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TJ MULLINAX/GOOD FRUIT GROWER

Orchard workers attend a spray application training in Naches, Washington, in March. The session is one of several training workshops and hands-on sessions presented cooperatively by state agencies, Washington State University and agriculture groups. For more on the program, turn to page 24.

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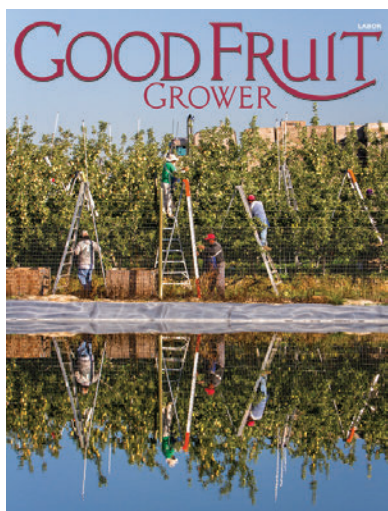
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On the cover

Workers harvest Golden Delicious apples near Zillah, Washington.

BY PHIL HULL,
YAKIMA, WASHINGTON



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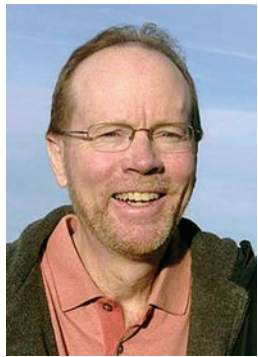
New hire for Pear Bureau Northwest

Pear Bureau Northwest has hired Morgan Cairns as its sampling and event coordinator. Cairns brings diverse experience in events, food service, communications and graphic design to the new position. Most recently, she developed and implemented innovative social media strategies for clients at Expand YOUR Brand in Portland, Oregon.

In-store sampling and event sampling are essential components of Pear Bureau's marketing plan, encouraging consumer trial, impacting sales and driving repeat purchases, President and CEO Kevin Moffitt said in a statement.

Pear Bureau Northwest is a nonprofit marketing organization established in 1931 to promote fresh pears grown in Washington and Oregon, which together produce 84 percent of the U.S. fresh pear crop. Pear Bureau represents 1,600 growers and develops national and international markets for Northwest pear distribution.

For more information, visit www.usapears.org.



Richard Roseberg

OSU soil scientist to lead Oregon ag research station

Soil scientist Richard Roseberg of Oregon State University and the Oregon Agricultural Experiment Station (OAES) has been named the new director of the research station in southern Oregon.

Roseberg will head the Southern Oregon Research and Extension Center (SOREC) in Central Point, one of 12 agricultural experiment stations around Oregon. The center has 34 faculty and staff and an overall budget of almost \$2 million.

Roseberg will direct SOREC's research program, which includes applied research in viticulture and enology, tree fruits, livestock, forage and integrated pest management. In addition to the director, SOREC employs four researchers, all of whom hold appointments in OSU's College of Agricultural Sciences. Two key positions, a viticulturist and a plant pathologist, are vacant at the moment; international searches are near completion, Roseberg said in a statement.

Roseberg comes from a research post at the Klamath Basin Research and Extension Center (KBREC) in Klamath Falls. He was stationed at SOREC from 1990 to 2003 before transferring to Klamath Falls. Roseberg will start on May 1, succeeding Philip Van Buskirk, who is retiring after 32 years.

Western SARE seeks award nominations

The Western Sustainable Agriculture Research and Education (SARE) program is seeking nominations for its 2016 Western Sustainability Pioneer Award.

The award winner should meet the following criteria:

—Leadership and contributions toward agricultural sustainability, locally and regionally, such as through innovative farming or ranching practices leading to increased sustainability, teaching principles of sustainable agriculture to producers and ag professionals, and service to local or regional sustainable agriculture organizations.

—Service to Western SARE and/or National SARE, such as a grant reviewer, representing SARE in public forums or leading an outstanding funded project.

Award nominations may be made by anyone. Nominations should include contact information for the nominee, a brief biography (no more than 100 words), a short description of the nominee's contribution to agricultural sustainability in the Western region (no more than 500 words), and a short description of the impact of the nominee's work on Western agricultural sustainability.

Nominations are due by May 13 and should be sent to wsare@usu.edu. The administrative council will choose a winner in July. Learn more at www.westernsare.org.

Clarification

In the "Ambrosia Surge" article on page 44 of the April 1 issue, Chris Willett of ENZA noted that there are 14 new managed varieties coming to market. Willett was referring to managed/club varieties marketed only by select large Washington-based growers and marketers. That context was lost due to an editing error. Willett also said that marketing costs for ENZA are between 2 percent and 8 percent per box. He was referring generally to marketing costs for all managed varieties.

Good Fruit Grower regrets the errors.



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A lot of cans in 100 YEARS

Del Monte celebrates a century in Yakima, Washington.

by Ross Courtney

For 100 years, Del Monte Foods has operated the fruit processing plant at 108 Walnut Street in Yakima, Washington. Bill Cawley has worked there nearly half that time.

Cawley, 78, has held jobs as cook room laborer, bin repairer, greaser and now forklift driver, stacking and restacking 120,000 bins in the seemingly infinite bin yard.

"They treat you nice," said the 48-year employee.

Cawley, dozens of fellow employees, suppliers and about 200 growers will gather May 11 to celebrate the centennial anniversary of the Del Monte name on the Yakima plant, the biggest pear processor in the nation. David Withycombe, chief operations officer at the processing giant's Walnut Creek, California, headquarters may attend, said Mike Fuerst, the company's director of fruit operations.

Del Monte, the company, started in 1886 in San Francisco. The Walnut Street facility was built in the early 1900s as an apple dehydrator. The two married in 1916 as part of the merger that formed the California Packing Corporation, of which Del Monte became the primary brand.

Since then, Del Monte has grown to process 60,000 pears per year, about half the Northwest's total, and employ 600 people during pear season from August to November. Del Monte's Yakima plant is the largest pear processor in the United States and most likely the world, said Jay Grandy, the recently retired longtime manager of the Washington-Oregon Canning Pear Association. The facility also cans some cherries and apples.

Overall, the company has 7,800 employees and generated \$1.7 billion in net sales in 2015.

However, longtime growers who sell fruit to Del Monte claim the corporation's size doesn't get in the way of relationships and common-sense deals.

"Tolerant and flexible," they were called by third-generation Del Monte grower and shipper Gary Wells in Hood River, Oregon. For example, Del Monte allows the Wells family orchard company, Viewmont Orchards, to use Del Monte bins for apple harvest in exchange for storing them.

"They actually listen to growers," said Chris Morton, a third-generation Del Monte grower in the Yakima area.

Morton, who also grows apples, cherries and stone fruit, considers his contracts with Del Monte among the safest, surest portions of his business. Prices are negotiated with the Washington-Oregon Canning Pear Association and the firm pays growers half their returns within 30 days of harvest and the rest usually within 60 days with few price adjustments, Morton said. Morton and Wells are members of the Yakima-based association, which represents growers in contract price negotiations.

Industry consolidation over the past 10 years has left only three pear canners in the Northwest, all in



ROSS COURTNEY/GOOD FRUIT GROWER

Longtime employee Bill Cawley, 78, moves bins and pallets in March at the Del Monte Foods processing facility in Yakima, Washington. The Yakima plant, recognizable from a distance by the green water tower at right, is celebrating 100 years under the Del Monte name. Cawley has worked there for 48 years.

Washington — Del Monte, Seneca Foods Corp. in Sunnyside and the Neil Jones Food Co. in Vancouver. The association also negotiates contracts with Del Monte and Jones; the price is \$3.40 per ton this year and will rise to \$3.60 in 2017.

The industry has changed drastically in the past 100 years, employees said. Things previously done by hand — dumping bins, peeling and coring pears — are now handled by machines, allowing capacity to soar.

"The plant, it's so different than when I first started," said Paulette Fahnestock, who has worked at the Yakima facility since 1975 with only a four-year break in the early 1980s. "When I first started it was like the Dark Ages." The self-described Jill-of-all-trades plans to retire in a little more than a year.

Del Monte and the industry face challenges.

Consumer preference has swung toward fresh fruits and vegetables instead of canned, while modern transportation and storage methods have made more high-quality fresh fruits available in stores year-round. In the early 1990s, nearly 75 percent of Northwest Bartlett pears — the most common canning variety — were canned. Today, fresh and canned have roughly a 50-50 split while new varieties go only to the fresh market.

The canners collectively sell 5 percent to 10 percent of their canned pears to the U.S. Department of Agriculture for distribution to schools, prisons and the military, Fuerst said. ●



The photo above, taken around 1950, shows workers dumping peaches by hand. Below, trucks line up to deliver peaches in 1948.



HISTORICAL PHOTOS COURTESY OF DEL MONTE FOODS

A 1951 photo shows the sign above the Del Monte Foods office at the Yakima, Washington, processing facility. The office, with the same windows, is still there today.

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Homes away from HOME

Growers bringing in H-2A and other workers are turning to new facilities for housing needs.

by Ross Courtney

“Housing development is a big job and it takes your focus away from farming.”

—Mike Gempler

When it came their turn to cook after a long day of pruning pear trees, Daniel and Alberto Morales sought a little help from home.

Using a photo of a handwritten family recipe texted to them by their aunt, the two brothers whipped up chicken and pork adobo to feed themselves and their fellow H-2A workers living at the Brender Creek seasonal agricultural labor facility in Cashmere, Washington.

Cooking is not normally their strong suit, but they do what they have to do 3,000 miles and a 50-hour bus ride from their home in Cuilapan, a mountain village in the Mexican state of Guerrero.

“We make an effort,” Daniel said through a translator. “There’s no choice.”

Whether from Mexico, Thailand, Jamaica or migrating through the United States, farm workers need a place to live when working at an orchard or vineyard. Seasonal farm worker housing has turned into one of the most expensive and crucial facets growers must address to make sure they have enough hands to prune, thin and pick their fruit every year.

To meet that need, growers can — and do — invest millions in their own housing units. In the past five years, growers have spent more than \$100 million on housing, said Dan Fazio, executive director of the Olympia-based farm labor organization WAFLA.

But not all can afford it, have the land for it or care to manage their own facilities.

“Housing development is a big job and it takes your focus away from farming,” said Mike Gempler, executive director of the Washington Growers League, a Yakima nonprofit that focuses on labor issues.

So, growers rent from the local market or book through a facility operated by the Growers League, WAFLA or the Catholic Charities Housing Services.

Catholic Charities, also based in Yakima, offers seasonal farm worker housing in 17 Central Washington communities. Meanwhile, WAFLA — formerly known as the Washington Farm Labor Association — has a 96-bed facility in Mesa and has applied for funding for a 150-bed facility in Omak it hopes to open in 2018.

The Growers League, which owns Brender Creek and the Sage Bluff complex about 45 minutes away in Malaga, will break ground this spring on a 144-bed facility in Mattawa, a small Grant County community with a surging fruit and wine grape industry. The Washington Department of Commerce awarded the Growers League a \$3 million grant in December, and the facility should open for its first tenants in 2017. The Growers League also is applying for a grant to build another 200 beds in Mattawa on the same grounds, with the goal of opening that section in 2018.

Mattawa has one of Washington’s highest seasonal farm labor housing needs. People often live 10 to 15 to a



ROSS COURTNEY/GOOD FRUIT GROWER

The Sage Bluff seasonal farm worker housing facility, shown in March in Malaga, Washington, was built in 2009. The Washington Growers League, which owns a couple of housing complexes, is building a new one in Mattawa.

house. Landlords divide trailer homes in half for make-shift duplexes. "For Rent" signs rarely last a day.

And the crunch is starting earlier each year, said Silvia Barajas, a Mattawa city councilwoman who has owned a bakery and restaurant with her husband for 20 years.

"I usually see that in cherry season, but now it's March and I'm starting to see that," said Barajas, once herself a seasonal farm laborer.

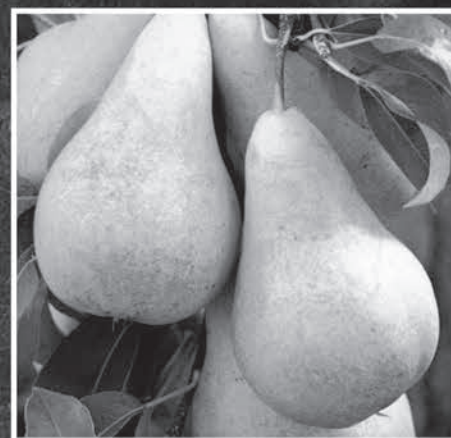
Farm worker life

Back in Cashmere, life at Brender Creek is usually boring, with "de descanso" and "comiendo" (resting and eating) the most common activities. One resident runs several times a week and asked for permission to store a weight set in his room, but he's the exception.

"A lot of them, when they get off work, they just want to go to bed," said Cody Chrismer, the on-site manager who lives at Brender Creek with his family of four.

But the grounds have their lively moments, too. Cooking competitions break out, residents fish and hike on their days off and kick a soccer ball around. One summer, a Norteño band was among the group of workers, and music from their rehearsals drifted late into the evening, eliciting complaints from neighbors, Chrismer said.

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PRODUCT REVIEW

H-2A housing CHANGES

Growers and labor groups in Washington must follow a new procedure to gain approval for temporary worker housing for foreign guest workers.

This year, housing applicants must have zero site deficiencies, minor or major, before the

New regulations are causing delays for incoming workers.

by Ross Courtney

U.S. Department of Labor will certify the facility to be used as housing for workers visiting under the H-2A visa.

To make sure they receive their approval on time, the state Department of

Health, charged with licensing all temporary housing facilities, has recommended all applicants apply 90 days ahead of their federal certification deadline, which is already 30 days before they are allowed to move in their workers.

In the past, growers had been receiving both a state license and federal certification even if they had minor

infractions, such as a missing screen door or burned out light bulbs. This year, the state Employment Security Department, which contracts with the federal government for H-2A certification, is insisting on follow-up inspections to verify full compliance.

Employment Security Department officials have agreed to handle the follow-up inspections of minor issues themselves because the Department of Health has only two field inspectors to handle 500 inspections and complaint investigations per year, said Nancy Tyson, executive director of the health professions and facilities for the Department of Health.

As a result of the procedure changes, many growers will not be able to host their H-2A workers until later than the date they planned, possibly meaning work in the orchards will begin late.

"We have millions of dollars on the line," said Mike Gempler, executive director of the Washington Growers League, a Yakima-based labor association.

One grower will receive his employees 20 days late due to some burned out or missing light bulbs, said Dan Fazio, executive director of WAFLA, an Olympia-based labor group.



PHOTOS BY ROSS COURTNEY/GOOD FRUIT GROWER

Brothers Daniel, left, and Alberto Morales, tenants of the Brender Creek farm worker housing facility in Cashmere, Washington, cook dinner after a day of pruning pears near Wenatchee in March. Whether growers hire domestic migrants or H-2A foreign guest workers, temporary housing needs are becoming more pronounced and more tightly regulated.

But the music was good, he admitted.

At Sage Bluff, televised Mexican League soccer games pack the dining hall. Brender Creek has no TV, one of the residents' first complaints when comparing the two locations.

Generally speaking, residents favor units that allow as much privacy, cooking space and security for personal belongings as possible. Managers sometimes respond to accusations of theft of food and pots and pans,

prompting the Growers League to install refrigerators inside the bedrooms. Basketball courts and grassy areas for soccer are well used.

Opening date at both Growers League facilities varies year to year based on demand. Both accept walk-in traffic — individuals or families just looking for work — and reservations. Walk-ins cost \$8 per night per bed. Reserving beds, which employers often do, costs \$9 per bed. Sage Bluff, built in 2007, sees about half of each.

ONLINE

For the full list of new rules for the H-2A programs, visit Good Fruit Grower online at goodfruit.com/2015-worker-housing-rules/

Gempler and Fazio suspect the two state agencies did not announce the changes to growers and labor groups quickly enough, making the problems worse. Tyson said the agencies both were scrambling to find a solution.

"We cannot let this happen again, and we're not going to," Gempler said.

Meanwhile, employers and housing operators face new temporary worker housing rules imposed in 2015 by the state Department of Health. Here are some examples from a list sent by the Washington Growers League to its members.

—All dwelling units with a sleeping area must have a carbon monoxide detector in addition to smoke detectors.

—Bathrooms must include walled partitions between toilets and must have separate flush toilets for men and women.

—Showers must have partitions with nonabsorbent walls.

—All food-handling and cooking facilities must be covered, as well as enclosed or screened. Outdoor grills are exempt as long as the facility has ample covered and enclosed cooking areas.

—Common cooking facilities must have four surfaces for every 10 people.

—Bedrooms, bathrooms and toilet and shower stalls must have locks.

—Sleeping rooms must include personal storage space with some enclosed, anchored and lockable portions.

—All facilities must comply with state and federal laws for lead-based paint. ●



H-2A guest workers at Brender Creek board a van early in the morning, heading out for a day of pruning pears.

Meanwhile, both foreign guest workers and domestic migrants stay in the temporary facilities.

The Morales brothers and their 17 fellow tenants arrived at Brender Creek in January and have a guest worker visa contract through October.

They're saving their money to build houses, open businesses or expand their own subsistence corn and bean farms at home. Many call their families only once a week because their remote villages have only one phone, located at a pay-per-minute business.

"Honestly, we wish to be with our families," said Jose Juan Barrios, a 37-year-old father of three from Aixcualco, Guerrero, Mexico. "But over there, there isn't enough to succeed. We all leave our homes to have a better future." ●



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Labor

Avoiding H-2A HEADACHES

Guest worker program offers benefits, but growers need to be vigilant about documentation.

by Ross Courtney

Use a licensed contractor. Pay travel costs up front. Document everything.

Those were among the tips attorney Brendan Monahan offered growers who are considering hiring seasonal guest workers under the federal government's H-2A visa program.



Brendan Monahan

Monahan spoke at a January labor conference hosted by the Washington Growers League in Yakima, Washington.

Monahan, an attorney with Stokes Lawrence law firm in Yakima, often represents agricultural employers in legal matters, including a few facing federal lawsuits over hiring practices involving H-2A workers.

Here are 12 tips from his conference presentation.

—Use a licensed labor contractor (in Washington, by the state Department of Labor and Industries). Using an unlicensed recruiter can fetch a minimum \$1,000 per worker in statutory damages in Washington in the event of a lawsuit.

—Have an attorney review the contract each year. The rules — and how the U.S. Department of Labor and states apply them — change year to year.

—Strictly forbid, both verbally and in writing, the collection of any form of payment from the guest workers, either in Mexico or elsewhere. Spot-audit the employees upon arrival and investigate any allegations of kickbacks, bribes or fees. Such violations of H-2A regulations could trigger triple-damage lawsuits.

—Purchase insurance that covers workers en route from their country. Workers compensation law is unsettled about when and where it applies to H-2A workers.

—Double-check that this insurance covers workers' injuries sustained at housing facilities for all hours.

—Pay travel costs up front, even though the law requires it only after 50 percent of the contracted work has been

done. If you plan to recover those costs from workers who do not complete 50 percent, address it in the contract.

—Comply meticulously with domestic recruiting laws, including with prior workers. Practice "positive recruitment," a legal term described here: bit.ly/1omWAam. Still, there's disagreement about what the term means, so discuss it with your attorney.

—Consult counsel about the geographic region and categories of employees who must be offered terms of employment described in a clearance order. The law requires that domestic workers get a fair chance to consider and accept the same terms and conditions offered to an H-2A employee; it's the most litigated portion of H-2A law. The stipulation becomes more complicated the greater the geographic area an employer covers, the greater the variety of crops and the more legal entities involved in the corporate structure.

—Train supervisory employees about where and how domestic applicants should apply and the terms they will be offered. They must offer job opportunities to anyone who applies for work through 50 percent of the contract window. For example, if an employer receives federal approval for 200 H-2A workers for June 1 through Oct. 30, they must offer the same jobs to domestic applicants through Aug. 15.

—Train staff to offer the H-2A approved jobs to all domestic applicants from the time the federal government approves them through 50 percent of the contract.

—Document everything — all contact with domestic workers, all lunch and rest breaks, all hours worked and all labor contractor licenses displayed.

—Consult counsel about inviting and not inviting workers, either in the first place or for a return trip. Install safeguards to prevent bribery or unlawful favoritism. Document all reasons behind a decision to decline to invite workers to return. The law allows employers to pick and choose which workers to invite back, but plaintiffs' lawyers may allege retaliation or "blackballing," as they call it. (In Washington, the state Attorney General's office has recently investigated some instances.) To avoid accusations, clearly document the reasons. ●

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On-site health care

Companies find keeping workers healthy can help control costs.

by Shannon Dininny

Alfonso Perez worked full time in the restaurant industry for 12 years, including some major chain restaurants, and never had health insurance.

Two months ago, he accepted a full-time job palletizing for Stemilt Growers, one of the world's largest growers and packers of apples, pears and cherries in Wenatchee, Washington. The job came with health benefits and, even better, an on-site health clinic, with a pharmacy, offering primary and preventative care for the company's 1,500 full-time employees, seasonal workers and their dependent family members.

Perez, 32, is married with two children, a boy, age 6, and a 6-month-old girl.

Across the country, companies are seeking ways to reduce spiraling health costs, and in many cases that means increasing employees' share of the financial burden through higher co-pays and

"It's a big draw. This clinic is a big thing for this community. It's a great benefit, and a lot of people probably won't leave because of it."

—Alfonso Perez

deductibles. The agriculture industry is no exception, despite relying heavily on seasonal laborers who often don't receive health benefits.

But companies also increasingly are implementing creative programs designed to cut costs by improving the overall health of their employees, through wellness programs and on-site health clinics, offering everything from smoking cessation and diabetes classes to lab work and women's health care.

Companies using these programs say they tend to reduce absenteeism in the workplace, and in an industry facing a growing shortage of workers, they serve

as a magnet that separates one company from the next.

"It's a big draw," Perez said. "This clinic is a big thing for this community. It's a great benefit, and a lot of people probably won't leave because of it."

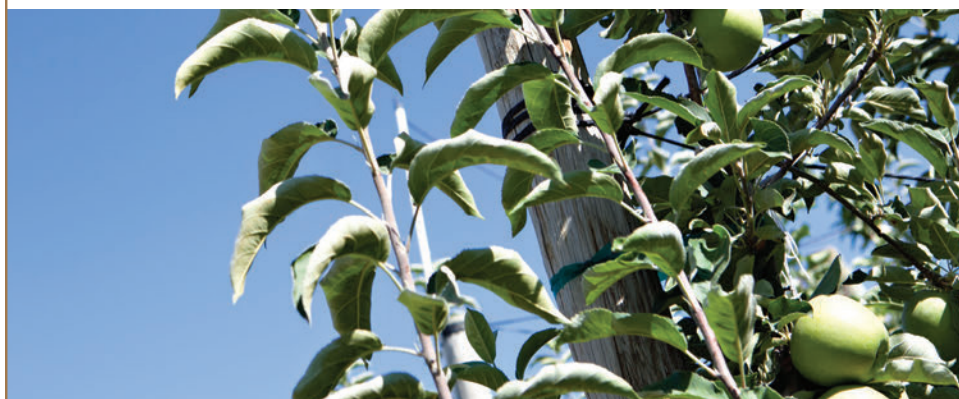
Occupational health first

Several agricultural employers began offering occupational health programs in recent years to better treat injuries and urgent health care needs on the job.

In Washington, more than a half-dozen growers and packers have signed on with a company that staffs on-site clinics for occupational health, treating



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Stemilt Growers employee Alfonso Perez holds his 6-month-old daughter, Lexi Amaya, while his wife, Claudia Rea, has blood drawn in March as part of her wellness exam at the Stemilt Family Clinic in Wenatchee, Washington.

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SHANNON DININNY/GOOD FRUIT GROWER

The Stemilt Family Clinic provides educational brochures for its 1,500 full-time employees, seasonal workers and dependent family members who might visit the clinic. Since opening in September 2015, the clinic already has 700 patients.

cuts and serving as first-responders in the event of a serious injury. Five more have expressed interest, according to Dan Hansen, customer relations lead for Spokane, Washington-based AnovaWorks.

The company provides the full scope of occupational medicine — first aid, urgent and injury care, flu shots — and handles workers' compensation claims. Anyone with an injury on the job can drop into a clinic and get back on the job quickly, if able.

The scale of services varies based on each company's needs and wants, Hansen said. One company, Underwood Fruit and Warehouse Co. in the tiny town of Bingen, Washington, partnered with a local lumber company to open such a clinic, with each employer paying roughly half the cost.

"One of the appeals for these employers is that we're flexible and can adjust as the seasonable labor needs adjust throughout the season," Hansen said.

In addition, AnovaWorks' programs are set up in a way that other wellness programs can be added on if the fruit company chooses. Many are deciding to do so, he said, in a new thrust toward improving workers' "industrial fitness" to improve employees' overall health and keep them on the job.

Similar efforts are being examined elsewhere. In Washington's Yakima Valley, one local hospital that offers diabetes prevention and management classes has had talks with local fruit companies about offering classes on-site for workers at packing houses, though none have signed on yet.

Fit to work

Stemilt hired AnovaWorks for its occupational medicine program, and also offers a wellness program to help employees address specific health concerns, such as quitting smoking.

But the company found that many employees didn't have access to or follow-through on the kinds of preventative care that can often lower a company's overall employee health costs. In a partnership with Confluence Health, the company opened an on-site medical clinic and pharmacy in September 2015. The clinic, with several exam rooms and a pharmacy, offers everything from

wellness and physical examinations to vaccinations, prescriptions and blood work that is sent to an outside laboratory. Prescriptions from the pharmacy are free of charge.

The clinic doesn't intend to compete with existing primary care providers in the area, but can serve as a primary care provider for employees and seasonal workers who might otherwise not have one, said Stemilt spokeswoman Brianna Shales.

Diagnosis and treatment of chronic diseases, including diabetes and hypertension, has been the biggest success at the clinic since it opened, said on-site physician Dr. Christian Kovats, and patients already are seeing improvements in their health.

When the clinic first opened in September, Kovats said, many diabetic patients did not have a glucose machine or the materials to use those machines, the test strips, that are the most expensive part of diabetes care. Now, they have those test strips and machines and the patients are bringing down their blood sugar levels — some by as much as 50 percent.

Pre-diabetic patients also are being caught early enough to stop onset of the disease; one man lost 15 pounds after learning he was pre-diabetic, he said. And because medications are free at the on-site pharmacy, they're motivated to fill them and take them.

Most important, Kovats said, "They're engaged. They're figuring it out."

Kovats currently sees about 700 Stemilt employees and their family members, with room to grow the practice. The clinic aims to treat 18 to 20 patients per day, and is aiming to convert a fourth exam room for massage therapy to treat the most common ailment — upper back pain — among the workers Kovats calls "industrial athletes."

It's still too soon to know whether the clinic and pharmacy are lowering Stemilt's health costs, Shales said, but the company is seeing its lowest absenteeism rates. Company President West Mathison believes in the program enough that he's walked the packing lines on each shift specifically to help promote the clinic to workers.

"We really do believe preventative care is how we can reduce our health care costs," Shales said. ●

Ag TECH

Educational program aims to fill need for equipment technicians.

by Shannon Dininny

A new educational program in Yakima, Washington, aims to meet the growing need for agricultural equipment technicians who have the needed skills necessary to operate and repair today's high-tech equipment.

The curriculum for the 12-month program at Perry Technical Institute includes classroom theory and hands-on instruction in hydraulics and implements, fuel and electrical systems, electronics and power train theory. Students will learn to diagnose and repair a mix of farm equipment, including tractors, combines, cultivators, seeders and sprayers, in preparation for entry-level technician jobs in agriculture or construction.

The need for farm equipment technicians is big, according to John Riel, owner of Burrows Tractor Inc. and a member of the program's advisory board. Most tractor dealers are looking for at least one or two good technicians, and many farms are looking for a quality technician as well.

"With more automation, mechanization, we need a higher skill set of people coming into our service departments," he said. And with the high cost of equipment and repair parts, growers want to get equipment fixed "right the first time."

"The huge amount of dollars we're spending on training people, you want to make sure you're training people who will stick around," he said.

The first class begins in June, with a capacity of 20 students. Jason Lamiquiz, Perry Technical Institute's associate dean of education, said there are plans for another class next June, once the school has a better gauge of interest and job placement for the first class of students.

Lamiquiz credited the industry with coming forward to express the need, which was confirmed by a survey of key Northwest ag industries, and for working with the school to establish the curriculum.

"There are some manufacturer-supported programs, but for a private institution, we're going to be one of the few that I'm aware of to be offering an independent program like this, in general ag equipment," he said.

Riel previously worked with a community college in Washington to establish a similar program, patterned after others in Minnesota and California, but it fizzled when the state cut the funding.

"Hopefully, we've picked off what everyone is doing well and works for them to customize to fit a need here," Riel said. "Not everyone is meant for college. Some are gearheads and they like understanding how things work, and they can make good money. We have techs making \$60,000 to \$70,000 a year. There's a decent wage for those people who want to work on it."

The program has been approved by the Washington State Workforce Training and Education Coordinating Board and accredited by the Accrediting Commission of Career Schools and Colleges.

Applications for admission are now being accepted for summer enrollment. For more information, call Perry's Admissions Office at (509) 453-0374 or toll-free (888) 528-8586. ●



TJ MULLINAX/GOOD FRUIT GROWER

Perry Technical Institute is offering a 12-month program to teach students to repair farm equipment, including tractors, combines, cultivators, seeders and sprayers.

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Labor

Michigan grows labor program

**GLALS is modeled on WAFLA to
bring more seasonal workers
to the Great Lakes region.**

by Dave Weinstock

Two years ago, when seasonal farm labor began getting scarce in the Midwest, Michigan Farm Bureau leadership looked to the Washington fruit industry's handling of the same problem.

In February 2015, the Farm Bureau formed a company called the Great Lakes Agricultural Labor Services LLC. Fashioned after the Washington Farm Labor Association

(now known as WAFLA), the new member service program worked with 10 farmers to bring 407 H-2A workers into Michigan last year.

This year, the program is doubling in size. The company brought its first crew to the state to pick red peppers in late March.

"We retained all 10 clients this year, found 10 more and will be bringing in 800 to 900 workers this year from February through late November," said Bob Boehm, GLALS's manager.

Growers have to deal with six agencies before they can bring H-2A laborers to Michigan, he said. GLALS helps its clients complete and submit the complicated paperwork because there is a little less than a two-week window to get it all done.

"It can be overwhelming, but GLALS breaks it down

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into steps. It's a grower-friendly service," said Fred Leitz, a Sodus, Michigan, fruit and vegetable grower, who contracts with the firm.

For now, all the workers GLALS brings in come from Mexico. The company recruits workers, arranges transportation to and from Mexico, brings workers to the farms where they will be employed, and provides contracts and training.

Prior to arrival, workers know what jobs they will be doing, as well as their work hours, wages and duration of their contracts. When workers arrive, GLALS provides bilingual support for training, housing and health information. Once workers arrive in Michigan, growers provide transport each week to places like the bank and grocery and other retail stores.

Growers, meanwhile, know their laborers are in the country legally.

For the past four years, Fred Leitz and his three brothers left crops in their fields and apples on the trees. Like so many other growers in North America, they've recently discovered they can no longer depend on what was once a vast labor pool to pick and pack their products.

The brothers farm 600 acres intensively, all in plasticulture and drip irrigation. The fourth generation to farm the land, they raise blueberries, tomatoes, cucumbers, apples and cantaloupes, all for fresh markets in the Midwest and the East.

They hire 250 people annually, which includes some full-time, local people. In the summer, the Leitzes hire 175 workers for harvesting and another 60 for packing.

"We have always hired from the migrant stream," Leitz said.

They hired locally and had 80 percent of their work force returning each year — until four years ago. "It's been four years since we've been able to harvest all our crops," he said.

Leitz said there are two reasons for the labor shortage he and his brothers are experiencing. One is an aging labor pool and the other is a border situation unfavorable to farm labor. As president of the National Council of Agricultural Employers, a trade association located in Washington, D.C., representing agricultural employers, Leitz has visited Congress several times to try to gain dispensations for farm labor.

With no ready solution presenting itself, Leitz said he was forced to hire H-2A labor. After looking around at a few firms, he settled on Michigan Farm Bureau's Great Lakes Agricultural Labor Service.

Leitz said there are a lot of good H-2A agents in the country, and most are NCAE members. "We chose Great Lakes because they were close and we liked the way they interact with growers and workers," he said.

One of the things he likes is that not everyone who applies is accepted as a client. "GLALS staff comes to your farm and does a real good audit to see if it is in compliance with the H-2A program regulations. If you fail, they tell you why and what you have to do to come into compliance," he said.

The company also runs four to five on-farm sessions a year to bring growers up to date on the program. "They tell us, here's where you are, here's what you have to do and here's what's coming," Leitz said.

This year, Leitz has 150 H-2A workers coming to his farm under two contracts, one starting in late April and the other starting in June. Both end in mid-October.

Leitz warned H-2A will only solve labor shortages. "If you have labor issues, it will not correct that problem," he said. "You have to straighten all that out before you get involved with this program. People have to like working for you or this will not work out."

He also warned potential participants to follow the program's regulations exactly as they are written. "You have to do it the way the U.S. Department of Labor tells you to do it. It doesn't pay to do it your way." ●



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Labor

Replacing labor with technology

It can be a challenge for small growers with limited budgets.

by Geraldine Warner

As the cost of labor increases, industries typically find ways to use less of it. But the tree fruit industry is an exception, Wapato, Washington, grower Jim Doornink said during a panel discussion at the Washington State Tree Fruit Association's Annual Meeting in December.

Over the past 25 years, fruit growers have been needing more labor to produce fruit, despite the increasing costs.

"Labor is a huge portion of our costs," said Doornink, who farms 250 acres of cherries, apricots, pears and apples. "We've finally come to the point where we realize it has to stop, and we're doing more and more every year to bring technologies in."

Growers have made changes to their trellises and growing systems. They're using netting and evaporative cooling to protect fruit from the sun, and advances have been made in spray application technology. But there have not been major changes that reduce the labor input.

"The changes that come along are incremental changes," Doornink said. "And sometimes incremental changes freeze you in position because you feel comfortable about the things you've learned and done. Instead, you should be looking to the future and what's going to be done."

Doornink recalled that when he joined the Washington Tree Fruit Research Commission's board 30 years ago, he was advised: "Be not the first by which the new is tried, nor the last to lay the old aside." Others have cautioned about the risks of being on the "bleeding" edge.

"We need to be sure we're not the ones who are bleeding or the ones who get left behind," he said. "It's very important that the technologies we adopt, we adopt from other industries. You have to be looking all the time."

New technology is not a toy if it makes money, he added, but often growers try to make their toys make money for them.

"I want a drone in the worst way," he added. "I don't want a tiny one that sits in my hand. I want a big one with shiny stuff on it, and I want one with lights on it, but I can't figure out how to put it in my ranch budget and have it make money for me right now."

Financial stretch

Sam Godwin, who farms 200 acres of apples, pears and cherries in the Tonasket area of north central Washington, said that, for small growers, the decision to

"Sometimes incremental changes freeze you in position because you feel comfortable about the things you've learned and done. Instead, you should be looking to the future and what's going to be done."

—Jim Doornink

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spend money on new technology is a difficult one. “We don’t have large budgets, so we have to make every dollar count as much as we can.”

Even buying something like a tractor at today’s prices is a financial stretch, he said, and growers must consider whether new equipment will fit into their orchards.

“We’re farming old ground,” he said. “I have orchards that are a hundred years old. A hundred years ago, they didn’t think of these things. We have big canopies and limited spaces. We’re looking at our orchards and trying to figure out how fast can we change architecturally to get to a critical mass where some of this technology fits. These are hard decisions to make.”

Godwin has a regular renewal program, planting some new orchard every year to stay updated while spreading out the capital investment. This also helps him keep current with the costs of trees, posts and wires, for example.

“If you’re not doing it on a regular basis, it’s hard to budget and to get information, especially when you’re isolated up in the north away from the bigger chunk of the industry,” he said. “One of the advantages of farming in the north is that there are no giant neighboring orchards competing for labor and other resources.

“But that’s changing,” he added. “The marijuana industry is taking off, and I think in the future that could be a competition for resources.”

Godwin is hoping that by the time robotic harvesting becomes available within the next few years, he will have converted enough of his orchard to the right structure that automated harvesting will make sense for his operation. “It’s something we’re excited about,” he said.

Vertical systems

Mark Hanrahan, a cherry and pear grower in Buena, Washington, said mechanical harvesting is possible for cherries already, but only if the grower is willing to try to market them without stems. A mechanical harvester developed about 15 years ago by Dr. Don Peterson with the U.S. Department of Agriculture was designed for angled canopies. Cherries were loosened from their stems with Ethrel (ethephon) applications and would fall into the harvester’s catching frame when the trees were shaken.

Hanrahan, who will plant his first apple block next year, emphasized that platforms and other mechanical aids must be versatile so small growers with limited capital can use them for multiple orchard operations. He’s working toward having trees on vertical systems so they can be mechanically pruned and harvested. He believes a robotic harvester under development, which vacuums fruit from the trees, is a game changer and will require a vertical canopy.

Capital budget

Doornink asked the other panelists how they handle their capital budget and commented that he finds it a scary thing to put together a five-year capital budget with all the things he wants to do and their associated cost.

Mark Stennes, who grows apples, pears and cherries with his family in Okanogan County, said he is moving from a labor-oriented budget to more of a capital budget, shifting from 65 percent for labor to 65 percent for equipment and technology. For the past 10 years he has been working to ensure their plantings will be conducive to robotics.

Stennes said his father, Keith, and brother, Kevin, who are partners in the business, asked him last spring for a five-year capital budget. He put together a wish list that almost gave them a heart attack, he joked. There must be good harmony between the finance and operational sides of the business and shared goals, he stressed. Plans must be made five to 10 years ahead because nursery trees have to be ordered up to five years ahead of time, and it can be another five years before they come into full production.

Godwin said several years ago he began making annual lists of proposed activities and acquisitions based on where he felt he needed to make changes and how soon. His plan took into account how big his operation could get before he had to build additional housing or when he would need to plant on lower ground that would require a wind machine.

“Whatever plan we settle on, it has to pay its own way,” he emphasized. “It’s not like I have a big stash of money somewhere. It has to pencil out at the end of the day.” ●



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Labor

Bringing north to

Canadian farm labor program reaches 50-year milestone.

by Dave Weinstock

A program supplying seasonal workers to Canadian farmers is necessary to the survival of agriculture in Ontario, according to a new study released by Agri-Food Economic Systems, an economic research firm based in Guelph, Ontario.

Celebrating its 50th anniversary this year, the Seasonal Agricultural Workers Program (SAWP) brings more than 30,000 guest workers to Canada annually, with 17,500 working in Ontario.

"Their labor creates \$5.4 billion in economic activity and 34,280 additional agricultural sector jobs," said Ken Force, a Hamilton, Ontario, vegetable grower and president of the Foreign Agricultural Resource Management Services (FARMS).

Despite SAWP being a federal program, FARMS has administered it since 1985, when the Canadian government handed the responsibility for running it to the farmers who benefit from the program.

History

Following World War II, the Hamilton/Niagara area of Ontario experienced a huge influx of immigrants from Italy, Portugal and Eastern Europe. The men went to work at one of the large steel mills then in the region, and their wives went to work in the fields. Seasonal laborers were plentiful.

"My grandfather used to say you only wanted to take a vehicle with space for the number of workers you wanted and nothing more or you'd get too many," Force said.

The immigrants came to the region with nothing, but as time passed, they eventually made enough money to buy houses and improve their lifestyles. "All of a sudden, in the mid-1960s, all these guys started saying, 'My wife, she's not working any more,'" he said.

By then, immigration to that part of the country had all but stopped. There were no new immigrants to take their places and little interest from local Canadians to do that kind of work.

The Canadian government launched a pilot guest worker program in 1966, bringing in 264 men from Jamaica. It was a timely decision because by the mid-1970s, all the original immigrant labor had retired.

"They created a bilateral program," Force said. "The Canadian government and the governments of the countries where the labor came from, as well as the farm community, were all involved in running the program."

In 1985, the Canadian government came to the farmers and said the \$250,000 they spent each year to run the program made it too expensive. "We said, 'You can't close it down! It's too necessary!' They said, 'Then you run it,'" he said.

So, the farmers set up a nonprofit corporation to run

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workers Canada

"The Canadian government and the governments of the countries where the labor came from, as well as the farm community, were all involved in running the program."

—Ken Force

the program. The federal government retained the right to refuse service to any growers whose operation does not meet SAWP standards.

Today

Workers arrive throughout the year, but no worker can stay longer than eight months.

Force has used the program to hire seasonal workers on his 250-acre farm for 46 years. He and his son hire 18 Jamaican workers, plus two or three local Canadians to work on their operation. One Jamaican worker has worked for them for 31 years.

Keeping workers around for that many years is not uncommon on Canadian farms. Hector Delanghe said returning workers comprise 95 percent of his seasonal help.

Delanghe has a 400-acre farm, 200 acres of which is in fruit. He grows apples, peaches, pears, plums, apricots, nectarines and strawberries in Blenheim, Ontario. Delanghe said he hires about 20 guest workers each year and has used the program for 47 years. "If we get more local help, then we won't bring in as many foreign workers," he said.

All of his workers are trained to run the farm machinery. Two are trained assistants, workers who are licensed to apply chemicals on the farm. The rest of the crews "do a lot of pruning, thinning and harvest work."

Massive shortage

The U.S. guest worker program, H-2A, has come under criticism from farm labor groups who contend the program takes jobs from domestic laborers. That kind of criticism exists in Canada, too, coming mainly from advocacy groups and unions, even though Ontario law forbids the unionization of farm labor.

However, the criticism is muted somewhat by research showing large agricultural labor shortages there.

A recent study by the Conference Board of Canada, an independent, nonprofit applied research organization, showed that Canadian agriculture had positions for 59,000 seasonal workers. "We were able to fill 43,000 jobs with foreign workers, leaving 16,000 jobs unfilled," Force said.

By 2025, he said, the study projected Canadian agriculture would be short 114,000 jobs. ●

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A SPRAY-pl

The federal government announced revisions to the federal Agricultural Farmworker Protection Standard last fall, marking the first major updates to the program since it was implemented more than 20 years ago.

The decision has many states reviewing their own programs to ensure they meet the proposed regulations, which include mandatory annual training for farm workers and pesticide handlers — rather than training once every five years — and additional content areas that must

be covered in those training sessions, among other things.

The protection standard is a program managed by the Environmental Protection Agency.

In Washington, many of the requirements in EPA's proposal, though not all, are already being met, thanks in large part to a progressive farm worker education program that has provided training to

more than 20,000 people since its inception in 2000 and has served as a model to other states.

Washington created its farmworker education program — a partnership of the Washington State Department of Agriculture, the Washington Department of Labor and Industries, Washington State University and industry sponsors, including the Washington State Tree Fruit Association — after field research showed that both agricultural employers and employees lacked awareness of personal protective equipment requirements.

The goal: train farm workers, supervisors and operators, including the highly vulnerable group of Spanish-speaking workers, to work safely around pesticides and pesticide residues.

"We know our program is pretty unique," said Ofelio Borges, supervisor of the Washington State Department of Agriculture's farm worker education program. "We have worked with other states that want to mimic what we're doing."

Today, the program offers several hands-on workshops for farm workers and supervisors that cover pesticide safety, respirator protection and fit-test procedures, as well as a "train the trainer" class. A pre-license pesticide applicator training is delivered to employees of all types of agricultural industries, including tree fruit and wine and table grapes. Washington also was one of the first states to provide both the study manual and exam in Spanish.

The newest course, tested in a pilot program last year and now added as part of the program in 2016, provides information needed for workers to perform air blast spraying and boom sprayer calibration. The course stemmed from an increase in the number of incidents of

Farm worker teaching team leads the nation in preparing workers for safe use of pesticides.

by Shannon Dininny

photos by TJ Mullinax



Ofelio Borges of the Washington State Department of Agriculture talks during a spray application training in Naches. He is one of several training workshops and hands-on sessions presented in cooperation of state agencies, Washington State University, and other groups. Flor Servin, at right in red jacket, of the Washington State Department of Labor & Industries, is also a member of the training team.

us education



es, Washington, in March. The session
State University and agriculture
nber of the training team.



PLAY

Learn more about the WSDA training workshops for orchard workers and managers at goodfruit.com/media (Videos available in both English and Spanish).

New federal regulations for pesticide use

Most of the changes to the federal Agricultural Farmworker Protection Standard take effect Jan. 1, 2017.

Among other things, the new standard eliminates a five-day grace period allowing workers to labor in an area where pesticides have been used before they receive training. (This rule had already been implemented in Washington.) The standard also mandates annual training for field workers and pesticide handlers, rather than training once every five years.

Effective Jan. 1, 2018, training courses for pesticide handlers must cover 36 points, up from 13 points. The number of training points for field workers increased from 11 to 23 points. In addition, the pesticide safety poster used by agricultural employers will be modified by EPA for use effective Jan. 1, 2018.

For more information about EPA's revised Agricultural Worker Protection Standard go to 1.usa.gov/1UEdX4M.



Borges shows spray application trainees how to measure spray volume in the field using a combination of tools.



ONLINE

For more information on Washington's Farmworker Education Program, visit 1.usa.gov/236i9z2

"We want to teach them how to use the equipment, but most of all, we want to teach them to be safe."

—Ofelio Borges

Jaime Ramon of the Washington State Department of Agriculture (top right) talks during a spray application training to help applicators reduce spray drift.

spray drift, which after declining for several years spiked to 72 complaints alleging drift in 2013, highlighting the need for additional education and farm worker familiarity with spray equipment. The course also addresses many other safety issues, including tractor and sprayer safety.

Sprayer training

Orchards have changed significantly in recent years. Sprayers that were designed for orchards comprised of big, stand-alone trees now face fruiting walls, but the sprayer technology has changed little, said Borges, who has been with the education program for 14 years after working for several fruit companies as an orchard manager.

In addition, the traditional way to calibrate a sprayer is very complicated, and a lot of workers simply don't know how to do it. The class teaches step by step what calibration is and how to do it.

"An applicator's perspective is very limited, so if they're drifting, they're going to be the last ones to know," Borges said. "We advise workers to run sprayers through with water and get to know where their product is going."

The class also focuses on weather-tracking technologies that can be used to reduce drift. "We're talking to these workers about safety and weather and about how these new technologies can be used to reduce drift," Borges said. "We want to teach them how to use the equipment, but most of all, we want to teach them to be safe."

Klipsun Vineyards, located in Washington's Red Mountain appellation near Benton City, sent three workers to a recent sprayer class sponsored by G.S. Long Co. One of them, Roy Garcia, supervises about 24 farm workers during harvest and said he will be teaching what he learns at the vineyard's safety meeting each month.

Many programs offer video demonstrations to teach workers how to perform a task, but the Washington workshops require attendees to learn and apply the



Jaime Ramon checks Daniel Canales' math during an exercise to accurately calculate spray nozzle application amounts.

information in the orchard, ensuring they are more likely to walk away with the knowledge, he said.

Wayne Worby, who grows 17 acres of cherries near Selah, Washington, said the competitive industry demands that growers stay up to date on technologies, including spray technology. "Twenty years ago, we were harvesting 50 bins to the acre and were pretty happy with that. Now, it's 150," he said.

An added benefit of the class is that the instructors aren't the only teachers; plenty of attendees offer ideas as well, he said. Worby, who has been growing fruit since 1979, uses an aging, power blast sprayer that requires him to think differently about how to calibrate and apply pesticides.

"We're always trying to outthink a plant, and the plant always wins," he said. "But other people have resources too, so I like to hear what others are doing to validate what I'm doing or get new ideas."



Flor Servin of the Washington State Department of Labor & Industries writes a problem for trainees to solve.

Progressive change

Jaime Ramon, a WSDA employee who has worked in training and compliance for 10 years, said that when he started with the department, farm worker training consisted of about three or four classes over the course of the winter, “and one or two might be canceled.” The program started during the last week of January and ran through the first week of April.

Today, the number of classes has grown to 22, beginning each November.

“We give them the tools. We give them the ideas, the best management practices for pesticide application,” he said. “But we learn a lot from the trainees. They are doing the job. The response has been really good, but the more participation, the more we learn to make changes to do this better, too.”

Pre- and post-training surveys show that 70 percent of people attending the pesticide handler training are there for the first time, while 30 percent are returning for a refresher, said Flor Servin of Labor and Industries. For the train the trainer class, many more people repeat it to ensure they are up to date on the latest information.

“It’s an excellent source of information,” Servin said. “I don’t think there’s any organization, or at least I’m not aware of any other organization, providing these services and information with the quality that we do, with the detail and with the methodology that we use. We are always changing and improving the programs, every year. I see that as a tremendous benefit, not just to workers but also to managers, growers and the industry.”

In December, the Washington State Tree Fruit Association recognized the farm worker education team — WSDA’s Borges and Ramon and L&I’s Servin and Ramon Benavides — with the Latino Leadership Award. In introducing the award winners, WSU Extension specialist Karen Lewis noted that the team’s hands-on training on everything from worker protection standards to respirator use has improved safety, both at work and at home, for thousands of people.

“They’re not just numbers,” she said. “These are people changing lives.” ●

SPRAYER TRAINING TIPS

On next page, WSU researcher Gwen Hoheisel offers tips from the sprayer training workshop.



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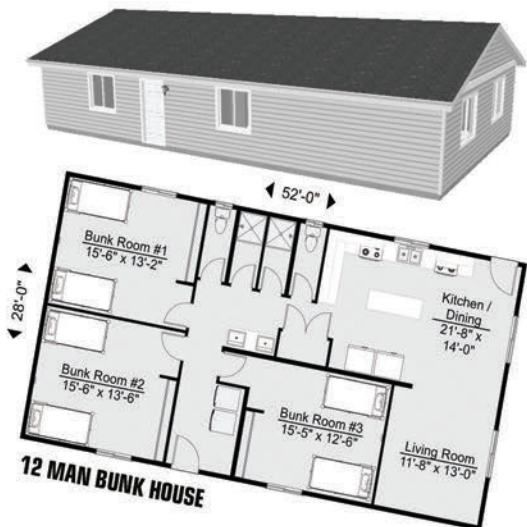
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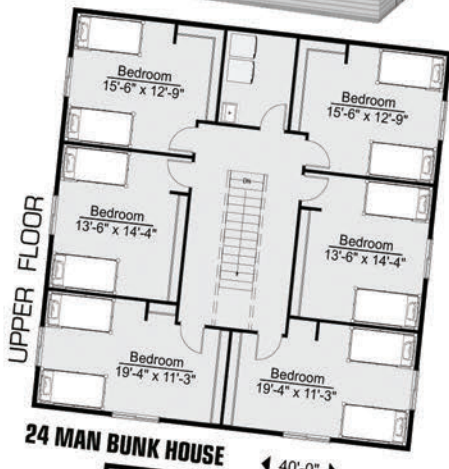
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GOOD TO KNOW



PHOTOS BY TJ MULLINAX/GOOD FRUIT GROWER

Gwen Hoheisel of Washington State University says water-sensitive paper can help workers determine where an orchard sprayer's nozzle is hitting the trees.

Better ways to SPRAY

**Five tips from
sprayer training
workshop can
help limit your
pesticide drift.**

by Gwen Hoheisel

Recent complaints about pesticide spray drift from Washington orchards highlight the need for greater education about sprayer technology, from calibration and optimization to maintenance and monitoring.

A new class offered in partnership by the Washington State Department of Agriculture, Washington Department of Labor and Industries and Washington State University provides workers with information and tools to ensure pesticide sprayers are calibrated and configured to meet the needs of orchards that may vary in tree structure or canopy size, while also reducing drift.

Here are five key points from that workshop:

Empower and plan. Growers must empower their employees with the time, knowledge and tools to perform the steps necessary for a successful spray program — one that both meets crop needs and reduces spray drift. Some of these steps, such as maintenance and calibration, will be performed annually, while others may only need to be done every two years. It really depends on the specific area a grower wants to monitor, but regardless, all growers need to make a commitment to ensure their workers are empowered to plan and prepare for the season and to carry out the steps as the season progresses.

2 Maintenance should be completed daily and annually. All of the parts of a sprayer need to be working properly to ensure proper calibration and optimization. Is your pressure gauge working correctly? Are your hoses worn? What about electronics that might be on your sprayer? All need to be working correctly to ensure the spray program meets its goals but doesn't overshoot the orchard.

3 Sprayer calibration should be performed at least annually to ensure that growers and workers know the proper amount of spray is being applied. There are many methods that people use for calibration, and each has its own pros and cons. This class teaches methods that allow workers to evaluate individual nozzle output so that they know whether each nozzle is good or bad.

4 Optimization is about getting every drop to the crop. There are two parts to optimization. The first part is to direct all the spray into the canopy, by adjusting nozzle direction or turning nozzles on or off. The second part involves matching the air volume with the canopy density.

Wherever the air flows, the spray will follow, and growers want the spray to stay in the row. There are three methods to reduce air volume: gear up or throttle down the sprayer, limit the amount of air coming into the fan by covering the cage fan with plywood doughnuts or cloth shrouds, or change the fan setting from high to low.

Eventually, there will be commercial technologies that will allow for the air volume to be adjusted automatically. In the meantime, growers should ensure these steps are taken in the field to optimize spray output.

5 Monitoring. Workers need to be able to make these adjustments and determine whether the spray went where it was supposed to go. Did it stay in the canopy? Did it drift? Growers should put out water-sensitive paper to determine where spray is going. Growers often ask how long their ceramic nozzles will last, but that's a question that is dependent on their water quality and spray programs. However, they could monitor these nozzles in the calibration and be able to come up with management rules.

Workers can't manage spray unless they monitor it, which means they need to be empowered to do so. Growers have to empower people to monitor so they can make adjustments and ensure these adjustments work. ●

Gwen Hoheisel is a regional extension specialist for Washington State University in Prosser, Washington.



Hoheisel shows how to check the direction of an orchard sprayer's nozzle by using ribbons attached to each nozzle

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ONLINE

Gwen Hoheisel explains
six steps to calibrate and
optimize airblast sprayers: bit.ly/sprayer_calibration

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Time to say GOODBYE

**Canoe Ridge Estate manager
Mimi Nye retires after 35 years
with Chateau Ste. Michelle.**

by Shannon Dininny

Potatoes were Mimi Nye's thing in 1990. As the agronomist for Chateau Ste. Michelle's row crop farm, her goal was to produce the ultimate "Mac fry" potato.

A year later, Ste. Michelle Vice President Jack Kelly tapped her to manage a new wine grape vineyard, Canoe Ridge, on Washington's steep southern bluffs overlooking the Columbia River. Nye, then 38, admittedly didn't know much about grapes, but Kelly said, "Don't worry, Mimi. You'll grow with the vineyard."

Her first boss, Rich Wheeler, told her Canoe Ridge would be a world-class vineyard, and Nye wondered, "How does he know that? That's a lot of pressure, and how will I know we're world class?"

Twenty-five years later, Canoe Ridge is renowned for producing premium wines, including three on Wine Spectator's prestigious "Top 100 Wines of the World" list — three different varieties and in three different vintages. Now Nye is stepping away as the only vineyard manager the site has ever known.



COURTESY STE. MICHELLE'S/ANDREA JOHNSON PHOTOGRAPHY

Mimi Nye has managed Ste. Michelle's Canoe Ridge Vineyard near the Columbia River since it was first planted on the bluffs of southern Washington in the early 1990s.

"It's almost like I was meant to be here, and all the blessings — It's a beautiful place and people who work here are happy. It's just such a special place," Nye told *Good Fruit Grower* in advance of her April retirement. "But I'm getting too tired. It's a demanding job."

Ste. Michelle viticulturist Kari Smasne has been promoted to vineyard manager at Canoe Ridge, and production supervisor Pedro Flores has been promoted to assistant vineyard manager.

Smasne began her career with Ste. Michelle as an intern in 2004, working her way up through viticulture positions. Most recently, she has supported the winery's Cold Creek and Col Solare vineyards. Flores, meanwhile, began working with Ste. Michelle in 1987, helping to develop various vineyard sites, and became a team member at Canoe Ridge under Nye in 1991.

Getting started

Canoe Ridge Estate Vineyard sits 10 miles west of Paterson, Washington, on virgin ground close to the river. The south-facing slopes tend to be frost free and heat up quickly for early ripening.

The first year, Nye learned about planting and trellising. The second year, she learned about training up the vines. "And the third year, I learned about harvesting, so when Jack Kelly said I would grow with the vineyard, he was right," she said.

The vineyard has grown to nearly 600 acres, including a mother block certified clean of viruses and diseases, and 10 varieties of grapes, mostly reds: Cabernet Sauvignon, Cabernet Franc, Malbec, Merlot, Syrah, Grenache, Petite Verdot, Mouvedre, Chardonnay and Viognier. Each of the vines has been one of Nye's "babies."

The vineyard is undergoing a renovation in sections; where Chardonnay had been planted on a south slope, Cabernet Sauvignon is replacing it to take advantage of the longer growing season. A Malbec block is being

It's all in the water

So what enables Washington wines to stand out in a crowded marketplace?

The difference is all in the water, said Mimi Nye, longtime vineyard manager at Chateau Ste. Michelle's Canoe Ridge Estate Vineyard. She retired from that job in April.

Canoe Ridge has gotten acclaim with many varieties, but it's not just that particular site that stands out, she said. The Horse Heaven Hills appellation, which includes Canoe Ridge, and Washington state in general benefit from irrigation that other wine regions just don't have available.

Different varieties require different amounts of water; Chardonnay needs more water to make the kind of wine you want, whereas Cabernet Sauvignon benefits from water stress, she said. Having the ability to manage that water is key to growing premium wines.

"A lot of places where they grow grapes, they grow a few varieties well, but here in Washington, we can grow a lot of varieties well," she said. "A lot of places in the world will have a great vintage one year and a lousy one the next year. Washington is very consistent year after year, largely because of irrigation."

Some places, such as France, historically barred irrigation, letting Mother Nature play her part, Nye said, "which is very romantic and all, but it's not necessarily good for the wine."

Washington, conversely, can adapt to changes of the seasons and apply water accordingly, she said, and that's key to growing so many different varieties and consistently producing premium wine. —*S. Dininny*

"A lot of places in the world will have a great vintage one year and a lousy one the next year. Washington is very consistent year after year, largely because of irrigation."

—*Mimi Nye*

planted on a steep hill high above the winery, and Smasne planted her first four "babies" in that block.

"I'm excited. It's going to be an adventure, and I'm happy and blessed to come in to such a great situation," she said. "Everyone is so welcoming and so helpful, not only knowledgeable but helpful and wanting to see the next person succeed. It feels good."

Smasne has a step up on her, Nye said, because she's been a viticulturist for 12 years. "She's worked with a lot of different growers, bringing a lot of different knowledge and experiences," she said. "I tell her she's going to be better than me."

For her part, Nye helped secure third-party LIVE and Salmon Safe certification for the vineyard in 2009. During her tenure, three wines made Wine Spectator's Top 100 list — the 2006 Canoe Ridge Estate Cabernet, 2004 Canoe Ridge Estate Chardonnay and 1999 Canoe Ridge Estate Merlot — and she likes to point out that a third of the grapes from a fourth Top 100 wine (2013 "The Pundit"



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COURTESY STE. MICHELLE'S

Kari Smasne, Ste. Michelle's viticulturist, will take over as vineyard manager at Canoe Ridge, and production supervisor Pedro Flores has been promoted to assistant vineyard manager. Both are longtime Chateau Ste. Michelle employees.

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Syrah from Tenet Wines) came from Canoe Ridge as well.

"Canoe Ridge has three and one-third wines on the Top 100, and four different varieties," she said. "I don't know if there's another vineyard in the world that can say that."

Moving on

Nye's passion for growing grapes and producing wine was contagious, and she pursued her job with no other agendas despite being one of the stalwarts among early women in the Washington wine industry, said Joy Andersen, winemaker for Ste. Michelle label Snoqualmie Winery.

"She just got the job at hand and did it. It wasn't about trying to prove herself or be a woman in the workplace," Andersen said. "She just showed what anybody could do, woman or man, and she managed to do a very, very good job at bringing that vineyard up to world-class status."

Nye will continue this year as a consultant to Ste. Michelle, helping to guide Smasne through her first season as vineyard manager, pointing out the things to expect in different parts of the vineyard throughout the season. Also helping will be members of the crew, some of whom have been with the vineyard as long as Nye.

Nye recalled a day in the vineyard when she wondered if the crew should quit for the day or tough it out through a rainstorm, worried she might make the wrong decision, until Flores spoke up. "He said, 'Don't worry, Mimi. The people respect you,'" she said. "That was a breakthrough for me. I was unsure of myself, because of the language barrier, and when he told me people respected me, I started to have more confidence that these are my people."

Nye said she'll miss the Ste. Michelle family, but the people — and the wine — have made the trip worthwhile.

In February, the Washington Association of Wine Grape Growers honored Nye with the Grower of the Year award, joining the likes of Dick Boushey, Jim Holmes and Paul Champoux. "I didn't think I was one of them and now I think, 'Yeah, I'm one of those people. I belong there,'" she said. "It took me a little while to accept that, but now I realize more people were watching than I realized."

At the ceremony, Nye recalled reading Proverbs 31 when she was first offered the vineyard manager job. The story is about a woman — a wife, mother and business woman — who uses her profits to plant a vineyard. "So, 2,800 years ago, a Jewish woman planted a vineyard. I thought, 'If she can do it, I can do it,'" Nye said. "She's the ideal woman, and she's no pushover."

At 39, Smasne is close to the age Nye was when she started at Canoe Ridge, and both had been working for Ste. Michelle full time for 10 years before taking over the vineyard.

"It's funny. We have a lot of weird idiosyncrasies. She's my younger clone, according to my husband," Nye said. "We are different in a lot of ways. We have different strengths for sure, but we have a lot of similarities too."

So the legacy of Canoe Ridge continues, with wine that is delicate, nuanced and balanced. "There's something in this vineyard that is feminine," she said. "Some things are meant to be." ●

Healthy WORKERS and healthy VINEYARDS

New label by Washington winemaker supports health clinic for those in need.

by Shannon Dininny

Among the hundreds of wine labels in Washington, one has been created solely to ensure health care services for farm workers and their families: Vital Wines.

The new label by winemaker Ashley Trout, founder of Flying Trout Winery, donates all profits to SOS Health Services, a free health clinic serving patients who might otherwise have no access to affordable health care in southeast Washington and northeast Oregon.

The idea was born out of a significant rock-climbing accident Trout suffered in 2004 while visiting Japan. She endured five surgeries and was hospitalized for 42 days — all without health insurance.

“Luckily, the accident happened while I was in another country,” she said. “I started working in the wine industry in 1999, and during my 17-year stint, I’ve never gotten health insurance from an employer.”

Trout now has health insurance through her husband (winemaker Brian Rudin of Canvasback Wines), but she calls the wine industry a tough one for anyone who requires health benefits.

“It’s not that wineries are evil incarnate. It’s just a tough scenario,” she said. “Margins are tough. All the wineries in Washington state are still very young, and if you look at the capital it takes to build a winery building, or to sit on fruit that doesn’t hit the market for two to three years, or to plant a vineyard that doesn’t produce fruit for several years, you see you’re just sitting on cash that you can’t spend on benefits for workers.

“To work within the industry is to understand that health care is not a given,” she said.



COURTESY OF ASHLEY TROUT

Ashley Trout is the founder of Flying Trout Winery.

Filling a need

In western Oregon’s Willamette Valley, the ¡Salud! program works to provide quality health care services to seasonal vineyard workers and their families, under a collaboration between Tuality Healthcare doctors and Oregon winemakers.

Hundreds of miles to the east, the SOS clinic serves a region that includes upscale Walla Walla, Washington, home to hundreds of wineries and surrounded by thousands of acres of wine grapes, and the neighboring farm worker-heavy community of Milton-Freewater, Oregon, which had an average per capita income of \$15,000 in 2013.

The clinic treated 1,064 patients last year.

Volunteers donate their time to keep the clinic open two days each week — 10 local physicians, another 10 nurses, medical assistants and certified nursing assistants, and a handful of people to handle front desk duties and interpreting for the largely Spanish-speaking Latino population.

The clinic operates similar to an urgent care clinic, offering a range of services. Most patients seek treatment for non-communicable diseases, such as diabetes and

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PRODUCT REVIEW



Three wines to better health

For wineries close to urban centers, fundraising for causes can be a simple thing. Advertise a wine auction, and people come to support the cause.

In rural areas, fundraising is decidedly more difficult.

Ashley Trout, winemaker for Vital Wines in rural Walla Walla, Washington, aims to produce up to 500 cases each year — a rosé and two red wines, The Given and The Gifted — in support of SOS Health Services, a free health clinic for those in need.

The label's Sangiovese rosé from Seven Hills Vineyard was released in April. The red wines may vary from year to year, depending on which vineyards are able to donate grapes and want to participate, Trout said.

Everything involved in the production of the wines has been donated from fruit to bottle, including corks, capsules, labels and design work.

Trout recognizes the effort and expense required of vineyards and small companies to donate products and services to such a cause. She expressed gratitude for the outpouring of support for a worthwhile cause.

"This clinic is free, and it's here," she said. "It's such a great way to wake up every morning, to have people wanting to give to a cause that I thought I was the only one who was passionate about. I am overwhelmed with how many people are on board."

—S. Dininny

COURTESY OF ASHLEY TROUT

The first release from Vital Wines, a rosé, became available in April. Two red wines are expected to be released later this year.

hypertension, and for upper-respiratory infections, said Krystal Lum, SOS volunteer coordinator.

The clinic also handles blood draws every Thursday morning, provides women's health services, connects patients to additional care they may require, such as chiropractic care, and assists with paperwork to help get outside services at discount that the clinic can't provide, such as X-rays.

SOS serves a vital need in the community, not just for migrant workers who may need care just one day while

in the region, but for others who otherwise might spend thousands of dollars on non-emergent care during a hospital emergency room visit.

And in addition to the money that will be raised by Vital Wines, Trout and her label also have helped to spread the word about the clinic, Lum said.

"It's allowed us to help push our capacity, and also get different programs going for some of the workers," she said. "Hopefully, we'll continue growing, as long as there's need."

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Trout's accident wasn't the only reason for starting the label. In an interview with *Good Fruit Grower*, she recalled accompanying her surrogate grandmother, who only spoke Spanish, to translate during medical appointments when she was a child.

Many farm worker families are in the same position, Trout said.

"These adults are vulnerable. They're humiliated talking about really personal stuff, and they're supposed to have the respect of this little human," she said. "And the kids are trying to do right by their parents or grandparents, but they're stressed they're not going to get it right. It's a really big issue."

Many farm workers also often choose a physician solely because the provider speaks Spanish, even though that provider might not be at the top of his or her specialty or have a great reputation, she said.

"These are all choices that workers have to make, and as often, you're dealing with a lot of workers who don't have the opportunity because of where they are on the employment ladder to call in and say, 'I won't be in until 9:30 on Wednesday because I have a doctor's appointment,'" she said.

A board member of SOS, Trout said she would love to see the clinic feature a mobile unit in the future, but in the meantime, she'll settle for increasing the number of hours the clinic is open. In the first year, she'd like to double the clinic's operating expenses, and come close to tripling them in subsequent years.

In the meantime, she's been visiting farm workers in the vineyards during the early morning hours, before her day at the winery begins to spread the word about the clinic.

The reality is that the wine industry winds up with a lot of frustrating health situations, she said. "I'm not arguing we can fix that with Vital, but we can ease them if we start thinking creatively out of the box." ●



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Vineyard EXPENSES

Project in early stages to help wine grape growers find ways to mechanize.

by Ross Courtney

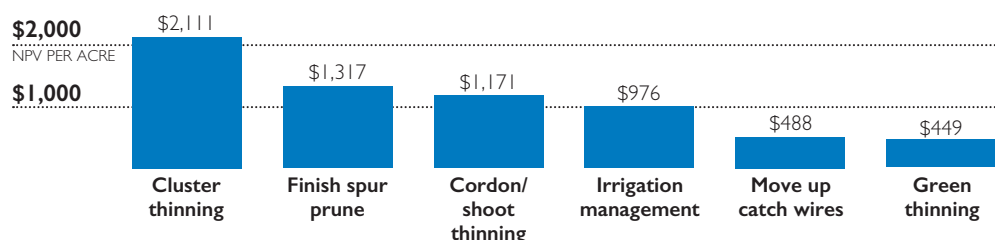
Wine grape growers looking to mechanize in Washington may want to eye cluster thinning, the most expensive chore in terms of labor. In Oregon, contracted manual harvesting tops the list.

Those are among the preliminary conclusions of Dr. Dean McCorkle, a Texas A&M University economist examining the facets of wine grape growing that might be ripest for automation.

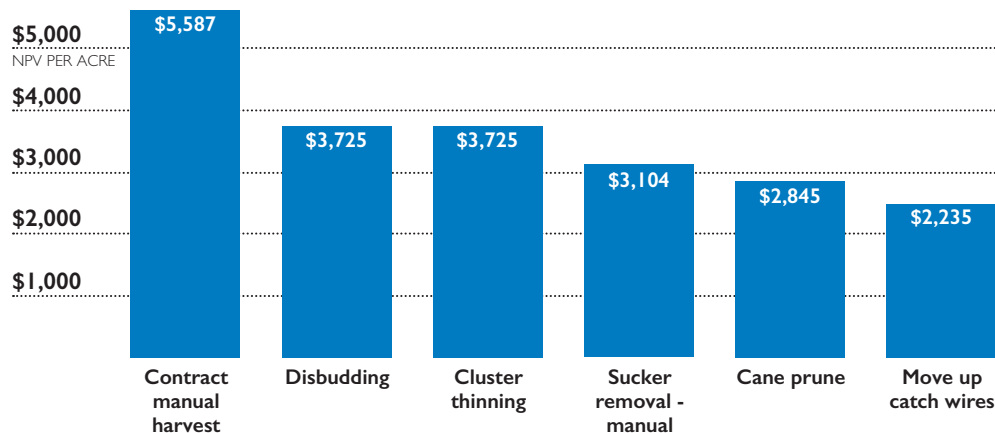
McCorkle, an extension specialist with the university's Agriculture Economics Department in College Station, Texas, is leading a team of economists and

Labor costs over 10 years

LARGE VINEYARD: 250 ACRES IN WASHINGTON



SMALL VINEYARD: 10 ACRES IN OREGON



SOURCE: DEAN MCCORKLE/TEXAS A&M AGRILIFE EXTENSION SERVICE

engineers in a three-year project to find ways to mechanize wine grape vineyards.

The first step, he figured, would be to calculate the cost of labor for different tasks and maybe give engineers an idea of where to target their innovation, identify the tasks that lend themselves to

mechanization and determine technical requirements.

"A lot of this is going to be some work the engineers do," McCorkle said in an interview with *Good Fruit Grower*.

For example, cluster thinning in Washington costs an average of \$238 per

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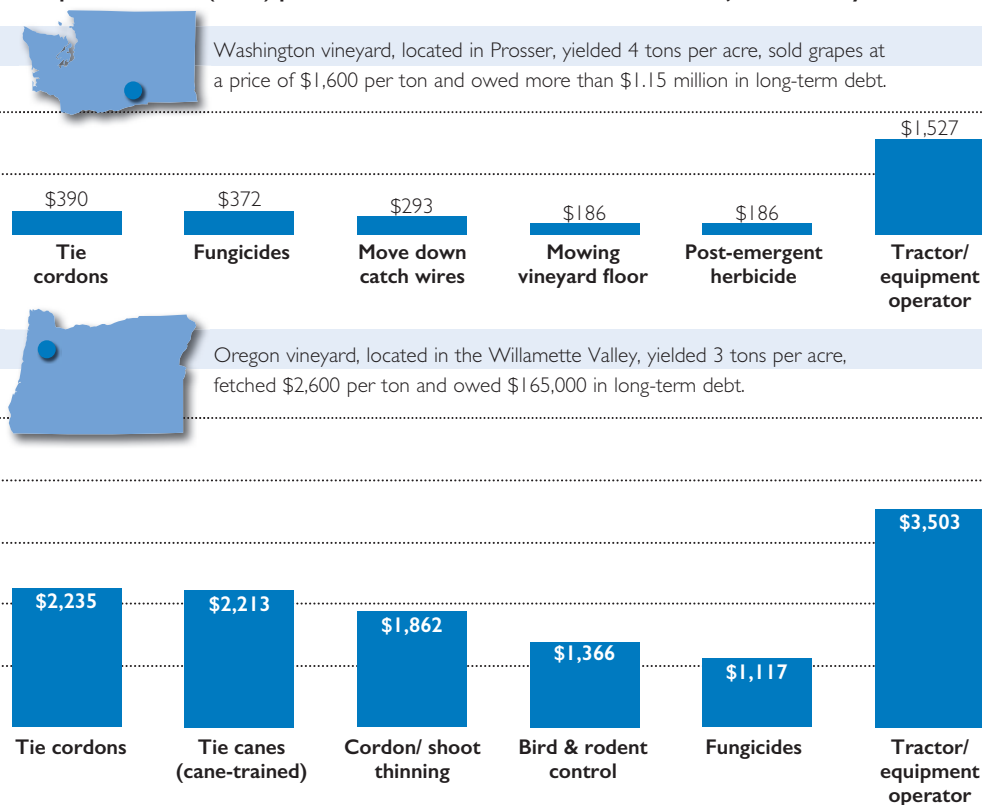
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acre, or \$527,666 for a 250-acre vineyard over 10 years, taking into account shifting prices of labor and other variables. In Oregon, where work is done by hand on smaller properties, contracted manual harvesting costs \$630 per acre or \$55,871 over 10 years for a 10-acre vineyard.

If growers want to mechanize either of those duties, they would need to compare the capital expense of machinery to those 10-year costs, assuming that the new technology has a 10-year life span, McCorkle said.

McCorkle is mostly done with the math for the \$462,000 research project, funded by a grant from U.S. Department of Agriculture's Agriculture and Food Research Initiative's Agricultural Economics and Rural Communities Program. He shared the preliminary results with growers in January at the Precision Farming Expo in Pasco, Washington.

Engineers will work the next two years to determine which of those high-cost chores might benefit from mechanization and other details, such as how many thinning machines a 250-acre orchard might need.

Collaborating on the project are officers with RE2 Robotics, a firm in Pittsburgh, Pennsylvania, as well as other faculty from the Texas A&M AgriLife Extension service.

To figure out the math, McCorkle and his team assembled panels of between four to six wine grape vineyard owners and managers from each of five states — Washington, Oregon, California, New York and Texas. He also studied one panel each of table grape growers and raisin growers, both from California.

He crunched a slew of financial data, such as acreage, debt, operating budgets, price per ton, average yields, insurance coverage and more, to create a representative "typical" sample for each area. The

Washington vineyard, located in Prosser, yielded 4 tons per acre, sold grapes at a price of \$1,600 per ton and owed more than \$1.15 million in long-term debt, for example. The Oregon vineyard, located in the Willamette Valley, yielded 3 tons per acre, fetched \$2,600 per ton and owed \$165,000 in long-term debt.

Using economic models, he projected 10 years into the future how well the ledgers of each vineyard might fare with current equipment and technology, asking if each was economically viable. "For Washington, I would say yes, over the next 10 years," he said in an interview. "For Oregon, I wouldn't say that." Oregon wineries are most likely tied to an estate winery that profited, something his calculations did not factor, he said.

He also averaged the cost of labor for different tasks around the vineyard, such as canopy management, pest control and harvest. In total, the Washington growers spend just shy of \$1,000 per acre on labor for those chores, while Oregon growers spend nearly four times that, again, because they use more hand labor.

Broken down, cluster thinning, finish spur pruning and cordon shoot thinning were the three most expensive jobs in the Washington vineyard. Contract manual harvesting, disbudding and cluster thinning were the top three at the Oregon vineyard.

In Texas, McCorkle's team used data from two representative vineyards. In the 50-acre operation, finish spur pruning, shoot positioning and hoeing were the top three chores. In the 100-acre vineyard, finish spur pruning, shoot positioning and raking brush topped the list.

New York's top three were cane pruning, contract manual harvesting and tying cordons for a 50-acre representative vineyard. Statistics for California, on a 30-acre vineyard, were not complete. ●



Dean McCorkle

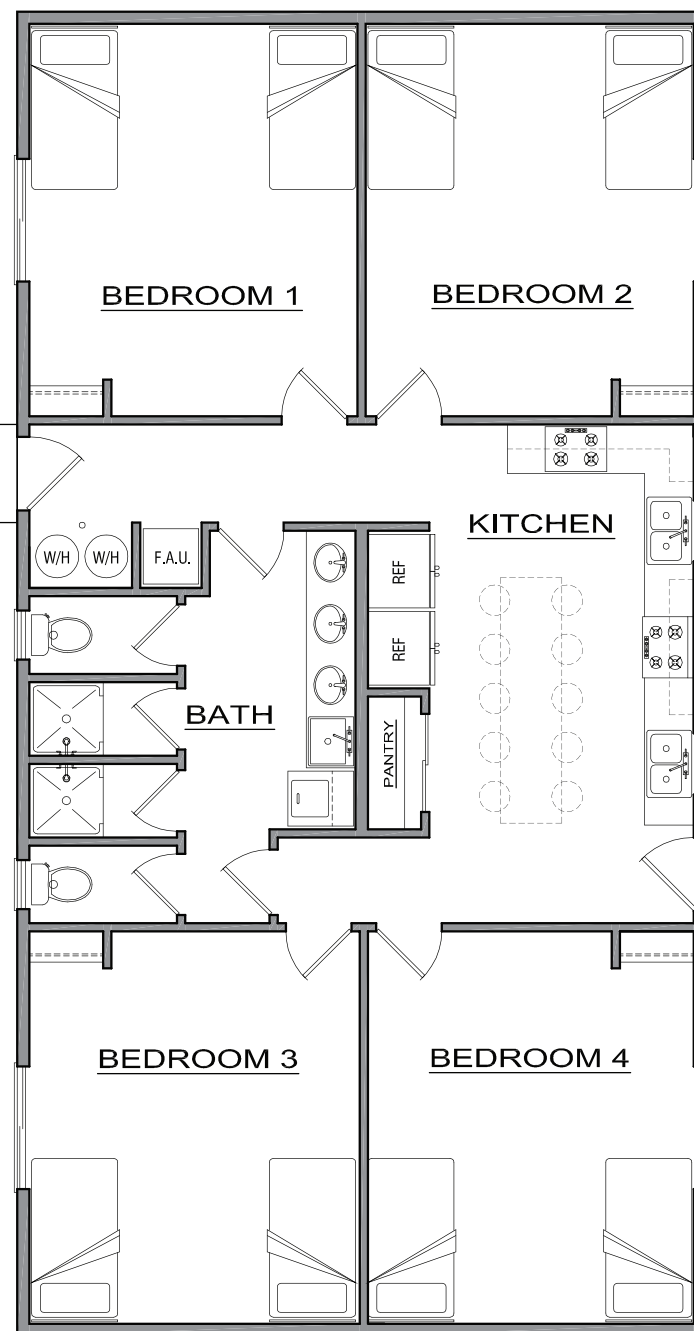
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PRODUCT REVIEW

Making the most of CIDERMANIA

Marketers changing strategies to meet growing consumer demand.

by Dave Weinstock

A group of Eastern and Midwestern U.S. growers, cider makers and others interested in entering the hard cider business heard good news at a workshop at Penn State University's Lehigh Valley campus.

Cider is growing.

"If hard cider were a category of craft beer, it would be the No. 2 selling category behind IPAs," Carla Snyder, a Penn State Extension educator, said at the March workshop in Center Valley, Pennsylvania.

While the annual increase in demand for hard cider didn't reach the 71 percent it did in 2014, it still increased by almost 11 percent in 2015. The number of new customers also rose by 55 percent last year.

Apple growers looking to break into the business also heard consumers are responding favorably to farm brands. "Large brands are still driving the market and they continue to boost their farm-image branding," Snyder said.

Changing strategies

The upward drive in demand in the U.S. market is predicted to run at 12 percent annually through 2020 and will be fueled by new cider varieties and new business launches, Snyder said.

As a result, U.S. marketing strategies will likely undergo a change. "Look for tradition and culture of the beverages to become as important as taste profiles," she said.

Inevitably, consumers tend to make comparisons between cider and beer and wine. As that trend increases, experts say growers and cider makers should look for consumers to transfer the same expectations they have for craft beer to cider.

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Snyder said few U.S. consumers knew much about the cider making process or how juice quality affects the end product. "Education on specific cider apple varieties and sweetness scale is necessary for market growth," she said.

Consumers tend to prioritize taste over brand, Snyder said. That's why cider makers looking to increase sales may want to introduce some new flavors to their offerings.



Carla Snyder

Last year, a number of cider makers did exactly that. "By mid-2015, the cider industry was experimenting with ginger, pear, cinnamon and a number of other seasonal flavors," Snyder said.

The two flavors garnering the highest consumer interest were coffee/espresso and pumpkin.

Snyder also reported some new flavor trends in evidence at the 2015 Great Lakes International Cider and Perry Competition. A number of cider makers there were introducing alternative apple ciders flavored with pear, peach and blackberries. Others brought botanical-flavored beverages flavored with mainly elderflower, and aperitif-crafted ciders, which were similar to ice-wine.

Hopped and barrel-aged ciders were also making a strong showing, Snyder said. "Producers are experimenting with specific hop varieties and types of barrels to impart flavors into their ciders. It's a method of differentiating their product in the marketplace," she said.

Target marketing

Between October and December 2015, Snyder conducted two surveys to gauge industry efforts and consumer demand for hard cider. One survey involved hard cider producers in Pennsylvania, North Carolina, Delaware and Virginia. In the other, she surveyed almost 1,000 hard cider drinkers at cider festivals from New York to North Carolina, asking a number of questions ranging from why they tried cider to how long they had been drinking it and where they tried it the first time.

The results pointed to two marketing decisions growers might want to research thoroughly before implementing: using social media and building tasting rooms.

Less than one-third of hard cider consumers reported using social media as a means of gathering information about the product, but nearly 90 percent of producers said they used social media to deliver hard cider information to consumers.

In addition, just 16 percent of hard cider consumers reported buying cider in tasting rooms, yet more than half of producers said they had one. "Before building a tasting room, do your research to assure you can get a return on the investment," she said.

A little less than half of the consumers surveyed said they tried hard cider for the first time because they liked other apple products. More than one-quarter of those surveyed said they enjoyed wine and believed hard cider to be a similar product. Eighteen percent said they liked to buy local products.

Taken together, producers can leverage these preferences by marketing locally and emphasizing their farming and orchard practices used to produce the apples they use to make their cider. Larger, commercial producers like Angry Orchard are using a similar approach, Snyder said.

Of those who identified themselves as cider drinkers, 41 percent most often chose beer when drinking alcoholic beverages, and 80 percent consume cider year-round.

Snyder thinks this offers another marketing opportunity for cider makers. "If the majority of hard cider consumers are most often beer consumers, they may be responsive to the same things consumers of craft beers do: quality ingredients, clean, targeted marketing and local, hand-crafted production techniques." ●

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GOOD POINT

Jon DeVaney, WSTFA president

Moving forward on FSMA

Most fruit growers and packers have heard about the Food Safety Modernization Act (FSMA) and the publication of its regulations to implement it — and that they need to be prepared to comply with these new requirements. What most growers and packers do not know is what specific actions they need to take to meet the U.S. Food and Drug Administration's (FDA) expectations. Bridging this knowledge gap with education and training programs will be a high priority for the Washington State Tree Fruit Association (WSTFA) and other industry organizations in the coming months.

Under both the Preventive Controls for Human Food and Produce Safety rules, farms and facilities are required to have employees complete approved training. However, to train someone you first need to have clear recommendations and guidance. That is where FDA's slow progress in producing guidance documents and training curricula is complicating this education program.

For example, due to complex definitions in the rules, many fresh fruit packing facilities will be subject to the Preventive Controls rule that is designed to address issues in food processing rather than the Produce Safety rule. Some facilities will be required to comply by Sept. 19, but so far FDA has issued no guidance on how to adapt the processing-oriented requirements to fresh packing operations.

In order to fill this gap, WSTFA is working with the Northwest Horticultural Council (NHC), Washington State University, the Washington State Department of Agriculture and a team of experienced food safety managers from our industry to refine the standard curriculum. This includes incorporating examples relevant to the packing of fresh, whole fruit and identifying priority issues requiring clarification from FDA.

The Produce Safety rule does not begin to take effect until 2018, so growers have more time to prepare. However, there are many more growers than there are packers and, unlike packers, most growers do not have food safety managers on staff to manage this transition.

Tree fruit producers are rightly proud to produce healthy, nutritious and safe food. The Food Safety Modernization Act has had the unfortunate effect of narrowing the focus from the overall goal of ensuring the safety of food to an emphasis on meeting regulatory requirements.

At this point, the curriculum for training growers on the requirements of the Produce Safety rule are not expected to be available before September 2016 at the earliest.

My mechanic is fond of saying, "You can get it done fast, right or cheap. Choose any two." The longer it takes to get the officially approved training materials, the more challenging it will become to deliver high-quality training at a reasonable cost to every grower before the deadline.

While meeting the requirements for "approved" training will be a challenge, this is not our industry's only need for food safety education. Fortunately, we are able to move forward with training on other specific issues of interest to our industry without waiting for an agency blessing. A good example of this is water testing requirements. The Produce Safety rule includes a requirement for periodic testing of water that may come into contact with food or food-contact surfaces. While the water testing requirement doesn't come into force until 2020, growers will be required to conduct 20 tests over the previous two to four years. This would mean starting testing as early as 2016, particularly if growers want to spread these new costs over multiple seasons.

To ensure that growers are prepared for this

requirement, WSTFA is working with the NHC, Washington Tree Fruit Research Commission (WTFRC) and water quality experts at the University of California, Davis, on training that covers when, where and how to sample and monitor irrigation water sources.

It is also important to remember that meeting regulatory requirements and adopting practices that reduce food safety risks are not always exactly the same thing. In 2015, the industry identified enhanced training on packing line cleaning and sanitation as a high-priority training need following the outbreak of *Listeria monocytogenes* in caramel apples.

WSTFA partnered with WSU, the NHC and the WTFRC to offer a series of cleaning and sanitation workshops that included live demonstrations on packing lines. We are planning to offer these workshops again in 2016, along with a more advanced session including testing and monitoring practices to verify the effectiveness of this sanitation.

Successful food safety programs should also seek to incorporate the latest research findings and methods. WSTFA recently made a five-year commitment totaling \$750,000 to support coordinated research on priority food safety issues through the Center for Produce Safety (CPS). This research generates the kind of actionable information that producers need to be able to take meaningful action on food safety while minimizing unnecessary burdens on their operations.

Tree fruit producers are rightly proud to produce healthy, nutritious and safe food. The Food Safety Modernization Act has had the unfortunate effect of narrowing the focus from the overall goal of ensuring the safety of food to an emphasis on meeting regulatory requirements. WSTFA is working with our industry partners to ensure that our growers and packers are prepared both to clear the regulatory hurdles of FSMA and to ensure that our already safe products become safer still. ●

Jon DeVaney is president of the Washington State Tree Fruit Association.

GOOD STUFF

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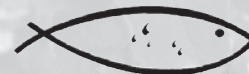
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Paul Bavaro

grower / Escalon, California

age / 27

crops / Peaches, almonds, walnuts

business / Orchard manager of Bavaro Ranches Inc.

family background / Paul is a fourth-generation peach grower who's been working with his father, Frank, on mechanization trials to help reduce labor costs and improve fruit quality.

How did you get your start?

“I've always looked up to my father. I'd ride around with him as a little kid and he'd be coaching me on how to work the ranch. I got to see him stretched out to being as happy as anyone can be the very next moment. Originally I dreamed of being a BMW or Mercedes mechanic because I loved the shop. As I got older, I found I didn't love it as much as some people could. My family from Italy was in the peach industry. It's in our family's blood. I enjoy the diversity that comes with being a farmer.

Why do you want to farm peaches?

“I get a kick out of farming peaches. The first couple weeks of harvest — I love it. Just going out there and smelling the fruit and seeing what you've been working on all year long — seeing that little blossom become this big, beautiful peach at the end of the year is pretty great. How many jobs are out there where you're a plumber one day, then a lawyer the next?

What challenges do you face?

“The biggest thing to me is that peach growers are a dying breed. Around here, you'll realize peach growers are losing ground. Nobody wants to grow a canned peach. To survive we are having to be proactive about labor, keeping our expenses down and keeping our production up.

What are you doing to save on labor costs?

“The last couple years we've been experimenting with a string thinner for thinning peach blooms at full bloom. We're hoping to get a lighter set leading to a healthier crop. Our first tests were on a traditional four-scaffold tree and it worked pretty well on that. The first year we blossom thinned on the Tuolumne variety, which sets really heavy every single year. As soon as fruit thinning time came, our labor contractor came up to us and asked what we did because he noticed we had larger fruit compared to past years. Because of those results, we are working on improving the thinning device. We've noticed that it's working pretty well, although the spacing might be a bit too tight to operate the thinner.

“We may need to become self-sustainable where we aren't needing the labor of a traditional peach farm.

by TJ Mullinax

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