

2017

ECONOMIC CONTRIBUTIONS *of the* **FRUIT** *and* **VEGETABLE JUICE** **INDUSTRY IN THE UNITED STATES**

Sponsored Project Report Prepared for the Juice Products Association, Washington, D.C.



Thomas H. Spreen, Professor Emeritus,
Alan W. Hodges, Extension Scientist Emeritus,
Christa D. Court, Assistant Professor, and
Angelia Chen, Postdoctoral Associate
University of Florida Institute of Food
and Agricultural Sciences (UF/IFAS)

July 15, 2020

(Figure 20 and Appendix B updated on November 13, 2020)

ACKNOWLEDGEMENTS

This research report was developed under a Sponsored Program Agreement with the Juice Products Association, 529 14th Street NW, Suite 750, Washington, D.C. 20045, through the leadership of Adam Thocher, Executive Director, Carol Freysinger, former Executive Director, and Jeannie Milewski, President.

Valuable information for the study was provided by Christina Khoo, Ocean Spray, Middleborough, MA, Kevin Kilcoyne, Welch's, Lexington, MA, and Andy Taylor, Peace River Citrus Products, Vero Beach, FL.

Photos of orange juice, limes, mangos, pineapples, and juice extractor processing used in the report were provided by University of Florida IFAS Communications. All other images were obtained copyright free: orange juice, Concord grapes, apple juice, carrot juice, cranberry juice, tomato juice, pear juice, grapefruit, lemons, lemon aide, drinking juice, and drinking juice close-up.

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EXECUTIVE SUMMARY

This report was prepared to document the economic contributions of the fruit and vegetable juice products industry in the United States (U.S.), including farm production, processing/manufacturing, and retail distribution. Contributions were estimated for 2017, the most recent year of information available on all three industry segments.

The total value of farm production of fruits and vegetables for processing in 2017 was \$2.51 billion, including values in excess of \$100 million for orange, strawberry, apple, cranberry, and peach. Excluding the fruits that are primarily used for jams or jellies or dried product (strawberry, peach, and apricot), the total value was \$1.90 billion. Geographically, the largest states for fruit and vegetable production for processing were Florida (\$1.02 billion), California (\$665 million), Washington (\$269 million), Wisconsin (\$149 million), Michigan (\$78 million), New York (\$75 million), Massachusetts (\$55 million), and Oregon (\$52 million).

Processing/manufacturing of fruit and vegetable juices, blended juices, and smoothies in 2018 was conducted by 483 business establishments, with an estimated employment of 14,865 persons, and gross revenues of \$11.46 billion. Domestic demand for all juice products in 2018 was \$12.78 billion, based on revenues plus imports less exports.

Retail sales of fruit and vegetable juices and juice drink products in the U.S. in 2017 were \$9.86 billion. Major product categories are shelf-stable or canned juices and refrigerated juices. Sales of shelf-stable juices in 2015 (most recent year available) included cranberry (\$1.00 billion), apple (\$914 million), tomato/vegetable (\$433 million), lemonade (\$306 million), grape (\$280 million), and orange (\$274 million). Refrigerated juice retail sales in 2015 included orange (\$3.24 billion), juice smoothies (\$898 million), lemonade (\$633 million), blended juices (\$360 million), and vegetable juices (\$122 million). Imports of juices to the U.S. grew from \$1.59 billion in 2010 to \$2.36 billion in 2018 (49% increase), including significant increases for orange (+91%), other single fruits (+65%), lemon (+93%), and other single vegetables (+206%). U.S. exports of juices declined from \$1.14 billion to \$930 million (-18%), including large decreases for orange (-32%), single vegetables (-17%), fruit mixtures (-55%), grape (-18%), and grapefruit (-17%), but increased for apple juice

(+74%), vegetable mixtures (+46%), and other citrus (+64%). Exports of juices to major world regions were largest to North America (\$520 million) and Asia (\$237 million), followed by South/Central America (\$95 million), Europe (\$70 million), Australia/Oceania (\$6 million) and Africa (\$1.4 million).

Estimates of the economic contributions of the fruit and vegetable juice industry in the U.S. were developed to communicate the broad scope of economic activities supported by the fruit and vegetable juice industry in the U.S. in support of informed public policy and advocacy. The economic contributions of the U.S. fruit and vegetable juice industry were analyzed using the IMPLAN® regional economic modeling system (IMPLAN® Group, LLC) that enables estimation of the overall economic activity supported by an industry, including indirect multiplier effects of inter-industry or supply chain purchases, and induced multiplier effects of employee household income spending.

Economic contributions of the U.S. fruit and vegetable juice industry in 2017 are summarized in Table ES1. For all industry activities, the total economic contributions were 224,587 fulltime and part-time jobs, \$12.28 billion in labor income, \$20.08 billion in value added (Gross Domestic Product), and \$45.54 billion in industry output or business revenues. Juice manufacturing accounted for contributions of 115,708 jobs and \$33.88 billion in industry output; fruit and vegetable production for juice processing accounted for 46,650 jobs and \$4.80 billion in industry output; retail sales of juice products accounted for 62,229 jobs and \$6.87 billion in industry output. The industry also contributed \$1.73 billion in state and local taxes, and \$2.73 billion in federal government taxes.

Results were allocated to states and regions based on the share of direct employment or sales in the different sectors. The largest ten states in terms of overall employment contributions for all activities were Florida (35,751 jobs), California (31,250 jobs), Washington (17,956 jobs), Wisconsin (11,755 jobs), New York (10,608 jobs), Oregon (10,380 jobs), Michigan (9,562 jobs), Pennsylvania (9,224 jobs), Texas (7,268 jobs), and Ohio (6,743 jobs) (Figure ES1). Fourteen states had overall output contributions of at least one billion dollars, including New Jersey, Idaho, Minnesota, and Illinois in addition to those listed above.

Table ES1. Summary of economic contributions of the U.S. fruit and vegetable juice products industry, 2017

Activity	Employment (Jobs)	Labor Income (Million \$)	Value Added (Million \$)	Output (Million \$)
Juice processing/ manufacturing	115,708	7,882	13,167	33,878
Fruit and vegetable production for juice processing	46,650	1,789	2,775	4,798
Retail distribution	62,229	2,611	4,140	6,865
Total All Activities	224,587	12,282	20,081	45,541

Values in 2017 dollars. Employment is fulltime and part-time jobs. Source: IMPLAN® trade flows model for the U.S., 2017, modified for economic contribution analysis.

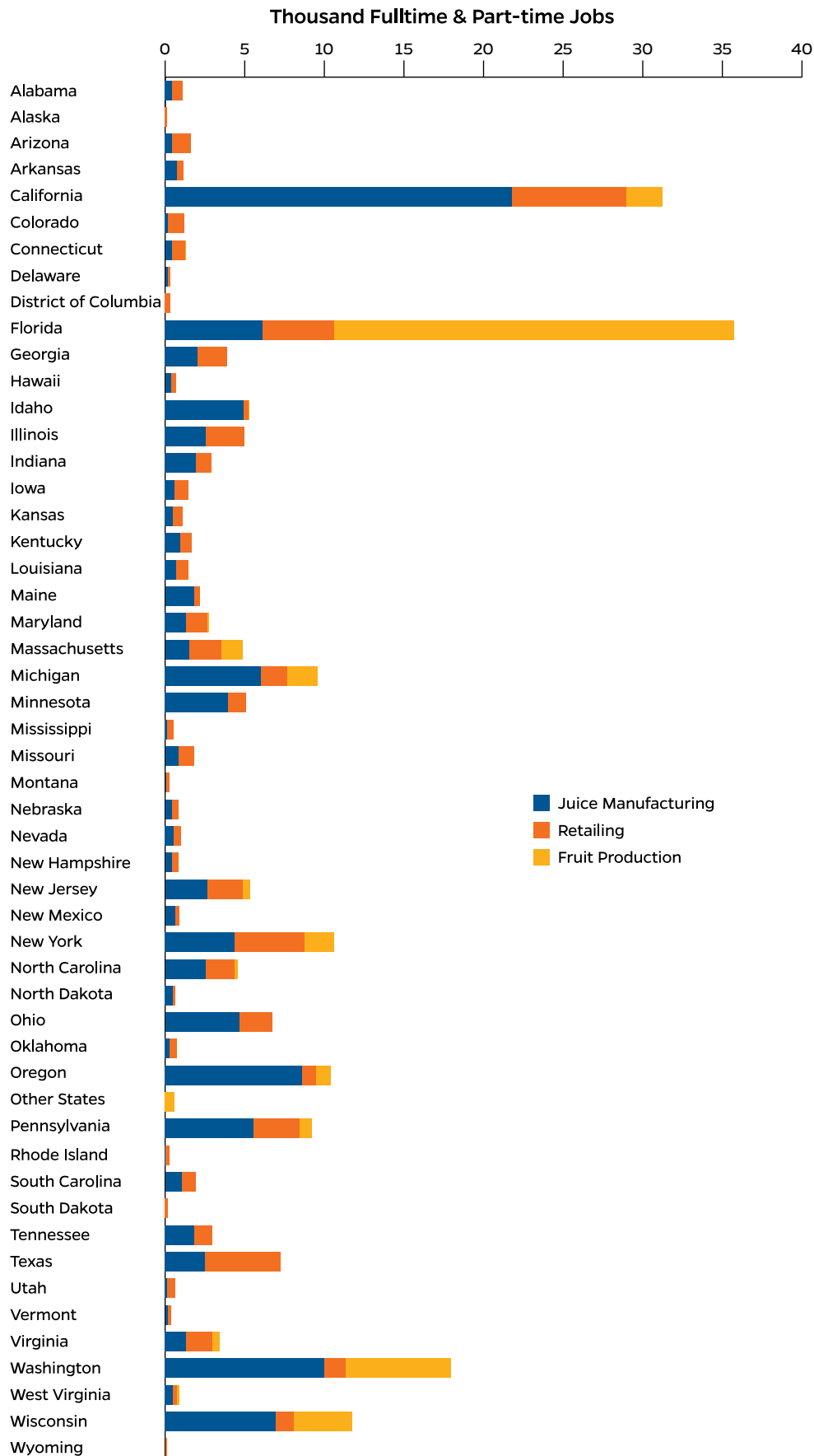


Figure ES1. Employment contributions of the juice products industry in U.S. states, 2017. Source: IMPLAN® tradeflows model for the U.S., 2017, modified for economic contribution analysis.

INTRODUCTION

Americans typically consume less fruits and vegetables than is recommended under current dietary guidelines, and increased consumption of fruits and vegetables is identified as a priority for public nutrition in the United States (U.S.) by professional dietitians and government agencies (USDOH/USDA-ODPHP). Juices are a convenient, concentrated form for consuming fruits and vegetables, particularly for children and busy adults. Packaged juice products enable greater assurance of nutritional content compared to raw fruits and vegetables, help to control servings in standard sized containers, and have a longer shelf life than fresh fruits and vegetables, leading to lower food waste. Increased consumption of healthy fruit and vegetable juices might help alleviate epidemic obesity, diabetes, and other serious diet-related health concerns in the U.S, and ultimately reduce public healthcare costs.

The U.S. fruit and vegetable juice industry plays an important role in the U.S. agribusiness sector. The industry supply chain includes fruit and vegetable producers, juice processors/manufacturers, and retail food and beverage stores. Farm production of fruits and vegetables utilized for juice processing is found in 20 states spanning the entire continental U.S. Juice manufacturers process raw fruits and vegetables into juice or source imported juices, blend various juice types, package and ship the product to wholesale and retail distributors, and institutional consumers, or to intermediate manufacturers using juice as an ingredient in other food products. Retail food and beverage stores stock

juice products for sale to final consumers. The industry supply chain requires close coordination among actors to maintain quality assurance and control and traceability, in particular for refrigerated products to preserve freshness.

The purpose of this report is to describe the U.S. fruit and vegetable juice industry and estimate its contributions to the U.S. economy. The study encompasses all types of fruit and vegetable juices produced and consumed in the U.S. or exported to other countries. The data used for the analysis were compiled from sources published by the U.S. Department of Agriculture-National Agricultural Statistics Service (USDA-NASS), the U.S. Department of Agriculture-Foreign Agricultural Service (USDA-FAS), U.S. Department of Agriculture-Agricultural Marketing Service (USDA-AMS), U.S. Department of Commerce-Bureau of Economic Analysis (USDOC-BEA), U.S. Department of Labor-Bureau of Labor Statistics (USDOL-BLS), and various private market research organizations such as *IbisWorld* and *Statista*. The report provides a brief overview of the juice market and the most important juice flavors in terms of volume or value, followed by a description of the methods used to estimate economic contributions, then the empirical results for the nation, disaggregated by state and region, and finally a discussion of the results. The results of this study can be used to communicate the broad scope of economic activities supported by the fruit and vegetable juice industry in the U.S. in support of informed public policy and advocacy.



FRUITS AND VEGETABLES UTILIZED FOR PROCESSING

The most important juice flavors as measured by market volume are shown in Table 1. The total volume of fruits and vegetables produced for processing in the U.S. in 2017 was 6.85 million tons, including 3.35 million tons of oranges and 1.67 million tons of apples (Table 2). The total value of production for processing was \$2.51 billion, including orange, strawberry, apple, cranberry, and peach that had values in excess of \$100 million. Strawberry, peach, and apricot are primarily used for jams or jellies or dried product, and excluding these commodities, gives a value of \$1.90 billion utilized for processing.

Geographically, the states with the largest share of fruit and vegetable production for processing in terms of value were Florida (\$1.02 billion), California (\$665 million), Washington (\$269 million), Wisconsin (\$149 million), Michigan (\$78 million), New York (\$75 million), Massachusetts (\$55 million), and Oregon (\$52 million), as shown in Table 3. Exclusion of strawberry, peach, and apricot, however, reduces the value of California production for juice processing to \$93 million.

The U.S. imports large volumes of orange and apple juices, and smaller volumes of grape, grapefruit, pineapple, mango, lime, lemon, and pear juices.

Table 1. Top flavors of fruit and vegetable juices in the U.S.

Flavor	Domestically produced	Imported
Orange	Yes	Yes
Apple	Yes	Yes
Grape	Yes	Yes
Cranberry	Yes	
Tomato	Yes	
Carrot	Yes	
Grapefruit	Yes	Yes
Pineapple		Yes
Mango		Yes
Lime		Yes
Lemon	Yes	Yes
Pear	Yes	Yes

Table 2. Fruit production value and quantity for processing in the U.S., 2017

Commodity/ Flavor	Value (million \$)	Quantity (tons)
Orange	972.0	3,349,665
Strawberry*	426.7	557,444
Apple	415.0	1,673,900
Cranberry	232.1	676,900
Peach*	174.7	399,423
Pear (excl. dried)	94.1	379,620
Cherry	54.8	245,200
Grapefruit	43.5	84,100
Grape, juice type	41.8	302,728
Kiwifruit	34.9	190,000
Apricot*	13.5	33,200
Tangerine	7.5	23,200
Nectarine	0.8	397,385
Lemon	NA	5,600
Total value	2,511.4	204,075

*Strawberry, peach, and apricot are primarily used for jams/jellies or dried product. Source: USDA-NASS.



Table 3. Fruit production value for processing by U.S. state, 2017

State	Value (million \$)	Percent of U.S. total	Value excl. strawberry, peach, apricot (million \$)	Percent of U.S. total
Florida	1,023.0	40.7%	1,023.0	53.9%
California	664.8	26.5%	93.1	4.9%
Washington	269.0	10.7%	269.0	14.2%
Wisconsin	149.1	5.9%	149.1	7.9%
Michigan	78.3	3.1%	78.3	4.1%
New York	75.2	3.0%	75.2	4.0%
Massachusetts	55.1	2.2%	55.1	2.9%
Oregon	52.1	2.1%	37.4	2.0%
Pennsylvania	32.3	1.3%	32.3	1.7%
Virginia	18.8	0.7%	18.8	1.0%
New Jersey	18.0	0.7%	18.0	0.9%
West Virginia	8.1	0.3%	8.1	0.4%
North Carolina	7.0	0.3%	6.6	0.4%
Maryland	3.3	0.1%	3.3	0.2%
Idaho	1.9	0.1%	1.9	0.1%
Maine	1.1	<0.1%	1.1	0.1%
Vermont	0.8	<0.1%	0.8	<0.1%
Ohio	0.8	<0.1%	0.8	<0.1%
Minnesota	0.5	<0.1%	0.5	<0.1%
Connecticut	0.3	<0.1%	0.3	<0.1%
Other states	52.0	2.1%	23.9	1.3%
Total	2,511.4		1,896.5	

Source: USDA-NASS.



PROFILES OF INDIVIDUAL FRUITS AND VEGETABLES UTILIZED FOR JUICE

Orange. Orange juice tops the list in terms of production, consumption, and sales, outranking all other fruit and vegetable juices. The value of orange juice sales at retail, both 100 percent and less than 100 percent orange content, was \$9.266 billion in 2019 (Statista). Orange production, both for fresh and processed consumption, is the highest among all fruits with total world production estimated at 54.3 million metric tons in the 2018-19 season (USDA-FAS). Although this figure represents an increase from the previous season, world orange production has been on a downward trend due to a variety of factors such as disease, climate, disaster events, urbanization, and declining demand. World orange juice production remains at around three billion single-strength-equivalent (SSE) gallons in 2017-18 (USDA-FAS).

In the U.S., commercial orange production is confined to the states of Florida, California, Texas, and Arizona, in order of importance. Historically, Florida has dominated the production of oranges utilized for juice production, while the other states have focused on fresh market production, with eliminations being sent for processing. Florida is also the major receiving point for imported orange juice from Latin America, and many of the packaging facilities are in Florida, although a large share of private label packaging is



performed closer to major retail outlets in the northeast and western states.

Over the past 15 years, Florida orange production has declined from more than 200 million 90-pound boxes to around 70 million boxes in the 2018-19 season. A number of factors have caused this decline, but most notable is the infestation of Huanglongbing (HLB) also known as “citrus greening” disease, which was first discovered in Florida in 2005. Four major hurricanes in 2005 and 2006 and another hurricane in 2017 served to spread the disease throughout the entire commercial production area. There is some evidence that tactics adopted by growers might be showing success in combating the adverse effects of the disease, but the future of commercial orange production in Florida remains unclear. HLB disease is also endemic in Brazil and has recently appeared in California. Utilization of oranges for processing in Florida, California, and Texas in the 2016-17 and 2017-18 seasons is shown in Table 4.

Table 4. Oranges utilized for processing by state, 2016-17 and 2017-18 seasons

Season	Florida	California	Texas
	----- 1000 Boxes -----		
2016-17	66,047	8,220	190
2017-18	42,188	7,600	390

Source: USDA-NASS, Florida Office

The major import suppliers of orange juice to the U.S. are Brazil, Mexico, and Costa Rica. Production in Mexico and Costa Rica benefit from duty free access to the U.S., which imposes a tariff on both frozen concentrated orange juice (FCOJ) and single-strength juice, known as not-from-concentrate or NFC, imported from other countries, notably Brazil (Table 5).

Table 5. Orange juice imports to the U.S., 2017-18

Country/Region	Volume (million SSE gals)	Value (million \$)
Brazil	282.14	378.07
Mexico	151.35	307.24
Caribbean Basin Initiative (Costa Rica, Belize)	22.74	42.30
Other	2.54	6.81

Source: U.S. Department of Commerce

Apple. Apples are grown commercially in 32 states, including the top 10 states of Washington, New York, Michigan, Pennsylvania, California, Virginia, North Carolina, Oregon, Ohio, and Idaho (U.S. Apple Association). The USDA



estimates total acres under cultivation at 323,000 in 2017. Two-thirds (67%) of U.S. production is consumed fresh and one-third (33%) is used for processing into apple juice, apple sauce, and apple slices (U.S. Apple Association). There are over 200 varieties of apples grown in the U.S. with more than 100 commercially available in retail channels. The most important varieties include Red and Golden Delicious, Gala, Fuji, Granny Smith, and Honeycrisp. U.S. apple production was 240 million bushels in 2017. Apples sent to processing for juice totaled 350,314 tons (700.6 million pounds, National Apple Processing Report, USDA-AMS). Total U.S. apple juice production is estimated at 111.4 million SSE gallons in 2017. U.S. imports of apple juice were 500 million SSE gallons in 2017 (U.S. Apple Association). Total U.S. consumption of apple juice was estimated at 489 million SSE gallons and \$5.6 billion of revenue at retail in 2018 (Statista). Supply of apples for processing by state/region is shown in Table 6.

Table 6. Apples utilized for processing in major U.S. states or regions, 2017

Region/State	Tons
Appalachian: Virginia, West Virginia, Maryland, Pennsylvania	31,198
California	22,926
Washington	296,190

Source: USDA-AMS

Grape. In 2017 there were over one million acres of grape vineyards producing for processed utilization (USDA-NASS). The state of Washington is the largest producer of grapes utilized for grape juice. Other producing states include Massachusetts, New York, Pennsylvania, and Michigan.

Concord and Niagara are the two primary varieties used for juice production, as their thin skin makes them less desirable for fresh utilization. Other table grape varieties such as Thompson and Fiesta are also processed into juice. The main states that supply grapes for juice production are shown in Table 7. The volume of grapes utilized for juice production in 2017 was 451,900 tons, or 1.58 million gallons of grape juice concentrate at 68 degrees Brix. U.S. imports of grape juice were approximately 32.4 million SSE gallons in 2017.



Table 7. Grapes utilized for juice production by state, 2017

State	Weight (tons)
Michigan	54,600
New York	128,000
Pennsylvania	77,300
Washington	190,000
Other states	2,000
Total	451,900

Information is for Concord and Niagara grape varieties; does not include smaller quantities of white grapes. Source: USDA-NASS.

Cranberry. Cranberries are grown in the northeastern U.S., the Pacific northwest, and Wisconsin. Cranberry acreage, production, and processed utilization for the main producing states are shown in Table 8. Wisconsin has become the major supplier of both cranberries and cranberry juice in the U.S., accounting for over 65 percent of U.S. processed cranberry supply. The nearly eight million barrels (800 million pounds) of cranberries processed into juice yielded approximately 37.44 million SSE gallons of domestic cranberry juice production in 2017. The U.S. Department of Commerce reports that 4.24 million SSE gallons of cranberry juice was imported in 2017 while exports were 14.7 million SSE gallons in that same year.

**Table 8.** Cranberry acreage, production, and utilization by state, 2017

State	Acreage	Production (barrels)	Processed (barrels)
Wisconsin	20,600	5,372,000	5,211,000
Massachusetts	12,300	1,911,400	1,762,500
Oregon	2,800	489,700	475,500
New Jersey	2,500	451,200	444,900
Washington	1,500	147,650	94,550
Total	39,700	8,371,950	7,988,450

Source: USDA-NASS

Pear. Pear production area in the U.S. was 46,400 acres in 2017, with 20,000 acres allocated to Bartlett pears. Washington, Oregon, and California produce most of the pears grown in the U.S., with limited production in New York, Pennsylvania, and Michigan (Table 9). Processed pear utilization would include both pear juice and canned pears. Imports of pear juice in 2017 were 122.5 million SSE gallons.

Table 9. Pear acreage, production, and processed utilization by state, 2017

State	Acreage	Production (tons)	Processed (tons)
California	11,200	195,000	127,000
Oregon	14,400	226,050	32,300
Washington	20,800	316,400	85,900
Total	46,400	737,400	245,200

Source: USDA-NASS. Totals include a small amount from other states.

Tomato. World tomato juice consumption was 5.7 million metric tons in 2017, equivalent to 1,021 million SSE gallons (Branthôme). The U.S. ranked second behind China in total consumption with 12 percent of the world market or 123 million SSE gallons. Processed tomato production in the U.S. in the major producing states is shown in Table 10. California is the dominant producing state accounting for over 90 percent of total production. The U.S. is a major exporter of tomato juice and does not appear to be an importer of tomato paste so the U.S. tomato juice supply is likely from domestic sources. Processed tomato production, however, does not provide an accurate estimate of tomato juice production as the main process for processing tomatoes is to produce tomato sauce or paste, which can be reconstituted into several products including tomato juice. Therefore, the value of processed tomato production was not considered in the economic analysis of farm-level activity.



Table 10. Processed tomato production by state, 2017

State	Weight (tons)
California	10,404,054
Indiana	222,631
Michigan	133,056
Ohio	159,921
Other states	86,192
Total	11,005,854

Source: USDA-NASS

Grapefruit. Florida has historically been the largest supplier of grapefruit for both the U.S. and the world. In recent years, the combined effects of HLB and hurricanes have conspired to dramatically reduce Florida grapefruit production. In the 2016-17 season, Florida production of grapefruit was 7.76 million 85-pound boxes, which was significantly down from 40.90 million boxes in 2003-04. In 2016-17, white seedless grapefruit production was 1.48



million boxes while red seedless production was 6.28 million boxes. Grapefruit supply for processing by U.S. state in the 2016-17 season is shown in Table 11. At that time, Florida was still the largest supplier of grapefruit in the U.S., however, because Florida production has continued to decline Texas surpassed Florida as the largest supplier in the 2018-19 season. The decline in Florida grapefruit, especially white seedless and seedy varieties, has had a profound impact on Florida grapefruit juice production, especially frozen concentrated grapefruit juice (FCGJ). As such, the U.S. has become an importer of grapefruit juice, importing 21.4 million SSE gallons in 2017, however, it remains a net exporter of grapefruit juice.

Table 11. Processed grapefruit supply by state, 2016-17 season

State	Volume (1000 Boxes)
Florida	4,223
Texas	2,200
California	900

Source: USDA-NASS, Florida Field Office

Lemon. In the U.S., California and Arizona are the two main supply regions for lemons. In the 2016-17 season California utilized 4.1 million boxes for processed lemon production and Arizona supplied 435,000 boxes to processed utilization (USDA-NASS, Florida Field Office). Assuming a juice yield of four gallons per box, approximately 4.5 million boxes of processed lemons would have produced 18 million SSE gallons of lemon juice. In 2017, U.S. imports of lemon juice were 191.7 million gallons (U.S. Department of Commerce).

Lime. With the demise of the Florida lime industry in the early 2000s as a result of an outbreak of citrus canker, there is little domestic production of limes. The major varieties are Mexican or Key limes and Persian limes, known in the U.S. as Tahiti limes. Mexico has become the primary supplier of both fresh limes and lime juice to the U.S., along with small volumes from Guatemala and Belize. The other large producer of limes in the world is Brazil, though their production is mainly sold in their domestic market. U.S. imports of lime juice were 58.3 million SSE gallons in 2017.



Pineapple. A number of factors have influenced the U.S. pineapple juice market. First, pineapple production in Hawaii has declined by $\frac{2}{3}$ in the past decade in response to high labor costs and competition from imports. Therefore, nearly all of the U.S. pineapple supply is consumed fresh, while canned products and juice are imported. World pineapple production reached 25 million metric tons (MMT) in 2014. The leading producing countries were Costa Rica (2.9 MMT), Brazil (2.6 MMT), and the Philippines (2.5 MMT) (BrandonGaile). Other countries with more than one MMT of production include Thailand, Indonesia, India, Nigeria, and China. Approximately 70 percent of world consumption is fresh with the remaining 30 percent processed. The processed figure includes both canned products and pineapple juice. U.S. pineapple juice consumption has been declining as fresh consumption has been increasing. Pineapple juice imports to the U.S. were 249.2 million SSE gallons (U.S. Department of Commerce) in 2017 making it the third largest imported juice following apple and orange.

Mango. Mangoes are a tropical fruit. Its production in the U.S. is limited to southern Florida. With an increasing Hispanic population, there has been growing demand for both fresh and processed mangoes in the U.S. in recent years. Mango juice is often blended with other juices to produce an exotic flavored product. Mango juice imports into the U.S. were 13 million SSE gallons in 2017.

Carrot. Data provided by USDA-NASS on U.S. carrot production is incomplete. California is by far the largest supplier of carrots for the fresh market, and Wisconsin and Michigan also have significant production. The U.S. carrot industry has been affected by the rise in the demand for “baby carrots” that have been milled to produce a smaller product. The shavings produced from carrot milling are pressed to produce carrot juice. Statistics are not available to provide an estimate of carrot juice consumption.



JUICE MANUFACTURING

Statistics on fruit and vegetable juice processing or manufacturing activity in the U.S. historically since 2010 and forecast to 2024 by IbisWorld are presented in Table 12. This information encompasses all fruit and vegetable juices, blended juices, and smoothies. In 2018 there were 483 establishments in the industry, with estimated employment of 14,865 persons, who received \$877 million in wages (averaging \$58,964 per employee), with gross revenues of \$11.46 billion, and \$2.42 billion in value added (revenues less cost of industry purchases). Domestic demand for all juice products in 2018 was estimated at \$12.78 billion, based on revenues (\$11.46 billion) plus imports of \$2.13 billion,

less exports of \$815 million. Revenues peaked at around \$15.25 billion in 2012 in the post-recession era, then steadily declined by about 25 percent to 2018, and are forecast to further decline an additional 10 percent in 2024 (not adjusted for inflation). Declining revenues for natural juice products are due to growing competition with the myriad of other drink products on the market, such as sports and energy drinks that are promoted to younger age groups. Like most manufacturing sectors globally, there has been significant consolidation in juice manufacturing, with the number of business establishments decreasing from 645 in 2012 to under 500 in 2018.

Table 12. Juice manufacturing industry data for the U.S., 2010-24

Year	Establishments	Employment (fulltime, part-time jobs)	Revenue (M\$)	Value Added (M\$)	Wages Paid (M\$)	Exports (M\$)	Imports (M\$)	Domestic Demand (M\$)
2010	546	16,024	13,080.6	2,978.8	863.2	1,140.9	1,605.6	13,545.3
2011	534	16,434	13,175.0	2,958.6	843.7	1,286.4	2,162.8	14,051.4
2012	645	18,327	15,252.6	3,247.9	934.2	1,225.7	2,017.4	16,044.3
2013	559	16,688	13,652.1	2,910.3	891.2	1,208.2	1,997.1	14,441.0
2014	505	14,559	12,850.6	2,764.3	799.1	1,110.0	2,009.2	13,749.8
2015	457	14,152	12,184.5	2,791.8	814.7	1,006.6	1,893.9	13,071.8
2016	484	15,085	11,717.5	3,075.9	890.9	918.9	1,866.9	12,665.5
2017	485	14,996	11,578.9	2,501.5	884.5	857.8	1,996.7	12,717.8
2018	483	14,865	11,457.0	2,424.3	876.5	814.7	2,134.8	12,777.1
2019	482	14,736	11,340.9	2,383.8	868.6	795.1	2,276.1	12,821.9
2020	484	14,692	11,240.3	2,342.2	865.0	753.4	2,360.0	12,846.9
2021	483	14,599	11,144.2	2,307.2	859.2	715.4	2,410.1	12,838.9
2022	482	14,510	11,068.7	2,267.8	853.8	681.9	2,462.8	12,849.6
2023	480	14,395	10,953.3	2,225.7	846.6	648.0	2,564.3	12,869.6
2024	476	14,275	10,853.8	2,186.8	839.4	618.0	2,693.0	12,928.8

Values are in millions of dollars, not adjusted for inflation. Source: IbisWorld industry report 31211c, Juice production in the U.S., Dec. 2018.



RETAIL JUICE MARKET

Retail sales of all fruit and vegetable juices and juice drink products in the U.S. are a measure of consumer demand. Gross retail sales have remained stable over the period 2012 to 2017 at around \$9.7 to \$9.9 billion (Table 13). Sales in the latest year available (2017) were \$9.86 billion, representing a total volume of 713 million cases at an average price of \$13.83 per case. Retail sales of specialty shelf-stable or canned juices in the U.S. in 2016 were \$7.27 billion (Table 14). Retail sales of shelf-stable juice categories in 2014 were highest for cranberry juice (\$1.00 billion), apple juice (\$914 million), tomato/vegetable juice (\$433 million), lemonade juice (\$306 million), grape juice (\$280 million), and orange juice (\$274 million), as shown in Figure 1. Retail sales of leading refrigerated juices in 2015 (latest available) totaled \$5.67 billion, including orange juice (\$3.24 billion, 57.1%), juice smoothies (\$898 million, 15.8%), lemonade juice (\$633 million, 11.2%), blended juices (\$360 million, 6.6%), and vegetable juices (\$122 million, 2.2%), as shown in Table 15. If the shelf-stable and refrigerated juice retail sales figures are combined, it would suggest a total juice drink market value of around \$12.94 billion, however, these figures cannot be completely reconciled because they represent different product categories and years.

Per capita consumption of all juices in the U.S. declined from 7.6 gallons per person in 2011 to 5.8 gallons per person in 2017, representing a decline of 23.7 percent (Figure 2).

Table 13. Gross retail sales, average price, and volume of juices and juice drinks in the U.S., 2012-17

Year	Gross sales (M\$)	Average price (\$ per case)	Volume (M 192-oz cases)
2012	9,922.4	10.40	678.7
2013	9,832.4	10.35	705.1
2014	9,871.7	10.43	710.0
2015	9,660.6	13.09	738.2
2016	9,954.3	13.43	741.0
2017	9,864.7	13.83	713.3

Source: Statista. Beverage Digest Fact book, 23rd Edition, page 86, 2018

Table 14. Retail sales of specialty shelf-stable juices in the U.S., 2014 and 2016

Year	Sales (Mill. \$)
2014	7,277
2016	7,268

Source: Statista. Specialty Food Association, The State of the Specialty Food Industry, March 2017, page 7.

Table 15. Retail sales of leading refrigerated juice and juice drink categories in the U.S., 2015

Category	Sales (M\$)	Percent
Orange juice	3,238.7	57.1%
Juice and juice drink smoothies	898.3	15.8%
Lemonade juice	632.7	11.2%
Blended juice	360.1	6.4%
Vegetable juice	122.1	2.2%
Cider	81.3	1.4%
Grapefruit juice	80.6	1.4%
Apple juice	63.7	1.1%
Cranberry juice	58.0	1.0%
Fruit nectar	13.5	0.2%
Pineapple juice	11.2	0.2%
Grape juice	5.2	0.1%
Lemon/lime juice	4.2	0.1%
Other fruit juices	98.1	1.7%
Total	5,667.7	

Source: Statista. Beverage World, 2016; includes multi-outlet supermarkets, drugstores, mass market retailers, gas/c-stores, military commissaries, and select club & dollar retail chains.

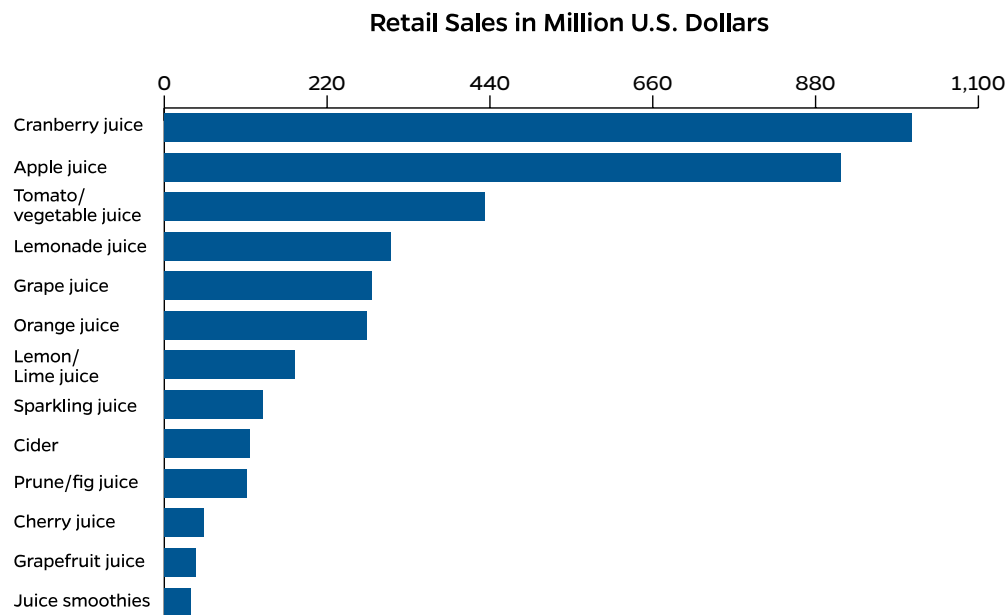


Figure 1. Retail sales of leading shelf-stable juice and juice drink categories in the U.S., 2014. Source: Statista

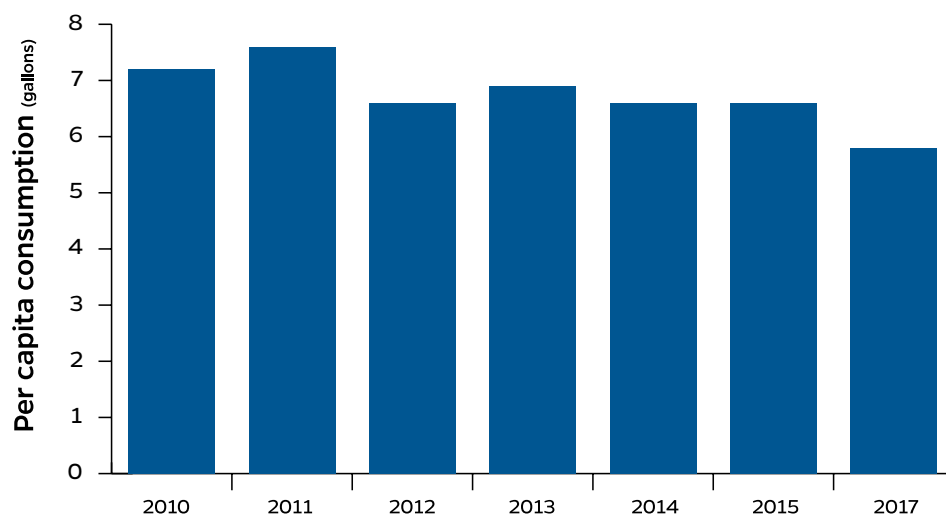


Figure 2. Per capita consumption of juices in the U.S., 2010-17. Source: Statista



U.S. INTERNATIONAL TRADE OF JUICE PRODUCTS

International trade of fruit and vegetable juices is an important part of the U.S. juice industry, as previously noted. Trade data for the U.S. during the period 2010 to 2018 are charted in Figures 3-8. Total import value increased from \$1.59 billion in 2010 to \$2.36 billion in 2018, representing a 49.0 percent increase (Figure 3). Growth in imports was especially strong in 2011 and 2017-18. Meanwhile, exports of juice products steadily declined from \$1.14 billion to \$930 million during the same period, a decrease of 18.3 percent. In terms of trade volumes of juice products, imports increased from 4.15 to 4.93 billion liters, a 19.1 percent increase, and exports declined from 1.11 billion to 671 million liters, a 39.7 percent decrease (Figure 4).

Among the largest import categories, values increased significantly for orange juice (+90.8%), other single fruits (+65.0%), lemon juice (+93.1%), and other single vegetables (+205.9%), but were minimal for apple juice (+9.7%) and were

actually down for grape juice (-21.6%), as shown in Figure 5. Export values declined significantly for orange juice (-31.8%), single vegetable juice (-17.3%), fruit juice mixtures (-54.5%), grape juice (-18.3%), and grapefruit juice (-16.9%), but increased for apple juice (+73.8%), vegetable juice mixtures (+45.8%), and other citrus juices (+64.4%) (Figure 6).

Concomitant with the increase in imports of many juices, exports of juices in 2018 included a significant share of foreign-produced juice for re-export for orange juice (36.5%), apple juice (15.1%), cranberry juice (15.3%), pineapple juice (28.4%), and lime juice (21.8%) (Figure 7).

Exports of juices in 2018 to major world regions were largest to North America (\$520 million) and Asia (\$237 million), followed by South/Central America (\$95 million), Europe (\$70 million), Australia/Oceania (\$6 million), and Africa (\$1.4 million) (Figure 8).

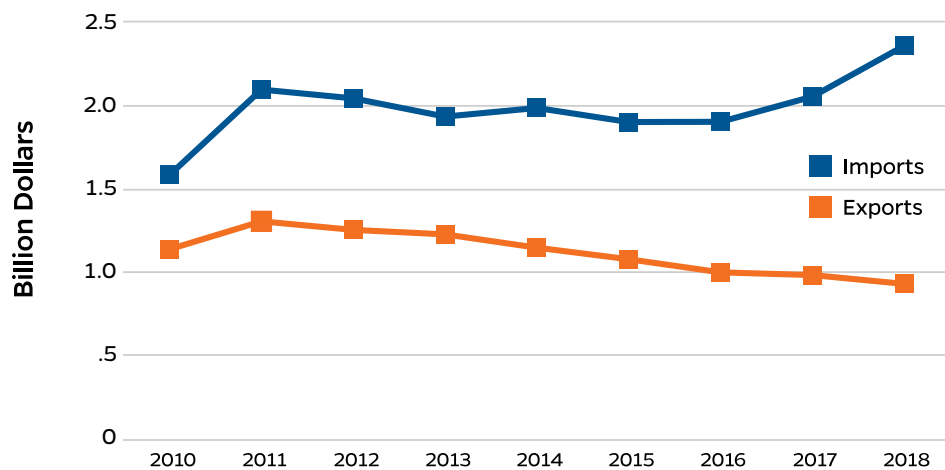


Figure 3. U.S. import and export values of fruit and vegetable juices, 2010-18.
Source: U.S. Department of Commerce, Census Bureau



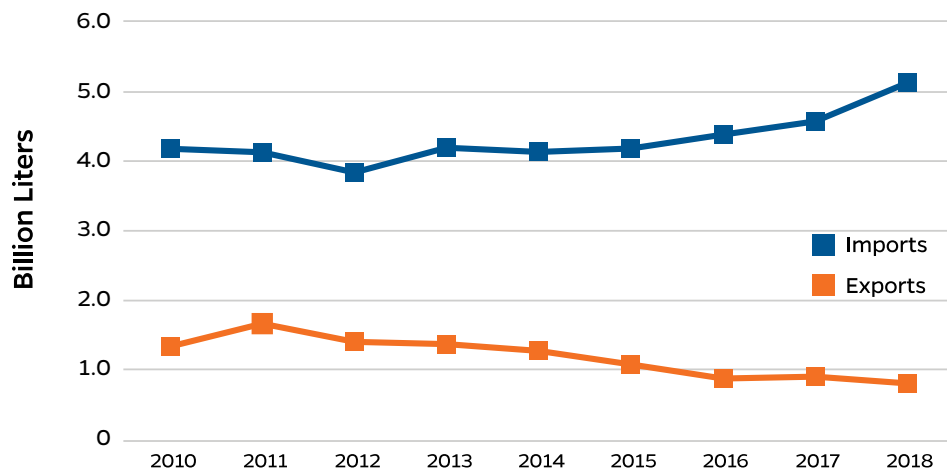


Figure 4. U.S. import and export volumes of fruit and vegetable juices, 2010-18.

Source: U.S. Department of Commerce, Census Bureau

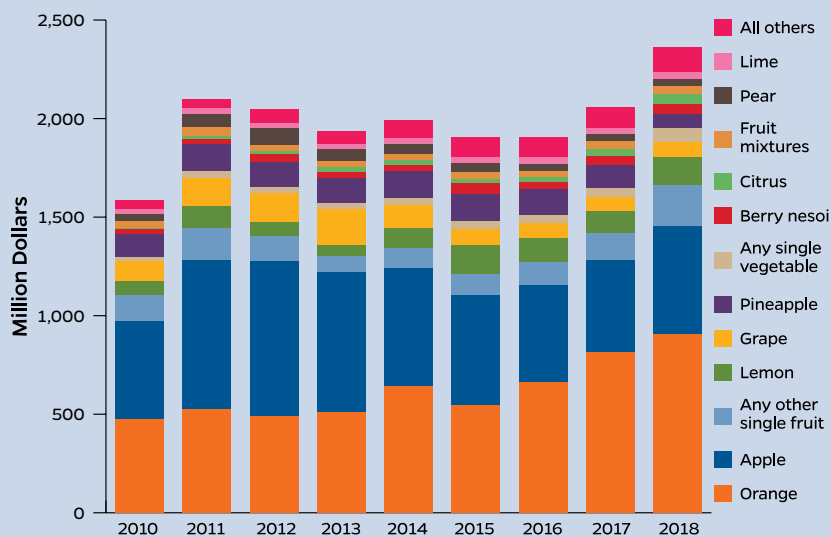


Figure 5. U.S. import values of fruit and vegetable juices by type, 2010-18.

Source: U.S. Department of Commerce, Census Bureau

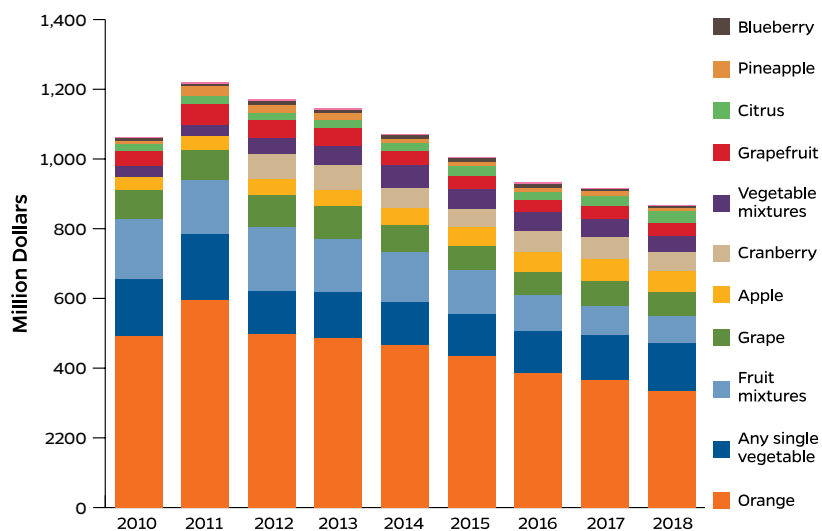


Figure 6. U.S. export values of fruit and vegetable juices by type, 2010-18.

Source: U.S. Department of Commerce, Census Bureau

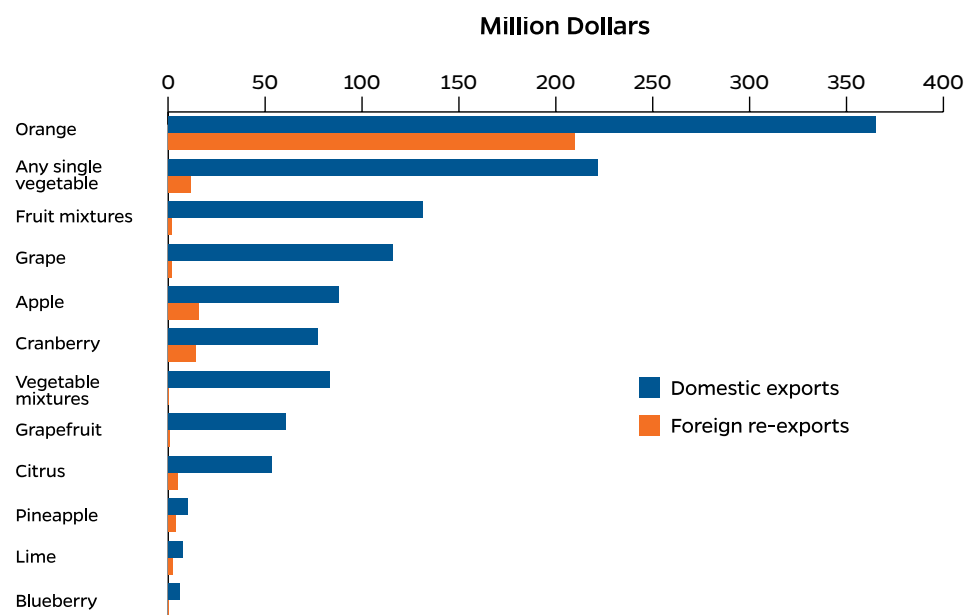


Figure 7. U.S. export values of domestically-produced and re-exported fruit and vegetable juice flavors, 2018.

Source: U.S. Department of Commerce, Census Bureau

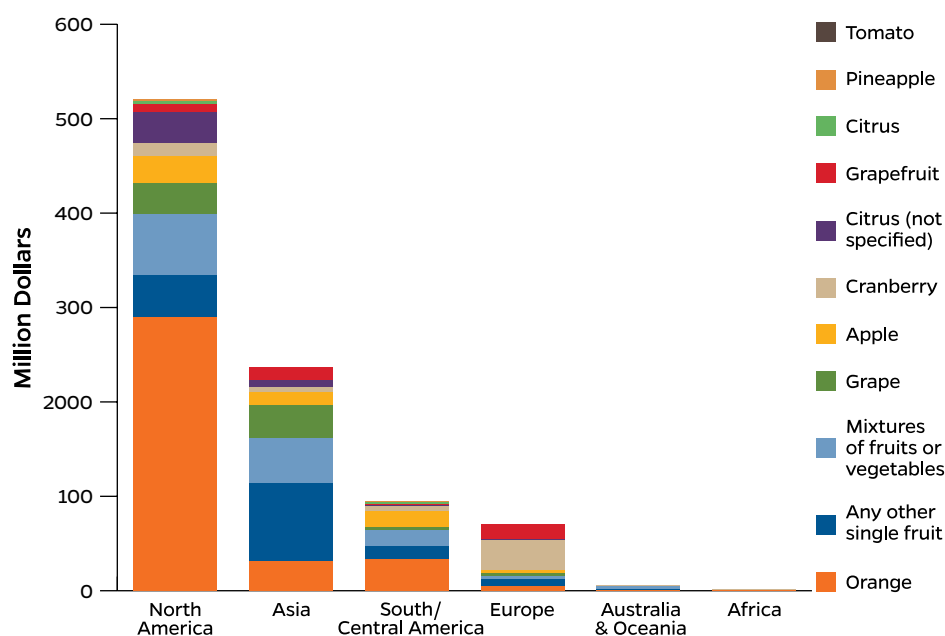


Figure 8. U.S. export values of fruit and vegetable juice types by major world region, 2018.

Source: U.S. Department of Commerce, Census Bureau

METHODOLOGY FOR ECONOMIC CONTRIBUTION ANALYSIS

Economic contributions of an industry or other economic activity are measured by metrics such as employment (fulltime and part-time jobs), labor income (wages, salaries, benefits, business owner income), total value added, industry output (sales revenues), and state-local and federal taxes paid. Value added is a broad measure of personal income and business net income that represents the difference between total output or revenues and the value of inter-industry purchases, and is equivalent to Gross Domestic Product (GDP) at the national level or Gross State Product (GSP) at the state level. A glossary of definitions of the basic terms used in this report is provided in Appendix A.

This economic contribution analysis for the U.S. juice products industry was conducted using the IMPLAN® regional economic modeling system (IMPLAN® Group, LLC). This type of economic modeling system is known as Input-Output analysis with Social Accounting Matrices (Miller and Blair, 2009). Regional economic models enable the estimation of economic multipliers that measure total activity in an economy supported by a given value of direct output or employment, including direct, indirect, and induced effects. Direct effects represent the initial amount of activity in the industry in question, indirect effects represent inter-industry or supply chain purchases supported by direct activity, and induced effects reflect local spending resulting from income changes in employee and proprietor households. Total economic contributions are the sum of all three types of multiplier effects. Regional economic models can be constructed with IMPLAN® for individual counties, groups of contiguous counties, states, or multi-state regions, but in this case, the study area was defined as the entire U.S. Data from IMPLAN® used to model contributions in this report

represented the economic structure of the U.S. economy in 2017. Information used in the model includes industry output, employment, income, trade, and estimates transactions between industries. The model was constructed with the IMPLAN® tradeflows specification and social accounts for households internalized (Type II multipliers). In keeping with best practice, the model was customized for multi-industry economic contribution analysis for the industry sectors of interest using the method described by Cheney (2017). Results of this analysis are deemed economic “contributions” that represent ongoing economic activity, as opposed to economic “impacts” that represent new activity due to a change in final demand, such as when a completely new business or industry moves into a region (Watson et al, 2007).

Inputs to the IMPLAN® model for economic contribution analysis of the U.S. juice products industry are summarized in Table 16. The analysis captured economic activity for juice manufacturing, fruit and vegetable farming for raw materials, and retail distribution of juice products to consumers through food and beverage stores. Each principal business type was mapped to the corresponding IMPLAN® industry sector. Gross sales for each industry in 2017 were entered into the model, as well as direct employment in juice manufacturing. The year 2017 was chosen as the benchmark period for analysis because data were available for all three industry segments. Industry sales included \$11.58 billion for juice processing/manufacturing, \$1.90 billion for fruit and vegetable farming, and \$9.86 billion for retail food and beverage stores. These values were taken from sources presented in the introduction. For juice manufacturing, the inputs were split between sector 79-Frozen fruits, juices and vegetables and sector 81-Canned fruits and vegetables, based upon the share of retail sales for

Table 16. Inputs to the IMPLAN® model for economic contribution analysis of the U.S. juice products industry

Activity	IMPLAN® Sector	Industry Sales (\$)	Direct Employment (fulltime and part-time jobs)	Employee Compensation (\$)	Proprietor Income (\$)
Juice processing/manufacturing	79-Frozen fruits, juices and vegetables manufacturing	\$5,073,226,152	6,570	\$669,325,284	\$17,607,114
	81-Canned fruits and vegetables manufacturing	\$6,505,673,848	8,352	\$819,112,617	\$40,514,755
Fruit and vegetable production	4-Fruit farming	\$1,896,518,000	26,671	\$448,382,568	\$300,731,578
Retail distribution	400-Retail food and beverage stores	\$9,864,700,000	38,254	\$1,140,392,193	\$147,076,013
Total		\$23,340,118,000	79,847	\$3,077,212,662	\$505,929,461
Retail sales margined (27.9%)		\$2,752,251,300			

refrigerated product (43.8%, \$5.07 billion) and shelf-stable product (56.2%, \$6.51 billion), respectively. The IMPLAN® software imputed direct employment in fruit farming and retail food stores and values for employee compensation (wages, benefits) and proprietor income (business owner income) for each sector based on industry averages per employee. Totals for all sectors within the fruit and vegetable juice industry were sales revenues of \$23.34 billion, direct employment of 79,847 (fulltime and part-time jobs), \$3.08 billion in employee compensation, and \$506 million in proprietor income. The software applied an average retail margin of 27.9 percent to the gross retail sales to give a retail industry direct output value of \$2.75 billion that is applicable to the multiplier effects. This adjustment is necessary to net out the value of purchases from manufacturers, equivalent to cost of goods sold, to avoid double-counting of economic contributions at the producer and retailer levels. Margining was not applicable for juice manufacturers and fruit and vegetable farms because sales are given in producer price terms.

Information on direct industry employment at the state level was used to allocate national economic contribution

results to states for the manufacturing and retail sectors. State-level employment for manufacturing and retail stores were compiled from the Quarterly Census of Employment and Wages (USDOC-BLS) for industry sectors defined according to the North American Industry Classification System (NAICS), as shown in Table 17. Missing values for some states due to nondisclosure rules for small numbers of firms were imputed based on the number of establishments. Note that these employment figures represent the entire fruit and vegetable manufacturing sectors, not just juice manufacturing, however, juice manufacturing was assumed to be proportional to the total employment. State-level information on farmgate sales of fruit for processing (excluding fruits not used for juice) were used to allocate economic contribution results for fruit and vegetable production, as shown in Table 3. Results for individual states were aggregated to eight broad U.S. regions: Appalachian, Great Plains, Midwest, Mountain, Northeast, Pacific, Southcentral, and Southeast (see map of regions in Figure 14 in the results section).

Table 17. State-level direct employment in U.S. fruit and vegetable manufacturing and retail food and beverage stores, 2017

U.S. State	NAICS 311411 Frozen fruit and vegetable manufacturing	NAICS 311421 Fruit and vegetable canning	Total Fruit and vegetable manufacturing	Percent	NAICS 445 Food and beverage stores	Percent
Alabama	231	124	355	0.4%	32,442	1.0%
Alaska					5,833	
Arizona	0	342	342	0.4%	59,925	1.9%
Arkansas	231	388	618	0.6%	19,945	0.6%
California	4,129	13,790	17,919	18.8%	359,814	11.6%
Colorado	0	129	129	0.1%	53,244	1.7%
Connecticut	0	335	335	0.4%	43,908	1.4%
Delaware	115	8	123	0.1%	9,914	0.3%
District of Columbia					15,976	
Florida	1,751	3,283	5,034	5.3%	223,719	7.2%
Georgia	231	1,440	1,670	1.8%	92,804	3.0%
Hawaii	0	287	287	0.3%	15,833	0.5%
Idaho	3,730	332	4,062	4.3%	14,169	0.5%
Illinois	601	1,513	2,114	2.2%	121,346	3.9%
Indiana	115	1,477	1,592	1.7%	46,935	1.5%
Iowa	115	380	495	0.5%	41,756	1.3%
Kansas	231	170	401	0.4%	28,753	0.9%
Kentucky	0	794	794	0.8%	35,800	1.1%
Louisiana	0	554	554	0.6%	38,836	1.2%
Maine	1,153	328	1,481	1.6%	18,701	0.6%
Maryland	461	609	1,070	1.1%	68,081	2.2%
Massachusetts	231	997	1,227	1.3%	101,815	3.3%
Michigan	1,246	3,714	4,960	5.2%	80,655	2.6%

Table 17 Continued. State-level direct employment in U.S. fruit and vegetable manufacturing and retail food and beverage stores, 2017

U.S. State	NAICS 311411 Frozen fruit and vegetable manufacturing	NAICS 311421 Fruit and vegetable canning	Total Fruit and vegetable manufacturing	Percent	NAICS 445 Food and beverage stores	Percent
Minnesota	830	2,410	3,240	3.4%	56,524	1.8%
Mississippi	0	111	111	0.1%	19,178	0.6%
Missouri	231	446	677	0.7%	49,624	1.6%
Montana	0	37	37	0.0%	10,957	0.4%
Nebraska	115	221	337	0.4%	21,090	0.7%
Nevada	231	198	429	0.5%	23,662	0.8%
New Hampshire	0	332	332	0.3%	22,055	0.7%
New Jersey	777	1,384	2,161	2.3%	112,963	3.6%
New Mexico	115	388	503	0.5%	14,768	0.5%
New York	692	2,893	3,585	3.8%	220,346	7.1%
North Carolina	461	1,618	2,079	2.2%	92,132	3.0%
North Dakota	346	55	401	0.4%	7,297	0.2%
Ohio	231	3,595	3,826	4.0%	103,869	3.3%
Oklahoma	0	221	221	0.2%	22,917	0.7%
Oregon	5,411	1,662	7,073	7.4%	43,399	1.4%
Pennsylvania	275	4,307	4,582	4.8%	143,211	4.6%
Rhode Island	0	26	26	0.0%	11,878	0.4%
South Carolina	346	498	844	0.9%	45,552	1.5%
South Dakota					9,495	
Tennessee	346	1,173	1,519	1.6%	54,443	1.7%
Texas	427	1,616	2,043	2.1%	239,471	7.7%
Utah	0	96	96	0.1%	25,686	0.8%
Vermont	0	127	127	0.1%	9,915	0.3%
Virginia	346	741	1,087	1.1%	81,830	2.6%
Washington	6,045	2,184	8,229	8.6%	67,154	2.2%
West Virginia	0	388	388	0.4%	12,436	0.4%
Wisconsin	1,420	4,309	5,729	6.0%	56,497	1.8%
Wyoming					4,905	0.2%
Total	33,216	62,030	95,246		3,113,458	

Source: USDOC-BLS, Quarterly Census of Employment and Wages. Employment represents fulltime and part-time jobs.

NATIONAL ECONOMIC CONTRIBUTION RESULTS

Economic contributions of the U.S. fruit and vegetable juice products industry in 2017 are summarized in Table 18 and Figures 9-11. For all industry activities, the estimated total economic contributions were 224,587 fulltime and part-time jobs, \$12.28 billion in labor income, \$20.08 billion in value added (contributions to GDP), and \$45.54 billion in industry output or business revenues, including all direct, indirect, and induced regional multiplier effects. Juice manufacturing accounted for total contributions of 115,708 jobs, \$7.88 billion

in labor income, \$13.17 billion in value added, and \$33.88 billion in industry output. Fruit and vegetable production for juice processing accounted for total contributions of 46,650 jobs, \$1.79 billion in labor income, \$2.78 billion in value added, and \$4.80 billion in industry output. Retail sales of juice products accounted for total contributions of 62,229 jobs, \$2.61 billion in labor income, \$4.14 billion in value added, and \$6.87 billion in industry output. As a share of total employment contributions, multiplier effects were evenly

distributed, with direct effects representing 35.6 percent, indirect multiplier effects of supply chain activity representing 31.2 percent, and induced multiplier effects for employee household spending representing 33.2 percent, as displayed in Figure 9. The output, value added, and labor income contributions are charted by activity in Figure 10, and output contributions are charted by multiplier effect in Figure 11.

Economic contributions of the U.S. juice products industry are summarized by broad NAICS industry groups in Table 19. The largest employment contributions occurred in the retail trade sector (49,044 jobs), agriculture-forestry-fisheries (38,520 jobs), and manufacturing (29,104 jobs), which all had significant direct employment related to the fruit and vegetable juice industry. In addition, other major sectors with significant indirect and induced employment contributions

included health and social services (12,968 jobs), wholesale trade (12,320 jobs), transportation and warehousing (11,474 jobs), professional-scientific-technical services (10,710 jobs), and administrative and waste services (10,558 jobs). The largest value added contributions occurred in manufacturing (\$4.56 billion), retail trade (\$2.42 billion), wholesale trade (\$2.04 billion), real estate/rentals (\$1.77 billion), agriculture (\$1.59 billion), and finance/insurance (\$1.19 billion). The largest output contributions occurred in manufacturing (\$20.07 billion), retail trade (\$3.76 billion), wholesale trade (\$2.98 billion), agriculture (\$2.90 billion), real estate/rentals (\$2.56 billion), and finance/insurance (\$2.15 billion). This pattern of results reflects the relative labor intensity and business profitability across industry groups.

Table 18. Summary of economic contributions of the juice products industry in the U.S., 2017

Activity	Impact type (multiplier)	Employment (jobs)	Labor income (M \$)	Value added (M \$)	Output (M \$)
Juice processing/manufacturing	Direct	14,922	\$1,547	\$2,146	\$11,579
	Indirect	52,872	\$3,800	\$6,554	\$14,377
	Induced	47,914	\$2,535	\$4,466	\$7,922
	Total	115,708	\$7,882	\$13,167	\$33,878
Fruit & vegetable production for juice processing	Direct	26,671	\$749	\$1,096	\$1,897
	Indirect	9,174	\$469	\$672	\$1,118
	Induced	10,806	\$571	\$1,006	\$1,784
	Total	46,650	\$1,789	\$2,775	\$4,798
Retail distribution	Direct	38,254	\$1,287	\$1,794	\$2,752
	Indirect	8,119	\$485	\$868	\$1,491
	Induced	15,856	\$839	\$1,478	\$2,621
	Total	62,229	\$2,611	\$4,140	\$6,865
Total All Activities	Direct	79,846	\$3,583	\$5,036	\$16,228
	Indirect	70,165	\$4,754	\$8,095	\$16,986
	Induced	74,576	\$3,945	\$6,951	\$12,328
	Total	224,587	\$12,282	\$20,081	\$45,541

Values in 2017 dollars. Employment represents fulltime and part-time jobs. Source: IMPLAN® tradeflows model for the U.S., 2017, modified for economic contribution analysis.



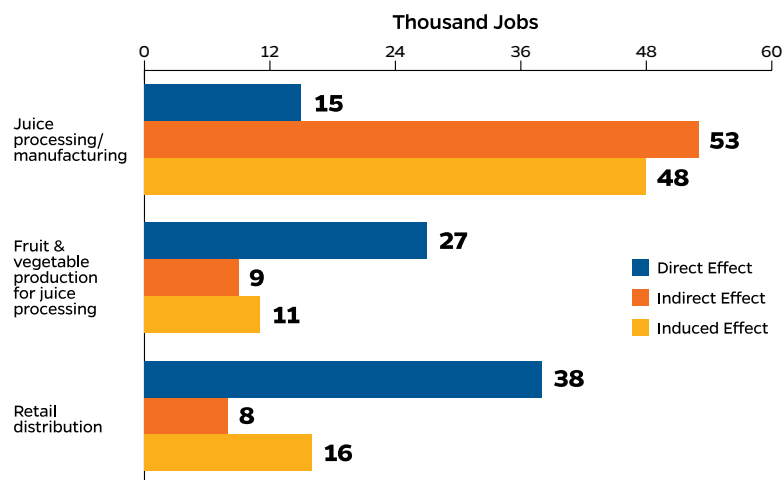


Figure 9. Total employment contributions of the juice products industry in the U.S., 2017. Source: IMPLAN® tradeflows model for the U.S., 2017.

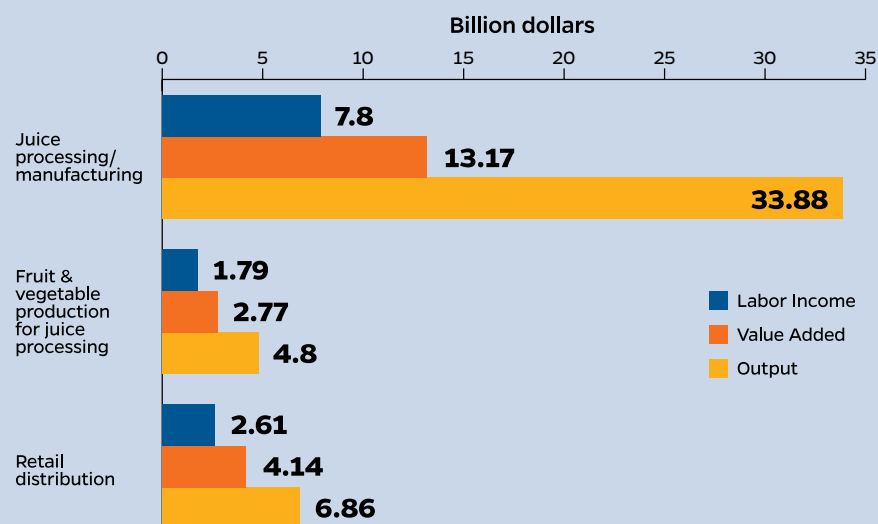


Figure 10. Output, value added, and labor income contributions of the juice products industry in the U.S., 2017. Source: IMPLAN® tradeflows model for the U.S., 2017.

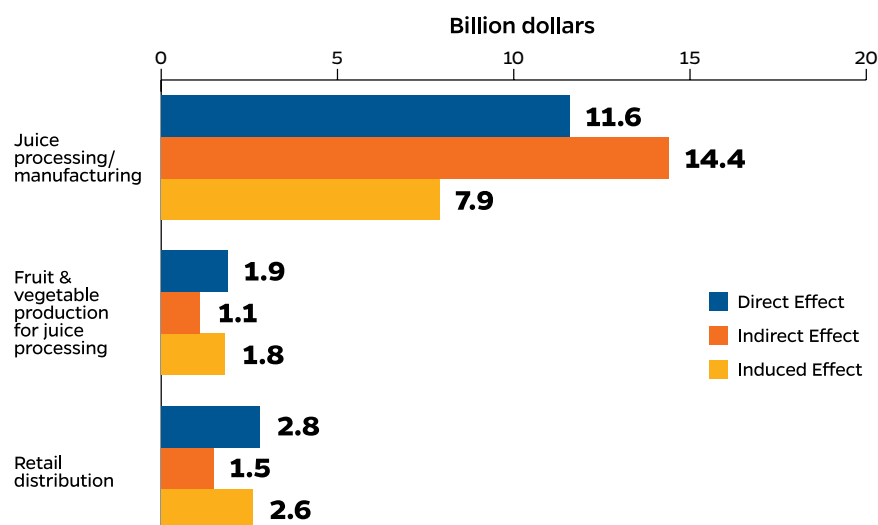


Figure 11. Output contributions by multiplier effect of the juice products industry in the U.S., 2017. Source: IMPLAN® tradeflows model for the U.S., 2017.



Table 19. Total economic contributions of the juice products industry in the U.S. by NAICS industry, 2017

NAICS Industry	Employment (jobs)	Labor Income (M \$)	Value Added (M \$)	Output (M \$)
11 Agriculture, forestry, fishing & hunting	38,520	\$1,164	\$1,592	\$2,910
21 Mining	878	\$85	\$215	\$299
22 Utilities	1,010	\$157	\$437	\$1,013
23 Construction	2,006	\$128	\$166	\$332
31-33 Manufacturing	29,104	\$2,653	\$4,564	\$20,068
42 Wholesale trade	12,320	\$1,052	\$2,042	\$2,984
44-45 Retail trade	49,044	\$1,674	\$2,423	\$3,757
48-49 Transportation & warehousing	11,474	\$749	\$947	\$1,778
51 Information	2,261	\$298	\$577	\$1,163
52 Finance & insurance	7,893	\$649	\$1,194	\$2,152
53 Real estate & rental	6,777	\$229	\$1,773	\$2,560
54 Professional, scientific & tech. services	10,710	\$852	\$978	\$1,431
55 Management of companies	3,437	\$436	\$512	\$851
56 Administrative & waste services	10,558	\$431	\$540	\$834
61 Educational services	2,733	\$114	\$121	\$178
62 Health & social services	12,968	\$793	\$864	\$1,373
71 Arts, entertainment & recreation	3,182	\$98	\$149	\$254
72 Accommodation & food services	10,357	\$272	\$423	\$720
81 Other services	8,500	\$371	\$438	\$630
92 Government	856	\$74	\$127	\$252
Total	224,587	\$12,282	\$20,081	\$45,541

Estimates include direct, indirect, and induced multiplier effects. Source: IMPLAN® tradeflows model for the U.S., 2017.

Contributions of the juice products industry to state-local and federal government tax revenues are summarized in Table 20. Total state and local taxes generated were \$1.73 billion, including sales tax on production and imports (\$646 million), property tax on production and imports (\$587 million), and state personal income tax (\$240 million). Taxes generated

for the federal government totaled \$2.73 billion, including personal income tax (\$999 million), Social Insurance or Social Security employee contributions (\$701 million) and employer contributions (\$597 million), corporate profits tax (\$285 million), and excise tax (\$102 million).

Table 20. Government tax contributions of the juice products industry in the U.S., 2017

Tax Type	Million Dollars
State & Local Taxes	
Dividends	5.95
Social Ins Tax- Employee Contribution	6.91
Social Ins Tax- Employer Contribution	13.83
TOPI: Sales Tax	646.38
TOPI: Property Tax	586.70
TOPI: Motor Vehicle Licenses	12.46
TOPI: Severance Tax	9.65
TOPI: Other Taxes	74.28
TOPI: S/L Non-Taxes	10.68
Corporate Profits Tax	53.07
Personal Tax: Income Tax	239.53
Personal Tax: Non-Taxes (Fines- Fees)	49.53
Personal Tax: Motor Vehicle License	12.22
Personal Tax: Property Taxes	5.71
Personal Tax: Other Tax (Fish/Hunt)	3.44
Total State and Local Taxes	1,730.35
Federal Taxes	
Social Ins Tax- Employee Contribution	700.84
Social Ins Tax- Employer Contribution	596.95
TOPI: Excise Taxes	102.44
TOPI: Custom Duty	42.48
TOPI: Fed Non-Taxes	6.65
Corporate Profits Tax	285.39
Personal Tax: Income Tax	999.35
Total Federal Taxes	2,734.09

Source: IMPLAN® tradeflows model for the U.S., 2017.

STATE AND REGIONAL ECONOMIC CONTRIBUTION RESULTS

As noted above, the national economic contribution results for the juice products industry were allocated to states and regions based on information on direct employment or sales. Economic contribution results for states are summarized in Table 21 and Figures 12-13. The largest ten states in terms of overall employment contributions for all activities were Florida (35,751 jobs), California (31,250 jobs), Washington (17,956 jobs), Wisconsin (11,755 jobs), New York (10,608 jobs), Oregon (10,380 jobs), Michigan (9,562 jobs), Pennsylvania (9,224 jobs), Texas (7,268 jobs), and Ohio (6,743 jobs) (Figure 12). Fourteen states had overall output contributions of at least one billion dollars, including New Jersey, Idaho, Minnesota, and Illinois in addition to those listed above (Figure 13), while thirteen states had value added contributions of at least \$500 million.

For juice manufacturing, the top ten states in terms of total employment contributions were California (21,769 jobs), Washington, (9,997 jobs), Oregon (8,593 jobs), Wisconsin (6,960 jobs), Florida (6,115 jobs), Michigan (6,026 jobs), Pennsylvania (5,566 jobs), Idaho (4,935 jobs), Ohio (4,648 jobs), and New York (4,355 jobs) (Figure 12). Eleven states had juice manufacturing output contributions of at least one billion dollars (Figure 13). The top five states in terms of total employment contributions for retail sales of juice products corresponded to population and overall food demand: California (7,192 jobs), Texas (4,786 jobs), Florida (4,471 jobs), New York (4,404 jobs), and Pennsylvania (2,862 jobs). The top five states for total employment contributions of fruit and vegetable production for juice processing were

Table 21. Total economic contributions of the juice products industry in U.S. states, 2017

State	Employment (fulltime and part-time jobs)				Output (Million \$)				Value Added (Million \$)			
	Juice manuf.	Retail	Fruit prod.	All sectors	Juice manuf.	Retail	Fruit prod.	All sectors	Juice manuf.	Retail	Fruit prod.	All sectors
Alabama	431	648		1,079	126	72		198	49	43		92
Alaska		117		117		13		13		8		8
Arizona	415	1,198		1,613	122	132		254	47	80		127
Arkansas	751	399		1,150	220	44		264	85	27		112
California	21,769	7,192	2,290	31,250	6,374	793	236	7,402	2,477	478	136	3,092
Colorado	157	1,064		1,221	46	117		163	18	71		89
Connecticut	407	878	8	1,293	119	97	1	217	46	58	0	105
Delaware	150	198		348	44	22		66	17	13		30
D.C.		319		319		35		35		21		21
Florida	6,115	4,471	25,164	35,751	1,791	493	2,588	4,872	696	297	1,497	2,490
Georgia	2,029	1,855		3,884	594	205		799	231	123		354
Hawaii	349	316		665	102	35		137	40	21		61
Idaho	4,935	283	46	5,264	1,445	31	5	1,481	562	19	3	583
Illinois	2,568	2,425		4,994	752	268		1,019	292	161		454
Indiana	1,934	938		2,873	566	103		670	220	62		283
Iowa	602	835		1,436	176	92		268	68	56		124
Kansas	487	575		1,061	143	63		206	55	38		94
Kentucky	965	716		1,680	282	79		361	110	48		157
Louisiana	673	776		1,449	197	86		283	77	52		128
Maine	1,799	374	28	2,201	527	41	3	571	205	25	2	231
Maryland	1,300	1,361	81	2,742	381	150	8	539	148	91	5	243
Massachusetts	1,491	2,035	1,355	4,881	437	224	139	800	170	135	81	386
Michigan	6,026	1,612	1,925	9,562	1,764	178	198	2,140	686	107	114	907
Minnesota	3,936	1,130	11	5,077	1,152	125	1	1,278	448	75	1	524
Mississippi	135	383		518	39	42		82	15	26		41
Missouri	822	992		1,814	241	109		350	94	66		160
Montana	45	219		264	13	24		37	5	15		20
Nebraska	409	422		831	120	46		166	47	28		75
Nevada	521	473		994	152	52		205	59	31		91
New Hampshire	404	441		844	118	49		167	46	29		75
New Jersey	2,626	2,258	443	5,326	769	249	46	1,063	299	150	26	475
New Mexico	611	295		906	179	33		211	70	20		89
New York	4,355	4,404	1,849	10,608	1,275	486	190	1,951	496	293	110	899

Table 21 Continued. Total economic contributions of the juice products industry in U.S. states, 2017.

State	Employment (fulltime and part-time jobs)				Output (Million \$)				Value Added (Million \$)			
	Juice manuf.	Retail	Fruit prod.	All sectors	Juice manuf.	Retail	Fruit prod.	All sectors	Juice manuf.	Retail	Fruit prod.	All sectors
North Carolina	2,526	1,841	164	4,531	740	203	17	960	287	123	10	420
North Dakota	488	146		633	143	16		159	55	10		65
Ohio	4,648	2,076	19	6,743	1,361	229	2	1,592	529	138	1	668
Oklahoma	269	458		727	79	51		129	31	30		61
Oregon	8,593	867	920	10,380	2,516	96	95	2,706	978	58	55	1,090
Other States			587	587			60	60			35	35
Pennsylvania	5,566	2,862	795	9,224	1,630	316	82	2,027	633	190	47	871
Rhode Island	32	237		269	9	26		35	4	16		19
South Carolina	1,026	910		1,936	300	100		401	117	61		177
South Dakota		190		190		21		21		13		13
Tennessee	1,845	1,088		2,933	540	120		660	210	72		282
Texas	2,482	4,786		7,268	727	528		1,255	282	318		601
Utah	117	513		630	34	57		91	13	34		47
Vermont	154	198	20	372	45	22	2	69	18	13	1	32
Virginia	1,320	1,636	462	3,418	387	180	48	615	150	109	28	287
Washington	9,997	1,342	6,617	17,956	2,927	148	681	3,756	1,138	89	394	1,620
West Virginia	471	249	199	918	138	27	20	186	54	17	12	82
Wisconsin	6,960	1,129	3,666	11,755	2,038	125	377	2,539	792	75	218	1,085
Wyoming		98		98		11		11		7		7
Total All States	115,708	62,229	46,650	224,587	33,878	6,865	4,798	45,541	13,167	4,140	2,775	20,081

U.S. results were allocated to states in proportion to direct employment for juice manufacturing and retail food stores, and by sales for fruit and vegetable production. Source: IMPLAN® trade flows model for the U.S., 2017.

Florida (25,164 jobs), Washington (6,617 jobs), Wisconsin (3,666 jobs), California (2,290 jobs), and Michigan (1,925 jobs).

Economic contribution results for the U.S. juice products industry in multi-state regions are summarized in Table 22 and Figures 15-16. These regional results are simply aggregated from the contribution estimates for individual states according to a mapping of states within regions as shown in Figure 14. The largest region for of the juice products industry was the Pacific,

with employment contributions of 60,368 jobs and output contributions of \$14.01 billion, followed by the Midwest (44,254 jobs, \$9.86 billion), Southeast (43,169 jobs, \$6.35 billion), Northeast (38,428 jobs, \$7.54 billion), Appalachian (13,481 jobs, \$2.78 billion), Southcentral (11,500 jobs, \$2.14 billion), Mountain (10,084 jobs, \$2.24 billion), and Great Plains (2,715 jobs, \$552 million).

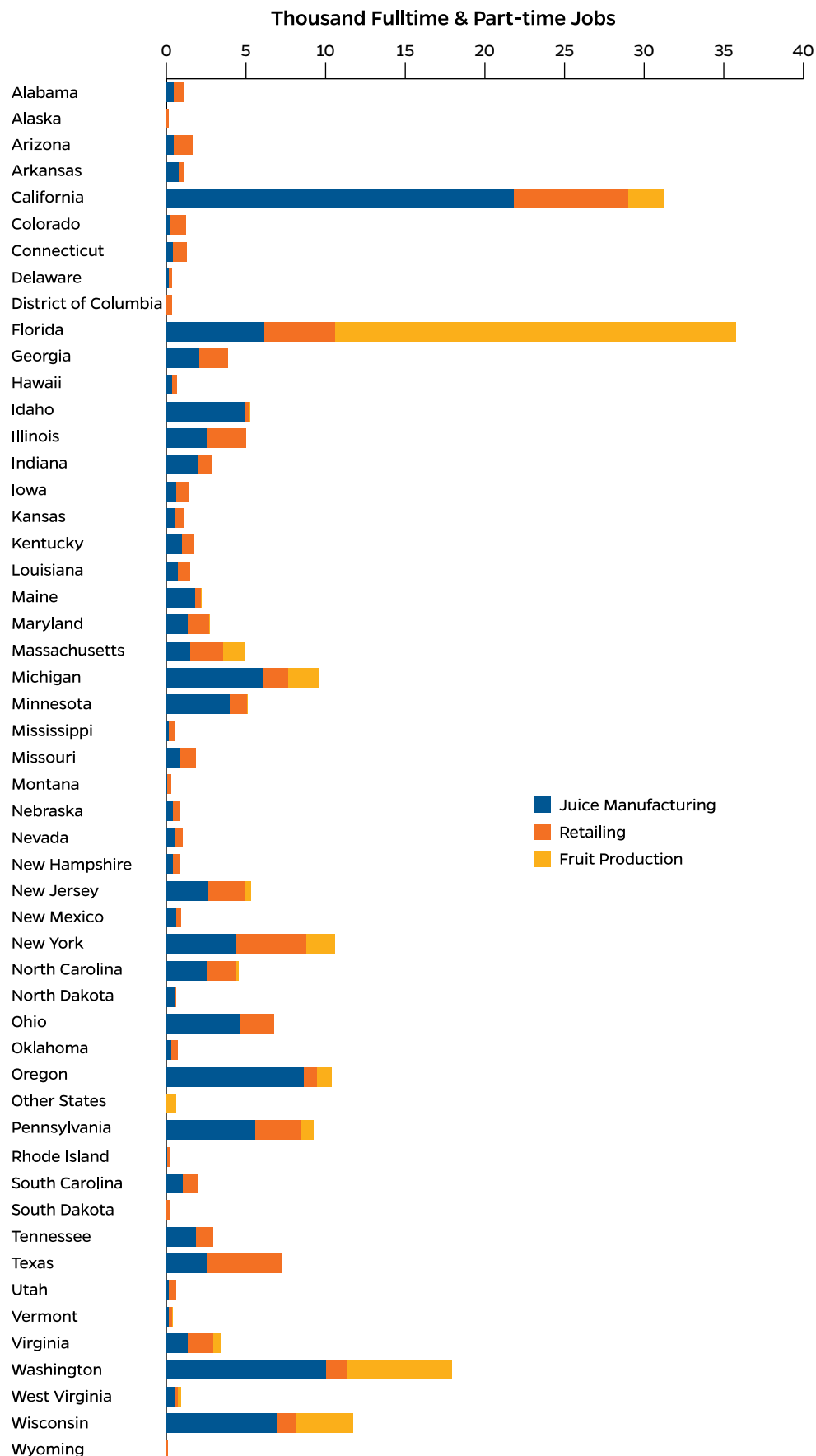


Figure 12. Total employment contributions of the juice products industry in U.S. states, 2017. Source: IMPLAN® trade flows model for the U.S., 2017.

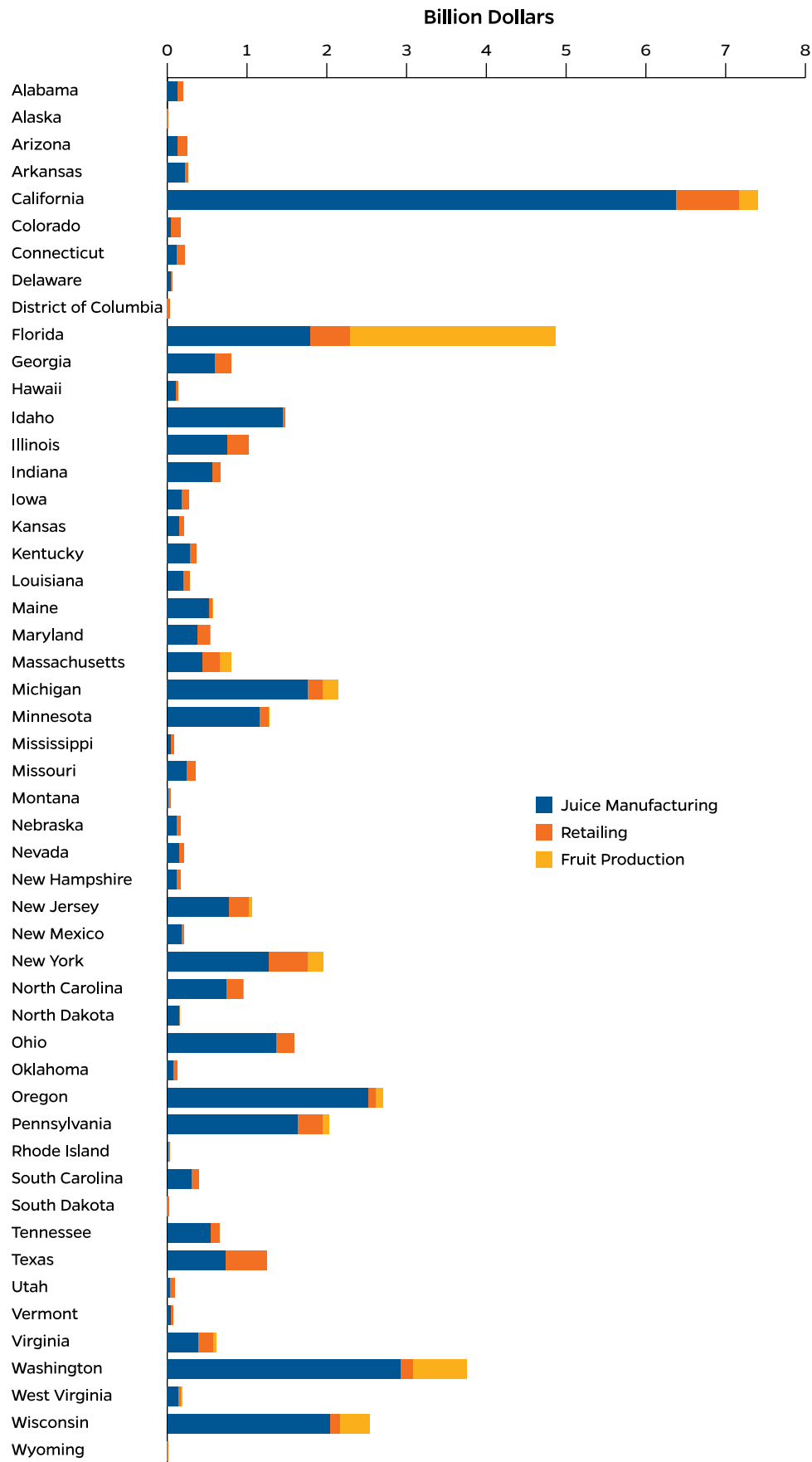


Figure 13. Total output contributions of the juice products industry in U.S. states, 2017. Source: IMPLAN® trade flows model for the U.S., 2017.

Table 22. Economic contributions of the juice products industry in U.S. regions, 2017

Region	Employment (fulltime and part-time jobs)				Output (Million \$)				Value Added (Million \$)			
	Juice manuf.	Retail	Fruit prod.	All sectors	Juice manuf.	Retail	Fruit prod.	All sectors	Juice manuf.	Retail	Fruit prod.	All sectors
Pacific	40,707	9,834	9,827	60,368	11,919	1,085	1,011	14,014	4,632	654	585	5,871
Midwest	27,495	11,137	5,622	44,254	8,050	1,229	578	9,857	3,129	741	334	4,204
Southeast	9,736	8,269	25,164	43,169	2,851	912	2,588	6,351	1,108	550	1,497	3,155
Northeast	18,284	15,565	4,579	38,428	5,353	1,717	471	7,541	2,081	1,036	272	3,388
Appalachian	7,127	5,529	825	13,481	2,087	610	85	2,782	811	368	49	1,228
Southcentral	4,786	6,714		11,500	1,401	741		2,142	545	447		991
Mountain	6,189	3,848	46	10,084	1,812	425	5	2,241	704	256	3	963
Great Plains	1,383	1,332		2,715	405	147		552	157	89		246
Total All Regions	115,708	62,229	46,064	224,000	33,878	6,865	4,738	45,481	13,167	4,140	2,740	20,047

State results were aggregated to U.S. regions. Source: IMPLAN® trade flows model for the U.S., 2017.



Figure 14. Map of U.S. regions for economic contribution analysis of the juice products industry

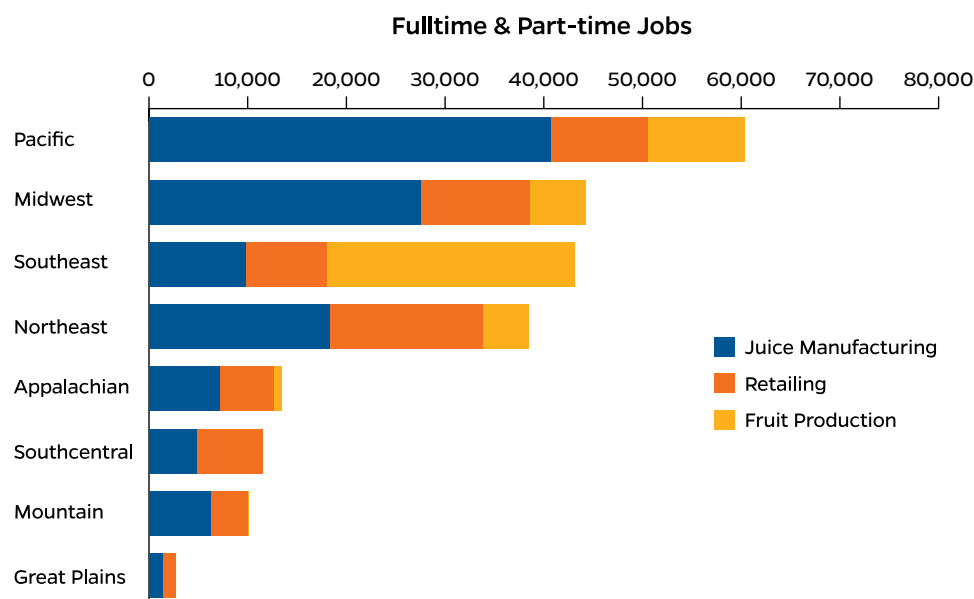


Figure 15. Total employment contributions of the juice products industry in U.S. regions, 2017. Source: IMPLAN® tradeflows model for the U.S., 2017.

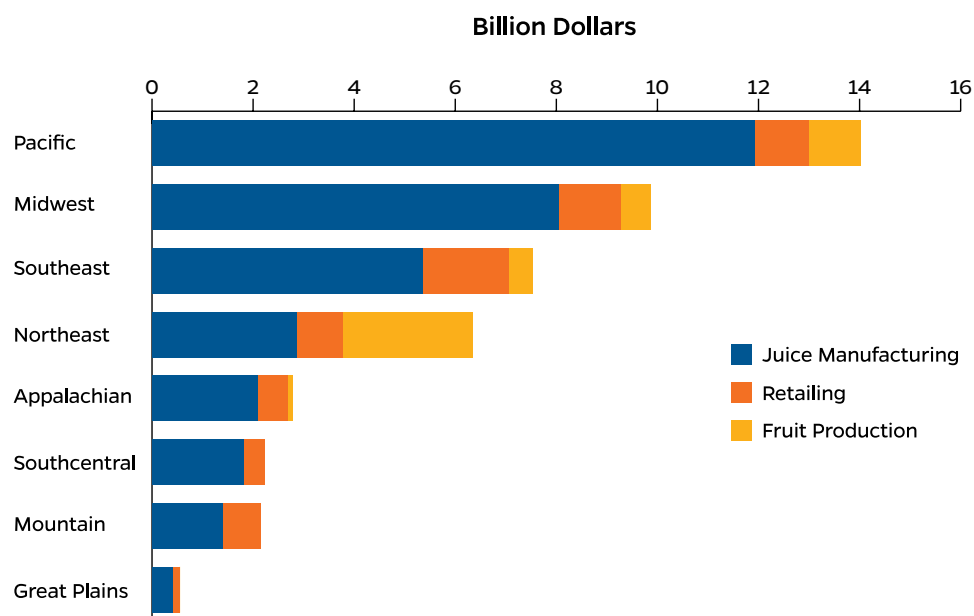


Figure 16. Total output contributions of the juice products industry in U.S. regions, 2017. Source: IMPLAN® tradeflows model for the U.S., 2017.



ECONOMIC CONTRIBUTION RESULTS BY CONGRESSIONAL DISTRICT

National economic contribution results for the juice products industry were also allocated to U.S. congressional districts. Allocation of economic contribution results for the fruit production industry was based on information on direct sales of fruit, tree nuts, and berries by congressional district from USDA-NASS and allocation of economic contribution results for the juice manufacturing and juice retailing industries was based on direct employment information for the manufacturing and retail sectors from the American Community Survey (2013-17, 5 year averages).

Results for economic contributions by congressional district are displayed in Figures 17-20. Complete results for total economic contributions by congressional district in terms of employment and value added are available in Appendix B.

In terms of fruit production, the top 10 congressional districts account for 42% of total employment contributions. Nine of these 10 congressional districts are located in Florida (2nd, 3rd, 9th, 15th, 16th, 17th, 18th, 25th, and 26th) with the exception being the 4th congressional district of Washington state.

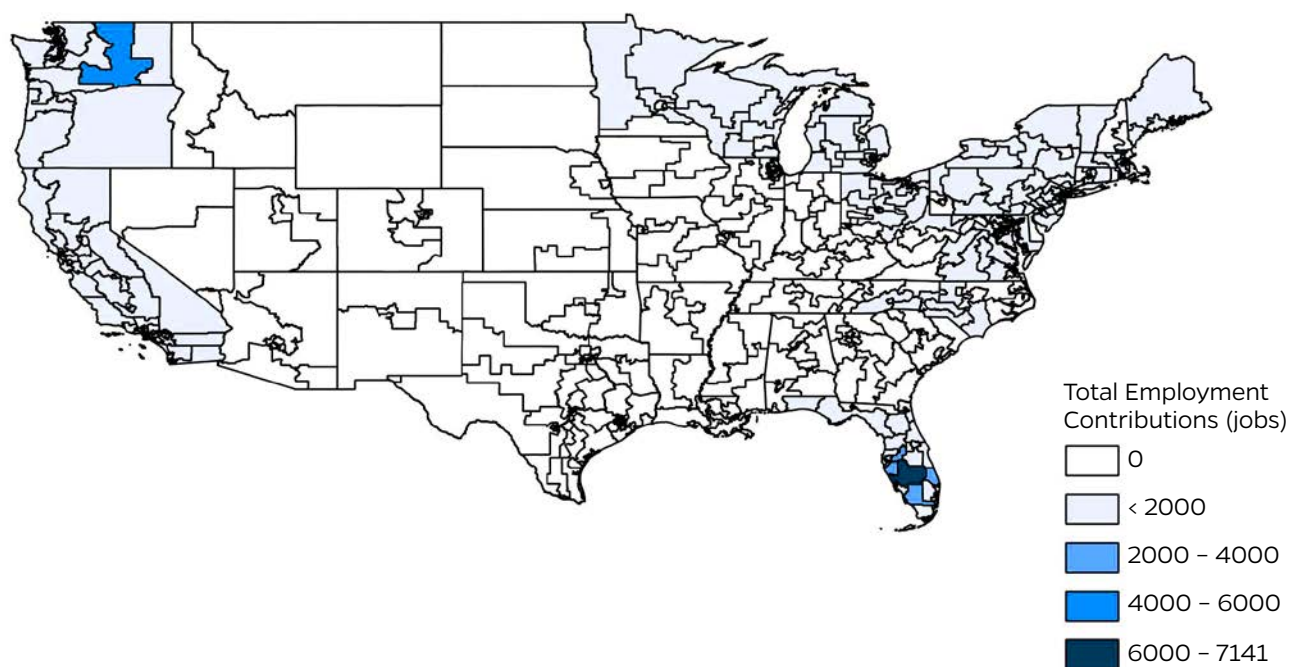


Figure 17. Total employment contributions of the fruit production Industry by U.S. Congressional District, 2018

The distribution of total employment contributions for juice manufacturing is quite different, showing larger values in the Pacific Northwest and Northeast. The 10 top congressional districts in terms of total employment contributions associated with juice manufacturing are the 5 congressional districts that make up the State of Oregon, the 2 congressional districts that make up the State of Idaho, 2 congressional districts in Washington (1st and 2nd), and the 6th congressional district in Wisconsin. These 10 districts account for 15% of the total employment contributions of juice manufacturing activity.

Juice retailing activity is present in all congressional districts and is largely dependent on the proportion of state-level retailing activity that is assumed to be juice-related. This dispersion of activity, as opposed to the geographic concentration associated with fruit production and juice manufacturing, reveals that no one congressional district is responsible for more than 0.51% of the total employment contributions associated with juice retailing. This distribution of activity is displayed in Figure 19.

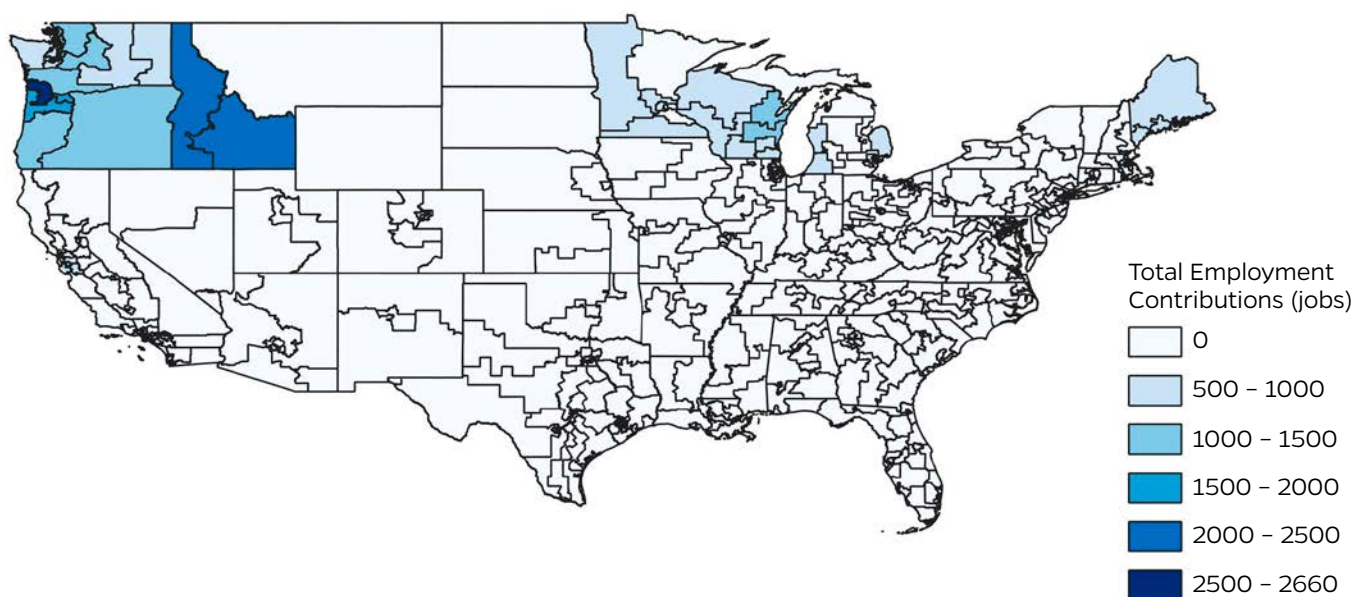


Figure 18. Total employment contributions of the juice manufacturing Industry by U.S. Congressional District, 2018

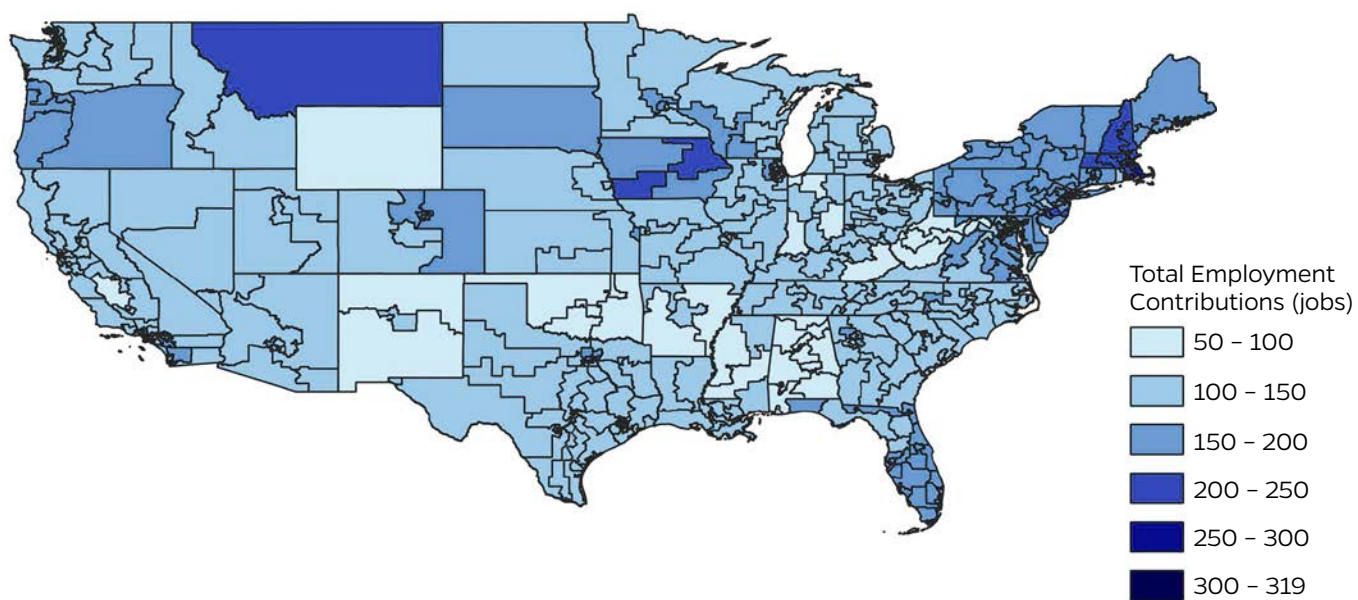


Figure 19. Total employment contributions of the juice retailing Industry by U.S. Congressional District, 2018

As displayed in Figure 20, the top 10 U.S. congressional districts in terms total employment contributions supported by the overall juice products industry (fruit production, juice manufacturing, and juice retailing) are located in Florida (2nd, 15th, 17th, 25th and 26th districts), Idaho (1st and 2nd), Oregon (1st and 5th), and Washington state (4th). These congressional

districts alone represent 12.5% of total employment contributions by the juice products industry. Congressional districts with larger total economic contributions tend to specialize in fruit production or juice processing, as these activities tend to concentrate geographically more than juice retailing activity.

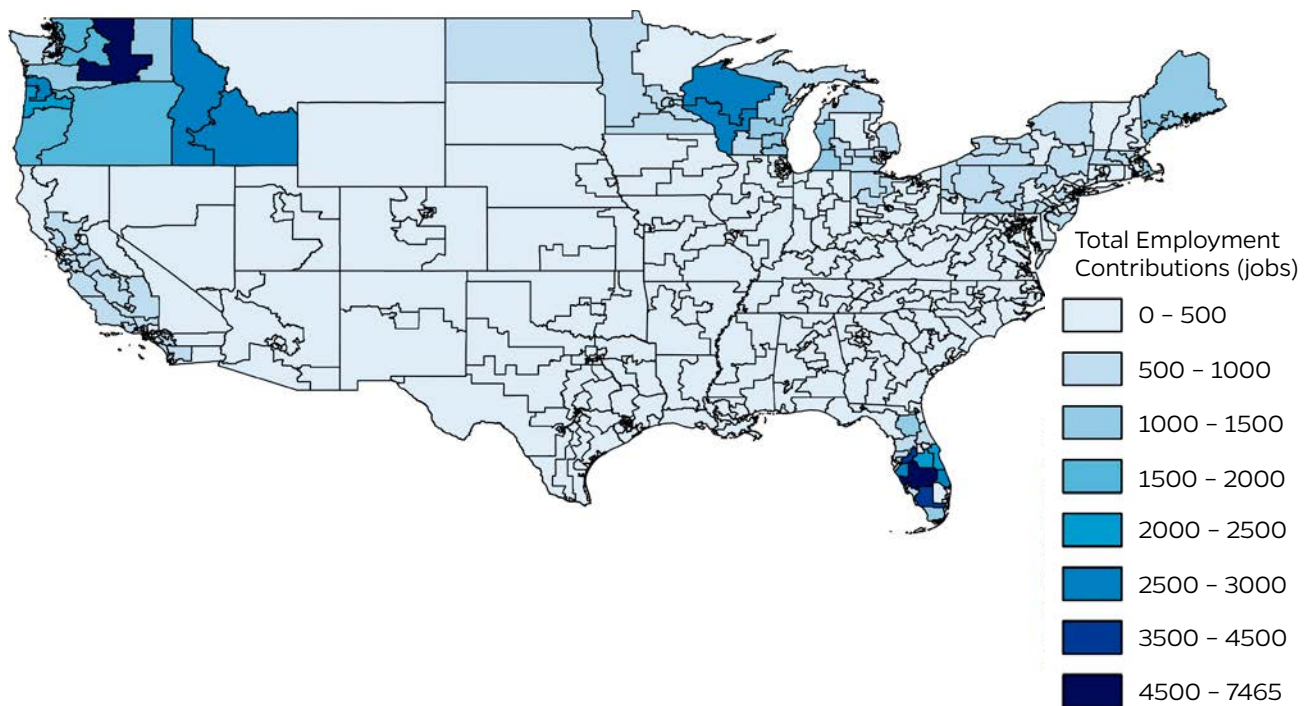


Figure 20. Total employment contributions of the juice products industry by U.S. Congressional District, 2018





DISCUSSION

Fruit and vegetable juice intake is an essential element in healthy eating, reducing risks for diet-related chronic diseases and leading towards good health. However, fruit and vegetable consumption by Americans has long been below the recommended level by the current dietary guidelines. Lack of convenience is one of the most important factors accounting for insufficient fresh fruit and vegetable intake (Pollack 2001). As a convenient substitute for fresh fruits and vegetables, juices have become a large component in the domestic market since the 1970s. In addition to offering equivalent nutritional value, fruit and vegetable juices also help to control servings in standard-sized containers and reduce food waste because of a longer shelf life than fresh produce.

Both per capita consumption of juices and domestic demand have declined in the last decade, although this trend has been moderated by the popularity of various juice-based drinks. This is due to growing competition with a myriad of other beverage products (e.g., sports and energy drinks), lifestyle changes, and concerns about sugar and calorie contents in juices (Pollack 2001). As a result, employment, revenue, and value added in juice manufacturing have declined over the last decade and are projected to continue the downward trend over the next five years. Consistent with the shrinkage of the domestic juice products industry, the gap between imports and exports in both volume and value have been increasing since 2010. Imports of other single fruit juices and other juices have shown a steady increase in recent years in response to growing domestic demand for a wider range of consumer preferences.

Orange and other citrus juices (e.g. grapefruit, lemon) are still the dominant flavors for retail sales of juice and smoothies in the refrigerated juice market category, while cranberry juice, apple juice, and tomato/vegetable juice continue to lead the shelf-stable juice category. A notable change in the industry is increased imports and decreased exports of orange juice due to a shortfall in domestic supply resulting from diseases and multiple natural disasters in Florida, and a downtrend in domestic demand due to a cluster of factors such as preferences for fresh produce, increased concerns about sugar and calorie content in orange juice, and competition with other beverage products. The decline in Florida citrus production has been caused by a combination of several factors, but the most important is the endemic infestation of HLB or citrus greening disease that has spread throughout the commercial citrus production area in Florida. The industry is pursuing a range of tactics to combat the

disease, including genetic research to develop disease resistant trees, as well as improved management practices. Several cultivars have been developed that are exhibiting tolerance to HLB. There is hope in the industry that the downward trend in fruit production can be reversed.

The analysis shows that economic contributions of juice processing/manufacturing outpace fruit and vegetable production and retailing activities combined, indicating that processing/manufacturing is the driver of value in the supply chain. Direct contributions account for the highest share of economic contributions in fruit production and retailing, however, indirect contributions represent a dominant share of manufacturing activity. Fruit production and juice retailing are the beginning and ending stages of the juice products industry supply chain, while juice manufacturing is the intermediate stage connecting the upstream and downstream actors.

The juice products industry is widely spread throughout the U.S. The geographic distribution of economic contributions across states and regions reflects the population of consumers for retail sales activity, the natural environmental factors for suitability of fruit and vegetable production, and availability of domestic produce or imported juice, as well as labor and capital for manufacturing.

Finally, another issue confronting all juice products is the shift in the climate around world trade. Soon after the end of World War II, several institutions arose that have served to promote free trade among former enemies across the globe. Tariffs that were imposed during the Great Depression were gradually reduced. Regional trading blocs such as the European Union and the North American Free Trade Agreement, along with the acceptance of China into the World Trade Organization (WTO), and bi-lateral trade agreements between the U.S. and several countries, notably South Korea, have stimulated world economic growth and increased incomes, which generally increase consumption of products such as fresh produce and fruit and vegetable juices. In the past few years, the trend toward freer trade among countries has shifted, not only in the U.S., but in many countries across the world. The rise of nationalism and fear of the possible negative impacts of immigration both work against economic growth and trade of goods and services. If the consequence of the new attitudes regarding trade is the renewal of high tariffs or outright embargoes on trade among countries, fruit and vegetable juice will be one of the victims with reduced availability of flavors that either cannot be produced domestically or produced at higher cost.

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APPENDIX A: GLOSSARY OF ECONOMIC TERMS

Contribution (economic) represents the gross economic activity associated with an industry, event, or policy in an existing regional economy.

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

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

Exports are sales of goods to customers outside the region in which they are produced, which represents a net inflow of money to the region. This also applies to sales of services to customers visiting from other regions.

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

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

IMPLAN® is a computer-based input-output modeling system that enables users to create regional economic models and multipliers for any region consisting of one or more counties or states in the United States. The current version of the IMPLAN® software, IMPLAN Pro, accounts for commodity production and consumption for 536 industry sectors, 10 household income levels, taxes to local/state and federal governments, capital investment, imports and exports, transfer payments, and business inventories. Regional datasets for individual counties or states are purchased separately.

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

Imports are purchases of goods and services originating outside of the region of analysis.

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

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

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

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

Margins represent the portion of the purchaser price accruing to the retailer, wholesaler, and producer/manufacturer, in the supply chain. Typically, only the retail margins of many goods purchased by consumers accrue to the local region, as the wholesaler, shipper, and manufacturer often lie outside the local area.

Multipliers capture the total effects, both direct and secondary, in a given region, generally as a ratio of the total change in economic activity in the region relative to the direct change. Multipliers are derived from an input-output model of the regional economy. Multipliers may be expressed as ratios of sales, income, or employment, or as ratios of total income or employment changes relative to direct sales.

Multipliers express the degree of interdependency between sectors in a region's economy and therefore vary considerably across regions and sectors. A **sector-specific multiplier** gives the total changes to the economy associated with a unit change in output or employment in a given sector (i.e. the **direct economic effect**) being evaluated. **Indirect effects multipliers** represent the changes in sales, income, or employment within the region in backward-linked industries supplying goods and services to businesses (e.g., increased sales in input supply firms resulting from more industry sales).

Induced effects multipliers represent the increased sales within the region from household spending of the income earned in the direct and supporting industries for housing, utilities, food, etc. An **imputed multiplier** is calculated as the ratio of the total impact divided by direct effect for any given measure (e.g. output, employment).

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

Output is the dollar value of a good or service produced or sold, and is equivalent to sales revenues plus changes in business inventories. **Direct output** is the value of sales revenues within the sector(s) evaluated.

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

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

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

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

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

Value Added is a broad measure of income, representing the sum of employee compensation, proprietor income,

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



APPENDIX B: ECONOMIC CONTRIBUTIONS BY CONGRESSIONAL DISTRICT

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manufacturing	Juice Retailing	All industries	Fruit production	Juice manufacturing	Juice Retailing	All industries
Alabama	Alabama-1	0	52	98	150	0.00	5.96	6.50	12.47
	Alabama-2	0	55	94	149	0.00	6.23	6.25	12.48
	Alabama-3	0	76	90	166	0.00	8.64	5.99	14.63
	Alabama-4	0	81	88	169	0.00	9.19	5.85	15.03
	Alabama-5	0	70	100	170	0.00	7.94	6.66	14.60
	Alabama-6	0	45	97	141	0.00	5.07	6.45	11.52
	Alabama-7	0	53	82	134	0.00	6.00	5.44	11.44
Alaska	Alaska-1	0	0	117	117	0.00	0.00	7.76	7.76
Arizona	Arizona-1	0	38	104	142	0.00	4.32	6.92	11.25
	Arizona-2	0	38	121	159	0.00	4.32	8.08	12.40
	Arizona-3	0	38	133	170	0.00	4.30	8.83	13.13
	Arizona-4	0	31	118	149	0.00	3.57	7.83	11.40
	Arizona-5	0	73	142	216	0.00	8.35	9.48	17.83
	Arizona-6	0	43	142	186	0.00	4.95	9.46	14.41
	Arizona-7	0	52	129	181	0.00	5.91	8.56	14.47
	Arizona-8	0	41	153	194	0.00	4.66	10.19	14.85
	Arizona-9	0	61	155	216	0.00	6.90	10.34	17.23
Arkansas	Arkansas-1	0	192	84	276	0.00	21.86	5.58	27.45
	Arkansas-2	0	112	102	214	0.00	12.79	6.76	19.56
	Arkansas-3	0	239	133	372	0.00	27.16	8.85	36.01
	Arkansas-4	0	208	80	288	0.00	23.65	5.32	28.97
California	California-1	84	228	130	443	5.00	26.00	8.66	39.66
	California-2	65	262	136	462	3.85	29.81	9.03	42.69
	California-3	155	303	130	588	9.22	34.50	8.62	52.34
	California-4	48	248	137	432	2.85	28.17	9.10	40.12
	California-5	88	448	145	681	5.21	50.94	9.68	65.82
	California-6	1	207	135	343	0.08	23.58	8.96	32.62
	California-7	4	261	135	400	0.25	29.65	8.96	38.86
	California-8	2	204	131	337	0.10	23.24	8.75	32.09
	California-9	116	330	133	579	6.89	37.50	8.86	53.25
	California-10	140	472	150	762	8.33	53.67	9.98	71.98
	California-11	0	286	137	424	0.03	32.53	9.15	41.71
	California-12	0	294	147	441	0.00	33.43	9.80	43.24
	California-13	0	315	124	439	0.00	35.79	8.27	44.06
	California-14	0	369	157	527	0.00	42.04	10.46	52.49

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu- facturing	Juice Retailing	All industries	Fruit production	Juice manu- facturing	Juice Retailing	All industries
California	California-15	3	587	137	727	0.16	66.84	9.13	76.13
	California-16	205	356	108	669	12.22	40.53	7.17	59.91
	California-17	0	1038	114	1152	0.01	118.07	7.57	125.65
	California-18	11	652	109	773	0.66	74.22	7.28	82.17
	California-19	2	744	149	895	0.13	84.63	9.93	94.68
	California-20	163	285	128	576	9.69	32.38	8.54	50.61
	California-21	508	213	94	816	30.23	24.26	6.27	60.76
	California-22	199	290	129	618	11.83	32.99	8.61	53.43
	California-23	194	234	122	551	11.55	26.66	8.12	46.33
	California-24	146	309	139	594	8.66	35.18	9.26	53.10
	California-25	1	423	130	554	0.07	48.09	8.68	56.84
	California-26	83	459	135	677	4.95	52.19	8.97	66.10
	California-27	0	339	121	460	0.00	38.53	8.06	46.59
	California-28	0	274	135	409	0.00	31.18	9.01	40.19
	California-29	0	438	147	586	0.00	49.86	9.80	59.66
	California-30	1	345	140	487	0.07	39.29	9.34	48.70
	California-31	0	357	148	505	0.00	40.66	9.84	50.50
	California-32	0	510	149	659	0.00	58.02	9.92	67.95
	California-33	0	371	105	476	0.02	42.24	6.97	49.22
	California-34	0	484	149	633	0.00	55.02	9.91	64.94
	California-35	0	483	153	636	0.00	54.95	10.21	65.16
	California-36	30	185	138	354	1.80	21.08	9.19	32.07
	California-37	0	270	126	397	0.00	30.77	8.39	39.16
	California-38	0	516	141	657	0.00	58.77	9.38	68.14
	California-39	0	546	143	689	0.02	62.10	9.53	71.65
	California-40	0	664	146	811	0.00	75.59	9.75	85.34
	California-41	1	411	158	570	0.08	46.78	10.48	57.34
	California-42	4	447	152	603	0.21	50.84	10.14	61.20
	California-43	0	442	134	576	0.00	50.30	8.89	59.19
	California-44	0	561	130	691	0.00	63.82	8.65	72.47
	California-45	2	584	136	723	0.14	66.47	9.06	75.67
	California-46	0	659	144	803	0.00	74.96	9.61	84.56
	California-47	0	522	130	652	0.01	59.41	8.65	68.07
	California-48	0	549	151	700	0.00	62.42	10.08	72.50
	California-49	3	488	132	623	0.17	55.52	8.80	64.48
	California-50	15	393	153	561	0.90	44.73	10.16	55.79
	California-51	11	257	139	408	0.68	29.29	9.28	39.25
	California-52	1	526	116	643	0.06	59.82	7.73	67.61
	California-53	1	332	148	481	0.05	37.80	9.83	47.67
Colorado	Colorado-1	0	20	146	166	0.00	2.27	9.71	11.98
	Colorado-2	0	30	155	185	0.00	3.39	10.30	13.69
	Colorado-3	0	13	144	157	0.00	1.49	9.58	11.07
	Colorado-4	0	28	155	183	0.00	3.19	10.28	13.47
	Colorado-5	0	17	137	155	0.00	1.96	9.14	11.10
	Colorado-6	0	21	157	178	0.00	2.39	10.47	12.86
	Colorado-7	0	28	170	198	0.00	3.13	11.33	14.46

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu-facturing	Juice Retailing	All industries	Fruit production	Juice manu-facturing	Juice Retailing	All industries
Connecticut	Connecticut-1	3	79	174	255	0.17	8.95	11.55	20.67
	Connecticut-2	2	96	179	277	0.13	10.98	11.88	22.99
	Connecticut-3	2	84	175	261	0.10	9.59	11.67	21.35
	Connecticut-4	0	55	164	219	0.02	6.30	10.89	17.21
	Connecticut-5	1	92	186	280	0.08	10.50	12.39	22.98
Delaware	Delaware-1	0	150	198	348	0.00	17.05	13.18	30.23
District of Columbia	District of Columbia-1	0	0	319	319	0.00	0.00	21.24	21.24
Florida	Florida-1	72	209	174	455	4.28	23.78	11.56	39.61
	Florida-2	112	194	138	444	6.65	22.10	9.16	37.91
	Florida-3	740	219	147	1106	43.99	24.97	9.80	78.76
	Florida-4	12	297	158	467	0.70	33.82	10.49	45.00
	Florida-5	0	186	158	343	0.00	21.13	10.48	31.62
	Florida-6	284	256	162	702	16.87	29.14	10.80	56.81
	Florida-7	0	254	162	416	0.00	28.94	10.77	39.71
	Florida-8	1764	364	152	2280	104.90	41.46	10.14	156.50
	Florida-9	1949	203	179	2330	115.90	23.09	11.89	150.88
	Florida-10	0	226	187	413	0.00	25.71	12.44	38.15
	Florida-11	388	169	146	703	23.06	19.27	9.72	52.05
	Florida-12	165	234	162	561	9.82	26.67	10.77	47.26
	Florida-13	0	315	161	477	0.01	35.90	10.72	46.63
	Florida-14	138	235	160	533	8.22	26.69	10.64	45.54
	Florida-15	3162	255	186	3602	188.04	29.03	12.35	229.43
	Florida-16	2180	254	165	2599	129.65	28.90	11.01	169.56
	Florida-17	7141	173	151	7465	424.73	19.68	10.07	454.47
	Florida-18	2367	232	162	2761	140.78	26.38	10.80	177.96
	Florida-19	218	147	176	541	12.96	16.71	11.73	41.40
	Florida-20	37	201	184	421	2.18	22.85	12.22	37.25
	Florida-21	0	177	176	353	0.00	20.18	11.69	31.87
	Florida-22	1	252	182	435	0.06	28.65	12.10	40.81
	Florida-23	11	220	183	414	0.64	25.09	12.18	37.90
	Florida-24	16	169	170	354	0.93	19.20	11.30	31.43
	Florida-25	3597	327	159	4083	213.97	37.25	10.56	261.78
	Florida-26	746	171	179	1096	44.35	19.45	11.94	75.74
	Florida-27	69	175	152	396	4.09	19.88	10.14	34.11

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manufacturing	Juice Retailing	All industries	Fruit production	Juice manufacturing	Juice Retailing	All industries
Georgia	Georgia-1	0	123	126	249	0.00	14.01	8.37	22.38
	Georgia-2	0	122	105	228	0.00	13.91	7.01	20.92
	Georgia-3	0	185	118	303	0.00	21.02	7.85	28.87
	Georgia-4	0	114	155	269	0.00	13.00	10.29	23.29
	Georgia-5	0	81	127	209	0.00	9.26	8.47	17.74
	Georgia-6	0	110	128	238	0.00	12.49	8.51	21.00
	Georgia-7	0	144	163	307	0.00	16.43	10.84	27.27
	Georgia-8	0	124	123	247	0.00	14.06	8.20	22.25
	Georgia-9	0	215	138	353	0.00	24.43	9.19	33.62
	Georgia-10	0	148	136	283	0.00	16.81	9.02	25.84
	Georgia-11	0	144	159	304	0.00	16.41	10.61	27.02
	Georgia-12	0	132	118	250	0.00	15.06	7.85	22.91
	Georgia-13	0	103	133	236	0.00	11.71	8.85	20.56
	Georgia-14	0	284	125	409	0.00	32.30	8.33	40.63
Hawaii	Hawaii-1	0	207	164	371	0.00	23.60	10.91	34.51
	Hawaii-2	0	141	152	294	0.00	16.08	10.14	26.22
Idaho	Idaho-1	0	2500	143	2644	0.00	284.49	9.55	294.04
	Idaho-2	0	2435	140	2575	0.00	277.07	9.29	286.36
Illinois	Illinois-1	0	81	119	200	0.00	9.26	7.89	17.15
	Illinois-2	0	102	114	216	0.00	11.63	7.60	19.23
	Illinois-3	0	127	136	263	0.00	14.50	9.03	23.52
	Illinois-4	0	170	123	293	0.00	19.40	8.16	27.56
	Illinois-5	0	112	132	244	0.00	12.78	8.79	21.56
	Illinois-6	0	159	139	298	0.00	18.06	9.25	27.31
	Illinois-7	0	85	103	188	0.00	9.64	6.84	16.48
	Illinois-8	0	204	159	363	0.00	23.21	10.60	33.81
	Illinois-9	0	97	124	221	0.00	11.03	8.24	19.27
	Illinois-10	0	182	143	325	0.00	20.66	9.51	30.17
	Illinois-11	0	152	158	310	0.00	17.26	10.54	27.81
	Illinois-12	0	113	132	244	0.00	12.81	8.76	21.57
	Illinois-13	0	110	135	245	0.00	12.52	8.97	21.49
	Illinois-14	0	188	164	351	0.00	21.35	10.90	32.25
	Illinois-15	0	168	129	297	0.00	19.14	8.55	27.69
	Illinois-16	0	194	144	337	0.00	22.03	9.55	31.58
	Illinois-17	0	186	134	319	0.00	21.13	8.89	30.01
	Illinois-18	0	139	140	279	0.00	15.84	9.29	25.13
Indiana	Indiana-1	0	172	96	268	0.00	19.55	6.40	25.95
	Indiana-2	0	296	94	390	0.00	33.67	6.23	39.90
	Indiana-3	0	302	104	406	0.00	34.36	6.93	41.28
	Indiana-4	0	231	107	338	0.00	26.33	7.13	33.45
	Indiana-5	0	160	107	268	0.00	18.25	7.15	25.40
	Indiana-6	0	242	99	341	0.00	27.51	6.57	34.09
	Indiana-7	0	124	121	245	0.00	14.12	8.06	22.18
	Indiana-8	0	215	99	314	0.00	24.44	6.58	31.01
	Indiana-9	0	192	111	303	0.00	21.90	7.37	29.28

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu-facturing	Juice Retailing	All industries	Fruit production	Juice manu-facturing	Juice Retailing	All industries
Iowa	Iowa-1	0	177	218	395	0.00	20.13	14.51	34.64
	Iowa-2	0	167	196	363	0.00	19.06	13.02	32.08
	Iowa-3	0	103	223	326	0.00	11.76	14.84	26.61
	Iowa-4	0	154	198	352	0.00	17.52	13.15	30.67
Kansas	Kansas-1	0	119	134	253	0.00	13.54	8.91	22.45
	Kansas-2	0	105	144	249	0.00	11.91	9.59	21.50
	Kansas-3	0	97	156	254	0.00	11.07	10.40	21.47
	Kansas-4	0	166	140	306	0.00	18.86	9.33	28.19
Kentucky	Kentucky-1	0	180	108	289	0.00	20.54	7.22	27.75
	Kentucky-2	0	208	126	335	0.00	23.72	8.39	32.11
	Kentucky-3	0	147	125	272	0.00	16.70	8.34	25.04
	Kentucky-4	0	169	126	295	0.00	19.25	8.38	27.62
	Kentucky-5	0	86	95	181	0.00	9.82	6.31	16.13
	Kentucky-6	0	173	135	308	0.00	19.74	8.97	28.71
Louisiana	Louisiana-1	0	102	143	246	0.00	11.64	9.53	21.17
	Louisiana-2	0	97	131	229	0.00	11.09	8.73	19.81
	Louisiana-3	0	129	137	265	0.00	14.63	9.11	23.74
	Louisiana-4	0	98	115	214	0.00	11.18	7.68	18.86
	Louisiana-5	0	89	112	201	0.00	10.10	7.45	17.55
	Louisiana-6	0	157	137	295	0.00	17.91	9.15	27.06
Maine	Maine-1	5	970	197	1172	0.32	110.35	13.13	123.80
	Maine-2	22	830	176	1028	1.31	94.42	11.74	107.48
Maryland	Maryland-1	16	254	196	466	0.96	28.90	13.06	42.92
	Maryland-2	0	194	201	394	0.00	22.05	13.35	35.40
	Maryland-3	1	172	171	343	0.03	19.52	11.38	30.94
	Maryland-4	0	108	170	278	0.00	12.30	11.32	23.62
	Maryland-5	5	106	169	279	0.28	12.05	11.21	23.55
	Maryland-6	35	195	177	407	2.06	22.23	11.75	36.04
	Maryland-7	8	146	139	293	0.47	16.63	9.22	26.32
	Maryland-8	17	126	139	281	1.00	14.29	9.23	24.53
Massachusetts	Massachusetts-1	115	179	229	523	6.85	20.35	15.24	42.44
	Massachusetts-2	200	195	234	629	11.89	22.22	15.55	49.66
	Massachusetts-3	92	268	227	587	5.50	30.48	15.07	51.04
	Massachusetts-4	62	170	231	464	3.71	19.38	15.36	38.45
	Massachusetts-5	39	150	204	393	2.32	17.06	13.60	32.98
	Massachusetts-6	55	183	232	470	3.24	20.87	15.41	39.53
	Massachusetts-7	0	108	201	309	0.00	12.27	13.37	25.65
	Massachusetts-8	68	114	227	409	4.04	13.02	15.10	32.16
	Massachusetts-9	724	123	251	1098	43.05	14.02	16.68	73.75



State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manufacturing	Juice Retailing	All industries	Fruit production	Juice manufacturing	Juice Retailing	All industries
Michigan	Michigan-1	361	253	124	738	21.46	28.78	8.25	58.49
	Michigan-2	621	604	123	1348	36.92	68.76	8.21	113.88
	Michigan-3	221	489	124	833	13.12	55.59	8.25	76.96
	Michigan-4	12	363	113	489	0.74	41.34	7.52	49.60
	Michigan-5	4	327	121	453	0.26	37.22	8.06	45.54
	Michigan-6	646	542	112	1300	38.40	61.69	7.45	107.54
	Michigan-7	30	457	115	602	1.80	52.01	7.64	61.45
	Michigan-8	3	443	120	565	0.20	50.36	7.95	58.51
	Michigan-9	0	482	125	607	0.00	54.82	8.35	63.17
	Michigan-10	23	549	122	693	1.35	62.44	8.10	71.89
	Michigan-11	3	533	112	648	0.20	60.63	7.44	68.28
	Michigan-12	1	372	116	489	0.05	42.33	7.71	50.09
	Michigan-13	0	299	91	390	0.00	34.07	6.05	40.12
	Michigan-14	0	313	94	407	0.00	35.62	6.28	41.90
Minnesota	Minnesota-1	0	565	136	701	0.00	64.28	9.05	73.33
	Minnesota-2	4	498	147	649	0.21	56.70	9.80	66.71
	Minnesota-3	0	559	155	715	0.00	63.66	10.33	73.99
	Minnesota-4	0	460	128	589	0.03	52.38	8.50	60.92
	Minnesota-5	0	399	144	542	0.00	45.36	9.57	54.93
	Minnesota-6	4	597	159	761	0.24	67.99	10.59	78.81
	Minnesota-7	2	517	132	650	0.10	58.86	8.75	67.71
	Minnesota-8	2	340	129	470	0.10	38.67	8.56	47.33

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu-facturing	Juice Retailing	All industries	Fruit production	Juice manu-facturing	Juice Retailing	All industries
Mississippi	Mississippi-1	0	49	107	156	0.00	5.63	7.09	12.71
	Mississippi-2	0	27	82	109	0.00	3.11	5.45	8.56
	Mississippi-3	0	29	93	122	0.00	3.25	6.21	9.47
	Mississippi-4	0	29	101	131	0.00	3.32	6.75	10.07
Missouri	Missouri-1	0	84	109	193	0.00	9.50	7.28	16.78
	Missouri-2	0	104	125	229	0.00	11.84	8.30	20.14
	Missouri-3	0	125	138	263	0.00	14.22	9.15	23.37
	Missouri-4	0	93	123	216	0.00	10.59	8.17	18.75
	Missouri-5	0	89	128	217	0.00	10.15	8.51	18.66
	Missouri-6	0	118	123	241	0.00	13.41	8.19	21.60
	Missouri-7	0	103	138	241	0.00	11.75	9.18	20.93
	Missouri-8	0	106	108	215	0.00	12.08	7.21	19.29
Montana	Montana-1	0	45	219	264	0.00	5.11	14.57	19.68
Nebraska	Nebraska-1	0	153	139	291	0.00	17.36	9.24	26.59
	Nebraska-2	0	110	145	255	0.00	12.47	9.66	22.14
	Nebraska-3	0	147	137	284	0.00	16.74	9.14	25.87
Nevada	Nevada-1	0	92	119	211	0.00	10.50	7.90	18.40
	Nevada-2	0	219	115	335	0.00	24.96	7.67	32.63
	Nevada-3	0	117	131	247	0.00	13.29	8.69	21.99
	Nevada-4	0	92	108	201	0.00	10.50	7.20	17.70
New Hampshire	New Hampshire-1	0	197	233	431	0.00	22.46	15.52	37.98
	New Hampshire-2	0	206	207	414	0.00	23.47	13.80	37.27
New Jersey	New Jersey-1	13	194	205	412	0.77	22.07	13.64	36.48
	New Jersey-2	302	167	177	646	17.97	19.00	11.76	48.73
	New Jersey-3	70	165	210	445	4.18	18.79	13.94	36.91
	New Jersey-4	12	158	182	352	0.71	18.00	12.12	30.83
	New Jersey-5	16	228	191	435	0.94	25.92	12.71	39.57
	New Jersey-6	0	221	191	412	0.00	25.14	12.74	37.88
	New Jersey-7	23	304	181	508	1.35	34.58	12.05	47.98
	New Jersey-8	0	243	201	444	0.00	27.62	13.36	40.98
	New Jersey-9	0	291	201	492	0.00	33.07	13.39	46.46
	New Jersey-10	0	150	172	322	0.00	17.05	11.44	28.50
	New Jersey-11	2	257	180	439	0.14	29.21	11.95	41.30
	New Jersey-12	5	249	167	421	0.29	28.31	11.11	39.71
New Mexico	New Mexico-1	0	243	105	348	0.00	27.64	6.97	34.61
	New Mexico-2	0	186	92	278	0.00	21.18	6.11	27.28
	New Mexico-3	0	182	99	281	0.00	20.71	6.56	27.27

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu- facturing	Juice Retailing	All industries	Fruit production	Juice manu- facturing	Juice Retailing	All industries
New York	New York-1	60	159	183	402	3.60	18.09	12.16	33.85
	New York-2	0	226	191	416	0.00	25.69	12.68	38.37
	New York-3	0	136	156	292	0.00	15.51	10.35	25.86
	New York-4	0	115	164	279	0.00	13.10	10.90	24.00
	New York-5	0	88	174	262	0.00	10.00	11.55	21.56
	New York-6	0	112	156	267	0.00	12.72	10.35	23.07
	New York-7	0	130	157	287	0.00	14.80	10.46	25.26
	New York-8	0	76	148	224	0.00	8.62	9.84	18.46
	New York-9	0	62	134	196	0.00	7.08	8.88	15.97
	New York-10	0	99	127	226	0.00	11.22	8.45	19.68
	New York-11	0	74	144	218	0.00	8.47	9.55	18.02
	New York-12	0	101	136	236	0.00	11.46	9.03	20.48
	New York-13	0	86	178	264	0.00	9.83	11.83	21.66
	New York-14	0	114	158	272	0.00	12.93	10.54	23.47
	New York-15	0	77	159	235	0.00	8.74	10.55	19.29
	New York-16	0	88	142	230	0.00	10.05	9.42	19.47
	New York-17	6	131	154	291	0.36	14.91	10.21	25.48
	New York-18	45	159	192	397	2.70	18.08	12.79	33.57
	New York-19	265	183	168	616	15.77	20.80	11.17	47.74
	New York-20	0	190	181	371	0.00	21.59	12.07	33.66
	New York-21	140	215	181	536	8.33	24.46	12.06	44.85
	New York-22	30	265	165	460	1.78	30.19	10.98	42.95
	New York-23	396	326	157	880	23.58	37.15	10.42	71.15
	New York-24	550	243	177	970	32.73	27.64	11.75	72.12
	New York-25	16	300	177	493	0.94	34.15	11.75	46.84
	New York-26	0	248	173	421	0.00	28.21	11.53	39.74
	New York-27	340	352	176	868	20.20	40.09	11.71	71.99
North Carolina	North Carolina-1	0	188	118	306	0.00	21.39	7.87	29.25
	North Carolina-2	0	191	148	339	0.00	21.71	9.86	31.56
	North Carolina-3	0	125	128	253	0.00	14.17	8.52	22.70
	North Carolina-4	0	151	146	297	0.00	17.21	9.70	26.92
	North Carolina-5	0	205	139	344	0.00	23.35	9.24	32.60
	North Carolina-6	5	268	139	413	0.32	30.53	9.27	40.12
	North Carolina-7	86	158	149	393	5.11	18.01	9.92	33.04
	North Carolina-8	5	152	133	290	0.29	17.30	8.88	26.47
	North Carolina-9	17	186	136	340	1.04	21.16	9.07	31.27
	North Carolina-10	7	275	148	430	0.41	31.31	9.82	41.54
	North Carolina-11	39	211	129	380	2.35	24.05	8.60	35.00
	North Carolina-12	0	154	171	324	0.01	17.48	11.35	28.84
	North Carolina-13	3	262	156	421	0.18	29.78	10.41	40.37
North Dakota	North Dakota-1	0	488	146	633	0.00	55.48	9.70	65.19

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu- facturing	Juice Retailing	All industries	Fruit production	Juice manu- facturing	Juice Retailing	All industries
Ohio	Ohio-1	0	247	129	376	0.00	28.08	8.61	36.69
	Ohio-2	0	259	136	395	0.03	29.45	9.04	38.51
	Ohio-3	0	162	161	323	0.00	18.44	10.70	29.14
	Ohio-4	3	456	112	571	0.17	51.86	7.48	59.52
	Ohio-5	2	447	126	575	0.10	50.86	8.40	59.36
	Ohio-6	3	239	124	366	0.17	27.25	8.26	35.68
	Ohio-7	2	370	126	498	0.13	42.16	8.37	50.65
	Ohio-8	0	367	133	500	0.02	41.78	8.82	50.62
	Ohio-9	0	275	121	396	0.02	31.29	8.06	39.37
	Ohio-10	0	232	122	354	0.01	26.35	8.13	34.49
	Ohio-11	0	191	95	286	0.01	21.70	6.31	28.03
	Ohio-12	2	226	145	373	0.09	25.70	9.67	35.47
	Ohio-13	1	298	144	443	0.03	33.94	9.60	43.57
	Ohio-14	2	350	119	471	0.14	39.85	7.91	47.90
	Ohio-15	2	209	138	349	0.10	23.80	9.17	33.06
	Ohio-16	2	319	144	466	0.13	36.35	9.59	46.07
Oklahoma	Oklahoma-1	0	71	97	168	0.00	8.12	6.46	14.57
	Oklahoma-2	0	58	75	133	0.00	6.62	4.96	11.58
	Oklahoma-3	0	51	89	139	0.00	5.75	5.89	11.64
	Oklahoma-4	0	46	98	143	0.00	5.23	6.49	11.72
	Oklahoma-5	0	43	100	143	0.00	4.91	6.68	11.58
Oregon	Oregon-1	162	2660	177	2999	9.66	302.66	11.79	324.11
	Oregon-2	386	1309	172	1867	22.95	148.96	11.44	183.35
	Oregon-3	24	1598	182	1804	1.44	181.80	12.13	195.36
	Oregon-4	118	1417	163	1698	7.04	161.20	10.82	179.06
	Oregon-5	230	1610	173	2012	13.66	183.16	11.53	208.34



State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu- facturing	Juice Retailing	All industries	Fruit production	Juice manu- facturing	Juice Retailing	All industries
Pennsylvania	Pennsylvania-1	17	165	139	321	1.00	18.76	9.28	29.04
	Pennsylvania-2	0	113	107	220	0.00	12.87	7.09	19.96
	Pennsylvania-3	0	377	154	530	0.00	42.84	10.22	53.07
	Pennsylvania-4	7	383	170	560	0.43	43.63	11.29	55.35
	Pennsylvania-5	2	377	140	519	0.12	42.86	9.34	52.33
	Pennsylvania-6	12	387	167	566	0.69	44.04	11.10	55.84
	Pennsylvania-7	19	289	151	459	1.12	32.94	10.03	44.09
	Pennsylvania-8	10	355	181	546	0.59	40.42	12.02	53.04
	Pennsylvania-9	36	295	163	494	2.16	33.52	10.84	46.52
	Pennsylvania-10	33	328	156	517	1.94	37.35	10.41	49.70
	Pennsylvania-11	53	309	177	539	3.15	35.17	11.76	50.08
	Pennsylvania-12	55	301	157	512	3.28	34.21	10.41	47.90
	Pennsylvania-13	409	251	158	817	24.30	28.54	10.50	63.34
	Pennsylvania-14	0	188	160	347	0.00	21.35	10.63	31.99
	Pennsylvania-15	17	384	170	571	1.00	43.75	11.32	56.07
	Pennsylvania-16	126	448	172	746	7.52	51.00	11.43	69.94
	Pennsylvania-17	0	331	173	504	0.00	37.69	11.52	49.21
	Pennsylvania-18	0	285	169	454	0.00	32.46	11.22	43.67
Rhode Island	Rhode Island-1	0	16	118	134	0.00	1.77	7.88	9.65
	Rhode Island-2	0	16	119	135	0.00	1.82	7.91	9.74
South Carolina	South Carolina-1	0	102	143	245	0.00	11.63	9.49	21.13
	South Carolina-2	0	115	134	249	0.00	13.07	8.93	22.00
	South Carolina-3	0	209	114	323	0.00	23.79	7.61	31.40
	South Carolina-4	0	207	127	335	0.00	23.59	8.48	32.06
	South Carolina-5	0	180	125	305	0.00	20.48	8.34	28.82
	South Carolina-6	0	100	118	218	0.00	11.33	7.86	19.19
	South Carolina-7	0	113	148	261	0.00	12.83	9.86	22.70
South Dakota	South Dakota-1	0	0	190	190	0.00	0.00	12.63	12.63
Tennessee	Tennessee-1	0	228	123	352	0.00	25.99	8.19	34.18
	Tennessee-2	0	167	133	300	0.00	18.99	8.87	27.86
	Tennessee-3	0	226	114	340	0.00	25.75	7.56	33.31
	Tennessee-4	0	297	133	429	0.00	33.75	8.83	42.58
	Tennessee-5	0	149	130	279	0.00	16.95	8.68	25.63
	Tennessee-6	0	235	121	356	0.00	26.70	8.08	34.78
	Tennessee-7	0	205	112	317	0.00	23.29	7.45	30.74
	Tennessee-8	0	210	112	322	0.00	23.85	7.45	31.29
	Tennessee-9	0	129	109	239	0.00	14.72	7.27	21.99

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu- facturing	Juice Retailing	All industries	Fruit production	Juice manu- facturing	Juice Retailing	All industries
Texas	Texas-1	0	72	123	195	0.00	8.18	8.20	16.39
	Texas-2	0	97	125	222	0.00	11.06	8.33	19.39
	Texas-3	0	84	161	246	0.00	9.61	10.72	20.33
	Texas-4	0	89	132	221	0.00	10.09	8.78	18.88
	Texas-5	0	65	134	199	0.00	7.44	8.91	16.35
	Texas-6	0	95	142	238	0.00	10.82	9.48	20.30
	Texas-7	0	77	125	202	0.00	8.75	8.32	17.06
	Texas-8	0	76	134	210	0.00	8.66	8.91	17.57
	Texas-9	0	54	156	210	0.00	6.15	10.37	16.51
	Texas-10	0	89	150	240	0.00	10.17	9.99	20.16
	Texas-11	0	51	132	184	0.00	5.83	8.81	14.65
	Texas-12	0	90	142	232	0.00	10.25	9.46	19.71
	Texas-13	0	73	122	195	0.00	8.32	8.11	16.43
	Texas-14	0	88	106	195	0.00	10.02	7.08	17.10
	Texas-15	0	41	134	175	0.00	4.65	8.94	13.59
	Texas-16	0	45	116	161	0.00	5.11	7.73	12.85
	Texas-17	0	77	131	208	0.00	8.77	8.72	17.50
	Texas-18	0	69	123	193	0.00	7.90	8.20	16.09
	Texas-19	0	40	128	169	0.00	4.59	8.54	13.13
	Texas-20	0	44	143	187	0.00	5.05	9.50	14.55
	Texas-21	0	52	142	194	0.00	5.88	9.48	15.36
	Texas-22	0	91	137	227	0.00	10.31	9.10	19.41
	Texas-23	0	40	112	152	0.00	4.52	7.48	12.00
	Texas-24	0	79	164	243	0.00	9.02	10.88	19.90
	Texas-25	0	65	122	187	0.00	7.40	8.14	15.55
	Texas-26	0	78	168	245	0.00	8.84	11.16	20.00
	Texas-27	0	67	128	195	0.00	7.58	8.53	16.12
	Texas-28	0	26	123	149	0.00	3.00	8.18	11.19
	Texas-29	0	83	119	203	0.00	9.50	7.92	17.42
	Texas-30	0	62	126	188	0.00	7.06	8.40	15.47
	Texas-31	0	77	146	222	0.00	8.75	9.68	18.43
	Texas-32	0	76	144	220	0.00	8.68	9.59	18.27
	Texas-33	0	84	113	197	0.00	9.55	7.50	17.05
	Texas-34	0	32	111	144	0.00	3.68	7.40	11.08
	Texas-35	0	52	161	213	0.00	5.94	10.69	16.63
	Texas-36	0	99	108	207	0.00	11.28	7.17	18.45
Utah	Utah-1	0	37	119	156	0.00	4.16	7.94	12.10
	Utah-2	0	25	130	155	0.00	2.85	8.64	11.49
	Utah-3	0	23	126	149	0.00	2.58	8.39	10.97
	Utah-4	0	32	138	170	0.00	3.68	9.19	12.87
Vermont	Vermont-1	20	154	198	372	1.18	17.56	13.18	31.92

State	State-District	Employment contributions (jobs)				Value added contributions (Million \$)			
		Fruit production	Juice manu-facturing	Juice Retailing	All industries	Fruit production	Juice manu-facturing	Juice Retailing	All industries
Virginia	Virginia-1	24	93	162	278	1.41	10.59	10.75	22.76
	Virginia-2	13	111	149	273	0.75	12.64	9.94	23.34
	Virginia-3	0	167	147	314	0.00	18.98	9.78	28.76
	Virginia-4	4	131	153	288	0.25	14.90	10.18	25.33
	Virginia-5	166	152	147	465	9.87	17.32	9.80	36.99
	Virginia-6	99	188	162	448	5.87	21.36	10.77	38.01
	Virginia-7	19	108	173	301	1.15	12.34	11.50	25.00
	Virginia-8	0	47	112	159	0.00	5.30	7.45	12.76
	Virginia-9	0	183	143	325	0.00	20.81	9.48	30.30
	Virginia-10	138	91	145	374	8.20	10.39	9.64	28.23
	Virginia-11	0	49	143	192	0.00	5.61	9.50	15.12
Washington	Washington-1	229	1381	134	1744	13.65	157.14	8.91	179.70
	Washington-2	41	1465	147	1653	2.47	166.72	9.75	178.94
	Washington-3	176	1058	118	1352	10.48	120.36	7.86	138.70
	Washington-4	5175	760	106	6041	307.83	86.45	7.04	401.32
	Washington-5	410	734	124	1269	24.41	83.57	8.27	116.25
	Washington-6	7	737	114	857	0.39	83.82	7.58	91.80
	Washington-7	0	902	179	1081	0.00	102.61	11.90	114.51
	Washington-8	578	1153	147	1878	34.37	131.16	9.80	175.33
	Washington-9	0	1082	142	1225	0.00	123.17	9.47	132.64
	Washington-10	0	726	131	856	0.00	82.57	8.70	91.27
West Virginia	West Virginia-1	199	185	87	470	11.83	21.01	5.76	38.59
	West Virginia-2	0	173	85	258	0.00	19.70	5.63	25.34
	West Virginia-3	0	113	77	190	0.00	12.87	5.14	18.01
Wisconsin	Wisconsin-1	63	906	144	1112	3.73	103.04	9.57	116.34
	Wisconsin-2	87	615	152	854	5.17	69.98	10.12	85.28
	Wisconsin-3	1583	774	163	2519	94.13	88.05	10.83	193.01
	Wisconsin-4	0	617	115	732	0.00	70.18	7.67	77.85
	Wisconsin-5	0	955	145	1099	0.00	108.62	9.62	118.24
	Wisconsin-6	103	1192	137	1433	6.13	135.68	9.14	150.95
	Wisconsin-7	1660	838	134	2633	98.75	95.40	8.91	203.06
	Wisconsin-8	171	1063	139	1374	10.15	121.02	9.27	140.44
Wyoming	Wyoming-1	0	0	98	98	0.00	0.00	6.52	6.52
		46017	115708	62229	223954	2737.08	13166.77	4139.94	20043.79



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Food and Resource Economics Department
Gainesville, Florida

On the cover: *Juice bottling (top circle), drinking juice (bottom circle), and carrot and tomato juice (middle circle).*