Cultivating bright ideas

From grape goggles to berry blockchains, NW Ag Innovation Hub connects growers, technologists

BY GEORGE PLAVEN
Capital Press

SALEM — Bruce Sonnen came up with the idea for "wine goggles" a few years ago as a way to improve the quality of Oregon's already world-famous Pinot noir.

The concept is simple, said Sonnen, the vineyards manager at Van Duzer Vineyards in Dallas. As Pinot noir grapes ripen, they gradually change color from green to purple to dark purple, a period in viticulture known as veraison.

But not all grapes ripen at the same pace, and unripe fruit can throw off the flavor of the finished wine (Sonnen compares the taste to Lemonhead candies). Color is the key to helping workers identify which clusters to remove before the all-important harvest and crush begin.

To help identify ripe grapes, Sonnen had an idea for tinted eyewear that can make those darker shades of purple "pop" more clearly.

"The idea with the color goggles is they could make those ripe berries stand out," he said. "We can make sure nothing we don't want goes into the wine."

Sonnen pitched his idea to a team of developers last year as part of a five-day Agricultural Innovation Design Sprint Challenge, hosted by the Technology Association of Oregon.

The team designed a pair of glasses, which Sonnen said has the potential to become a low-cost tool for winegrape growers.

"You'd be able to sell them like hotcakes in our industry, for sure," he said, adding that "it's still a work in progress."

Wine goggles are one example of how the newly established Northwest Ag Innovation Hub is laying the foundation for agricultural technology to flourish in the Willamette Valley, connecting farmers with tech gurus to solve problems and create new businesses along the way.

Pipeline for startups

The Hub is led by Alex Paraskevas, rural innovation catalyst for the Strategic Economic Development Corp., or SEDCOR, based in Salem and serving Marion, Polk and Yamhill counties.

Since joining SEDCOR in 2018, Paraskevas has become something of an evangelist for the region's high-value agriculture. Farmers here grow more than 170 different crops — everything from grass seed to wine grapes, berries and hazelnuts — which are processed locally and shipped to consumers around the world.

"Every farm is an internationally competitive small business," Paraskevas said.

According to SEDCOR, agriculture, food and beverage companies employ 16,332 people in the three counties, with an annual payroll of nearly $543 million.

By bridging the divide between rural farms and high-tech operations in Portland and elsewhere, Paraskevas believes the Willamette Valley can become fertile ground for agricultural technology designed to help growers increase yields and efficiency.

SEDCOR last year received a $469,150 grant from the U.S. Economic Development Administration to launch the Hub. With the money, Paraskevas said they will hold regular events aimed at building those relationships.

Eventually, he said the goal is to establish a network of farmers that will host field trials and aid in the development of future tech startups, creating more jobs in the farm sector.

"We want to be sort of the pipeline and the funnel for startups, pairing them with farmers," Paraskevas said.

Flipping the script

Last year's grant award was the culmination of years of work that started in the small city of Independence, about 15 miles west of Salem.

Shawn Irvine, the city's economic development director, saw the potential for developing agricultural technology in 2006 after a municipal partnership with the nearby city of Monmouth led to the creation of MINET, providing high-speed internet to every home and business in those cities.

"This was an investment by the two cities to make sure our communities would be able to access the digital economy and keep pace in the digital age," Irvine said.

Irvine said he felt Independence could be a place where people come from all around to develop and test new broadband technologies. Given its agriculture-rich profile, he said it made sense for the community to promote itself as an interface between urban tech and rural farms.

"Frankly, I think it's an opportunity to flip the script on rural," Irvine said. "Smart agriculture is a way to show what rural is really all about."

About five years ago, Irvine began holding regular agricultural technology meet-ups in Independence, inviting growers, entrepreneurs, university researchers, tech companies and local government officials to sit down in the same room and begin the conversation.

Those meetings generated some early trials around the Mid-Willamette Valley. Intel, the tech giant with a large footprint near Portland, partnered with Rogue Ales, using remote sensors to track shipments of fresh hops from a farm near Independence to the brewery in Newport on the coast.

Intel later took the same concept and applied it to tracking blueberries from farm to processor. Along the way, sensors kept track of environmental conditions such as light, temperature and humidity, and uploaded the data directly to a blockchain — a digital ledger that tracks every transaction.

As interest grew, Irvine said he could no longer handle the initiative by himself. He applied for a grant from the Ford Family Foundation to hire a new position, which Paraskevas at SEDCOR now holds.

"Now we have an actual project," Irvine said. "We have a thing that we're doing, and all these partners want to help us."

Model for success

A similar model for agricultural innovation is already succeeding in Tennessee, providing a glimpse at what may be in store for the Northwest Ag Innovation Hub.

AgLaunch, based in Memphis, got its start in 2015 before becoming a nonprofit in 2018. Like the NW Ag Innovation Hub, AgLaunch is cultivating a network of farmers willing to work with technologists, screening products and assisting in field trials.

Pete Nelson, executive director of AgLaunch, said the group has 26 grower-members in its network. Roughly 36 startups have already accelerated through AgLaunch — including three within the last 10 months alone.

One of those companies, called SwineTech, is based in Iowa and has created a digital platform for hog farmers that allows them to adjust their on-farm activities remotely, reducing labor costs and animal mortality.

Another, called Stony Creek Colors in Tennessee, makes indigo dyes for blue jeans, creating a market for indigo as an alternative crop for tobacco farmers.

Now, Nelson said AgLaunch is working to build a national network of like-minded organizations. That includes partnering with the Northwest Ag Innovation Hub.

At a formal kickoff meeting for the Hub last month, Paraskevas, with SEDCOR, said they are still 3-5 years away from getting where they want to go.

But, he said, the momentum is building.

"We're trying to build both sides of this marketplace to make the Willamette Valley as competitive in agriculture as possible," Paraskevas said.

Nelson, who also spoke at the kickoff, said the possibilities are mouth-watering, given Oregon's array of specialty crops and supply chains.

"I just literally drool when you guys talk about some of the opportunities you all have," he said.

Sonnen

Paraskevas

Courtesy of Pete Nelson
Allison Malone, a student at University of Arkansas at Pine Bluff, runs a TerreSentia robot to monitor progress of cotton maturity. TerreSentia is a product of Earthsense, an AgLaunch portfolio company that has been field testing in Tennessee and the Mississippi Delta region since 2019.