OSU answers public’s questions online via virtual ‘office’

Extension’s Ask an Expert service has answered more than 5,550 questions

For much of the past century, experts with the Oregon State University Extension Service visited farms and homes to offer science-based advice. Or the public would travel to their local Extension office for assistance. But now Extension is also reaching out to Oregonians via the Internet.

Through its online help center known as Ask an Expert, the Extension Service answers the public’s pressing questions on topics that include gardening, food preservation, forestry, agriculture, activities for youths, household issues, nutrition, and coastal and watershed issues. Questions have included how to control moles, sanitize birdhouses and make compost.

Questions are answered by 131 Extension faculty and more than 30 Extension-trained Master Gardeners. They answered more than 5,550 questions in the service’s first two years. People can access it via Extension’s website and the websites of the Extension offices in Oregon’s counties. Ask an Expert, which debuted in March 2011, strives to reply within 48 hours.

Source: Jeff Hino, learning and technology leader for OSU’s Extension and Experiment Station Communications Department

OSU helps cattle ranchers, environmentalists save sage-grouse

What’s good for the threatened bird, turns out to be good for the herd

Oregon is home to 1.8 million head of cattle, many of which graze on sagebrush grassland. But some of that same land is also home to the greater sage-grouse, which is a candidate for listing under the Endangered Species Act (ESA).

The bird occupies about half of its historical range in the U.S. and Canada because of degradation to its habitat. In Oregon, juniper trees, wildfires, unmanaged grazing and aggressive weeds have disturbed its ecosystem.

Oregon ranchers sold $800 million of cattle in 2011. Photo by OSU’s EESC.

In an effort to preclude an ESA listing, the Oregon State University Extension Service has been informing landowners about a system in which they can voluntarily agree to conserve the species’ out-of-balance habitat. As part of this, Extension has developed inventory and monitoring guidelines for landowners, whose cattle stand to benefit from the rangeland improvements.

Much of the science that will be used to develop conservation plans will come out of OSU’s Eastern Oregon Agricultural Research Center.

Sources: Dustin Johnson, a livestock and range specialist with the OSU Extension Service; OSU Extension’s 2011 Oregon County and State Agricultural Estimates; U.S. Fish and Wildlife Service
OSU finds invasive species on Japanese dock on Oregon coast

More than 90 species hitchhiked across the Pacific Ocean after tsunami

When a 66-foot dock washed up on Oregon’s coast as debris from Japan’s 2011 tsunami, Oregon State University scientists inspected it for invasive species, which can cause ecological and economic damage.

They identified more than 90 unique creatures, including barnacles, algae and northern Pacific sea stars. At least 10 are known to be invaders in other parts of the world.

Researchers say that the danger from harmful hitchhikers may not be known for years. They fear they could reproduce and breed with similar local organisms, disrupting the native ecosystem. They might also bring new parasites.

Expelling or managing an established invasive species nationally costs $6 billion for invasive fish and $122 million for aquatic weeds annually, which includes the economic impacts of commercial production losses and declining native species. Zebra mussels, for example, can clog water-intake pipes, filtration equipment and power-generating facilities, costing more than $1 billion per year.

Sources: OSU Sea Grant Extension aquatic invasive species specialist Sam Chan; Oregon Department of Fish and Wildlife; Oregon Invasive Species Council

OSU teaches K-12 teachers about agriculture

More than 500 teachers have completed the weeklong program since 1989

Oregon State University’s Summer Ag Institute trains educators about agriculture so they can teach their students where food comes from.

The week-long program is aimed at teachers in kindergarten through 12th grade with little or no agricultural background. The teachers earn graduate-level, continuing education credits from OSU.

Teachers have a choice of two sessions: one on either side of the Cascades. The eastside experience, based in Union, includes Columbia Basin wheat ranches, timber operations, seed farms and cattle ranches. The westside experience, based in Corvallis, showcases the Willamette Valley’s cornucopia of fruit, nuts, vegetables, microbreweries and Christmas trees.

Participants tour orchards, berry fields, dairies and wineries. They shear sheep, test soil and build hydroponics systems for their classrooms. They each stay overnight with a farm family, lending a hand in chores and building relationships.

Sources: Greg Thompson, head of the agricultural education and general agriculture department at OSU
Oregon Open Campus bridges educational gaps

Program provides more ways for Oregonians to access education

Oregon Open Campus, a statewide community-based education partnership convened by Oregon State University, provides local access to learning in order to address the unique educational needs of Oregon’s communities. In 2010, OSU launched Oregon Open Campus in Tillamook, Crook and Jefferson counties. In its first year, the program reached 1,261 learners in these communities through courses, presentations, seminars and trainings.

This program builds on the foundation of the OSU Extension Service, providing a way to bring the educational resources of the university to communities. Oregon Open Campus has a growing capacity for distance education and face-to-face courses, with the potential for an expanding array of professional certifications, workforce enhancement opportunities and business development. Partners include Oregon’s community colleges, regional economic development groups, the K-12 education systems, business community, and local government.

Source: Beth Emshoff

Extension’s 4-H teaches financial literacy to youths

High schoolers learn to save money, budget and prioritize needs and wants

When the Oregon State University Extension Service asked 51 representatives from community organizations in Columbia County what educational topics would be most helpful to residents, three-quarters of them ranked financial literacy as the No. 1 priority.

That shouldn’t be surprising given that U.S. consumer debt stood at $2.8 trillion at the end of 2012. That works out to be about $8,900 of debt for every person in the U.S.

So Extension’s 4-H program developed an in-school and after-school financial literacy curriculum for high school students. Its four lessons focus on earning money, creating a spending plan, savings and banking options, and the real cost of living after high school.

Extension 4-H taught 102 financial literacy classes to 1,285 youths in Columbia County in 2011. About 100 participants were later asked what they learned. Three-quarters said their knowledge of budgeting increased, and 80 percent said they now better understand how to choose a bank or credit union. More than 80 percent said they would share the information they learned with their family.

After the lessons, one student wrote, “I had never thought about the importance of health insurance. After learning about it and discussing with friends, I know I need it!”

Source: Jenny Rudolph, a family and community health educator with OSU Extension; U.S. Federal Reserve; U.S. Census Bureau

Stock photo.
With names like solitary sea squirt and zebra mussel, these critters sound cute enough. But they’re part of a long list of harmful aquatic animals and plants that aren’t originally from Oregon and that inspectors are making sure don’t gain a foothold. These invaders can compete with native flora and fauna for limited habitat and food and cost millions of dollars to control.

For example, zebra mussels, which can cling to boats when transported across state lines, clog water-intake pipes and hydroelectric power plants. They haven’t spread to Oregon, but if there ever were an infestation, an initial outlay of an estimated $24 million would be needed to protect 13 hydroelectric facilities in the Columbia River Basin from them. Additionally, the cost of establishing boat inspection and decontamination stations at state border entry points is estimated at $2.85 million.

Educating the public is crucial to prevent the spread of invasive species. That’s why Oregon Sea Grant Extension’s Watershed Invasive Species Education program helped train 12 teachers and more than 770 students in 2010 on how to detect, control and report these biobullies as part of their classroom science curriculum. As a result, they identified 30 populations of terrestrial and aquatic invasive species, including yellow flag iris and false brome. The teachers and students reported them to the online Oregon Invasive Species Hotline. The locations of these species were also added to an online tracking database at iMapInvasives.org to help natural resource managers deal with them. After the project concluded, two of the teachers continued using the lessons plans provided by the program.

As a result of the trainings, students at Al Kennedy Alternative High School in Cottage Grove later helped collect field data for a study to assess the effectiveness of non-herbicide treatment of Japanese knotweed. Also, students at Lane Community College studied the distribution and impact of the invasive American bullfrog and the non-native aquatic plant called parrot feather watermilfoil. Furthermore, an oceanography class at Cottage Grove High School studied invasive species then removed meadow knapweed from a forest.

Sources: “Potential economic impacts of zebra mussels on the hydropower facilities in the Columbia River Basin” report prepared for the Bonneville Power Administration; Oregon State Marine Board

After a few months in California’s Lake Mead, Sam Chan’s shoes are covered with invasive zebra mussels. Chan is an aquatic invasive species specialist with OSU Sea Grant Extension.

Photo by Peg Herring.
Innovation is key to building a green future

OSU partners with NSF and Oregon BEST in new $2.2 million center for wood-based materials

Innovation is essential for Oregon companies to be successful in the intensely competitive international green building products sector.

So Oregon State University and Virginia Tech are leading a cooperative research center focused on creating new, green wood composites and adhesives. The research is expected to bring advances in reduced costs, improved performance, new products, material recycling, and more environmental sensitivity.

Wood composites have been around for decades in such forms as plywood and particle board. But the future could bring improvements in laminated veneer lumber, strand composites, wood and thermal plastic composites, and wood adhesives.

The Oregon Built Environment and Sustainable Technologies Center (Oregon BEST) and the National Science Foundation provided start-up funds for the center.

Source: OSU Professor Fred Kamke, the site director for the Green Building Materials Laboratory

4-H Tech Wizards prepare Latino youth for a high-tech future

Students learn skills in web development, video and podcast production, GPS technologies and robotics

Jobs in science, technology, engineering and math (STEM) are important to the United States’ economic strength. But some are concerned about whether today’s youth have the skills to fill these careers. Of particular concern is the underrepresentation of Latinos in the STEM field. Of Latino college freshmen who began a four-year STEM degree in 2004, only 22 percent completed it within five years.

The Oregon State University Extension Service’s 4-H program is trying to change that through a program called Tech Wizards. Launched in 1998, this bilingual afterschool program teaches technological skills to low-income students, particularly Latinos, in grades 9 through 12 who are considered at risk of dropping out of school. Students in the program learn to create websites, produce videos and podcasts, make computerized maps and build robots. They are also required to perform 30 hours of community service each year in tech–related fields.

About 1,000 students have participated in the program. About 95 percent have graduated from high school, and about 70 percent of those have pursued more education in science, technology, engineering or math.

Source: Octaviano Merecias–Cuevas, 4-H Tech Wizards coordinator in Washington and Multnomah counties

Estate planning program helps keep forestland in the family

Workshop helps forest owners pass their land to the next generation

Loss of forestland to commercial development is a problem in the U.S. It means not only loss of forests and their ecological benefits, but also loss of the land’s economic productivity, including associated jobs and payroll generation. One million acres of forestland were lost to development in the U.S. from 1992–97. Another 26 million acres are expected to disappear by 2030, including 2 million acres in the Pacific Northwest.

To slow this trend, the Oregon State University Extension Service, the Austin Family Business Program and the Oregon Forest Resources Institute created Ties to the Land, a DVD-based, facilitator-led workshop on succession planning for family forest landowners. More than 3,500 such owners have attended the workshops, including nearly 1,000 from Oregon. During the training, they receive a workbook to take home and use with their families. People can also order the book online. About 50 are sold that way each year.

Succession planning is an important topic given that death is one of the major driving forces behind loss of forestland to other uses. Half of Oregon’s family forest owners are over the age of 65.

Source: Mary Sisock, director of Ties to the Land

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Workshop helps forest owners pass their land to the next generation

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4-H Activate Oregon program gets youth involved in community decision-making

4-H education develops civic understanding and leadership for the future

As compared with youth in other out-of-school programs, 4-H members are:

- 3.5 times more likely to volunteer in their communities
- 1.6 times more likely to expect to go to college

To expand leadership opportunities for Oregon youth, the Activate Oregon 4-H Program was recently launched to help young people take a more active role in the leadership of their communities and to give them opportunities to make substantive civic contributions. The new program helps young people become more involved, learn new skills and gain confidence as they take active roles, alongside adults, to make decisions in their communities.

A recent national 4-H study measured several youth developmental outcomes, including contribution (that is, willingness to give time and effort to achieve positive outcomes for self, family, community, and the institutions of a civil society). The study found that youth participating in 4-H programs like Activate Oregon are significantly more likely than other youth to make positive contributions.

Source: Marilyn Lesmeister

Special 4-H Summer Camps introduce young people to science, engineering, technology

4-H education enhances science and math competitiveness for Oregon’s future

America faces a future of intense global competition with a startling shortage of scientists. National education statistics indicate only 18 percent of U.S. high school seniors are proficient in science, which is a strong indication that young people are not prepared with the necessary science skills to compete in the 21st century workforce.

In response, the OSU Extension Service 4-H programs are emphasizing science, technology, engineering, and math (STEM) in 4-H learning activities for youth throughout the state. In 4-H where kids learn by doing, positive experiences in the sciences during the developmental years help open doors to science-related careers later in life. One especially effective 4-H delivery format for SET 4-H activities is the summer science camp. In Washington County, Extension 4-H program field faculty organized and launched the Super Science Camp. The five-day residential summer science camp provides a variety of hands-on experiences designed to inspire and engage youth as they participate in a range of activities exploring topics such as wildlife habitat, astronomy, GIS technology, Lego robotics and more. Recent surveys of Oregon 4-H summer camps indicate a majority of camp participants: 1) learn new things about science at the camps, and 2) increased their interest in science because of attending the camp.

Source: Pat Willis