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# NEBRASKA FOREST SERVICE



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## Lumber Market

### HARDWOODS



**Northern.** Last year’s rapid rise in prices was difficult for the marketplace to absorb. Now that the supply network is restored and supplies have greatly improved, the rate of purchasing is moderating. Price momentum is leveling out during this transition phase from expanding inventories to maintaining them. For certain items, 4/4 Fas Red Oak, in particular, prices are retracting. However, the outlook on demand is still favorable in both the domestic and export markets.

**Appalachian.** Area mills that have a diverse mix of species and the capability to store logs under water are pushing back Red Oak production. Sales operations that have the financial ability to hold kiln dried Red Oak inventory are doing so. However, most mills and resellers do not have the cash flow to postpone processing Red Oak logs or hold kiln dried inventory. Green Red Oak supplies are closely matched to the markets needs for the common grades but are exceeding demand for Fas. Interest in Walnut, Hickory, Ash and White Oak is equal to or surpassing developing production. Likewise, industrial timber business is strong.

**Southern.** For the month of July, Eastern U.S. hardwood sawmill production was 14.4% higher than July 2013. Information shows demand has increased, though not at the same rate. However, heading into 2014, hardwood inventories were depleted for most items. There has been need for additional mill output over consumption. Supplies of many key species, grades, and thicknesses are far from overwhelming markets. Specifically, White Oak, Ash, and Poplar are performing well. On the other hand Red Oak interest has declined, especially to China. In the U.S., slower than expected residential construction has affected demand for Red Oak.

(Source: Condensed from *Hardwood Market Report*, August 1, 2014. 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			
	6/14	3/14	12/13	9/13	6/14	3/14	12/13	9/13	6/14	3/14	12/13	9/13
Ash	1075	890	835	820	710	600	575	575	475	415	390	390
Basswood	895	865	835	810	575	545	505	475	320	285	260	240
Cottonwood	685	685	670	655	480	480	470	455	260	250	240	240
Cherry	1355	1295	1235	1235	955	850	775	745	620	530	455	430
Elm	650	635	635	635	420	420	420	420	300	280	270	245
Hackberry	530	475	475	475	480	455	455	455	305	285	285	265
Hickory	1000	920	845	810	835	775	715	700	615	570	520	510
Soft Maple	1320	1320	1250	1250	880	880	810	765	565	565	510	440
Red Oak	1430	1465	1320	1150	1045	1000	885	765	780	765	700	595
White Oak	1430	1345	1200	1075	900	850	750	695	700	645	610	560
Walnut	2840	2545	2250	1980	1550	1325	1175	990	990	820	685	575

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			
	6/14	3/14	12/13	9/13	6/14	3/14	12/13	9/13	6/14	3/14	12/13	9/13
Ash	1515	1365	1295	1275	1060	910	880	880	770	740	720	720
Basswood	1170	1170	1155	1120	765	765	750	720	480	480	480	480
Cottonwood	855	855	830	815	625	625	615	600	—	—	—	—
Cherry	1905	1840	1830	1800	1370	1245	1170	1155	920	835	760	745
Elm	—	—	—	—	—	—	—	—	—	—	—	—
Hackberry	—	—	—	—	—	—	—	—	—	—	—	—
Hickory	1575	1475	1365	1345	1335	1250	1155	1135	1105	1035	945	925
Soft Maple	1780	1780	1710	1710	1155	1155	1100	1100	835	835	785	785
Red Oak	2005	1975	1790	1675	1560	1470	1325	1150	1255	1200	1100	990
White Oak	2040	1850	1680	1595	1520	1365	1200	1100	1200	1125	970	890
Walnut	3795	3490	3240	3065	2185	1965	1855	1725	1345	1160	1035	945

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.)

## Band Saws for Small Sawmills

Once a mill is properly set up and the sawyer is ready to begin producing lumber, the saw blade itself is the key component of a sawmill. The blade determines production speed and surface quality. In this respect, if there is one single piece of advice that we can provide about sawing and saw blades, is ALWAYS CUT WITH A SHARP BLADE. Having offered up this key bit of knowledge, let us now look at some of the other particulars of band saw blades for small and medium mills – oftentimes called portable mills.

There are probably over a hundred different types of band saws made for these small and medium-sized sawmills. They range from wide to narrow blades, from regular steel to special bimetal blades, wide to close-tooth spacing, regular teeth to diamond-tipped teeth, and more. So let's examine all the options in an attempt to answer the question "What is best and why?"

### Bands Get Longer

When a saw blade is spinning, the metal of the blade is trying to fly off the wheels into space — this is the action of centrifugal force. That is, the metal does not want to run in an oval pattern around the wheels bending in curves. This force that wants to throw the metal away from its desired path is called centripetal force. Because metal does stretch a little bit, if you measured the size of the band saw — the total length of the blade — you would see that when running the blade is a little longer than when stationary, especially the edges. This causes the blade to loosen which is one reason why we put tension on a blade when it is stationary – when it loosens a little, it will still be tight enough to stay on the band wheels.

In this respect, how do you know when a blade is getting dull and needs to be changed? The answer is that a dull blade creates more heat and the heat will then cause expansion of the metal. So then when running, if you note that the amount of tension on the blade is, or has to be, increased, manually or automatically, this is an indicator of a dull blade and should not be ignored.

Even with a sharp saw, we will add a little heat to the teeth when we start cutting the wood – and the metal around the teeth will expand just a bit. Now, what will happen when the metal on the edge of the teeth expands while the rest of the blade is not expanding? What happens, especially if the band is spinning fairly fast, is that the blade will get a little waviness or wobble in it as the teeth will no longer be as flat as the body of the saw blade. With this waviness, the blade will cut wavy lumber with varying thickness. In the extreme (usually a dull blade, as a dull tooth makes more heat than a sharp tooth), the blade will wander enough to leave the desired cutting line, "take off on its own," come off the wheels, and break or stall the cut. Not fun to fix!

To avoid this problem, in addition to using a sharp blade, we can make the stationary saw with a very slight curvature across the blade, edge to edge. That is, there is a slight hump in the middle of the blade when it is stationary and on the band saw wheels ready to go. The process of putting in this non-flatness is sometimes called rolling or tensioning the blade. (In the old days, this non-flatness was done by hammering the saw, and

so it was called hammering.) Now, when heat is added to the teeth, the expansion of the metal will cause the blade to go from slightly curved across the width to perfectly flat.

Note that the faster the blade is spinning, the greater the centripetal effect, and so the more tension or curvature we need in the stationary blade. Also, the wider the blade, the greater is this effect.

### Vibration

Another problem we can experience with the spinning blade is vibration, which results in blade wandering and uneven thickness in the lumber. Certainly, vibration could be because of a bad bearing or other looseness in the mill. But another major source of vibration is the blade itself. The blade between the guides or wheels actually has a natural vibration frequency. This is just like the strings on a musical instrument that vibrate when plucked or struck. The frequency when the blade vibrates is called its natural resonance frequency. We want to avoid getting close to this resonance frequency, as the blade can vibrate and "take off on its own path."

We avoid vibration primarily by using tension on the band when it is installed and running. The tension increases the natural frequency to a higher level – ideally to a high frequency far away from the natural frequency of the equipment. It is therefore critical to adjust the tension initially to the correct level (as the manufacturer specifies) and then to maintain this tension level while sawing, usually automatically with tension weights. Again, if the blade heats, it diameter expands and the tension will drop; so avoid heating the blade, particularly by keeping the saw sharp.

We also affect the frequency by rolling or tensioning the blade, as described above.

Lubrication of a blade reduced heating, and so that helps avoid vibration.

The spacing between the guides also helps avoid vibrations; shorter spacing raises the natural frequency required for vibration (just like short strings play higher tones in a musical instrument), so vibration is less likely.

As is probably obvious, heating lowers the natural frequency, so again, always use a sharp blade.

### Tooth Angle

There are three angles of a saw tooth and the three total 90 degrees. The first angle is the clearance angle, which is the angle required so that the back of the tooth (the metal immediately behind the tooth does not rub on the wood as the blade advances into the cut. This clearance angle, if not present, would result in rubbing, heating, and extreme difficulty in feeding the saw into the wood. This clearance angle is typically 10 to 12 degrees.

The next angle is the hook angle. The greater the hook angle, the more the saw is going to grab the wood and dive into the cut. Have you ever tried to cut lumber with a radial arm saw and the saw actually wanted to come flying through the piece of wood so much so that you had to hold the saw back? This is

because there was too much hook in the blade. A radial arm saw blade actually has zero hook or is even slightly negative; use the wrong saw and the radial arm saw will be difficult to control. On the other hand, if you used a zero or negative hook angle saw blade on a table saw, the end result would be that the wood piece being sawn would require a lot of force to feed into the saw and usually the piece will come flying back at the operator.

The hook angle for band saws for sawmills is typically between 4 degrees and 13 degrees. With less hook than 4 degrees, the effort to feed the saw into the wood becomes greater; with more hook than 13 degrees, the saw can come off the wheels or can break.

A second effect is that with less hook, the horsepower required for the saw is reduced.

With more hook — especially with dense or frozen wood — the blade will have to be fed very slowly; if fed too fast, the blade will likely die to lack of horsepower. The smaller the angle, the more steel on the tooth, which helps carry heat away but makes setting a bit harder. With slow feed, we get fine sawdust and this leads to heating, rapid dulling, poor performance, and poor thickness uniformity for the lumber, etc.

The following are general recommendations:

<b>4-degree hook</b>	Use for well-frozen (under 20 degrees F) wood and/or dense wood
<b>7-degree hook</b>	Use with higher-horsepower mills for frozen and/or dense wood, including many dense tropical hardwoods; also use for large diameter logs and medium or lower power on medium- or low-density wood.
<b>9-degree hook</b>	Use with lower-horsepower mills cutting smaller logs; also with other powered mills cutting denser hardwoods.
<b>10-degree hook</b>	Use for most hardwoods (except the densest like hickory) and most softwoods excepting a lower-powered mill; this is a general purpose, all-around hook.
<b>13-degree hook</b>	Use for most softwood on most mills, although a smaller hook might work better for southern pine, as SYP is very dense.

## Improving Tooth Tips

The tip of the saw tooth can be just ordinary metal, identical to the metal of the saw body. Typically such metal is fairly soft and will wear quickly; as a result the tooth will dull quickly. One somewhat-inexpensive alternative that makes the tooth harder is to heat the tooth and then quench it in a cold liquid; the resulting tool is much more durable, but is slightly more brittle. Usually the hardening process uses induction heating, there by heating only the tooth and making the tooth harder, but not affecting the properties of the body of the blade.

Another alternative is to put a more durable material on the tip of the tooth. Durable materials include:

- **Carbide** (A combination of tungsten, carbon, and cobalt in various proportions to increase the times between sharpening, although the material is prone to chipping when it hits hard items like rocks, tools, etc.)
- **Stellite** (Invented in the early 1900s, this is a proprietary

carbide material with cobalt, chromium, and a variety of other elements such as tungsten, nickel, molybdenum, and carbon. Is it less brittle than carbide and lasts longer but does cost more.)

- **Chrome** (Chromium carbide, very durable and expensive.)

There is no question that logs with dirt and other hard debris on the outside will quickly shorten useful tooth life, especially when using special teeth that tend to be more brittle. To lengthen tooth life, several options are to clean logs with a power washer, remove bark (as the crevices in bark often hold lots of grit), and store cleaned logs off the ground.

## Set or Swage

Now that we have the tooth ready to go, we need to figure out a way to make the slot that the tooth cuts, the kerf, just a bit wider than the body of the blade. Without this extra space, the blade will rub, heat, etc. Actually when we cut a slot in the wood, the wood cells will spring back slightly, closing the slot just a bit after the cells are cut, so the kerf must be just a bit wider than we might calculate initially.

Basically, there are two choices for cutting a wide kerf: Make the tip of the tooth a bit wider, called swaging. This is done by hitting the tooth tip with a hammer and a special tool called a swage. It can also be accomplished by bending the teeth, one to one side and the next one to the other side of the blade body. This is called setting the teeth. With small band saws, setting is the most common technique. Setting must be done carefully so that the protrusion in each side of the blade is identical. If uneven, the blade will wander and can even take off cutting on its own undesired path. Special, simple equipment can be purchased to set teeth yourself. Setting is usually done after sharpening.

The required set is less for denser woods than for softer, less dense species.

In some cases, after two teeth are set, one to each side, the third tooth called the raker tooth, is left straight. Then the fourth and five teeth are set and the sixth is left straight, and so on. This is called the triple chip blade and would be used for cross cutting, but is not widely used in most small band sawmills — but such blades are available.

## Tooth Spacing or Pitch

The closer the teeth are spaced, the less power per tooth and finer the sawdust. With wider spacing, however, the amount of sawdust in the gullet of each tooth increases. With large logs, the gullets may fill and then the excess saw dust will spill out and cause heating.

In my experience, 7/8 inch is the most common spacing, but closer and further spacing is available. My favorite is 1-1/8 inch especially for most softwoods and low density hardwood. For well-frozen logs, 3/4 inch is probably more reasonable. In general, it is common to find that the spacing is too close for many mills. One of the best ways to judge the result of spacing and feed rate is to look at the saw dust. Very fine sawdust is often an indicator of slow feed and close spacing. The larger spacing does require a wider blade, however, to handle the extra stress per tooth.

## Gullet Size

We have little choice in gullet size. Just make sure that the gullet is large enough for the depth of cut — large logs will need a bigger gullet than smaller logs or cants. If the gullet is too small, then the bite per tooth will have to be slowed, which means more heating and maybe blade wandering, fine sawdust, and more rapid dulling.

## Blade Width

Wider blades will be stiffer and can handle more stress — more stress from sawing and more stress from tensioning devices. These blades can also be sharpened more often without becoming too narrow. However, wider blades will not cut straighter than narrower blades. When a blade is working hard cutting wood, the stresses will make it bend backwards and sideways. The wider the blade, the more the blade — under high stress — will bend sideways, rather than backwards, and likely cut improperly. The narrower the blade, the more it will bend backwards when cutting under high stress and not bend sideways. In a few cases, therefore, narrow blades will cut straighter, but they are weaker. Cost is also a factor. Typical widths run between 1 and 2 inches. I tend to prefer 1-1/2 inches but 1-3/4 inches for dense hardwoods isn't bad either. For lower-powered mills, 1-1/4 inches is needed.

## Blade Thickness

Blades are typically available in 0.035 inch to .055 inch thicknesses. A thicker blade is less bendable (so requires larger diameter band wheels) but can take more stress. For example, the 0.055

inch is 60% thicker than 0.035 inch. With knotty wood, especially if the knots are hard or dry, which means more stress on the blade, the thicker blade is advisable. For high-horsepower mills, the thicker blade is advisable. Thicker blades can tolerate (and require) more tension in order to run straighter.

## Blade Metal

There is a wide variety of band saw blade materials. The better materials — which provide longer blade life — will cost more. The most common and suitable blade material is carbon steel. At least one manufacturer uses silicon steel. Some manufacturers claim to add a second metal to the blade to enhance properties. Some claim to stiffen the rear edge of the blade. Although the standard carbon steel blade with hardened or special teeth will perform well for mills sawing a lot of lumber and for dense species, the blades with better steel will last longer and probably cost less per BF sawn.

## Summary

In early-model, inexpensive band saw sawmills, the band saws were changed frequently and thrown away after one use. Today, sophisticated saw blades are available to provide premium surfaces on the lumber with excellent thickness control. Understanding the various blade options will help the sawyer do a better job and save money.

(Source: *Independent Sawmill & Woodlot Management* (IS&WM) magazine, February 2014, Article written by Gene Wengert, Professor Emeritus, University of Wisconsin-Madison and President of The Wood Doctor's Rx, LLC. For more information or to subscribe to IS&WM, call 1-888-762-8476 or website: [www.sawmillmag.com](http://www.sawmillmag.com))

# Sawmills Can Make More than Lumber

## Logs and Slabs

Saw the outer slab of a log (that is, a piece that is flat on one side and has the round, bark-covered face on the other side — the bark can be removed before sawing if desired) and then edge the piece to a precise width. These slabs can be nailed or screwed to the exterior or sheathing of a house wall. The end result is a wall that looks like a log cabin, but actually has all of the benefits of normal wood frame wall construction. Sometimes these slabs are called “D” logs, as that is what their cross-section shape resembles. Look for local log home builders or suppliers for specific interest and requirements.

A very common use for the slabs is as dry, clean firewood for burning in a home fireplace. Oftentimes, the slabs are cut to 15-inch lengths and bundled into fairly lightweight packs that are plastic wrapped so they can be easily lifted and hauled in the back of a car without making a mess. Drying, if hot enough, can eliminate insects.

Another option is to saw three sides of the log to a given dimension, but leave the fourth side un-sawn. This timber is then used to build a house wall with the un-sawn face being positioned to the outside. Again, we get the log cabin look with much tighter and better insulated construction.

Short legs can be used as accent pieces in a flower garden or other landscaping area. Contact local nurseries, landscape designers, garden clubs, and county extension offices for customer leads.

If your wood species has natural decay resistance you can consider sawing (crosscutting) a small log (less than 12 inches in diameter) in thin (maybe 2-inch-thick), round disks. These disks can be used as “pavers” in a garden or for a patio. If embedded into a sand base and with natural decay resistance, the heartwood should last for quite a few years. Having the disks pressure treated prior to use would extend the life for decades. In addition to the garden contacts mentioned, local architects and builders are possibilities, and maybe even a local “home show” exhibition.

An innovative idea is to take a log that is about 18 inches long, cut three lengthwise slits all the way through from one side to the other using a chain saw, starting at the top and ending near the bottom (about 4 to 5 inches from the bottom). The finished top will look like a pie with six pieces. Be safe — have the log securely anchored. Then, with draw the saw so the nose of the saw is in the center of the log and cut the slots in the center region a bit deeper (1 inch) than the edges. This

(continued on page 7)

# Nebraska Forest Industry Spotlight

## NIOBRARA TIMBER AND WOODWORKS

Niobrara Timber and Woodworks owned by Jeff and Erin Carpenter, is located north of Bassett, Nebraska. Jeff said “The idea for Niobrara Timber and Woodworks came about in 2009 when I was approached by a customer to build a timber framed house. Timber framing was something that I had never done, but I love a challenge. As a professional carpenter I was very familiar with light framing, also known as stud framing. Timber framing, also known as heavy framing or post and beam framing, is different from light framing in that the beams are, well, heavy. Generally the beams are 8”x8” or more and are joined with wood joinery rather than nails or bolts. This requires more skill and can make a building with the potential to last for centuries.”

Jeff credits Roy Underhill of the Woodwright’s Shop for inspiration during his teen years as he found himself trying many of the things he learned from watching the show on television. Growing up on a farm with access to hand tools as a young man and an opportunity to work for a local carpenter, before striking out on his own, refined his skills and added to an interest in working with wood.

The Carpenter’s process logs with an EZ Boardwalk 40 portable band saw mill available from EZ Boardwalk, Emden, Missouri. Both timbers and dimension are produced for custom construction projects, custom sawing, and woodworking orders. The Carpenter’s mill lumber to full dimension unless specified differently. A 24 inch planer provides an additional service to customers if a finished product is desired. Jeff said his main focus is on selling the finished product, furniture, installed siding, and timber framed building.



**Jeff Carpenter processing a log using the EZ Boardwalk 40 portable band saw mill.**

Jeff constructed a solar dry kiln using a Timber Green Farms design. He plans to add an additional fan to the kiln, but is generally pleased with the kilns performance.

The raw material used in the business is sustainably harvested. Jeff said that by harvesting some older mature trees from a natural stand or planting, we can help younger trees grow faster and remain healthy throughout their growth cycle. These individuals will provide a number of benefits and then may be harvested someday

as well, sustaining the resource over time.

The Carpenter’s goal is to use local timber for their business, focusing mainly on eastern redcedar due to the adequate supply of the species. However, Jeff noted that other species such as ponderosa pine, bur oak, some black walnut, hackberry, mulberry, honey locust, American elm, and cottonwood are all possible species that could be utilized, when they are available.

Niobrara Timber and Woodworks complements Jeff’s skill in finish carpentry, wood furniture construction, and building construction. For more information contact:

Niobrara Timber & Woodworks  
Carpenter Construction  
Jeff Carpenter, 88519 450th Ave., Bassett, NE 68714  
Phone: 402-684-2939  
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### Little Known Nebraska Facts

**The state nickname used to be the “Tree Planter’s State”, but was changed in 1945 to the “Cornhusker State”.**

## Sawmills Can Make More Than Lumber (continued from page 5)

is done so that oil can be poured in the top center and will accumulate near the bottom of but will not run out of the slots. When ready to burn and with the log positioned vertically in a safe fire pit, pour in a very small amount of oil (kerosene, lamp oil, or lighter fluid) and light the oil, using a little paper or a long wooden match. The oil acts as a fire starter for the log. This log will burn for ours as the slots provide fresh air for the fire. I have heard these referred to as Swedish candles.

### Bark

We hear a lot about the almost unbelievable medicinal benefits of various components of certain logs. Paw-paw and yew are two species that are thought to have cancer-curing properties. But the inner bark of many trees has historically been used for medicinal benefits. Although we cannot vouch for the benefits, both true and false information on many wood by-products is available on the internet and in natural herbal publications.

Bark also has the potential for some of the products mentioned in the Fine Residue section.

### Solid Wood

Although we may think of lumber as being the main product from the sawmill, there are active markets for specialty products, such as fireplace mantels, mailbox posts (and other posts), and landscape timbers. Check to see who is selling used RR ties and see if they would like to add non-creosote ties or smaller sizes to their product line. All the previously mentioned garden shops should be checked out as well.

Certainly, drying — especially kiln drying, but other drying methods, too — can be used successfully to ass hundreds of dollars per MBF to lumber value. Once dry, an entire range of products using small pieces of lumber or what some people might call “scrap” can be converted into valuable, profitable products.

Although the list is long, here are just a few examples to start your thinking.

- **Short lumber** (12 to 36 inches in length and mostly clear, maybe surfaced on 2 sides is especially popular with hobbyists)
- **Lumber parts** for outside garden planter boxes (perhaps include a plastic or metal liner to avoid water leakage and high rot risk)
- **Smoker boards** (often cedar used for enhanced grilling of fish and other items in the home grill)
- **Small sticks** of aromatic cedar (for hanging in a closet or putting in a dresser drawer)
- **Parts for** homemade birdhouse kits (maybe wrapped in plastic)
- **Wood sample** kits of 40 different species (1/2 thick by 3x5, maybe with a small label of wood properties for each species)
- **Cutting board stock** (maybe with strips of different species, especially popular with the hobbyist)
- **Flat stock** for painting, drawing, or burning (especially by artists and home craftspeople)

- **Carving blanks** for wood carvers (often 16/4 basswood; avoid over drying)
- **Wood for curios** (usually small pieces)
- **Small blocks** for coffee mugs, with a liner (automatically insulated by the wood, and provide an awesome appearance)
- **Tomato stakes** and other garden stakes (possible with a pointed end, about 2x2 inches so they are strong enough to be lightly pounded in place; any knots will severely weaken the post; the selling price should be less than a softwood 2x2 sold in the lumberyard)
- **Tree stakes** for newly planted trees (usually naturally decay resistant species are best with a pointed end and at least 2x2 inches)
- **Snow fence** slats (rather than plastic, oil-using slats)
- **Kiln stickers** (usually finished dry size of 3/4 x 1-1/4 inch x 4-6 foot lengths of any species; dry sticks are better than wet)

### Fine Residue

Fine residues, like sawdust, are often hard to convert into money-making products. Burning is the most popular use (an ultimate value of about 5 cents per pound), but a few other uses may be more profitable. At the top of my list is taking wood and bark chips and coarse sawdust and dyeing it, and then using it for decorative mulch in landscape applications. Do not use fine material. This same material, and even the fines, can be composted and then added to garden soils to enhance the overall health of the garden soil.

Another possibility is to have the sawdust compressed (by a feed mill that makes pellets) into rabbit food-sized pellets. When tossed in the home BBQ, often in a small tray or specialized container, these pellets will smoke and add flavor to items being grilled.

Sweeping compound is used to control dust when sweeping a floor, more often in industrial applications rather than in the home. Wood-based compound provides a nontoxic, environmentally-friendly, liquid-absorbent material that outperforms plastics and other similar products.

A small, specialized use, especially for white oak residues, is for a bedding material for growing mushrooms, especially shitake mushrooms.

Aromatic wood species, historically eastern redcedar, can be used for animal bedding, particularly for home pets. Some animals do not like certain species, so do a little homework before selling. One client related that when the chicken house they worked with changed to wood bedding, the number of eggs increased. With raising chickens being a very fast growing home activity, the need for this bedding material is huge. Plus, once “used,” the wood and manure can be transferred to the garden for soil enhancement as well as a source of nitrogen.

(Source: *Independent Sawmill & Woodlot Management* (IS&WM) magazine, March 2014, Article written by Gene Wengert, Professor Emeritus, University of Wisconsin-Madison and President of The Wood Doctor's Rx, LLC. For more information or to subscribe to IS&WM, call 1-888-762-8476 or website: [www.sawmillmag.com](http://www.sawmillmag.com))



# 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.

**If items have been sold, please contact editor to remove ads from the next publication.**

# Timber Sales

The following listings are for stands of timber or logs being offered for sale by owners or persons of delegated authority. Timber was cruised and/or marked for harvest by Nebraska Forest Service or other professional foresters. Volumes in board feet (Doyle scale unless otherwise indicated) are estimates by the forester. If no volume is listed, the trees or logs were not marked by a forester and the listing is included only as a marketing service to the owner. Listings are prepared according to information at the time of publication.

Item	Forester/Date	Contact
1. <b>Black Walnut</b> (22 trees) 1,124 bf Lumber 2 - 74 bf Lumber 3 - 1,050 bf	Karloff 8/2014	Wayne Olsen 312 462nd Beaver Crossing, NE 68313 Ph: (402) 576-3219 Location: Seward County

*(This sale is a salvage sale from tornado damaged woodlot this spring. Other trees available for removal on request.)*

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

"Vacation" means driving through the Sandhills going to Carhenge.