



# Oregon Wood Innovation Center

Connecting people, ideas, resources

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2007

## COMING OWIC EVENTS:

- February 25-28, 2007: [Forest Products Management Development](#)
- April 26-27, 2007: [Selling Forest Products](#)
- May 24-25, 2007: [Architectural Design with Wood](#)

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## Western Juniper Update – Part 1

Interest in commercializing western juniper has risen and fallen over the past several decades. In the early 90’s, the ad hoc ‘Western Juniper Commercialization Project’ - composed of personnel from industry, government, and academia - worked to identify and address key barriers



to development of a sustainable juniper industry. Although much progress was made, challenges with high harvesting costs and hence consistent log and lumber supply resulted in the group’s efforts tapering off. Interest in juniper utilization has risen again however due to the ‘perfect storm’ of renewed interest in biomass utilization, renewable energy, and improving forest and rangeland health.

So what has been done, what has been learned, and what barriers

remain? Or perhaps the question for some might be - Why are we talking about western juniper at all?

Western juniper is native to the high desert of eastern Oregon, northeastern California, southwestern Idaho and northwestern Nevada. Juniper woodlands cover an estimated 9 million acres; in much of its range, there has been a 10-fold increase in juniper acreage over the last 130 years. As juniper trees dominate a site, other vegetation such as native grasses and forbs decline. This leads to problems with

erosion, lack of forage for wildlife, etc. Thus, many land managers (public and private) seek to thin juniper stands to restore rangelands to historic conditions. However, in the absence of juniper markets, thinning is prohibitively expensive. Much of the current volume removed is simply piled and either burned on-site or left to decay.

Developing markets for juniper requires addressing several critical issues:

- Harvesting and processing – few stems per acre and large limbs (often all the way to the ground) make juniper difficult and expensive to harvest; poor stem form leads to low lumber yields
- Information – material properties, dry kiln schedules, machining, finishing, etc. – many buyers are reluctant to ‘experiment’ with a species for which little information is readily available and that does not have an established track record
- Infrastructure – little forest industry infrastructure remains in eastern Oregon; further, the infrastructure must be adapted to the resource – for example, juniper logs are shorter and more tapered than traditional species
- Full utilization – markets are needed for high and low grades of lumber and for residual products



In Part II next month, we will provide more information on what has been learned, ongoing efforts, and next steps. In the meantime, interested readers are encouraged to visit the juniper website - <http://juniper.oregonstate.edu>.

# “Ideas are Free” - A Book Review

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It is generally agreed that our industry is facing tremendous challenges to remain competitive. This calls for modern management approaches aimed at improving all stages of the production and commercialization cycles. In this context, innovation is at the center of many initiatives.

The principle is simple; we cannot achieve new goals doing business as usual. Innovation is born from ideas that find their way through the organization and are accepted by the market. Idea systems are based on the belief that employees are the real experts at what they do and

companies can benefit from their willingness to share that wealth of knowledge.

‘Ideas are Free’ (Berrett-Koehler Publishers, 232 pp.) by Robinson and Schroeder is a book that thoroughly explores idea systems and brings up thoughts and tips that should be of interest to any manager in our industry.

The book advocates for the power of employee creativity and expertise. The suggestive title conveys the message that employees will always be willing to share their ideas, as improving things and caring for the general wellbeing of the company are natural phenomena in a healthy organization. The book

has the following main points:

- The importance of small ideas  
‘Small ideas tend to stay proprietary, since there are no mechanisms for competitors to find out about them, and even if they do, the ideas are often situation-specific and so **cannot** be copied...’
- The Problems with rewards  
‘It is one thing to realize that employees don’t have to be bribed to provide ideas. But one might think that the prospect of getting a share of the benefits from their ideas would only increase their natural motivation. In practice, however, most such schemes back-

Cont. on pg. 4

## Ask the Expert



Have questions related to wood? The faculty of the Wood Science and Engineering Department at OSU have the expertise to handle almost any question about wood. Simply submit your question using the [Ask the Expert form](http://owic.oregonstate.edu/askexpert.php) (<http://owic.oregonstate.edu/askexpert.php>). Please be as specific as possible.

The following are examples of recent ‘Ask the Expert’ questions:

**Question:**

Do you have any information on building a kiln using a residential dehumidifier, small fans and incandescent light bulbs.

**Answer:**

There is an article on this topic by

Klimesh from Fine Woodworking (p. 40, issue #45, 1984). The article talks about the author's experience building and using a chest freezer-sized kiln that will dry about 300 board feet of lumber. It uses a department store dehumidifier with coffee cans placed over 150W light bulbs for heat.

**Question:**

I work for a lumber company and I am looking for a company that manufactures White Oak lumber or that could sell us large White Oak logs.

**Answer:**

You should be able to find a source for logs and/or lumber in the Oregon Forest Industry Directory

([www.orforestdirectory.com](http://www.orforestdirectory.com)). On the main page is a link to "Log buyers" (many of which will be sawmills) and then a choice of species. Searching for Oak results in 61 companies. There's also a link to "Sources of logs." Clicking on Oak results in 15 matches. Unfortunately, no landowners have entered their oak volume into the Timber volume listings yet. The timber volume listings are intended to combine timber inventory listings for various species in regions around the state and then allow folks like yourself to contact the landowners as a group. But it's a new feature and it's going to take some time for landowners to start entering their inventory data.

## ACC Denied Residential Registration by EPA

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The Environmental Protection Agency (EPA) recently announced that legal action has been taken to deny all applications for registration of acid copper chromate (ACC) for use as a wood preservative in residential uses. The scientific review process followed by the EPA concluded that ACC use in residential applications would pose cancer and non-cancer risks to workers involved in manufacturing products treated with ACC and non-cancer risks to contractors and residential

users working with products treated with ACC.

Concerns about ACC treated products include the risk of skin irritation to children that come into contact with wood treated with ACC and the potential requirement that treated material would have to be treated as hazardous waste upon disposal because of high levels of chromium.

The conclusion of the review process was that the risks of using ACC in residential applications out-

weighed the benefits.

The full version of the report includes details about the basis of the EPA's decision, risk assessment findings, risk mitigation, and benefits related to ACC. This report is available at:

[http://www.epa.gov/pesticides/factsheets/chemicals/acid\\_copper\\_chromate.htm](http://www.epa.gov/pesticides/factsheets/chemicals/acid_copper_chromate.htm)

### Featured Researcher: Fred Kamke

The featured researcher for the month of February is Dr. Fred Kamke, Professor and JELD-WEN Chair of Wood-Based Composites Science. Dr. Kamke is currently pursuing two research areas: (1) use of modified wood in composite materials and (2) adhesive interactions with wood.

The modified wood project is funded by a USDA National Research Initiative grant, with Dr. John Nairn as a co-investigator. The project involves increasing the strength and stiffness of wood components using heat, steam, and mechanical compression, and then incorporating the modified elements into a composite. In addition to the laboratory work, they are also developing computer simulation models to assist with the design of these new composite materials.

The other project has adopted micro x-ray tomography as a means

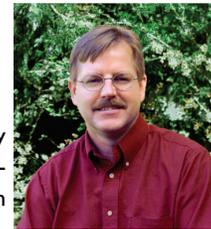
of characterizing the adhesive bond in wood on a micron scale. They are attempting to create a 3-dimensional mapping of the pathway for adhesive penetration in wood and hope to identify any changes in the physical interaction after a bondline undergoes moisture cycling.

The modified wood project has special interest to Oregon. There are over 30,000 acres of hybrid poplar being cultivated in the state. This is a low density and low strength material that was originally intended to feed the paper industry. Much of this timber is now of merchantable size, but it has low value and is not suitable for structural applications. This technology has demonstrated that the strength and stiffness of hybrid poplar can be increased by up to a factor of 4, which would make it superior to even the highest grade of Douglas-fir. The goal is to commercialize this process in Oregon and manufacture high value structural composite products.

Dr. Kamke currently has 5 graduate students working on micro x-ray tomography, modified wood, and chemical treatment of modified wood.

Dr. Kamke is participating in two short courses in 2007: **Wood Adhesion** will be offered in September in Virginia, and **OSB Fundamentals** will be offered in Oregon in October.

He is also collaborating on developing a series of online short courses on the topic of wood-based composites. These courses are being developed with the assistance of OWIC and will specifically target professionals who are currently working in the wood-based composites industry. Our goal is to have four online courses by the end of 2007 and perhaps as many as 19 courses by the end of 2009. These courses would be offered through the OSU Ecampus program.



# “Ideas are Free” cont.

fire. The more money a company dangles in front of its employees, the fewer ideas it gets, and the more problems it creates for itself.

- Making ideas and change a central part of work

*‘Making ideas a regular part of everyone’s work will have little impact unless the way the organization governs how work is done is aligned to promote ideas, too...’*

- Putting the process in place

*‘Making decisions about ideas at the lowest possible level in the organization leads to **better** decisions and **faster** implementation, and frees managers to focus on what they should be focusing on’.*

While every situation is unique, certain characteristics are common to all high-performing idea systems:

1. Ideas are encouraged and welcomed
2. Submitting ideas is simple
3. Evaluation of ideas is quick and effective
4. Feedback is timely, constructive, and informative
5. Implementation is rapid and smooth
6. Ideas are reviewed for additional potential
7. People are recognized, and success is celebrated
8. Idea system performance is measured, reviewed, and improved.

In summary, ‘Ideas are free’ is a valuable contribution to modern business administration and can be of great applicability to any manager looking to thrive in a tough marketplace.

For more information, visit: <http://www.ideasarefree.com/>

# Forest Products Management Development

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The forest industry faces a shortage of highly-qualified managers. Accordingly, the OSU Colleges of Forestry and Business have co-developed an educational program to meet the context and needs of forest industry managers.

This concentrated course, now in its fifth year, is designed to help

prepare the next generation of managers for the industry. Participants will be exposed to strategic thinking in areas such as planning,

Forest Products Management Development will be offered on February 25-28, 2007. The course will be held in Richardson Hall on the Oregon State University campus. Course registration is limited to 25 participants.



February 25-28, 2007  
Forest Products  
Management Development  
Oregon State University - Corvallis, OR  
An Innovative Learning Experience  
Presented by Oregon State University College of Forestry & College of Business

marketing, finance, innovation and the impacts of globalization. Course speakers come from industry and the OSU Colleges of Forestry, Business and Education.

More information on the course can be found at:

<http://oregonstate.edu/conferences/forestproductsmanagement2007/index.html>

To subscribe to this newsletter send an email to **Chris Knowles** with “subscribe to newsletter” in the subject line.

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Previous issues of the OWIC newsletter are available at:

<http://owic.oregonstate.edu/newsletter/>



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