

Bureau of Reclamation

A proposed study would cost \$5.5 million and look at different options for increasing the Treasure Valley water supply, including raising Arrowrock Dam.

Bureau of Reclamation backs Boise River system water storage study

By SEAN ELLIS
Capital Press

BOISE — U.S. Bureau of Reclamation officials hope to conduct a major feasibility study that would look at several options for increasing water storage capacity on the Boise River system.

"We are interested in doing a feasibility study," Lorri Lee, the bureau's Pacific Northwest regional director, told Idaho Water Resource Board members Jan. 23.

The study would cost \$5.5 million and look at different options for increasing the Treasure Valley water supply, including raising Arrowrock Dam 10 feet, Anderson Ranch Dam 6 feet or the Lucky Peak Dam pool 4 feet.

Roland Springer, who manages the bureau's Snake River area office, told Capital Press the study could begin as soon as this year and the agency is already doing some hydrologic analysis.

"We would love to get into it this year," he said.

The proposal comes after U.S. Army Corps of Engineers officials told the water board in May that the benefits of raising Arrowrock Dam do not equal the costs.

A \$3.5 million corps study that was half funded by the water board determined raising Arrowrock by 30-70 feet was the best option for solving water supply and flood risk problems in the Boise River system. But the benefits must at least match the total cost for Congress to approve the project.

That study has been discontinued.

Since May, officials from the bureau, corps and Idaho Department of Water Resources have been meeting to

determine if there are other options for increasing water supply capacity on the Boise River system, which provides water for about 330,000 irrigated acres of farmland in the Treasure Valley.

For the proposed study to happen, non-federal partners have to split the cost.

Lee said her agency would continue to seek cost-share partners and asked the board to help look for willing partners.

When the water board found out the corps' proposed Arrowrock project was not feasible, its members asked the corps and reclamation to work together to see if they had overlapping capabilities to work on possible alternative projects, said Cynthia Bridge Clark, IDWR's water project section manager.

The corps' primary focus is on mitigating flood risk while the bureau has the authority to do feasibility studies for water supply storage.

Clark said it makes sense to have the bureau lead a water storage feasibility study because it evaluates the benefits of storage projects differently than the corps does.

"The bureau may interpret those benefits differently and that could allow us to find a more viable project more easily for water supply purposes than we could with the corps," she said.

She said the water board is still interested in determining whether increased storage capacity is a viable way to meet future water supply demand in the Treasure Valley.

"So we'll maintain this working relationship with the bureau to see if we can work with them to identify projects," Clark said.

Cherry growers hear about new varieties

By DAN WHEAT
Capital Press

WENATCHEE, Wash. — Pacific Northwest cherry growers are being encouraged to plant new varieties not only for better cherries but to keep up with the buzz surrounding new apple varieties.

The pearl series, four cherry varieties released by Cornell University, were highlighted at the Northcentral Washington Stone Fruit Day on Jan. 17 by Oregon State University Extension horticulture professor Lynn Long of The Dalles.

B.J. Thurlby, president of Northwest Cherry Growers and the Washington State Fruit Commission in Yakima, said when he was promoting cherries to retailers last year, the first thing they all asked was his favorite new apple variety.

"I wanted to talk cherries but they wanted to talk apples," he said.

Thurlby encouraged growers to check out the pearl series and said he likes Black Pearl.

"Retailers get excited about something new," he said.

James Michael, domestic promotions director of Northwest Cherry Growers, said early cherries have the best market opportunity because there's less competition from other produce early in the season.

Long said the new cherry varieties are all aimed toward producing fruit that is flavorful, large, firm, rain-crack resistant and ships well.

PNW growers seem most interest in Black Pearl because

it is an early variety, but Ebony Pearl, which matures at the same time as Bing, is a better cherry, Long said.

Black Pearl is a fairly recent release developed for West Coast growers and export markets. It ripens seven days before Bing, is 70 percent 9 row and larger and is low in cracking and pitting, he said.

Contrary to older early varieties such as Tieton, Black Pearl has good taste, he said, is a heavy producer and is "one we need to think about."

"Ebony Pearl is probably the best tasting of the Pearl varieties. It has excellent strong flavor but with that tang that Burgundy Pearl lacks," Long said.

Ebony is 94 percent 9 row and larger and has good firmness and low rain cracking, he said.

"If you are looking for something in Bing timing that's larger than Bing and better in cracking resistance, Ebony might be something you want to consider," he said.

Radiance Pearl is the fourth of the pearl series.

Long also talked about several of the Royal cherries of Zaiger Genetics of Modesto, Calif.

Royal Hazel is an early cherry that requires only 500 chilling hours during winter and early spring bud development versus 1,000 to 1,500 chilling hours for most cherries grown in Washington, Long said. First bloom is seven days before Bing.

Industry tackles herbicide resistance worries

By MATTHEW WEAVER
Capital Press

PASCO, Wash. — Pacific Northwest agriculture industry members say they want to figure out how best to stop the growing number of weeds developing resistance to the herbicides designed to get rid of them.

A listening session in Pasco, Wash., was the third of seven discussions held across the country.

The listening sessions are in response to concerns over increasingly abundant herbicide resistant weeds, said Phil Stahlman, weed scientist at Kansas State University, representing the Weed Science Society of America, which hosted the meeting.

"With all the efforts put in to herbicide resistance management over the years, we are still losing the battle," Stahlman said.

Resistance can build in weeds if the same herbicide is used on them year after year.

Greg Dean, manager of agricultural services for the Amalgamated Sugar Co., said problems are still relatively new, but require a proactive approach.

Resistance in sugar beets will be increased by grower apathy, Dean said. He wonders how to go about changing that mindset.

"They know it's out there, they know it's coming, but they're not doing anything active about it," he said. "It's

just grower stewardship — getting them to realize there are no solutions coming up behind them. As they lose this technology, there's nothing behind it."

Changes in crop rotations are necessary to increase the tools available, said Bruce Palmer, research agronomist for the McGregor Co.

"The problem is a lot of these crops are not profitable, but those are the only tools we've got," he said.

Cal Barta, with Ag Enterprise Supply Inc., said one of the biggest challenges is timing applications. Applying chemicals in the fall instead of the spring will be key, even though farmers are typically ready to be done for the year at that time, Barta said.

"There are only so many spray days, there's only so many custom applicators," he said.

Washington State University weed scientist Ian Burke said he sees a need for similar meetings aimed at specific crops. Those meetings will likely include a list of problem weeds and ones to keep an eye out for, he said.

Recommendations for growers included a willingness to experiment, using or increasing crop rotations and considering long-term impacts beyond an immediate need.

A final report from all seven sessions is slated to be made available in the summer, Stahlman said.



Matthew Weaver/Capital Press

Anthony Riassetto, Minerva Garnica and Bo Li of Ag World Support Systems in Moses Lake, Wash., race to peel the most potatoes during the annual potato peeling contest Jan. 24 at the Washington-Oregon Potato Conference in Kennewick, Wash.

Peeling contest kicks off potato conference

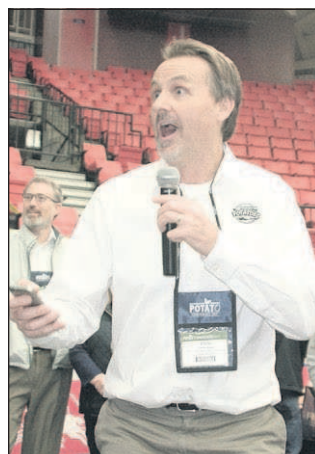
Winning group credits victory to teamwork

By MATTHEW WEAVER
Capital Press

KENNEWICK, Wash. — It ain't really a competition until there's blood on the spuds.

Those competing in the annual Potato Peel-Off at the Washington-Oregon Potato Conference gave more than their fair share. But the four teams competing in the annual event didn't let a few nicks and cuts slow them down. They just powered through to the end, then wrapped their fingers in bandages in hopes of advancing to the next round.

Minerva Garnica, of winning team Ag World Sup-



Matthew Weaver/Capital Press

port Systems in Moses Lake, Wash., has competed all three years. Her team emerged vic-

torious the first year of the competition, too.

What keeps Garnica coming back? It's not exactly by choice.

"We get signed up for it," she said with a laugh. "It's fun."

Garnica and teammates Anthony Riassetto and Bo Li didn't practice for the event. Garnica chalked up their victory to "working as a team."

Any advice for future would-be peelers?

"Be careful not to cut yourself," she said.

Mark Stalham of NIAB CUF in Cambridge, England, didn't specifically make the trip to compete. He's presenting at the conference. But he saw a good opportunity to get new graduate student Simon Smart involved, too. Warden, Wash., farmer Eli Wollman volunteered last-minute to round out their team.

"We were actually going to do it by Skype, because we've got a professional peeler back home, but they wouldn't allow us to do that," Stalham said. "It brings fun to the event. It's a bit of competition, everybody enjoys it."

Stalham admitted his team fared poorly.

"We went for quality rather than speed, and clearly, the name of the game is to get the potatoes peeled," he said.

Fans of the event need to sign up next year if they want to see it continue, said Ryan Holterhoff, director of marketing and industry affairs for the Washington State Potato Commission. Two teams this year were comprised of commission board members and staff.

"We'd like to see nine, 12 teams signed up," Holterhoff said. "We think it's a fun thing to do, just to get people involved in the trade show."

Researchers program drone to hunt PVY in potatoes

By JOHN O'CONNELL
Capital Press

POCATELLO, Idaho — Researchers say they've pinpointed individual spud plants infected with potato virus Y with 90 percent accuracy by using hyperspectral cameras mounted on drones.

Donna Delparte, an assistant professor of geosciences at Idaho State University, and graduate student Mike Griffel have successfully tested a "computer-learning" algorithm they developed to tease out PVY from spectral imaging "background noise," such as field variability and unrelated crop stress.

"Our premise was to look at all of these wavelengths of light the human eye can't see and look for differences between healthy plants and plants infected with PVY," Griffel said, adding their images had leaf-scale resolution.

Griffel said the project detected disease well before potato crops reached the pro-closure stage, far earlier than people can spot symptoms of PVY by scouting fields.

To develop their algorithm, they compiled crop data in fields over three seasons, ending in 2016. The researchers first analyzed fields from the ground with a high-tech cam-



John O'Connell/Capital Press

era capable of recording 100 bands of the light spectrum. After studying the images, they selected the 15 most useful bands for identifying PVY based on its unique light reflection. Delparte programmed more basic hyperspectral cameras mounted on drones to detect those bands while surveying the same potato fields from the air.

They developed the algorithm based on common spectral signatures among sick plants. Their software "learned" to ignore field vari-

ability based on comparisons of sick plant signatures with signatures reflected from adjacent healthy plants.

PVY, vectored by aphids, is a major disease affecting potato seed growers and is the primary target of Idaho's annual winter grow-out in Hawaii, which evaluates the health of certified seed lots. The researchers shared their findings with seed growers during the Idaho Seed Potato Growers seminar Jan. 17 in Pocatello.

"We feel like we're right

on the cusp of taking this to a really fast, efficient way of detecting the virus," Delparte said.

The first three years of research were funded with grants from USDA and the Idaho Global Entrepreneurial Mission. Delparte said she's seeking additional funding from seed growers and industry sources to leverage more grants and continue the work, delving into other diseases and crops.

"Our hope is in another round of research and testing, we can tighten that work flow so we get faster and faster and get results back quickly to the grower," Delparte said.

Griffel envisions the technology will eventually enable drones to text GPS coordinates of sick plants to field agronomists, or direct drones to spray and kill sick plants upon detection.

"I think this type of data would give Idaho a marketing bump," Griffel said.

Griffel said cameras commonly mounted on drones by companies providing data for agricultural producers and other industries aren't sensitive enough to pick up PVY.

However, he said his research findings could aid in development of simpler cameras, recording only bands of importance to PVY.