



In this issue:

- Page 1..... OSU Extension
..... Centennial
- Page 2..... OSU's Faculty and
..... Staff/
..... 2nd Year In Review
- Page 3..... 2nd Year In Review
- Page 4..... News from OSU
- Page 5..... Community and Urban
..... Horticulture
- Page 6 - 7 4-H Youth Development
- Page 8 - 9 Family
..... and Community Health
- Page 10 - 11 Forestry
..... and Natural Resources
- Page 12 - 15 Agriculture
- Page 16..... How You Can
..... Get Involved

How to reach us

OSU Extension Service—
Clackamas County
200 Warner Milne Road,
Oregon City OR 97045

503-655-8631
503-655-8636 (fax)
www.extension.oregonstate.
edu/clackamas/



*Centennial activities
and events will happen
throughout 2011*

Extension History

One hundred years ago the OSU Extension Service in Oregon was born. As a Land Grant university, part of Oregon State's mission was written to ensure that research, teaching and learning be "extended" to the people throughout the state.

On July 24, 1911, Oregon Agricultural College's Board of Regents organized the Oregon Extension Service in response to requests from citizens for assistance from the college, particularly in agriculture.

R. D. Hetzel, professor of political science, was named the first director of the Extension Service. The first county extension agents in Oregon began in Marion and Wallowa counties in September 1912. Legislation permitting counties to appropriate money for extension work that would be matched by state funds was enacted in 1913.

In May 1914, nearly three years after Oregon had established its Extension Service, President Woodrow Wilson signed the Smith-Lever law, which provided federal money for the establishment of extension services in

OSU Extension Service celebrates 100th year



Ballard Hall, on OSU's campus in Corvallis, is the hub for the Extension Service in the state, housing administrative staff, computer technologies, business units and Extension specialists. In this 1930 photo, the same building was named Snell Hall and was a dormitory for girls.

all states with the goal of developing off-campus programs, primarily in agriculture and home economics. By 1937 all Oregon counties had at least one extension agent.

During the first 40 years, Extension concentrated on three traditional programmatic areas: agriculture, home economics and 4-H. After World War II, four other program areas were added: forestry, marine advisory program, community resource development, and energy.

Clackamas County History

In Clackamas County, the first person to work in Extension was a woman, Lorene Parker. The year was 1917. One month later, the first staff chair administrator was hired, Richard Werner. Eight months later in June, 1918,

agent Brenton Vedder joined the staff. These three agents concentrated on home economics and agriculture. Interestingly, from 1917 to today, there have been only 12 staff chairs. John Inskeep held the title and managed programs throughout the county for 35 years from 1926 to 1961.

The celebration

Clackamas County Extension will participate in events and activities to observe this special milestone. Watch for event notices via website, newsletters and local newspapers for how you can join the centennial festivities.



A 46-piece centennial quilt has been assembled to honor OSU Extension's 100th year anniversary. The traveling quilt will be on display in Extension offices throughout the year. This quilt square representing Clackamas County depicts our best known scenes—Mt. Hood, our trees and horses. Clackamas is one of the top 10 counties in the U.S. for number of horses per capita.

OSU'S FACULTY AND STAFF—2ND YEAR REVIEW

OSU serving you in Clackamas County

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

Mike Bondi	Staff Chair and Extension Agent/Forestry and Christmas Trees
Roxie Applebee	Office Manager
Jean Bremer	Secretary/Forestry, Farms, Urban and Community Horticulture
Kelly Redwine	Secretary/4-H Youth Development
Sigrid Clark	Secretary/Family and Community Health
Judy Greiner	Secretary part time/Special Projects, Backup Clerical
Cheryl Keithan	Secretary part time/Tree School Coordinator, Back up Clerical
Wendy Hein	Extension Agent/4-H Youth Development Club Program
Jan Williams	Extension Agent/4-H Youth Development Club Program
Janet Nagele	Extension Agent/4-H Youth Development School Enrichment Program
Trisha Applebee	Program Assistant/4-H Youth Development
Weston Miller	Extension Agent/Metro Community and Urban Horticulture
Jordis Yost	Coordinator/Metro Master Gardener Program
Beret Halverson	Program Assistant/Clackamas County School Gardens Program
Deborah John	Extension Agent/Family and Community Health
Kelly Streit	Extension Agent/Family and Community Health
Stephanie Stuart	Program Assistant/Oregon Food and Nutrition Program
Tiffany SeLegue	Program Assistant/Oregon Food and Nutrition Program
Nicole More	Program Assistant/Oregon Food and Nutrition Program
Gilbert Shibley	Program Assistant/Forestry
Mark Dreyer	Program Assistant/Forestry
Tim DeLano	Extension Community Outreach Educator/Hopkins Demonstration Forest

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

Mike Bondi	Director
Shelley Hughes	Office Manager
Jan Egli	Secretary
Marc Anderson	Farm Manager
Geoff Lewis	Facilities Manager
Ben Ekstrom	Information Technology
Jim Owen	Research and Extension Faculty/Nursery Crops
Rich Regan	Area Extension Agent/Nursery Crops
Robin Rosetta	Area Extension Agent/Nursery Entomology
Luisa Santamaria	Area Extension Agent/Nursery Pathology and Bi-Lingual Outreach
Chal Landgren	Extension Specialist/Christmas Trees
Nick Andrews	Extension Agent/Small Farms
Joe DeFrancesco	Senior Research Faculty/Specialty Crop Pesticide Registrations
Bob McReynolds	Extension Agent/Vegetable and Specialty Seed Crops
Bernadine Strik	Research and Extension Faculty/Berry Crops
Diane Kaufman	Extension Agent/Strawberry and Cane Berry Crops
Wei Yang	Extension Agent/Blueberry Crops
Gina Koskela	Senior Research Assistant/Specialty Crop Pesticide Registrations
Gil Buller	Senior Research Assistant/Berry Research and Extension Program
Heather Stoven	Research Assistant/Nursery
Judy Kowalski	Bio Technician/Nursery and Christmas Trees
Peter Sturman	Bio Technician/Blueberries and Specialty Crop Pesticide Registrations
Kristen Pool	Research Analyst/Small Farms
Derek Wells	Bio Technician/Nursery, Integrated Pest Management and General Farm

Faculty located in other offices who have responsibility for programming and research in Clackamas County

Gene Pirelli	Extension Agent/Livestock and Pasture, Polk County Extension office, Dallas
Tom Silberstein	Extension Agent/Crops and Forage, Marion County Extension office, Salem
Jeff Olsen	Extension Agent/Nut Crops, Yamhill County Extension office, McMinnville
Sam Chan	Metro Extension Agent/Watershed Health, Sea Grant, OSU, Corvallis

Service District's 2nd year in review

Oregon Extension founded in 1911

In November 2008 Clackamas County voters elected to form and fund a service district to support the Oregon State University Extension Service and its education outreach programs. The Clackamas County Extension and 4-H Service District began its first year on July 1, 2009, funded with an annual operating budget based on a property tax assessment that cannot exceed \$0.05 per \$1000 dollars of assessed value in any one year. Property tax payers from all around the county, except Johnson City, participate in the new Extension Service District.

How the District's budget works

Service districts are governed by Oregon statute. A district budget committee has the responsibility for determining Extension's annual budget. The committee includes five citizen members and the five Clackamas County Commissioners. The Extension Service staff chair has responsibility for developing the draft budget and submitting it to the County Budget Officer and the budget committee for their review, modification and approval. Once approved, each year in June, the County Assessor sets the appropriate tax assessment and includes that amount in citizens' property tax statements in November.

Who are the District's Budget Committee members?

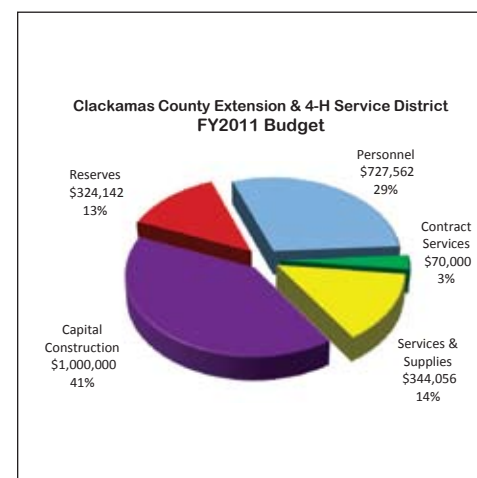
The appointment of the District Budget Committee members is the responsibility of the Clackamas County Board of Commissioners. They advertise publically to request volunteers and then appoint the citizen members who serve three year terms. Along with the five commissioners, current citizen members include: Tom Winterrowd, Canby; Gwen Shearer, Estacada; Hal Broughton, Lake Oswego; Patti Jarrett, Oregon City; and Jeff Stott, Aurora.

Extension's 2010 budget

The first Clackamas County Extension and 4-H Service District budget for the fiscal year July 1, 2009-June 30, 2010, was \$1,592,000. These funds came directly from a \$0.05/\$1000 dollar

property tax assessment. The second Extension Service District budget was based on the same assessment and provided \$1,717,000.

The graphic below shows the expenses categories for these funds and our current budget for fiscal year 2011.



Accomplishments in 2010

The first two years of the new Clackamas County Extension Service District saw several significant accomplishments as we positioned our programs to meet the needs of county citizens. One of the first priorities was to increase the capacity of our 4-H Youth Development program. Our goal is to double the number of youth participating in 4-H clubs and school activities within the next five years. To do this, we added two important staff positions and re-directed one faculty position to focus solely on school enrichment programs.

Also, the Clackamas County Extension Service District has made changes in the Family and Community and Urban Horticulture programs during the past year. Each of these changes has been made to increase our services and outreach in the community.

continued on page 3

OSU'S FACULTY AND STAFF—2ND YEAR REVIEW, CONTINUED

4-H Youth—club program

Wendy Hein and Jan Williams co-manage the 4-H club program that reaches approximately 1100 youth who participate in community 4-H clubs and the 400 volunteer leaders who guide the youth. Wendy has been a faculty member at the Clackamas County Extension office for the past 10 years. Jan, a long-time 4-H leader in the county, is in a new faculty position that began in June, 2010, thanks to the new District. Their goal is to increase the number of clubs and leaders to be able to reach more youth each year.

4-H Youth—school enrichment

Janet Nagele has a state-funded 4-H faculty position and has been serving in Clackamas County the past 12 years. With the creation of the new Extension Service District, Janet's position has been redirected to focus solely on natural science and school enrichment opportunities for youth. Janet's academic background is in environmental sciences. If you've heard of the Incredible Egg, Fish Stewards and the 4-H Wildlife Stewards programs, you will know about Janet's work in the county.

4-H Youth—program support

Trisha Applebee joined the Clackamas County Extension staff in December 2009 to provide full-time support for our 4-H programs. Trisha, a 10-year former 4-H member, knows our programs inside and out, and can provide assistance to each of our faculty within their program responsibilities. Kelly Redwine has been our 4-H secretary for the past nine years. Kelly is our "face to the public." She handles all of the 4-H enrollments and manages all of the club records and details. Just about every 4-H member and leader has contact with Kelly at sometime during the year.

Family and Community Health — a new Extension Agent

Deborah John arrived from New Hampshire in July 2009 to provide leadership for the Extension Family and Community Health program in Clackamas County. Her primary focus during this past year and a half has been to grow the Oregon Food and Nutrition Program to accommodate demand from public schools who meet the food stamp eligibility guidelines. Also, John has worked closely with the Clackamas County Health and Human Services Department to design and implement a community health assessment throughout the county.

Family and Community Health— Oregon Food and Nutrition Program (OFNP)

During 2010 Tiffany SeLegue and Nicole More joined the Extension OFNP program as education program assistants. Tiffany and Nicole teach in elementary schools on a weekly schedule bringing 30-45 minute nutrition and healthy living lessons into school classrooms. Stephanie Stuart is the veteran OFNP educator who supports Tiffany and Nicole while also teaching nutrition in classrooms. Combined, our team is working with about 1500 elementary students each week in 15 schools. The yearly curriculum reaches youth from kindergarten through six grades in most schools.

Community and Urban Horticulture—school gardens

In July 2010, the Extension office began a new School Gardening Initiative. Beret Halverson, a program assistant with the Community and Urban Horticulture program, assumed a new role with the School Gardening effort. Beret is working with multiple schools within two school districts to help develop gardening projects on their school grounds.

OSU Extension Service mission statement and vision

The Oregon State University Extension Service engages the people of Oregon with research-based knowledge and education that focus on strengthening communities and economies, sustaining natural resources, and promoting healthy families and individuals. Extension leads Oregon State University's outreach mission by engaging with Oregon's people and communities to have positive impacts on community livability, economic vitality, natural resources sustainability, and the health and wellbeing of people. Based on these positive impacts, the OSU Extension Service is recognized as one of America's top-5 Land-Grant University Extension systems.

Oregon State University Extension Service offers educational programs, activities, and materials—without discrimination to race, color, religion, sex, sexual orientation, national origin, age, marital status, disability, or disabled veteran or Vietnam-era veteran status—as required by Title VI of the Civil Rights Act of 1964, Title IX of the Education Amendments of 1972, and Section 504 of the Rehabilitation Act of 1973. Oregon State University Extension Service is an Equal Opportunity Employer. Reasonable accommodations will be provided to those with physical or mental disabilities.



Kim,
in remembrance



Extension is not just Farms, Food, and Families, it is also Friends. We treasure our relationships among both staff and volunteers. In January of 2010, we lost one of our best friends, Kim Salem, to a long battle with cancer.

Kim began working part-time for Extension in May 1999 as a program assistant for 4-H. She quickly became the "Face of 4-H" as she helped new members find clubs and recruited volunteers. In 2008, when her children were older and more independent, Kim transitioned to a full time secretary position, becoming the lead receptionist and providing program support for the Forestry and Family and Community Health programs. She also assisted local farmers with their seed certification forms and assisted the volunteer Master Gardeners who staff the office phone clinic. The volunteers and clients in these programs embraced Kim as well. Everyone who visited our office regularly knew Kim's smiling face, delightful sense of humor and positive attitude.

Not only was Kim part of our staff family but she was an active volunteer for 4-H. She first became a 4-H leader in 1990, leading a club of youth interested in pot-bellied pigs. Later, she followed her older

daughter's interest in horses and became a key figure in the 4-H horse program. Kim served as the assistant superintendent of Horse Fair and coordinated the Horse Bowl knowledge competition. At Horse Fair, she oversaw the office and was known to everyone as the "Nice Lady."

Kim also supported 4-H and Extension as a generous donor. Gift baskets were her specialty. She could be counted on to provide at least one, and usually several, themed raffle baskets for 4-H, the Extension Service, and Fairgrounds fundraisers. In memory of her dedication and generosity, the Clackamas County 4-H Leaders Association established the Kim Salem Raffle Basket Annual Award, which will be granted to the top gift basket donated at the summer fairs. Judging criteria is yet to be determined.

Kim fought breast cancer on and off for more than 10 years. Throughout her treatments and surgeries, Kim continued to work as much as possible. Most never knew she was ill. Kim loved her co-workers, the volunteers, and the difference she made in the community as a part of our Extension team. The Extension staff and our clients miss Kim terribly but her memory continues to inspire us to give our best to others.

NEWS FROM OSU

Congratulations!



Mike Bondi, Clackamas County Extension Service forestry agent, and Deborah Maddy, associate director and associate provost for OSU Extension, at the Association of Public Land Universities annual meeting in Dallas, Texas where Bondi received a national award.

Bondi receives national award

For 2010

This past November, Mike Bondi, OSU Extension agent in Clackamas County, received the Western U.S. *Excellence in Extension Award* presented at the Association of Public Land Universities annual meeting in Dallas, Texas.

Bondi was nominated for the award by OSU's Extension administrators. The award recognized Bondi's long service to Extension and his unique

achievements during his career.

Bondi has been an Extension agent with Oregon State University for 32 years; the past 25 years in Clackamas County. During this time, he has organized more than 1,200 classes, tours and demonstrations for his clients, created a Christmas tree marketing organization, established the non-profit Forests Forever Inc. to manage the Hopkins Demonstration Forest, created and designed Tree School, led seven international forestry study trips for local landowners to four continents, and provided the leadership for the creation of the Clackamas County Extension and 4-H Service District.

Bondi holds a Bachelor's degree in Forest Management from Iowa State University. He studied as a Fulbright Scholar to New Zealand where he received his Masters of Forestry Science at the University of Canterbury in Christchurch. Bondi also serves as Staff Chair for the Clackamas Extension office. He is married and has one son.

Meeting The Challenges!

Oregon State University reorganizes to meet budget challenges

Administrative staff will be responsible for more counties

In the past year, Oregon State University recognized the need to reduce budget and staffing. During the biennium state budget ending on June 30, 2011, Extension's share of budget reductions have been about 18 percent. All state agencies in Oregon have been

directed prepare for up to 25 percent budget reductions in the next biennium budget starting July 1st.

To meet these challenges and maintain as much program delivery in the counties as possible, OSU Extension plans a re-organization to reduce the number of staff devoted to administration. Currently, there is a part-time Staff Chair assigned to most counties in Oregon where Extension has an office. Grouping counties together for administrative purposes is one method to make a more efficient organization. It is possible the dozen Branch Experiment Stations and Research Extension Centers managed by OSU could become a part of the reorganization as well.

In December 2010, Clackamas County Extension's Staff Chair, Mike Bondi was asked to add the administrative leadership for OSU's North Willamette Research and Extension Center (NWREC) in Aurora to his current administrative position with the Clackamas County Extension office in Oregon City. Bondi agreed to "test drive" this joint administrative model for six months while the university decides their final reorganization

plan.

The North Willamette Research and Extension Center is a 160-acre experimental farm. The land, located near Charbonneau south of Wilsonville, is owned by Clackamas County. The Center has operated on this site for the past 53 years. The Research and Extension Center staff includes 11 faculty, several clerical and farm support staff, and a half dozen research and program assistants – one of the largest experiment station staffs in the state.

NWREC is a world-renowned center for nursery, vegetable and berry crop research, all key industries in Clackamas County and the North Willamette Valley. NWREC is also a regional center in the western U.S. for evaluating the safety of pesticide crop residues on our foods.



OSU's Memorial Coliseum

COMMUNITY AND URBAN HORTICULTURE

Do you have a gardening question?

Contact these
Master Gardener Clinics

Clackamas County – 503-655-8631
9:00am-noon and 1:00-4:00pm

Multnomah County – 503-445-5708
10:00am-2:00pm

Washington County – 503-821-1150
9:00am-noon and 1:00-4:00pm

Find gardening information at
<http://extension.oregonstate.edu/gardening>

To become a
Master Gardener

Sign up at one of the metro
Extension offices
Classes are once a week for 10
weeks, January through March

Sign up for online classes
[http://ecampus.oregonstate.edu/
workforce/master-gardener-online/](http://ecampus.oregonstate.edu/workforce/master-gardener-online/)

Metro Master Gardeners™
*answered over 37,000 gardening
questions in 2010*

It seems like everyone is talking about gardening these days, but have you ever heard of *the* Master Gardeners (MGs)? Do you know what they do or how to reach them? As an OSU Extension Service program, Metro Master Gardeners contribute valuable public outreach.

Visit the Master Gardener website at www.metro-mastergardeners.org for more information on this popular program. Listed here are key 2010 program accomplishments...

- MGs contributed a total of 43,000 hours of time by 395 active volunteers
- MG volunteers answered 37,000 gardening questions at county Extension offices, farmers' markets, nurseries, and other venues
- MGs taught gardening topics to 1,821 participants at various locations using the short-format style 10-Minute University program
- MGs managed gardens, led tours and answered questions at sites such as the Pittock Mansion, International Rose Test Garden, Oregon Zoo's Backyard Makeover exhibit and the Yard, Garden and Patio Show, among others
- MGs spoke on gardening topics at the request of local clubs, organizations, associations, and other groups
- MGs contributed over 3000 pounds of fresh produce to their communities through the "Plant an Extra Row" program
- MGs organized and managed their annual two-day Spring Garden Fair in May that was attended by 15,000 people with the help of 300 MG volunteers



Master Gardener volunteers help provide produce from the MG "Grow an Extra Row" program at a garden on the Clackamas Community College campus.

*The Clackamas County
Master Gardener
27th Annual*

Spring Garden Fair

April 30 - May 1, 2011

Clackamas County
Event Center, Canby OR
\$3 admission, free for kids
15 and under, free parking

Metro Natural Gardening Program Contract



Since May 2010, Extension faculty and assistants have helped to operate Metro's Natural Gardening Program. Under a special contract, OSU's Community and Urban Horticulture program plans, teaches, and evaluates this educational program according to directions from Metro staff.

In 2010, OSU Extension faculty partnered with 35 retail nursery and garden centers in the Metro service district to provide many gardening educational opportunities.

For more information about the Metro Natural Gardening Program visit
<http://www.metro-region.org/index.cfm/go/by.web/id=24309>

Examples included:

- Preparing a series of Metro gardening publications
- Producing 63 seminars, presentations, and informational booths to the community reaching nearly 1500 participants
- Creating a \$5 off coupon program with retailers that encouraged gardeners to buy compost, hand-weeding tools, etc.

School and community garden education

In 2010, Extension faculty and assistants consulted with over 15 school and community garden project directors throughout the metro region to provide information to help garden coordinators with site-based decisions and organizational capacity.

Agents also partnered with Extension 4-H Youth Development faculty to conduct Sustainable Schools training with one of the tracks focused on school gardens and a second track working with *Growing Gardens*, a local non-profit, offering a similar garden program.

Extension faculty also provided important assistance to the West Linn Wilsonville School district helping them establish a farm to school center.



OSU Extension Urban Horticulture Program Agent, Weston Miller, under canopy, teaches volunteers the principles of implementing community garden projects.

4-H YOUTH DEVELOPMENT

4-H members learn and teach the science behind world problems

Where better to study ocean water than at the beach?

One cold and sunny morning in October, the Clackamas County 4-H Ambassador Team greeted visitors at the Oregon State University's Hatfield Marine Science Center (HMSC) with smiles, aprons and goggles. Armed with pH indicator solution, antacid tablets and lots of water, the Ambassadors invited visitors to try "4-H₂O," this year's National 4-H Science Experiment.

Each year, the National 4-H Council sponsors a 4-H science project in which members from all over the United States complete an activity during National 4-H Week, the first week of

October. The experiments teach youth about real problems facing our world, and encourage them to use science to investigate the problem's causes and explore possible solutions. This year's experiment taught youth about the dangers of excessive oxygen that gets into the ocean through human activities and products.

About 50 visitors of all ages tried the experiment. They learned that when extra oxygen is introduced into water by blowing bubbles through a straw, the water becomes acidic. Also, when the introduced oxygen leaves the water and gets trapped in the atmosphere, as demonstrated by an antacid tablet and water sealed in a zip top bag, the gas causes a greenhouse effect; heating

the environment to unhealthy levels. Neither extra acid nor extra heat is good for ocean life, and changes in the ocean can produce changes in climate.

The OSU faculty and staff at HMSC were excited to partner with 4-H and educate the public about the serious problem of ocean acidification and its impacts in Oregon. Local 4-H clubs in Newport also participated, leading the experiment in the afternoon. "Leading the experiment at HMSC was a natural fit," says Wendy Hein, 4-H youth development agent in Clackamas County. "The Ambassador Team was already in Newport for a leadership retreat and leading the science activity was the perfect service activity."



Gowned, gloved, and goggled for science.

Interested in the experiment? The kits and curriculum are available to school groups. For more information, contact the Extension office at 503-655-8631.

JOIN THE REVOLUTION OF RESPONSIBILITY

For more information about 4-H or how to become a member or parent leader, contact the Extension office at 503-655-8635.



Gals and guys practice their fashion show walk: head up, shoulders back, and walk in a straight line while looking natural and comfortable. All participants model clothing they have sewn themselves.

White, red, or blue ribbons – what's it all about?

4-H members receive ribbons for their judged 4-H projects in state and county fairs

4-H has been a university-based youth education program in Clackamas County for over 100 years. The 4-H idea is simple: help young people and their families gain the skills they need to be proactive forces in their communities. They can do this by learning leadership, citizenship and responsibility through participation in their 4-H clubs and working on their projects.

To help 4-H members be successful, faculty at the OSU Extension Service in Oregon City offer workshops, classes and events throughout the year to advance members' knowledge and skills.

One such event was the **Blue Ribbon Workshop** in April for about 70 youth and 36 adults who participated in 20 different 45-minute classes. Sewing, leather craft, Mexican kite making, rubber stamping, photography, robotics, and horticulture are a few of the classes youth could attend.

Spring Fest, held on the third Saturday in May, is another event that



Making, and eating! chocolate was a very popular workshop at Spring Fest.



A big smile from one Clover Bud 4-H member who successfully completed her Mexican kite.

includes many different projects both in the home economics and animal science areas that provide information and ideas for successful fair exhibits. The public is invited to attend as well.

Participants learn life-skills through workshops including: cookie decorating, learning about fish, chocolate making, robotics, hand sewing, fashion revue, papermaking and more. Members apply newly learned skills to their chosen project which they enter in the county fairs. The same day, 4-H youth, leaders and parents can also attend workshops,

shows and clinics for horse, rabbit, guinea pig, poultry and dogs in a different area of the fairgrounds.

At county fairs, member projects are judged according to set standards and receive the appropriate ribbon at the state or county level. Blues are given for projects considered "exceptional," that are above the set standard. Reds are given for projects that are "good" and meet the required standards. Whites are given for projects that "need work," that don't satisfy the expected standards.

4-H YOUTH DEVELOPMENT

Hands-on science = fun for students

Schools!

According to the National Assessment of Educational Progress (NAEP), only 18 percent of U.S. high school seniors are proficient in science and a mere 5 percent of current U.S. college graduates earn science, engineering, or technology degrees compared to 66 percent in Japan and 59 percent in China. There is a critical need to improve the scientific and technical literacy of the next generation of problem solvers in the United States.

In response, OSU Extension's 4-H Youth Development Program has a national initiative to address youth education in Science, Technology, Engineering, and Math (STEM). In Clackamas County, 4-H is delivering in-school hands-on science programs that meet all Oregon benchmarks for science and engage students in learning by

making science fun and relevant to everyday life. Each year over 3,000 Clackamas County students participate in 4-H science school-based programs such as:

- **Fish Stewards.** Students raise salmon and trout eggs in the classroom while studying their life cycle, habitat requirements, and water chemistry.
- **Incredible Egg.** Students hatch chicken or duck eggs in the classroom and learn about embryology through seven hands-on lessons using math and science inquiry.
- **Wildlife Stewards.** Through gardening and the creation of wildlife habitat, students

participate in natural science experiments in outdoor laboratories they create.

- **School Gardens.** Faculty for 4-H and Extension horticulture partner with schools to develop vegetable and fruit gardens on schools grounds. Students actively garden and in the process learn about soil, plant science, entomology, and healthy eating.
- **Oregon Earth Science.** Students learn earth science through the creation of volcanoes, edible earth models, growing crystals, making fossils and colliding tectonic plates; lessons can be supplemented by field studies of local geologic sites.



The 4-H Project Butterfly Wings includes curriculum, an interactive website and a materials kit (not shown) to support science inquiry lessons and activities in Clackamas County classrooms.

4-H provides schools with tested curricula, teaching equipment/materials, trained volunteers, OSU faculty, and teacher science workshops to support science education—free of charge or for a nominal fee. This fall, three additional programs will be available to Clackamas County schools.

- **Project Butterfly Wings.** With a focus on Oregon's butterflies, science inquiry and field studies lead to research application and problem solving.
- **Science & Engineering of Energy.** Students explore different energy forms and principles through experimentation which leads to student design and development of a solar apparatus.
- **Healthy Watersheds.** Role play, science inquiry activities, field studies, literature connections and educational field trips are incorporated into this watershed education program.

Salmon fry help teach science in the classroom

For more information on the 4-H Fish Stewards Program or other OSU Extension Service school enrichment programs, contact Janet Nagele at 503-650-3125 or janet.nagele@oregonstate.edu



After measuring the temperature, pH and dissolved oxygen of the Clackamas River, Westridge Elementary students prepare to release the 250 salmon fry they hatched in the classroom through the 4-H Fish Stewards program.

With noses pressed against glass aquariums each morning, over a thousand Clackamas County students watch salmon eggs develop into fry (juvenile salmon) before their eyes. Each day for several weeks, the students will test the water's pH, dissolved oxygen level, temperature, and ammonia level and record their data. Monitoring the tank's water quality helps students mathematically predict when the eggs will hatch, maintain a healthy tank environment, and predict when the fry will "button-up" and be ready for

release in Oregon's waterways. While the fish are developing, the students are also learning about the salmon's life cycle, predator-prey relationship, habitat and their place in nature's delicate balance through experiential activities such as role play, modeling, and experiments.

Research has shown that "hands-on" or experiential science, as described above in the 4-H Fish Stewards project, truly

engages students in science and makes learning fun. Place-based science, like learning about Oregon's native wildlife, makes science relevant to students' lives.

Through OSU Extension school enrichment programs such as 4-H Fish Stewards, schools receive "hands-on," place-based curricula tied to the Oregon Educational Standards, teaching equipment, and faculty expertise to support teachers in delivering

science education. Oregon Department of Fish and Wildlife provides the salmon eggs. "The fish stewards program has been invaluable. It has brought authentic, real life science into our classroom. The scientific process has never been more relevant and meaningful!" says Cheri Davidson who teaches a 3/4 split grade class at Westridge Elementary in Lake Oswego.

For more information on science learning through 4-H, contact Janet Nagele at 503-650-3125 or janet.nagele@oregonstate.edu.

FAMILY AND COMMUNITY HEALTH

Teachers appreciate children's nutrition education program

The message of healthy eating begins with food whether you are a child or adult. In 2010 three Extension nutrition educators taught over 3000 elementary students how to make better food choices. Through the federally funded Oregon Nutrition Education program in partnership with OSU Extension, the news of



"I don't like carrots or celery!"

This comment was heard from many kids as they gathered at their housing complex for a summer lesson on how to make healthy food choices taught by Extension nutrition educators.

What's the trick to get them to eat carrots and celery?

Extension educators say, "Dip them in fat-free Ranch dressing!"

And it worked!

eating healthy is reaching elementary students throughout the county in participating schools that have 50 percent or more students who qualify for free or reduced school lunches.

Teachers are grateful for the educators' expertise and ability to get the kids involved with learning healthy eating through games, puzzles and physical activities. They also welcome the follow-up material Extension provides and that all of OSU's curriculum meets the Oregon Department of Education required benchmarks. Of course the students' most popular part of the program is eating the samples the Extension educators bring with them!

Extension educators often provide classroom students with small food samples showing how different foods can be combined for healthy eating—salads, dips, smoothies, and granola are just a few examples. One of the students' favorites is Cowboy Salad—a quick to make and provides a tasty low fat, low sodium, and low carbohydrate alternative to a less nutritious option.

"The success of our program depends on what happens *after* we deliver the healthy eating messages to students," says Stephanie Stuart, Extension's nutrition educator. A housing director from a low income complex had this to say after the Extension educators completed their classes, "What a great job you did. We love having you work with us at the housing center and so appreciate the way you work with the kids. Thanks again for everything you are doing."

With follow up material from Extension, the director reinforced previous lessons with a 15 minute "Lunch and Learn" unit with the kids explaining what a nutritious lunch could look like – peanut butter sandwich on whole grain bread, a glass of milk and an apple. As a group, they discussed the nutritional content and the possible addition of jam on the peanut butter sandwich, whether it would be a nutritious choice or not. Because of the sugar content, the kids decided an apple would be a better choice.

Community garden created at housing center

Culminating all the nutrition education at one housing center, volunteer OSU Master Gardeners assisted the residents and staff with their own community garden "start up." They advised and assisted with tool recommendations, seed and plant choices and garden layout. Nutrition educators followed up by helping families with food budgeting and planning and preparing healthy meals incorporating the produce they grew in their very own gardens.

Find more nutritious recipes online at <http://healthyrecipes.oregonstate.edu/all-recipes>



One family tending their very own plot in the community garden at their housing center.

Cowboy Salad

Makes 12 one-half cup servings

2 (15 oz) cans black-eyed peas or black beans.

1 (15 oz) can corn

1 small bunch cilantro, or to taste

1 bunch green onions (about 5)

1 avocado (optional)

3 medium tomatoes

1 Tbsp canola or vegetable oil

2 Tbsp vinegar or lime juice

Salt and pepper to taste

Drain and rinse peas/beans/corn.

Finely chop cilantro and green onions.

Dice the avocado and tomatoes.

Place all the above in a large bowl.

In small bowl, combine oil, vinegar

(or lime juice), salt and pepper. Pour

oil mixture over salad and toss lightly.

Serve as a side dish or as a dip.

TIP: Add sweet or hot peppers or zucchini as optional ingredients.

Deborah John receives \$5 million grant



Study will help fight child obesity in rural communities

A \$5 million dollar grant from the National Institute for Food and Agriculture was awarded to Deborah John and Kathy Gunter. John and Gunter are both assistant professors at OSU. John works as an Extension agent in Clackamas County in the Oregon City office and Gunter teaches at the university in Corvallis.

This five year project will focus on developing an obesity prevention program for children in rural Oregon. Rural families often face obstacles such as limited access to fresh healthy food and recreational programs that encourage physical activity. The project

directors will implement an obesity intervention program in three Oregon counties: Clackamas, Columbia and Klamath. The team will use assessments to begin an intervention program in September 2012 that promotes healthy eating and physical activity. The goal is to improve the body mass index among rural children aged 5-8 years old.

John and Gunter will include advisory teams from public health, nutrition and exercise sciences, education, Master Gardeners™ and 4-H programs, among others, to support and advise field testing and plan development. Extension specialists from six other Western states will participate in the same program titled, "Generating Rural Options for Weight-Healthy Kids and Communities."

FAMILY AND COMMUNITY HEALTH

Introducing Kelly Streit

We are pleased to introduce Kelly Streit (pronounced “street”), MS, RD as the newest addition to the County Extension Service faculty. Kelly’s position is partially supported with ½ funding from the Extension and 4-H Service District and the balance from the Oregon Food and Nutrition program.

Kelly is a native Oregonian and a Tualatin small farmer. She brings a strong nutrition and food science background to the FCH program and is a Registered Dietitian. In addition, Kelly has extensive educational outreach experience and service that reaches across the state and into most every Oregon community.

Kelly’s focus as an FCH Instructor in Clackamas County will be on outcomes related to “Healthy Eating and Activity” and “Reducing Food-borne Illness.” She has the added responsibility of managing faculty for the Oregon Food and Nutrition Program (OFNP) and will coordinate the Family and Community Education, Family Food Educator, and Master Food Preserver volunteer programs.

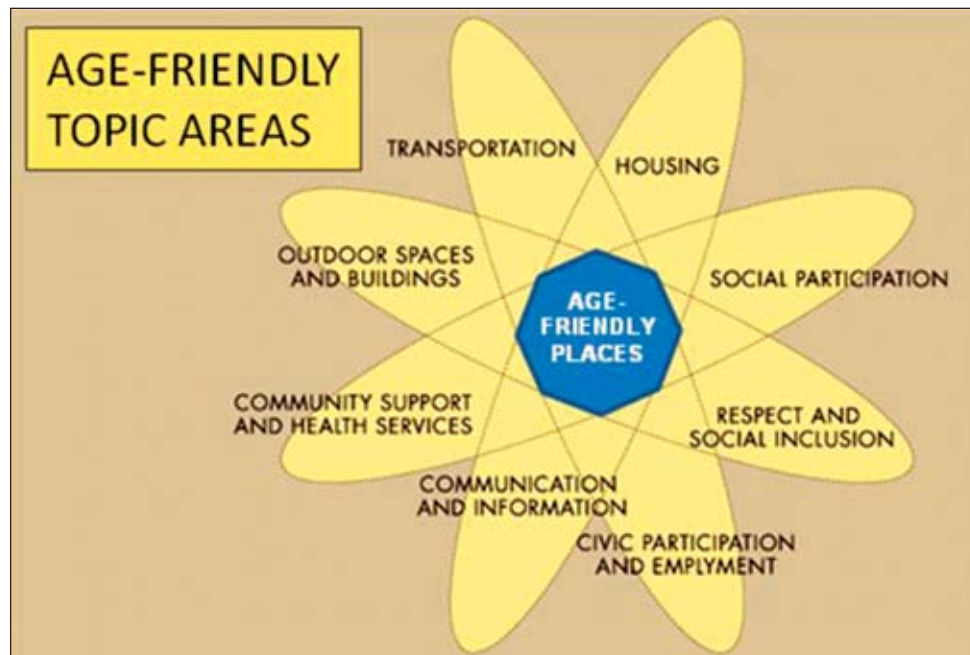
The first series of summer food preservation classes has been announced. Classes include Introduction to Food Preservation, Jams and Jellies, Fruits and Pie Fillings, Tomatoes and Tomato Products and Vegetables and Meats.

We are excited that all the classes will be held at the newly remolded modular building “the Annex” which includes a demonstration kitchen and meeting room.

The Master Food Preserver Volunteers have ambitious plans to be out in force this summer with more classes for the community and outreach at local farmers markets. We will advertise their activities on the Clackamas County Extension Service website: <http://extension.oregonstate.edu/clackamas>.



To register for Extension’s food preservation classes, contact the office in Oregon City at 503-655-8631.



engAGE in Your Community!

engAGE in Community is a community-based action initiative whose mission is to establish Clackamas County as an age-friendly place that supports an individual’s ability to ‘age in place,’ that is to age actively and successfully in their home or community of choice. OSU Extension’s Family and Community

Health program, in cooperation with Clackamas County Social Services—a division of the Health, Housing and Human Services and AARP-Oregon—have partnered to spearhead the engAGE in Community initiative.

The initiative began in earnest with a community forum held in May, 2010. The forum brought together approximately 200 residents from throughout the county. The forum was the first opportunity for Clackamas County participants to learn more about

‘age-friendly’ and share with us what’s going on in their communities. Next steps included one-on-one conversations with older residents of local communities and community-engaged mapping in Hoodland, Canby, and Wilsonville—folks in these locations have explored their aging environments and identified opportunities and obstacles around

place-based aging for local residents. Estacada is slated for conducting their age-friendly audit this spring. Other communities are expected to join the initiative.

Save the Date...

On June 1st, 2011 an all-day engAGE community Expo will be held in Oregon City at the Willamette Falls Community Education Center. The event will bring together guest speakers addressing aging issues and how communities can more effectively plan for their futures.

Each of the local communities who have completed assessments will present their findings.

More than 500 attendees are expected.

Go to <http://www.co.clackamas.or.us/socialservices/engage.jsp> to learn more about engAGE in Communities.

FORESTRY AND NATURAL RESOURCES



Tim DeLano, community outreach coordinator at Hopkins Demonstration Forest, introduces a school group to forest ecology – the result of Mrs. Hopkins' dream when she donated the forest for education.

Forests Forever, Inc. celebrates 20th anniversary

The non-profit corporation, Forests Forever, Inc. (FFI) that owns and manages the Hopkins Demonstration Forest in Beavercreek, celebrated its 20th birthday in September. Eighty local landowners and friends attended. Ken Everett, a consulting forester in Colton, and OSU Extension Agent Mike Bondi worked with the late Margaret Hopkins of Milwaukie to create the non-profit in 1990.

After the death of her husband, Mrs.

Hopkins donated the working forest to FFI to be managed and used as a learning laboratory for youth and adults. FFI continues this mission to provide outdoor, hands-on education about sustainable forestry and natural resource land practices.

Now, 20 years later, Forests Forever Inc. cares for 140 acres of forest and hosts hundreds of youth, teachers, woodland owners and the public each year at designed education events and

for recreational use. Hopkins Demonstration Forest is managed by a full time forest educator employed by OSU Extension Service, and is home to more than a dozen special forest management areas.

For more information about Hopkins Demonstration Forest or Forests Forever, Inc., See their website at www.demonstrationforest.org

New classroom breaks ground and makes great progress!



Front of the new classroom with windows in place.

doors,” said Ken Everett, executive director of Forests Forever, the owner of the demonstration forest.

The all-wood classroom is an excellent example of a structure built with sustainable products. “Everything is wood except the foundation and the fireplace. The wood came from trees grown here in Clackamas County and milled right in our community where local jobs were created. I don’t think any building could be a better story,” Everett reports.

The new classroom and meeting space, expected to be completed by the fall of 2011, will host a variety of educational programs about forestry, natural resource management and care of the land. It will be a showcase for the family woodland owner movement in Oregon and its roots in Clackamas County. The classroom and meeting space will be available for public rental too.

Fundraising now in final push to raise last \$50,000. Contact Ken Everett for information about how you can help. 503-655-5524

Hopkins Demonstration Forest gains indoor educational space

Construction began in June, 2010 on a 100-seat forestry and natural resources classroom and meeting space at the Hopkins Demonstration Forest. Fundraising for the \$325,000 project began in late 2007 but has been slowed by the economy. None the less, more than half of the needed funds had been raised by the time construction began.

“Our goal was to raise enough money and gather donated building materials to put up a weather-tight classroom shell—walls, roof, windows and

Middle schoolers learn the keys to trees



In October, 8th grade students surveyed seedling survival as a follow-up to their tree planting experience as 7th graders the previous February.



6th grade students read and write about trees they meet during a tour at Hopkins Demonstration Forest.

Properly planting tree seedlings, using a dichotomous key to identify tree species, and learning the life cycle of a tree – these are just a few of the topics hundreds of middle school students from the metro area learn when they visit Hopkins Demonstration Forest near Beavercreek. For the past several years, students in the sixth, seventh and eighth grade science classes have visited Hopkins to study the nature and nurture of forests.

Each year’s educational focus builds on something done or experienced the year before at the tree farm. Community Outreach Coordinator for Hopkins, Tim DeLano explains, “This fall eighth-graders came to the same area where they planted seedlings the year before to

survey how many survived – 95 percent! That is considered a professional quality outcome!”

DeLano also leads a tree identification tour at Hopkins where students walk a 1½ mile route through the woods, stopping several times to learn about Oregon native trees. He shows students how to use the dichotomous keys found in the *Trees to Know in Oregon* field guide. Sprinkled in among the keying, reading and journaling, DeLano shares stories and students often begin to see how the trees growing around them relate to their daily lives.

Ecology, physiology, dichotomous – all BIG forest words, but fitting for BIG forest trees.

FORESTRY AND NATURAL RESOURCES

Community volunteers make Hopkins Forest an even more special place

Community Forestry Days at Hopkins every second Saturday of the month. Call ahead (503-632-2150) to find out what we are doing, what to bring, and to make sure your spot at the lunch table is ready.



OSU Master Woodland Manager Sena Sanquinetti shows a young Scout and his leader how to properly plant a tree seedling.



After a team of adults practicing survival skills shared their knowledge with a youth group. This young man and his friend tried their hand at starting a fire by friction, rubbing two sticks together.



Chamber of commerce members from Oregon City, North Clackamas and West Linn came out last June to help raise a wall for the new classroom being built at Hopkins.



More than 100 community volunteers turned out in March to plant trees.

Citizen help keeps on giving

Forests Forever, Inc. and the Hopkins Demonstration Forest has some of the best volunteers anywhere! Our goal is to provide a place where the entire community can come, learn and

help build a better environment. Join us for anyone of our many volunteer opportunities. Here's just a few from 2010.

Tree School Reaches 20th Year



Landowners learn tricks for felling trees, safely.

the Clackamas Tree School—the largest annual educational event of its kind in the U.S. The one-day, back-to-school program was created by Extension in 1991 as an efficient way to offer a wide range of topics that would interest a broad audience. The first Tree School, attended by 120 landowners, was held at the Colton High School and offered 16 classes arranged in four 90-minute time blocks.

In 2010, Tree School marked its 20th school and is still going strong. This past year's program included 65 classes and was attended by nearly 600 eager attendees. Over the years the program format hasn't changed much – multiple classes offering a wide array of practical information, hands-on experience, lunch, and an exhibit area.

Each year in March, woodland owners, Christmas tree growers, loggers and anyone else who loves trees, gather for

“My motto is, ‘If it isn't broken... don't fix it,’” says Mike Bondi, OSU Extension forestry and Christmas tree



One of the 50+ exhibitors at Tree School 2010.

agent in Clackamas County and the creator of Tree School. Bondi adds, “We have such demand for this event, it's evident the attendees appreciate what we are doing. We focus on offering the most useful classes and finding the best instructors.”

Besides the wide range of classes, Tree School includes an Exhibit Area for woodland and Christmas trees service



OSU Extension's Tim DeLano, community forestry educator at the Hopkins Demonstration Forest, teaches tips for using a hand compass at Tree School 2010.

providers, a place to get your well water tested, and raffles, not to mention a great chance to visit with old friends and meet new ones who are all interested in trees.

AGRICULTURE



OSU's North Willamette Research and Extension Center is ideally located to serve the needs of Oregon's important agricultural industries.

OSU's North Willamette Research and Extension Center (NWREC) is one of 13 university operated research and outreach facilities around the state. Each location focuses on crops, production systems, and the needs of local farmers, agricultural businesses, and natural resource managers. Work includes basic and applied research

and transferring this new knowledge to the producers who can put the information into practice on the ground.

NWREC is a 160-acre agricultural experimental farm located south of Wilsonville in the Charbonneau area. The property has been owned by Clackamas County since 1965. Prior to this time, OSU managed the Red Soils Experimental Farm on the current site of the Clackamas County government buildings on its Red Soils Campus in Oregon City.

Research and outreach education at NWREC is directed to the most important agricultural crops and commodities in our area: nurseries, small fruit berries, fresh market vegetables, Christmas trees, and small farm production. In addition,

NWREC is the regional home for pesticide testing and residue evaluations that ensure safe and effective use of insecticides, fungicides and herbicides across all cropping systems.

Agriculture is Oregon's leading industry and NWREC is at the hub of state's horticultural industry. About one-third of the state's \$4.8 billion farm gate value income comes from farm operations within a 40-mile radius of the Center.

All research and education facilities at NWREC have been built and are maintained by OSU. This includes: offices and laboratories, greenhouses, barns and equipment, irrigation infrastructure, and approximately 60 acres of field test plots and research trials.

In addition, NWREC has a 75-seat meeting room that is used on a regular basis for education programs and meetings of various agricultural cooperators, commodity commissions, and agencies.

**For more information
about NWREC,
visit their website at
[http://oregonstate.edu/
dept/NWREC](http://oregonstate.edu/dept/NWREC)**

Grants provide internships for nursery crop research

Students come from as far and wide

An OSU nursery production internship at North Willamette Research Extension Center in Aurora is celebrating its 5th year under the direction of Nursery Crop Extension and Research Faculty, Dr. Jim Owen and Research Assistant, Heather Stoven.

In the last five-years the intern program was made possible by grants provided by Oregon Department of Agriculture and Oregon Association of Nurseries. In recent years, interns have hailed from universities and community colleges in California, Illinois, Minnesota, Oregon, Poland, Rhode Island and Washington.

The internship program was developed to provide a real world work experience for young people interested in careers in the Northwest's nursery industry. Interns are mentored by OSU faculty

and staff, are each responsible for a special project, and support on-going research at the Center. Internships generally last about three months.

Research Interns in 2010

- Intern Sarah Sydow partnered with Phillip's Soil Products to investigate the use of chicken manure to grow organic vegetable and floriculture transplants. Phillip's Soil Products is a Canby OR company specializing in custom soil blends to match the growth requirements for individual crops.
- Mike Kapsimalis, under the tutelage of Christmas Tree Extension Specialist Chal Landgren, investigated the feasibility and use of using remote-sensing devices to detect tree stress before crop damage occurred.

These projects all require scientific understanding, real world-application, and provide an opportunity to work and visit local business and farms in the Northern Willamette Valley.

With this experience, interns go on to

become graduate students, work within the nursery industry, or gain employment at academic institutions assisting with other research and extension programs.



Interns Mike and Sarah assist in evaluating caliper and counter devices being developed to assist nurseries in inventory management.



Interns Sarah and Mike measure irrigation application volumes on a study investigating the impact of fertilizer placement on nursery growth and nutrient use efficiency.

AGRICULTURE

Keeping our food safe

Research trials analyze chemicals and pesticides to determine safe levels

The North Willamette Valley is the “garden spot” of Oregon. Many of the local fruits and vegetables we enjoy are grown by farmers between Salem and Portland. Have you ever wondered how we know the foods we purchase in the grocery store, at Farmers Markets or roadside stands are safe to eat? In order to bring these foods to our plates, careful and judicious use of pesticides is often needed, as unmanaged insects, diseases and weeds can reduce crop yields or plant vigor, and the quality we’ve come to expect.

At the North Willamette Research and Extension Center (NWREC), Extension faculty researchers evaluate the chemicals used to grow our food crops, and examine new, potential pesticide products (conventional, organic, and biological) to determine whether they can be used safely. The Pesticide Testing for Safe and Productive Agriculture (PTSPA) program at NWREC is part of a network of field research centers throughout the U.S. that conducts field research trials and laboratory analyses to determine safe levels of pesticides in or on agricultural crops. It is the only center located in Oregon.

The main goal of the PTSPA program is to provide Oregon growers with the pest control options they need in order to effectively manage crop pests, ensure a stable and safe food supply, and maintain a healthy environment while supporting the success and profitability of Oregon farmers.

In 2010, Extension researchers completed 31 residue field trials for a variety of crops ranging from berries and tree fruits to hops and grass seed. Last year’s results allowed for the establishment of US-EPA residue tolerances for 14 different pesticide/crop combinations, and the granting of new pesticide labels for 21 different crops.



Joe DeFrancesco heads up the Specialty Crop Registration program for OSU at the North Willamette Research and Extension Center gathering data to establish pesticide residues levels for our fruit and vegetable crops—ensuring that what we eat is safe.

NWREC continues to assist farmers in managing pests in their fields and contributes to the body of knowledge that ensures a safe and abundant food supply.

New and small farmers receive support to grow and flourish

OSU’s North Willamette Research and Extension Center (NWREC) in Aurora, began offering beginner farm training workshops in 2009 in an effort to bolster the small farm industry and encourage new growers. The five session workshop, *Growing Farms*, is taught by OSU faculty, experienced farmers, and other agriculture specialists throughout Oregon. Participants gain the skills to assess their resources and develop a whole farm plan.

Small farms information is in demand because of a growing interest in locally produced food and multiple market outlets. But starting a farm can be overwhelming because there are so many things to consider: land management, soil and water quality, farming practices, accounting systems, equipment, marketing, and distribution channels.

The *Growing Farms* workshop, “Integrates farm business management with principles of holistic farm management,” states Nick Andrews, workshop instructor and Extension’s Metro small farms agent specializing in horticulture crops at NWREC. Between 2009 and 2010, 64 people attended the workshop series at NWREC in Aurora and 90 percent planned to start or expand a farm business as a result of the course.

Andrews adds, “Assisting small farmers is a win-win situation for everyone. New businesses stimulate the economy and help create new jobs.” More local produce is sold at farmers’ markets and through CSA—farms that distribute produce directly to consumers and restaurants. Businesses and consumers both understand the value in purchasing locally grown food.

To further help small farmers, Andrews co-developed the OSU small farms website and writes for the award winning Oregon Small Farm News, published quarterly. Andrews regularly meets with administrative support staff in the metro-area to train on answering common small farm questions and using the website as a resource. From 2007-2009, website use has increased from 562,605 to 2,208,797 hits per year. The newsletter is currently downloaded about 10,000 times per issue and has 2,300 subscribers.

**Small farms website: <http://smallfarms.oregonstate.edu>
Information on Growing Farms workshops
Read the Oregon Small Farms newsletter**

Collecting seed from trees in Turkey for Christmas trees in Oregon

Oregon has long been known as a premier producer of excellent quality Christmas trees in the United States with 7.5 million trees sold and \$100 million dollars in statewide sales in 2010. But every industry and commodity needs to continually improve products and procedures. The Christmas tree industry is no exception.

To maintain that top spot, improved tree quality is at the top of the list. Consumers want trees that don’t readily drop needles, have good color and shape, and smell like the outdoor forest. Growers want trees for all these same reasons—plus they also want trees that are fast growing, able to resist disease and insect attack, and better able to tolerate various moisture conditions.

In that quest, Chal Landgren, an OSU professor of forestry and Extension Christmas tree specialist at OSU’s North Willamette Research and Extension Center in Aurora, traveled to western Turkey in the autumn of 2010 to search for that perfect tree. Along with Christmas tree experts from North Carolina State University and Washington State University, the group collected seeds from promising varieties of fir trees that scientists have reason to believe will thrive in the U.S. and ultimately become the perfect Christmas tree. “We’re trying to identify that next generation of Christmas trees based on mature trees growing in the forest. Overall “looks”, color for the foliage and tree vigor are



OSU’s Chal Landgren (left) with colleagues from North Carolina and Washington in the forests for Turkey in search of the perfect Christmas tree.

qualities we look for.”

The new varieties Landgren and his associates are looking at include Turkish, Trojan, and Nordmann firs—all similar to our noble fir. According to Landgren, the new species won’t replace noble or Douglas-fir for top production honors in Oregon, yet they should offer consumers additional choices. And, for tree growers, these new species appear resistant to many common insect and disease pests here in the PNW and grow on sites too wet or too dry for noble fir.

Currently, researchers have the seed, a first step. In two years they will have seedlings. Eight years following planting, they should have harvest-size trees. If the research is successful, more seeds can be obtained from the parent trees in Turkey through GPS tracking. Time will tell what your future Christmas tree may look like!

AGRICULTURE

A few things to keep out of the garden



Our home landscapes can often introduce potential pests—plants, diseases or insects—without intention.

Invasive pests can be a nightmare for gardeners

The recent surge in bed bugs has people rethinking travel pans and neurotically inspecting suitcases and linens. Yet when it comes to their own backyards, invasive species such as mites, ivy, or something called the Brown Marmorated Stink bug, just don't garner the same reaction.

But the fear is very real for horticulturists. They have watched closely as pests and non-native plants invade the Northwest one after another, adversely affecting habitats and bioregions. They can cause mass devastation and are not easily eradicated. Invasive species are also one of the biggest risks to many threatened

and endangered animal species.

Robin Rosetta, an entomologist who works in pest management for the North Willamette Research and Extension Center (NWREC) in Aurora says, "We are most at risk from organisms that can adapt well and survive climate similar to ours. So many invasive species are coming into the Northwest and taking out plants or forcing people to spray who never had to before. The cumulative effect is subtle and frightening."

Rosetta gives presentations throughout the state titled, "Not in my Backyard" that teach backyard gardeners and nursery owners how to identify invasive species and understand their impact. Invasive species can come from all over the world and are strongly associated with global trade and travel. In the Northwest we are at risk from unwanted invaders that might come from nearby states that are already infested. One of their most common traits is that they are good hitchhikers and generally very good at reproducing.

"I want people to know this isn't all doom and gloom," said Rosetta. "I have learned that this topic can be

depressing and people feel like it's out of their control, but as dismal as invasive species may seem at the time, it is one area in life where one person can really make a difference." To help reduce the damage from invasive species, Rosetta encourages the public to watch for signs of anything new in their backyard gardens, and points out how successful the Oregon Department of Agriculture has been in keeping the destructive gypsy moth at bay.

To learn more about invasive species and how you can help, visit the following websites:

The Oregon Invasive Species Council
www.oregon.gov/OISC

The Oregon Department of Agriculture
www.oregon.gov/ODA

Pacific Northwest Nursery IPM
<http://oregonstate.edu/dept/nurspest/>

Clackamas Community College Urban Pest Management Course
<http://calendar.oregonstate.edu/event/48256>

Adapted from an original article written by Kimberly Jacobsen for the "Clackamas Review"

To report an invasive species, whether plant, insect, weed, disease, mollusk or animal, call

Invasive Species Hotline

1-866-INVADER

Phytophthora is a killer

Nursery industry workers learn how to battle this costly crop disease

The name Phytophthora doesn't sound too threatening unless you know its meaning, "plant destroyer." Phytophthora (pronounced Fy-TOFF-thor-ah) is the top nursery crops disease nationwide and was the focus of ten local workshops held from June through November in 2010 at the OSU-North Willamette Research and Extension Center (NWREC) in Aurora.

Luisa Santamaria, a nursery specialist in plant pathology NWREC, teamed with the Oregon Department of Agriculture's Grower Assistant Inspection Program to offer free workshops to nursery industry workers about Phytophthora. "My presentations target managers and the workforce in the nursery industry with a special emphasis on those who speak Spanish," says Santamaria, though the classes are also offered in English, too. The goal was



A Rhododendron infected with Phytophthora—a common disease in our nurseries and home landscapes.

"to provide industry workers a better understanding of their daily work with plants and the role they play in the production of healthy plants."

In Oregon alone, Phytophthora diseases have caused more than \$1 million in annual losses to shade tree production. Nurseries that become infected with

disease not only lose crops and crops sales, but they have to contend with cleanup expenses. Recognizing this costly threat was the impetus for developing the workshops.

During the workshops, nursery growers learn that this soil-borne, non-fungi pathogen, grows through the root system into larger and larger roots. After plant cells become infected they lose the ability to take up and transit water and nutrients. As Santamaria says, "When plants are attacked by this pathogen, they will die." Nursery growers' best defense is education and prevention.

Phytophthora can be active in plants and trees in commercial nurseries and residential gardens, anywhere water is present. NWREC has developed a free online class that will educate all growers in identifying and reducing the risk of Phytophthora in their plant life at <http://oregonstate.edu/instruct/dce/phytophthora>.

Adapted from an original article written by Kimberly Jacobsen for the "Estacada News"

AGRICULTURE

The Oregon berry industry thrives thanks to OSU research

Learn more about OSU's research at <http://oregonstate.edu/dept/NWREC>

Berries are a treat anytime. Naturally sweet, it is hard to believe something that packs such a flavor punch can be good for you. Berries are crammed with vitamin C, fiber and antioxidants. Because they can be easily frozen, dried and preserved they are enjoyed long past their summer harvest.

Berries are big business

A large number of berries in the state are grown in Clackamas County. There are about 1,650 berry farms in Oregon with more than 250 in Clackamas County. Blueberries experienced the most rapid growth in Oregon during the last ten years with acreage increasing four-fold. About 106 acres of blueberries are harvested in Clackamas County.

Research impacts production

Quietly tucked away on 160 acres near the Charbonneau neighborhood, the OSU-North Willamette Research and Extension Center (NWREC) research has a direct impact on production efficiency of Oregon berry crops, producing a better and more economical product for berry farmers and the consumer.

An eight year study has had a significant impact on the blueberry industry in Clackamas County and even worldwide. Innovative research done by Bernadine Strik, Extension berry crops professor in the Department of Horticulture at OSU and at NWREC, has led to changes in the recommended planting density, trellising and pruning of blueberries resulting in the doubling of yields per acre, especially for young plantings.

Testing new varieties

NWREC researchers test new berry

crop varieties for commercial industry and home gardeners. This same program released the beloved Marion or "marionberry" in 1956. "As a result of NWREC's cooperative trials, one blueberry, five strawberry, nine blackberry and three raspberry cultivars have been released since 1993," Professor Strik said.

Financial impact

Researchers estimate an annual impact of \$11 million in fruit sales from new cultivars in Oregon and a total annual fruit sales impact of \$18.4 million in the Pacific Northwest. There were \$1.2 million dollars in plant sales of USDA-OSU-Agricultural Research Station cultivars at wholesale nurseries in the Pacific Northwest last year.

Organic production

The world's largest certified organic berry research projects are taking place at NWREC in an effort to develop



economically, sustainable organic production systems. Information is helping growers choose production systems that maximize growth, yield and fruit quality. Professor Strik adds, "Our goals, which include developing weed management, cane training and irrigation strategies, as well as studying the food safety aspect of hand- and machine-harvested fruit plus the berries' nutritional value, will benefit all growers."

Adapted from an original article written by Kimberly Jacobsen for the "Clackamas County Citizen News"

Invasive wild hare barley infests local pastures



Hare barley seed head

Oregon. In California, hare barley probably became naturalized in the late 1700's with the arrival of Spanish missionaries. Since that time it has spread to neighboring states. It has several common names including wild barley, foxtail or foxtail barley though hare barley is not a foxtail species. Hare barley may now infest up to 10,000 pasture acres just in western Oregon.

Hare barley has the characteristic "wild barley" seed head that usually remains intact on plants long after it has completed its life cycle. The spikelets can injure the mouth, eyes, ears and skin of animals so mature plants are rarely grazed leading to abundant seed production. This abundant seed production and the ability to rapidly spread by attaching to the legs of grazing animals can result in changing a pasture from one that produces a lot of desirable grass to one that has very little feed.

In 2008, a group of Clackamas county



Livestock producers examine a pasture infested with the invasive hare barley species that can adversely affect cattle health.

livestock producers encouraged OSU Extension to tackle the growing problem in Clackamas County. These producers had tried reducing hare barley infestations by spraying, sporadic tillage, heavy grazing early in the season, propane flaming and mowing, but all efforts had limited success.

Some recent promising new herbicides

are now on the market that may have a fit for hare barley control in Oregon pastures. To test these and other products, two research trials evaluating 13 herbicides were established in Clackamas County in 2008. A grower tour was held in June of 2010 to present two year results. Three of the herbicides showed potential in controlling hare barley. In addition, hare barley seeds were collected at weekly intervals in 2010 in order to determine the approximate date that viable seed is produced. This is important for hay producers so that harvest can be timed to avoid the spread of this weed through seed.

When this project is completed in the fall of 2011, it is expected that two strategies will be developed. The first is a recommended herbicide application that will aid in the control of this weed. Second, researchers can develop non-chemical management recommendations for the timing of hay harvest or grazing which will reduce

Gene Pirelli is OSU's Livestock and Pasture Extension Agent working with local farmers on hare barley—a non-native, cool-season, annual grass that is invading pasture systems across

HOW YOU CAN GET INVOLVED

Popular Veggie Agent Retires

Bob McReynolds, OSU Extension Agent working with the commercial vegetable industry in the North Willamette Valley, retired on June 30, 2010 following a 28 year career with the university. During these years McReynolds made a name for himself working with farmers growing fresh market vegetables and seed crops throughout the region.

“Most people don’t realize that many of the fresh vegetables we see in our grocery stores and farmers markets are grown right in our area,” McReynolds said. “Our local farmers produce spinach, lettuce, onions, radishes, chards, cabbage, cauliflower, beans, peas, on and on. My work has focused on improving how we grow these crops and ensure that what we bring to the marketplace is clean and safe to eat.”

Early in his career, McReynolds saw that farmers had few cultural tools to battle the pests that were feeding on their crops. He began working with the growers to find pesticides that were effective for control and safe to use on the foods we eat. Today, the North Willamette Research and Extension Center is one of the few locations in the U.S. where pesticide safety evaluations on food crops are done.

“This work is really critical for all of us. Most people don’t want to buy insect-damaged or diseased product. My goal has been to find pesticides that work and to make sure the farmers are using them correctly.”

But, McReynolds’ work in the vegetable industry included more than just producing fresh market crops. He was instrumental in helping form a vegetable seed growers organization in the Willamette Valley to address their needs.

“The Willamette Valley is one of only three places in the world where the majority of the vegetable seed our farmers and home gardeners plant comes from,” McReynolds said. The other vegetable seed production areas in the world are the Skagit Valley (north of Seattle) and New Zealand.

“Our valley is a small area that is pretty isolated, so the chance of natural seed contamination is low. But, the real problem we face now is cross pollination from introduced crops like biofuel canola. The seed crop industry supports a specialty seed isolation program to prevent the chance of cross pollination among their seed crops.”

McReynolds’ Extension program brings the latest science and research to vegetable seed growers on topics like weed, insect and disease management, best management practices for farmers, and issues like pollination contamination.



Bob McReynolds surrounded by several awards presented to him for his career of outstanding service to the vegetable growers in the North Willamette Valley.

Growers Launch Endowment to Help Themselves

When Bob McReynolds retired during the summer of 2010, local farmers and those connected to the fresh vegetable and seed grower industries decided they needed to do something to make sure they could still have the help they were used to.

“These are tough times for all of us,” said Mike Iverson, owner of Aurora Farms. “We are all struggling in this economy. But, we need the university to continue to provide the research and education our farmers and our industry has to have to remain strong and for us to get the help we need to put food on your table.”

So, Iverson and Ed Montecucco—a fourth generation vegetable farmer in Canby—each stepped forward to form an endowment with Oregon State University’s Foundation to fund the next Extension Agent for the vegetable industry. Their goal is to raise \$500,000 to support this position. Endowments at OSU generate 5% each year—forever.

Mike Bondi, Director of the North Willamette Research and Extension Center, said the endowment concept is a great idea. “The reality is that shrinking state budgets makes refilling faculty positions—at times of resignations or retirements—very difficult. There’s just not enough funding to fill all the vacant positions at the university right now. If growers can help generate a portion of the funding for a position from private sources, then we will have a priority when the next position is filled.”

Within the first four months of the vegetable endowment campaign commitments of nearly \$100,000 have been raised. “We are off to a good start”, said Iverson. “But, we have a way to go. If each of us can help out, we will make this goal. The work Bob has done is essential to our businesses. We need to make this happen.”

Anyone interested in helping with the endowment to support the commercial vegetable industry, should contact Bondi at 503-678-1264 (X-128).

Extension’s Volunteers make difference in their communities



Master Woodland Manager, Dave Hill, shows Oregon City landowner Vera Watson how to measure tree diameters with an OSU Woodland Stick.

OSU Extension Service relies on its trained volunteers to help educate their neighbors and families. Clackamas County Extension boasts the support of more than 800 volunteers including: 4-H Club Leaders, Master Gardeners,

Master 4-H Wildlife Stewards, Master Woodland Managers, Master Watershed Stewards, Master Food Preservers. Volunteers receive the latest research-based information and skills needed to share that information with others in the community.

During 2010, Extension’s volunteers contributed more than 50,000 hours of community service valued at nearly \$1,000,000.

Volunteer TODAY!

Become an Extension volunteer. Contact the Clackamas County’s Extension office at 503-655-8631.

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Find up-to-date information

Upcoming education programs, tours, events, demonstrations

<http://extension.oregonstate.edu/clackamas>

Clackamas County Extension Office

200 Warner Milne Road, Oregon City
Monday Friday (8:00am-4:30pm)

503-655-8631

Master Gardener Clinic open each day—closed during lunch hour