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Newsletter

Nebraska Forest Service

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# NEBRASKA FOREST SERVICE



Nebraska Forest Service

Institute of Agriculture and Natural Resources

University of Nebraska–Lincoln

June 1, 2010

Vol. 48, No. 2

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The Nebraska Forest Service publishes *Timber Talk* four times annually (February 1, June 1, September 1, and November 1). The purpose of the newsletter is to serve and promote 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. E-mail: dadams2@unl.edu. Website: <http://www.nfs.unl.edu> *Timber Talk* is partially supported by University of Nebraska–Lincoln Extension funding.

## Lumber Market

### HARDWOODS

**Northern.** Area mills are experiencing good log inventory positions. Higher prices and improved salability for lumber and industrial timber products prompted increased investments in timber and log supplies, and consequently, increased sawmill production. The marketplace has welcomed the volume added since winter. Buyers have pressed to replenish depleted lumber inventories. Even now, demand is equal to or straining developing supplies of many species and grades. The common grades are experiencing the greater amount of demand. There is also solid market energy coming from low-grade lumber and industrial timber markets. On the other hand, demand for upper grades is less intense.

**Southern.** Increased demand for #3A and Btr and industrial timber products has had a significant impact on hardwood sawmill production. Estimates of Eastern US hardwood production increased 3.5% in February, 16.3% in March, and 16.9% in April. The annualized rate of Eastern US hardwood for April was 6.858 billion bf, up almost 2 billion bf from January. Several factors slowed the increase in mill output this winter and spring — wet weather conditions affected logging and the pressure on pulp and paper companies to increase inventories absorbed some percentage of sawlogs. Solid wood and truck trailer flooring manufacturers are still working to boost receipts, pressuring supplies of green #2A and 3A Oak. In addition, markets remain strong for cants, ties, board road material, and other industrial products, keeping demand pressure on low-grade and heart-center output.

**Appalachian.** For the most part, green lumber production is sufficient to meet buyers’ objectives. However, there are spot shortages of some species, grades, and thicknesses, especially Ash and Walnut. In general, mills are producing at higher capacity than earlier this year. At the same time, most concentration yards are taking a cautious approach to purchases of green lumber. There are concerns that supplies of key species could exceed long-term demand, resulting in price pressures for kiln-dried stocks. However, there is no uncertainty that use of hardwoods will not grow with mill outputs. Secondary manufacturers are continuing to build raw materials supplies, especially the solid wood and truck trailer flooring industries. Likewise, industrial timber markets are strong, pressuring production from the center of the log.

(Source: Condensed from *Hardwood Market Report*, May 22, 2010. For more information or to subscribe to *Hardwood Market Report*, call (901) 767-9216, email: [hmr@hmr.com](mailto:hmr@hmr.com), website: [www.hmr.com](http://www.hmr.com))



## Hardwood Lumber Price Trends—Green

Species	FAS				#1C				#2A			
	3/10	12/09	9/09	6/09	3/10	12/09	9/09	6/09	12/09	9/09	6/09	3/10
Ash	705	675	665	625	485	460	450	420	355	345	325	295
Basswood	700	685	685	685	360	330	330	340	205	205	205	205
Cottonwood	605	605	605	605	405	405	405	405	220	220	220	220
Cherry	1530	1530	1530	1550	655	625	625	625	330	320	320	320
Elm (No. soft grey)	635	635	635	635	420	420	420	420	210	235	235	235
Hackberry	475	475	475	475	455	455	455	455	265	265	265	265
Hickory	615	615	615	615	500	500	500	490	375	350	350	350
Soft Maple (UNSD)	960	960	960	960	545	505	505	480	300	260	260	260
Red Oak	1060	935	845	785	665	610	525	510	470	450	430	420
White Oak	1010	940	940	940	570	500	490	490	395	360	350	350
Walnut	1820	1800	1800	1800	850	765	765	765	425	360	360	360

Note: Hardwood 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, soft maple-unselected, 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			
	3/10	12/09	9/09	6/09	3/10	12/09	9/09	6/09	3/10	12/09	9/09	6/09
Ash	1060	915	915	905	775	685	675	685	650	590	590	580
Basswood	990	875	875	890	550	500	500	520	415	385	395	395
Cottonwood	755	740	740	740	520	510	510	510	—	—	—	—
Cherry	2260	2260	2260	2260	890	860	860	860	565	555	555	555
Elm (No. soft grey)	—	—	—	—	—	—	—	—	—	—	—	—
Hackberry	—	—	—	—	—	—	—	—	—	—	—	—
Hickory	1030	985	985	985	865	825	825	825	735	695	695	695
Soft Maple (UNSD)	1340	1340	1355	1355	785	735	725	715	555	525	525	515
Red Oak	1380	1210	1150	1095	965	820	785	785	760	620	610	610
White Oak	1540	1360	1340	1340	865	740	715	715	695	615	595	585
Walnut	2705	2690	2670	2670	1450	1340	1320	1450	795	755	755	835

Note: Kiln dried prices in dollars per MBF, FOB mill, is an estimate of predominant prices for 4/4 lumber inspected and graded before kiln drying. Prices for cottonwood and hackberry from Southern Hardwoods listings. Prices for ash, basswood, Northern soft grey elm, soft maple-unselected, 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, website: www.hmr.com.)

# Softwood Lumber Price Trends

Species	Selects <sup>1</sup>				Shop <sup>2</sup>				Common <sup>3</sup>				Dimension <sup>4</sup>			
	3/10	12/09	9/09	6/09	3/10	12/09	9/09	6/09	3/10	12/09	9/09	6/09	3/10	12/09	9/09	6/09
Ponderosa Pine*	765	710	NA	451	456	NA	NA	346	489	461	NA	409	NA	NA	NA	216

\*Rocky Mountain Ponderosa Pine

NA = Not available due to insufficient producers.

<sup>1</sup>Selects = D and Btr Selects, Stained Select, Mld and Btr.

<sup>2</sup>Shop = 4/4 Factory Select - #2 Shop.

<sup>3</sup>Common = #2 and Btr Common.

<sup>4</sup>Dimension, Timbers and studs = Std and Btr, #2 and BTR Dimension and Timbers.

Note: Average Softwood prices quoted per MBF rounded to nearest dollar, FOB mill, KD. This information is presented to indicate trends in the softwood lumber market. Actual prices may vary significantly from prices quoted.

(Source: Excerpt from *Inland Grade Price Averages*, Western Wood Products Association (WWPA) for the month indicated. To subscribe contact WWPA, phone: (402) 224-3930, website: [www.wwpa.org](http://www.wwpa.org)).

## New Home for NFS

During the week of March 15, 2010, the headquarters of the Nebraska Forest Service (NFS) moved to a new location on the University of Nebraska-Lincoln, East Campus. After many years of sharing office space in a variety of buildings on campus, the NFS now occupies our own building which was renovated and renamed "Forestry Hall".

Dedicated as the Animal Pathology and Hygiene Building in 1919, Forestry Hall has served as home to a number of programs since it was constructed as part of the University's original Veterinary Complex. Most recently, the building was known as Natural Resources Hall and was used for teaching, research and outreach by programs in the College of Agricultural Sciences and Natural Resources. Most of the Natural Resources Hall occupants were relocated to Hardin Hall in 2006, leaving a majority of the structure vacant.

The original building was designed by Coolidge and Hodgson Architects in the Craftsman style, similar to other buildings constructed on campus at the time, as well as many homes in the area. As constructed, the building totaled 12,997 square feet on three levels, with spaces consisting of classrooms, labs, and offices.

No significant renovations had been done to the building since the mid-1960s, so there was a lot of work to do. Renovations began early in the summer of 2009. The heating and air conditioning systems were upgraded. Offices were added or converted. Fire code, safety, accessibility, and energy efficiency issues were addressed.

The NFS main office address is now 102 Forestry Hall, UNL, Lincoln, NE 68583-0815. The telephone numbers and email addresses for all NFS main office staff are the same.

## Walnut Quarantine

As of May 7, 2010, the Nebraska Department of Agriculture established a statewide quarantine on the movement of most walnut products into or through Nebraska due to the risk of introducing Thousand Cankers Disease (TCD) to the state. TCD is a destructive pest complex involving infestation by the Walnut Twig Beetle and an associated fungal pathogen, which eventually kills the infected walnut tree. It has been identified as the primary cause of walnut mortality in at least eight western states and is particularly lethal to black walnut.

The Nebraska quarantine prohibits the importation and transit of any article or product that presents the risk of spread of Walnut Twig Beetle or the associated fungal pathogen from the western states currently infected with TCD (Arizona, California, Colorado, Idaho, Nevada, New Mexico, Oregon, Utah, and Washington). Regulated articles are all plants and plant parts of the genus *Juglans*, include nursery stock, budwood, scionwood, green boards, logs, stumps, bark, mulch, firewood, chipswood, logs, firewood, mulch, bark, and chips. Importation and transit of firewood or fuelwood from any hardwood (deciduous) species from the quarantined states is also banned.

The nuts, nut meats, hulls, and finished wood products from walnut are exempt from the quarantine.

For more information about the quarantine and/or TCD contact the Nebraska Department of Agriculture at 402-471-2394 or the Nebraska Forest Service at 402-472-2944.

*Editor's Note:* The February, 2010 issue of *Timber Talk* includes a comprehensive article entitled "New Threat to Nebraska Black Walnut Trees".

## Tips to Preserve Color of 'White' Wood

Over the last few years, the demand for 'white' woods has increased significantly. Just what is a white wood? (Editor's Note: White woods as described here are grade hardwood designations, not differentiations between white wood pallets and painted pallets.)

Species that typically fall into the category of white woods are those that have large amounts of sapwood and are desired for their bright, lighter, or whiter color. Hard maple is usually the first species that comes to mind when discussing white wood, but soft maple, ash, and even yellow poplar can be considered white woods.

For white woods, the desirable portion of these species is the sapwood, which is the lighter colored outer portion of the log or trunk. The sapwood contains living cells, some of which are involved in transporting water and sap and some that are responsible for storing starches and sugars. The sapwood typically has a higher moisture content and greater permeability (faster drying) than the heartwood. The heartwood is composed of dead cells that have polyphenolic compounds such as fats, oils, waxes, resins, gums, tannins, aromatic and coloring materials.

### 'White' Wood, Sapwood

Since color and brightness of white woods are attributes that make it attractive, it is important that such traits be maintained throughout the processes from cutting the tree through drying the lumber. It is important that the wood not develop blotches or stains nor lose its brightness.

One of the main problems with white woods is that they are predominately made up of sapwood; they contain sugars and starches that fungus can feed on and living cells that can produce chemicals and stains. The brightness of wood also can also be affected by temperatures used in drying.

To avoid discoloring the wood, it is important to understand the problems associated with discoloring and how they are caused.

Once a tree has been cut, measures should be taken to ensure the best possible color and to avoid staining. During storage, logs are susceptible to fungal and enzymatic (chemical) staining.

Fungal stains result when the hyphae of the fungi penetrate deeply into the logs, and portions of the wood are used as food by the fungus. Common fungal stains found in logs are referred to as sap stain or blue stain.

Enzymatic or chemical staining results from the sugars in the wood, interactions with exposure to oxygen, and chemical reactions that occur at the cellular level. The chemical reactions that occur have been compared to how an apple slice will turn brown with exposure to air. Warmer air temperatures and high humidity levels tend to increase the rate that chemical reactions occur, and they can increase chemical staining in some of the white wood species. Unlike fungal stains, there is often no indication of enzymatic stain-

ing until lumber is sawn from a log. Gray staining in hard maple is one example.

The more time logs sit in storage conditions, the greater the chances for both fungal and enzymatic staining. Because of the warm temperatures that occur in the Northeast from April to November, it is especially important to prevent lumber discoloration. One method to prevent moisture loss and reduce staining is to end coat logs with a wax-based sealant.

End coating has been shown to reduce both end checking and enzymatic staining in logs.

### Strategies for Log Yard, Green Timber

Probably the most common method of preventing moisture loss in logs during storage is watering them with sprinklers during the summer. Watering the logs lowers the air temperature and reduces the amount of available oxygen around the logs. The reduced oxygen levels can help prevent sapwood staining and decay fungi from infesting the logs.

However, using warm recycled water for sprinkling can inadvertently introduce bacteria into logs that also can lead to unwanted wood discoloration. In addition, water with high concentrations of minerals, such as iron, may leach into the logs and cause a darkening of the wood.

In my opinion, it is best to avoid watering white wood logs. If you must, though, I suggest using fresh cold water with low mineral concentrations.

Ultimately, one of the best practices to control wood color in the log yard is to process the logs as soon as possible after they are felled – within two weeks.

Unlike in the log yard, where the strategy is to prevent moisture loss; when storing green lumber a consistent and even rate of moisture loss is the goal to ensure bright color and avoid staining.

Green lumber is more susceptible to discoloration caused by fungal and enzymatic staining because the bark is not present to help control moisture loss and protect against fungal infection. Research consistently recommends prompt kiln drying after sawing, to minimize discoloration in white woods.

It should be a priority to sticker the green lumber as soon as possible (ideally within 12 hours) to help minimize darkening and discoloration. Lumber should then be placed in the kiln and the drying schedule started. If lumber cannot be kiln-dried immediately, then it should be stored temporarily in an area with good air flow – ideally, a shed with a bank of fans.

### Kiln Drying

For white wood species, air temperatures and relative humidity are two critical factors in determining the lightness of the lumber after the kiln drying process.

Avoid using older schedules that use dry bulb temperatures of 130 degrees F and starting relative humidity values of 86% or higher. They can lead to darker colored lumber that can be characterized as pinkish-brown or reddish-brown in color. Ideally, it is best to keep dry-bulb temperatures below 100 degrees F until the wood is below the fiber saturation point (28-30% MC). It is thought that at the higher air tem-



peratures, the sugars in the wood caramelize and create the darker colored appearance. Using low dry bulb temperatures (<110 degrees F) and low relative humidity (< 70%) can help ensure that interior darkening of the lumber does not occur. Keep in mind that for the secondary manufacturer, interior color is likely just as important as surface color.

Make sure your kiln is able to reach and maintain set-points. Older kilns may have been designed to dry material that already is well air-dried, and they may not have the air-flow and venting capacity required for white woods.

It is very important that the wet bulb depression is reached quickly and can be held. Drying white woods at lower temperatures is usually combined with higher air flow (400+ feet per minute) to achieve rapid, uniform moisture loss. You might reverse fans every two hours to ensure moisture loss throughout the load. Try to achieve moisture loss of 5% per day – minimum – in most white woods.

If you follow these guidelines, you should be able to produce bright white wood lumber free of chemical and fungal stains.

(Source: *Pallet Enterprise*. December, 2007. Article written by Dr. Brian Bond, Asst. Professor, Virginia Tech University. Dr. Bond may be reached at phone: 540-231-8752, or e-mail: bbonds@vt.edu)

## Quarter and Rift

The two terms “quarter” and “rift” create more confusion and have more different definitions than any other terms in our industry. Adding to the confusion are the many Internet sites that have explanations and pictures that are not even close to a reasonable definition. Although I will provide the definition in this column that is widely accepted within our industry, you need to be aware that a customer may have the wrong definition and therefore may be dissatisfied with your “correct” lumber.

### Definitions

“Flatsawn” or “plainsawn” lumber is lumber that is sawn so that the annual growth rings are more or less flat or parallel to the surface of the lumber (that is, the rings run essentially from edge to edge.) “Quartersawn” or “vertical-grain” lumber is lumber that is sawn so that the annual growth rings are more or less perpendicular to the face (that is, the rings run essentially from face to face).

These definitions sound easy until one tries to translate them into the real world of lumber manufacturing. Specifically, what if the rings are both flat and perpendicular on the same piece? What if the rings are neither perfectly flat nor perfectly perpendicular?

Over 50 years ago the U.S. Forest Service gave the definition that flatsawn lumber has rings that make an angle of 0 degrees to 45 degrees with the face of the lumber; quartersawn is 45 to 90 degrees. This sounds a bit easier to translate into practice, but there are still uncertainties.

The National Hardwood Lumber Association (NHLA), which for over 100 years has overseen the grading of hardwood lumber, has two definitions for quartersawn lumber. First, when figure is not required (more about figure later), pieces

will be considered quartered when 80% of the surface of the required cuttings (cuttings are the clear areas used to establish the grade) has the grain angle over 45 degrees. Second, when there is figure, such as with red and white oak, sycamore and locust, then 90% of the face of the required cutting area (in the aggregated) shall show figure. Certainly, these definitions require judgment, but they are quite practical.

### Who Cares?

Wood has a different appearance when looking at a flatsawn face or a quartersawn face. The difference is small with species that have even or smooth grain, such as maple or basswood. On the other hand, with species like oak, beech, and sycamore, the appearance is greatly different. This difference is because of the pattern of the annual rings and the appearance of the ray cells (cells that run between the bark and the center of the tree direction). This ray cell pattern, called ray fleck, is what the NHLA refers to as figure.

In addition to the appearance factor, other differences between flatsawn and quartersawn include:

- Flatsawn shrinks and swells in thickness about half as much as quartersawn.
- Quartersawn shrinks and swells in width about half as much as flatsawn. (This can be important for exterior siding that is subject to frequent wetting and drying. It can also be important for floors and other products that cannot tolerate much movement.)
- Knots will be round or slightly oval with flatsawn, but will be long spike knots in quartersawn. Generally, spike knots lower the strength more than round knots.)
- Shake and pitch pockets in the log will affect fewer pieces when manufacturing flatsawn than when manufacturing quartersawn.
- When manufacturing flatsawn lumber, the yield of lumber from a log can be several percent to as much as 20% higher than when manufacturing quartersawn.
- Flatsawing requires less technical and mechanical effort than quartersawing.
- Flatsawn lumber is prone to cupping in drying.
- Quartersawn lumber is prone to sidebend in drying.
- Quartersawn wears better when used as flooring material than flatsawn.
- Flatsawn lumber, especially oak, is subject to surface checking, honeycomb (interior checks), and splitting (especially end splits) in drying, while quarter sawn is not.
- Flatsawn lumber dries up to 15% faster than quarter sawn.
- Quartersawn lumber will accentuate other grain patterns such as wavy grain and interlocked grain.

### Practical Sawmill Definitions

When checking the market for oak, sycamore, and other species that have good figure when quartersawing, the lumber can be flatsawn (often called plainsawn), quartersawn, or rift-sawn. In these cases, generally the term quartersawn refers to lumber that predominately has the rings at 75 to 90 degrees, while riftsawn refers to rings at 45 to 75 degrees. In other words, the term quartersawn actually has two meanings. In practice, quartersawn lumber has much stronger figure than riftsawn.

From a practical standpoint, whether a piece is quarter or rift is

*(continued on page 7)*

# Nebraska Forestry Industry Spotlight



## FRED MCCARTNEY



Mr. Fred McCartney is a graduate forester with 25 years experience in the forest products industry. After graduating with a BS degree in Forestry from the University of Montana in 1981, Fred chose a forest industry career path. In 1983 Fred began his professional career as a procurement forester with Pope & Talbot, Inc. (P & T) in Spearfish, SD. In 1990, after P & T asked Fred to set up the timber procurement operation in Nebraska, he moved to Chadron, NE. From January, 1990 through May, 2008, Fred served as P & T's Pine Ridge Operations Timber Acquisition Forester, primarily supplying ponderosa pine logs to the P & T sawmill in Spearfish, South Dakota.

In 2008, P&T sold the Spearfish sawmill to Neiman Timber Company, L.C. With new ownership and subsequent restructuring of the company, the Pine Ridge Acquisition Forester Position was eliminated and Fred found himself on a career detour.

After a 27 year hiatus from his home state of Montana, Fred returned to Montana to take a temporary job driving a tour bus (Red Bus) in Glacier National Park, just as he enjoyed doing in 1981 af-



Fred's GNP Bus



Fred Making Sawdust

ter graduating from the University of Montana. He plans to continue with the GNP position through the summer of 2010, which will be the 100<sup>th</sup> anniversary of the creation of GNP.

Because sawdust runs deep within Fred's veins, the forest continued to beckon. Thus, Fred began conducting forest fuel treatment, i.e. thinning, on his own properties in the Nebraska Pine Ridge. These personal projects evolved into thinning contracts with other local forest landowners. With over 25 years of experience, and landowner contacts in northwest Nebraska, there appears to be more than enough opportunities to stay busy.

The abundant snow this past winter forced Fred out of the woods so he again took advantage of his Commercial Drivers license and drove an athletics bus for Chadron State College.

In his spare time, Fred continues restoration work on his circa 1890's log cabin located in the Pine Ridge, which may lead to business opportunities involving vacation rentals.

Fred McCartney may be contacted at phone: 308-432-3189, cell: 308-430-5867, email: [barbienfred@hotmail.com](mailto:barbienfred@hotmail.com)

*You know you're  
from Nebraska if...*

if "down south" to you  
means Kansas.

## Quarter and Rift (continued from page 5)

a judgment call based on the figure within the cutting used to establish the grade of the lumber. (Note: the NHLA rules do not include the work rift or riftsawn. In my mind, riftsawn shows some figure and does not show the cathedrals of flatsawn lumber.) Oftentimes, the market will sell quartersawn and riftsawn together, which would be equivalent to using the NHLA definition for quarter sawn.

### How to Saw Quartersawn and Riftsawn

There are several ways to produce quarter and rift lumber.

The first technique (Figure 1) is ideal for a mill with a resaw. The first step is to saw the log into four quarters. Then the faces of each quarter are sawn, alternating from one face to the other face. The yield of lumber from this technique is very close to flatsawing. Pieces #1 through #4 definitely have ring angles between 75 to 90 degrees. However, as one edge is close to the pith, which is likely to have many knots, proper edging is a key to success to obtain high grades without unnecessary waste.

A second option is to saw the log into four quarters, but then, using a special jig to hold the quarter section, saw through

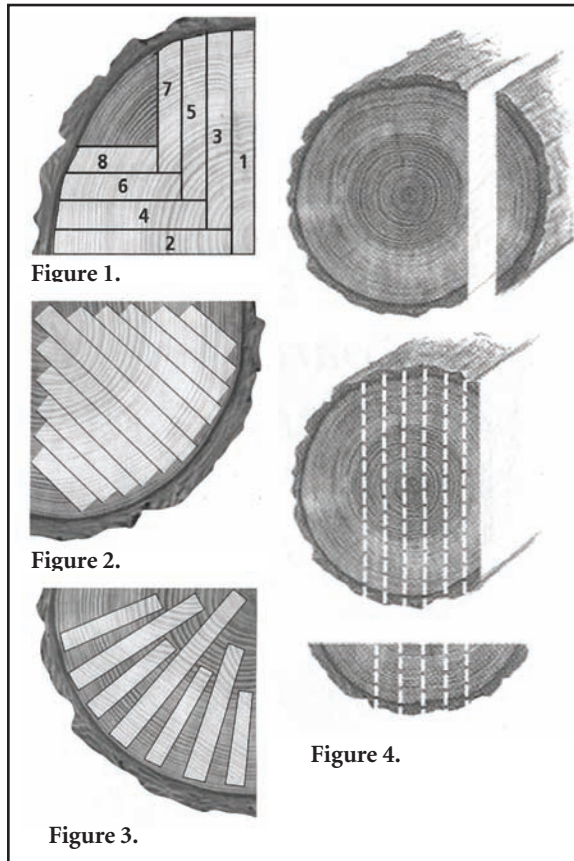


Figure 1.

Figure 2.

Figure 3.

Figure 4.

and through, starting at one corner (Figure 2). Waste is a bit higher, but there are a good number of 75 to 90 degree pieces.

A third option (Figure 3), which creates 100% of the pieces with grain at or close to 90 degrees, develops a fair amount of waste, perhaps 25% more than with methods 1 and 2.

A fourth option (Figure 4) which works really well for logs over 20 inches in diameter, is to saw two heavy slabs, perhaps 5 inches or 6 inches thick from two opposite side of a log. The remaining log is then live sawn, achieving mostly 75 to 90 degree angles.

However, as the center section and the pith is included on several pieces make them lower in grade, it might be prudent to edge the lower grade areas, making a low grade center section and then two upper grade outer pieces. The heavy slabs are then sawn to make fine quartersawn lumber with only the small edge pieces being scrap.

(Source: *Independent Sawmill and Woodlot Management* magazine, Feb 2009. Adapted from an article written by Gene Wengert, Professor Emeritus, University of Wisconsin-Madison, and President of The Wood Doctor's RX, LLC, in Madison, WI. For more information or to subscribe to IS&WM magazine, phone: 1-888-762-8476 or website: [www.sawmillmagazine.com](http://www.sawmillmagazine.com).)

## The Making of a Briquette

The opportunity to take a few tours during a visit to Missouri prompted Lance to jump at the chance to view wood utilizing industries. One tour left him eager to grill and a bit more knowledgeable.

While you may not be able to discern a hickory-smoke flavor from charcoal briquettes, the briquette smoldering in the bottom of your grill may very well consist of hickory, or any other number of hardwood tree leftovers.

Kingsford, with five plants throughout the United States, consumes large quantities of hardwood sawdust, which, after much transformation, falls into a bag as a black briquette with its distinctive parallel slashes.

The process begins with green sawdust, delivered to the plant within a 100-mile radius. The sawdust first goes through a shaker and screening process to remove unwanted materials. Conveyor belts then dump the "clean" sawdust into a retort, which heats the



sawdust in a five-stage process to 330 degrees, which is just below the ignition point.

Once charred, the sawdust is mixed with a moist corn-starch binder. During the drying process, it is mixed and flowed into molds that have the characteristic slashes. The briquettes leave the press in sheets, but once completely dry, they harden and snap off into individual pieces. Bagging and placement on pallets completes the process.

During the busy season, from February through the Labor Day weekend, about 100 trucks each day leave the warehouse, packed with various sized bags of briquettes.

Each of the five stateside plants serves a different region of the country, with the Missouri plant shipping briquettes from southern Texas to northern Minnesota.

Next time you have a hanker to grill, pause to remember the hills of Missouri that supply the trees that create the sawdust that compresses to form the Kingsford briquette that cooks your food.

(Source: *The Marketplace Bulletin*, Summer 2009, Minnesota DNR)



# Coming Events

- July 10** **Nebraska Christman Tree Growers Association Summer Meeting.** Raymond, NE. Cost: TBA. Contact: Scott Burcham, phone: 402-423-7903; email: Burchy22@hotmail.com.
- July 25-28** **Walnut Council Annual Conference.** Grand Rapids, MI. Cost: \$135-\$155. Contact: Liz Jackson, phone: 765-583-3501, email: jackson@purdue.edu.
- Aug. 16-19** **33rd Annual Kilm Drying Short Course.** St. Paul, MN. Cost: \$395. Contact; Harlan Petersen, phone: 612-624-3407, email: harlan@umn.edu, website: <http://www.bbe.umn.edu/kdsc>.

## The Trading Post

**T**he *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

**Complete Sawmill, Kiln, Moulder Operation.** Baker 16' fully hydraulic diesel bandmill, Baker A resaw with return, Diehl 5 head moulder with many extra heads, Diehl straight line rip saw, timesaver 24" two head wide belt sander, shavings bagger, 10 hp three bag dust collector, 10 hp sawdust/shaving blower, 24" planer knife sharpener, Westair dehumidification kiln components. Can see in operation. \$55,000 firm. Contact: Pete Sawle at (402) 322-0263 or (402) 497-3571 or email: sawlemill@threeriver.net.

**Circular Sawmill.** Includes power unit and two 48-inch insert tooth blades. Contact: R&R Sawmill at (308) 569-2345.

### Wanted

**Belsaw Woodworking Planer,** Model 9103. 12¼". **Bandsaw Lumber Mill.** Push type. Contact: Charles Cressman, 231 Walnut St., Butte, NE 68722-3518. Phone: (402) 775-2468.

**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](mailto:pkrish@AWF.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](mailto:Marlowepasture@nntc.net).

**Sawmill Service and Supplies.** Saw hammering and welding. Precision knife and saw grinding. Certified Stihl chainsaw sales and service. 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 fused portable sawmills and equipment for woodlot owners and sawmill operators. Contact: Sawmill Exchange (800) 459-2148, website: [www.sawmillexchange.com](http://www.sawmillexchange.com).

**Forest Products Equipment Magazine.** FREE monthly trade publication for the forest products industry. For a sample magazine or free subscription call (800) 422-7147, email: [jfostera@mrpllc](mailto:jfostera@mrpllc) or visit the website: [www.mrpllc.com](http://www.mrpllc.com) and click on Forest Products Equipment Magazine.

**Wood Products Web-based Service.** WoodIndustryNetwork.com offers services that allow buyers and sellers to communicate through our web-based system to buy and sell their products direct. Most services are free. Contact: (Website) [WoodIndustryNetwork.com](http://WoodIndustryNetwork.com); or phone: (904) 821-8080.

## Important Trivia

With statues of military heroes on horseback,  
if the horse has both front legs in the air, the person died in battle;  
one front leg in the air, the person died as a result of wounds received in battle;  
all four legs on the ground, the person died of natural causes.