

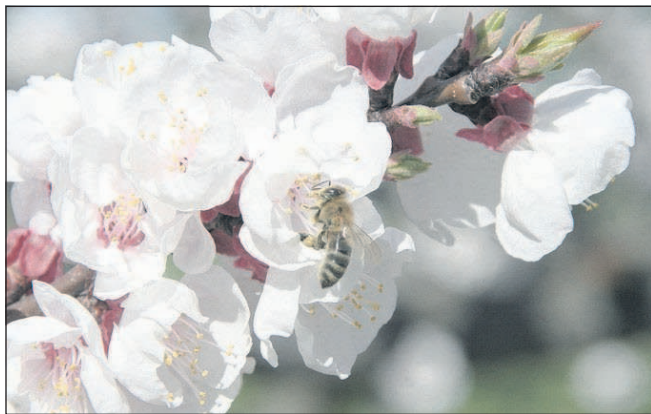
Pollen spray could replace honeybees

By DAN WHEAT
Capital Press

WENATCHEE, Wash. — Spray pollination may someday replace bees in orchards, withholding irrigation before cherry harvest doesn't do much and adding hand pruning to mechanical pruning every other year boosts yields.

That's what Matthew Whiting, Washington State University plant physiologist, told growers at the Northcentral Washington Stone Fruit Day in Wenatchee on Jan. 17.

Precision spray pollination would negate problems such as not having enough honeybees, distribution of pollen-borne viruses and insufficient pollen distribution,



Dan Wheat/Capital Press

A honeybee works apricot blossoms in an East Wenatchee, Wash., orchard, last March. Researchers are looking at replacing bees by spraying pollen.

Whiting said.

Pure pollen can be kept alive in a liquid state for two hours without loss of germin-

ability, he said.

"We are pursuing this further. We are using an electrostatic sprayer for 12 to 14

gallons per acre. Electrostatic because the (flower) stigma has a negative charge," he said.

For years, growers have debated whether withholding irrigation a week or two before harvest yields better cherries. Whiting said two years of studies led him to conclude "it's a much ado about nothing."

While recognizing there are many variables — including soil depth and type, genotype of the cultivar and rootstock and types of irrigation systems — Whiting set up trials withholding water from seven to 17 days before harvest and found no effect on bud density, bloom, firmness, cracking, size or quality.

Soil moisture dropped but trees showed no significant stress, he said.

The only potential benefit was a 2 percent increase in soluble solids, mostly sugar, which could be tasted but only with Lapins and not Chelans, he said. In one case, soluble solids increased 10 to 13 percent and firmness dropped about 6 percent, he said.

Mechanical pruning of planar or fruiting-wall style orchards saves labor and can save 20 percent or more in annual production costs and improve worker safety and efficiency, Whiting said.

Powered by tractors, mechanical pruners hedge the sides of trees and top them. There are more ragged cuts

and only half as much wood is removed so a good plan is to remove more wood by following mechanical pruning with hand pruning every other year, he said.

Mechanical pruning is 23 to 29 percent faster than hand pruning. Mechanical combined with hand pruning is 66 percent more efficient than hand pruning alone, he said.

Fruit weight is slightly smaller with mechanical pruning but yield is greater because more wood and more buds are left, he said.

Hand pruning cherry trees costs an estimated \$741 per acre versus \$168 for mechanical only and \$590 for a combination, he said.

Minimum wage hikes threaten small, medium cherry orchards

By DAN WHEAT
Capital Press

WENATCHEE, Wash. — Minimum wage increases over the next several years in Washington and Oregon threaten the survival of small to medium-size cherry growers, an Oregon State University economics professor says.

"It's very difficult to establish a high-density orchard at today's prices with the increased labor costs and make it profitable. Yes, it's scary," said Clark Seavert, of OSU in Corvallis. He spoke on the subject to hundreds of growers at Northcentral Washington Stone Fruit Day in Wenatchee on Jan. 17.

Washington's minimum wage jumped 16 percent from \$9.47 to \$11 per hour on Jan. 1 and reaches \$13.50 in 2020.

Oregon's "standard" minimum wage for the state's most populous counties outside metro Portland, increased 5 percent this year from \$9.75 to \$10.25 per hour and reaches \$13.50 in 2022. The wage in Oregon's 18 nonurban counties is \$10, and will increase to \$12.50 by 2022. The wage in the Portland metro area is \$11.25 and will increase to \$14.75 by 2022.

In Washington, that's \$1,000 more per acre in labor by 2020 which on a 200-acre cherry orchard is \$200,000 more per year and "that's huge," Seavert said.

If you figure annual 3 percent increases after 2020, it's an additional \$20,000 per acre for labor over 20 years, he said.

To stay competitive in short labor markets, growers will be forced to give the same



Clark Seavert



Dan Wheat/Capital Press

Ana Capi picks Rainier cherries in Mike Prey's Orondo, Wash., orchard in June 2015. Increasing labor costs will squeeze small growers, an agricultural economist says.

rate increases to all workers, including those on piece rate or making more than minimum wage for their positions, Seavert said.

Small to medium-size growers will be hit harder than large growers, he said. Apple and pear growers will be impacted as well, but he hasn't analyzed that yet, he said.

It means growers will be driven into mechanization faster. But while Michigan tart cherries are mostly picked by shaker machine, no such device has been adequately developed for sweet cherries, Seavert said.

Ultra-high density plantings of higher-return, newer

varieties and aimed at early high yield will make a profit but regular high-density and low-density orchards most likely won't, he said. There still are growers planting low-density orchards, he said.

Seavert has developed new online models to help growers analyze capital investments, profitability, leases, and climate change. They should be fully operational in a few months, at www.agbizlogic.com, to help growers next winter, he said. Growers will be able to choose among up to 14 weather variables to run scenarios on how climate change could impact their returns, he said.

Lynn Long, OSU Extension horticulture professor in The Dalles, told growers pedestrian orchards can help counter rising labor costs and labor shortages.

Trees are kept short so pruning and picking can be done from the ground without ladders or platforms. The drawback is losing several vertical feet of growing space.

But keeping pickers on the ground increases productivity from 100 to 170 pounds per hour, Long said. A grower in The Dalles cut his labor force in half by using a pedestrian orchard, he said. Others have said their picking productivity increased three times, he said.



Dan Wheat/Capital Press

A crew picks apples from a Bandit Xpress in a Stemilt AgServices orchard near Quincy, Wash., on Oct. 10. This simple platform does a better job than some higher-tech machines, its maker says.

Platforms better than conveyors, expert says

By DAN WHEAT
Capital Press

WENATCHEE, Wash. — Harvest-assist platforms are faster than conveyor systems for pickers who work quickly, a tree fruit specialist says.

Conveyor systems work well in Europe and Australia where pickers are slower, half the speed of typical Washington pickers, Karen Lewis, a Washington State University Extension tree fruit specialist, told Capital Press.

She also spoke via Skype at the Northcentral Washington Apple Day in Wenatchee on Jan. 19.

Pickers frequently have to adjust conveyor arms to keep them close to their work, and that slows Washington pickers who often pick two to four apples at a time, Lewis said.

Harvest-assist platforms, on which apple pickers pick into bags and dump their bags into bins, optimize their high proficiency, she said.

"We are the envy of the world with our predominately Mexican workforce. We pick an apple every two seconds and that's not just for a short period, but over time. No place picks like that in the world and we have the numbers to back this up," she said.

Abundant Robotics, Hayward, Calif., has been field testing a robotic picker it

says has picked one apple per second. It's aiming to have it ready for commercial use in the fall of 2018.

Conveyor systems have not been making new sales in Washington, Lewis said. It may be because they're not what growers want, she said.

Automated Ag Systems of Moses Lake, Wash., has sold 400 to 500 of its Bandit Xpress self-propelled harvest-assist platforms from 2013 through 2016, mostly in the West, owner, J.J. Dagorret, has said.

A New York grower, Rod Farrow, has said he's experienced a 30 percent increase in efficiency using the Bandit Xpress to replace ladders.

Farrow's pickers still use bags.

Lewis said pickers color pick better at night with LED lights on platforms because they can see color better than in the daylight.

She also spoke about mechanized pruning and blossom thinning at the educational meeting, which was attended by hundreds of growers and co-sponsored by WSU Extension and the Northcentral Washington Fieldmen's Association.

High-density planting of trees with narrow canopies where all the apples are within arm's reach is vital to mechanization, she said.

Bob Bailey crowned Pacific Northwest Cherry King

By DAN WHEAT
Capital Press

YAKIMA, Wash. — Bob Bailey, who grew his family farm into the largest cherry operation in Oregon, is the 73rd king of the Pacific Northwest cherry industry.

Bailey was chosen by past cherry kings for his industry service and was crowned at the annual Cherry Institute of Northwest Cherry Growers at the Yakima Convention Center on Jan. 20.

Bailey, 75, is chairman of the board of Orchard View Farms Inc. in The Dalles, Ore. His daughter, Brenda Thomas, is president, and his brother, Ken, is vice president.

His brother, Tom, was also involved in the family business and was cherry king in 2003. Their father, Don, was king in 1974. Don and Tom worked to patent View Fresh, modified atmosphere cherry packing in the 1990s.

"I feel really good about it because a lot of people I've worked with over the last 30 to 40 years in the industry are the people who honored me with this honor," Bob Bailey said.



Courtesy of Northwest Cherry Growers

Bob Bailey, right, 2017 Northwest Cherry King is congratulated by Dennis Jones, left, 2016 Cherry King, in Yakima, Wash., on Jan. 20.

Having enough workers is the biggest challenge the industry faces today, he said.

Orchard View Farms employs 100 people year-round and 1,000 during cherry harvest, which is done without hiring H-2A visa foreign guestworkers. Most of their seasonal help comes from California, he said.

The company has 2,500 acres of cherry orchards and packs about 1 million, 20-pound boxes of cherries

annually, making it the largest sweet cherry grower in Oregon and one of the largest in the nation.

The cherries are sold through The Oppenheimer Group in Vancouver, B.C.

Bailey was born in The Dalles on July 30, 1941, one of seven children of Don and Edwina Bailey. His grandparents, Walter and Mabel Bailey, started the farm in 1923.

With his siblings, Bob

Bailey was picking up peach tree prunings when he was 6 years old. His grandfather and father ran Columbia Fruit Growers, a cooperative in The Dalles that through several mergers is now part of Oregon Cherry Growers.

Bailey enjoyed growing cherries, ran harvest crews each summer and graduated from The Dalles High School in 1959. He graduated from Oregon State University in Corvallis in 1963 with a major in business and a minor in horticulture.

Bailey met his wife, Barbara Strickland, on a blind date at Seattle Seafair in 1961 and in 1965 they decided to become the first full-time farmers in the family, transitioning his family farm from apples to cherries in the 1990s. He worked to extend his cherry season with new varieties and expanding his orchards from The Dalles to Dufur Valley and Klickitat County in Washington. In the early 1980s, he built apple cold storage and packing facilities and added a cherry packing line in 1984 which was replaced with a high-tech Unitech line in 2016.

Researchers continue pear psylla, mite fight

By DAN WHEAT
Capital Press

WENATCHEE, Wash. — Washington State University researchers are continuing their research on pear psylla and mites, which can be deadly to trees and damage fruit.

Pear Psylla is an insect that damages pears and can kill pear trees. It was first found in Connecticut in 1832 and spread to Washington by 1939.

Several speakers talked about it at the educational Pear Day for growers, sponsored by WSU and The Pear Bureau Northwest, at the Wenatchee Convention Center on Jan. 18.

Louis Nottingham, a new post-doctoral research associate at the WSU Tree Fruit Research and Extension Center in Wenatchee, asked for grower input on his project to review a wide range of pest

management strategies regarding Central Washington pears to develop effective, long-lasting and sustainable programs.

"We want to create a holistic program that works. The real goal is to develop something more sustainable and soft but also that's effective," he said.

He said he will look at pear psylla, spider mites, codling moth, pear rust mite and beneficial arthropods. He will test soft versus conventional pesticides and will look at tree washing techniques for controlling psylla and mites without insecticides.

Tianna DuPont, WSU Extension tree fruit specialist, said psylla and mites are what she's heard most about from growers in her first year in Wenatchee. Growers are concerned predatory bugs aren't able to control psylla and mites, she said.