



The University of Georgia

Center for Agribusiness and Economic Development

College of Agricultural and Environmental Sciences

Economic Importance of Food and Fiber in the Georgia Economy, 2011

**Prepared by:
Sharon P. Kane and Kent Wolfe
Center Report: CR-13-02
February 2013**



Economic Importance of Food and Fiber in the Georgia Economy, 2011

Executive Summary

Economic activity that begins with production of food and fiber products forms an integrated system that impacts the state economy. The system includes production inputs, direct processing, further processing, distribution, and retail consumption. 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 707,994 employees is more than any other sector in the economy. Sales of \$110.9 billion rank the total food and fiber sector first among all Georgia economic sectors. The food and drink manufacturing sector has more employment and output value than any other Georgia manufacturing sector. Overall, food and fiber accounts for 13.7% of employment, 15.3% of output, and 11.1% of value added in the Georgia economy for 2011.

Economic Importance of Food and Fiber in the Georgia Economy, 2011¹

Food and fiber products are necessities for Georgia consumers. Economic activity that begins with production of food and fiber products forms an integrated system that impacts the state economy. The system includes production inputs, direct processing, further processing, distribution, and retail consumption. This report has two sections: 1) definition of components included in the food and fiber system, and 2) quantification of contributions to the state economy in terms of employment, output, and value added.

Economic Sectors of the Georgia Food and Fiber System

Sector data applied in this analysis are from the Minnesota IMPLAN Group, Inc. for 2011. Previous studies serve as a guide in defining sectors included in the Georgia food and fiber system. Farm and farm-related employment are defined by USDA, ERS 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. Indirect agribusinesses have between 32% and 50% of employment providing goods and services related to agricultural products. Industries are aggregated into groups related to farm production; agricultural services, forestry, and fishing; agricultural input industries; agricultural processing and marketing industries; wholesale and retail trade of agricultural products; and indirect agribusiness (USDA, ERS 2005). Earlier analysis of the Georgia food and fiber economy by Kriesel and Jones (1998) is patterned from a study by Sporleder, Hushak, and Pai (1990). Kriesel and Jones determined that the food and fiber system composed 16% of total employment for the 1995 Georgia economy. Food and fiber made up 16% of output in terms of sales value and 12% of value added.

This report follows elements of the aforementioned studies (USDA, ERS 2005, Kriesel and Jones 1998) while proposing a revised listing of sectors to include in the food and fiber system. Categories of the food and fiber system are: 1) agricultural and forestry production, including support services, 2) food and fiber processing and manufacturing, 3) production inputs, 4) food retail and wholesale trade, and 5) food services. Food and fiber employment, output (sales), and value-added are derived from the IMPLAN model 440-sector scheme. Food commodities are regarded as food throughout the system, from production to final consumption. 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. 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. A listing of IMPLAN sectors included in the food and fiber system is presented in Table 1. Appendix 1 is the complete IMPLAN sectoring scheme. The IMPLAN sector 326 for gasoline stations includes gasoline stations with convenience stores (U.S. Census Bureau, NAICS 2007).

¹ 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.

Table 1. IMPLAN Sectors Included in the Food and Fiber System

| IMPLAN | | IMPLAN | |
|--------|---|--------|---|
| Code | Sector | Code | Sector |
| 1 | Oilseed Farming | 65 | Snack Food Manuf. |
| 2 | Grain Farming | 66 | Coffee & Tea Manuf. |
| 3 | Vegetable & Melon Farming | 67 | Flavoring Syrup & Concentrate Manuf. |
| 4 | Tree Nut Farming | 68 | Seasoning & Dressing Manuf. |
| 5 | Fruit Farming | 69 | All Other Food Manuf. |
| 6 | Greenhouse, Nursery, & Floriculture | 70 | Soft Drink & Ice Manuf. |
| 7 | Tobacco Farming | 71 | Breweries |
| 8 | Cotton Farming | 72 | Wineries |
| 9 | Sugarcane & Sugar Beet Farming | 73 | Distilleries |
| 10 | All Other Crop Farming | 74 | Tobacco Product Manuf. |
| 11 | Cattle Ranching & Farming | 75 | Fiber, Yarn, & Thread Mills |
| 12 | Dairy Cattle & Milk Production | 76 | Broadwoven Fabric Mills |
| 13 | Poultry & Egg Production | 77 | Narrow Fabric Mills & Schiffli Embroidery |
| 14 | Animal Production, Exc. Cattle & Poultry | 92 | Leather & Hide Tanning |
| 15 | Forest Nurseries, Forest Products, & Timber | 94 | Other Leather & Allied Product Manuf. |
| 16 | Commercial Logging | 95 | Sawmills & Wood Preservation |
| 17 | Commercial Fishing | 96 | Veneer & Plywood Manuf. |
| 18 | Commercial Hunting & Trapping | 97 | Engin. Wood Member & Truss Manuf. |
| 19 | Support Activities for Agriculture & Forest | 98 | Reconstituted Wood Product Manuf. |
| 41 | Dog & Cat Food Manuf. | 99 | Wood Windows & Door Manuf. |
| 42 | Other Animal Food Manuf. | 100 | Wood Container & Pallet Manuf. |
| 43 | Flour Milling | 103 | Miscellaneous Wood Product Manuf. |
| 45 | Soybean & Other Oilseed Processing | 104 | Pulp Mills |
| 46 | Fats & Oils Refining & Blending | 105 | Paper Mills |
| 47 | Breakfast Cereal Manuf. | 106 | Paperboard Mills |
| 48 | Sugar Manuf. | 107 | Paperboard Container Manuf. |
| 50 | Confectionery Manuf. from Cocoa Beans | 108 | Coated & Laminated Paper & Packaging |
| 51 | Confectionery Manuf. from Purchased Chocolate | 109 | Other Paper Bag, Coated & Treated Paper |
| 52 | Nonchocolate Confectionery Manuf. | 130 | Fertilizer Manuf. |
| 53 | Frozen Food Manuf. | 131 | Pesticide & Other Ag. Chemical Manuf. |
| 54 | Fruit & Vegetable Manuf. | 203 | Farm Machinery & Equipment Manuf. |
| 55 | Fluid Milk & Butter Manuf. | 204 | Lawn & Garden Equipment Manuf. |
| 56 | Cheese Manuf. | 207 | Other Industrial Machinery Manuf. |
| 57 | Dry, Condensed, & Evaporated Dairy Products | 319 | Wholesale Trade* |
| 58 | Ice Cream & Frozen Dessert Manuf. | 324 | Food & Beverage Stores* |
| 59 | Animal, Except Poultry Slaughtering | 326 | Gasoline Stations* |
| 60 | Poultry Processing | 329 | General Merchandise Stores* |
| 61 | Seafood Product Preparation & Packaging | 340 | Warehousing and storage* |
| 62 | Bread & Bakery Product, Except Frozen, Manuf. | 388 | Landscape Services* |
| 63 | Cookie & Cracker Manuf. | 413 | Food Service & Drinking Places |
| 64 | Tortilla Manuf. | | |

* IMPLAN sectors 319, 324, 326, 329, 340, and 388 are adjusted to derive the food portion by applying data from the 2007 Economic Census (US Census Bureau, released 2010).

Table 2 presents employment, output, and value added of the Georgia food and fiber system. Food warehousing and storage is aggregated with retail and wholesale trade. Value added is defined as final sales less the cost of materials purchased to produce output (Shaffer, Deller, and Marcouiller 2004). Value-added is also referred to as gross state product. Employment, output, and value added for industries outside of the food and fiber system are also included in Table 2. Employment in the total food and fiber sector of 707,994 employees is more than any other individual sector in the economy. Sales/output of \$110.9 billion rank the total food and fiber sector first among all Georgia economic sectors. Total value added of \$46 billion is the second largest sector after the aggregate sector of financial, real estate, and rental services. Food and fiber accounts for 13.7% of employment, 15.3% of sales/output, and 11.1% 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 manufacturing employment of 67,361 jobs is much larger than textile manufacturing with 39,686 jobs, the next highest manufacturing sector. Within the food and fiber system, the food services component has the most employment with 342,032 jobs. Food and drink manufacturing has the greatest output and value added within the food and fiber sector.

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 707,994 employees is more than any other individual sector in the Georgia economy. This means that more than one in seven Georgians were employed within the food and fiber system in 2011.

Sales of \$110.9 billion rank the total food and fiber sector first among all Georgia economic sectors. The food and drink manufacturing sector has more employment and output value than any other Georgia manufacturing sector. Overall, food and fiber accounts for 13.7% of employment, 15.3% of output, and 11.1% of value added in the Georgia economy for 2011.

Table 2. Georgia Employment, Output, and Value Added by Industrial Sector, 2011

| Sector | Employment | Output | Value Added |
|--|------------------|----------------|----------------|
| | # | - \$ Million - | |
| Agricultural & Forestry Products | 104,215 | 12,337 | 4,597 |
| Food & Drink Manufacturing | 67,361 | 45,862 | 16,363 |
| Fabric & Leather Manufacturing | 15,722 | 4,320 | 897 |
| Wood & Paper Manufacturing | 31,270 | 12,673 | 3,287 |
| Production Inputs | 6,284 | 3,581 | 1,043 |
| Food Retail & Wholesale Trade | 141,109 | 12,898 | 9,319 |
| Food Services | 342,032 | 19,195 | 10,460 |
| Total Food & Fiber | 707,994 | 110,865 | 45,966 |
| Food & Fiber Percent of Economy | 13.7% | 15.3% | 11.1% |
| Mining | 8,150 | 4,480 | 3,267 |
| Utilities | 20,810 | 16,455 | 8,999 |
| Construction | 260,022 | 27,260 | 13,799 |
| Textiles Manufacturing | 39,686 | 10,752 | 2,628 |
| Printing | 18,814 | 3,990 | 1,416 |
| Petroleum & Chemicals Manufacturing | 19,921 | 19,367 | 4,478 |
| Nonmetals Manufacturing | 34,120 | 10,009 | 3,261 |
| Metals Manufacturing | 30,434 | 10,462 | 2,263 |
| Machinery & Equipment Manufacturing | 15,177 | 6,108 | 2,112 |
| Electronics Manufacturing | 22,375 | 10,163 | 3,013 |
| Automotive Manufacturing | 17,685 | 11,830 | 1,067 |
| Aircraft Manufacturing | 21,568 | 11,614 | 1,640 |
| Other Transportation Manufacturing | 3,113 | 1,469 | 253 |
| Miscellaneous Manufacturing | 24,052 | 5,300 | 2,808 |
| Wholesale & Retail Trade | 606,730 | 61,858 | 44,701 |
| Transportation & Warehousing | 194,383 | 32,575 | 15,941 |
| Information Services | 109,803 | 47,369 | 25,337 |
| Financial, Real Estate, & Rental Services | 483,088 | 97,235 | 62,324 |
| Professional Services | 360,347 | 45,611 | 32,740 |
| Health & Social Services | 586,044 | 51,081 | 31,379 |
| Other Support Services | 494,089 | 37,344 | 23,883 |
| Other Personal Services | 317,268 | 19,584 | 11,218 |
| State Government | 568,728 | 34,456 | 31,194 |
| Federal Government | 196,772 | 38,070 | 37,618 |
| Total Non-Food & Fiber | 4,453,178 | 614,442 | 367,338 |
| Total Georgia Economy | 5,161,172 | 725,307 | 413,304 |

Source: MIG, Inc., IMPLAN System (data and software), 502 2nd Street, Suite 301, Hudson, WI 54016
www.implan.com. Calculations by authors.

References

- Kriesel and Jones. 1998. "The Economic Importance of the Food and Fiber Sectors in the Georgia State Economy." Center for Agribusiness and Economic Development, Center Staff Report No. 3, Athens, GA.
- MIG, Inc., IMPLAN System (data and software), 502 2nd Street, Suite 301, Hudson, WI 54016 www.implan.com.
- Shaffer, Deller, and Marcouiller. 2004. *Community Economics – Linking Theory and Practice*, 2nd Edition. Blackwell Publishing, Ames, IA.
- Sporleder, Hushak, and Pai. 1990. "OHFOOD: An Ohio Food Industries Input-Output Model." AERS, The Ohio State University, Farm Income Enhancement Study No. 127. Columbus, OH.
- United States Census Bureau, *2007 Economic Census, Economy-Wide Key Statistics: 2007, Industry Quick Report*. Released 12/1/2009, accessed online February 22, 2010 at factfinder.census.gov.
- United States Census Bureau, North American Industrial Classification System (NAICS). 2007. "2007 NAICS Codes," Available at <http://www.census.gov/cgi-bin/sssd/naics/naicsrch?chart=2007>.
- USDA, Economic Research Service. 2005. "Farm and Farm-Related Employment: NAICS Industry Groups and Components," Available at <http://www.ers.usda.gov/Data/FarmandRelatedEmployment/NAICS-Industries.htm> (Accessed March 2008).

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|--|
| 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 | Cattle 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 oil and natural gas |
| 21 | Mining coal |
| 22 | Mining iron ore |
| 23 | Mining copper, nickel, lead, and zinc |
| 24 | Mining gold, silver, and other metal ore |
| 25 | Mining and quarrying stone |
| 26 | Mining and quarrying sand, gravel, clay, and ceramic and refractory minerals |
| 27 | Mining and quarrying other nonmetallic minerals |
| 28 | Drilling oil and gas wells |
| 29 | Support activities for oil and gas operations |
| 30 | Support activities for other mining |
| 31 | Electric power generation, transmission, and distribution |
| 32 | Natural gas distribution |
| 33 | Water, sewage and other treatment and delivery systems |
| 34 | Construction of new nonresidential commercial and health care structures |
| 35 | Construction of new nonresidential manufacturing structures |
| 36 | Construction of other new nonresidential structures |
| 37 | Construction of new residential permanent site single- and multi-family structures |
| 38 | Construction of other new residential structures |
| 39 | Maintenance and repair construction of nonresidential structures |
| 40 | Maintenance and repair construction of residential structures |
| 41 | Dog and cat food manufacturing |
| 42 | Other animal food manufacturing |
| 43 | Flour milling and malt manufacturing |
| 44 | Wet corn milling |
| 45 | Soybean and other oilseed processing |
| 46 | Fats and oils refining and blending |
| 47 | Breakfast cereal manufacturing |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|---|
| 48 | Sugar cane mills and refining |
| 49 | Beet sugar manufacturing |
| 50 | Chocolate and confectionery manufacturing from cacao beans |
| 51 | Confectionery manufacturing from purchased chocolate |
| 52 | Nonchocolate confectionery manufacturing |
| 53 | Frozen food manufacturing |
| 54 | Fruit and vegetable canning, pickling, and drying |
| 55 | Fluid milk and butter manufacturing |
| 56 | Cheese manufacturing |
| 57 | Dry, condensed, and evaporated dairy product manufacturing |
| 58 | Ice cream and frozen dessert manufacturing |
| 59 | Animal (except poultry) slaughtering, rendering, and processing |
| 60 | Poultry processing |
| 61 | Seafood product preparation and packaging |
| 62 | Bread and bakery product manufacturing |
| 63 | Cookie, cracker, and pasta manufacturing |
| 64 | Tortilla manufacturing |
| 65 | Snack food manufacturing |
| 66 | Coffee and tea manufacturing |
| 67 | Flavoring syrup and concentrate manufacturing |
| 68 | Seasoning and dressing manufacturing |
| 69 | All other food manufacturing |
| 70 | Soft drink and ice manufacturing |
| 71 | Breweries |
| 72 | Wineries |
| 73 | Distilleries |
| 74 | Tobacco product manufacturing |
| 75 | Fiber, yarn, and thread mills |
| 76 | Broadwoven fabric mills |
| 77 | Narrow fabric mills and schiffli machine embroidery |
| 78 | Nonwoven fabric mills |
| 79 | Knit fabric mills |
| 80 | Textile and fabric finishing mills |
| 81 | Fabric coating mills |
| 82 | Carpet and rug mills |
| 83 | Curtain and linen mills |
| 84 | Textile bag and canvas mills |
| 85 | All other textile product mills |
| 86 | Apparel knitting mills |
| 87 | Cut and sew apparel contractors |
| 88 | Mens and boys cut and sew apparel manufacturing |
| 89 | Womens and girls cut and sew apparel manufacturing |
| 90 | Other cut and sew apparel manufacturing |
| 91 | Apparel accessories and other apparel manufacturing |
| 92 | Leather and hide tanning and finishing |
| 93 | Footwear manufacturing |
| 94 | Other leather and allied product manufacturing |

| Appendix 1. IMPLAN Sectoring Scheme | |
|--|---|
| Industry Code | Description |
| 95 | Sawmills and wood preservation |
| 96 | Veneer and plywood manufacturing |
| 97 | Engineered wood member and truss manufacturing |
| 98 | Reconstituted wood product manufacturing |
| 99 | Wood windows and doors and millwork manufacturing |
| 100 | Wood container and pallet manufacturing |
| 101 | Manufactured home (mobile home) manufacturing |
| 102 | Prefabricated wood building manufacturing |
| 103 | All other miscellaneous wood product manufacturing |
| 104 | Pulp mills |
| 105 | Paper mills |
| 106 | Paperboard Mills |
| 107 | Paperboard container manufacturing |
| 108 | Coated and laminated paper, packaging paper and plastics film manufacturing |
| 109 | All other paper bag and coated and treated paper manufacturing |
| 110 | Stationery product manufacturing |
| 111 | Sanitary paper product manufacturing |
| 112 | All other converted paper product manufacturing |
| 113 | Printing |
| 114 | Support activities for printing |
| 115 | Petroleum refineries |
| 116 | Asphalt paving mixture and block manufacturing |
| 117 | Asphalt shingle and coating materials manufacturing |
| 118 | Petroleum lubricating oil and grease manufacturing |
| 119 | All other petroleum and coal products manufacturing |
| 120 | Petrochemical manufacturing |
| 121 | Industrial gas manufacturing |
| 122 | Synthetic dye and pigment manufacturing |
| 123 | Alkalies and chlorine manufacturing |
| 124 | Carbon black manufacturing |
| 125 | All other basic inorganic chemical manufacturing |
| 126 | Other basic organic chemical manufacturing |
| 127 | Plastics material and resin manufacturing |
| 128 | Synthetic rubber manufacturing |
| 129 | Artificial and synthetic fibers and filaments manufacturing |
| 130 | Fertilizer manufacturing |
| 131 | Pesticide and other agricultural chemical manufacturing |
| 132 | Medicinal and botanical manufacturing |
| 133 | Pharmaceutical preparation manufacturing |
| 134 | In-vitro diagnostic substance manufacturing |
| 135 | Biological product (except diagnostic) manufacturing |
| 136 | Paint and coating manufacturing |
| 137 | Adhesive manufacturing |
| 138 | Soap and cleaning compound manufacturing |
| 139 | Toilet preparation manufacturing |
| 140 | Printing ink manufacturing |
| 141 | All other chemical product and preparation manufacturing |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|--|
| 142 | Plastics packaging materials and unlaminated film and sheet manufacturing |
| 143 | Unlaminated plastics profile shape manufacturing |
| 144 | Plastics pipe and pipe fitting manufacturing |
| 145 | Laminated plastics plate, sheet (except packaging), and shape manufacturing |
| 146 | Polystyrene foam product manufacturing |
| 147 | Urethane and other foam product (except polystyrene) manufacturing |
| 148 | Plastics bottle manufacturing |
| 149 | Other plastics product manufacturing |
| 150 | Tire manufacturing |
| 151 | Rubber and plastics hoses and belting manufacturing |
| 152 | Other rubber product manufacturing |
| 153 | Pottery, ceramics, and plumbing fixture manufacturing |
| 154 | Brick, tile, and other structural clay product manufacturing |
| 155 | Clay and nonclay refractory manufacturing |
| 156 | Flat glass manufacturing |
| 157 | Other pressed and blown glass and glassware manufacturing |
| 158 | Glass container manufacturing |
| 159 | Glass product manufacturing made of purchased glass |
| 160 | Cement manufacturing |
| 161 | Ready-mix concrete manufacturing |
| 162 | Concrete pipe, brick, and block manufacturing |
| 163 | Other concrete product manufacturing |
| 164 | Lime and gypsum product manufacturing |
| 165 | Abrasive product manufacturing |
| 166 | Cut stone and stone product manufacturing |
| 167 | Ground or treated mineral and earth manufacturing |
| 168 | Mineral wool manufacturing |
| 169 | Miscellaneous nonmetallic mineral product manufacturing |
| 170 | Iron and steel mills and ferroalloy manufacturing |
| 171 | Steel product manufacturing from purchased steel |
| 172 | Alumina refining and primary aluminum production |
| 173 | Secondary smelting and alloying of aluminum |
| 174 | Aluminum product manufacturing from purchased aluminum |
| 175 | Primary smelting and refining of copper |
| 176 | Primary smelting and refining of nonferrous metal (except copper and aluminum) |
| 177 | Copper rolling, drawing, extruding and alloying |
| 178 | Nonferrous metal (exc. copper/aluminum) rolling, drawing, extruding and alloying |
| 179 | Ferrous metal foundries |
| 180 | Nonferrous metal foundries |
| 181 | All other forging, stamping, and sintering |
| 182 | Custom roll forming |
| 183 | Crown and closure manufacturing and metal stamping |
| 184 | Cutlery, utensil, pot, and pan manufacturing |
| 185 | Handtool manufacturing |
| 186 | Plate work and fabricated structural product manufacturing |
| 187 | Ornamental and architectural metal products manufacturing |
| 188 | Power boiler and heat exchanger manufacturing |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|---|
| 189 | Metal tank (heavy gauge) manufacturing |
| 190 | Metal can, box, and other metal container (light gauge) manufacturing |
| 191 | Ammunition manufacturing |
| 192 | Arms, ordnance, and accessories manufacturing |
| 193 | Hardware manufacturing |
| 194 | Spring and wire product manufacturing |
| 195 | Machine shops |
| 196 | Turned product and screw, nut, and bolt manufacturing |
| 197 | Coating, engraving, heat treating and allied activities |
| 198 | Valve and fittings other than plumbing manufacturing |
| 199 | Plumbing fixture fitting and trim manufacturing |
| 200 | Ball and roller bearing manufacturing |
| 201 | Fabricated pipe and pipe fitting manufacturing |
| 202 | Other fabricated metal manufacturing |
| 203 | Farm machinery and equipment manufacturing |
| 204 | Lawn and garden equipment manufacturing |
| 205 | Construction machinery manufacturing |
| 206 | Mining and oil and gas field machinery manufacturing |
| 207 | Other industrial machinery manufacturing |
| 208 | Plastics and rubber industry machinery manufacturing |
| 209 | Semiconductor machinery manufacturing |
| 210 | Vending, commercial, industrial, and office machinery manufacturing |
| 211 | Optical instrument and lens manufacturing |
| 212 | Photographic and photocopying equipment manufacturing |
| 213 | Other commercial and service industry machinery manufacturing |
| 214 | Air purification and ventilation equipment manufacturing |
| 215 | Heating equipment (except warm air furnaces) manufacturing |
| 216 | Air conditioning, refrigeration, and warm air heating equipment manufacturing |
| 217 | Industrial mold manufacturing |
| 218 | Metal cutting and forming machine tool manufacturing |
| 219 | Special tool, die, jig, and fixture manufacturing |
| 220 | Cutting tool and machine tool accessory manufacturing |
| 221 | Rolling mill and other metalworking machinery manufacturing |
| 222 | Turbine and turbine generator set units manufacturing |
| 223 | Speed changer, industrial high-speed drive, and gear manufacturing |
| 224 | Mechanical power transmission equipment manufacturing |
| 225 | Other engine equipment manufacturing |
| 226 | Pump and pumping equipment manufacturing |
| 227 | Air and gas compressor manufacturing |
| 228 | Material handling equipment manufacturing |
| 229 | Power-driven handtool manufacturing |
| 230 | Other general purpose machinery manufacturing |
| 231 | Packaging machinery manufacturing |
| 232 | Industrial process furnace and oven manufacturing |
| 233 | Fluid power process machinery manufacturing |
| 234 | Electronic computer manufacturing |
| 235 | Computer storage device manufacturing |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|---|
| 236 | Computer terminals and other computer peripheral equipment manufacturing |
| 237 | Telephone apparatus manufacturing |
| 238 | Broadcast and wireless communications equipment manufacturing |
| 239 | Other communications equipment manufacturing |
| 240 | Audio and video equipment manufacturing |
| 241 | Electron tube manufacturing |
| 242 | Bare printed circuit board manufacturing |
| 243 | Semiconductor and related device manufacturing |
| 244 | Electronic capacitor, resistor, coil, transformer, and other inductor manufacturing |
| 245 | Electronic connector manufacturing |
| 246 | Printed circuit assembly (electronic assembly) manufacturing |
| 247 | Other electronic component manufacturing |
| 248 | Electromedical and electrotherapeutic apparatus manufacturing |
| 249 | Search, detection, and navigation instruments manufacturing |
| 250 | Automatic environmental control manufacturing |
| 251 | Industrial process variable instruments manufacturing |
| 252 | Totalizing fluid meters and counting devices manufacturing |
| 253 | Electricity and signal testing instruments manufacturing |
| 254 | Analytical laboratory instrument manufacturing |
| 255 | Irradiation apparatus manufacturing |
| 256 | Watch, clock, and other measuring and controlling device manufacturing |
| 257 | Software, audio, and video media for reproduction |
| 258 | Magnetic and optical recording media manufacturing |
| 259 | Electric lamp bulb and part manufacturing |
| 260 | Lighting fixture manufacturing |
| 261 | Small electrical appliance manufacturing |
| 262 | Household cooking appliance manufacturing |
| 263 | Household refrigerator and home freezer manufacturing |
| 264 | Household laundry equipment manufacturing |
| 265 | Other major household appliance manufacturing |
| 266 | Power, distribution, and specialty transformer manufacturing |
| 267 | Motor and generator manufacturing |
| 268 | Switchgear and switchboard apparatus manufacturing |
| 269 | Relay and industrial control manufacturing |
| 270 | Storage battery manufacturing |
| 271 | Primary battery manufacturing |
| 272 | Communication and energy wire and cable manufacturing |
| 273 | Wiring device manufacturing |
| 274 | Carbon and graphite product manufacturing |
| 275 | All other miscellaneous electrical equipment and component manufacturing |
| 276 | Automobile manufacturing |
| 277 | Light truck and utility vehicle manufacturing |
| 278 | Heavy duty truck manufacturing |
| 279 | Motor vehicle body manufacturing |
| 280 | Truck trailer manufacturing |
| 281 | Motor home manufacturing |
| 282 | Travel trailer and camper manufacturing |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|--|
| 283 | Motor vehicle parts manufacturing |
| 284 | Aircraft manufacturing |
| 285 | Aircraft engine and engine parts manufacturing |
| 286 | Other aircraft parts and auxiliary equipment manufacturing |
| 287 | Guided missile and space vehicle manufacturing |
| 288 | Propulsion units and parts for space vehicles and guided missiles manufacturing |
| 289 | Railroad rolling stock manufacturing |
| 290 | Ship building and repairing |
| 291 | Boat building |
| 292 | Motorcycle, bicycle, and parts manufacturing |
| 293 | Military armored vehicle, tank, and tank component manufacturing |
| 294 | All other transportation equipment manufacturing |
| 295 | Wood kitchen cabinet and countertop manufacturing |
| 296 | Upholstered household furniture manufacturing |
| 297 | Nonupholstered wood household furniture manufacturing |
| 298 | Metal and other household furniture manufacturing |
| 299 | Institutional furniture manufacturing |
| 300 | Office Furniture |
| 301 | Custom architectural woodwork and millwork manufacturing |
| 302 | Showcase, partition, shelving, and locker manufacturing |
| 303 | Mattress manufacturing |
| 304 | Blind and shade manufacturing |
| 305 | Surgical and medical instrument, laboratory and medical instrument manufacturing |
| 306 | Surgical appliance and supplies manufacturing |
| 307 | Dental equipment and supplies manufacturing |
| 308 | Ophthalmic goods manufacturing |
| 309 | Dental laboratories manufacturing |
| 310 | Jewelry and silverware manufacturing |
| 311 | Sporting and athletic goods manufacturing |
| 312 | Doll, toy, and game manufacturing |
| 313 | Office supplies (except paper) manufacturing |
| 314 | Sign manufacturing |
| 315 | Gasket, packing, and sealing device manufacturing |
| 316 | Musical instrument manufacturing |
| 317 | All other miscellaneous manufacturing |
| 318 | Broom, brush, and mop manufacturing |
| 319 | Wholesale trade businesses |
| 320 | Retail Stores - Motor vehicle and parts |
| 321 | Retail Stores - Furniture and home furnishings |
| 322 | Retail Stores - Electronics and appliances |
| 323 | Retail Stores - Building material and garden supply |
| 324 | Retail Stores - Food and beverage |
| 325 | Retail Stores - Health and personal care |
| 326 | Retail Stores - Gasoline stations |
| 327 | Retail Stores - Clothing and clothing accessories |
| 328 | Retail Stores - Sporting goods, hobby, book and music |
| 329 | Retail Stores - General merchandise |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|---|
| 330 | Retail Stores - Miscellaneous |
| 331 | Retail Nonstores - Direct and electronic sales |
| 332 | Transport by air |
| 333 | Transport by rail |
| 334 | Transport by water |
| 335 | Transport by truck |
| 336 | Transit and ground passenger transportation |
| 337 | Transport by pipeline |
| 338 | Scenic and sightseeing transportation and support activities for transportation |
| 339 | Couriers and messengers |
| 340 | Warehousing and storage |
| 341 | Newspaper publishers |
| 342 | Periodical publishers |
| 343 | Book publishers |
| 344 | Directory, mailing list, and other publishers |
| 345 | Software publishers |
| 346 | Motion picture and video industries |
| 347 | Sound recording industries |
| 348 | Radio and television broadcasting |
| 349 | Cable and other subscription programming |
| 350 | Internet publishing and broadcasting |
| 351 | Telecommunications |
| 352 | Data processing, hosting, ISP, web search portals and related services |
| 353 | Other information services |
| 354 | Monetary authorities and depository credit intermediation activities |
| 355 | Nondepository credit intermediation and related activities |
| 356 | Securities, commodity contracts, investments, and related activities |
| 357 | Insurance carriers |
| 358 | Insurance agencies, brokerages, and related activities |
| 359 | Funds, trusts, and other financial vehicles |
| 360 | Real estate establishments |
| 361 | Imputed rental activity for owner-occupied dwellings |
| 362 | Automotive equipment rental and leasing |
| 363 | General and consumer goods rental except video tapes and discs |
| 364 | Video tape and disc rental |
| 365 | Commercial and industrial machinery and equipment rental and leasing |
| 366 | Lessors of nonfinancial intangible assets |
| 367 | Legal services |
| 368 | Accounting, tax preparation, bookkeeping, and payroll services |
| 369 | Architectural, engineering, and related services |
| 370 | Specialized design services |
| 371 | Custom computer programming services |
| 372 | Computer systems design services |
| 373 | Other computer related services, including facilities management |
| 374 | Management, scientific, and technical consulting services |
| 375 | Environmental and other technical consulting services |
| 376 | Scientific research and development services |

Appendix 1. IMPLAN Sectoring Scheme

| Industry Code | Description |
|---------------|---|
| 377 | Advertising and related services |
| 378 | Photographic services |
| 379 | Veterinary services |
| 380 | All other miscellaneous professional, scientific, and technical services |
| 381 | Management of companies and enterprises |
| 382 | Employment services |
| 383 | Travel arrangement and reservation services |
| 384 | Office administrative services |
| 385 | Facilities support services |
| 386 | Business support services |
| 387 | Investigation and security services |
| 388 | Services to buildings and dwellings |
| 389 | Other support services |
| 390 | Waste management and remediation services |
| 391 | Private elementary and secondary schools |
| 392 | Private junior colleges, colleges, universities, and professional schools |
| 393 | Other private educational services |
| 394 | Offices of physicians, dentists, and other health practitioners |
| 395 | Home health care services |
| 396 | Medical and diagnostic labs and outpatient and other ambulatory care services |
| 397 | Private hospitals |
| 398 | Nursing and residential care facilities |
| 399 | Child day care services |
| 400 | Individual and family services |
| 401 | Community food, housing, and other relief services, incl. rehabilitation services |
| 402 | Performing arts companies |
| 403 | Spectator sports companies |
| 404 | Promoters of performing arts and sports and agents for public figures |
| 405 | Independent artists, writers, and performers |
| 406 | Museums, historical sites, zoos, and parks |
| 407 | Fitness and recreational sports centers |
| 408 | Bowling centers |
| 409 | Amusement parks, arcades, and gambling industries |
| 410 | Other amusement and recreation industries |
| 411 | Hotels and motels, including casino hotels |
| 412 | Other accommodations |
| 413 | Food services and drinking places |
| 414 | Automotive repair and maintenance, except car washes |
| 415 | Car washes |
| 416 | Electronic and precision equipment repair and maintenance |
| 417 | Commercial and industrial machinery and equipment repair and maintenance |
| 418 | Personal and household goods repair and maintenance |
| 419 | Personal care services |
| 420 | Death care services |
| 421 | Dry-cleaning and laundry services |
| 422 | Other personal services |
| 423 | Religious organizations |

| Appendix 1. IMPLAN Sectoring Scheme | |
|--|---|
| Industry Code | Description |
| 424 | Grantmaking, giving, and social advocacy organizations |
| 425 | Civic, social, professional, and similar organizations |
| 426 | Private household operations |
| 427 | US Postal Service |
| 428 | Federal electric utilities |
| 429 | Other Federal Government enterprises |
| 430 | State and local government passenger transit |
| 431 | State and local government electric utilities |
| 432 | Other state and local government enterprises |
| 433 | * Not an industry (Used and secondhand goods) |
| 434 | * Not an industry (Scrap) |
| 435 | * Not an industry (Rest of the world adjustment) |
| 436 | * Not an industry (Noncomparable foreign imports) |
| 437 | * Employment and payroll only (state & local govt, non-education) |
| 438 | * Employment and payroll only (state & local govt, education) |
| 439 | * Employment and payroll only (federal govt, non-military) |
| 440 | * Employment and payroll only (federal govt, military) |

The Center for Agribusiness & 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 Web site at: <http://www.caed.uga.edu>

Or contact:

Dr. Kent Wolfe, Director
Center for Agribusiness and Economic Development
Lumpkin House
The University of Georgia
Athens, Georgia 30602-7509
Phone (706)542-2434

The University of Georgia and Fort Valley State University, and the U.S. Department of Agriculture and counties of the state cooperating. The Cooperative Extension Service offers educational programs, assistance and materials to all people without regard to race, color, national origin, age, sex or disability.

An equal opportunity/affirmative action organization committed to a diverse work force.

Report Number: CR-13-02

February 2013

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.

J. Scott Angle, Dean and Director