

Boise Project reduces irrigation allotment

By BRAD CARLSON
Capital Press

The Boise Project Board of Control has set its irrigation allotment at 1.2 acre-feet, down 25% from last year.

Officials cited a second consecutive year of drought and below-normal reservoir volume. Snowpack in the Boise River Basin was 70% of the 30-year median as of April 13, the Natural Resources Conservation Service reported.

Water delivery is set to start no earlier than April 22.

Recent mountain snow helps, “but we need a lot more to have a bigger impact on what we have in our account,” manager Bob Carter said April 13. From January through March, basin precipitation was its third-lowest ever.

“We’re expecting it right now to be a shorter season,” he said.

Carter said the shutoff date will depend on usage, temperature and other variables. Shutoff last year was in mid-September, about three weeks early.

He said this year’s conditions are similar to those of 1992, when shutoff was in early August.

“We’ve made it through before, and hopefully Mother Nature treats us better this year” in fall-winter snow accumulation, Carter said.

The current allotment is “all we have in hand” and could increase if runoff exceeds expectations, he said.

The Boise Project furnishes water to five irrigation districts and 167,000 acres combined in southwest Idaho and southeast Oregon. Its facilities include five storage dams, and the New York and Mora canals among 1,500 miles of canals and drains.

Last year’s allotment was 1.6 acre-feet. Dave Reynolds, a Kuna farmer who chairs the Boise Project governing board, said irrigators will start using stored, allocated water “right out of the gate.”

Last year, streamflow covered demand until a June 10 switch to allocated water.

Reynolds said Boise Project irrigators in 2020 used only river water until June 25 before tapping an allotment of 2.75 acre-feet. In 2019, they irrigated from the river until July 3 before using an allotment of 2.7 acre-feet.

As for 2022, “it’s ugly,” he said.

“There is quite a lot of grain this year because guys are scared of the unknown and the price is pretty good,” Reynolds said. “You also have urbanization that increases rapidly all the time.”

Reynolds said that at his family’s 2,000-acre farm, 120 acres were planted in a cover crop “that maybe we irrigate once.” Some 250 acres were prepped, bedded and fertilized last fall only to go unplanted.

Changes on the rest of the farm aim to make best use of available water.

Already for farmers, “it’s been a very stressful year,” said Reynolds, who is experiencing his eighth drought in more than 30 years.

“You don’t know what to do, and companies are depending on you to grow their stuff,” he said.

Ryan Hedrick, U.S. Bureau of Reclamation hydrologist and Middle Snake Field Office water operations lead, said 1,000 cubic feet per second of water was slated April 15 to move through the previously dry New York Canal for charge-up and inspection purposes.

That occurred last year March 22.

Urbanization’s impacts on water supply can include high demand throughout irrigation season.

Nampa & Meridian Irrigation District Superintendent Greg Curtis said conservation can save supply and extend the season, in contrast to a common misconception that unused water is lost.

New NWREC director pioneers 21st century pest management

By GEORGE PLAIVEN
Capital Press

AURORA, Ore. — Surendra Dara didn’t envision a career in agriculture when he started college in his native India.

“Most people (there) go into agriculture because they couldn’t get into medical school. I was no different,” Dara said.

Following in the footsteps of his brother, who became a plant physiologist, Dara sought to carve his own niche in the field. He took an interest in how microorganisms can be used to control agricultural pests, as opposed to chemical products.

Dara was hired in January by Oregon State University as station director of the North Willamette Research and Extension Center, where scientists are constantly experimenting with new ways to grow the region’s crops — everything from hazelnuts to blueberries to Christmas trees.

“I’m very excited because of the kind of impact this station has, and how I can be a part of it,” he said.

NWREC is a 160-acre research farm 20 miles south of Portland. The station’s researchers work with farmers who bring in 40% of the state’s \$5.7 billion in agricultural sales.

Before coming to Oregon, Dara spent 13 years as an entomologist with the University of California Cooperative Extension



George Plaven/Capital Press

Surendra Dara was hired by Oregon State University in January as station director for the North Willamette Research and Extension Center.

in San Luis Obispo, specializing in strawberries and other small fruits and vegetables.

Dara came to the U.S. for the first time in 1992, earning his doctorate in entomology from Virginia Tech. From there, he left to work for the International Institute of Tropical Agriculture in Benin, a small country in West Africa.

It was there Dara had his first breakthrough with microbes. His team introduced fungal isolates from Brazil to control an invasive mite that was damaging cassava, a staple food commonly used to make tapioca.

The project proved successful, Dara said, and the pathogen is now established from Nigeria to the Ivory Coast, helping farmers to control the pernicious pest.

Dara returned to the U.S. in

2003, working as a postdoctoral researcher at the University of Houston and, later, UC Cooperative Extension.

At NWREC, he will guide a team of 12 research and extension faculty, providing critical data for farms to improve their production and efficiency.

But operating an agricultural research station is about more than just communicating with growers, Dara said. It is also about public outreach, and explaining to consumers why they should care how their food is produced.

“If you ask an average citizen anywhere, very few people know what an agricultural research station does,” Dara explained. “We play a major role in providing solutions that help improve the quality of food, the affordabil-

ity of food and protecting the environment.”

In addition to hosting field days for growers, Dara said NWREC plans to host its first Ag Innovations Conference Sept. 22-23, coinciding with the station’s annual harvest dinner.

Dara said he organized similar conferences in California that were well received by the public.

“This year’s theme is sustainable agriculture,” he said. “We have limited natural resources, but the population is growing everyday and there is a need for more food.”

For Dara, the focus on sustainability has led him to pioneer a new approach to integrated pest management. In the past, he said IPM models have prioritized ecology over economics, while farmers have prioritized economics over ecology.

Dara’s model, which he published in 2019, calls for a greater recognition of agriculture as a business. Not only do farmers need to make money, but the food they produce must be affordable to feed the growing population, he said.

“The public wants safe food. There is no question we have to ensure that,” Dara said. “The old model was meant to ensure that, but it doesn’t. With the new model, farmers like it because someone is talking about them. We are also talking about social equity.”

Race to robotic apple harvest in ‘pivotal year’

By SIERRA DAWN McCLAIN
Capital Press

In Central Washington this fall, robots will pick apples in limited-scale trials in the ongoing race to commercialize a robotic apple harvester.

U.S. apple growers have been pining for robotic harvesters for years as the industry faces a shrinking supply of pickers and rising labor costs. Experts estimate labor represents 60% of an apple’s cost, and two-thirds of that comes from harvest.

A few major companies are in the robotic arms race. Big names include Fresh Fruit Robotics, Tevel Aerobotics Technologies, Advanced Farm Technologies and Abundant Robots.

Industry leaders predict widescale commercialization is still three to five years away, but they say the technology is improving.

“This could be a pivotal year, quite frankly. If indeed some of these companies can make strides — and I have no doubt they will — then we will be in a very different situation going into next year,” said Ines Hanrahan, executive director of Washington Tree Fruit Research Commission, which is supporting the trials.

All four companies plan to offer robots via service or lease models — charging per bin picked or per month leased — rather than selling robots.

One player is Israel-based Fresh Fruit Robotics, or FFRobotics. The company, which has been working with Washington growers for several



Tevel Aerobotics Technologies

A drone created by Tevel Aerobotics Technologies picks an apple.

years, will run a limited-scale commercial harvest at a grower-packer operation this August.

The FFRobotics machine has 12 arms, six per side, which can adjust to row widths. Prongs on the end of each arm pick apples, which are gently released onto conveyors that deposit them into a bin.

An earlier-iteration robot plucked too many fruiting spurs along with apples, but Avi Kahani, CEO and president of FFRobotics, said the company has improved the picking technique.

“In my opinion, (FFRobotics) basically solved that problem,” said Hanrahan, of the commission.

FFRobotics still needs to improve the robot’s software and hardware, but the CEO is optimistic.

“I don’t see any major issues at this point in time,” Kahani said. “I think the machine is ready for commercial use.”

If trials go well, Kahani predicts the company will expand

its offering to the market in 2023 and may later offer the robot as a four-season machine that can also thin and prune branches.

Another company, also based in Israel, is called Tevel Aerobotics Technologies.

Tevel employs flying autonomous robots, or drones, which use vision algorithms to detect ripe fruit that grippers then pick.

“The drones pick fruits individually, like a bird,” said Hanrahan.

Writing to the Capital Press from Berlin, Tevel’s founder and CEO, Yaniv Maor, said he is currently demonstrating his system to European growers. This fall, Tevel will expand into the U.S., trialing drones in Washington orchards.

Hanrahan said Tevel appears to be “on the fast track” to commercialization.

A third player is California-based Advanced Farm Technologies, run by young tech entrepreneurs and backed financially by Kubota, Yamaha Motors and other investors.

Advanced Farm Technologies recently developed a robotic strawberry harvester and is moving into apples.

Fall 2021, the company’s developers visited Washington to see growers’ needs and test equipment.

“These guys are very smart and they’re approaching it quite well,” said Jeff Cleveringa, who is on the research commission and in charge of research and development at Starr Ranch Growers, a grower-packer-shipper.

Peter Ferguson, Advanced Farm Technologies’ director of business development, said the new robot will look similar to the strawberry harvester but tailored to apples. Washington trials will begin Aug. 1.

The final company is Abundant Robotics, founded in 2016 in Hayward, Calif.

Pre-COVID, Abundant appeared to be leading the race to commercialization and had financial backing from major funders including Google Ventures.

In 2021, however, Abundant Robotics shut down. A memo said the company “was unable to develop the market traction necessary to support its business during the pandemic.”

In October, the firm Wavemaker Labs purchased Abundant’s IP and relaunched the brand under the new name Abundant Robots.

Buck Jordan, Wavemaker’s CEO, leads the newly resurrected Abundant Robots. The firm is planning a crowdfunding seed campaign and is re-designing the robots.

Snow prompts pollination worries among Washington tree fruit growers

By SIERRA DAWN McCLAIN
Capital Press

Tree fruit growers in Central Washington say they’re worried that the April snow storm pelting the region could limit or slow pollination.

Pollination is critical in the tree fruit industry. Cherries, pears and apples all rely on bees to help with pollination, according to Matthew Whiting, professor and plant physiologist at Washington State University, but bees rarely fly in high winds or weather below 55 degrees Fahrenheit.

Last week, high winds whipped the region, and since this weekend, the area has been caught in a storm accompanied by

low temperatures.

“The bees just aren’t flying,” said Whiting.

Todd Fryhover, president of the Washington Apple Commission, similarly expressed concern about the cold front affecting pollination.

“Specifically for apples, we’re being told most trees remain ‘pre-bloom’ and the snow should have little impact. However, the bigger picture is about the difficulties with pollination and cold weather — bees don’t work in the cold. So, the weather the next couple of weeks is when we’ll know more,” said Fryhover.

Tim Kovis, spokesman for Washington State Tree Fruit Association, agreed that “pollination has more

people concerned” than snow damage.

The specific impacts of the storms vary by micro-region.

In the south-central portion of the state, closer to the Tri-Cities, Kovis said blossoms are more mature — and therefore more vulnerable. According to Whiting, of WSU, snow can potentially saturate open flowers with too much moisture, rendering their pollen useless.

Farther north, or in higher-elevation foothills, trees are not as budded out.

Impacts also vary by crop. Cherry blossoms generally emerge earlier than pears, followed by apples, so growers say their cherry trees are at the highest risk.

Jason Matson, who grows cherries, pears and apples near Selah, in the south-central region, said he doesn’t feel consternation about low night temperatures. “It’s the cold daytime temperatures — that is what causes me to scratch my head,” he said.

Matson is using traditional industry techniques including wind machines and water to protect his blossoms at night. He will use heaters if the need arises.

“I’m cautiously optimistic that we’ll be OK,” he said. “It really depends on when this (cold spell) breaks so the bees can fly again.”

Farther north, in the Manson area, grower Jared England said it’s been unusual to see snow like this so late in the spring.

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