



AGRICULTURAL AND FOOD MACHINERY AND EQUIPMENT

Overview

The United States is the world's third-largest supplier of machinery and equipment for the agriculture, food, and beverage supply chain, with exports worth \$15.6 billion in 2011.¹ American manufacturers hold a nearly-70 percent share of the U.S. domestic market for agricultural equipment, with exports representing 45.9 percent of total sales in 2010. U.S. manufacturers also export significant quantities of food processing and packaging machinery, commercial and industrial refrigeration equipment, and commercial food service equipment.

The economic impact of agricultural equipment and food machinery manufacturing is extensive. These machinery manufacturing industries provide essential and highly sophisticated technology for all segments of the agriculture, food, and beverage supply chain—from producing agricultural commodities on the farm, through processing and packaging, to distribution and final delivery to the individual consumer at the point of sale. Precision agricultural, process-control, and other automation technologies maximize the equipment's productivity throughout the supply chain. Sales of many types of machinery are accompanied by a variety of high-value services, as well, including specialized architecture, engineering, and logistics. The International Trade Administration estimates that agricultural and food machinery and equipment manufacturing industries employ more than 95,000 American workers in well-compensated trades and professions.

Leading markets for U.S. agricultural and food machinery and equipment exports in 2011 included Canada, Mexico, Australia, China, and Brazil. The European Union taken as a whole would have been U.S. machinery manufacturers' second-largest export market in 2011, after Canada. Among the various segments (agricultural equipment, food processing and packaging, refrigeration and food service), agricultural equipment led U.S. exports last year, with overseas shipments worth \$10.2 billion. Major competitors in global machinery markets include Germany, Italy, Japan, and China.

Key Statistics – 2011

(unless otherwise noted)

Exports:	\$15.6 billion ²
Export Growth (2010-11):	20.0 percent ³
Direct Employment (December 2011):	95,108 ⁴
U.S. Share of Global Market ⁵ :	
Agricultural Equipment	16.7 percent
Food Processing & Packaging Machinery	6.4 percent

¹ U.S. International Trade Commission; includes data for includes NAICS 333 "Machinery Manufacturing," plus selected products covered in NAICS 334 and 335.

² U.S. International Trade Commission.

³ Ibid.

⁴ International Trade Administration Estimate.

⁵ Global Trade Atlas, United Nations; calculated from certain data in HS Ch. 84.

Major End Uses

- ***Production Agriculture*** — Agricultural Equipment, for use in cultivating crops, raising livestock, and some immediate post-harvest processing (e.g., grading and sorting fresh produce). Also includes products with both agricultural and non-agricultural end uses, such as commercial mowers and irrigation equipment.
- ***Food and Beverage Manufacturing*** — Food Processing and Packaging Machinery, for use in producing semi-finished ingredients and finished food and beverage products. Other end-uses include pharmaceuticals manufacturing and packaging of a wide-range of other consumer packaged goods.
- ***Distribution and Point-of-Sale*** — Commercial and Industrial Refrigeration Equipment and Commercial Food Service Equipment, for use in the distribution of fresh, frozen, and refrigerated food and beverage products, and in delivery of such products to consumers at the final point of sale in commercial/institutional catering and retail settings.

Opportunities

Export growth is driven by a global population that is expected to reach 9 billion by 2050. Middle class populations—and dietary expectations—in many emerging economies are expanding rapidly, as well. To meet the resulting demand, the world will have to produce more staple agricultural commodities than ever before, as well as unprecedented quantities of higher-value fresh and processed meats, dairy products, fruits, vegetables, beverages, and other food products. This increase in production will have to take place with no more global land and water resources than are available today. As a result, machinery and equipment for producing more food, in greater variety, more efficiently, while conserving scarce water and other resources will be in demand for the foreseeable future.

Challenges

U.S. machinery manufacturers face numerous challenges in gaining access to foreign markets. Market access is especially problematic in a number of key growth markets, where governments impose a variety of onerous requirements on U.S. companies to motivate them to manufacture locally. These measures include tariffs that may range as high as 35 percent in some cases, along with non-tariff barriers, fees and other obstacles. In a number of important markets complex, opaque, and unpredictable enforcement of trade rules can also be significant barriers to U.S. exports.

Protection of intellectual property is a serious concern, as well. For agricultural equipment manufacturers, bans or restrictions on import of remanufactured goods are a significant problem. Despite high private-sector profits since the end of the recession, access to capital can still be a challenge, especially for SME manufacturers.

Manufacturers

Thousands of American companies manufacture agricultural and food machinery and equipment. Most are SMEs, but there are also a number of large, public companies that do business on a global scale. Agricultural equipment is manufactured in 38 states, with production concentrated in the industrial Midwest, California, and Texas. Compared with other machinery-manufacturing industries, agricultural equipment manufacturing is more likely to be located in smaller towns and rural areas—close to domestic end-users.

The industrial Midwest, California, and Texas are also home to many U.S. manufacturers of food processing and packaging machinery, refrigeration and food service equipment. Since 2009, machinery manufacturers in all segments have benefitted from increasing domestic capital investment and strong growth in export markets.

Employment

More than 95,000 Americans are employed manufacturing agricultural and food machinery and equipment.⁶ Employment in agricultural equipment manufacturing reached 62,400 by December 2011, a significant increase from an average level of 49,194 for 2010.⁷ Although detailed statistics for other food machinery segments are not currently

⁶ ITA estimate.

⁷ U.S. Department of Labor, Bureau of Labor Statistics, CES Establishment Data Table B-1b. "Employees on nonfarm payrolls by industry sector and selected industry detail, not seasonally adjusted; U.S. Department of Commerce, Bureau of the Census, Annual Survey of Manufacturers 2010.

available, it is likely that they have added workers as well, given the steady growth in overall employment in machinery manufacturing since the beginning of 2012 (Overall, the U.S. machinery manufacturing sector added more than 130,000 jobs between January 2010 and June 2012).⁸

Machinery manufacturing jobs are primarily in highly-skilled, well-compensated trades and professions. Leading employment categories include team assemblers, machinists, welders, tool-and-die makers, and mechanical and other engineers. Machinery manufacturing also supports the jobs of hundreds of thousands of Americans in a variety of other manufacturing and service industries.

Sustainability

In recent years, sustainability has become a major concern for many end-users of agricultural and food machinery and equipment. Major retailers of food and beverage products and the food and beverage manufacturers that supply them increasingly see commercial advantage in reducing the costs associated with environmental waste in their supply chains. More and more these companies expect their suppliers to document and reduce consumption of energy, water, packaging, and other inputs. The influence of these expectations extends to the operating characteristics of many types of machinery and equipment.

Relationship with MAS and ITA

Agricultural and food machinery and equipment manufacturers and the organizations that represent them have been engaged with each of ITA's operating units for many years, including Manufacturing and Services (MAS), the Commercial Service, Market and Compliance (MAC), and the Import Administration (IA). The MAS Office of Transportation and Machinery (OTM) and its Machinery Team covers the great majority of machinery manufacturing industries.

Information for Machinery Exporters

U.S. Government Resources for Exporters:

www.export.gov

The International Trade Administration:

www.trade.gov

The Export Import Bank of the United States:

www.exim.gov

The Small Business Administration:

www.sba.gov

⁸ U.S. Department of Labor, Bureau of Labor Statistics; Industries at a Glance – Machinery Manufacturing: NAICS 333.