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NEBRASKA FOREST SERVICE

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In This Issue

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The Nebraska Forest Service publishes ***Timber Talk*** four times annually (February 1, June 1, September 1, and November 1) to serve the forest industry of Nebraska. All questions and correspondence concerning ***Timber Talk*** should be directed to: Dennis M. Adams, ***Timber Talk*** Editor, Nebraska Forest Service, University of Nebraska, 203E Forestry Hall, P.O. Box 830815, Lincoln, NE 68583-0815. Phone (402) 472-5822, FAX (402) 472-2964.

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Lumber Market

HARDWOODS

NEWS

Northern. The surging U.S. residential construction, expanding international markets, and underlying strength in industrial sectors is driving demand for hardwoods. At the same time, the supply side of the marketplace has been slow responding to the business upturn. The other issue blocking increases to logging, sawmill production, and inventories is a lack of confidence — in the economy, job growth,, and how government regulations might affect businesses. However, more resources are being committed to increase sawmill production. While the motivation is in place to respond to growing demand, holidays and seasonally inclement weather will curb supply's momentum. Looking forward through the winter, it is more likely for sawmill output and inventories to decline before regaining traction.

Appalachian. Sawmill operators are entering the fall season with mixed log inventories. In parts of the territory, there are sufficient logging contractors, and weather conditions have allowed harvesting. In other areas, log decks are low, with little hope for gaining much traction until weather improves in spring and summer. Therefore, green lumber and industrial timber output is varied throughout the Appalachian region. There is greater concern that availability could fall short of demand later this year and into 2014. Kiln dried lumber supplies are thin, as well, especially for Oak. Through July, hardwood lumber production did not reach expected levels, which limited dry lumber inventories available now. Where green and kiln dried shortages are evident, reported prices are responding.

Southern. Drier weather in August and September provided sawmill operators the opportunity to build log inventories for winter. However, the late start in building stored log decks kept most from security enough raw materials to run uninterrupted through the balance of the year. Now, seasonal weather patterns and hunting seasons are impacting logging contractors' ability to harvest purchased timber. For most grade lumber items, green lumber production is sufficient to meet immediate needs, the exception being upper grade White Oak. Markets for products originating from the center of the log remain robust. Competition is driving prices higher for cants and crossties.

(Source: Condensed from *Hardwood Market Report,* October 18, 2013. For more information or to subscribe to *Hardwood Market Report,* call (901) 767-9216, email: hmr@hmr.com, website: www.hmr.com)

Hardwood Lumber Price Trends—Green

Species	FAS				#1C				#2A			
	9/13	6/13	3/13	12/12	9/13	6/13	3/13	12/12	9/13	6/13	3/13	12/12
Ash	820	850	860	860	575	605	615	615	390	410	410	410
Basswood	810	795	765	735	475	465	445	410	240	235	225	205
Cottonwood	655	635	635	635	455	435	435	435	240	220	220	220
Cherry	1235	1235	1235	1235	745	700	640	640	430	385	330	330
Elm	635	635	635	635	420	420	420	420	245	245	245	245
Hackberry	475	475	475	475	455	455	455	455	265	265	265	265
Hickory	810	765	735	720	700	650	620	595	510	480	460	445
Soft Maple	1250	1250	1250	1165	765	765	735	705	440	440	410	385
Red Oak	1150	1125	1005	895	765	735	660	600	595	530	495	480
White Oak	1075	1050	1000	1000	695	665	615	600	560	495	455	440
Walnut	1980	1795	1795	1795	990	875	875	875	575	475	475	475

Note: Lumber prices quoted in dollars per MBF, average market prices FOB mill, truckload and greater quantities, 4/4, rough, green, random widths and lengths graded in accordance with NHLA rules. Prices for ash, basswood, northern soft grey elm, unselected soft maple, red oak and white oak from Northern Hardwoods listings. Prices for cottonwood and hackberry from Southern Hardwoods listings. Prices for cherry, hickory and walnut (steam treated) from Appalachian Hardwoods listings. (Source: *Hardwood Market Report Lumber News Letter*, last issue of month indicated. To subscribe to Hardwood Market Report call (901) 767-9126; email: hmr@hmr.com; website: www.hmr.com.)

Hardwood Lumber Price Trends—Kiln Dried

Species	FAS				#1C				#2A			
	9/13	6/13	3/13	12/12	9/13	6/13	3/13	12/12	9/13	6/13	3/13	12/12
Ash	1275	1290	1290	1290	880	930	930	930	720	735	735	735
Basswood	1120	1120	1120	1060	720	720	720	665	480	470	470	470
Cottonwood	815	780	725	780	600	570	530	570	—	—	—	—
Cherry	1800	1800	1800	1830	1155	1115	1065	1065	745	720	670	670
Elm	—	—	—	—	—	—	—	—	—	—	—	—
Hackberry	—	—	—	—	—	—	—	—	—	—	—	—
Hickory	1345	1290	1275	1275	1135	1080	1065	1065	925	870	855	855
Soft Maple	1710	1710	1710	1575	1100	1100	1085	1000	785	785	785	720
Red Oak	1675	1650	1550	1490	1150	1090	1055	1000	990	905	875	860
White Oak	1595	1595	1595	1595	1100	1100	1045	1045	890	860	845	830
Walnut	3065	2915	2915	2915	1725	1645	1645	1645	945	900	900	900

Note: Kiln dried prices in dollars per MBF, FOB mill, is an estimate of predominant prices for 4/4 lumber measured after kiln drying. Prices for cottonwood and hackberry from Southern Hardwoods listings. Prices for ash, basswood, northern soft grey elm, unselected soft maple, red oak, and white oak from Northern Hardwood listings. Prices for cherry, hickory and walnut (steam treated) from Appalachian Hardwoods listings. (Source: *Hardwood Market Report Lumber News Letter*, last issue of month indicated. To subscribe to Hardwood Market Report call (901) 767-9126; email: hmr@hmr.com; website: www.hmr.com.)

Checking, Shaking, and Honeycombing

Drying wood sounds easy. All you have to do is remove water from wood using heat. But drying lumber poses a problem. When water leaves wood, some species shrink up to 10 percent.

The problem stems from the fact that the shrinking starts with the surface and ends of the lumber first, while the core of the wood is still wet. As a result, the wood develops stresses during drying, and these stresses, if they exceed the strength of the wood, can cause cracks and splits on the ends, surface, and interior of the wood.

Basically, the stress relates to how fast the wood dries. In other words, drying lumber too quickly usually causes defects that develop during drying. These defects include:

- Surface checks (small cracks on the surface of the lumber);
- End checks (small cracks on the ends of the lumber);
- Internal checks (including honeycomb);
- Splits and cracks (which are larger than checks; often related to growth stress);
- Collapse (appears as a corrugated surface).

Surface checking, end checking, and internal checking are typically caused by drying the lumber too fast. This occurs when the relative humidity or RH is too low, or the air velocity is too high, or when there is a combination of low RH and high velocity. Excessive temperatures of over 120 degrees F can also contribute to these defects. It is during the loss of the first one-third of the moisture, Stage 1, when the risk of forming these defects is greatest.

So, the cure involves increasing the humidity and decreasing the air flow to acceptable levels. To find out if you're drying lumber too quickly, you can measure the daily rate of moisture loss; in fact, I encourage you to take this measurement during Stage 1 drying! See Table 1 for a list of safe drying rates for 1-inch (4/4) and 2-inch (8/4) lumber.

Surface Checking

A surface check is any crack in or near the surface of lumber that develops in drying. The check may be visible when the lumber first starts to dry, but unless the lumber is rewetted during the drying process, the check will close on the surface (but not heal). An essential point: surface checking is invisible in most cases in the dry, rough lumber. It becomes evident only after you plane or surface the lumber.

Checks result where the wood is the weakest. As a result, checking will occur on the tangential surface; you'll see it on the flatsawn surface of lumber.

When checks are open during air drying, they often trap dirt particles inside the open check. If the open check is exposed to water, then the lumber will be stained inside the check. These two characteristics are a powerful diagnostic tool for determining at what point a surface check formed.

You can control surface checking by keeping the initial drying rate at a safe level for the wood being dried. Remember that this safe level can be affected by species (lowland species require slower drying than upland, for example), by temperature history (avoid temperatures over 120F), and by saw sharpness (a dull saw creates small tears that grow into checks). To maximize the wood strength during Stage 1, keep the temperature low.

Note: "too fast" drying conditions need to be maintained for only a couple of hours to result in damage. And once the damage occurs, the checks are always there, although they may be closed on the surface in the later stages of drying.

If surface checks are exposed to alternate wetting and drying, they will increase in depth and will usually be open at the end of drying. So, keep rain off lumber.

End Checks

End checks are cracks in the end grain of lumber. Too rapid drying of the ends of lumber causes these checks. In fact, the appearance of end checks often indicates that the RH is too low or the air velocity is too high in the dryer, resulting in surface checking and increasing the risk of honeycomb as well. When checking is severe (when you dry lumber too fast for a long time), the end checks can develop into end splits or honeycomb that can extend as much as two feet inward from the ends of the lumber. Like surface checks, end checks can close in the latter half of drying and become invisible.

Some end splits are preexisting checks or cracking resulting from logging damage. Stresses within the tree can also cause end checks or splits. These splits will be at least ¼-inch wide after the drying is completed and will often run several feet up the lumber.

Control end checking by slowing the drying of the ends when the lumber is at very high MCs. You can slow drying most effectively by using a water-resistant end coating. In an air drying experiment, it was discovered that a delay of three days in applying end coating to freshly cut timber reduced the benefit by 50 percent. So end coat the logs right away. End coatings can be applied for $2.50 per MBF or less.

Internal Checking (Honeycomb)

Internal checking runs across the annual rings. Internal checking, which can be called honeycomb, deep surface checks, or bottleneck checks, is almost always related to a surface check that continued to worsen. Spontaneous internal checking (internal checking not related to surface checking) is rare.

Usually, internal checks are found only when the lumber is machined, cross cut, ripped, or heavily planed or routed. You probably won't notice the damage from inspecting the surface of the lumber.

You can control internal checking by preventing surface and end checking, which you in turn control by maintaining both the rate of drying and the temperature of the wood during drying.

Shake

Shake is a separation of the annual rings. Shake runs parallel to the rings, rather than across the rings, as internal checks

(continued on next page)

do. Such defects are related to a weakening of the wood in the standing tree by bacterial action. Exceptionally strong wind (tornadoes) may also cause shake. Seldom would drying stresses be large enough to create such a failure. So, there is little you can do to control shake damage.

Table 1. Safe drying rates for 1in. and 2 in. thick lumber showing the percentage of MC loss per day.

Safe Drying Rates		
Species	**4/4**	**8/4**
Ash, white	10.4	4.1
Beech	4.5	1.8
Birch, yellow	6.1	2.4
Cherry	5.8	2.3
Elm, American	10.4	4.1
Maple, hard	6.5	2.6
Maple, soft (sapwood)	13.8	5.5
Oak, red upland	3.8	1.5
Oak, red lowland	1.0 to 3.8	—
Oak, white upland	2.5	1.0
Red gum	5.3	2.1
Tupelo	10.9	4.3
Walnut	8.2	3.3
Yellow poplar	13.8	5.5

Collapse

Collapse occurs when individual cells are collapsed in diameter so that their opening (the lumen) is much smaller that normal (or even nonexistent). Collapse occurs when drying rapidly at very high MCs; high drying temperatures may also encourage collapse. Wood technologists commonly believe that collapse relates to cells with high MCs and few, if any, naturally occurring air bubbles in the lumens. Cottonwood is the most likely North American hardwood species to collapse, although other low-density species, such as aspen, may show the defect, as well as wood that is bacterially infected.

Collapse is difficult to control. It's possible to steam the wood at the end of drying, causing the collapsed cells to pop back to their original size with no lasting damage.

Final Thoughts

To prevent and control damage to your lumber, it's important to dry lumber at a safe rate. By measuring the rate, you can predict the risk of surface and internal checking. See Table 1 for the safe, maximum rates for several common species of lumber. The rates are measured using standard kiln samples.

If you end coat your logs and dry lumber at a safe rate, you'll go a long way toward reducing the defects in your lumber, and producing a better product.

(Source: Article written by Gene Wengert, Professor of Wood Processing, Emeritus, Univ. of Wisconsin for *Independent Sawmill & Woodlot Management* magazine, Oct/Nov 2000. For more information or to subscribe to IS&WM, Phone: 1-888-762-8476 or Website: www.sawmillmag.com)

End-Coating Logs and Lumber Makes "Cents" (Or Dollars!)

Editor's Note: The following article was written in 2007. The financial data may be somewhat outdated, but the principles are the same.

Let's take a look at the actual benefits of end-coating logs and lumber, why such coatings work, and what make a good end coating.

When wood was plentiful and supplies seemed unlimited, the North American wood products community tended to waste wood, making profits on high productivity and cheap resources. It should not be a shocker to anyone that times have changed. Although there is still a plentiful wood supply, with more hardwood sawtimber volume in the U.S. every year, the resource has become expensive. Further, we know that the message sent by a few perceptive foresters such as Gifford Pinchot nearly 100 years ago is true — wood supplies are not unlimited. As I taught my students 20 years ago, "wood is an amazing material that is too good to waste."

Consider an 8-foot-long piece of lumber. Consider that it has small end checks on both ends that will require a cabinet shop or furniture plant to cut off 1 inch from each end to eliminate these cracks. This is a loss of 2 inches out of 100 inches, which is a 2% loss. End trim for a pack of 8-foot lumber will be the equivalent of 20 BF for every 1,000 BF of kiln-dried and processed lumber. This loss is equivalent to $20 per MBF in many cases. This is indeed a tragic waste, is certainly not economical, and might be considered unethical in today's world with its growing population. The good news is that such damage could be virtually 100% prevented at a very low cost by using end coating.

Logs

When a log is first cut, the exposed ends, which are initially soaking wet, begin to dry. As the wood dries, the wood will begin to shrink. But only the wood at the end where significant moisture loss is occurring will begin to shrink. Wood several inches away from the end will remain at its initial green size. This size difference, from the shrinking end to the non-shrinking inside, creates stress. This stress is a splitting type of force. Wood is actually quite weak in splitting strength (technically called cleavage strength). In fact, once a small split or crack begins on the end of the log, it is very easy for that split to grow in size, in length and width.

In addition to shrinkage, as the wood dries, air moves into the log. In the living tree, there is generally not enough air to support fungal growth. But as the log end dries, the incoming oxygen, along with warm temperatures, water and food (sugar in the sap), makes ideal growing conditions for the blue stain fungi.

In order to measure the extent of end-checking loss and stain in uncoated logs and also to show the benefit of end coating, a graduate student from the University of Wisconsin-Madison, Alberto Linares, obtained red oak logs from four Wisconsin sawmills in the late spring. These logs were freshly arrived logs. He then coated one end of each log with a commercial wax-type end-coating product, making sure to apply the coating thick enough to essentially stop any drying from

the log ends. (Comment: We learned that end-coating with a thin coating is almost worthless.) The logs were then put in a non-sprinkled log yard. Every few weeks he selected several logs from the pile and had them sawn in 4/4 lumber. The extent of any stain in the maple and checking in the oak lumber was measured before the lumber was stacked for drying. Data analysis compared the coated end of a piece with the uncoated end. The results are shown in the table below.

Length Of Splits In Logs
(One end of the log was coated, the other was not)

Time (Week)	Uncoated End (cm)	Coated End (cm)	Savings ($/Thousand Board Ft)
2	0.44	0.11	1
3	0.64	0	4
4	0.87	0.16	4
5	1.37	0.02	8
7	2.87	0	17
9	3.98	0	24
12	6.14	0	37

Length of splits and economic benefit of end-coating red oak logs stored for 12 weeks during the summer in Wisconsin.

These results show that for the first four weeks of storage, the loss due to end checking was quite small. As the cost of end-coating logs is around $3 per MBF, the benefit of $4 per MBF hardly seams to justify the coating. For expensive veneer logs or high-quality logs, however, the savings would likely have been larger; making the coating of such logs mandatory. Beginning at the fifth week and going onward, the benefit of end coating is overwhelming and needs no further discussion.

A similar study was conducted using hard maple logs, but this time, the test was for staining. The difference in the length of the stain between coated and uncoated ends up through seventh week showed less than ¾ of an inch

More stain in the uncoated end. However, in the ninth week, the uncoated end had 2 ½ inches more stain. By the twelfth week, the difference was over 9 inches. Again the conclusion is clear that storage in warm weather for more that six weeks requires the use of end coating.

Incidentally, for end coating to work best, the coating must be applied to the log ends before any stain or checking occurs. Although it was not part of this study, a delay in coating will quickly negate the use of end coating.

Lumber

Certainly all species of lumber have a risk of checking during drying. But the lower density species of hardwoods and most softwoods seen to have a much smaller risk. Likewise, thinner lumber has less risk than thicker lumber. Nevertheless if an inexpensive coating will essentially stop all checking for starting, its use can be justified for all species and all thicknesses.

To try to establish the benefits of end coating and also to study the effect in delaying the application of a coating, 5/4 red oak lumber with freshly sawn ends were e obtained from a sawmill in Virginia. One end of each piece of lumber was coated and the other left uncoated. The coated ends were alternated, end for end, when the stack was piles for air drying. Two months of air drying in the summertime, the lumber was unstacked and 1/4 inch-thick wafers were cut from all the ends. If the wafer broke or showed that there was a check or crack, another wafer was sawn, and so on, until solid wood was obtained. In this way, the lengths of the checks were measured.

The results were that the differences in the lengths of the checks between coated ends and uncoated ends were an average of 2-1/8 inches. Stated another way, coated lumber has over 4 inches more useable wood than uncoated. The results also showed that 62% of the coated ends had no checks or cracks at all.

As part of this study, some lumber ends were not coated until the lumber had already been air-dried for three, six and ten days. After three days of air drying, only 22% of the end-coated pieces had no checks. The difference between coated and uncoated was down to 1 inch. The benefit of coating continued to drop as the delay in coating lengthened.

As with logs, the coating must be put on thick enough. Sometimes, in practice, the coating is sprayed on the lumber, and the coating job is poor and does little good. In this case, it is not unusual to see the company stop end coating, as they cannot see the benefit.

Summary

The benefit of using a wax-based end coating, properly applied, for reducing or stopping end checking in logs and lumber is clear. The cost of materials and application is so low and the benefits so high, that it is advantageous to coat almost all species of logs and lumber. (Lumber from logs that were coated probably does not need re-coating if the original coated is still intact.

The benefit of coating stain-prone species was shown to be clear, especially for logs stored over seven weeks.

Anecdote

In the old days, logs were always a little big longer than needed. This provided enough extra on the ends of lumber so that a double end trim saw could cut the lumber to its exact required light and trim off any staining or checking. This is certainly wasteful. Also, if a log is 6 inches longer than needed, this means that when considering the tree, the next log that will be cut will be located 6 inches further up the stem and this will make this second log a bit smaller in diameter, reducing yield. The effect on the third log will be even greater. Using end coating to reduce log overlength is a certainly another benefit to add to the list.

Finally, I do get questions now and then about using old paint for an end coating. To be effective, the end coating must adhere to the ends and stop drying of the ends. Paint will not adhere well and may also not provide much of a moisture barrier. The disposal of painted ends in the furniture or cabinet plant may also pose an environmental concern; the commercial wax coatings evaporate from the ends when drying temperatures exceed 130 degrees F so do not carryover into the dry lumber manufacturing process.

(Source: *Independent Sawmill & Woodlot Management* magazine, Oct/Nov 2007. Article written by Gene Wengert, Professor Emeritus, Univ. of Wisconsin-Madison, and President of The Wood Doctor's Rx, LLC, in Madison, WI. For more information or to subscribe to IS&WM, phone: 1-800-762-8426 or www.sawmillmag.com)

Nebraska Forestry Industry Spotlight

HORIZON BIOFUELS, INC.

Horizon Biofuels, Inc. (HBI) was formed by a group of Midwest investors who believed that it was possible to economically produce a renewable energy product utilizing locally grown and/or available waste wood feedstock. HBI is managed by two of the owners, Chad and Jeff Schoeneck.

HBI's beginnings were in the Biodiesel Industry. In 2006, HBI began processing recycled cooking oil and processed animal fats into biodiesel fuel in Arlington, NE. The renewable fuel is used in both off-road and highway vehicles. HBI became the first commercial biodiesel plant to operate in Nebraska, producing American Society for Testing of Materials (ASTM) quality renewable fuel.

HBI Owners/Managers — Jeff (left) and Chad (right)

HBI then began to look at the possibilities for other renewable fuels that could be produced in Nebraska. In 2007, the old Golden Sun Feeds mill in Fremont, NE was purchased and converted into a wood fuel pelleting facility. HBI began to utilize and convert the wood waste generated from local wood products manufacturers into wood fuel pellets. In 2010, with further upgrades in equipment, HBI also began salvaging and processing discarded wood shipping pallets and blocking, much of which was going into landfills.

HBI currently produces three product lines: Horizon Biofuels Premium Quality fuel pellets, Elkhorn Valley Bedding pelletized softwood animal bedding, and Pitmaster Select wood smoking pellets.

Horizon Biofuels pellets are used in home heating pellet stoves and commercial wood pellet boilers. Elkhorn Valley Bedding pellets are used by every type of critter from hamsters to horses. Pitmaster Select smoking pellets are used to flavor food cooked on grills and in smokers. The smoking pellet line utilizes the waste wood from trees harvested for traditional hardwood lumber products and/or the trees from local fruit/nut orchards that are being removed so new trees can be planted. Pitmaster Select smoking pellets are made from a variety of flavor enhancing woods, including oak, apple, cherry, mulberry, pecan, maple, hickory, and mesquite.

Today, HBI processes hundreds of tons of wood; converting much of what was previously waste wood into quality wood pelleted products. Before HBI, millions of BTU's of energy that were unutilized or under-utilized are now available to the public to help offset conventional fossil fuel usage with renewable fuels, and at the same time removing a large burden from local landfills. HBI is proud of their products and of the benefits they bring to the Great State of Nebraska.

Contact information for Horizon Biofuels, Inc.: Chad or Jeff Schoeneck, 950 South Union Street, Fremont, NE 68025; phone: (402)753-1885; fax: (402)753-1944; email: chads@horizonbiofuelsinc.com or jeffs@horizonbiofuelsinc.com; web: www.horizonbiofuelsinc.com

Tree Trivia

Imagine an area covered in forest that is the combined size of Norway, Sweden, Denmark, Austria, Holland, Switzerland, Belgium, and Israel. That's how much forest land in the U.S. is classified as "non-commercial" and "wilderness", thus full protected. And, it is only about one-third of the 731 million total forested acres in the U.S.

(Source: Southeastern Lumber Manufacturers Association)

The Trading Post

The Trading Post is provided as a free marketing service for forestry industry. Only forestry-related advertisements will be accepted with the exception of products manufactured in the normal course of your business. Please submit written ads to the *Timber Talk* editor at least 15 days before scheduled *Timber Talk* publication dates. Ads may be edited to meet space constraints.

For Sale

Sawmill. Mighty Mite band sawmill. 20 horse electric motor, tandem axles with brakes on one axle, 36" x 24' log capacity, (I have cut 46" beams) hydraulic operation includes winch, knees, taper, near arm, dogging arms, far arm, dogging spike, log loading arms, and electric clutch and blade lift. Also includes automatic blade sharpener, setting machine, 12 used blades and 4 new blades. Excellent condition. Never been used commercially. $17,500. Contact: Gary Fisher, Crawford, NE. Phone: (308) 665-1580; email: fisher@bbcwb.net.

Tree Shear. 14" Dymax Model 2135D1, Double grapple. Used very little. Excellent condition. Fits universal skid loader mounts. $4,000. Contact: Gary Fisher, Crawford, NE. Phone: (308) 665-1580; email: fisher@bbcwb.net.

Walnut Lumber. All dimensions. $3.00 per board foot. Falls City, NE. Contact: Bruce Walker at (402) 245-2031.

Wanted

Logs and Slabwood. Cottonwood, cedar and pine. 4" to 26" diameter and 90"-100" lengths. Below saw grade logs acceptable. Contact: American Wood Fibers, Clarks, NE at (800) 662-5459; or email: Pat Krish at pkrish@AWF.com

Cottonwood Logs. Veneer-quality cottonwood logs, 16" to 36" diameter, 7' and longer. Pick up service available. Contact: Barcel Mill & Lumber, Bellwood, NE 68624. Ask for Barton or Megan. Phone: (800) 201-4780; email: bj@barcelmill.com.

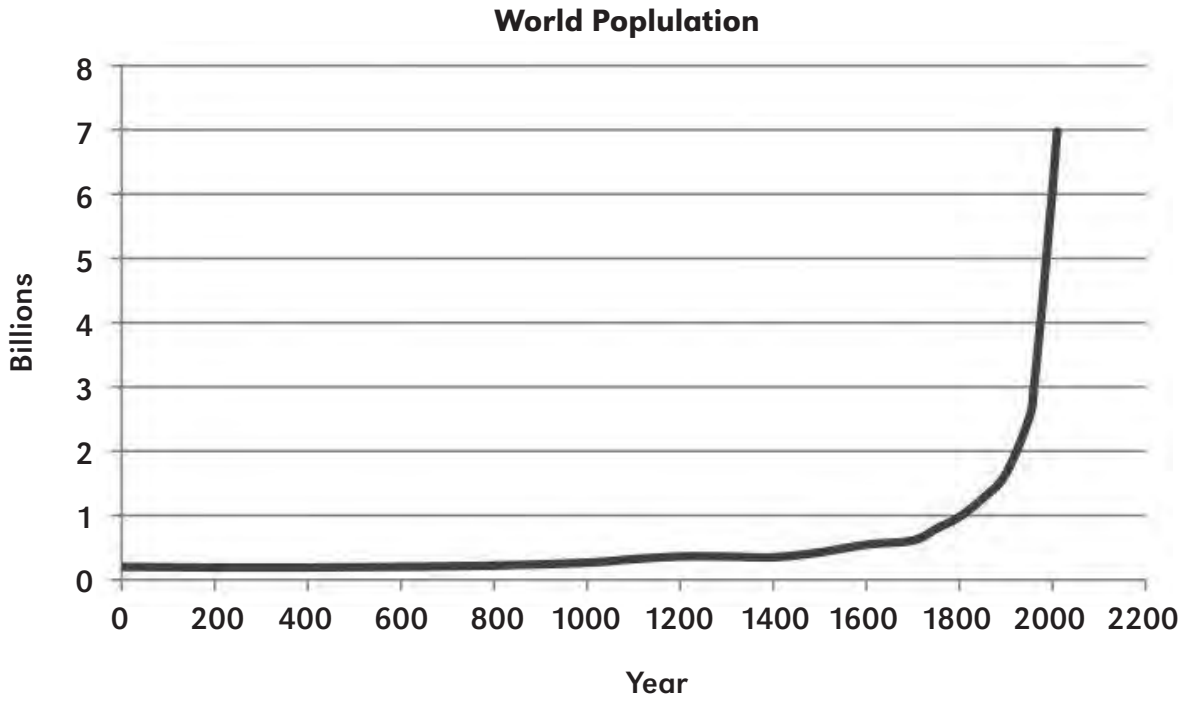
Services and Miscellaneous

Woodshop Services. Millwork made from your lumber on my planer/molder. Chris Marlowe, Butte, NE (402) 775-5000. Marlowepasture@nntc.net.

Sawmill Service and Supplies. Saw hammering and welding. Precision knife and saw grinding. Contact: Tim Schram, Schram Saw and Machine, PO Box 718, 204 E. 3rd St., Ponca, NE 68770, (402) 755-4294.

Used Portable Sawmills. North America's largest source of used portable sawmills and equipment. Contact: Sawmill Exchange (800) 459-2148, website: www.sawmillexchange.com.

The Biggest Cause of Our "Environmental" Problems?



Railroad Ties: Another Use for Hardwood Logs

Editor's Note: The following article may be of interest to Nebraska producers even though there are no tie treatment facilities in Nebraska. The Railway Tie Association (www.rta.org) indicates the closest tie preservative treatment plants to Nebraska are located in Bunker, MO; Denver, CO; and Whitewood, SD.

Currently, there is a strong market for railroad ties. This country produces 20 million ties per year. It takes approximately 3,250 ties per track mile.

Railroad companies accept nearly all hardwood species including: most oaks, hard maple, ash, hickories, mulberry, hackberry, catalpa, black and honey locust. Basswood, silver maple, sycamore, cottonwood, and pin oak are generally not acceptable tree species.

Railroad ties are generally 8 feet 6 inches long and are 7 x 9 inches. The tie is cut around the heart (or pith) of the log. This minimizes or eliminates warping. It takes a 14 inch diameter log 8 feet 8 inches long to make a tie (you always need additional length than what the final product will be). In addition, there can be no defects which decrease their strength. These defects could be: any decay, large knots, checks, splits and others. Fungal blue stain si acceptable. Usually there are select or number 1 common boards cut from the outside of the tie. These boards are frequently called jacket boards and can be quite valuable. Do not confuse pallet logs with tie logs. They are usually not interchangeable.

All ties are treated before use. Unfortunately, there is not a treatment business in Iowa. The closest ones are in Galesburg, IL and Bangor, WI (Lacrosse area).

The following site offers more information on railroad ties: www.ca.uky.edu/forestryextension/publications/railroad%20tie%20pub.pdf.

(Source: Article written by Steve Hamilton, Forestry Consulting Services, LLC, in Cedar Rapids, Iowa; phone: 319-551-2775; email: bhamilton@netins.net)