

Super high density olive trees for oil next success story?

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By Harry Cline, Farm Press Editorial Staff

Alan Greene's first job in California agriculture 30 years ago was a summer of hauling processing tomatoes out the fields on the West Side of the San Joaquin Valley.

His second was a 17-year career at California's most successful almond marketing cooperative.

When he hauled tomatoes, California was producing about half the tonnage it does today as a world leader in processing tomato products. When he started work at Blue Diamond, California almond production was about 600 million pounds. When he left the Sacramento-based marketing cooperative, California was the world market leader in almonds production with 1 billion pounds annually. His last position at Blue Diamond was industrial sales manager.

Greene has been part of two dramatic California agricultural evolutions. He hopes he can go 3 for 3 with his latest career as vice president of sales and marketing for the 500-acre California Olive Ranch near Oroville, Calif.

Olives have been part of California's agriculture and landscape since Franciscan missionaries from Mexico introduced olives trees to California.

Now more than 200 years later, a group of Spanish investors/engineers have introduced to California farmers a method of growing olives for oil as revolutionary as those first olives planted alongside California missions in the 18th century.

Grape-like handling

California Olive Ranch's 300,000-tree olive orchard on 500 acres is trellised like grape vineyard; farmed like wine grapes and harvested with mechanical grape harvesters. This "super high density" olive planting is the largest in the world and has become the cornerstone of what many hope will be a new, commercial California crop to capitalize on the booming U.S. olive oil market.

The concept was developed in Spain 15 years ago and brought to California six years ago. The revolutionary production system, some believe, offers the same opportunities that evolved from another agricultural import from Spain, almonds.

Burchell Nursery field representative John Slaughter based out of Burchell's Fowler, Calif., store is one of those believers. Burchell hosted a field day recently at the California State University, Fresno farm

where 20 acres of two-year-old super high-density olives were mechanically harvested for the first time with mechanical grape harvesters.

“This could be like one of those field days in the 1940s when almonds were first introduced into California,” said Slaughter.

The timing could not be more ripe as California grape growers, particularly those in the central San Joaquin Valley, suffered through yet another year of low prices and sluggish demand in 2005. Even though 100,000 acres of grapes have been removed from the valley over the past five years, wineries still offered only \$60 to \$100 per ton for Thompson seedless and low-end wine grapes.

Natural replacement

Slaughter believes trellised high-density olives for oil could be a natural replacement for unprofitable vineyards. Plus, demand for olive oil in the U.S. is growing much faster than wine grape demand.

“We know we can grow olives. It is the new high density growing system that makes this so exciting,” he said.

Table olives have been grown commercially in California for decades. However, acreage of primarily Mission and Manzanillo variety table olives has changed little for decades. Foreign competition has strangled California’s table olive industry.

Europeans have for decades also flooded the U.S. market with inexpensive olive oil thanks to post World War II trade agreements.

Olive oil has never been at the top of the supermarket shopping list for most American consumers, but that all changed when nutritionists started extolling the health attributes of olive oil. U.S. olive oil consumption has soared in the past decade from 31 million gallons to 65 million gallons annually.

As American consumers embrace olive oil for cooking, salad dressings and numerous other uses, they are demanding better quality oil than what is mostly imported from Europe. This demand for better quality is comparable to the evolution from so-called jug wines to varietal wines in America.

California premium olive oil production has more than doubled in the past five years to get a piece of this growing market, but the 383,000 gallons produced last year did not even make a ripple in U.S. olive market of 65 million gallons. California Olive Ranch produced about a third of California’s 2004 production. A few others like the Sciabica Family in Modesto produced a significant part of the California’s 383,000 gallons.

According to Paul Vossen, University of California farm advisor in Sonoma County, there are 27 operating olive oil mills in the state. Sixty percent produce less than 5,000 gallons per year. Many of these are connected to California North Coast wineries, which have carved a new market niche of selling extra virgin olive oils along with premium wines.

To make a big splash in the U.S. olive oil business, it will require a totally new way of growing the crop for high quality oil. Greene and Slaughter believe the Spaniards have developed such a system and it is showcased at the California Olive Ranch, on the Fresno State farm and in several other young super high-density plantings.

High-density system

Traditional olives are planted 120 trees per acre and hand harvested. In the high-density system developed in Spain 15 years ago, 600 to 900 trees are planted per acre; trellised like a vineyard; pruned to remain short in stature and harvested with a conventional mechanical grape harvester.

“Rather than trying to fit a mechanical harvester to the olive tree, the investor/owners of the California Olive Ranch super high-density system found a way to fit the tree to the mechanical grape harvester,” said Greene.

In 1999 they duplicated what had been perfected in Spain on former pastureland in Butte County.

The varieties used in this system are Arbequina, Arbosana and Kornoeiki, all known for producing quality oil.

Trees are trained to a single leader and topped at 6.5 feet to accommodate the mechanical grape harvester. The trees do require side pruning to keep them compact, but it is minimal compared to grapevines.

Trees are planted 5.5 feet apart down the tree line with 13-foot rows. One of the biggest difference between a grape vineyard and a high density olive orchards is trees are more expensive (\$2.75 to \$3 apiece) than vines (\$1 to \$1.50 apiece)

The trellising system is simple. At the California Olive Ranch there is a single wire at four feet. Greene said he now recommends the wire be positioned at five feet to accommodate rapid tree growth and hold the tree more upright.

The trees at the Oroville ranch are drip irrigated and require about the same amount of water as almonds.

Minimal inputs

Farming inputs are minimal. A mandatory expense is a copper treatment after harvest to prevent olive knot from developing from tree wounds.

Olive fly, a major pest of table olives, has not been found at California Olive Ranch. Greene budgets each year to treat for it, but he does not expect to find it.

“Almost every traditional olive orchard around us has it, but we have never found it on the ranch,” said Greene. Greene said research by UC farm advisor Joe Connell has found that the olive fly cannot easily penetrate the small, hard fruit of the varieties grown on the ranch.

“There is no shade canopy in this high density system. It’s hot and olive fly does not like that. And with drip irrigation, most of the orchard is dry. Olive fly likes wet ground,” Greene added.

According to the University of California, cash cost to establish a super high-density olive grove is about \$4,300 per acre, not including land costs.

Greene said trees reach maturity in about five years and can be expected to yield “conservatively” 5.5 tons of fruit annually. He said a 45-gallon per ton of olive oil is a “good average” a grower can expect to yield from the varieties grown on the Oroville farm. Growers can expect to gross \$1,800 to \$2,400 per acre,

said Greene. Cost of production, according to the UC Cooperative Extension, is about \$2,400 per acre, although Greene believes the UC cost study is high in several categories, mostly pruning, based on experience at the Oroville ranch.

Acreage minimum

Greene's long career with Blue Diamond convinced him to be candid with potential olive oil growers. Fifty acres of high-density olives will not pencil. "I tell growers not to think in terms of less than 100 acres," he said.

California Olive Ranch operates the largest olive oil mill in the U.S., capable of pressing 10 tons of fruit per hour, according to Greene. The Oroville mill produces only extra virgin olive oil marketed in specialty food stores as well as large retail outlets like Save Mart and Whole Foods and to restaurant food supply brokers.

The farm is now in the process of tripling its storage capacity.

Harvest began this year on Oct. 1, and the olives are harvested based on color chart. "You can yield more oil the later you harvest, but quality oil comes from an earlier harvest. We started harvest last year Oct. 15. This year it was Oct. 1 to enhance quality," he said.

"Quality is what this new era of California olive oil production is all about," said Greene. "You can taste the difference between cheap, generic imports and the extra virgin oil we and others in California are producing. Once people taste that difference, they never go back to the cheap stuff."

California Olive Ranch is contracting with growers to supply olives to its mill. "We will sign a fixed term nine-year contract with a three-year rolling evergreen clause, guaranteeing a minimum cost of production return. This is based on the UC production cost study," said Green. Growers then get a final settlement based on a sales pool. It is basically a breakeven guaranteed payment by the end of March to be followed by a profit sharing pool based on the success of California Olive Ranch sales.

Property search

Greene said the company is "aggressively" looking for property in the Central San Joaquin Valley to not only set up a mill, but to establish another 500-acre high density orchard.

"We would like to work in conjunction with another grower to plant 500 acres or we will plant the 500 acres on our own," said Greene. "We want to duplicate what we have in Oroville in the San Joaquin Valley in 12 months." Greene added California Olive Ranch turned its first profit this year and "our owners have the assets to pay the contracts we sign. This project is well supported financially."

He has signed contracts with growers in both Northern California and the San Joaquin Valley.

Greene estimates there is at least 10- to 12-million-gallon market growth potential for California extra virgin olive oil. "Right now I estimate there are about 1,100 acres planted to super high density trees. It will take 3,500 acres of high density plantings to reach 1 million gallons so we have a long way to go to reach the 10 to 12 million gallons that it will take to start bucking the imports," he said.

It's hard for Greene to temper his enthusiasm for the future of commercial California olive oil production under the high-density farming system.

“What I learned from 17 years in the almond industry is that you give growers straight facts — nothing less, nothing more — no sugar coating,” he said “But this is pretty exciting stuff for California agriculture.”

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