

The Organic Premium for California Blueberries

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California has recently become an important blueberry producer and now accounts for about one-half of fresh U.S. organic blueberry production. California's "organic premium" that recently averaged \$2.28 per pound over the conventional free on board (FOB) price of \$2.92 per pound varies by package and over time. Growth of organic blueberry production is expected to continue.

U.S. consumer demand for blueberries has grown dramatically over the last two decades as information on blueberries' nutritional benefits and antioxidant properties has been disseminated. Production has kept pace with demand as acreage has expanded in traditional as well as new geographic areas in the Southeast and Western United States.

Commercial-scale production of blueberries in California is a relatively recent development. California first reported blueberry statistics in 2005 when there were 1,800 acres of blueberries harvested and production of 9.1 million pounds with a total value of \$40.58 million. Harvested acres increased to 3,900 acres in 2010 with production of 28 million pounds and a total value of \$75.98 million. Growth continued through 2015 with California Agricultural Statistics Survey (CASS) reporting 5,700 acres of blueberries harvested, production of 62.4 million pounds, and total value of \$116.98 million.

The increasing total value of production moved blueberries ranking to 46th among all California crops in

2015. The USDA National Agricultural Statistics Service (NASS) reported 2015 blueberry acreage, production, and price statistics for 13 states. In terms of acreage harvested, the top eight states (Michigan, Georgia, Washington, Oregon, New Jersey, North Carolina, California, and Florida) accounted for 95.6% of the U.S. total of 89,820 acres. California ranked seventh in total acreage, fifth in total production, and second for total value of production among all states in 2015.

According to the Census of Agriculture Organic Survey, there were 516 U.S. farms producing fresh organic blueberries from 3,909 harvested acres in 2014. Total U.S. fresh organic sales of 17,881,973 pounds were valued at \$60,720,308.

California had the largest organic blueberry production and sales in 2104. It accounted for 63 farms (12.2%) and 941 acres (24.1%) of the U.S. total organic blueberry acreage. California's fresh organic blueberry sales totaled 8,319,770 pounds (46.5% of U.S. total) valued at \$31,202,441 (51.4%).

California blueberries are shipped throughout the U.S. and to a number of export destinations. During the 2016 harvest, California's largest U.S. market was California, which accounted for 34.75% of California's total fresh blueberry shipments of 46,493,407 pounds. The largest out-of-state domestic shipments were to Texas, Oregon, Washington, Arizona, New York, Minnesota, Utah, and Pennsylvania. These states collectively accounted for 36.54% of California shipments. Canadian shipments of 5.54 million pounds accounted for 11.9% of California's volume and made up 67.1% of exports.

California Blueberry Prices

Typically, the price per pound of organically grown blueberries is higher than for conventional production. Prices also vary by package size, with smaller package sizes usually selling for more

per pound than larger packages. There is usually a premium for the first portion of the crop-marketing year, and the overall level of prices will vary by year. Prices can also be expected to vary by geographic location. California organic blueberries are among the first domestic fruit on the market when prices tend to be seasonally high.

An important U.S. consumer segment is willing to pay a premium price for organically produced products. Organic producers have argued that higher prices are justified by input restrictions that pose additional costs for organic output and the reduced per-acre yields, further increasing unit costs of production. There is some evidence that increased experience and scale of production has been narrowing the cost differences for selected organic crops. The "organic premium," however, continues to be a very important factor to producers when deciding to adopt organic production methods, and selecting which organic crops to produce. Organic premiums vary by crop and product, location, stage in the marketing channel and, over time, due to a complex mix of supply and demand factors.

Blueberry Data

California blueberry producers voted to establish the California Blueberry Commission (CBC) in 2009. It was founded March 1, 2010. An important activity of the CBC was to fund the Blueberry Marketing Resource Information Center (BMRIC). The BMRIC collects and provides important real-time marketing data to the industry and also publishes summaries of weekly shipments, pack-out volume, and daily free on board (FOB) prices by size of package (container) in their annual reports. While these data do not cover all California production, they are representative of commercial production.

Table 1. Weighted Average Prices per Pound by Package for Organic and Conventional Blueberries, California, 2016 Season.

Package Size	4.4 oz.	6 oz.	Pint	8x18 oz.	18x18 oz.	24 oz.	2 lb.	Other
-----dollars per pound-----								
Organic	\$8.32	\$5.77	\$3.27	\$6.45	\$5.39	*	*	\$5.52
Conventional	\$4.47	\$4.73	\$2.27	\$2.41	\$2.15	\$4.44	\$2.50	\$2.78
Organic Premium	\$3.85	\$1.04	\$1.00	\$4.04	\$3.24			\$2.74
Premium over Conventional	86%	22%	44%	168%	\$151%			99%

Source: BMRIC Statistics reported in California Blueberry Commission Annual Report, 2015-2016.

* Prices not reported for these package sizes.

Packages

California blueberries are placed in a variety of packages, with the popularity of particular packages varying between organic and conventional fruit. Packages listed in BMRIC reports include 4.4 oz., 6 oz., Pint, 8x18 oz., 18x18 oz., 24 oz. and 2 lb. The 6 oz. and pint containers are the most popular organic containers, accounting for 37.7% and 24.6% of 2016 California organic blueberry shipments, respectively.

In terms of conventional blueberries, the 2 lb. package accounts for the most volume followed by the pint and 6 oz. packages. In 2016 these three packages accounted for 26.4%, 20.9%, and 14.1%, respectively, of total conventional blueberry shipments. The smallest packages (4.4 oz. and 6.0 oz.) are the most popular for both conventional and organic fruit at the beginning of California's season, with increasing

portions of the pack being placed in larger containers as the season progresses.

Organic Blueberry Price Premiums by Package

Weighted average prices per pound by package for California organic and conventional blueberries during the 2016 season are shown in Table 1. The premium per pound, as well as the percentage premium over conventional fruit, are also shown for each package. For the largest volume organic containers, the organic premium ranges from \$1 for the pint to \$1.04 for the 6 oz. For other packages, the organic premium ranges from \$2.74 to \$4.04 per pound. An overall weighted average by container for organic and conventional fruit is \$5.20 and \$2.92 per pound, respectively, which yields an overall average organic premium of \$2.28 per pound or a premium of 78% of the conventional price.

Overall in 2016, organic blueberry shipments accounted for about 23.1% of California's total volume and about 34.8% of total revenue at the first handler level in the marketing channel. BMRIC Statistics reported in the CBC Annual Report shows 2015 organic premiums that are generally similar to those shown for 2016 in Table 1. Overall, the weighted average prices for organic and conventional California blueberries in 2015 were \$5.16 and \$2.88 per pound, respectively, yielding an organic premium of \$2.28 per pound. While average prices were slightly higher in 2016 than in 2015, the overall organic premium was identical at \$2.28 per pound.

Seasonal Price Comparisons

Blueberries from Florida, California, and Georgia are the first domestic berries on the market each spring. As is typical with many fruit crops, prices are high at the beginning of the season and decrease over time as volumes marketed increase. California's blueberry harvest ends in late June or early July after harvest volumes from other states, especially Oregon and Washington, have increased significantly.

The relationship between organic and conventional blueberries also tends to change seasonally and by package. Seasonal prices and the organic premium for 6-ounce containers during 2016 are shown in Figure 1. There was little difference in price between California organic and conventional blueberries at the beginning of the season (weeks 1 to 4) but the premium increased as conventional prices decreased faster than organic prices (weeks 4 to 9). Finally, prices and the premium were rather steady for the final four weeks of the 2016 season. The organic premium for 6-ounce packages varied from \$0.34 to \$0.76 per pound for the first four weeks, increased to a range of \$0.96 to \$1.88 from weeks five to nine, and then varied from \$0.73 to \$1.16 per pound for the final four weeks (Figure 1).

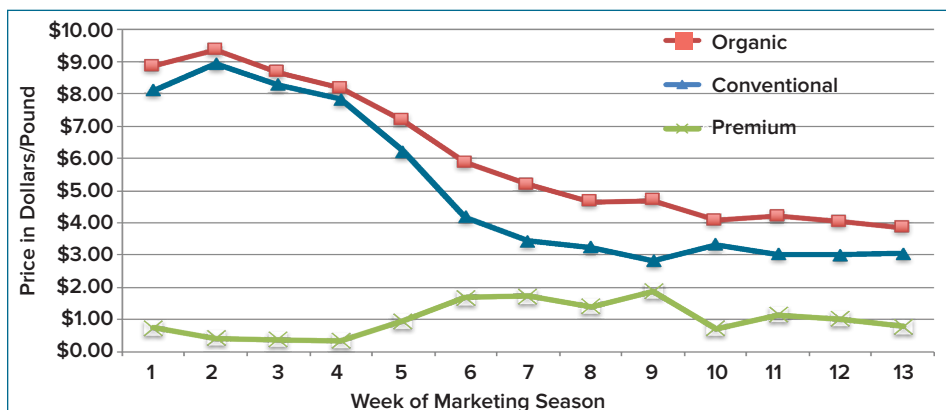


Figure 1. California Prices for Organic and Conventional Blueberries Packed in 6-oz. Containers by Week and Organic Premium. Week 1 Beginning March 28, 2016.

Source: BMRIC Statistics reported in California Blueberry Commission Annual Report, 2015-2016.

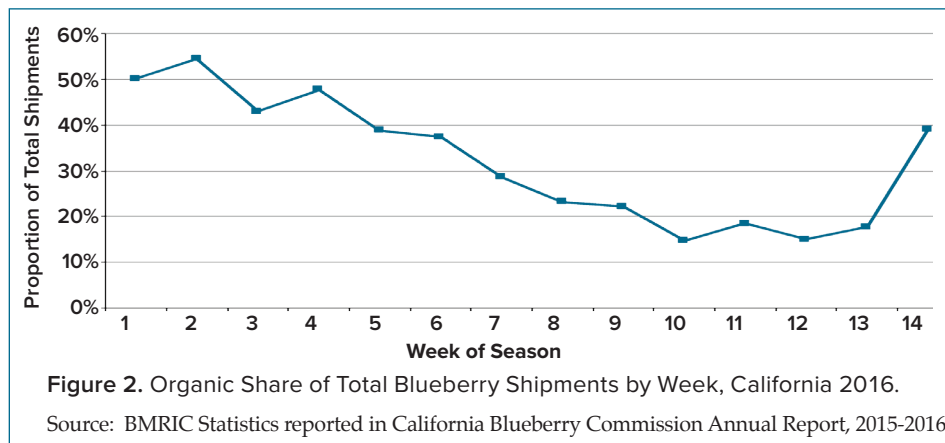
Organic's share of total California blueberry shipments has increased over the last three years. Organics made up 17.2% of total California blueberry shipments in 2014, 19.7% in 2015, and 23.1% in 2016. Preliminary indications are that the organic share of 2017 California shipments will exceed 26%. The organic share of weekly fresh California blueberry shipments begins high and decreases as the season progresses.

Beginning with week 1 (the week ending March 27, 2016), the pattern is illustrated for 2016 in Figure 2. While organic blueberries accounted for 23.1% of all California shipments in 2016, the organic share of weekly shipments continued above that threshold from weeks 1–7. At the end of week 8, one-half of the organic crop but only one-third of conventional production had been shipped.

Comparing information in Figures 1 and 2, one observes that the premium for organic blueberries began to widen in week 5 when the organic share of shipments dropped below 40% and conventional blueberry sales began exceeding 60% of total shipments. The organic share jumps in the last week of California's season (week 14) because many California producers of conventional blueberries stop picking when prices are reduced by large volume shipments from Oregon and Washington in late June.

Costs of Production

Blueberries are an expensive crop to grow and hand harvest is very labor intensive. UC Cooperative Extension budgets for establishing and producing blueberries in both Oregon and California indicate that costs for organic plantings and production are higher than for conventional blueberries. Budgeted yields are comparable for organic and conventional production with mature yields in a range of 16,000 to 18,000 pounds per acre. Cash costs excluding harvest costs for a mature conventional planting in Oregon were estimated at



\$3,342 per acre while comparable costs for an organic planting were estimated at \$5,158 per acre. The higher cash costs for organic production were largely due to higher costs for fertilizer and general labor.

California cultural costs were \$3,921 per acre for conventional and \$5,856 per acre for organic production. Some of the differences in costs of inputs were due to location and year of the study; the organic budget was for Coastal Counties while the conventional budget was for the Southern San Joaquin Valley. The major cost difference was due to higher costs for weeding and fertilizer for organic production.

The authors of the budgets noted that the risks associated with organic blueberry production are greater than for conventional production due to such things as control of disease and insect infestations that can negatively affect yields and total revenues. Even though risks and per-acre costs of production are higher for organic than for conventional blueberries, the difference can be quickly offset by recent organic premiums that provide a powerful incentive for further increases in California organic blueberry production.

Concluding Comments

Growth in California organic blueberry production has outpaced conventional production for several years, and California accounted for about half of the U.S. supply of organic blueberries

in 2014. The organic share of California blueberry shipments in 2016 was 23.1% in terms of volume and 34.8% in terms of value. The larger share of value is due to the premium price for organic blueberries.

The organic premium, which averaged \$2.28 per pound in both 2015 and 2016 (78–79% of the conventional fresh blueberry price), varies by package and over time. California has some of the earliest domestic blueberry production, with relatively high prices for both conventional and organic blueberries at the beginning of the season. The proportion of shipments that are organic decreases as the season progresses and the organic premium tends to be highest after the first one-third of the season. The growth of organic blueberry production in California, relative to overall California production as well as U.S. organic blueberry production, seems to indicate a comparative advantage for organic blueberries in California. Further growth of organic as well as total blueberry production in California is expected.

AUTHOR'S BIO

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