

## CENTRAL VALLEY ALMONDS

By Audrey Cochran

This winter Green Thumb heard a fascinating talk by Joe MacIlvaine, president of Paramount Farming Company since May 1987. He is responsible for general management of the company's 120,000 acres of agricultural properties, which include almonds, pistachios, and pomegranates. For each of these, Paramount is the largest grower in the country. He is president of two water districts, and has been chairman of the Almond Board of California, and its Production Research, and International committees, and numerous other professional and community groups. Joe MacIlvaine earned a bachelor's degree from UC, Berkeley, an MBA from UCLA, and a Ph.D. from MIT.

Dr. MacIlvaine said the mission padres imported almond trees from Spain, where they are a dry-land crop and hand harvested. There are now six thousand growers in California, and our Central Valley is the best place in the world to grow almonds. Spain has now changed from a grower, to California's largest customer, processing almonds for the rest of Europe, and their products include Marzipan, almond paste made with sugar. Thirty percent of our almonds are used domestically and the rest exported, with 85% of our almonds used as an ingredient in foods such as baked goods and candies.

Almonds bloom in early spring, and need dry summers because they are susceptible to fungi such as alinaria, ground rot, and scab. Since almonds are related to peaches, they do well on peach rootstock which has the advantage of bringing them to earlier maturity, but only last two to twenty five years. On almond rootstock they last six to eighty years. They make only a little nectar but lots of pollen. They require cross-fertilization, and are the mainstay of beekeepers who bring truckloads of hives in early spring. Almonds reach full size in April, but hang on the trees until July 1-15 when the hulls split. Beginning around August 1, mechanical tree shakers are used, and by mid October the harvest is finished and growers begin the work of hulling, shelling and sorting. The hulls are 25% sugar and contain other digestible nutrients and can be used for up to 15% of their feed. The shells can be used as feed, or are sold to a biomass fuel generator in Delano.



The big problem for California almond growers is water, as all of our almonds are irrigated which is a challenge in dry years such as we currently are experiencing. Dr. MacIlvaine said the Endangered Species Act and its required protection for the Delta smelt is a bigger problem in California than the budget.

For the home gardener almonds grow best on sandy loam with good drainage, and adequate but not excessive water. Don't water them until they're leafing out. They are not tolerant of salt in the soil. Use 3 pounds of nitrogen per tree per year, in a mixture of NPK plus zinc. Otherwise the internodes will be short and the leaves rosetted. Any stress will make them susceptible to phytophthora and canker. A few years ago there was a problem with salmonella, so now almonds are pasteurized with hot steam, then cooled before bagging. Dr. MacIlvaine suggested that we buy almonds in October or November when they are most easily available i.e. the cheapest, then store them in the freezer for use throughout the year. (Note: they are great in stir-fry. Add them along with the mashed garlic and minced ginger root, but don't let them burn.)