OSU helps Oregon’s forest products industry stay on top

Innovation center connects manufacturers with researchers and provides technical assistance

From the end of World War II until 1989, timber harvests in Oregon generally ranged from 7 billion to 9 billion board feet annually. Since 1989, timber harvests on federal lands have dropped about 90 percent because of environmental litigation and a change in management emphasis.

That reduction in supply combined with increased global competition has forced Oregon’s forest products industry to rethink how it does business. To help, the Oregon State University Extension Service and OSU’s College of Forestry created the Oregon Wood Innovation Center (OWIC) in 2006. Its mission is to connect manufacturers with researchers, provide technical support and facilitate networking within the industry. Its faculty include experts with Extension and OSU’s Forest Research Laboratory.

"Any time I have needed wood products-based information, testing or assistance, I always have called upon OWIC," said Scott Meyers, founder of Westcoast Hardwoods. "[OWIC staff] helped my company with a worksheet to convert nominal softwood sizes and costing to net sizes and costs, then converting all that data to the metric system so we can trade internationally. This will be, and is, one of the most valuable tools we have ever had next to the computer."

It’s work like this that helps keep Oregon’s forest sector on the forefront in creating engineered wood products. That’s important given that the sector accounts for one in 20 jobs in the state. It directly employs 76,000 Oregonians and generates $5.2 billion in total income, of which $3.5 billion is employee compensation, including benefits.

Sea Grant Extension helps food processors think outside the... can

Lightweight pouches improve products’ quality and are free of BPA chemical

Oregon Sea Grant Extension at Oregon State University is assisting businesses with packaging seafood products in flexible pouches instead of in cans. The pouches require less energy to create, improve the quality of the product and they’re free of potentially harmful bisphenol A (BPA), unlike some aluminum cans.

Sea Grant helped Oregon Seafoods in Coos Bay set up a pouch-processing operation and later helped it develop a line of albacore tuna that included four flavors that were tested at OSU’s Food Innovation Center in Portland. Today, the tuna is sold in more than 700 stores in several states. Similarly, Sea Grant helped The Berry Patch restaurant in Westport set up a processing facility to package its soups in pouches.

Sea Grant has also been helping the Confederated Tribes of Warm Springs develop a traditional food processing facility because the tribes were losing up to 20 percent of their salmon to freezer burn each year. As part of this, tribal members traveled to OSU’s Seafood Laboratory in Astoria to learn advanced preservation methods. Once built, the tribal facility could employ 18 people.

Source: Mark Whitham, a product development specialist with Oregon Sea Grant Extension; Ron Suppah, vice chairman of the Warm Springs’ tribal council; Oregon Department of Agriculture
OSU scientists help Oregon’s vineyards and wineries stay competitive

The Oregon Wine Research Institute focuses industry collaboration in research and Extension

The process of making wine is complex and OSU research is helping improve the process from field to market. OSU vine expert Patty Skinkis has found that using a cover crop in a mature vineyard produces higher-quality grapes and a better bottom line. For Oregon’s 870-plus vineyards, that bottom line was nearly $94 million in sales of grapes in 2012. That’s in addition to the $253 million in cases that the state’s 463 wineries sold.

Skinkis also found that grapes from vines with grass alleyways scored the highest in terms of phenolics, which affect how wine feels in the mouth, and anthocyanins, which are pigments that produce a more intense red—a desirable trait in Oregon’s famous Pinot noir and many other red wines. That increased quality could translate into higher prices for Oregon grapes and for the wine made from them.

Meanwhile, OSU researcher James Osborne is studying how yeast impact the aroma of Pinot noir. His goal is to help winemakers select strains that can produce the aromas and flavors they desire. Osborne and Skinkis are carrying on OSU’s legacy of helping the wine industry. Past achievements of OSU scientists include isolating the first malolactic bacteria to grow at cold temperatures and low pHs; devising a lag growth phase crop estimation system that is now used universally; importing the Dijon clones and many varieties for the first time into the United States; and creating the first International Cool Climate Symposium for Viticulture and Enology in 1984.

Source: Southern Oregon University 2011 Oregon Winery Census Report; National Agricultural Statistics Service

Replacing non-renewable materials with biobased wood composites along Oregon’s highways

Research for sustainable bio-composites may have environmental and economic impacts.

Travelers along Oregon’s scenic highways may gaze out their car windows and see lush forests, clear rivers, and rich farmlands. Professor Lech Muszyński of OSU’s Forest Research Laboratory sees all that and more, such as new jobs based on renewable materials and a market for the woody biomass produced from forest thinning for fire prevention.

Muszyński is researching the use of wood-plastics composites in many common products, including those found along Oregon’s roads and highways. Snow fences, traffic signs, mile posts, guardrails, sound barriers, dividers, and even bright orange traffic cones are currently made from non-renewable resources. Wood-plastic composites containing up to 70 percent biomass instead of petroleum-based plastics may eventually be used to manufacture all of these products.

The research project has attracted interest not only from Oregon Department of Transportation’s Sustainability Coordinator, but from rural community leaders because it may open the window to new employment opportunities in the sustainable wood composites industry.
OSU aims to help farmers cash in on quinoa

The grain has more iron, calcium and potassium than wheat, rice and corn

With the growing popularity of quinoa, Oregon State University aims to help farmers tap into the potentially lucrative market. OSU researchers have planted the high-protein superfood in the Willamette Valley and Columbia Basin and are monitoring how it fares in various soils, weather conditions, levels of irrigation and organic growing methods.

The crop is attractive because of its price. Organic quinoa fetched $3.10 per kilogram in 2010, well above the price of wheat. Less than $70 per ton a decade ago, quinoa now sells for more than $2,000 a ton.

Additionally, it doesn’t require much labor or inputs. It costs $910 to grow one hectare of organic quinoa. Considering an average yield of 760 kilograms per hectare and a price of $120 per quintal, the gross income would be $2,040, generating a total profit of $1,130 per hectare per year.

In 2009, the U.S. imported nearly $20 million of quinoa from Bolivia, the world’s largest exporter of the cereal. The U.S. produces 3,000 metric tons annually, representing 6 percent of world production.

Sources: U.N. Food and Agriculture Organization’s 2011 report “Quinoa: An Ancient Crop to Contribute to World Food Security”; Steve Petrie, director of OSU’s Columbia Basin Agricultural Research Center

OSU conference helps farmers get into agritourism

Farmers and policymakers discuss regulatory constraints and solutions

More Oregon farmers want to share their corn mazes, pumpkin patches and horseback rides with visitors to get a piece of the lucrative agritourism pie.

Nationally, it’s a big business. The U.S. was home to 52,000 farms that earned about $955 million from agritourism in 2004.

So the Oregon State University Extension Service organized the two-part Oregon Agritourism Summit to help farmers branch out. Nearly 160 people attended the first meeting on campus and learned about marketing, navigating regulations, reducing potential liabilities and creating a hospitable experience for visitors.

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Sources: U.S. Department of Agriculture’s Economic Research Service; OSU Extension Service small farms instructor Melissa Fery

Gluten-free, high-fiber quinoa is the only plant food that provides all the essential amino acids.

Horseback riding is one activity farmers can offer visitors to bring in agritourism dollars.

Sources: U.S. Department of Agriculture’s Economic Research Service; OSU Extension Service small farms instructor Melissa Fery
OSU seafood research has helped create a surimi industry from fish no one wanted

OSU research and extension helped define technology and standards for international industry

Up to three million metric tons of fish are used annually to supply the world’s surimi market, a process where fish are turned into meal and modified to create seafood products. Standardized processing techniques are crucial to ensure safety for consumers and the natural environment.

For the past 20 years, OSU food scientist Jae Park has advanced surimi research through the international Surimi School that he began in 1993, the Surimi Industry Forum (begun in 2001), and his comprehensive textbook Surimi and Surimi Seafood (2nd edition 2005). His industry outreach has expanded to Europe, Japan, and Asia.

Additionally, Dr. Park shares two U.S. patents for the development of new seafood-heating techniques that increase energy efficiency, reduce cooking space, and reduce disease outbreak. Both of these techniques have been adopted by the seafood industry which have over a $2.4 million impact. In 2011 Dr. Park won the Harold M. Macy Food Science and Technology Award for his outstanding scholastic achievements in surimi research.

Source: Jae Park

Clover seed brings benefits to Oregon’s growers and the environment

Expanding the market for crimson clover seed means economic growth and fertilizer reduction

Crimson clover isn’t just a pretty sight to passersby – the seed crop was worth more than $5 million to Oregon in 2011. OSU Extension is working to boost that number by promoting the clover’s nitrogen-producing qualities to growers in other states.

Crimson clover has long been used as a cover crop, and because it puts nitrogen into the soil, it can help growers save on fertilizer and reduce chemicals from leaching into groundwater. More than 95 percent of the crimson clover seed produced in the United States comes from western Oregon. Of the 7,650 acres harvested last year in Oregon, 63 percent of it came from Washington County.

Extension field crop faculty member Nicole Anderson has been working with the Oregon Clover Commission to form partnerships with local Extension agents, crop consultants and growers in other states. Anderson and the commission also created a popular brochure with recommendations for establishing and managing crimson clover cover crops.

Source: Oregon Agricultural Information Network, Nicole Anderson
Sustainability program turns Christmas trees even greener
OSU Extension helps Christmas Tree industry sustain land, water, and profits

Trees have become a little bit greener with a new sustainability program that the Oregon State University Extension Service helped develop.

Oregon is the nation’s top producer of Christmas trees, garnering $99 million in sales in 2011. Trees from certified farms have met standards for protecting land, water, wildlife and the people who work on the farm. The trees bear a tag identifying their origin as a Socially and Environmentally Responsible Farm (SERF).

To be certified, a farm must develop a plan for all it operations addressing five areas of social and environmental health: biodiversity, soil and water resources, integrated pest management, worker health and safety, and consumer and community relations.

OSU Extension provides training and support to growers in developing their sustainability plans. The Oregon Department of Agriculture conducts independent inspections of the farm, and the Pacific Northwest Christmas Tree Growers Association provides the final certification approval.

Source: National Agricultural Statistics Service

Sea Grant Extension helps coastal communities prepare for wave energy development
Newport is home to one of the nation’s first public wave energy testing sites

Interest in renewable wave energy on the Oregon coast continues to be strong. The long-range goal is to build sufficient wave energy capacity to generate 500 megawatts of power by 2025.

The establishment of this new industry brings with it questions about impacts on offshore areas and onshore communities. Oregon State University’s Oregon Sea Grant Extension helps communities address those questions through outreach and engagement activities, and by coordinating the Human Dimensions of Wave Energy research program. Both efforts bring together groups that have a stake in this new use of ocean space, and address questions like: How will wave energy affect commercial and recreational fishers as well as surfers? And how will the development of related infrastructure impact coastal communities?

The goal of Sea Grant Extension’s efforts is to encourage community members, ocean users, energy developers and scientists to share opinions and information, which will lead to better understanding of the political and regulatory processes surrounding wave energy and its environmental, social and economic sustainability.

Source: Flaxen Conway, a community outreach specialist with Oregon Sea Grant Extension; Oregon Wave Energy Trust

This $1.5 million mooring station near Newport helps researchers develop wave energy technology. Photo by Pat Knight.