



2010 CALIFORNIA OLIVE OIL INDUSTRY SURVEY STATISTICS



PREPARED FOR THE CALIFORNIA OLIVE OIL COUNCIL
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Introduction

Purpose and Scope of Survey

The goal of this report is to analyze how the extra virgin olive oil industry in California has changed and expanded in the five years since the last California Olive Oil Council (COOC) report - *California Olive Oil Statistics 2004*. This report investigates three main aspects of the industry: production of olives by growers and producers (the farmers who grow olives for production of olive oil); production of olive oil by mills (the businesses that process olives for olive oil); and propagation of new olive tree stock by nurseries (the businesses that sell olive trees to growers).

Research questions for the production of olives focused on where the olives are grown in California, who is growing olives, and how many acres are grown in each of the main growing regions. Another set of questions investigated the various methods being used for olive production –traditional, medium density, and high-density plantings – and varieties of olives being planted.

Research questions about olive oil production, asked primarily of mills, focused on volume of olive oil production, numbers of growers serviced by each mill, and production trends. Mills were also asked about the types of designations that they were processing.

Research questions about olive tree propagation and new plantings were addressed to nurseries. The report looked at the number and varieties of olive trees that nurseries sold per year from 2005 to the present and the number and varieties they anticipated selling in the coming few years. Nurseries were also asked for their estimates of the number of acres being planted and about industry trends in general.

Finally, the report looks at some California and U.S. olive oil consumption trends in order to assess opportunities for expansion in the olive oil industry.

Data Sources

The report used a variety of data sources. These sources include written reports, primarily *California Olive Oil Industry Survey Statistics 2004* and *Understanding Olive Oil Yield*, both produced by Paul Vossen, UC Cooperative Extension, and *Super-High Density Olive Production in California*, produced by the UC Davis Olive Center. The main sources for statistics about acreage, volume, and number of growers were the California Annual County

Crop Reports from 2005 to 2009 and the 2007 Census of Agriculture compiled by the National Agricultural Statistics Service.

The primary data source was an online survey sent to the COOC's lists of mills, nurseries, and growers. The survey was followed up with phone interviews with about half of the mills and nurseries. The online survey resulted in responses from 76 olive growers/producers, 38 mills, and 11 nurseries. For those businesses that have growing, processing, and nursery operations, their responses were included in each relevant category.

Production of Olives

Production by Region

Olive orchards are mainly located in six regions of California, all of which have Mediterranean climates.

- *The North Coast* region includes Alameda, Contra Costa, Lake, Marin, Mendocino, Napa, Santa Clara, and Sonoma Counties
- *The Central Coast* region includes Monterey, San Benito, San Luis Obispo, and Santa Barbara Counties.
- *The South Coast* region includes Los Angeles, Riverside, San Diego and Ventura Counties
- *The Sacramento Valley* region includes Butte, Glenn, Sacramento, San Joaquin, Shasta, Solano, Sutter, Tehama, Yolo, and Yuba Counties
- *The Sierra Foothills* region includes Amador, Calaveras, El Dorado, Nevada, Placer, and Tuolumne Counties
- *The San Joaquin Valley* region includes Fresno, Madera, Merced, San Joaquin, Stanislaus, and Tulare Counties

As of 2009, there are approximately 25,000 acres of olive orchards planted for olive oil production. According to the cumulative 2008 County Crop Reports, there are currently approximately 32,000 acres of olive orchards in California, including acres of olive orchards planted for table olive production. (Data from 2008 was used because not all counties have completed their 2009 Crop Reports.) However, since some counties lump acreage statistics for olives with other orchard acreage, the total acreage of olive orchards is likely higher than 32,000 acres and could be as high as 41,000 acres.

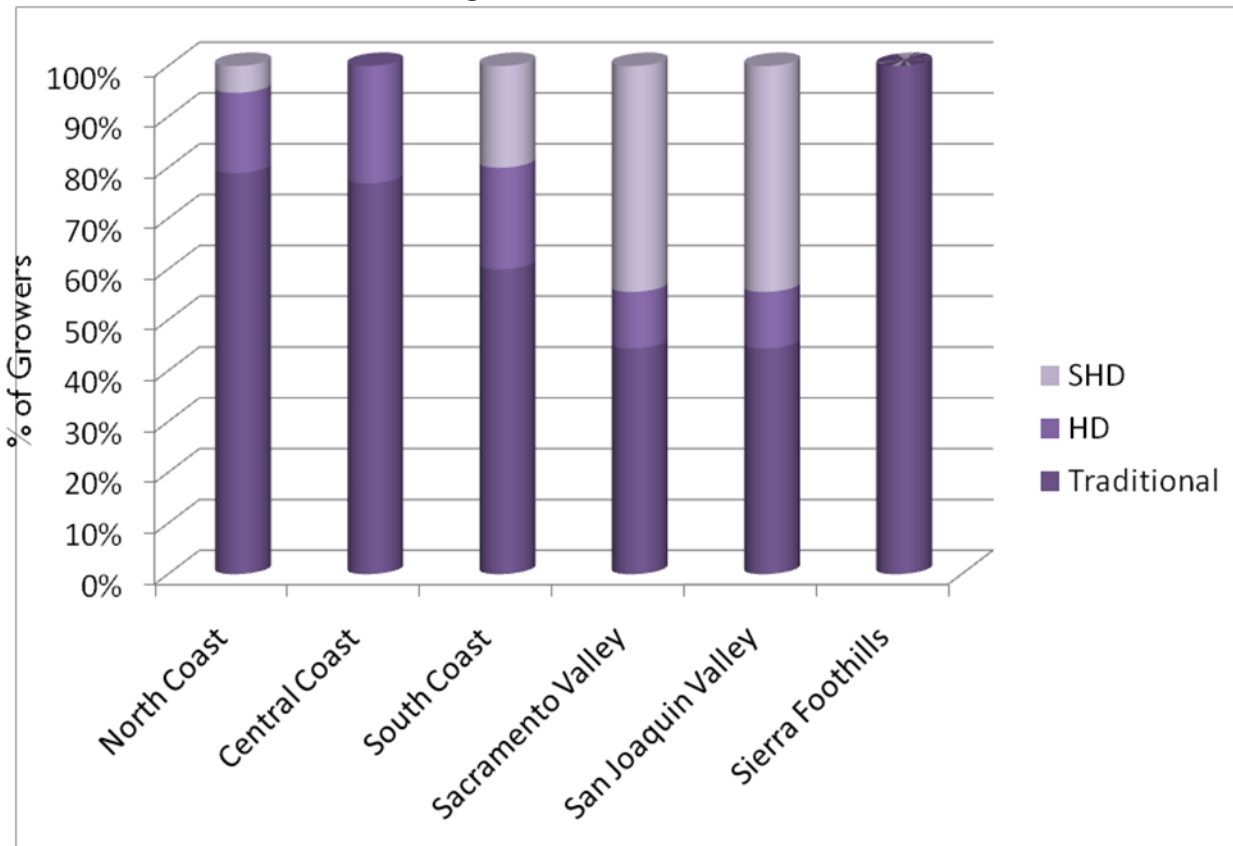
The largest producing region currently is the San Joaquin Valley, which accounts for fifty-seven percent of olive tree acreage. Based on projections by mills, it appears that the Sacramento Valley region may soon catch up or surpass production in the San Joaquin

Valley. The top olive producing counties are: Tulare, Tehama, Glenn, Butte, Madera, and Fresno. Tulare is the major county for production of olives for table olives; and Glenn and Butte are the largest counties for the production of olives for oil.

Production Methods

In the past, most growers used traditional planting methods for their orchards. This consisted of planting trees with spacing of eighteen feet by about sixteen feet, which allowed room for a 100 to 150 trees per acre. High Density (HD) spacing was introduced as a way to increase production rates by doubling the number of trees per acre. Super high density (SHD) production, introduced around 2001, has spacing of thirteen feet by five or six feet which results in 500 to 900 trees per acre. High-density plantings are expected to reach maturity at 7 years, while SHD plantings at 4 years. This SHD method was designed for machine harvesting.

Table 1: Olive Orchard Planting Methods



The predominant type of planting method is closely correlated to the regional growing area. Traditional planting methods remain the most common in the Sierra Foothills, whereas SHD planting methods are becoming increasingly common in the Sacramento Valley and San Joaquin Valley.

The *UC Davis Super High Density Study* conducted in 2009 is based on a survey with responses from 69 SHD growers. Direct summaries of the Study’s findings follow:

- There were 12,137 acres of SHD olive trees planted in California by the end of 2008.
- A vast majority of respondents reported using drip irrigation exclusively and 25 growers claimed an annual water usage of 21 inches per year (~1.75 ac-ft/yr).
- Two counties dominate SHD acreage: Glenn County, with 4,227 acres (35 percent of the total) and San Joaquin County, with 3,713 acres (31 percent of the total).
- 70% of respondents claimed to have replaced other crops with SHD olives; many of them cited “favorable income potential” as the primary reason for planting SHD olives.

California Olive Varieties

In California there are over 150 varieties of olives being grown. The main varieties used in SHD planting - Arbequina, followed by Arbosana and Koroneiki – have become the predominant varieties. Other fairly common varieties are: Ascolano, Coratina, Frantoio, Leccino, Manzanillo, Maurino, Mission, Pendolino, Sevillano, and Taggiasca.

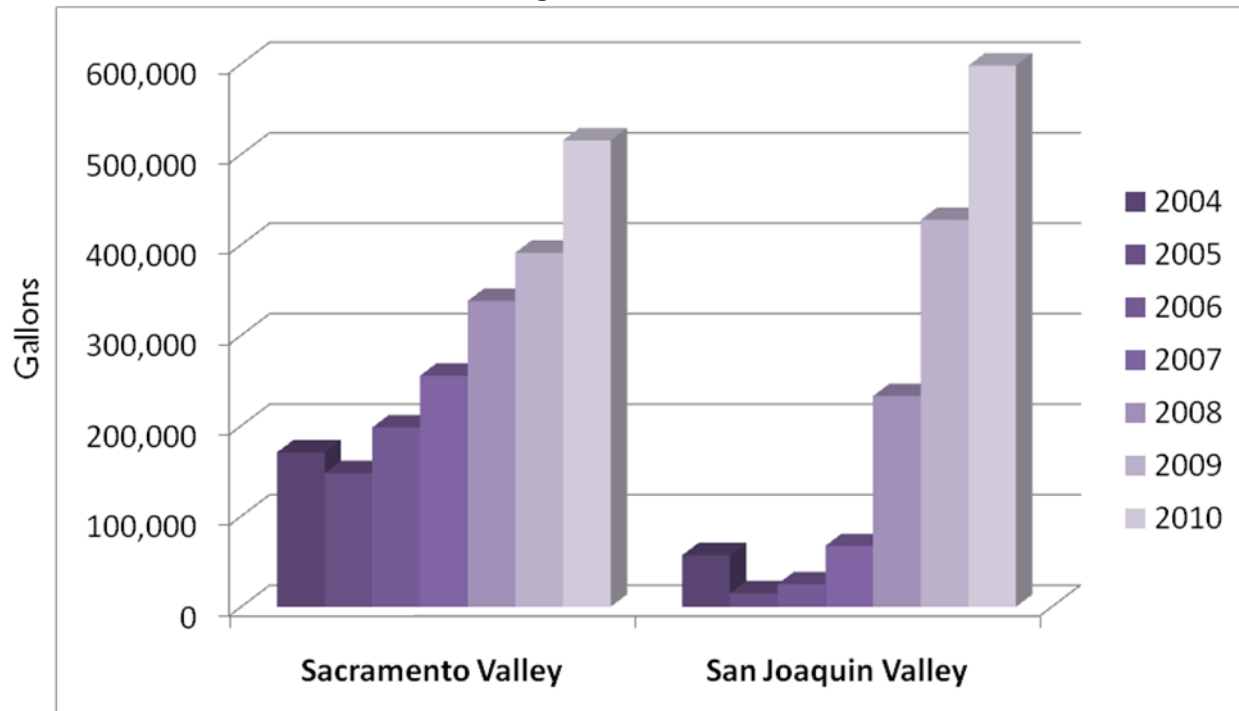
Yield

Yields in terms of tons per acre and gallons per ton depend on numerous factors. According to the UCCE report, *Understanding Olive Oil Yield*, tonnage per acre depends on factors including tree spacing, fruit set, irrigation, weed control, pruning and nutrient management, maturity of trees, and the growing conditions of a specific year. The yield of gallons per ton of olives is dependent on factors including olive variety, maturity at harvest, and specifics of the extraction process. As an average, the report uses the number of 40 gallons of olive per acre for SHD planting.

Olive Oil Processing

Volume of Production

The mills that produce olive oil are concentrated – not surprisingly – in the two main olive growing regions, the Sacramento Valley and San Joaquin Valley. According to the 38 mills that participated in this survey, 870,000 gallons of olive oil were produced in 2009 throughout California. This is a two-fold increase in just one year from the 650,000 gallons of oil that UC Olive Center says were produced in 2008. The amount of olive oil produced has been growing and is expected to continue to grow in the years to come. The number of mills is also increasing as businesses such as wineries are adding both plantings of olives and olive processing facilities. These new mills range in scale from operations that process olives from several hundred acres at a rate of half a ton of olives per hour, to mills that process olives from thousands of acres at over 100 times that rate.

Table 2: Production of Olive Oil, in gallons

This chart shows the amount of olive oil produced in California's two major olive oil regions. The Sacramento Valley and San Joaquin Valley are the largest and also the fastest growing producing areas. Projections for 2010 were incomplete.

Scale of Mills & Growers Served

Many of the larger mills that produce up to thousands gallons of olive oil per year are continuing to grow. Some work with up to 70 growers while others only process their own olives. At the same time, smaller mills are coming on line to service smaller farms as well as their own plantings.

Designations Being Processed

There are now three designations being processed.

- California Olive Oil Council *Seal Certification Program* guarantees that olives are mechanically extracted without chemicals or excessive heat and less than 0.5% acidic, and have positive taste elements, and no taste defects.
- Organic Certification is based on national standards developed by nationally-approved certifiers, for both olive production and olive oil processing.
- Kosher Certification is overseen by an organization of rabbis, food technologists, and field supervisors.

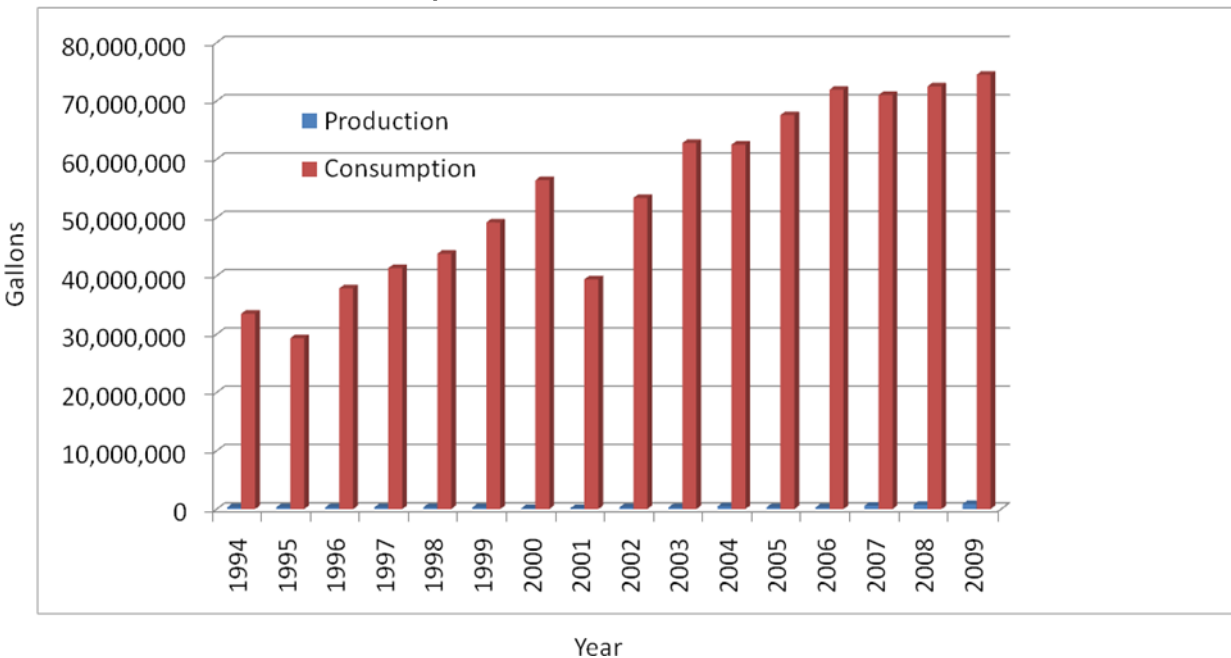
Mills report that these designations may be contributing to the expectation of an increased awareness and acceptance of California extra virgin olive oil as being equal or better than its European competitors.

Consumption

USA Consumption

In two decades the annual consumption of olive oil in the U.S. has increased from around 30 million gallons to almost 70 million gallons or around .24 gallons per person per year. As many growers and mills commented, there is a growing demand for olive oil and a notable increase in production.

Table 3. Domestic Consumption v Domestic Production



Domestic production is almost negligible compared with domestic consumption. Consumption data from the International Olive Oil Council (IOOC)

Currently, the United States imports almost 99 percent of the olive oil it consumes. Most of the imported olive oil originates in the Mediterranean basin. California produces almost all of the domestic extra virgin olive oil consumed in the US; an amount which represents about one percent of total US olive oil consumption. However, California has the potential to increase production to meet all of the US olive oil demand. Clearly, this is an extraordinary opportunity for the California olive oil industry.

Conclusion

The results of the survey and clear trends in increased US consumption of olive oil indicate current and future growth in all sectors of California olive oil production. From the

growers, we saw increased trends in SHD plantings using the limited varieties favored by this method. Medium-density plantings are expected to be more common as the method provides great benefits to growers, including favorable income potential and reduced water usage.

Some additional trends reported by respondents were:

- Increased media exposure and public awareness of California Oils
- Many more growers, of large, medium, and small size
- Smaller growers specializing in less common varieties
- Additional small growers, such as wineries, adding oil to their product line
- Increased demand for olive trees and interest in different varieties
- A demand for organic and certified extra virgin olive oil
- More consumer education about local, fresh olive oils

The growing demand for olive oil in the US, combined with the increased consumer education about local, fresh olive oils, portends a continued growth in all facets of the California olive oil industry. To account for this growth, survey responses as well as state and national data show that there is an increased prevalence of high density and SHD orchards. Many of these planted in recent years will soon begin producing, while the presence of small growers continues to increase. According to Dan Flynn, Executive Director of the UC Davis Olive Center, olive acreage is expected to increase by around 4,500 acres per year and the number of gallons produced by the US to increase more than ten-fold to about 15 million gallons in the next decade.