



Pistachios Pique Arizonans' Interest

BOWIE — Less than 20 years ago, a pistachio orchard the size of the one here would have amounted to most of the pistachio acreage in the whole United States.

Then, the nation had about 1,000 acres of pistachio trees, and most pistachio nuts that Americans ate came from Iran or Pakistan. Now, about 45,000 acres of pistachio orchards are growing in the United States, mostly in California, but including about 2,250 in Arizona. This orchard, owned by the Pistachio Corporation of Arizona, has 620 acres of trees, including 100 acres planted just this year.

U.S. production of about 20,000 tons per year now supplies most domestic markets and provides about 5,000 tons for export. Many U.S. pistachios are not treated with the traditional dye that reddens fingertips of nibblers and hides blemishes on imported nuts.

Most of the trees in this orchard and in other Arizona orchards are less than four years old. Pistachio trees usually do not bear enough nuts to cover

By Michael Kilby
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Photograph: After hulling and culling, pistachio nuts are dried in a bin with heated air blown up through the floor. (Photos by Guy Webster.)



Dr. Mike Kilby (right), University of Arizona specialist in fruit and nut crops, watches Mollner graft nut-bearing wood onto a first-year rootstock.

harvesting costs until their eighth year, said Dr. Michael W. Kilby, fruit and nut crop specialist for the University of Arizona Cooperative Extension Service.

This orchard produced four tons of nuts last year, said Henry O. Mollner, president of the owning company. He predicts the 620 acres will yield more than 100 times that much when trees reach maturity in about seven years. His company also sells pistachio transplants from its Tucson nursery.

At an educational field day here last fall, Kilby told other new and prospective pistachio growers, "Nothing is more important for any of these trees than developing a good root system in the non-bearing years." Good training and pruning of trees are also essential for developing a productive orchard, he said.

Only a few pistachio trees in Arizona are more than 10 years old. One small, unirrigated orchard near Cochise Stronghold was planted in the

1920s. Plantings started in earnest in California and Arizona in the 1970s.

A bad freeze in southeastern Arizona in 1978 killed back many of the pistachio trees that had been planted in Mollner's orchard and others in the area. However, the U.S. break with Iran in the late 1970s encouraged planting of more trees in this country.

Feel Like Pioneers

Henry Nilsen, a former Tucson bricklayer, planted 4,300 pistachio trees on 28 acres between Dragoon and Cochise two years ago. "We saw that our climate and conditions were like conditions in Iran and Pakistan, and there was a lot of talk about how pistachios could be good to grow here," said Nilsen. He and his wife planted another 240 trees in 1983.

Parts of Cochise County also have a climate similar to Chico, Calif., site of most U.S. Department of Agriculture research on pistachios. The UA College of Agriculture has planted 100 trees for evaluation at its Page Ranch near Oracle, and is monitoring several projects on private orchards.

"We like growing them," said Nilsen. "It makes you feel kind of like a pioneer since its something new. There's still a lot of mistakes to be made, though."

The Nilsens and several other owners of small orchards attended the university's field day hoping to learn how to avoid some of those mistakes. Kilby and Mollner described the selection and preparation of orchard sites, and the varieties of pistachio trees available.

Orchards need one male tree to about every 14 female trees for pollination. Kerman is the most popular variety for female fruiting wood, and Peters is the common male variety. Rootstocks are more variable. Atlantica, favored for sandy soils, is most common in Arizona. Terebinthus gives slightly more cold tolerance and suits heavier soils. Interjarmin has shown some resistance to verticillium wilt, a fungus disease.

Mohave, Maricopa, Yuma and Pinal counties, as well as southeastern Arizona, have some pistachio orchards. Kilby said that some of those other areas do not get cold enough winters to stimulate good production of nuts in many years. Trees need about 1,000 hours below 45 degrees.

"We feel strongly that this area in Cochise, southern Pima and southern Graham counties is going to be a good area for the production of pistachios," said Kilby. Cool parts of Mohave County and the Verde Valley in Yavapai County also offer the right climate.

Success with the trees depends on good management as well as location, though. "The pistachio is a desert tree," said Kilby, "It will survive with very little water, but like most desert plants, it will produce a lot more for you if you care for it right and give it some extra water."

Water, Bugs, Weeds, Harvest

Mollner's orchard and many others are drip-irrigated. Mollner estimated that mature trees will get about three acre-feet of water per year.

UA entomologist Dr. Roger Huber reported progress on understanding desert stink bugs and leaf-footed plant bugs that damaged nuts on many Cochise County trees in 1982. The bug damage diminished last year. Huber linked the extent of the problem to conditions in the surrounding desert. "These are desert insects that have not been economically important in the past," he said.

UA plant scientist Dr. Stan Heathman reminded growers that few herbicides are registered for controlling weeds in pistachio orchards, partly due to the expense of securing government approval and the small size of the



Top: Henry Mollner uses an almond mallet to harvest pistachios from a young tree. The nuts fall onto tarps spread below the tree. Harvesting will be mechanized when the orchard is older. Bottom: At Mollner's orchard near Bowie, Lorenzo Romero pours harvested nuts into equipment that scrubs off their soft outer hull.

Ripe pistachio nuts are covered with a reddish, soft outer hull.



pistachio industry. He cautioned prospective growers not to start orchards in fields with perennial weed problems.

During the field day, Mollner thumped trees with a club to shake nuts onto a tarp, then showed how newly harvested pistachios are treated. The soft outer hulls are brushed off and the nuts are dried over low heat to less than seven percent moisture. They keep well at that stage until roasted just before marketing. Mollner plans a switch to mechanical tree-shakers as the orchard matures.

The dried nuts brought growers \$1.60 to \$1.80 per pound last season, depending on quality. Mollner expressed confidence that pistachio prices will be stable against the increasing production from maturing orchards. He contrasted the 45,000 acres of U.S. pistachios to about 200,000 acres of walnuts, 300,000 of pecans and 400,000 of almonds in the country.

"The potential for growing pistachios in Arizona is enormous," said Mollner.