

The Eastern Redcedar Industry - Implications for Western Juniper

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from:

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to:

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I certainly appreciate your role in making it possible for me to be a part of the Juniper Workshop. Hopefully, some of the information from Eastern redcedar experience will be helpful to the developing Juniper industry.

I prepared notes to answer specific questions you proposed for the panel format. Due to time constraints, some subjects were not discussed and we were not able to get very deeply into others. Therefore, I thought you might like to have a copy of my notes for your files. These are very-brief and would need to be expanded considerably for specific answers to processing questions. I will be happy to expand on anything you think is appropriate.

Following the workshop, I had the opportunity to take a closer look at the standing juniper resource in two counties south and east of Bend. These are my impressions and thoughts about what I saw.

- Actual availability? How much acreage is really available for harvesting and will logging costs allow harvesting on the steeper slopes? Much of the juniper appears to be on public land. Questions of old growth, even though Juniper is not considered commercial, might significantly affect availability. Also, after talking with several private landowners, it seems eradication is going to be the preferred "management" goal. What does this mean for long term availability from private lands?
- Wood quality? Much evidence of twisted grain and more knots than eastern redcedar. This would indicate to me a significant change in processing philosophy from high speed, long lengths to smaller processors working with short lengths. (e.g. logs <8', lumber <4'). It appears that the whole subject of drying needs a lot of applied research attention, including efficient handling systems for short lengths. Labor intensive processing may be necessary for a wide range of potential juniper products, but that may be a very positive aspect of its use.
- Logging juniper is going to be a much different task than for other species in Oregon. Volumes per acre are significantly lower, limbing costs per MBF are greater, and mechanical harvesting opportunities would appear to be minimal. I wonder if many current loggers will be able to afford to log juniper using conventional equipment and methods.

Notes for:

Western Juniper Forum

Sept. 1, 1993

Bend, Oregon

Good Logs?

Sawlogs-straight, limbed closely, minimum sapwood, not badly fluted, no heart rot or dotey limb pockets. Would prefer they came from a mixed hardwood stand rather than glade. No artificial pruning. Lengths S1+, mostly 7' & 8'. Minimum taper. 2-3 inch trim allowance.

Size range?

- Mostly 7' & 8' sawlogs, 5"+ scaling diameter. Avg. 7"-8" diameter.
- Shaving wood is normally 42" and down to 3 inches in diameter.
- Not much tree length material is produced, even though many mills would prefer it.

Most Important Defect?

Probably heart rot.

Log grades?

Very few logs are graded. There is some purchased on a weight basis. Large diameter logs are resold for export and these may be graded. Grades are usually based on small-end diameter (Min 10"), length, and clearness.

Log Quality Improvement?

Tree length for merchandising at the mill.

Volume Needed?

Cedar sawmills are generally small w/ only 2-3 employees. The average sawmill cutting cedar exclusively processes about 500,000 BF annually.

Log Storage?

- All are dry decked w/ inventories allowed to decrease during the summer months. It is common practice to store shaving logs for 1 year before processing.
- There is no problem with staining or insect infestation during normal log-storage. No water spray is used on cedar logs in Missouri.
- Logs can check & split if stored in the open during summer. Some mills have open sheds for summer log storage, which helps. Some just stop buying logs in summer and work their inventory down. End coatings are not used because of expense.

Debarking?

Only 1-2 mills debark and then only for air dried shaving bolts. Home-made Rosserhead type debarkers are used. Debarking green logs is difficult, but could yield a good return because the bark could be readily sold and a substitute for cypress bark. Bark slabs are chipped, ground, or shaved for poultry litter or animal bedding. Decorative mulch from ground slabs seems to be gaining popularity.

Sawing?

Most sawlogs are turned to take 4/4 lumber off the outside to produce a 4"-6" thick cant from the heart. Most cedar sawmills are not equipped to taper saw. Note: The heartwood is the most desirable portion of the log and average diameters don't produce much side lumber.

Grading Rules?

NHLA has a cedar rule which recognizes only #1 common and #2 common lumber grades. In the industry this rule is largely ignored. Most orders are placed on the basis of boards being 4" & wider in 6,7,& 8' lengths and 90% free of major defects. Sound knots are permitted and the non-graded face may be mostly sap.

Eastern redcedar lumber grading is very inexact and loosely practiced in Missouri.

Saws?

There is really nothing special about the circular head saws commonly used in Missouri. Carbide or Stellite teeth are not necessary. Logs are generally not muddy because they are not skidded long distances. Feed rates are slow and "F" style saws w/ 9/32" kerf are common. Lumber can have quite a lot of thickness variation, but this is generally due to the condition of the mill. Large, dry knots cause some blade deflection. Band saws sometimes increase hook angle up to 30 degrees with a very slow feed rate. This produces a very good quality lumber without much variation.

Lumber Storage?

Much lumber is stored in covered, but open, sheds in self-stickered bundles. Target MC for air drying is about 12%.

Lumber packaging?

Rough lumber is stacked with random lengths & widths. T&G paneling is usually "nested" in 1',2',3', & 4' all in the same package. (enough to cover 32 square feet). Cants are bundled separately into 4" thick X random widths or 6", thick X random widths.

Drying?

Quite a lot of T&G made from air dried stock (10-12% MC). Target for most kiln drying is 10% MC. Although most processors air dry before putting lumber into kilns, there is no problem with KD from green. Drying is done at relatively low temps (max 120 F.) w/ shallow depression. Drying is coordinated to the knots which dry somewhat faster than the board. Must keep knots tight, w/o splitting. Schedule for ½" lumber takes approx. 5 days for the novelty & gift item industry. Lumber packages for kilns are usually box piled (self stickered) to increase kiln capacity. There is not much 8/4 lumber produced from E. Redcedar, so no drying info was readily available for thick stock.

Planing?

Knife planing is usually done for rough sizing only. Slow lineal feed rates are used (15-40 fpm). Final sizing and finishing is commonly done with abrasive planing to minimize tear out around knots. I'm not aware of special tooling such as helical planer heads or 30 degree planer heads, but I believe such equipment could be used effectively.

Edge-glued panels?

There is some production of edge-glued panels. No special adhesives are required. White glues, especially those that dry clear are preferred in the novelty and gift item plants. (Squeeze out is less visible to consumer inside boxes, etc.) Joint strength is adequate for all purposes I am aware of. High solids content for max. gap filling. Note: a Missouri manufacturer has two stainless steel "Tote Tanks" that fit into pick-up truck for hauling adhesive or finish. These might be of interest to a small manufacturer as a way of saving shipping costs. If anyone is interested, please call me.

Finishing?

Resin bleed through can be controlled w/ modern lacquers that have high solids content. Many plants achieve one coat coverage, others use two. Automatic spraying equipment is used with a 20-30 minute air drying time for handling. Complete curing requires 12-24 hours. Several plants use lacquers formulated by the Don V. Davis Company, 4200 N 2nd St.; St. Louis, MO. Others use an Eli Lilly or Sherwin-Williams product.

No penetrating stains or sealers are used. No pigmented finishes either. Natural color and color variation are featured in all products. Finishes are usually high gloss, but satin or flat is available. Finishing with varnish or shellac is definitely not recommended.

Preservatives?

There has never been any serious pressure treatment of cedar posts to my knowledge. There are some cold soak treatment recommendations developed in the 1930's, but I have never heard of anyone using this method. Heartwood is resistant to rot and split posts are still commonly used in areas where cedar is abundant. Sapwood on outer portions of posts rots fairly quickly. There may be some preservative compounds in the heartwood which could be extracted for use as a preservative for other woods.

Decking, exterior paneling, and outdoor furniture are sometimes treated with water repellents, such as Copper Q.