



Flax: What’s old is new again

By MARGARETT WATERBURY
For the Capital Press

SALEM, Ore. — Over the past 70 years, fiber flax, once a major crop in the Willamette Valley, has virtually vanished from Oregon. But a new initiative called Fibrevolution aims to revive this once-thriving industry and bring fiber flax cultivation back to the Northwest.

Headed by farmer Angela Wartes-Kahl and textile designer and nonprofit leader Shannon Welsh, Fibrevolution is a new company allied with Fibershed, a nonprofit that supports local fiber production. Wartes-Kahl and Welsh have partnered with Oregon State University and Ralph Fisher of Fisher Farms in Sublimity, Ore., to explore the idea of reviving Oregon fiber flax, with the ultimate goal of establishing a regional long line flax processing center and positioning Oregon as a new center for sustainable textiles.

Why go to the trouble to revive a moribund industry? Interest in natural fibers is growing. Consumers are becoming more aware of the waste associated with the “fast fashion” textile industry, and companies are seeking new ways to demonstrate a commitment to waste reduction.

“Starting around 2008 or 2009, everyone in the textile industry started talking about sustainability,” said Welsh. “Designers, fashion brands, even companies like Columbia were starting to think, wow, this system we have is just insane.”

For farmers, flax has appealing versatility and fits well within grass seed or grain rotations. Its byproducts can also be commercialized. Tow, the short or broken fibers produced during long line processing, is demanded by the plastics industry and has potential for building insulation.

Last year, the team grew just over four acres of fiber flax on multiple test plots in the Willamette Valley. Because no harvesting equipment was available, they pulled and processed the entire crop by hand — not a viable option for a commercial grower, but a good way to get a sense of the crop’s potential in Oregon. Alvin Ulrich, president of Biolin



Courtesy of John Morgan
Shannon Welsh hand-pulls fiber flax from a test plot. Pulling rather than cutting or combining helps preserve the entire length of the fibers, increasing their quality.



Margarett Waterbury/For the Capital Press
Alvin Ulrich evaluates historic linen samples made from Oregon-grown flax at the Willamette Heritage Center in Salem, Ore.

Research and a longtime consultant to the natural fiber industry, evaluated the team’s 2017 crop and deemed its quality excellent.

This year, Fibrevolution is working to eliminate the major agronomic barriers to fiber flax: low seed supply and the lack of harvesting and processing equipment.

OSU breeder Jennifer Kling is launching a full fiber flax trial at OSU’s Lewis Brown Research Farm to compare irrigated and non-irrigated crops. At Common Treasury, Wartes-Kahl’s farm

in Alsea, Ore., a plot is designated for testing field-retting (an in-field processing technique) and fiber quality. Welsh is developing fiber flax workshops in conjunction with GeerCrest Farm in Salem, Ore., including a demonstration garden.

This June, Wartes-Kahl and Welsh are planning a trip to Belgium and France (two areas known for fiber flax cultivation) to meet with seed companies, observe the harvest and processing machinery, and visit a flax farm cooperative.

Harvesting equipment remains a significant issue for Northwest growers. Top quality fiber flax is pulled rather than cut or combined, which preserves the full length of the flax fibers. Mechanical pullers exist, but they’re nearly nonexistent in the U.S.

The only pieces of machinery Wartes-Kahl and Welsh have been able to find are historic flax pullers that are no longer functional.

Fisher will grow approximately 18 acres of flax during the 2018 season at his farm in Sublimity. He says fiber flax is well-suited to Western Oregon’s climate, and an appealing alternative crop for commodity growers.

“You look back on the historical data, and in 1920, we had the best flax in the world,” says Fisher. “I think we can do it again.”

Sensors allow farmers to make precise decisions

By GAIL OBERST
For the Capital Press

Farmers who are still not comfortable with technology are not alone. Agriculture is one of the last bastions of old-fashioned techniques, its practitioners preferring to grab a clod of dirt to decide when or how much to water their crops, as their ancestors had done, according to the owners of an Albany, Ore., data-collection and software company.

But growers who embrace new technology are saving time, resources and money, which makes them more efficient and competitive, say John Hubbard and Michael Fink of MeasureTek.

“We’re here to support agriculture and add to efficiency,” said Fink, the company’s operations manager. “We can provide the data but the decisions ultimately come from the growers.”

Today, instead of guessing from the feel of the dirt, soil moisture sensors buried in the ground, or stations in the fields can detect soil saturation levels, report weather and other data on smartphones, laptops, tablets and other devices with easy-to-decipher graphs and pictures. Using that data, farmers can decide precise



Michael Fink

irrigation schedules.

Coleman Agriculture’s hop fields and dryers are a good example of a company that in using both simple and more complicated technology to improve their product without increasing costs, energy, water or employee resources. The sixth-generation operation is headquartered in St. Paul but manages 2,400 acres of hops, hazelnuts, seed crops and vegetables scattered around the Willamette Valley, including a hop farm in Independence, Ore. The Independence farm grows craft hops for brewers and distributors including Rogue and IndieHops.

As do nearly 90 percent of MeasureTek clients, the Colemans first installed soil moisture sensors to more accurately report data to field managers, allowing them to remotely activate or deactivate irrigation pumps. Weather stations that predict microclimate changes were then added to the mix, allowing managers to decide precisely how much water to use.

With climate change threatening, saving water will become increasingly important to the bottom line, said Hubbard, who

works in business development. Within 30 years, food production must increase by 70 percent while decreasing its current use of water, according to the Food and Agriculture Organization of the United Nations.

The Colemans’ initial success with technology inspired them to expand automation in their dryers to speed processing, and to increase quality. Using modified BT Loftus systems that track and report moisture content in the dryer and regulate optimum heat and fan levels, the Colemans can now dry hops consistently faster and at lower temperatures, maintaining the precious oils essential to tasty beers.

No more bottleneck at the dryer, says Fink. Where once freshly harvested hops might hang too long before being processed, today their flavors can be preserved quickly. The Independence facility is one of 11 hop companies in Oregon, Washington and Idaho using custom-made energy and time-saving equipment. MeasureTek’s clients farm over 100,000 acres in the Northwest, in operations that range in size from 50 to 25,000 acres. These hops, wine and table grapes, orchards, cranberries and other growers are coming to technology to stay competitive, Fink said.

Machines take over for people at Napa vineyard

By TIM HEARDEN
For the Capital Press

In the heart of the Napa Valley, a vineyard produces fine Cabernet Sauvignon grapes with virtually no help from laborers.

The 40-acre “touchless vineyard” was established by Kaan Kurtural, a University of California Cooperative Extension specialist who has devoted much of his career to improving production efficiency in vineyards as labor shortages have worsened.

Entering its third leaf in 2018, the vineyard boasts a canopy that is 65 inches tall, with about 5 feet between plants and a little more than 6 feet between rows.

“Compared to the rest of the vineyards in California, this is densely populated,” Kurtural said.

“We set this up to be a no-touch vineyard,” he said. “All the cultural practices are done by machine.”

The vineyard is mechanically pruned once with a mechanical pruner manufactured by the Fresno-based V-MECH LLC, which Kurtural says cuts the vines without fraying the shoot tips. The pruner is equipped with telemetry and GPS sensors to enable variable management of the vineyard. An array of sensors scans the vineyard as the shoots push out.

“This will give us a vigor index,” Kurtural said. “Then

we’ll develop a management strategy to make differences in the vineyard go away and ensure consistent cropping. This is all done by machine.”

The researchers also collect soil and canopy data by machine. If one section of the vineyard is growing out more than the other, the researchers take steps to make the underperforming portion grow as much as the vigorous side, Kurtural said.

The grapes are harvested by a machine that sorts them as it goes, he said.

The vineyard had its first harvest in 2017 and made the wine at the Robert Mondavi Institute at UC-Davis. The wine will be served during a program at the institute in May, Kurtural said.

“It’s a chance for people to taste (wine from) a 100 percent mechanically managed vineyard from the Oakville AVA,” he said. The Oakville AVA, or American Viticulture Area, is one of the most prestigious appellations in the industry, with an average price per ton of grapes nearing \$10,000, he said.

Kurtural has been working on production efficiency for the last 10 years. Having received his doctorate in plant biology from Southern Illinois University-Carbondale, he was an associate professor in viticulture and enology at California State University-Fresno before joining the UC-Davis faculty in 2015.

A U-pick orchard unlike any other

By ALIYA HALL
For the Capital Press

HARRISBURG, Ore. — Stephen Demergasso has plans for Detering Orchards. In his one year of ownership, Demergasso has added an agritainment aspect to the 120-acre orchard by bringing in a bar, taco truck and mechanical bull.

“I want people to come out and have entertainment options,” he said.

Demergasso bought the orchard last year from the Detering family, who ran it for 40 years. He said the orchard focused a lot on providing fruit for canners, and although he wants to keep those customers, he wants to bring in new ones as well.

“I’m trying to think of more ways to get people to come out here,” he said. “Why make the drive here? We can’t compete with the prices in grocery stores, so we create a premium experience for people.”

Having helped with his family’s hazelnut orchard, Saint Filberts, in Harrisburg, Demergasso has had farming experience. He now lives in Seattle with his wife, where he worked as an accountant. When he saw the orchard for sale, he said he thought, “Why not try to run it?”

“A lot of people love the farm,” he said. “I decided to

give it a shot.”

Demergasso moves back and forth between Seattle and Harrisburg, but will live in Harrisburg during the summer when the orchard is in full swing.

He said there hasn’t been any challenges in taking over the business because the Damien family, who farmed with the Deterings for around 30 years, are still involved.

“They really have this instinct on how to farm everything, and they’re a great family to work with,” Demergasso said. “We can’t do it without them.”

The orchard employs eight people in the field during off-season, and 25 people during the summer.

Detering Orchards grows over 40 crops. Among those are 32 apple varieties and eight peach varieties. Demergasso’s favorite fruit is the Spring Crest Peach.

“There are so many crops and varieties here,” he said. “From my perspective, I don’t know everything yet in one year.”

Demergasso said that the orchard’s U-pick is what sets Detering apart from the other fruit stands in the area, because of its size and the variety of crops from which to choose. Demergasso said the orchards are designed around a U-pick concept, with different varieties of produce mixed in.



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