturing |
| 337 | Primary battery manufacturing |
| 338 | Fiber optic cable manufacturing |
| 339 | Other communication and energy wire manufacturing |
| 340 | Wiring device manufacturing |
| 341 | Carbon and graphite product manufacturing |
| 342 | All other miscellaneous electrical equipment and component manufacturing |
| 343 | Automobile manufacturing |
| 344 | Light truck and utility vehicle manufacturing |
| 345 | Heavy duty truck manufacturing |
| 346 | Motor vehicle body manufacturing |
| 347 | Truck trailer manufacturing |
| 348 | Motor home manufacturing |

Appendix 1. IMPLAN Sectoring Scheme (536)

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| 349 | Travel trailer and camper manufacturing |
| 350 | Motor vehicle gasoline engine and engine parts manufacturing |
| 351 | Motor vehicle electrical and electronic equipment manufacturing |
| 352 | Motor vehicle steering, suspension component (except spring), and brake systems manufacturing |
| 353 | Motor vehicle transmission and power train parts manufacturing |
| 354 | Motor vehicle seating and interior trim manufacturing |
| 355 | Motor vehicle metal stamping |
| 356 | Other motor vehicle parts manufacturing |
| 357 | Aircraft manufacturing |
| 358 | Aircraft engine and engine parts manufacturing |
| 359 | Other aircraft parts and auxiliary equipment manufacturing |
| 360 | Guided missile and space vehicle manufacturing |
| 361 | Propulsion units and parts for space vehicles and guided missiles manufacturing |
| 362 | Railroad rolling stock manufacturing |
| 363 | Ship building and repairing |
| 364 | Boat building |
| 365 | Motorcycle, bicycle, and parts manufacturing |
| 366 | Military armored vehicle, tank, and tank component manufacturing |
| 367 | All other transportation equipment manufacturing |
| 368 | Wood kitchen cabinet and countertop manufacturing |
| 369 | Upholstered household furniture manufacturing |
| 370 | Nonupholstered wood household furniture manufacturing |
| 371 | Other household nonupholstered furniture manufacturing |
| 372 | Institutional furniture manufacturing |
| 373 | Wood office furniture manufacturing |
| 374 | Custom architectural woodwork and millwork |
| 375 | Office furniture, except wood, manufacturing |
| 376 | Showcase, partition, shelving, and locker manufacturing |
| 377 | Mattress manufacturing |
| 378 | Blind and shade manufacturing |
| 379 | Surgical and medical instrument manufacturing |
| 380 | Surgical appliance and supplies manufacturing |
| 381 | Dental equipment and supplies manufacturing |
| 382 | Ophthalmic goods manufacturing |
| 383 | Dental laboratories |
| 384 | Jewelry and silverware manufacturing |
| 385 | Sporting and athletic goods manufacturing |
| 386 | Doll, toy, and game manufacturing |
| 387 | Office supplies (except paper) manufacturing |
| 388 | Sign manufacturing |
| 389 | Gasket, packing, and sealing device manufacturing |
| 390 | Musical instrument manufacturing |
| 391 | Fasteners, buttons, needles, and pins manufacturing |
| 392 | Broom, brush, and mop manufacturing |
| 393 | Burial casket manufacturing |
| 394 | All other miscellaneous manufacturing |
| 395 | Wholesale trade |
| 396 | Retail - Motor vehicle and parts dealers |
| 397 | Retail - Furniture and home furnishings stores |

Appendix 1. IMPLAN Sectoring Scheme (536)

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| 398 | Retail - Electronics and appliance stores |
| 399 | Retail - Building material and garden equipment and supplies stores |
| 400 | Retail - Food and beverage stores |
| 401 | Retail - Health and personal care stores |
| 402 | Retail - Gasoline stores |
| 403 | Retail - Clothing and clothing accessories stores |
| 404 | Retail - Sporting goods, hobby, musical instrument and book stores |
| 405 | Retail - General merchandise stores |
| 406 | Retail - Miscellaneous store retailers |
| 407 | Retail - Nonstore retailers |
| 408 | Air transportation |
| 409 | Rail transportation |
| 410 | Water transportation |
| 411 | Truck transportation |
| 412 | Transit and ground passenger transportation |
| 413 | Pipeline transportation |
| 414 | Scenic and sightseeing transportation and support activities for transportation |
| 415 | Couriers and messengers |
| 416 | Warehousing and storage |
| 417 | Newspaper publishers |
| 418 | Periodical publishers |
| 419 | Book publishers |
| 420 | Directory, mailing list, and other publishers |
| 421 | Greeting card publishing |
| 422 | Software publishers |
| 423 | Motion picture and video industries |
| 424 | Sound recording industries |
| 425 | Radio and television broadcasting |
| 426 | Cable and other subscription programming |
| 427 | Wired telecommunications carriers |
| 428 | Wireless telecommunications carriers (except satellite) |
| 429 | Satellite, telecommunications resellers, and all other telecommunications |
| 430 | Data processing, hosting, and related services |
| 431 | News syndicates, libraries, archives and all other information services |
| 432 | Internet publishing and broadcasting and web search portals |
| 433 | Monetary authorities and depository credit intermediation |
| 434 | Nondepository credit intermediation and related activities |
| 435 | Securities and commodity contracts intermediation and brokerage |
| 436 | Other financial investment activities |
| 437 | Insurance carriers |
| 438 | Insurance agencies, brokerages, and related activities |
| 439 | Funds, trusts, and other financial vehicles |
| 440 | Real estate |
| 441 | Owner-occupied dwellings |
| 442 | Automotive equipment rental and leasing |
| 443 | General and consumer goods rental except video tapes and discs |
| 444 | Video tape and disc rental |
| 445 | Commercial and industrial machinery and equipment rental and leasing |
| 446 | Lessors of nonfinancial intangible assets |
| 447 | Legal services |

Appendix 1. IMPLAN Sectoring Scheme (536)

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| 448 | Accounting, tax preparation, bookkeeping, and payroll services |
| 449 | Architectural, engineering, and related services |
| 450 | Specialized design services |
| 451 | Custom computer programming services |
| 452 | Computer systems design services |
| 453 | Other computer related services, including facilities management |
| 454 | Management consulting services |
| 455 | Environmental and other technical consulting services |
| 456 | Scientific research and development services |
| 457 | Advertising, public relations, and related services |
| 458 | Photographic services |
| 459 | Veterinary services |
| 460 | Marketing research and all other miscellaneous professional, scientific, and technical services |
| 461 | Management of companies and enterprises |
| 462 | Office administrative services |
| 463 | Facilities support services |
| 464 | Employment services |
| 465 | Business support services |
| 466 | Travel arrangement and reservation services |
| 467 | Investigation and security services |
| 468 | Services to buildings |
| 469 | Landscape and horticultural services |
| 470 | Other support services |
| 471 | Waste management and remediation services |
| 472 | Elementary and secondary schools |
| 473 | Junior colleges, colleges, universities, and professional schools |
| 474 | Other educational services |
| 475 | Offices of physicians |
| 476 | Offices of dentists |
| 477 | Offices of other health practitioners |
| 478 | Outpatient care centers |
| 479 | Medical and diagnostic laboratories |
| 480 | Home health care services |
| 481 | Other ambulatory health care services |
| 482 | Hospitals |
| 483 | Nursing and community care facilities |
| 484 | Residential mental retardation, mental health, substance abuse and other facilities |
| 485 | Individual and family services |
| 486 | Community food, housing, and other relief services, including rehabilitation services |
| 487 | Child day care services |
| 488 | Performing arts companies |
| 489 | Commercial Sports Except Racing |
| 490 | Racing and Track Operation |
| 491 | Promoters of performing arts and sports and agents for public figures |
| 492 | Independent artists, writers, and performers |
| 493 | Museums, historical sites, zoos, and parks |
| 494 | Amusement parks and arcades |
| 495 | Gambling industries (except casino hotels) |
| 496 | Other amusement and recreation industries |
| 497 | Fitness and recreational sports centers |

Appendix 1. IMPLAN Sectoring Scheme (536)

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| 498 | Bowling centers |
| 499 | Hotels and motels, including casino hotels |
| 500 | Other accommodations |
| 501 | Full-service restaurants |
| 502 | Limited-service restaurants |
| 503 | All other food and drinking places |
| 504 | Automotive repair and maintenance, except car washes |
| 505 | Car washes |
| 506 | Electronic and precision equipment repair and maintenance |
| 507 | Commercial and industrial machinery and equipment repair and maintenance |
| 508 | Personal and household goods repair and maintenance |
| 509 | Personal care services |
| 510 | Death care services |
| 511 | Dry-cleaning and laundry services |
| 512 | Other personal services |
| 513 | Religious organizations |
| 514 | Grantmaking, giving, and social advocacy organizations |
| 515 | Business and professional associations |
| 516 | Labor and civic organizations |
| 517 | Private households |
| 518 | Postal service |
| 519 | Federal electric utilities |
| 520 | Other federal government enterprises |
| 521 | State government passenger transit |
| 522 | State government electric utilities |
| 523 | Other state government enterprises |
| 524 | Local government passenger transit |
| 525 | Local government electric utilities |
| 526 | Other local government enterprises |
| 527 | * Not an industry (Used and secondhand goods) |
| 528 | * Not an industry (Scrap) |
| 529 | * Not an industry (Rest of world adjustment) |
| 530 | * Not an industry (Noncomparable foreign imports) |
| 531 | * Employment and payroll of state govt, non-education |
| 532 | * Employment and payroll of state govt, education |
| 533 | * Employment and payroll of local govt, non-education |
| 534 | * Employment and payroll of local govt, education |
| 535 | * Employment and payroll of federal govt, non-military |
| 536 | * Employment and payroll of federal govt, military |

The Center for Agribusiness and Economic Development

The Center for Agribusiness and Economic Development is a unit of the College of Agricultural and Environmental Sciences of the University of Georgia, combining the missions of research and extension. The Center has among its objectives:

To provide feasibility and other short term studies for current or potential Georgia agribusiness firms and/or emerging food and fiber industries.

To provide agricultural, natural resource, and demographic data for private and public decision makers.

To find out more, visit our website at www.caed.uga.edu.

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Report Number: CR-19-12

September 2019

Issued in furtherance of Cooperation Extension Acts of May 8 and June 30, 1914, the University of Georgia College of Agricultural and Environmental Sciences, and the U.S. Department of Agriculture cooperating.

Sam Pardue, Dean and Director



**College of Agricultural &
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