

California Wild Rice

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Contact: Karen Marie
The Thacker Group
(916) 444-8363

THE TAMING OF A GRAIN *The Story of California Wild Rice*

It may be difficult at first to associate California with any other kind of rice except the state's half-billion-dollar crop of white rice.

But wild rice is alive and well in California. It's a young industry in the West, especially when compared to the centuries-old wild rice production in Minnesota. Wild rice has been grown commercially in California only since 1977.

California wild rice is a long, slender, coffee-colored kernel that butterflies open during cooking to reveal a cream-colored interior. The result is a two-tone rice that can go anywhere: in salads and stir-frys, inside pork chop pockets as stuffing and in pancake batters, soups and breads.

The story of California wild rice is not unlike that of the Gold Rush that settled California. Both stories have pioneers, some boom, some bust and persistent demand.

Wild rice has become a new kind of "gold" for California. With the infusion of technology on one end of production and some enthusiastic gourmet cooks on the other, wild rice has truly been tamed. It has left the old days and old ways, and entered a market based on its quality and preciousness.

Today, wild rice is becoming more accessible to home cooks. The price, once high because of the traditional by-hand gathering and processing of the past, has now come down. We have California to thank for that.

Wild rice is a semi-aquatic grass species native to North America. Like white rice, wild rice is a food grain and is cooked in the same method as other grains.

Historically, wild rice has grown in lakes, tidal rivers and bays, where the salt content is low enough not to reduce yield or damage final growth. In its native habitat, wild rice usually grows in water between 2 and 4 feet deep. In California, it generally grows in well-planned paddies with water depths less than 1 foot.

The California legend actually begins in the northern latitudes of the Eastern seaboard and around the fringes of the Great Lakes, the areas believed to be the native North American

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habitat for wild rice. Here, wild rice has been gathered for centuries by hand.

From the Algonquin, Chippewa and Sioux Indians to today's preservationists of the old ways, wild rice harvesters paddle silently in canoes through dense, marshy rice beds. They flail the ripened kernels into the boat. Then they return to shore with this "green" rice, parch (dry) it in huge kettles over open fires, thresh and winnow it to remove the hulls and chaff, and place it in birch-bark baskets for storage.

Problems occur from relying on the self-sowing of the seeds in unpredictable weather conditions, and from shattering. Shattering is the name of the unlucky situation where some kernels mature faster than others and fall from the plant into the water before they can be harvested.

Such problems are not unknown in California, but they are generally less severe. There are no canoes or birch-bark baskets in this high-tech state. California's mechanical combining makes one single pass over the crop. Instead of drying over wood fires, California's wild rice is parched in a large rotating drum. Upon contact with the heat, initial steaming takes place as the kernels begin to lose moisture. The wild rice stays in the drum until dried to a 6 percent to 9 percent moisture level.

Afterward, the kernels are mechanically shelled to remove the outer husk from the kernel. Mechanical grading follows. The kernels are sorted according to length and width, with the largest kernels being the most desirable for the gourmet market. Finally, the wild rice goes across cleaning equipment to rid it of leaves, stems, hulls and dirt. The result is a product nearly 100 percent free of debris.

Had it not been for some Minnesota wild rice seeds that found their way to California, it's anyone's guess when California would have domesticated wild rice.

The father of California's wild rice industry is a white rice farmer, Vince Vanderford. He farmed near Yuba City in Northern California's lush Sacramento Valley, which is the source for many of the nation's crops, including tons of white rice. In 1972, Vanderford agreed to plant a little wild rice seed that a friend, Pete Van Eckhardt, carried to California from Minnesota in some ice chests — and with prosperous results.

From his first planting of 1 1/2 acres, Vanderford sowed the seeds of a new industry.

The state's wild rice production began to increase rapidly after 1977, when only 10,000 processed pounds were produced. Acreage expanded sharply from 2,400 acres in 1982 to 7,640 acres by 1984 and to 15,760 acres in 1985.

By 1986, Vanderford's casual planting had zoomed into full-scale glory days. About 50 farmers were growing wild rice. This was the boom, the year California's wild rice production surpassed Minnesota's. Starting from zero pounds in 1976, just 10 years later California

harvested 11.16 million pounds from 18,000 acres, compared to Minnesota's 3.39 million pounds collected from 25,000 acres.

But the California wild rice industry, like the Gold Rush, grew too fast. By the end of 1986, despite the high quality and a demand for upscale food products, the wild rice industry slammed into a glut. But the bust didn't last long. California remains a leading producer of wild rice.

Today, California farmers pre-sell their wild rice before it is planted, so there's a home for the crop before the season even begins. California and Minnesota are about even in production, but the yield per acre is higher in California. In fact, California is able to harvest between 1,000 and 1,200 pounds of wild rice per acre, with a potential to bring in 1,700 pounds per acre.

Both savvy and lucky conditions enable California's wild rice farmers to produce such high yields.

Borrowing management techniques acquired from growing white rice, wild rice farmers have learned to control the environment in which to produce this favored grain. A key to the success of wild rice farming is the management of one of California's most precious resources — water.

The water necessary to create the paddies for wild rice flows cool and fresh from the high Sierras into the wild rice growing regions, including Shasta, Lake, Modoc, Lassen, Butte, Colusa, Yuba and Sutter counties. The water is controlled through a system of dams and irrigation networks, allowing farmers to regulate the amount of water, and when and where to water.

Luck comes in the form of California's Mediterranean climate. In Northern California, the long, dry, warm summer usually stretches from April through October. Even with a new non-shattering variety of wild rice now being cultivated, the lack of rainfall ensures that kernels will stay on the plant until harvesting.

Other factors contributing to the success of the California wild rice industry include the absence of plant disease due to the warm climate and the necessity to reseed the fields completely each year, resulting in a more controlled crop.

The demand for this gourmet, high-end product comes from chefs and home cooks alike. Chefs like California wild rice for its quality, upscale image, complex smoky-nutty taste and seemingly endless possibilities. Chefs have been adapting wild rice to a variety of recipes, taking it out of its standard place inside a turkey and outside on a summer day in a cool salad with sun-dried tomatoes, vinaigrette and goat cheese.

Home cooks like wild rice for its ease of preparation, nutrition and diversity, too. Many enjoy wild rice in breads and warm soups and as a bed for grilled items just off the barbecue.

That's because wild rice is compatible with anything smoky — cheese, poultry, game and pork. It also has been traditionally mixed with foods naturally sweet, such as dried fruit — prunes, apricots and raisins. Because of its nuttiness, wild rice goes nicely with almonds, pecans, pistachios, cashews and walnuts.

Anyone who cooks and eats wild rice will benefit from its nutritional composition. At only 114 calories per cooked 1/2 cup, wild rice has a higher protein content than white rice and most other grains. In contrast, its sodium content is refreshingly low. And a serving has just .4 grams of fat.

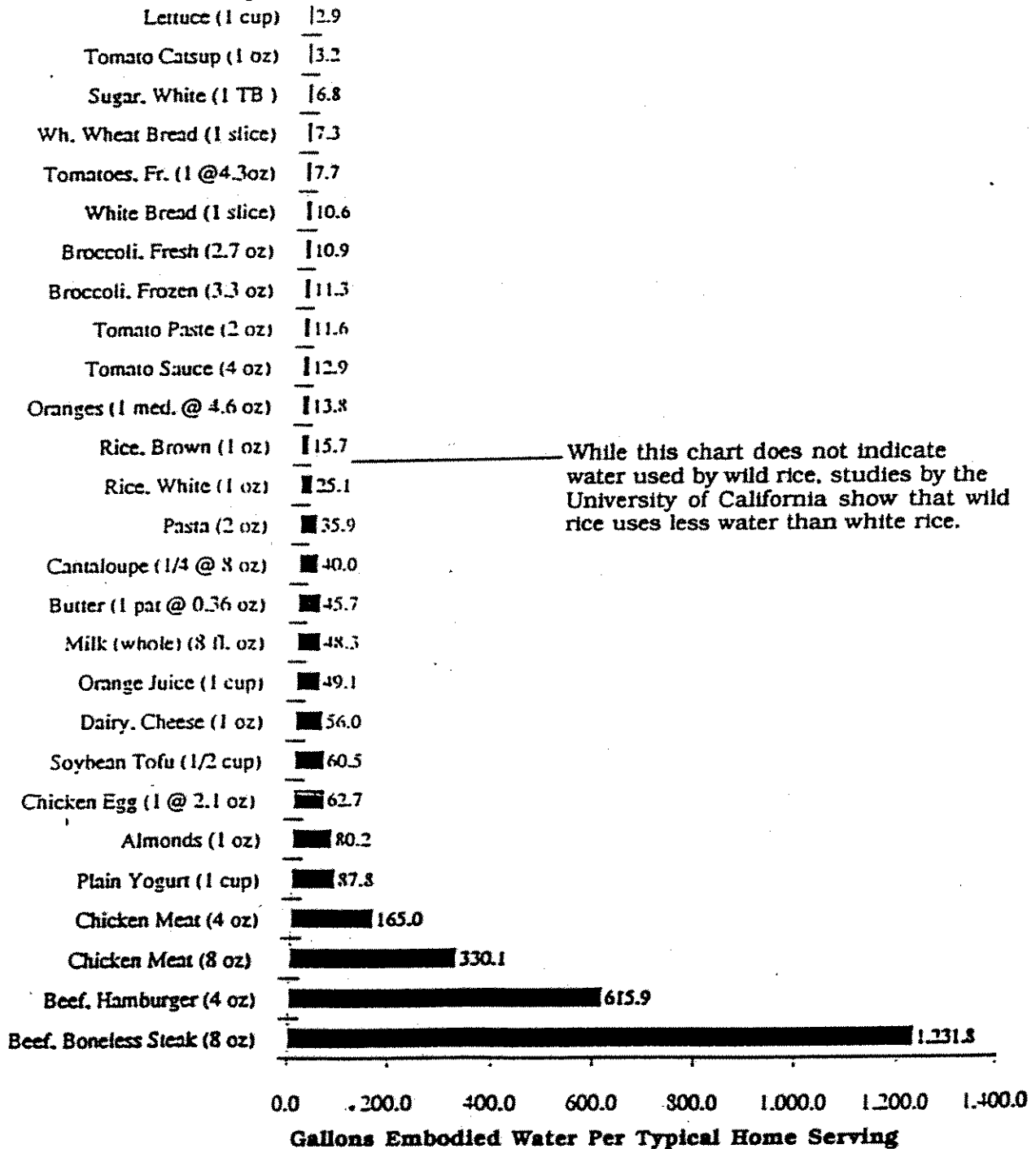
Wild rice has more niacin than brown rice and is a good source of other B vitamins, potassium and calcium. One serving offers 10 percent of the U.S. RDA for iron.

Because California wild rice is relatively free of common pests and because the state lacks the humidity that would otherwise encourage plant disease, California wild rice is grown and processed virtually herbicide- and pesticide-free.

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From WATER INPUTS IN CALIFORNIA FOOD PRODUCTION

Summary Chart 1. Gallons Water Per Typical Home Serving



The California Wild Rice Advisory Board has reprinted this chart — from a 1991 study released by the Water Education Foundation — with the permission of the Water Education Foundation, 717 K Street, Suite 517, Sacramento, California 95814; telephone (916) 444-6240.

person down the line who picks it up and puts it on his field. He uses it, and if it drains out, somebody else down the line can pick it up.

“Even when it leaches down into the ground water, it’s not actually lost unless it seeps into saline water, which can’t be used again. The farmers can get it back by pumping it back up. So they’re not wasting water; they’re temporarily using it.”

Just before the wild rice is ready to be harvested, the field is allowed to dry out so mechanical combines can harvest the crop. The farmer stops pumping water into the field in anticipation of it seeping down through the soil and being used up by the crop.

“Because wild rice farmers have that 10-inch depth, they have a greater reservoir of water, so they can stop pumping and just let it sit there for a period of time without running any more water into a field at all,” Williams adds.

The wild rice industry’s efforts at water conservation include the development of new strains with increasingly shorter growing periods — which translates into less and less water usage. This seed-development technology, along with superior irrigation methods, holds the promise of greater availability of this high-end product at a lower cost for consumers.

— chart follows —

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WATER-WISE, CALIFORNIA WILD RICE IS A FRUGAL CROP

Commodity's Usage Compares Favorably to That of Other Popular Foods

It's easy to spot a field of Sacramento Valley wild rice during the growing season. Just look for acres of pure, gleaming water, fresh from the high Sierras.

But, despite the wild rice industry's highly visible use of this precious resource, irrigating a field with standing water is actually very efficient and uses less water than many other commodities. Think of it as capturing a sinkful of water to wash your face rather than letting the spigot run.

According to the Sacramento-based Water Education Foundation, a nonprofit organization that studies water issues, rice compares favorably to other food products consumed by most Americans.

For example, the water used to produce an 8-ounce serving of steak is approximately 1,232 gallons. A cup of orange juice takes more than 49 gallons, and one pat of butter requires about 45 gallons.

White rice, on the other hand, uses 25 gallons to produce a typical serving. And studies by the University of California show that wild rice uses even less water than white rice.

Technically, wild rice is a semi-aquatic grass that has historically grown in lakes, tidal rivers and bays. Wild rice is considered a food grain like white rice and in California is grown using similar techniques and equipment as white rice. The only differences are wild rice's shorter growing season and slightly deeper water level.

The amount of water used by a specific crop depends on several factors, including weather conditions, the type of soil, efficiency of the irrigation system and the evapotranspiration (ET) rate of the crop itself.

Sandy or loamy soils allow water to leach out, while clay and hardpan soils retain more water. All rice is grown in soils that are very tight, that don't transmit the water down very easily, so very little water is lost. A recent two-year study of water usage in rice fields by the University

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of California Cooperative Extension office in Sutter and Yuba counties showed seepage down through the ground was less than 6 inches during an entire growing season.

Additionally, rice paddies use a highly efficient system of dams, levees and irrigation networks, allowing farmers to completely control the amount of water, where the water goes and when. This system lets farmers accurately maintain the level of water needed in a particular field and also cuts down on unintended drainage.

The ET rate is the amount of water the crop takes up through the roots and pumps out through the leaves. This rate is a fixed number and is generally not affected by agricultural management practices. In other words, it's the amount of water nature designed the plant to use. Total water usage will always be higher than the ET rate because it includes seepage and drainage.

Although no ET rate has been set for wild rice, the number determined for white rice is approximately 3 acre feet of water per acre during a growing season. An acre foot (325,900 gallons) is the amount of water it takes to cover 1 acre of land 1 foot deep.

According to Jack Williams, farm adviser with the UC Cooperative Extension, total water usage for white rice averages about 5.2 acre feet. For wild rice, his estimates indicate that usage is considerably lower, at approximately 4 acre feet. One reason for this is wild rice's shorter irrigation season, which is about 80 to 90 days, compared to 115 to 120 days for white rice.

The California growing season for both white and wild rice runs roughly from May through September. In the beginning of the season, fields are cultivated much the same as they are for other crops. The land is plowed by tractor to loosen the soil, and fertilizers are applied to ensure adequate nutrition. Then, because wild rice requires an aquatic environment, fields are flooded using a highly sophisticated system of water-control structures.

At first, the land doesn't need to be covered with water; it just has to be completely wet in order for the seeds to take hold. The crop is then "planted" by air, using a plane to drop the seeds onto the wet fields.

Then, the water level is brought up to 8 to 10 inches, compared to 4 to 6 inches for white rice. Wild rice can easily grow up through a higher water level because that's its inherent nature. This deeper water level has an immediate benefit for consumers — it acts as a natural weed suppressant, eliminating the need for chemical herbicides.

Once the fields are flooded, the water is not drained off, but is maintained throughout the entire season. Even if the farmer finds it necessary to release some water, that water is not lost.

"Water used for growing wild rice isn't a direct pipeline through the field, into a drain, out into the river and gone," Williams says. "The water goes into a drain, and there's another

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COOKING UP CALIFORNIA WILD RICE

How to Store Wild Rice

Uncooked wild rice keeps indefinitely in a dry, airtight container. Once cooked and drained, it keeps in the refrigerator for up to one week. Cooked wild rice may also be frozen for up to six months.

Serving Portions

One pound of raw wild rice yields between 16 to 22 (1/2 cup) servings. That's because wild rice increases in volume three to four times its original raw size after cooking.

Cooking Tips

Wild rice requires more cooking liquid than white rice. The general guideline ratio is 1 to 3 — that is, one part wild rice to three parts liquid, whether water or stock.

The cooking time is longer for wild rice than for white rice, up to an hour for some varieties. Average cooking times range from 25 to 50 minutes.

Wild rice should always be cooked covered. You may, however, open the lid well into the cooking and stir from time to time.

Basic Cooking Instructions

Stove top:

Add 1 cup of wild rice to 3 cups boiling, salted water. Return to a boil, cover and simmer 25 to 50 minutes, until kernels break and are tender. Remove from heat and toss with 1 tablespoon butter or margarine, if desired.

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Microwave:

Add 1 cup of wild rice to 3 cups water in a 2-quart microwave casserole. Add salt, if desired. Cover and microwave on HIGH for 5 minutes. Microwave on MEDIUM for 35 to 40 minutes more. Remove from microwave and let stand for a few minutes. Remove cover and drain excess liquid. Fluff with fork. Toss with 1 tablespoon of butter or margarine, if desired.

Oven:

Place 1 cup wild rice and 3 cups boiling, salted water in a 2-quart oven dish, adding 1 tablespoon butter or margarine, if desired. Cover. Bake at 350 degrees F for 1 hour.

Note: Overcooking wild rice makes it mushy. For optimum taste, its chewy texture should remain true after cooking.

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BLENDING IN

*California Wild Rice Teams with Other Rice Products
to Create Tasty, Economical and Nutritious Blends*

California wild rice is teaming up with its cousins — white, brown and basmati rices — to offer consumers a trio of tasty blends that are economical, nutritious and pleasing to the eye.

Commercially prepared wild rice blends combine the unique, nutty flavor of this gourmet product with the tastes of more traditional strains, resulting in an appealing package with nearly endless possibilities.

A blend of wild rice and brown rice perfectly complements the flavors of poultry and meat, while the combination of wild and white rices goes well with sautéed vegetables for a lighter meal. Wild rice and basmati are especially compatible, and, because it goes well with meat or vegetables, this blend is becoming increasingly popular with chefs and home cooks alike.

Perhaps best of all, the blending of wild rice with other rice products increases the overall nutritional value of its white, brown and basmati cousins, since wild rice has the highest protein content of all four products. Additionally, wild rice has more iron and niacin than other rices, and is a good source of other B vitamins, potassium, calcium and fiber.

In the past, some cooks have created their own wild rice blends, often with less-than-perfect results. To ensure the best flavor and texture, wild rice must be combined with other rice products that have the same cooking requirements. Cooking time can vary from 25 to 50 minutes for wild rice, depending on the grade and processing techniques.

After it has been dried and hulled, wild rice is graded A, B or C, depending on the thickness and length of the kernel. The thicker the kernel, the longer it takes to cook, with A grade being the thickest.

Another factor that determines cooking time is scarification, a milling technique that ruptures the bran surrounding the kernels, allowing water to penetrate more easily. As more bran is scraped off, cooking time is shortened. Therefore, although A grade takes 50 minutes to cook, this can be reduced to 25 minutes through scarification.

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Parboiling is another technique now being used by wild rice processors. Parboiling involves soaking the rice in water, then cooking it under pressure before drying it. This process gelatinizes the starch inside the kernel, sealing the nutrients in and reducing breakage and cooking time. Parboiling also brings about very good separation when wild rice is cooked, resulting in a fluffier final product. Parboiled wild rice is used in some blended products.

Blends of wild and white rices can be found in many grocery stores, while other blended products are generally available at health-food stores, gourmet food shops and farmers' markets.

With the introduction of wild rice blends into the marketplace, there are now more ways than ever to enjoy this gourmet product. And — good news for consumers — wild rice blends are affordable. At only pennies per pound, blended products make it possible for cooks on even the tightest budgets to enjoy the unique, nutty taste of California wild rice.

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California Is the Land of Wild Rice

BY JEFF HUDSON

Special to The Chronicle

The quantities aren't huge, but California is now producing about nearly half the world's wild rice. Traditionally associated with Minnesota and Canada, wild rice has been grown here since the 1970s.

It's now grown in parts of the Sacramento Valley and in the northeast corner of the state near Fall River Mills, to the north of Lassen Volcanic National Park. For Sacramento Valley growers, wild rice is an alternative crop. But in the mountainous northeast, where the growing season is much shorter, wild rice is one of the few crops that can be raised commercially.

Growers in northeastern California have two big advantages, according to Todd Brown of the California Wild Rice Growers Association.

Minnesota's high summer humidity forces growers to thin their crop to control mold. Sacramento Valley growers must reseed from scratch each spring, because the winters aren't cold

enough to put naturally fallen wild-rice seed into dormancy.

But since northeastern California has dry summers, growers there don't have to thin, and the chilly winters let them take advantage of the plants' natural re-seeding. Traditionally, northeastern California has been cattle country.

But the 1980s were rough on beef suppliers, which left landowners looking to diversify.

Many of the northeast's wild-rice fields are on soggy ground adjacent to the Pitt and Fall rivers — marginal pastureland.

Ted deBraga manages the Goose Valley Ranch in Burney (Shasta County), which raises roughly 1,000 acres of wild rice (as well as 1,800 head of mother cows, and hundreds of acres of timothy — the latter sent to Japan as feed for race horses and other animals).

Goose Valley started with 110 acres of wild rice in 1983. Initially, deBraga used pesticides and herbicides to help the crop along.

"But we haven't used them for four or five years now," he says. "We've found ways of changing

the water quicker, and dropping the levels to where we don't have to."

However, deBraga and many other wild-rice growers still use nitrogen fertilizer, which keeps them from qualifying for the "organic" tag.

Wild rice naturally drops a lot of seed, and migrating wildlife eat much of it... but not all.

"Since we've put wild rice in, we've doubled the amount of wildlife... ducks, geese, swans, elk," deBraga says. "The ducks live all winter on it." But enough seed remains that deBraga has to spread only about 100 pounds of seed per acre to keep the crop going.

When it comes to wild rice, two comments are in order. Botanically speaking, wild rice is a grass, not a true rice. Also, since it's cultivated in this state, California wild rice is not "wild" in the strict sense of the word.

Regardless, wild rice is in demand. The biggest sales are during a three-month period that includes Thanksgiving, Christmas, and the duck hunting season. A

lot of wild rice goes into blends with aromatic brown rice, but it's also sold in a pure form, with prices ranging from \$2.30 a pound at discount outlets to \$6 for fancy rice without breaks.

Some California wild rice is exported, primarily to Germany, and Japanese buyers are expressing interest. The biggest obstacle to sales of wild rice is the cooking time it requires — 40 minutes to an hour. "People don't have time to cook anymore," says deBraga. "A lot of people these days want instant food."

Brown suggests buying a pound and cooking the entire quantity.

"Use some with your main dish, then put the rest in a Ziploc bag in the fridge. Put it in your pancake batter or on top of green salads."

Wild rice soaks up more water than regular rice — you should use about 4 cups of water for each cup of raw wild rice.

Unlike white rice, cooked wild rice stores well in the fridge for a week or more, and can be kept in the freezer even longer.