



John O'Connell/Capital Press
Barley is harvested in Soda Springs, Idaho, on Aug. 20. The Idaho Barley Commission has received \$382,088 in research funding requests for 2016.

Idaho Barley Commission mulls research requests

By SEAN ELLIS
Capital Press

BOISE — Idaho Barley Commission members are excited about the quality of research funding requests they've received for fiscal year 2016.

Finding enough money to fund them all could be a challenge.

"We have an excellent group of proposals. It's the best I've seen during my time on the commission," said IBC member Pat Purdy, who is serving his third year on the commission.

The commission, which funded \$322,507 worth of research proposals in fiscal 2015, received a total of \$382,088 in research funding requests for 2016.

But because of significant losses due to record August rains, the commission will have less money this year.

As of Feb. 13, with more than four months left in fiscal 2015, the commission was down more than \$90,000 in Idaho barley checkoff receipts compared with the same time last year.

"We have to balance the reality of reduced income with a lot of great research proposals," Purdy said.

Commissioners will decide which projects to fund during a March conference call.

The IBC's current budget is \$681,000 and the commission is going to be careful about dipping into its comparatively small reserve of \$358,000, said IBC Administrator Kelly Olson.

Eight of the 12 research funding requests are for ongoing projects. Three of the four new projects are proposed by Chris Rogers, University of Idaho's new barley agronomist, and each of them are in the area of fertility research.

Fertility and agronomic re-

search is what the commission had in mind when it agreed to fund a \$1 million research endowment at UI that helps fund Rogers' position, Olson said.

"We think we need to have a much better understanding of cost-effective, sustainable fertility practices," she said.

Two of Rogers' proposals deal with developing new soil test methods for determining recommendations for nitrogen and phosphorous applications.

Phosphorous and nitrogen are barley's two main fertility costs and the soil test methodology used by Idaho growers is more than a decade old, Olson said.

Purdy said that technical data has not been applied to the malting barley varieties and cropping rotations being used today.

"It's very important we get those recommendations updated," he said.

Rogers has asked for \$22,370 for the nitrogen study and \$15,140 for the phosphorous study.

He has also asked for \$10,420 to study how dryland barley grain yields are affected by nitrogen source rate and timing.

The other new proposal is by UI cropping systems agronomist Xi Liang, who wants to study the effects of barley yellow dwarf virus on water and nitrogen use in barley.

Olson said UI has its deepest bench of cereal scientists in decades and the commission received proposals from all of them.

"The challenge for us is to have the resources to fund the (research)," she said.

IBC member Timothy Pella said the commission will do its best to fund as much of the research as possible. "There are some great projects and I think growers will see some real value from them."

Fruit companies join forces

By DAN WHEAT
Capital Press

WAPATO, Wash. — Valley Fruit III of Wapato and Larson Fruit Co. of Selah have formed a new company, Legacy Fruit Packers, to build a \$17 million apple-packing plant in Wapato.

The collaboration has been in the works a year with Legacy commencing business on Jan. 1, said Dean Gardner, CEO of all three companies.

"This is two viable warehouses agreeing to merge their operations to have enough capital to build a new packing plant and remain competitive," Gardner said.

Valley and Larson will maintain separate orchard operations but will pack apples together in Wapato and pears in Selah. Together with Olympic Fruit, Moxee, they

already own and sell their fruit through Sage Fruit Co., Yakima.

The new plant is a renovation of three Valley Fruit warehouses in Wapato, turning them into one and replacing pre-size, tray-pack and bag lines with one commit-to-pack apple line. It will have 72 packing drops that will be able to do trays, bags, pouches and all types of packaging available today, Gardner said.

Renovation of the 85,000-square-foot facility is just wrapping up and United Sales, Yakima, will begin installing the new line March 1, he said. It will feature a high-tech sizer and defect sorter made by Greefa in The Netherlands, he said. It will be the largest Greefa installation in the U.S., he said.

It will be operational for the 2015 crop on Sept. 1 and

will have a 500,000-bin capacity if running two shifts. "We will run at half that, so we will have room to grow," Gardner said.

Larson and Valley both needed new packing lines for productivity and quality improvements to remain competitive, Garner said. A minimum of 200,000 bins of apples were needed for packing to justify costs, he said. Neither company had that volume alone but together will pack 250,000 bins or 4.5 million, 40-pound boxes of apples, he said.

Legacy also will pack 16,000 bins of pears and some apples at what has been the Larson warehouse in Selah.

Joint packing allows for joint management and "allowed us to attract some very skilled employees from the outside," Gardner said.

While the consolidation was planned before a huge 2014 apple crop was harvested and prices fell, Gardner said it will be very difficult for small- to medium-size packers to remain competitive in the long term. Cost of labor, land, orchard development and packing all requires "pretty significant financial resources to stay in the game," he said.

Larson and Valley will package cherries separately, he said.

Larson is a third-generation company, owned by Barbara Walkenhauer and Keith Larson, that started as a packing shed in Selah in the mid-1930s. Valley is a third-generation company that started with orchards and moved into packing in the 1990s. It is owned by Peter Verbrugge, John Verbrugge, Mary Jacky and Carol Buckingham.

Novel breeding approach yields new Russet Burbank lines

By JOHN O'CONNELL
Capital Press

Though Russet Burbank remains king of potato varieties 135 years after it was first developed, it's functionally sterile and has seldom been used in breeding.

Canadian researcher Danielle J. Donnelly is changing that with an unusual approach to breeding spuds from only one parent, called somaclonal selection.

Donnelly, an associate professor of plant science with McGill University in Quebec, started the project in 2005 and hopes to have her first four improved Russet Burbank lines released by this time next year. Her advanced lines are in the final year of variety trials, and she's expanding seed in preparation for their release in the U.S. and Canada.

Potato seed is commonly propagated from tissue cultures — made by exposing stem cuttings to a growth medium — that produce identical clones. Donnelly starts her plantlets from a small piece of a Russet Burbank tuber, exposed to a medium that triggers sprout growth from the plant's natural inclination to heal wounded tissue. Plantlets originating from rapidly growing wounded tissue, however, can vary significantly from the parent.

In addition to greater yield, lower sugar levels and improved storage, Donnelly's advanced lines were bred to pack more nutrients and antioxidants.

"There has never been enough emphasis on selecting potatoes for nutritional quality," Donnelly said.

She said two of her lines yielded surprisingly strong compared with standard Russet Burbank, and if the results are the same in this season's trials "we'll have a lot to advertise."

Donnelly and her graduate students first investigated the type of mutation that occurred in Burbank to form Russet Burbank in 2008, demonstrating the most popular potato resulted from a single parent rather than a cross. Three years later, they won the Potato Association of America's outstanding paper when they offered the "first description of a new technique for breeding (potatoes) in many years."



Courtesy of McGill University

Danielle Donnelly, an associate professor of plant science with McGill University in Quebec, Canada, examines a plantlet resulting from one of four advanced lines she's developed from Russet Burbank, which is a sterile variety.

In 2014, they collaborated with a nutritionist and published findings in the American Journal of Potato Research about using the method to enhance nutrition.

North Carolina State University potato and sweet potato breeder Craig Yencho believes conventional breeding remains the most effec-

tive way to incorporate desirable traits of parents, without genetic modification. With the wide range of germplasm and the broad availability of genetic markers to assist with selections, he doubts subtle differences achieved through somaclonal variation would make for an efficient breeding method.

"I think you produce better genotypes in the long run using traditional breeding," Yencho said.

But he acknowledges the industry may be interested in improving on already proven varieties.

Donnelly believes the best application for the technology is to improve on sterile varieties, or to give advanced lines in development an added "boost."

Yencho's colleague at North Carolina State, crop science professor Ron Qu, has used somaclonal variation to develop a new turf grass cultivar from St. Augustine grass. Qu said he and his colleagues are in the process of attempting to commercialize the new cultivar, which is soft with small and compact leaves.

"People have used tissue culture to identify some variations," Qu explained. "They don't know whether it's a gene mutation or not, so they call it a different term, which is somaclonal variation."

Beef, pork groups critical of dietary recommendations

By CAROL RYAN DUMAS
Capital Press

Organizations representing beef and pork producers are protesting proposed dietary recommendations that advise Americans to reduce their intake of red and processed meats.

That recommendation was included in a nearly 600-page report released Feb. 19 by the 2015 Dietary Guidelines Advisory Committee.

The report will be used by USDA and the Department of Health and Human Services to update the federal government's Dietary Guidelines for Americans, which influence consumer eating patterns and medical recommendations and form the basis of federal nutrition programs, including school lunches.

"The report is very inconsistent and misleading," said Shaylene McNeill, a registered dietitian and executive director of human nutrition for the National Cattlemen's Beef Association.

There are plenty of studies showing the beneficial role of beef in a healthy diet, and there's no reason for Americans to reduce their intake, she said.

Beef fits into a healthy dietary pattern and protects Americans from nutrient shortfalls. Every 3-ounce serving of beef delivers 10 essential nutrients and only 150 calories, she said.

"When it comes to nutrient enrichments, beef is unparalleled," she said.

McNeill said recommendations to cut back on red meat since the 1970s have had unintended consequences. Americans replaced those calories with refined grains and sugar,

and obesity rates rose significantly, she said.

She said research shows that high-quality protein helps satisfy appetites longer so people stick to a healthy diet, and people enjoy eating beef.

The 2015 guidelines recommend 12.5 ounces of red meat per week, and Americans are consuming an average of 11 ounces. That would suggest a needed increase in consumption, she said.

"It makes absolutely no sense to recommend lowering intake," she said.

National Pork Producers Council said the advisory committee has taken the wrong approach and was more interested in addressing what's trendy among "foodies" rather than providing science-based advice.



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