

C E L E B R A T I N G

1000

YEARS



FARMS • FOOD • FAMILIES
SERVING THE COMMUNITY SINCE 1917

OSU Extension celebrating 100 years of Service to Clackamas County

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A special thank you to our contributors:

The faculty and staff of OSU Extension Service in Clackamas County

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The Oregon State University (OSU) Extension Service has been serving Clackamas County residents since 1917 when the first County Extension Agent, Lorene Parker, a home economist, was assigned to this region of the state. Later that same year, Richard Werner, an Agriculture Extension Agent, came to the county.

During 2017 we are planning a number of events and activities commemorating this long and rich history, recalling some of the people, names, places and important issues of the day. We hope you will join the celebration—plus consider sharing your family’s memories!



Mike Bondi, Extension Regional Administrator

“OSU is the state’s designated Land Grant University,” said Mike Bondi, Extension Regional Administrator in Clackamas County and responsible for all university programs in the region. Bondi, himself, has a long

history with OSU—having worked for the university for nearly 40 years with most of those years here in Clackamas County. During his program career, he was the area’s Forestry and Christmas Tree Extension Agent.

“We are proud of the fascinating history of the Land Grant movement in the U.S. and the assignment of university faculty to live and work, side-by-side, with citizens in counties all across the nation. The idea to bring the university to the people—with the latest research and science-based information to help communities solve local problems—was truly unique and never done before. No other public or private universities other than the Land Grants—even today—have this purpose or structure.”

During 2017, the Clackamas County Extension office in Oregon City will be locating displays at events they bring to the county and other venues



where Extension is involved in community outreach.

Look for the sharing of old photos, memorabilia, and stories at these locations: Clackamas Tree School (March 25), Clackamas County Health Fair (April 25), Clackamas Spring Garden Fair (May 6-7), North Willamette Research and Extension Center Community Open House (July, TBD), Clackamas County Fair (August 15-19).

And, you can be involved, too.

If you have Extension information from the past, please share with us. We suspect there might be all kinds of fun stories to be shared hiding in attics, garages and scrapbooks around the county!

Perhaps you had family involved in our early 4-H youth programs and clubs in the past. Or, maybe you had family involved with Extension’s demonstration food canning kitchens—traveling around the Willamette Valley in railcars—during the early 1900s. Maybe, your family hosted farmer field trials with Extension Agents testing new fertilizers or how to use dynamite safely for converting forest land to farming. And, we were there at the beginning of the woodland owner movement and for the creation of the Christmas tree industry in Oregon following WWII. Please help us recall these stories here in Clackamas County and your special memories.

Long-time Extension Secretary and volunteer, Cheryl Keithan, is coordinating the Extension “Walk Down Memory Lane.” If you have something to share, contact Cheryl at the Extension office in Oregon City or email at cheryl.keithan@oregonstate.edu.

FAMILY AND COMMUNITY HEALTH

Food Hero Recipes Bring New Tastes to School Menus

Oregon State University's Food Hero social marketing campaign is a large part of our school nutrition education program and was implemented this past year in 6 schools around Clackamas County. Check out the Food Hero website at <http://www.foodhero.org> where you will find countless healthy, kid-approved, easy-to-prepare meal and snack recipes. The Food Hero website, available in English and Spanish, is designed to become your family's "go to" site for everything food—including creative meal ideas, budgeting, shopping, feeding picky eaters, and many more cooking tips and tools.

Food Hero recipes are being tested in local schools, too. Clackamas County OSU Extension staff members and volunteers prepare recipes and distribute samples in cooperating school cafeterias. Students try the new foods and complete surveys about their look, taste, and acceptability as breakfast or lunch items.

Stephanie Stuart, a SNAP-Ed Extension Education Program Assistant in the Family and Community

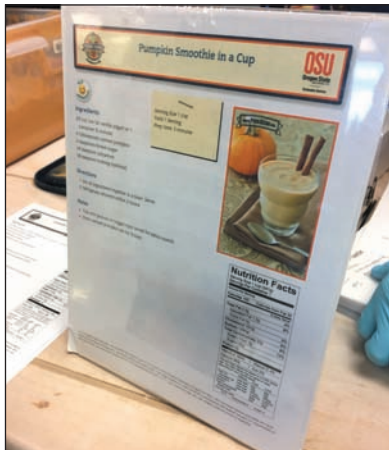
Health program in Clackamas County, has been working with the Estacada School District, providing school nutrition education for the past 10 years. "It's exciting to see the interest expressed by the students regarding the food tast-

ings. Our goal is to introduce them to new foods, tastes, and ways to incorporate certain items into their diet. We try to make food that is healthy for you, fun, and also tastes good!"

Last year, Stuart partnered with Nutrition Services Director, Julie Theander, to try out several recipes that resulted in new menu items like breakfast smoothies—after students cast their votes during Food Hero tasting events. Stuart notes that "We are really fortunate that the Estacada School District still prepares all of the food for students in their school kitchens. Many schools have turned to food service management companies where food is prepared off-site and delivered. It's a lot harder to be able to alter menus and bring in new food options with these arrangements. This is an ongoing project that we hope to continue in 2017."



Students at Estacada Middle School sample new foods and fill out survey questionnaires.



FAMILY AND COMMUNITY HEALTH

GROW HKC Celebrates Success in Molalla and Estacada

GROW Healthy Kids & Communities (GROW HKC) was launched in 2011 by OSU faculty, Deborah John and Kathy Gunter—both located in Corvallis—as an integrated research, education, and Extension program to inspire communities, schools, and families to create healthy environments for children to eat healthfully and be physically active. The five-year project was funded with a \$5 million U.S. Department of Agriculture grant.

The grant funded assessments and interventions in three Oregon counties: Clackamas, Columbia, and Klamath. In Clackamas County, Molalla Elementary School and Estacada's Clackamas River Elementary School graciously hosted the project. School and community environment assessments were conducted using participatory research tools. Families participated in focus groups and surveys to provide additional information to the study. Community members



Molalla River Academy students with harvest from their school garden.

joined an action team and wellness committee, and funds were used for a variety of projects to enhance the food and physical activity environments.

Data from the three counties showed that three of five rural Oregon children are currently at a weight that is

healthy for their age, and that they are moderately to vigorously physically active for an average of twenty minutes during the school day. The goal is for children to reach sixty minutes of daily physical activity. Reports specific to Molalla and Estacada are available that provide details about barriers and supports to a healthy environment in those communities.

Clackamas County Extension is grateful for the leadership of former

Clackamas Extension faculty member, Beret Halverson, who has moved back to her home state of Vermont, and the partnerships of many community and school leaders in Molalla and Estacada to help make this project successful.

Clackamas FCE Program Still Going!

The Oregon Family and Community Education (FCE) program is a part of a national organization formed back in 1932—during the peak of the Great Depression—as a way to bring farm wives and housewives together to learn the latest science-based information, build new skills, and help families survive during tough times. At its peak in Oregon in the 1950s through 1980s, there were county chapters in most regions of the state.

Leaders in each county would meet for monthly lessons—organized and/or taught by their Extension Home Economics Agents—and, then, take the lessons back to their local communities and share with the other participants. Today, this concept would be called a “train-the-trainer”—an idea thought by some to be a novel way of teaching and sharing information. Clackamas County, historically, always had one of the larger FCE programs in the state with as many as 30 community chapters or

more have been active over the years.

Times have changed. People are much more mobile today. And, we communicate and get information in many different ways, too. As a result, the popularity and participation in FCE Study Groups has waned. Programs in most counties have been abandoned as members have aged and needs have changed.

But, Clackamas County still has 7 active community FCE Study Groups in the following locations: Beavercreek, Oregon City, Happy Valley, Gladstone, Estacada, Molalla, and Portland. The need for good, unbiased, research-based information about a topic, product or technique is still there. Yes, there are many ways to get this information, but for some, good, old-fashioned, human interaction, sharing, and exchanging ideas is the best way to learn.

Members of the Clackamas FCE still participate in a Study Group Lesson once a month. In Clackamas County, these lessons are hosted at the OSU Ex-

tension Service Annex in Oregon City. Generally, one person from each Study Group learns the lesson and then presents it to their smaller community group. The OSU Extension Service develops three lessons each year. The national FCE organization develops an additional six lessons. The 2016 OSU lessons were titled:

- **Oregon Cranberries**
- **Walk With Ease: The First Step to Better Health**
- **Whole Grain Foods for Every Meal of the Day**

2017 lesson topics include Food as Medicine and Other Keys to Healthy Aging, Strength Training, and Aging In Place.

If you are interested in finding out more about this program, joining a study group, or creating your own study group, contact Katlyn Axmaker at the OSU Extension office in Oregon City at 503-655-8631. She would be happy to help you.

FAMILY AND COMMUNITY HEALTH

FCH and Oregon City Farmers' Market Partner to Offer SNAP-To-It!

Extension's Family & Community Health (FCH) Program partnered this past year with the Oregon City Farmers' Market (OCFM) to offer SNAP-To-It! @ Farmers' Market. The format consisted of a series of six educational farmers' market tours and chef's demos, delivered to a SNAP (Supplemental Nutrition Assistance Program for low income) audience on the second Saturday of each month from May through October in 2016. A Clackamas County HEAL Grant (Healthy Eating Active Living) funded the program.

Each SNAP-To-It! session began at the Information Booth, where shoppers registered for the program and purchased market tokens with their SNAP EBT cards. Since the OCFM participates in the "Double Up Food Bucks Oregon" Program, tokens purchased by shoppers were matched up to ten dollars each market day. Thus, one ten dollar redemption yielded twenty dollars of market tokens; the second ten dollars was designated for the purchase of fresh fruits and vegetables. A total of 44 shoppers, representing both single and larger households, participated in the program. Six shoppers attended three sessions or more.

With tokens in hand, shoppers participated in a guided market tour led by an FCH Program Faculty member. They were introduced to local farmers who welcomed them into their booths and shared the history of their farm and their farming practices. Also, the farm-



Kelly Streit, Clackamas County Family and Community Health faculty, at the Oregon City Farmers Market.

ers discussed their produce and prices, storage tips, and shared some of their favorite recipes with the shoppers. The tour was followed by a chef's demo where shoppers watched fresh fruits and vegetables purchased at the market being prepared in simple, flavorful ways, using Food Hero recipes (foodhero.org). Shoppers were encouraged to share their experiences and ask the chefs questions during the demo. At the end of the day, the participants' efforts were rewarded with a sample of the final product. Examples of some of the recipes demonstrated included Barley Fiesta Rice, Bulgur Pilaf, Stuffed Peppers w/ Turkey & Vegetables, and Veggie Stew.

At the conclusion of the food demo, shoppers were asked to fill out a brief

post-program survey and received an insulated shopping bag stuffed with a calculator, grocery pad, cooking utensils, nutrition handouts, recipes, and another five dollars in market tokens.

A Post-Survey of the SNAP-To-It! Program revealed that it provided shoppers with the opportunity to maximize their SNAP benefits, by increasing their knowledge, skills, and confidence to better manage their limited

food resources, including how to purchase, store, and prepare fresh fruits and vegetables in easy new ways. The farmers who participated in the tours reported that the SNAP-To-It shoppers participating in the tours returned to their booths throughout the summer to purchase additional fruits and vegetables.

Interest in starting a "SNAP-To-It!" program at other farm-direct venues has been expressed by other community organizations. Stay tuned for future developments.

For additional information about the SNAP-To-It! Program, contact Kelly Streit, Food & Nutrition Instructor, OSU Extension Service, Clackamas County, at kelly.streit@oregonstate.edu, or at 503-655-8631.

FCH Volunteer Opportunities to Expand in 2017

Extension's Family & Community Health (FCH) Program has taken the first step to expand volunteer opportunities in Clackamas County by providing training in food resource management (healthy eating on a budget, meal planning, shopping, food preparation, food security)—in addition to our traditional food preservation and safety. This new training is available to both current and new volunteers to help support the continuing development of a rich and diverse, county-wide volunteer group.

In September 2016, eight Family Food Educator (FFE) volunteers were oriented and trained to assist SNAP-Ed (Supplemental Nutrition Assistance Program Education) with events and classes. Since completing the training, half of the volunteers have already stepped up and participated in the delivery of SNAP-Ed Food Hero tastings at elementary

schools. This is a great start!

Individuals interested in volunteering with Extension's Family & Community Health Program can now choose to participate in the full FFE training (food preservation and safety—plus food resource management), or complete just the food resource management training and assist with other community events. We recognize that everyone is able to contribute different amounts of time within different areas of interest, and that they bring different visions of volunteer service.

Whether you are interested in volunteering at community events, Food Hero tastings, preservation classes, or nutrition classes, there is a volunteer role for you! Come join the university. Contact the OSU Extension office in Clackamas County (503-655-8631) for more information and to get involved.

FAMILY AND COMMUNITY HEALTH

SNAP-Ed Brings Nutrition to Life with Hands-on Classes and Workshops

Nutrition education has always been an integral component of the SNAP-Ed (Supplemental Nutrition Assistance Education) program. SNAP-Ed is funded through a federal grant provided by the U.S. Department of Agriculture and available to schools and in communities having a high population percentage below a minimum income threshold. Over \$200,000 of federal funding will support the 2017 nutrition education program in Clackamas County, provided by the local OSU Extension Service faculty and staff. The SNAP-Ed program has been available in Clackamas County for the past 20 years.

With an expanded toolbox to support nutrition and physical activity in new ways for schools and communities, SNAP-Ed in Clackamas County provides a variety of comprehensive programs, including school-wide assessments, Food Hero recipe tastings in cafeterias and lobbies, healthy celebrations, health promoting displays, and cooking classes with our partners. Our 2016 partners in the county included:

- **Estacada** — River Mill and Clackamas River Elementary Schools and Estacada Middle School



Diane Ruff, Aurora and Sheryl Hall, Oregon City, are family food educator volunteers setting up a classroom food tasting demonstration.

- **Canby** — Trost Elementary School
- **Milwaukie** — Kraxberger Middle School and Clackamas ESD
- **Molalla** — Molalla Elementary School, Molalla Summer School, Plaza Los Robles, Molalla Farmers' Market

- **Oregon City** — Grocery Outlet and Oregon Department of Health Services (DHS)

- **Sandy** — Sandy Grade School, Ant Farm, and Grocery Outlet

Kindergarten school programs have been receiving a special focus with the new curriculum—Discover MyPlate—introducing nutrition concepts to kids at that early age. Serving Up MyPlate offers lessons for grade school students (1-5).

In addition, teachers have been trained to deliver this curriculum in their classrooms in our partner schools. Elementary and middle school students have been participating in the Kids in the Kitchen afterschool or summer school program learning how to use knives, skillets, the oven, and microwave to prepare eight different recipes. Adults enrolled in Plan, Shop, Save, and Cook learn a variety of food resource management and nutrition skills with new recipes in each of their four classes.

In 2017, SNAP-Ed is excited to expand program offerings to current and new partnerships helping citizens by offering programming so that we can all live, learn, work, and play in good health!

Extension Education Center—still moving ahead, but slowed

In November, 2015, Clackamas County Commissioners approved a proposal to build a new OSU Extension Education Center on the County's Red Soils Campus in the Hilltop area of Oregon City.

The new facility would be the first-ever designed specifically for Extension's education and community outreach activities in the agency's 100-year history in Clackamas County. The building would be county-owned and paid for by the Extension Service District. The Extension office has been located in its current building on Warner Milne Road since 1982. Four other buildings have been home to the Extension office since 1917—including sites in downtown Oregon City at the location of the current County Courthouse and in the basement of a former Post Office building.

"This is a very big deal for us," said Mike Bondi, OSU Extension Regional Administrator for Clackamas County. "We are excited to design a building that will best serve the community and provide more adequate teaching and meeting space for growing programs. We are looking forward to being in

this new facility for many, many years."

The plan in 2016 was to take the concept design developed for the facility in Phase I, and approved by the Commissioners, and complete detailed design planning, construction documents, and permitting—before beginning construction. A new service contract was needed to launch the Phase II work.

But, negotiations stalled with the original architecture firm working on the project and, by last September—instead of being ready to break ground, we were re-thinking what to do next.

The Extension Education Center is now getting ready to move forward, again, and with a new design firm. We expect to re-start the Phase II design work early in 2017 with hopes of breaking ground in the fall and looking forward to Extension's next 100 years in the county.

"If this project comes together in 2017, it would be great to celebrate our first hundred years in the county with a ground breaking for the next hundred. That's the goal!"

LOOK FOR THESE EVENTS IN 2017-2018

Listed below is a sampling of several larger and public-oriented Extension educational programs and activities in Clackamas County. If dates are not listed, to be determined. For more information, contact the Extension office in Oregon City or the North Willamette Research and Extension Center (NWREC) in Aurora—or, check their websites.

January

North Willamette Horticulture Society annual meeting, Clackamas County Fairgrounds and Event Center; Canby—January 9-11, 2018

February

Clackamas Master Gardener Training; Oregon City—Thursdays, February 9 through March 23

OSU Small Farms Conference, OSU Campus; Corvallis—February 18

March

Clackamas 4-H Tack Sale, Clackamas County Event Center; Canby—March 18

Clackamas Tree School, Clackamas Community College; Oregon City—March 25

April

Clackamas County Health Fair; April 25

Oregon Future Natural Resource Leaders—state-wide convention, Hopkins Demonstration Forest; Beavercreek—April 27-28

May

Master Gardener Spring Garden Fair, Clackamas County Event Center; Canby—May 6-7

4-H Spring Events (HEARTH, Dog Fair, Horse Pre-Fair), Clackamas County Event Center; Canby—May 20-21

June

Strawberry Field Day, NWREC

July

4-H Dog Fair, Clackamas County Event Center; Canby—July 9

4-H Horse Fair, Clackamas County Event Center; Canby—July 9-15

4-H Summer Camp, State 4-H Center; Salem—July 18-23

Caneberry Field Day, NWREC

Blueberry Field Day, NWREC

NWREC Community Open House, NWREC

August

Clackamas County Fair, Clackamas County Event Center; Canby—August 15-19

September

Small Farm School, Clackamas Community College, Oregon City

Vegetable Variety Field Day, NWREC

NWREC Annual Harvest Dinner, NWREC

October

OktoberPest Workshops for Nursery and Greenhouse Growers; NWREC—every Thursday morning in October

Clackamas 4-H Tack Sale, Clackamas County Event Center; Canby—October 21

November

4-H Awards and Recognition Program, Clackamas County Event Center; Canby

December

Blueberry Nutrition Workshop, NWREC

Blueberry Pruning Workshop, NWREC



1917-1926 Extension's first home in Clackamas County, a one room building, on the Eighth Street side of the old county courthouse—not far from the Willamette River steamboat dock at the mouth of Singer Creek. Included a one room office on the upper level and storage below.

1926-1933 Extension moved to a newly built stucco facility adjacent to the previous office that offered indoor plumbing, a lobby and two private offices. A garage and storage occupied the lower level. County Agent, John Innskeep, and staff did business here until 1933 when the county owned lot was cleared to make way for the present courthouse.



1933-1966 Extension occupied rooms in the basement of the Post Office building on Fifth and Main for many years.

1966-1982 Extension was located in the Hilltop area of Oregon City at the Federal Building, 256 Warner-Milne Road sharing space with their other federal partners: ASCS (Agricultural Stabilization and Conservation Service), SCS (Soil Conservation Service), the Clackamas Soil and Water Conservation District, and the USDA's Farmers Home Administration office.



1982-Present Clackamas County Extension was relocated to its current home (200 Warner-Milne Road) due to county budget reductions. The building was originally shared with the county's 13 Home Health Care Nurses (and 2 clerks) from 1982 to 1986. Extension occupied the entire building starting in 1986. A 4-H club developed the exterior landscaping as a beautification project. Many other donors including Extension Study Groups, 4-H clubs, local businesses and individual supporters contributed to the development of the meeting room and kitchen.



OSU SERVING YOU IN CLACKAMAS COUNTY

NOTABLE FACTS ABOUT EXTENSION IN CLACKAMAS COUNTY

- ◆ The first Agriculture Experiment Station in the north Willamette Valley was located in Oregon City (1939-1964)—known as the Red Soils Experiment Station—on land that is today's Red Soils campus of Clackamas County government.
- ◆ 106 OSU Extension faculty—with their offices located in Oregon City—have served the citizens of Clackamas County over the past 100 years.
- ◆ One of Extension's best known Clackamas County Extension Agents was John Innskeep, Agriculture Agent from 1926-1962.
- ◆ Extension's history working to teach food safety methods in canning and preservation goes back 100 years in Clackamas County with "canning kitchens" on rail cars visiting local communities. Today, Extension is still the national source for the latest food preservation and safety information.
- ◆ Clackamas County's 4-H program is one of the largest in Oregon with nearly 1,000 club members and more than 350 adult leaders and volunteers + over 4,300 youth participating in school-based 4-H supported programs.
- ◆ Dan Green was hired in 1976 to begin the Extension Forestry program in the county—our first professional forester on staff.
- ◆ Oregon's Master Gardener program began in Clackamas County in 1978 when the City of Gladstone requested help from OSU Extension to develop a community garden program. Gray Thompson, Extension Agriculture Agent in Clackamas County, responded.
- ◆ Created in 1991 by Extension Agent, Mike Bondi, OSU Extension's Clackamas Tree School is the largest annual woodland owner education program in the U.S. with about 750 participants every year.
- ◆ Clackamas County citizens formed a property tax supported service district for Extension in 2008—making this is one of the best locally funded Extension programs in the U.S.
- ◆ Roxie Applebee, current Clackamas County Extension's Office Manager, has the record for longest employment at the Clackamas Extension office—44 years.
- ◆ Clackamas Extension's 2016 statistics:
 - ★ Trained and supported 1,622 volunteers serving the county
 - ★ Value of Extension's volunteer service over \$1,500,000
 - ★ 181 educational programs taught with more than 12,500 attendees
 - ★ More than 16,000 citizens served by Extension's front office team via phone and walk-in clients needing assistance
 - ★ \$1,558,348 in grants, contracts, and community donations generated to support outreach

Faculty and Staff Located at the Clackamas County Extension Office, Oregon City. Phone: 503-655-8631

Mike Bondi	Regional Administrator
Roxie Applebee	Office Manager
Jean Bremer	Office Specialist – Ag, Forestry & Home Horticulture
Kelly Redwine	Office Specialist – 4-H & Youth
Sally Yackley	Office Specialist – Tree School/4-H/Accounting Assistant
Katlyn Axmaker	Office Specialist – Family & Community Health
Cheryl Keithan	Office Specialist – Part Time (Special Projects, Backup Clerical)
Wendy Hein	Extension Faculty/4-H Youth Club Program
Jan Williams	Extension Faculty/4-H Youth Club Program
Janet Nagele	Extension Faculty/4-H Youth School Enrichment Program
Rodrigo Corona	Program Assistant/4-H Latino Outreach Program
Trisha White	Program Assistant/4-H Youth Club Program
Weston Miller	Extension Faculty/Metro Community and Urban Horticulture
Jordis Yost	Coordinator/Metro Master Gardener Program
Marcia McIntyre	Home Horticulture Administrative Program Specialist
Jen Aron	BUFA Educational Program Assistant/Home Horticulture
Kelly Streit	Extension Faculty/Family and Community Health
Erin Devlin	Research Assistant/Family and Community Health
Stephanie Stuart	Program Assistant/Oregon Food and Nutrition Program
Elena Illescas	Program Assistant/Oregon Food and Nutrition Program
Glenn Ahrens	Extension Faculty/Forestry and Natural Resources
Peter Matzka	Extension Faculty/Forestry and Natural Resources
Jen Gorski	Program Assistant/Forestry and Natural Resources
Gene Pirelli	Extension Faculty/Livestock and Pasture, Polk County Extension Office, Dallas
Jennifer Cruickshank	Extension Faculty/Dairy, Marion County Extension Office, Salem

Faculty and Staff located at the North Willamette Research and Extension Center, Aurora, who have regional and statewide responsibility for Extension education and research. Phone: 503-678-1264

Mike Bondi	Director
Shelley Hughes	Administrative Assistant
Jan Egli	Office Specialist
Marc Anderson	Farm and Facilities Manager
Geoff Lewis	Building Trades Maintenance
Derek Wells	Farm and Facilities Management – Assistant
Robin Rosetta	Extension Faculty/Nursery – Integrated Pest Management
Luisa Santamaria	Extension Faculty/Nursery Pathology and Bilingual Educator
Gilberto Uribe	Program Assistant/Nursery Pathology and Bilingual Education
Lloyd Nackley	Nursery and Greenhouse Production and Management
	Research and Extension
Chal Landgren	Extension Specialist/Christmas Trees
Judy Kowalski	Bio Science Research Technician/Nursery, Christmas Trees and Pesticide Registrations
Nick Andrews	Extension Faculty/Metro Small Farms
Heidi Noordijk	Program Assistant/Metro Small Farms
Joe DeFrancesco	Senior Research Faculty/Specialty Crop Pesticide Registrations
Gina Koskela	Senior Research Assistant/Specialty Crop Pesticide Registrations
Peter Sturman	Bio Science Technician/Specialty Crop Pesticide Registrations
Bernadine Strik	Extension Specialist & Research Leader/Berry Crops
Amanda Vance	Research Assistant/Berry Crops
Pat Jones	Research Assistant/Berry Crops
Wei Yang	Extension Faculty/Berry Crops
Nik Wiman	Extension Specialist/Tree Orchard Crops
Heather Andrews	Faculty Research Assistant/Tree Orchard Crops
Aaron Heinrich	Faculty Research Assistant/Tree Orchard Crops

COMMUNITY AND URBAN HORTICULTURE

Gardening Science Takes to XRAY Radio Format

Adapted from an article by Gail Wells, OSU Communications Specialist, and appearing in Oregon's Agriculture Progress magazine, Summer 2016

“Do you have concerns about your soil?” asks the voice on the radio. The voice, genial and reassuring, belongs to Weston Miller, Extension Community Horticulturist in the Portland Metro area.

Every Wednesday at 1:30pm on XRAY-FM 91.1, Miller hosts a half-hour radio show, Grow PDX, when he fields calls from listeners worried about everything from battling slugs to coping with cadmium. He chats with guests such as OSU Extension garden guru Kym Pokorny and “Dr. Soil” (OSU’s James Cassidy). The show’s tagline: “Listen in to get the real dirt!”

Today, Miller’s guest is OSU soil scientist Dan Sullivan, and the topic is heavy metals in the soil. Sullivan explains that recent soil tests conducted by the Oregon Health Authority did not detect levels of soil-borne arsenic or cadmium in excess of state safety thresholds. “All these elements occur naturally in the soil,” Sullivan says. He explains the evolutionary adaptation of plants and why your carrots and potatoes are not likely to absorb heavy metals from the soil because the plants have no receptors in the cell membrane to take them in.

However, there are things that wor-



Community and Urban Horticultural Extension Agent, Weston Miller on the air.

ried gardeners can do as precautions, Sullivan says. Adding lime to raise soil pH and tilling in compost or other organic matter can make metals less bio-available and thus less likely to be taken up by plant tissues. “These are things good gardeners are likely to do anyway,” Sullivan says. Miller concurs, and adds that if you think you’re on a risky site, you can get your garden soil tested.

Miller, whose portfolio includes Extension’s urban and community horticulture and organic agriculture, slips on the urban-talk-show-host role like a well-worn garden glove. For him, radio is just one more way to engage with people in a city that cares about good food.

Miller coordinates Portland’s active cadre of OSU Extension Master Gar-

deners, who tend five demonstration gardens, growing food for local food pantries. Master Gardeners teach classes in Oregon Food Bank’s state-wide Seed-to-Supper program, a six-week course on growing veggies on a limited budget.

Miller also runs an Extension program called Beginning Urban Farmer Apprenticeship, teaching first-time farmers how to grow organic produce and organize their own community-supported agriculture networks. Miller embraces this kind of grassroots food networking. A few years ago he was part of a city-county policy

group that helped change the zoning code to make it easier to farm and sell vegetables within city limits.

“All these things are part and parcel of OSU Extension’s mission,” Miller says. “We’ve been doing this kind of work in the community around here for the past 100 years in various ways—depending on the issues facing citizens at the time. XRay radio gives us a new and current format to reach people.”

The GrowPDX radio show can be listened to live on Wednesdays from 1:00 pm – 1:30pm in Clackamas County and everywhere online at XRAY.fm and podcasts of the show can be downloaded here: <https://xray.fm/shows/growpdx>.”

Check out Miller’s show to “get the real dirt!”

COMMUNITY AND URBAN HORTICULTURE

SolvePestProblems.org Progress Continues

Oregon's new integrated pest management website made big progress in 2016. What began as a concept to bring pest identification, diagnosis, control, and pesticide safety information to home owners, gardeners, community land managers, and landscape professionals is now starting to become reality.

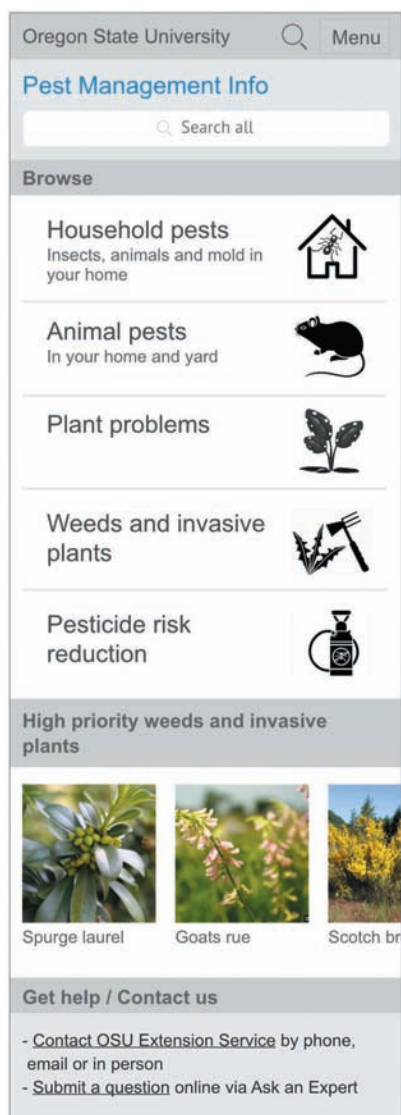
SolvePestProblems.org is the initial webpage that shares details about the project—launched by Weston Miller, OSU Metro Community and Urban Horticulturalist, and based in the Clackamas County Extension office. Miller and a wide group of colleagues at OSU and around the state, his Master Gardener volunteers, and stakeholder organizations and agencies are all coming together to make this ambitious project happen.

“This is a long-term effort that will take us years to fully develop,” said Miller. “Our goal is to create a world-class, on-line

pest management information resource that is objective, science-based, and available in English and Spanish. We want this to be easily accessible from your computer or mobile device. There's really nothing like this anywhere in the U.S., so we are having to build from the ground up. We expect to ultimately reach 100,000 users annually.”

During the past year, Miller set up their webpage with information about the project and have begun developing pest information templates. Also, he is working with his community partners to refine the project details—plus identify additional partners willing to help make it happen.

“As we talk and plan, we come up with additional needs and features we'd like to incorporate. And, it all takes time and money!” Currently more than 20 community partners have come together support this project. Check out our website to learn more!



Welcome Marcia McIntyre to Master Gardener team!

The Master Gardener (MG) program hired Marcia McIntyre as an Educational Program Assistant in the Clackamas County Extension Office during 2016. Ten years ago Marcia signed up for the Master Gardener program wanting to learn a bit more about gardening.



Marcia McIntyre

Once training commenced, the Extension program captured her with its commitment to community outreach and it's dedicated volunteers. Her fellow MGs continually inspire her and she is looking forward to being part of the Master Gardener program in this new capacity.

Clackamas County is where the Master Gardener program had it's beginning in the state. Back in 1978, Clackamas County Extension Agent, Gray Thompson, conceived the idea of the volunteer program training community members to support the Extension Service and our outreach to home gardeners and the landscape industry.

Marcia will support the Community and Horticulture program and Master Gardener volunteers in the Portland metro area with 500 volunteers in the three county area—including 200 volunteers in Clackamas County alone!

During 2016, Clackamas County Master Gardener volunteers contributed approximately 12,000 hours of community service working in OSU's Extension office Plant Clinic in Oregon City, supporting public clinic at local Farmers Markets, working at local demonstration gardens and projects in the county, and organizing the annual Spring Garden Fair each May at the Event Center in Canby. The combined value of the volunteer hours, according to national standards, is over \$270,000 for 2016!

AGRICULTURE

Leader of IR-4 Program in Oregon Retires

Joe DeFrancesco, the Field Center Director for Oregon's Pesticide Registration Research (IR-4 Program) at the North Willamette Research and Extension Center, retired in 2016 following a 30-year career at Oregon State University.

Even though most don't know Joe, you benefit from his work just about every time you eat a meal! Joe's job has been to help keep your food safe to eat.

Since most of our food crops can be damaged by insects, diseases and animals—like any gardener knows—so, too, do farmers battle pests that might prevent them from delivering quality food products to your grocery store, farmers market, or roadside stand. But, of course, the farmer's battle is on a much bigger scale. And, their business and livelihood are at stake when they have a crop failure.

Joe became involved in the pesticide registration research program at its beginning in Oregon in the early 1990s. In these early years, he began working with local vegetable and berry farmers and learned it was often a struggle for them to find legal pesticide products for many of the crops they were growing—and, they really needed help just to survive. Pesticide use in the U.S. and Oregon has been highly regulated for many years.

Since most pesticides are labeled for use on the nation's major crops (i.e., ones grown on thousands of acres like corn, soybeans, wheat, rice, potatoes, and cotton), much less attention and interest has been given to "specialty crops" that tend to be high-value items, but only grown on relatively small areas of land in the country. Oregon agricul-

ture is built, primarily, around the production of a wide range of specialty crops—from asparagus to zucchini.

Joe's work has focused on identifying the most important pest problems the farmers have and need help controlling; then, finding pesticides that are not labeled for these crops—but might work—and, evaluating their effectiveness for controlling the target pest, assessing any potential damage to the crop by the pesticide, and measuring the residues present on the crops as they relate to human consumption and worker re-entry into the fields.

"It's a big job, highly technical, and essential to be done correctly and according to strict standards and protocols," said DeFrancesco. And, so important, that the U.S. Environmental Protection Agency and the Oregon Department of Agriculture—the national and state regulatory agencies responsible for labeling all pesticides—rely on Oregon State University and Joe's program to provide unbiased and accurate data for their use in the regulatory and labelling process.

"I love science and investigation and helping farmers be successful. Knowing that so much of my work is finding pesticide tools—whether for conventional use or organic production—that effectively control pest problems, but won't present health issues for consumers or the safety of our field workers—is all really important to me", said DeFrancesco.



Joe DeFrancesco

Joe has managed a team of research assistants and technicians at NWREC and on campus at OSU that have assisted him over the years. Katie Murray, Faculty Research Assistant, who has helped Joe manage various databases and with report writing, is located at OSU in Corvallis. Gina Koskela, Senior Faculty Research Assistant, Pete Sturman, BioScience Technician, and Judy Kowalski, BioScience Technician, work with Joe on study designs, field trial installations, data collection and report writing. All three are located at NWREC.

Farmers all across Oregon respect Joe and his work. The program he manages has been recognized as one of the top state programs in the U.S. Joe, himself, has received numerous local and national awards and accolades over the years.

During his career, Joe expanded his work from vegetable and berry crops to grass seed and clover seed crops—and, then, just about everything else grown in Oregon—working with cranberry growers on the coast, ornamental nursery and greenhouse producers throughout the Valley, pear and sweet cherry growers in Hood River, hop farmers—and, even, wasabi growers!

"It's been a great career for me," said Joe. "I've enjoyed my work but, mostly, the people—my staff, colleagues, and the farmers throughout the state."

Joe will continue working ½ time for the coming year. According to Mike Bondi, NWREC Director, "We are very fortunate that Joe will continue to work with us as we bring his replacement on. Joe's experience, knowledge, and connections throughout agriculture in Oregon and the US will be a huge help to the new person."



Girls at 4-H Summer School working on clothing judging



Posture and Body Types education program by Home Economics Extension (circa 1925)



Teaching how to grade potatoes, Clackamas County (circa 1934)



Oregon State Corn Show, Canby Fairgrounds, 1948

AGRICULTURE

“Easy Harvester” Shows Promise for Harvesting Fresh Quality Blueberries

Rising labor costs and having enough field workers at harvest time are huge challenges facing many farmers in the Willamette Valley. And, for blueberry growers trying to sell fresh-picked fruit to the marketplace, this challenge is particularly difficult. Blueberries have been one of the region’s fast-growing sectors of agriculture over the past 10 years. Currently, Oregon is the #4 state in the U.S. for blueberry production and could move up in the next several years.

“Over-the-row” machine harvesters are often used to harvest berry crops going to processed markets—like for poly bags, jams, jellies, and pies—but, these machines do not do an adequate job of harvesting fresh quality berries due to internal fruit bruising caused when the fruit falls onto hard plastic or metal catch surfaces and parts.



In experiments conducted with a modified ‘Easy Harvester’—a specially designed machine system purchased with funding support from a Clackamas County Extension Innovation Grant in 2016—it was demonstrated that using a mesh-net and padding the fruit catch surfaces could significantly reduce internal berry bruising. Experimental field trials were conducted at the North Willamette Research and Extension Center and in farmer fields in the Willamette Valley.

Combined with using a hand-held pneumatic shaker—instead of picking by hand—researchers were able to harvest fresh market quality blueberries successfully. In fact, the harvesting amount of acceptable fresh quality fruit could be increased between 5-10 times the rate for hand-picked only. Research will continue to focus on refining the catch surface design and reducing fruit dropping distances to the catch surface—thereby, further reducing fruit bruising.

OktoberPest Workshops — Bringing Latest Pest Management Info to Industry

Back in 2001, North Willamette Research and Extension Center’s (NWREC) Robin Rosetta, Nursery Integrated Pest Management Extension Educator, initiated a new outreach effort—called OktoberPest—as a way to stir up interest and get the latest information about pest management out to one of agriculture’s largest industries. The nursery and greenhouse industry in Oregon accounts for nearly 20% of all agricultural gross product sales coming from farms around the state. More than 80% of the nursery and greenhouse operations in the state are located in the Willamette Valley.

OktoberPest is a series of weekly half-day workshops held at NWREC (in October, of course!) designed to improve the knowledge of nursery and greenhouse growers, managers and field workers, so they can more effectively control pest problems, minimize their costs, and reduce impacts on the environment. During the past 16 years, more than 2,500 have attended these educational programs for the latest information.

“It has really been gratifying to see this program grow over the years,” said Rosetta. Rosetta came from the University of California—Davis with training in biological control of pests. When she joined OSU’s Extension faculty in 1992, there was very little discussion or understanding

about topics like integrated pest management and biological control of pests for nursery crops.

“We’ve tried to raise the bar of interest and work with early adopters in the industry while looking for success stories—and failures—to share. We’ve made great progress in this science and the adoption of these principles has grown significantly. It’s been very exciting to watch!”

This year’s OktoberPest focused on entomology for novices and reducing non-target effects of pest management practices. Topics included:

- Going Soft: Designing Target-Focused IPM Programs
- Beginning Bugs: Intro to Economic Entomology for Ornamental Plants (in Spanish one week; English the next)
- Attracting Friends: Beneficial Insects 101

“We really have fun putting these classes together. This year we were able to bring in nearly 15 outstanding instructors to share their expertise and bring the latest science-based information to this industry. And, we filled our classes to capacity each week. This information is all very cutting-edge. But, that’s how OSU can continue to support and grow this vibrant industry—a huge part of Oregon agriculture and our state’s economy.”

AGRICULTURE

Extension Launches Organic Program

The OSU Extension Service, Oregon Tilth, and Vitalis Organic Seed have formed a new partnership to establish an Organic Extension program in Oregon. The program is part of the OSU Center for Small Farms and Community Food Systems and will coordinate education and applied research in the growing area of organic agriculture.

Oregon Tilth is supporting the program with a \$100,000 donation over the next four years. Additional resources are provided by the OSU Extension Service and Vitalis.

The program begins with the leadership of a half-time Organic Extension agent—Nick Andrews, Extension’s Metro Small Farms Agent for Clackamas, Multnomah, and Washington Counties. Andrews has led Extension’s Metro Small Farms program, housed at the North Willamette Research & Extension Center in Aurora, since joining OSU in 2005. Andrews began his new statewide organic program assignment in November 2016, but will continue to serve the Metro small farms community with the other half of his time until



the Organic Extension program grows.

According to Mike Bondi, Director of the North Willamette Research and Extension Center, “Nick is the perfect choice to head the Organic Extension effort.

Much of his work in our Metro Small Farms program has focused on organic crop production. Nick is recognized as a leader in the organic field. He has a real vision for how OSU’s work in education and research needs to grow into the future as this production system continues to develop.” This winter Andrews and Bondi will determine how to maintain capacity in the Metro Small Farms program serving the broader needs of local small-scale farmers.

Several OSU researchers have secured grant funding over the years to study organic production methods, based on their interest, the needs of their stakeholders, and the availability of external funding their projects. Confering program status on Organic Extension work provides more stable and strategic support for organic farmers over the long term. Andrews will convene an Organic Extension advisory

group in 2017 to guide development of the overall program around Oregon.

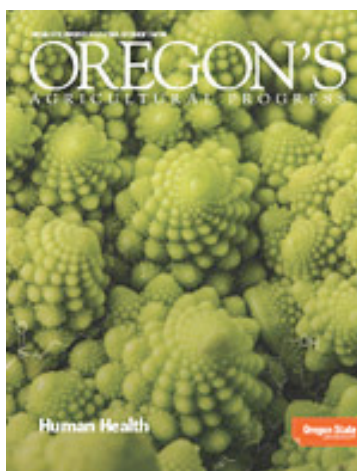
OSU hopes to provide more comprehensive Extension support for Oregon’s Organic Agriculture community with additional community contributions. Due to the limited time available in the first year of the program, initial Extension activities will be limited to annual organic crops and overall organic Extension program development. Future efforts could support organic livestock, perennial crops and organic food systems in coming years.

Oregon Tilth Executive Director, Chris Schreiner, said their investment in the program is a statement about the rising impact of organic agriculture. The investment is recognition by organic producers that “Land-grant universities, Extension programs, and Extension agents are really seen as a credible, valued source of expertise,” Schreiner said.



Award-winning Magazine Showcases Oregon Agriculture

Oregon’s Agricultural Progress magazine is a report to the taxpayers of Oregon from Oregon State University’s Agricultural Experiment Station. The stories, and the photography and design that help tell those stories, show how agriculture contributes to the economy, environment, and social structure of Oregon and the world. The goal is to capture the interest of people who might otherwise think they have no connection to agricultural research. Readers can enjoy the award-winning print magazine, Oregon Agricultural Progress, at no cost. A multimedia online version of the magazine is also available, as well as, a new app for tablets.



agricultural research engine in the state. Research is conducted in the agricultural, biological, social, and environmental sciences for the economic, social, and environmental benefit of Oregon. Researchers work in five OSU Colleges and at eleven Branch Stations across the state, and with collaborators around the world.

OSU’s only agricultural experimental farm in the Willamette Valley is located in Clackamas County, just south of Wilsonville. That facility is the North Willamette Research and Extension Center (NWREC). The 160 acre farm is on property owned by Clackamas County government and leased to OSU. Twenty-five research and Extension faculty, research technicians, and farm

Oregon’s Agricultural Experiment Station is the principal support staff work at NWREC.

AGRICULTURE

Wiman's First Year Crazy Busy

Nik Wiman came to the North Willamette Research and Extension Center in September, 2015 as our Tree Orchard Crops Extension Specialist. This was a new position for NWREC focused on tree fruit and nut crops—but, mostly working with the hazelnut industry. Besides getting to know his new industry, meet the growers, and get familiar with the key research and education needs, Nik has been building his program—both support staff and research activities at NWREC.

During this past year, Nik has become the principal investigator on a major federal grant to manage OSU's Brown Marmorated Stink Bug research program. Nik was the post-doc researcher hired by that program for three years prior to coming to NWREC. In July he hired his replacement, David Lowenstein, who Nik now oversees. Also, Nik just completed hiring two faculty research assistants in January that will support his growing research program in hazelnuts and other tree orchard crops.

Also, during the past year, Nik established or is in the process of putting in four new research and demonstration plantings at NWREC. Here's a summary of this work.

Hazelnut Irrigation Project: Last



winter was the time when Nik's first hazelnuts were planted at NWREC. Two one-acre plots have been established to evaluate the effect irrigation on young, newly planted hazelnut trees. This work is supported by the Oregon Hazelnut Commission. One plot has a drip irrigation system and the other has full coverage microsprinklers. The purpose of this project is to provide irrigation guidelines to growers so that water is used efficiently and has maximum benefit for the crop.

Berm Planting: Berms or planting on elevated ground is standard practice in crops like blueberries. Fruit tree growers have been using this approach, too, for improved production on certain sites. This NWREC study is designed to look at

berm planting and how effective it might be for growing hazelnuts. The study site was prepared in the late summer of 2016 and is scheduled for planting this winter.

Prunus Orchard: This field trial includes peaches, nectarines and almonds—all members of the *Prunus* genus. It is almost impossible to grow peaches and nectarines in the Valley due to diseases. Nik is looking at disease-resistant varieties to help manage the disease pressure we have around here. Also, Nik is evaluating cold-hardy varieties of almonds that could grow in western Oregon and what yield of nuts might be possible.

Cider Apple Orchard: The craft cider industry is growing much faster than the craft beer industry as Americans get a taste for (gluten-free) hard cider.

Preferred cider apple varieties have more tannins and malic acid than dessert or eating apples. The dessert and eating apples are the common choice for making today's cider on the market due to a lack of cider quality apples in the region. This project will be evaluating the performance of more than 40 cider apple varieties and their suitability for growing here in the Willamette Valley. The varieties were grafted in the spring of 2016 and will be planted at NWREC during the winter of 2017.

Small Farms Packing Shed Taking Shape

Harvesting and handling often accounts for 50% or more of the cost of production for fresh vegetables. Efficient use of labor and optimal storage conditions can improve the efficiency of operation, ensure high product quality, and improve the profitability of small-scale farms. New federal Food and Drug Administration rules addressing food safety—authorized under the Food Safety and Modernization Act (FSMA)—are creating an increased need for education and training to help farmers comply with the rules and reduce the risk of foodborne illnesses from their products.

In the late summer of 2016, the first step was taken to develop an educational facility to demonstrate good harvest and handling practices with the construction of a 14' X 20' small-scale vegetable packing shed at the North Willamette Research and Extension Center. The shed—plus additional facilities planned for 2017—will be used to demonstrate design principles and teach hands-on harvesting and handling workshops for beginning farmers. The purpose of the effort is to help beginning

farmers determine the kind of packing facilities they need, manage harvest, handling and storage practices well, and ensure they are compliant with the new FSMA Rules.

In the coming year, a walk-in cooler and dry storage room will be built as a part of the project. In addition, steel sorting and washing stations will be designed and constructed to be compatible with a low-cost waste water management system. We will also design and build a new bin washing system that saves farmers time. When complete, all structural design elements will be posted on the OSU Small Farms (<http://smallfarms.oregonstate.edu>) and Farm Hack (<http://farmhack.org/tools>) websites.

By the Fall of 2017, all construction should be complete and the summer's harvest ready to process. The OSU Extension Small Farms team will begin offering their first hands-on vegetable harvesting and handling workshops at NWREC.

This project is supported by the Oregon Department of Agriculture, Clackamas Soil & Water Conservation District, and the Clackamas Extension Innovation Fund program.

AGRICULTURE

Finding Answers for the Stink Bug

David Lowenstein is a postdoctoral researcher and new leader for Oregon State University's state-wide Brown Marmorated Stink Bug (BMSB) project. David came to the North Willamette Research and Extension Center (NWREC) in July 2016 to work with NWREC's Nik Wiman—the former OSU BMSB leader and now Tree Orchard Crops Extension Specialist. Together, Lowenstein and Wiman, along with other OSU faculty, are coordinating OSU's research and outreach efforts focused on understanding the stink bug's life history and biology, plus developing effective control programs.

The BMSB is a voracious eater that damages fruit, vegetable, and nut crops in North America. The insect was inadvertently introduced into the Pacific Northwest in 2004—coming from Asia. Since its arrival, the stink bug has become a damaging pest in agricultural crops and a nuisance in landscape plantings and around the home. The BMSB is widespread across most of Oregon's crop production regions and remains a challenge to manage.

Lowenstein's research focuses on *Trissolcus japonicus*, known by its common name "samurai wasp," a parasitoid wasp that attacks the eggs of BMSB and prevents hatching. The wasp is one insect helping provide some level of natural control of the BMSB in its native Asian range. Samurai wasp was accidentally introduced to Vancouver, WA in 2015,



and, Lowenstein and student workers spent the summer of 2016 searching across the Portland area to identify if it had entered Oregon. Indeed, the samurai wasp was found in several Portland neighborhoods.

"Controlling the stink bug will not be easy," said Lowenstein. "The insect has spread quickly since its arrival. The samurai wasp may offer practical possibilities for biological control, since it is adapted to search for and locate stink bug eggs. But, now we need to find how prevalent it is and ways to manage the wasp for possible control of the stink bug."

As a part of this work, Lowenstein partnered with Master Gardeners in Clackamas, Washington, and Multnomah counties to monitor the distribution of the wasp last summer. It is expected that the wasp will soon become established in the Willamette Valley and could become a tool for managing BMSB. In the next year, Lowenstein will study samurai wasp behavior and movement in hazelnuts and small fruit orchards, too.

Also, Lowenstein is collaborating with other researchers to develop an Extension publication on the samurai wasp, which will help growers and the general public identify evidence of parasitism in BMSB.



Welcome, Lloyd!

Dr. Lloyd Nackley began his work with Oregon State University in late September as our new Nursery Production and Management Research and Extension faculty member at the North Willamette Research and Extension Center (NWREC). Nackley replaces Jim Owen who took a position with Virginia Tech five years ago. The position has been vacant since.

Nackley comes to OSU from the University of California at Davis where he was a post-doc employee working for Extension the past two years looking at drought adaptation studies with landscape plants. Prior to Davis, Nackley was a post-doc in South Africa.

Born and raised in California, Nackley and his wife have roots in the Pacific Northwest. His Ph.D. is from the University of Washington's School of Environmental and Forest Sciences in 2012 studying plant physiology and sustainable bioenergy.

In his short time here with OSU, Nackley has been learning the lay of the land through regular visits with

Oregon growers and nursery stakeholders. "I really appreciate the warm welcome," Nackley said, "and am happy to be back in the northwest and settling down. I am looking forward to meeting more nursery and greenhouse growers. The more time I can spend in the field the better. This is the best way for me to identify the issues most pressing to the local industry, and develop supportive, impactful, research and Extension."

Nackley's research and education programs will focus on sustainable horticulture concepts for the nursery and greenhouse industries based on innovative materials and processes. Nackley's initial research projects will investigate the impacts of new growing containers and mixed media blends on plant growth and production. In collaboration with OSU plant breeders and country Extension agents, Nackley also has plans to trial OSU developed cultivars and varieties in both production and field settings. He has been in collaborating with OSU plant pathologists and OSU computer scientists to improve plant disease models for nursery pathogens. He looks to expand his new research program at the NWREC with the installation of climate controlled plant growth chambers, as well as, the addition of research support staff, such as students, post-docs and research assistants.

Nackley and his wife, Emily, recently purchased a home in SW Portland where they live with their two young sons, Louis and Dean. Help us welcome Lloyd to our NWREC family!



Dr. Lloyd Nackley

AGRICULTURE

Extension Takes Leads at National Farming Conference

Nearly 400 women farmers, educators, policy makers and other agricultural professionals from all over the U.S. came to Portland last November for the 5th National Conference for Women in Sustainable Agriculture. And, Oregon State University Extension faculty and staff took a lead role in making the event happen.

The 3-day Portland conference was designed to build connections amongst women farmers and those who work with them, to learn from each other, build technical and business skills, and address policy issues—all related to producing healthy food and ensuring a sustainable agricultural system. The conference was hosted by Oregon State University's Extension Small Farms program with support from the Women, Food & Ag Network and a planning team of leaders in sustainable agriculture and agricultural women's organizations nationwide.

The conference kicked off with five tours showcasing the bounty of Oregon's agriculture. Heidi Noordijk, Education Program Assistant for the Metro Small Farms Extension team and located at the North Willamette Research and Extension Center, helped plan the tours. According to Noordijk, "The Willamette Valley is an agricultural paradise. I was excited to expose visitors from around the country to our diversity of local farms and markets."

The Ag in the Valley: Cows, Blueberries, Vegetables & Hazelnuts, Oh My! tour filled up quickly and 60 women loaded a bus to visit four farms in the area including 47th Avenue at Luscher Farm in Lake Oswego and a lunch stop at the North Willamette Research and Extension Center (NWREC). While at NWREC, attendees learned about the Center and its role in sustainable agriculture. NWREC is Oregon State University's only agricultural farm research center in western Oregon and serves the needs of farmers in the Willamette Valley—the heart of Oregon's most productive farm land.



Tour participants returned to the conference center site in Portland for featured keynote speakers plus some 60 interactive workshop sessions covering a range of topics and interests. One speaker was Kelly Streit, OSU Extension Family and Community Health faculty member in Clackamas County, who discussed Producing and Selling Value Added Foods. The session used two new Oregon cottage food laws as examples of ways small-scale farmers can increase product offerings, extend the market season and meet demands for local farm-direct foods. Streit also focused on the preservation and food safety practices from the field to consumer that need to be followed to ensure products are safe to eat.

The energy from the conference is reinvigorating the women farmer network in the North Willamette Valley. Katie Coppeletta of Fiddlehead Farm in Corbett said, "It was such a great experience to be surrounded by amazing women and I would love to see that continue on a local level." Noordijk and Coppeletta met with local women farmers in late December to plan gatherings for 2017. For more information, contact Noordijk at the North Willamette Research and Extension Center.

Tecno Viernes (Tech-Fridays) Meets Needs of Workers

During the past five years, NWREC's Luisa Santamaria has taught more than 150 workshops and trainings for Hispanic nursery and greenhouse, Christmas tree, and berry workers. Santamaria's Healthy Plants and Bilingual Education program—the only university outreach of its kind to Hispanic workers in agriculture—focuses on teaching skills that improve the understanding and abilities of the workforce. A more skilled workforce means more effective and efficient employees, reduced production costs, and improved profitability for the farm operations.

Over the years, Santamaria has noticed that many of the workers in her trainings had smart phones and other technologies—but, didn't always know how to operate them best for their use, nor to help them in their jobs. Also, Santamaria saw a need to produce more online educational material for her audience and wants them to be ready to access the latest information—especially on their mobile devices when at work.



Tecno Viernes (aka Tech-Friday)—offered the last Friday of each month—was born during 2016 as a way to help workers become more proficient at using technology in their work for communicating and for problem solving. Topics selected each month are driven, in part, by what the workers want to learn.

"We want this program to continue growing in number of participants as more nurseries become aware of this opportunity for their workers," said Santamaria. "We expect Tech-Friday to be a long-term program that helps keep the industry's workforce up-to-date with the latest technology—while encouraging open minds willing to learn and improving their skills to become better workers. We are pleased that the participating nurseries have allowed their workers to leave work early on these Fridays to come to NWREC for our classes while still on the clock. We appreciate that commitment to learning."

4-H YOUTH DEVELOPMENT

4-H Brings Science Education to Latino Youth

Approximately 12% of Clackamas County's population is Latino. Yet, Latinos don't typically participate in our traditional 4-H youth programs of the OSU Extension Service.

In 2016, Clackamas County Extension hired Rodrigo Corona to help with creative and new programming targeting the Latino community. Rodrigo is originally from Mexico and came to the United States when in high school. "When I was in high school, my mother was concerned that I was getting in trouble and hanging out with the wrong kids. So, she moved our family to Oregon."

Rodrigo went on to college and has a BA in Sociology and History, as well as a teaching license in career and technical education. He has been a substitute teacher in the Portland Public Schools for the past two years while he has been developing a small urban farming business.

In his first months on the job, Rodrigo has initiated a STEM (Science, Technology, Engineering and Math) Beyond School program at Plaza Los Robles—a housing complex for low-income and mostly farm laborers in Molalla. Plaza Los Robles already had an existing and well-established community that includes families with youth from 4th through 8th grades—the grade level of focus for the project. Plaza Los Robles has become an excellent partner for OSU Extension with a shared vision for youth education.

Through the STEM Beyond School program, youth are exposed to a variety of hands-on learning activities that aim to cultivate an interest in science, technolo-



Molalla students have the opportunity to visit ocean and river ecosystems through the STEM Beyond School program.

gy, engineering, and mathematics for members of the Latino community—a population typically underrepresented in these career fields.

During the first four months of the program, which runs through August 2017, youth have had the opportunity to visit the ocean and river ecosystems in the region, as well as a fish hatchery, to learn about the salmon life cycle while hatching, raising and releasing their own batch of fry.

In order to ensure that this program is youth-driven and relevant, feedback from youth has been gathered and this input will be reflected in program content moving forward in 2017. Additional experiential activities to visit and learn about the other major ecosystems in Oregon (mountains and high desert), plus an 8-week

Lego Robotics training, are being planned.

A long-term goal for this program is to transition learning into creating 4-H clubs in the Latino community. For lasting success, these 4-H clubs will need to have a strong family-inclusive focus—more so, than more traditional 4-H clubs. Family-inclusive clubs will have parents volunteering and chaperoning activities, plus younger siblings (pre-4-H age), able to join activities whenever safe and possible. In many cases, having younger siblings included in the activities means that the parent can also participate since they don't need to arrange for childcare in order to volunteer. Parents are also being encouraged to explore their own interests in order to find places where they can be more involved.

Breakfast With Santa

Since 2001, Clackamas County 4-H clubs have been hosting make-and-take holiday craft tables at the Clackamas County Fairgrounds on the second Saturday of December at the annual Breakfast with Santa. Each year Clackamas County Fairgrounds, Canby Fire Department and Clackamas County 4-H work together to offer children from Hispanic, low-income, and underserved families, an opportunity to have a special holiday celebration with Santa.

This past year 102 4-H youth (representing 12 clubs from around Clackamas County), leaders, and parents set up and supplied materials for eight different holiday craft tables, cookie decorating, face painting and served breakfast to over 390 children and families.

Breakfast with Santa is another example of 4-H youth serving the community, as well as, developing life skills in leadership, organization and communication.



4-H YOUTH DEVELOPMENT

Oak Grove boy works his magic to take on world poverty

Article by Raymond Rendleman, Pamplin Media Group, from special section *Amazing Kids*, Spring 2016

Cody O'Neil of Oak Grove is making a difference not only in his Clackamas County community but around the world. He started his 4-H duck flock to have a source of eggs that his mother (who is allergic to chicken eggs) could enjoy.

They started with three ducks. Soon friends and neighbors took an interest and wanted to buy eggs, so both the ducks and cash multiplied.

Rather than putting his cash from duck-egg sales in the bank, Cody started an enterprise he calls "Quacking Down on World Hunger." Its modest goal? To feed a million people.

"With him, nothing really surprises me anymore, because he's so aware of everything going on in the world," Cody's father says.

The most amazing thing to Bryon O'Neil was amount of research Cody put into the number of ducks and eggs it would take to feed people in impoverished countries.

"He's the one who did the math of how many ducks he would have to buy if he was to reach that goal," Bryon says.

Cody figured out that for every dozen eggs he sold in Oak Grove, two ducks could be purchased for families in developing countries. Using a multiplier effect over four years and assuming 5 percent of the egg production would be reserved for hatching more ducks, Cody's math shows that four ducks could produce 1,285,440 potential meals over a four-year laying period.

Besides the allergy, why ducks?

"Ducks are generally more tolerant of cold and heat than chickens," Cody says. "Ducks average 75 to 100 percent laying, even during the winter, versus a chicken's winter average of only 40 to 50 percent."

"Quacking Down on World Hunger" started in earnest on the day Cody turned 12. Instead of visiting an arcade or a restaurant, Cody asked his parents to take him to the headquarters of World Concern in Seattle. World Concern is a charity that allows donors to buy someone in another country a duck or a cow in someone else's name. The winter before, in late 2013, Cody had purchased four ducks as part of a World Concern project.

Visiting with World Concern staffers, "something lit up with him," says Cody's mom, Karen O'Neil. "He loved the idea of us all having enough here in the U.S., so we should be giving more to other countries."

By the end of the conversation, he understood that the world and its issues with hunger/malnutrition were so much bigger than he had imagined. Cody's mom suggested that they try to buy more ducks through World Concern.

"Momma, that's not enough," Cody responded. "I'm going to feed a million people before I learn to drive a car."

Cody has been recognized by 4-H with a State Leadership Award for directing his proceeds from egg sales and donations to the World Concern project.

Cody, the Clackamas Review's 2016 Amazing Kid honoree from Oak Grove, is a junior leader of the Fuzzy Squad 4-H Club



COURTESY: O'NEIL FAMILY

Cody O'Neil shows his favorite duck, Sally, at the Clackamas County Fair's 4-H Ambassador booth to inform the community about the benefits of waterfowl.

where he learns about 13 different topic areas including small animals, art, horticulture and woodworking, said Wendy Hein, an associate professor and leader of OSU Extension Service's Clackamas County 4-H Youth Development Program.

"At a recent national rabbit convention in Portland, Cody's club organized a scavenger hunt that drew youth participants from across the country," Hein said. "They also organized a neighborhood food drive to provide meals to local students."

Besides 4-H, Cody is a Boy Scout. He's considering various local hunger projects for his Eagle Scout project.

At the Clackamas County Fair, Cody often shows his ducks. What he enjoys most is showing people the animals and telling them how to take care of them, including his vast knowledge of animal personalities and diseases.

You can view a video of his project at www.stayclassy.org/QuackingDown.

FORESTRY AND NATURAL RESOURCES

Hopkins Celebrates 25 years!

Many good vibes filled Everett Hall on September 17, 2016 to celebrate the 25th anniversary of Hopkins Demonstration Forest in Beavercreek. The forest is a partnership between a local non-profit organization and Oregon State University in Clackamas County—plus a long list of private individuals, businesses and public partners.

Founded in 1991 by newly-formed Forests Forever Inc., the non-profit tree farm has become an often visited site for natural research and learning. The 140 acre Hopkins lures school classes, small woodland owners and people simply wanting to walk their dogs. With completion several years ago of Everett Hall, Hopkins began to provide cozy indoor space for learning, community and family events. It is estimated that Hopkins has hosted nearly 40,000 youth in designed educational events and activities in the forest since its inception.

Mike Bondi, OSU Extension Regional Administrator in Clackamas County, and Ken Everett, a consulting forester, are co-founders of the non-profit and the two remaining original directors still on the FFI board. Bondi and Everett hosted the birthday party. Guests included State Representative

Bill Kennemer and Clackamas County Commissioner Tootie Smith, and Connie Battaile and Jill Herzig, daughters of the late Margaret Hopkins, Milwaukie, who donated the forest property to FFI.

After the celebration, several attendees offered thoughts about Hopkins progress and its future. Battaile and Herzig praised FFI decisions to move beyond their mother's motivations of keeping the land forested and demonstrating good forestry for woodland owners. "We think she would have been especially pleased at the increasing emphasis on forest education for all ages," they said.

Ken Everett, Colton, said the classroom/events building has been the biggest advance and the most difficult project to complete. As education programs grew, the hall was needed to accommodate more people during evenings and wet months, he noted.

Clackamas County Commissioner Smith—one of the early members of the FFI Board of Directors in the 1990s—shared that the non-profit "is a wonderful example of grass-roots volunteerism in the county." She noted the incredible accomplishments of the organization and the many hours of

service and financial support provided by volunteers and the community.

Board member Frank Wille, Oregon City, credited a group of OSU-trained Master Gardeners for "making Hopkins native plant garden quite impressive." Installation of an irrigation system helped the plants to thrive and develop."

Maralyn Turner, Lake Oswego and board secretary, said early FFI decisions establishing "a clear mission and vision gave the board, staff and volunteers a clear path for the future."

Board member Mike Daly, Beavercreek, shared ideas for future improvements. "Acquire more surrounding land to broaden our footprint for learning, and to increase income from logging." Added acreage would boost research opportunities, he said, and increase education programs requiring two educators. Hopkins now has one.

Daly also suggested paving the entry road and parking lots, hiring professional grant request writers to boost income, and rotate OSU forestry professors through Hopkins for teaching and research.

Check out the forest at their website: www.demonstrationforest.org.

Extension Forestry Responds to Priority Needs

With the mission of sustaining forests and forestry enterprises in Oregon, OSU Extension Forestry and Natural Resources education focuses on forest landowners and land managers as major audiences. Education events throughout the year are developed to address their priority needs. In 2016 a comprehensive Needs Assessment survey, sent to landowners throughout the county, showed the top ten issues for woodland owners were:

1. Forest Health (insects and disease)
2. Wildfire Damage Protection and Prevention
3. Forest Management
4. Invasive Species
5. Forest Rules and Regulations
6. Weed Control
7. Wildlife Habitat Conservation
8. Restoring Forests and/or Rangeland
9. Protecting Water Quality
10. Forest Taxes

OSU Extension addresses the full range

of priority topics in planning programs throughout the year. In the fall, major effort goes into the development of classes for the annual Tree School held at Clackamas Community College (March 25 for Tree School 2017). The OSU Tree School team develops over 70 classes for Tree School each year based on formal needs assessment and also from brainstorming at group meetings with woodland owners and Christmas tree growers. This process feeds into the planning of events throughout the year.

For the top three priorities in 2016—forest health, fire protection, and forest management—17 classes were offered at Tree School along with another six workshops beyond Tree School. Woodland owners take classes and workshops over many years to build their forestry knowledge and skills depending on their interests.

Extension recruits experts from OSU or professional natural resource sector to serve as key instructors. Woodland own-

ers sharing their experience and learning from each other are also an essential part of Extension education. A field class at Tree School on logging with a farm tractor is a great example. OSU Forest Engineer Steve Pilkerton teamed up with woodland owners Jack Lowers and Dave Hibbs to share techniques they employ in thinning small timber stands using a Farmi winch and synthetic rope. Thinning young forests to prevent overcrowding is an important and challenging task. The specially equipped farm tractor can bring down trees that hang up in a crowded canopy.

Another example is Mark Havel, woodland owner, inventor, and forest equipment entrepreneur. At multiple events each year, Mark shares his knowledge and techniques. Mark's classes and demonstrations cover the basics of safely using chainsaws or pruning saws, as well as, innovative new tools such as small scale steel alloy arches for moving logs with an ATV.

FORESTRY AND NATURAL RESOURCES



New Student Natural Resource Leaders Coming to Forest Near You!

Career and technical education for high school students will be taking new shape in Oregon following the passage of Ballot Measure 98 last November. Career and technical education (formerly known as vocational education) has historically been an important part of Oregon's public school programming. But, over the past 30 years, these opportunities have diminished in schools across the state.

Since 2015, Peter Matzka, OSU's Extension Forest Educator at the Hopkins Demonstration Forest near Beavercreek, has been quietly leading an effort to bring back interest in natural resources vocational education in Oregon. Working with Matzka has been Rob Waibel, long-time forestry and natural resources instructor at North Clackamas School District's Sabin Schellenberg Center in Milwaukie. Waibel's high school programs have been bringing students to the Hopkins forest for more than two decades to provide real-live, hands-on, in-the-woods field experiences.

"We need young people who have basic forestry and natural resources skills who want to work in careers in our forests and wildlands of the state," said Matzka. "And, this isn't your grandfather's forest anymore. Jobs can be high-tech, involve computer technology, engineering and math skills, not to mention biology and science. After all, Oregon is the leading forestry state in the U.S. High school forestry and natural resource programs should be a big deal here."

Matzka and Waibel have been working with a small group of

six high schools around Oregon still delivering forestry and natural resource career and technical education. Their goal has been to create a student organization to band the school programs together, change the focus to a much broader array of natural resource topics and needs, build educational opportunities and career development events for the students and teachers, and develop the next generation of leaders for the natural resource sector of the state.

In 2016 the Oregon Future Natural Resource Leaders became an officially recognized Career Technical Student Organization by the Oregon Department of Education—thanks to the efforts of Matzka and Waibel—plus, the community non-profit Forests Forever, Inc. (FFI) and its Hopkins Demonstration Forest. FFI is providing the oversight for the new student organization and financial management within its corporate structure. The Hopkins forest provides the field location for statewide trainings for students and teachers that will occur throughout the year.

According to Waibel, "This is an amazing opportunity for us, locally, and for high school students and teachers all around the state. With an officially sanctioned organization by the Oregon Department of Education, we are now in line for funding support to build these programs and reach more students. We already have grown from the original six high schools wanting to work with us to nine—plus five more interested in joining next year. We think 2017 is going to be a great year the Oregon Future Natural Resource Leaders!"



FORESTRY AND NATURAL RESOURCES

Sustaining Forests Where People Live

Oregonians are pretty familiar with our forests—many people probably know that Douglas-fir is Oregon's state tree, our most common forest tree in the western part of the state, and one of the most important trees in the world because of its many uses.

But, how many of us know who owns the forest closest to where we live, or something about why or how that landowner cares for their forest? In western Oregon, private individuals and families own the vast majority of the forest within 10 miles of cities where most the people live. In Clackamas County, over 5,000 people and their families own about 190,000 acres of forestland.

For many family forest owners, managing their woodlands is a way of life spanning multiple generations. The Shibley Family Forest in Springwater is a great example. Gilbert Shibley and his family have been managing their 350-acre forest near Estacada for over 140 years and across 6 generations. Also, Gilbert wears a variety of hats in



Gilbert Shibley and sister, Wilma, at their family forest in Springwater.

service to the community including: OSU Master Woodland Manager volunteer, “Outdoor School” host, researcher, educator, writer, and historian.

The Clackamas County Farm Forestry Association recognized the Shibley's in 2016 with their Evergreen Award for outstanding devotion to forest stewardship, sound forestry practices, community service, and education. The Shibley's have been doing this for many decades—helping other woodland owners succeed, helping young people find their way in the world, and improving

public understanding of and appreciation for family forestry.

The OSU Extension Service has been working with the Clackamas County Farm Forestry Association to recognize candidates like the Shibleys for the “Woodland Farmer of the Year” and the “Evergreen Award” since the inception of this recognition going back to 1955. The purpose of these awards is to recognize and share the outstanding and inspiring forest stewardship work being done around the county—by “everyday people”.

Family forest owners sustain the diverse benefits—from the production of wood products to protecting fish and wildlife habitat to providing recreational opportunities—that come from our forests all around Clackamas County and the Willamette Valley. Helping these landowners succeed benefits all of us—which is another reason why OSU Extension Forestry serves woodland owners with educational programs, finding practical answers through research, and networking landowners with the resources they need.

Dying Trees Launch Pest Scene Investigator Trainings

This past year brought hundreds of calls to the Extension office in Oregon City about sick and dying trees around the county. Many were handled by our Master Gardeners when the tree was in a yard or home landscape. Other tree problems on forest and farm land in the region were handled by our Extension Forestry team.

Glenn Ahrens, Extension Forestry Agent, responded by organizing special Pest Scene Investigator trainings this past year for woodland owners and Master Woodland Managers to help them understand the possible causes for all the unhealthy trees.

“Much like a crime scene, diagnosing the cause of death for a tree requires a thorough investigation and the cause isn't always identifiable—beyond a reasonable doubt,” said Ahrens.

The most frequent sick tree calls over the past two years have been about Douglas-fir, the most abundant and important tree in western Oregon. In most cases, investigation revealed that the fir trees are dying from complications of

drought. Trees weakened by drought stress and overcrowding are attacked by bark beetles, wood borers, or fungal diseases as secondary agents taking advantage of stressed trees.

In 2016, a new and disturbing sick tree problem was the increasing incidence of dying western redcedar trees. Dozens of large previously healthy trees died rapidly, in multiple

locations across the county. What's killing the redcedars? No single cause was found. As in the case of the Douglas-firs, drought is a prime suspect. But there is conflicting evidence, too.

“If drought is the main cause, why are the redcedars dying in moist areas, right next to alder trees that are not showing signs of drought? Alder are usually more sensitive to drought than redcedar,” said Ahrens.

For more information about forest tree health problems in the county, contact Ahrens at the Extension office in Oregon City. He can advise you on what you can do to reduce chance for tree health problems in 2017.



FORESTRY AND NATURAL RESOURCES



Aveda Institute/Dosha Salon employees gather at the Hopkins Demonstration Forest to kick off their fundraiser last spring.

Unique Fundraiser — an Incredible Gift to Forests Forever!

Hopkins Demonstration Forest benefited this past spring from an unexpected and unique fund raiser totaling \$21,000. The Hopkins Forest is a local resource for forestry and natural resource education led by OSU Extension Service faculty in Clackamas County.

The Portland staffs of two sister companies, Aveda Institute beauty schools and Dosha beauty salons, selected Hopkins for their annual Earth Month project last spring. Each April they raise and donate money to support an organization that contributes to environmental improvements.

The connection began with Kimberly Johnson, CEO of Aveda/Dosha, and her husband, Ray, buying 70 acres adjacent to the Hopkins Forest—located at the end of Brockway Road in Beavercreek. Then, in 2015, they took a Woodland Management short-course led by Glenn Ahrens, OSU Extension Forester in Clackamas County, and member of the Forests Forever, Inc. Board of Directors—the non-profit organization that owns and manages Hopkins. That led to Aveda and Dosha selecting Hopkins for their spring fund raiser, and they asked to have a field day for their students and staff to be hosted at Hopkins. Ahrens had only two weeks to plan the field day and solicit volunteers to help pull it off.

“I came up with 12 learning stations along a two-mile hike” for 12 groups,” Ahrens said. “It came out well, focusing on family forestry. Some of our board member volunteers said they learned things, too.”

About 100 Aveda/Dosha employees came out to Hopkins, took the hike, and were introduced to the organization they would be raising funds for during April—Earth Month. Half of the group stayed for lunch and participated in a service project to spread wood chips to resurface a trail.

A month later, Ken Everett, Forests Forever Executive Director, attended an Aveda student assembly in the Pearl District of Portland and was given a large cardboard representation of the fund raising check for \$21,000. “They certainly are awesome fund raisers,” reported Everett. “I told them how important their gift was to our educational program at Hopkins.”

And where will the money go? The FFI board plans to use the funds for construction of the small cabin atop the historic Clatskanie Mountain fire lookout tower, at Hopkins, and other work needed to open the tower for public visits. The tower was moved to Hopkins in 2010, but has been never been completed due to a lack of funds.

Aveda/Dosha have already announced they will be back in 2017 supporting the Hopkins Demonstration Forest. Plans are underway for a late February kick-off event in the forest for the employees and staff to orient them to the fundraising effort coming in April. Forests Forever, Inc. and the Hopkins Demonstration Forest will be helping this year by spreading the word about the fundraiser in local communities through Clackamas County and encouraging participation in Aveda and Dosha events and activities planned for Earth month in April.

“This is a great event and a wonderful chance to build interest and awareness about environmental stewardship and caring for the Earth,” said Extension Forester, Ahrens. “We really appreciate the interest and the leadership by our partners at Aveda and Dosha and their connection to forests and the important benefits we all enjoy that come from trees.”

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CELEBRATING 100 YEARS IN CLACKAMAS COUNTY



Red Soils Experimental Farm in Oregon City's Hilltop area was established in 1939 to "...find methods of rebuilding [red] soil fertility and for testing the adaptability of new crops for these soils." The experimental farm operated until 1964 and is now the location for the Clackamas County's Red Soils government campus.



Homemade wooden stave silo being built on Rognar Anderson Farm, Colton (1948). M.G. Huber, Extension Engineer at Oregon State College in Corvallis, is shown at the top of the ladder.



Drainage ditch in process of being blasted on L.L. Runggay farm, Oregon City (1951). Mel Hagood, Extension Irrigation Specialist at Oregon State College in Corvallis, is in foreground.