

With the bounty of agricultural products in San Luis Obispo County, you may wonder why rice is not a local crop. After all, thousands of varieties grow in more than 100 countries as a staple food for over half the world's population, and rice has fed more people over a longer period than any other crop. But climate and resources determine where rice can grow—and SLO County lacks the warm summer nights, vast level acreage and water necessary to flood fields.

Where does rice grow? Asia produces about 640 million tons annually, 90.5 percent of the world's crop. In the United States, California is the second-largest rice producing state (after Arkansas), with the 2010 harvest of nearly 2.25 million tons raised by 2,500 growers on about 500,000 acres. Sacramento Valley, heart of California's rice industry, produces 95 percent of the crop. The stories of one California grower and how rice is produced follow.

Montna Farms

Second-generation rice grower Al Montna plans to keep his family farm in agriculture for future generations by implementing conservation practices on his more than 2,500-acres of specialty short-grain rice in Sutter County.

For more than 35 years, he has flooded fields, pioneering the practice of knocking post-harvest rice stubble down into water, rather than burning it. The seasonal wetlands created by the flooded fields serve as habitat for many birds and wildlife species.

Montna monitors the quantity and quality of water on his farm and uses lasers to level his fields; the results are lower herbicide costs and better water management. In 2008, he built a solar power facility to offset energy usage from the rice drying operation.

He also has placed about 2,000 acres into a wildlife-friendly agriculture easement, which helps ensure the land remains in farming and is managed to

benefit wildlife. This and other practices earned Montna the Aldo Leopold Award, given annually to landowners in eight states who practice exemplary land stewardship and management. Montna received the honor at the 2010 CA Farm Bureau Federation meeting.

A third generation, Nicole Montna Van Vleck, farms with her parents and sister. The graduate of UCLA and the CA Agricultural Leadership Program is the farm's managing partner. As she and her sister raise their children, they are, perhaps, preparing a fourth generation of Montna rice farmers to be stewards of the land.

The Kernel of Rice

The process used to grow rice is unlike any used for crops in San Luis Obispo County. The kernel, or essence, of the rice story follows.

In March, fields are prepared for planting by using laser-guided grading equipment to make them as flat as possible, which allows farmers to conserve water. Then fertilizer and shallow furrows are added to fields.

Water to a depth of only five inches is run into the fields. The consistent depth helps improve rice plants' ability to compete with weeds for nutrients and sunlight, and reduces the need for herbicides.

Rice seed is soaked and loaded onto airplanes. Flying over fields at 100 mph, the heavy seeds are released, sink into the furrows and begin to grow.

At Montna Farms, the 2011 planting season started April 22, according to Jon Munger, manager of operations. You can find a link to videos and blogs about the rice-growing process with Nicole Montna Van Vleck and other CA growers at slofarmbureau.org.



During the four to five months seedlings mature, water is maintained at a depth of five inches. Herbicides and treatment for weevils and other insects, if needed, are applied. By late summer, grain appears in long panicles atop the plant; by September, grain heads are ready for harvest. Fields are then drained.

Harvesters (above, left side) collect grain gently and rapidly. Specialized tractors, called bankout wagons (above, right side), come join them to receive

rice and deliver it to waiting trailers (top right) so the harvesters don't have to stop to unload. Each acre yields about 8,000 pounds of rice.

Rice is dried to an ideal moisture level and stored. When a customer places an order, the grain goes to the mill where the hull is removed, leaving brown rice. White rice is the result of gently removing bran layers to leave just the inner, pearly grain.

Montna Farms has a rice drying and storage facility. After milling, it is often shipped out of the ports of Sacramento, Stockton and Oakland. Much of their rice is sold to the makers of Kikkoman Soy Sauce.

After harvest, Montna's fields are again flooded with water to provide food and refuge for wildlife and for birds that use the Pacific Flyway.

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Photo by Paolo Vesic

Farmers Al Montna, daughter Nicole Montna Van Vleck (and her daughter) grow rice in the Sacramento Valley. The photos above show their 2010 harvest.



Wildlife Bed & Breakfast

California's rice industry contributes to open space and wildlife habitat in the Sacramento Valley. About 230 types of wildlife, including 31 listed as species of special concern, visit seasonally flooded fields. Waterfowl and shorebirds such as cranes, egrets, herons, ducks, swans, geese and more use the fields for migration, wintering or breeding, and bald eagles and peregrine falcons soar overhead.

Photographs on this page and other article information courtesy of California Rice Commission. www.ca-rice.org; see website for rice videos. Additional information provided by California Farm Bureau Federation news release, 12/8/10.

SLO County Climate Suited to Grapes, Not Rice

California rice is grown under a Mediterranean climate characterized by warm, dry, clear days, and a long growing season favorable to high photosynthetic rates and high rice yields. Compared with tropical and subtropical rice-growing areas, the climate is cool, but warm summer nights during panicle development, when pollen formation takes place, helps to avoid cold-induced floret sterility. Low relative humidity throughout the growing season reduces the development, severity and importance of rice diseases.

The same climatic conditions that enable premium wine grape production in San Luis Obispo County limits rice production—our cool summer nights. Cool temperatures and strong winds during stand establishment may cause partial stand loss and seedling drift. Rice production is not recommended where temperatures routinely fall below 50° F. Seed germination and seedling emergence are delayed at temperatures below 54° F. Even out in the Carrizo Plains and Cuyama valley, the average minimum temperatures are routinely below 50° F during the growing season.

More information about rice production is available at the University of California's Rice Project webpage at <http://groups.ucanr.org/riceprojucanrorg/index.cfm>.

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