

Food barley sought as new PNW crop

By T.J. BURNHAM

AS Oregon grain growers in the Willamette Valley await word whether growing barley for food is a good choice, Oregon State University researchers increasingly feel the market can be developed.

"I think we can showcase barley traits to commercial bakers," said Andrew Ross, an OSU associate professor of cereal science.

Ross showed up at a recent OSU field day with freshly baked baguettes of barley bread for producers to sample. "The taste and texture are different than what you are used to in bread," he told farmers. That difference may mean some challenges in getting bakers to use barley flour, he noted.

There is more accent on barley for food these days since the U.S. Food and Drug Administration declared in 2006 that barley is a good choice to combat cholesterol and heart disease. Bakers may now use a label similar to the following on barley products:

Soluble fiber from foods such as (barley product), as part of a diet low in saturated fat and cholesterol, may reduce the risk of heart disease. A serving of (product) supplies (level specified) grams of the soluble fiber necessary per day to have this effect.

The FDA decision has led to a resurgence in interest for food barley, a somewhat ironic development in view of the fact

Key Points

- Barley is gaining interest as a food crop.
- OSU researchers probe markets and varieties for food barley.
- Health labeling approved by FDA boosts food barley interest.

the grain has been eaten since prehistoric times. However, it fell from favor perhaps due to the association consumers made between poverty and barley. Scottish peasants, for example, ate barley porridge three times a day, said Patrick Hayes, OSU barley breeding and products researcher.

Interest in barley as food was triggered not only by the FDA health nod, but also by a need for producers to find new markets for the grain. These factors played a roll in strengthening the barley variety research program led by Hayes.

Malting focus

"Most of our research has focused on malting varieties to date, but now we are looking at the potential for varieties that do well as food and in the organic market for the Willamette Valley," Hayes said. "Our first food variety release will be a six-row barley."

What makes the beta-glucan in barley so special for food is that it is a source for soluble dietary fiber, he noted.

"Barley is a rich source of both types of fiber, soluble and insoluble," he said. "Researchers have identified

BARLEY BREAD: Oregon State University cereal scientist Andrew Ross proudly displays just-baked barley baguettes during an OSU field day.

beta-glucan as the primary component of barley that is responsible for lowering cholesterol."

Ross, who heads up OSU's kitchen to test new varieties for baking quality, wore a white baker's jacket as he displayed his warm baguettes. "We are seeing increasing discussion in the market regarding barley flour," he said. "I believe this is a market with potential."

Still, growers remain mostly



in a watch-and-see mode as they closely monitor OSU's food barley work. Much remains to be studied, including the seasonal parameters for growing food barley in the Pacific Northwest, said Hayes.

"One trait that all food barley varieties adapted to the Pacific Northwest have in common is spring habitat," he said. "This

means they do not have sufficient cold tolerance for fall-sowing in Oregon, Idaho and Washington. There are compelling reasons, including water-use efficiency and high yield, for growing winter barley rather than spring barley."

■ See www.barleyworld.org for more on the OSU program.

Biosolids used for fertilizer probed as lower-cost option

By T.J. BURNHAM

USING biosolids as fertilizer, a practice of some Oregon grass seed producers, could provide a way to cut nutrient costs for wheat producers.

"Most of the biosolids from Seattle are currently used on wheat in eastern Washington," reports Dan Sullivan, an Oregon State University nutrient management associate professor. "Increased fertilizer costs have increased grower interest in biosolids."

But Willamette Valley producers want to know more about plant-available nitrogen from biosolids under local conditions in order to determine profitable biosolids application rates, he says.

"We have different products and opportunities coming along all of the time in use of biosolids as fertilizer on the farm," Sullivan notes. "This is a great product for providing sulfur, phosphorus and micro-nutrients as a supplement to other fertilizers."

While application of biosolids using conventional fertilizer rigs has been performed successfully in turf, he says the product can become dusty if spilled on.

Most biosolids available to growers in Oregon wastewater treatment facilities are Class B and require Oregon Department of Environmental Quality site permits for application, advises Sullivan.

Sullivan used Class A heat-

Key Points

- Biosolid nutrition of soils may reduce fertilizer input costs.
- OSU is probing the best biosolid application.
- Biosolids will probably alter soil pH levels.

dried solids in OSU studies, which made small-plot research easier. He worked with a commercial product, Sound Gro, and other biosolids not requiring a site permit and meeting USDA requirements for product quality.

Earlier studies by others show the N value of Class A and Class B is similar when applied to the surface for perennial grass forages, he says.

Timing tale

Sullivan's tests probe not only biosolid N in winter wheat, but also grain yield response to timing of biosolids application (fall, early spring or late spring).

Preliminary observations show that "based on preliminary visual observation, the N fertilizer value of early-spring applied biosolids was about 50%," he reports.

While these are early results, Sullivan's study will continue as he checks out combinations of fall-applied biosolids plus spring

BIOSOLIDS BOOSTER:

Oregon State University nutrient management specialist Dan Sullivan's plots test the parameters for using biosolids as fertilizer.

application of urea fertilizer.

Information to remember when trying biosolids on fields is that the applications may affect soil pH, sulfur provided by the product will become available quickly and additional S will be released slowly.

For those trying biosolid fertilizer, it's advisable to contact your local Extension representative to discuss the option first. Additionally, there's help in an OSU publication (No. 508) called "Fertilizing With Biosolids," which can be obtained through extension.oregonstate.edu and clicking on the publications icon.

The publication provides a handy chart of approximate first-year fertilizer replacement values for anaerobically digested biosolids.

Also, commercial help is offered on the Sound Gro Web site at www.co.pierce.wa.us; type "Sound Gro" in the search box.

Sullivan can be reached by e-mail at dan.sullivan@oregonstate.edu or by phone at 541-737-5715.



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