

# Economic Impacts of the Kentucky Green Industry

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The green industry, comprised of firms engaged in the production and use of landscape and floral crops and related supplies and equipment and the design, construction, and maintenance of landscapes, has a significant impact on Kentucky's economy. Green-industry enterprise owners, managers, and employees should be aware of their economic impacts, and policy makers and other state leaders need to know the importance of this industry as potential laws, regulations and resource allocations are considered. This publication is intended to provide a brief summary of the 2013 economic impacts of the green industry in Kentucky.

The Green Industry Research Consortium is a group of horticulturists and economists conducting a multistate research project through the Agriculture Experiment Stations at land-grant universities throughout the United States. Drs. Alan Hodges, Charlie Hall, Marco Palma, and Hayk Khachatryan, project team members, published a paper in 2015 entitled, "Economic Contributions of the Green Industry in the United States, 2013." The data for this report were compiled principally from the Impact Analysis for Planning (IMPLAN) and several other current, national economic databases and reports. The study results for Kentucky are summarized in this circular.

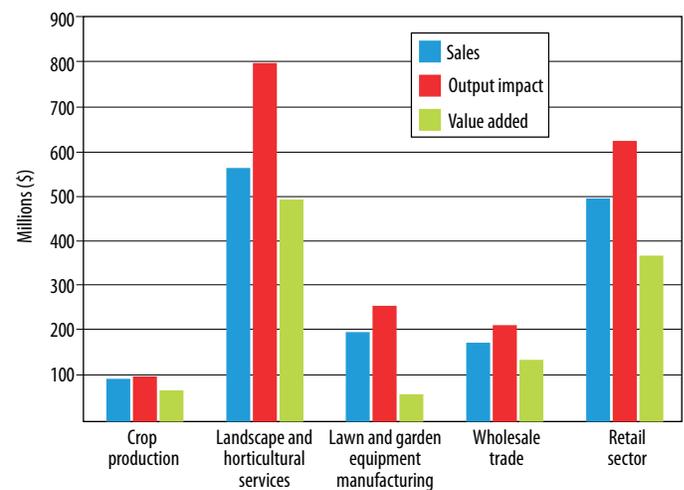
At the national level, the U.S. green industry in 2013 was estimated to generate \$136.44 billion in output (revenue) and to employ 1.60 million people in full-time and part-time jobs. The total economic contribution of the industry, including regional multiplier effects in other sectors of the economy, was \$196.07 billion in output impact, 2.04 million jobs, \$82.47 billion in labor earnings, and \$120.71 billion in value added contribution to gross domestic product (GDP). Since 2007-08, green-industry contributions in 2013 increased by 4.4 percent for employment and 2.7 percent for GDP in inflation-adjusted terms. Growth in the industry was highest for wholesale and retail trade, while production and manufacturing declined. Some terms used in the report, particularly output, output impact and value added, require some explanation. Total output or revenue is basically total sales throughout the revenue stream, except for retailers it represents the gross margin (sales less cost of goods sold) to avoid double counting with wholesale sales to retailers. Value added impact by the industry is a measure of the net contribution to the U.S. GDP, calculated as total sales (output) minus the intermediate sales in the supply chain (cost of inputs to the sector).

The industry groups related to the green industry that were evaluated in this study included production and manufacturing, horticultural services and the wholesale and retail trades. The production and manufacturing group included nursery and greenhouse production and lawn and garden equipment

manufacturing. The horticultural services group encompassed landscape services and landscape architectural services sectors. The wholesale and retail trade groups accounted for green-industry related sales and economic impacts from 12 sectors, including wholesale establishments that distribute horticultural products (durable and non-durable) to retailers and end-users, lawn and garden supply stores, building material and supply stores and home improvement centers (e.g. Lowe's, Home Depot), florists, general merchandise stores with garden departments (e.g. Walmart, Target), non-store retailers such as mail order or internet retail sales, as well as other retail establishments that offer horticultural goods as a minor sideline, such as food and beverage stores. Activity of independent garden centers and garden chain stores are captured in the data for lawn and garden supply stores.

Kentucky's green industry in 2013 directly supported 18,821 jobs and generated \$1.12 billion in value added and \$1.98 billion output impacts to the state's economy, based on direct output (sales) of \$1.52 billion. The total output impact was \$96.6 million for nursery and greenhouse crop production, \$797.6 million for landscape and horticultural services (including landscape architecture), \$255 million for lawn and garden equipment manufacturing, \$211 million for the wholesale trade, and \$622.9 million for retail trade sectors. Value added impacts to the economy by industry segment were \$66.3 million for crop production, \$493 million for horticultural services, \$57.7 million for equipment manufacturing, \$135.1 million for wholesale trade and \$368.3 million for retail trade. The sales, output impacts, and value added impact are presented for all Kentucky industry sectors in Figure 1.

**Figure 1.** Green industry sales, output impact, and value added impact in Kentucky, 2013.



Of the total employment impact of 25,753 full-time and part-time jobs in the Kentucky green industry in 2013, the largest impacts were for horticultural services (11,208), wholesale trade (1,076) and retail trade (8,212), followed by crop production (1,136), and manufacturing (793). Direct jobs in the green industry and total employment impacts, including indirect and induced jobs generated in other economic sectors through the multiplier effect, are presented by the various industry groups in Figure 2.

The two industry sectors most recognized as part of the green industry, nursery and greenhouse crop production and landscape services, together had 10,290 direct jobs and an overall employment impact of 12,162 jobs, with \$656.8 million in total sales and value added impact of \$559.3 million to Kentucky's economy in 2013. The nursery and greenhouse crop production sector was comprised of 67 employer firms, with revenues (sales) of \$92.3 million, directly supported 1,100 jobs and had an overall employment impact of 1,136 jobs and value added impact of \$6.3 million to the state's economy in 2013. The landscape service sector, excluding landscape architectural services, was comprised of 1,111 firms, had revenues of \$545.5 million, supported 9,191 jobs directly, had an overall employment impact of 11,026 jobs, and generated a value added impact of \$482.8 million for the economy.

Lawn and garden equipment manufacturers in Kentucky generated \$197.0 million in total sales, the 13<sup>th</sup> highest state in the United States, with 417 employees, and an output impact of \$255.0 million. Although sales from Kentucky's nursery and greenhouse crop production were less than for the lawn and garden equipment manufacturers (\$92 million vs. \$197 million), crop production accounted for more than twice the number of jobs (1,100 vs. 417) while landscape services accounted for 22 times the number of jobs (9,360 vs. 417) and more than ten times the earnings impact (\$356 million vs. \$30 million) of equipment manufacturing, due to the labor intensive nature of crop production and landscape services.

The wholesale and retail trade industry group is comprised of eight individual sectors as described above. Of the total Kentucky green industry, the wholesale and retail trade indus-

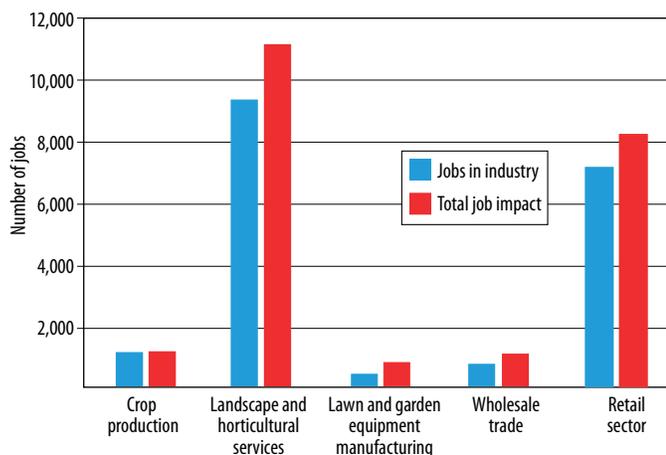
try group represented 41 percent of direct jobs, 45 percent of the value added impact and 42 percent of the output impact. Wholesale establishments are those that distribute horticultural products to retailers, including plants, chemicals, fertilizers, and other supplies and various types of lawn and garden equipment. The wholesale trade represented 4 percent of Kentucky green-industry jobs and 12 percent of value added impact and 11 percent of output impact. Similarly, for the United States as a whole, wholesale trade represented 4 percent of green-industry jobs, 12 percent of value added, and 12 percent of the output impact. In Kentucky, output of durable and nondurable horticultural goods by the wholesale and retail trade industry group totaled \$669.2 million in 2013, which supported 7,944 jobs directly in the industry and a total employment impact of 9,288 jobs, generated value added impacts of \$502.5 million to the economy and resulted in an overall output impact of \$834.3 million.

The retail sector firms are those that sell directly to consumers. The retailer sectors accounted for \$496 million in output and supported directly 7,182 jobs. In fact, retail trade represented 38 percent of all Kentucky's green-industry jobs and 31 percent of the output impact to the economy in 2013, compared to 26 percent and 18 percent, respectively, for the United States. In the Appalachian region, the retail trade represented 27 percent of the green-industry jobs and 18 percent of the output impact. The importance of the retail sector to jobs and output impact in 2013 was greater than in 2008 for both the U.S. and Kentucky industries. The retail trade group had three times the output impact in 2013 as the wholesale trade in Kentucky while the retail trade had only 1½ times more output impact than the wholesale trade in the United States. It appears that in Kentucky, as well as the region and nationally, growth in the retail sector outpaced growth in the crop production sector.

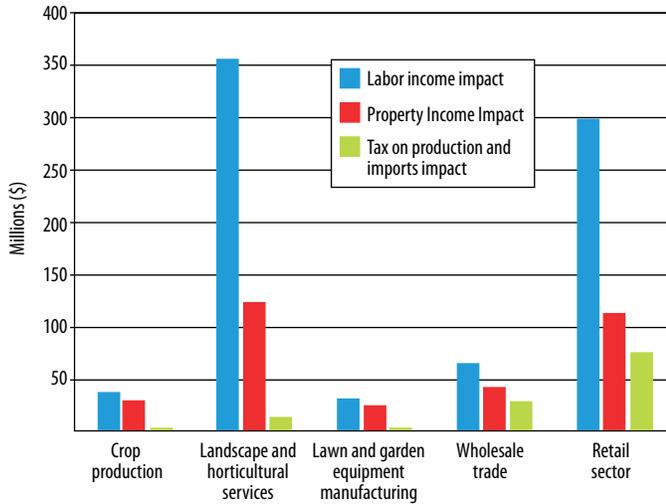
The total value added contribution of the U.S. green industry to gross domestic product was \$120.71 billion, including labor income impacts of \$82.47 billion, other property income impacts of \$28.91 billion in the form of interest payments, rents, royalties, and corporate profits and impacts on business taxes paid to local, state, and federal governments of \$9.30 billion. Total value added contribution of the Kentucky green industry to the commonwealth's economy was \$1.12 billion, including labor income impacts of \$740.3 million, other property income impacts of \$284.8 million and business tax impacts of \$94.4 million (Figure 3). Landscape services and lawn and garden equipment stores had the greatest contributions on Kentucky labor income and property income impact. Florists had the third highest impact on labor income but had little impact on property income.

Focusing on the Kentucky green-industry retail sectors, lawn and garden supply stores, including home improvement as well as independent garden centers, represented 73 percent of the output impact (Figure 4) and 55 percent of the jobs in these sectors. This type of firm represented 59 percent of the U.S. green-industry retail sector output impact. Unfortunately, the available data would not allow the separation of independent garden centers within this sector. General merchandise stores, including big box stores such as Walmart and Target, repre-

**Figure 2.** Kentucky green-industry direct employment and total job impact in 2013.

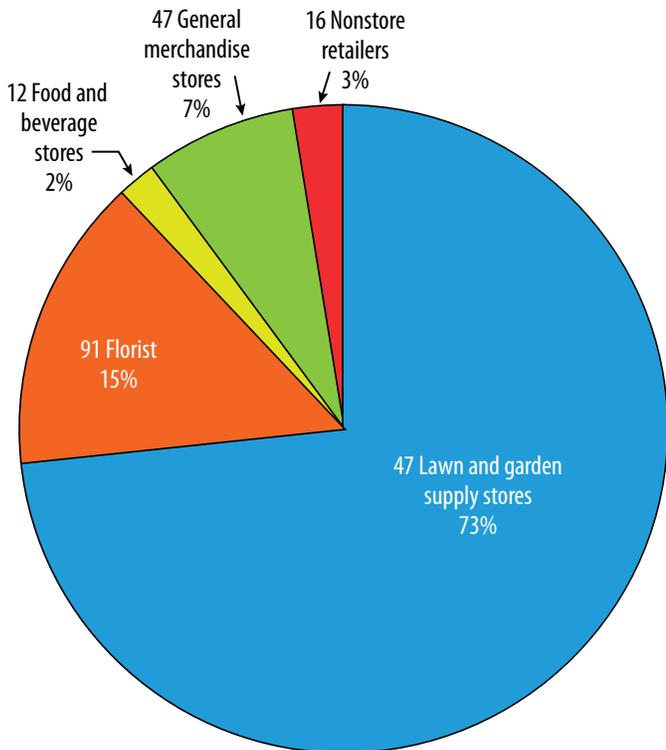


**Figure 3.** Green industry impacts on labor income, property income, and business taxes in Kentucky, 2013.



sented 8 percent of the Kentucky green-industry retail sector output impact while florists represented 15 percent. Non-store retailers, such as mail order and online vendors, represented 3 percent of the output impact of Kentucky's green industry retail sector in 2013 but only 1 percent in 2007. This would

**Figure 4.** Green-industry output impacts in million dollars and percent by retail sectors in Kentucky, 2013.



imply that sales of plants and garden supplies by mail order or internet sales have become more important to Kentucky in recent years. Non-store retailers represented 9 percent of the U.S. green-industry retail sector output impact in 2013 and 3 percent of retail sectors in the Appalachian region.

The U.S. average output impact per crop production firm was \$2.07 million, while the Kentucky average was \$1.8 million. The U.S. and Kentucky average output impact per firm for the other sectors are similar, indicating that Kentucky's nursery and greenhouse firms are smaller than the national average but that landscape services firms and retailers are of similar size, which is generally expected because most of these firms serve a local area.

Overall, the value added impact of the green industry in Kentucky of \$1.12 billion represented 0.60 percent of gross domestic product in the state in 2013, as compared to 0.72 percent for the United States, ranking Kentucky 41st among states. By way of comparison, the value added to the state's economy by the green industry in Kentucky was greater than in West Virginia but less than in Tennessee, North Carolina, Ohio, and Virginia. Previous studies in 2002 and 2007 reported total value added impacts of the green industry in Kentucky at \$651.1 million and \$1.07 billion, respectively. The change, adjusted for inflation, for the period 2002 to 2013 was 44 percent or a 4 percent annual average. It should be noted that this period includes the great recession of 2008-10.

The Kentucky green industry is obviously an important element of Kentucky's economy, and is present throughout the state. The diverse nature of the industry limits its visibility compared to some industries; therefore, it is important to recognize and to communicate these contributions. Data presented here can be used to engage governmental, business, and agricultural industry leaders in conversations about the needs and opportunities for the industry.

## References

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