

The Story Behind Avocados' Rise to Prominence in the United States

Hoy F. Carman

Rapid growth of U.S. demand for fresh avocados has increased the fruit's prominence in retail sales and consumer diets. This growth is largely due to California producer and importer-funded research and promotion programs that have changed avocados' image to that of a healthy super-food. Total California production has decreased slightly over time with the growth in consumption satisfied by imports, primarily from Mexico. U.S. consumers now enjoy year-round availability of avocados with more stable month-to-month prices than previously observed.

U.S. per capita consumption of fresh avocados averaged 1.73 pounds during the 1980s and 1.51 pounds during the 1990s. Given this relative stability and level of consumption for avocados, the recent increase to 8.0 pounds in 2018 is both unprecedented and surprising. While total fresh fruit consumption increased, avocados exceeded all other fresh fruit products. Comparison of 1990–91 with 2016–17 fresh use of all commercially produced fruit reveals an increase from 90.8 pounds to 116.7 pounds per capita or 28.5%, as reported by USDA. Fresh avocados registered the largest increase (405.8%) during this period.

Avocados' rise to prominence in U.S. produce markets demonstrates the benefits of producer-funded research and promotion programs. There were a number of important factors involved in the substantial increase in consumer demand, with some very obvious and others occurring out of the public eye. This article highlights facts and figures relative to industry adjustments that have contributed to achieving this remarkable growth.

Marketing Issues

Looking back to the early 1990s, avocados faced several marketing issues including product image, the threat of increased imports, and seasonal availability. California avocado growers, working through the California Avocado Commission (CAC), provided the leadership for seeking solutions to each problem. Funded entirely by growers, the CAC collects an assessment on all avocados grown in California to support research and promotion programs designed to increase the demand for California-grown avocados. Annual promotion expenditures from 1962 through 2017 totaled over \$568 million in 2017 dollars.

Image: Avocados had a product image problem that persisted through the 1990s; they were regarded as a food high in fat and calories and not particularly desirable on a health or nutrition basis. In 1997, the CAC began to fund nutritional and diet research and to proactively communicate the nutritional and health benefits of avocados to consumers.

Consumer information contained detailed analysis of the composition and nutrient content of avocados, including fatty acids, vitamins, minerals and phytochemicals, as well as their health benefits and effects on disease processes. Avocados soon became a component of "recommended healthy diets," transforming their image to a heart-healthy, nutrient dense, super-food.

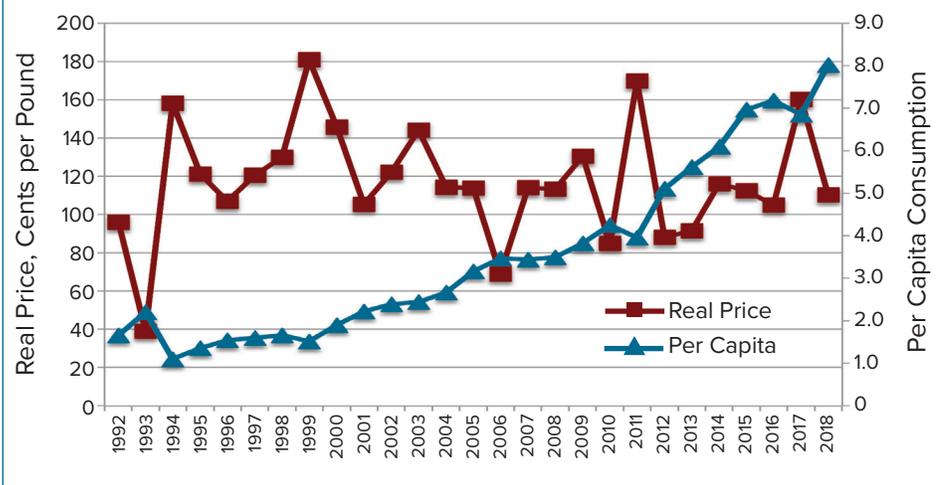
Avocado Imports: California dominated the U.S. avocado market through the 1980s, with fresh imports typically accounting for less than 1% of total consumption. This began to change in the early 1990s when Chile and the Dominican Republic increased avocado

shipments to the U.S., and then CAC efforts to block Mexican avocado imports failed in 1997. Avocado imports began to rise substantially when fresh avocados from Mexico were allowed into the U.S. market, with a four-phase opening of the U.S. market extending from 1997 to 2007. Initial imports were to 19 Northeastern and Midwestern states and Washington, D.C. during the winter months. States were added and the time period was extended until all states were open year-round to Mexican avocados beginning in February 2007.

Allowing avocados into markets that tended to be under-served by California, combined with the national public relations program for the health and nutritional benefits of consuming avocados, resulted in a very effective ten-year market development program. Responding to the problem of imports free riding on domestic research and promotion programs, the CAC led industry efforts to secure passage of the Hass Avocado Promotion, Research and Information Act of 2000, which established the Hass Avocado Board (HAB). On January 2, 2003, the HAB began collecting an assessment of \$2.5 cents per pound on all domestically produced and imported Hass avocados sold on the U.S. market. The assessment is collected by first handlers for California production, and by the U.S. Customs Service for imports and forwarded to the HAB.

The HAB rebates 85% of domestic assessments to the CAC and to importer associations to use for U.S. promotion programs. Importer associations are currently operational for avocados from Mexico, Chile, and Peru. The HAB uses the remaining funds for its operations, nutrition and health research, promotion, and information technology programs.

Figure 1. U.S. Avocado Consumption, Pounds per Capita, and Real Producer Prices (2017 dollars), 1992–2018



Demand for Fresh Avocados

U.S. per capita avocado consumption grew rapidly during the last two decades after many years of year-to-year variability and slow growth. Figure 1 illustrates changes in consumption and average annual producer prices over time, as per capita consumption increased from 1.1 pounds in 1994 to 8.0 pounds in 2018. The figure represents a classic case of increasing demand. There has been no clear trend in real prices indicating that the supply of fresh avocados is relatively elastic over time, an outcome only possible because demand has expanded to keep pace with the rapid growth in supplies to the U.S. market.

During the 15-year period from January 2, 2003 through December 31, 2017, HAB collected assessments totaling over \$495.7 million. Total marketing and promotion expenditures for the 15 years by organization were: CAC, \$143.1 million; Chile, \$40.5 million; Mexico, \$238.3 million; Peru, \$11.5 million; and HAB, \$63.0 million. These promotion expenditures were a very important factor related to increasing U.S. demand for avocados.

Econometric studies of avocado producer returns from their expenditures on advertising and promotion in the U.S. market have shown positive benefit/cost ratios in the range between 2.5

and 4.0. Each of these studies has concluded that returns from advertising/promotion expenditures are attractive and that increased advertising/promotion expenditures would have yielded additional profits.

Avocado Supply

When California production dominated the U.S. avocado market, variations in year-to-year average California crop yields impacted prices and total revenue. In fact, with inelastic demand, a small California crop would often yield higher total revenue than an unusually large crop. Now, imports tend to respond inversely to the availability of California avocados, year-to-year and seasonal prices are more stable, and a small California crop garners less revenue than a large California crop.

With comparatively high and increasing costs of production, California bearing acreage of avocados decreased from 60,674 acres in 1997 to 50,856 acres in 2017 (16.2%) while average production for the two five-year periods 1993–97 and 2013–2017 dropped from 362.99 million pounds annually during the earlier period to 338.57 million pounds (6.7% reduction).

While average annual per-acre yields vary significantly from year to year, yields have tended to increase over time as less productive acreage has been

removed. Thus, total California production of avocados decreased slightly over time and increasing imports, primarily from Mexico, has satisfied the rapid growth in U.S. demand.

Imports reached a total of almost 2.29 billion pounds in 2018, accounting for almost 87.3% of total U.S. fresh avocado consumption. California's share of total U.S. avocado consumption decreased from 77.8% in 1997 to only 12.9% in 2018. This dramatic growth in U.S. avocado imports and consumption with the accompanying change in market shares and structure has impacted both California acreage and production practices.

Seasonal Marketing Patterns

Before imports became significant, California growers chose avocado varieties and cultural practices to provide year-round availability of marketable fruit. As imports grew, growers switched increasingly to the higher yielding and more profitable Hass and Lamb varieties, and timed the harvest to take advantage of changing seasonal prices. The Hass and Lamb Hass share of California production increased from 83.0% in 1989–90 to 99.4% in 2017–18. As a result, the seasonal marketing pattern for California avocados changed significantly over time.

Figure 2 shows the 2013 through 2017 (five-year) average seasonal marketing pattern for imports, for California production, and for total avocado sales (California plus imports). California's sales pattern for 1990, before imports were a significant factor in the U.S. market, is also shown. The index is calculated by dividing actual monthly sales by the average monthly sales for the calendar year.

Comparison of the index of California monthly sales during 1990 with the most recent five-year average California index reveals that relative monthly sales at the beginning and end of the calendar year (Jan, Feb, and Sept

through Dec) have decreased significantly and that sales have become much more concentrated during March through August when the monthly index is considerably above 1.0. Note that the 5-year average index for imports tends to run counter to California sales and that the 5-year average index for imports plus California sales is the most uniform of the four shown. Increased imports have shifted California sales to March through August while decreasing the seasonality of all sales (California plus imports).

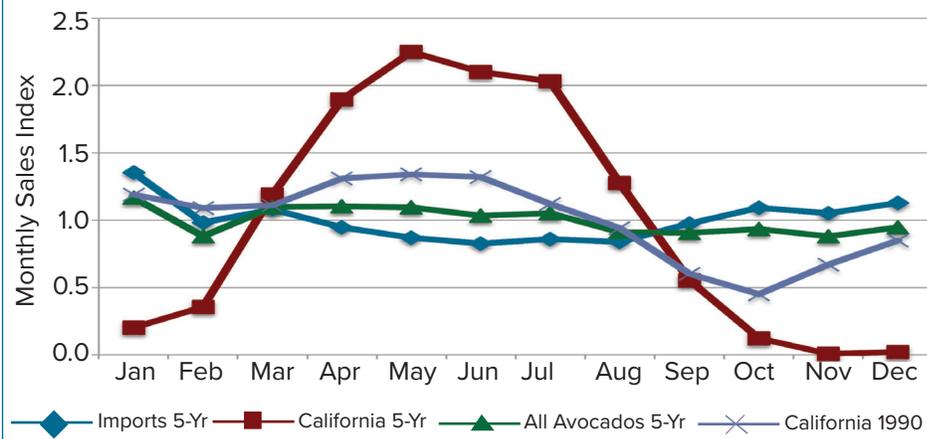
Mexican Avocado Production

Mexican growers have responded to the attractive, growing market for avocados in the U.S. by planting new acreage and increasing production. Mexico was reported to have harvested 200,036 acres of avocados in 1997, the year that limited amounts of fresh Mexican avocados were first allowed entry to the United States. Ten years later in 2007, when Mexican avocados gained access to the total U.S. market, harvested acreage had increased to 272,742 acres. Mexican avocado harvested acreage continued to increase to 466,335 acres in 2017. Production increased from 1.68 billion pounds in 1997 to 4.47 billion pounds in 2017, a 266% increase. A little over 38% of Mexico's 2017 crop was shipped fresh to the U.S. market. Mexico supplied 87.1% of total U.S. fresh avocado imports in 2018.

Economic Impacts

No estimates have been made of the total economic impacts of increased avocado demand. Overall, they would be expected to be large in total and vary by group. In terms of producers, the majority of benefits have flowed to producers in exporting countries, with Mexico reaping most of the benefits. These include the benefits to producers from increased acreage and production, plus increased employment and income for input suppliers and the processing and packing sector.

Figure 2. Monthly Index of California Avocado Sales for 1990, 2000, 2009–10 and 2016–17



Increased volumes in the supply chain also increased employment and incomes in the transportation sector, as well as the U.S. wholesale and retail food sector. With increased volumes, avocados were able to secure year-round retail shelf space. U.S. consumers realized a large increase in a healthy diet component at essentially constant real prices over an extended time period.

Concluding Comments

The CAC's efforts to blunt the impact of avocado imports on fresh avocado prices have been much more successful than California producers could foresee when the fight began during the 1990s. Many producers viewed the opening of the U.S. market to Mexican avocado imports as the beginning of the end for profitable California avocado production. With inelastic demand, a potential flood of imports, and California avocado prices forecast to be less than the cost of production, the future looked dire. However, success of the research and promotion programs funded by producers and conducted by the CAC and HAB, together with the phased opening of the U.S. market, increased demand and offset the price-depressing effects of increased supplies.

A viable, but somewhat smaller California avocado industry continues. Mexico has a comparative advantage

over California in avocado production and, for that reason, most of the supply response to increased demand has occurred in Mexico.

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Author's Bio

Hoy Carman is an emeritus professor in the ARE department at UC Davis. He can be contacted by email at carman@primal.ucdavis.edu.

For additional information, the author recommends:

Carman, H.F., T. Saitone, and R.J. Sexton. "Demand Growth and Commodity Promotions for Fresh Hass Avocados." *ARE Update* 17(1) (2013): 5-8. <https://giannini.ucop.edu/publications/are-update/issues/2013/17/1/demand-growth-commodity/>

Hass Avocado Board:

<https://hassavocadoboard.com/inside-hab/reports-evaluations/>

California Avocado

Commission: <https://www.californiaavocadogrowers.com/commission/accountability-reports/marketing-economic-impact-reports>