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NEBRASKA FOREST SERVICE

TIMBER TALK

Nebraska Forest Industry Newsletter

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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: Adam Smith, ***Timber Talk*** Editor, Nebraska Forest Service, University of Nebraska, 201B Forestry Hall, P.O. Box 830815, Lincoln, NE 68583-0815. Phone (402) 472-1276, FAX (402) 472-2964.

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Lumber Market

HARDWOODS

NEWS

Northern. Warmer temperatures spark greater urgency for loggers and mills to quickly process whitewoods. They also trigger changes in buying patterns by green lumber markets, particularly those purchasing to resell as KD lumber. Added to seasonal controls on purchasing, slow turning kilns earlier this year have caused backlogged inventory on sticks that is not yet dried. Many buyers report having ample lumber in front of kilns, but not enough lumber flowing through the kilns. Marginally adequate KD lumber supplies are keeping prices stable, if not firm.

Appalachian. No one in the industry escaped the adverse effects from the downturn in business the past several years. Company owners remain cautious with plans for expansion. However, there is no question new sawmills are opening, mothballed operations are being restarted, and existing mills are extension operation hours. The volume of lumber heading to the market is growing. So is demand. Time will tell whether production exceeds the market's needs. Activity for low-grade and industrial timber products is likely to remain at a high level.

Southern. It is much too early to know what level sawmill production will reach by year's end. Profitability is key to increasing timber and log purchases, green lumber production, and kiln dried inventories. The surge in industrial timber and lumber prices has improved profitability, even with sawmill operators' raw material costs escalating. Comparing the first four months of 2014 to 2013, Eastern U.S. hardwood sawmill output average 9.038B bd. ft. Based on current capacity, it would not be surprising to see production top a 9B board feet annual rate this summer. The greater question is whether demand will fall short, meet, or exceed production. The supply/demand relationship will determine the direction of pricing and future profitability.

(Source: Condensed from *Hardwood Market Report,* May 16, 2014. 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			
	3/14	12/13	9/13	6/13	3/14	12/13	9/13	6/13	3/14	12/13	9/13	6/13
Ash	890	835	820	850	600	575	575	605	415	390	390	410
Basswood	865	835	810	795	545	505	475	465	285	260	240	235
Cottonwood	685	670	655	635	480	470	455	435	250	240	240	220
Cherry	1295	1235	1235	1235	850	775	745	700	530	455	430	385
Elm	635	635	635	635	420	420	420	420	280	270	245	245
Hackberry	475	475	475	475	455	455	455	455	285	285	265	265
Hickory	920	845	810	765	775	715	700	650	570	520	510	480
Soft Maple	1320	1250	1250	1250	880	810	765	765	565	510	440	440
Red Oak	1465	1320	1150	1125	1000	885	765	735	765	700	595	530
White Oak	1345	1200	1075	1050	850	750	695	665	645	610	560	495
Walnut	2545	2250	1980	1795	1325	1175	990	875	820	685	575	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			
	3/14	12/13	9/13	6/13	3/14	12/13	9/13	6/13	3/14	12/13	9/13	6/13
Ash	1365	1295	1275	1290	910	880	880	930	740	720	720	735
Basswood	1170	1155	1120	1120	765	750	720	720	480	480	480	470
Cottonwood	855	830	815	780	625	615	600	570	—	—	—	—
Cherry	1840	1830	1800	1800	1245	1170	1155	1115	835	760	745	720
Elm	—	—	—	—	—	—	—	—	—	—	—	—
Hackberry	—	—	—	—	—	—	—	—	—	—	—	—
Hickory	1475	1365	1345	1290	1250	1155	1135	1080	1035	945	925	870
Soft Maple	1780	1710	1710	1710	1155	1100	1100	1100	835	785	785	785
Red Oak	1975	1790	1675	1650	1470	1325	1150	1090	1200	1100	990	905
White Oak	1850	1680	1595	1595	1365	1200	1100	1100	1125	970	890	860
Walnut	3490	3240	3065	2915	1965	1855	1725	1645	1160	1035	945	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.)

Commercial Hardwood Lumber Species

Editor's Note: The table below identifies domestic hardwood tree species from which commercial lumber is manufactured and graded according to National Hardwood Lumber Association (NHLA) rules.

Commercial name for lumber	Common tree name	Botanical name
Alder, red	Red alder	*Alnus rubra*
Ash, black	Black ash	*Fraxinus nigra*
Ash, Oregon	Oregon ash	*Fraxinus latifolia*
Ash, white	Blue ash	*Fraxinus quadrangulata*
	Green ash	*Fraxinus pennsylvanica*
	White ash	*Fraxinus americana*
Aspen (popple)	Bigtooth aspen	*Populus grandidentata*
	Quaking aspen	*Populus tremuloides*
Basswood	American basswood	*Tilia americana*
	White basswood	*Tilia heterophylla*
Beech	American beech	*Fagus grandifolia*
Birch	Gray birch	*Betula populifolia*
	Paper birch	*Betula papyrifera*
	River birch	*Betula nigra*
	Sweet birch	*Betula lenta*
	Yellow birch	*Betula alleghaniensis*
Boxelder	Boxelder	*Acer negundo*
Buckeye	Ohio buckeye	*Aesculus glabra*
	Yellow buckeye	*Aesculus octandra*
Butternut	Butternut	*Juglans cinerea*
Cherry	Black cherry	*Prunus serotina*
Chestnut	American chestnut	*Castanea dentate*
Cottonwood	Balsam poplar	*Populus balsamifera*
	Eastern cottonwood	*Populus deltoids*
	Black cottonwood	*Populus trichocarpa*
Cucumber	Cucumbertree	*Magnolia acuminata*
Dogwood	Flowering dogwood	*Cornus florida*
	Pacific dogwood	*Cornus nuttallii*
Elm, rock	Cedar elm	*Ulmus crassifolia*
	Rock elm	*Ulmus thomasii*
	September elm	*Ulmus serotina*
	Winged elm	*Ulmus alata*
Elm, soft	American elm	*Ulmus Americana*
	Slippery elm	*Ulmus rubra*
Gum	Sweetgum	*Liquidambar styraciflua*
Hackberry	Hackberry	*Celtis occidentalis*
	Sugarberry	*Celtis laevigata*
Hickory	Mockernut hickory	*Carya tomentosa*
	Pignut hickory	*Carya glabra*
	Shagbark hickory	*Carya ovata*
	Shellbark hickory	*Carya lacinosa*
Holly	American holly	*Ilex opaca*
Ironwood	Eastern hophornbeam	*Ostrya virginiana*
Locust	Black locust	*Robinia pseudoacacia*
	Honeylocust	*Gleditsia triacanthos*
Madrone	Pacific madrone	*Arbutus menziesii*
Magnolia	Southern magnolia	*Magnolia grandiflora*
	Sweetbay	*Magnolia virginiana*
Maple, hard	Black maple	*Acer nigrum*
	Sugar maple	*Acer saccharum*
Maple, Oregon	Big leaf maple	*Acer macrophyllum*
Maple, soft	Red maple	*Acer rubrum*
	Silver maple	*Acer saccharinum*
Oak, red	Black oak	*Quercus velutina*
	Blackjack oak	*Quercus marilandica*
	California black oak	*Quercus kelloggi*
	Cherrybark oak	*Quercus falcata* var. *pagodaefolia*
	Laurel oak	*Quercus laurifolia*
	Northern pin oak	*Quercus ellipsoidalis*
	Northern red oak	*Quercus rubra*
	Nuttall oak	*Quercus nuttallii*
	Pin oak	*Quercus palustris*
	Scarlet oak	*Quercus coccinea*
	Shumard oak	*Quercus shumardii*
	Southern red oak	*Quercus falcata*
	Turkey oak	*Quercus laevis*
	Willow oak	*Quercus phellos*
Oak, white	Arizona white oak	*Quercus arizonica*
	Blue oak	*Quercus douglasii*
	Bur oak	*Quercus macrocarpa*
	Valley oak	*Quercus lobata*
	Chestnut oak	*Quercus prinus*
	Chinkapin oak	*Quercus muehlenbergii*
	Emory oak	*Quercus emoryi*
	Gambel oak	*Quercus gambelii*
	Mexican blue oak	*Quercus oblongifolia*
	Live oak	*Quercus virginiana*
	Oregon white oak	*Quercus garryana*
	Overcup oak	*Quercus lyrata*
	Post oak	*Quercus stellata*
	Swamp chestnut oak	*Quercus michauxii*
	Swamp white oak	*Quercus bicolor*
	White oak	*Quercus alba*
Oregon myrtle	California-laurel	*Umbellularia californica*
Osage orange	Osage-orange	*Maclura pomifera*
Pecan	Bitternut hickory	*Carya cordiformis*
	Nutmeg hickory	*Carya myristiciformis*
	Water hickory	*Carya aquatica*
	Pecan	*Carya illinoensis*
Persimmon	Common persimmon	*Diospyros virginiana*
Poplar	Yellow-poplar	*Liriodendron tulipifera*
Sassafras	Sassafras	*Sassafras albidum*
Sycamore	Sycamore	*Platanus occidentalis*
Tanoak	Tanoak	*Lithocarpus densiflorus*
Tupelo	Black tupelo, blackgum	*Nyssa sylvatica*
	Ogeechee tupelo	*Nyssa ogeche*
	Water tupelo	*Nyssa aquatica*
Walnut	Black walnut	*Juglans nigra*
Willow	Black willow	*Salix nigra*
	Peachleaf willow	*Salix amygdaloides*

(Source: *Wood Handbook*, USDA Forest Service, Forest Products Laboratory General Technical Report FPL-GTR-190)

How Should You Charge?

How much to charge for your products and services impacts not only your ability to make a profit but to be competitive. How to charge will greatly depend on what products you are selling and how you are set up for business. We are assuming that you do not want to be a non-profit organization.

Although you may make a profit every year, it is also important in sawmilling to watch and be aware of cash flow. Income is often sporadic, yet expenses continue monthly, even when business is really slow.

Lumber

Selling green or dried lumber requires that you have good knowledge of your local markets and lumber prices. When selling large quantities of hardwood lumber, you can get a basic idea of the prices for which green and kiln-dried lumber is being sold, broken down by species, thickness, grade, and region of the U.S., from two industry price reports: "Hardwood Review" (*www.hardwoodreview.com/main.aspx?returnurl=%2f*) and "Hardwood Market Report" (*www.hmr.com/public/default.aspx*). The prices reported are for truckload quantities (about 12,000 BF) that were sold in the previous week. Also given is the change in price from the previous report week.

Although you might have a smaller mill, these reports give you a basis to work from. We expect that often you will be selling smaller quantities in a local market, and so you will have a higher price and profit margin. Pricing in the local market requires knowledge of what the competition is selling, what your market is willing to pay, and most importantly but often overlooked, your production costs for the products being sold. (More on your production costs to follow.)

Here is an important concept: You as a small or medium mill, can often charge a higher value per board foot than the competition for a similar product IF you provide better service, more consistent and higher-quality material, and better, prompt delivery.

Custom Sawing

One of the most common ways to earn money with a portable sawmill is by custom sawing, there are three general methods of charging for custom sawing: 1) production rate, 2) hourly rate, or 3) share basis.

Make sure you use a contract when custom sawing. Have a lawyer go over your sawing contract and make sure to have all your liability covered, especially if your customer gets injured while you are sawing. Also make sure that safety issues are addressed.

1. **Production Rate.** The production rate method is the most common method used. However, all income risk is incurred by the sawyer. If logs are unclean, muddy, or contain rocks, you will have to spend time cleaning the logs or replacing saw blades, and not producing lumber. If the work area is tight and insufficient, then you may spend more time moving logs and lumber rather than producing. Be careful not to set one price for all lumber sawn, without knowing the species and quality required, as some woods are harder and slower to process than others. For example, sawing pine lumber for barns has a much higher rate of production than grade-sawing red oak. Consider including charges beyond your hourly production rate for hitting a foreign object while sawing cleaning logs, and traveling to the site and setting up the mill. You might even consider letting the customer use a metal detector that you own on his logs to save you time and money. (Metal detectors catch most tramp metal in logs, but not all.)
2. **Hourly Rate.** Charging an hourly rate helps transfer some of the risk to the customer. It encourages the customer to prepare for your coming and to provide clean logs and fairly well organized work areas, which in turn allow you to focus on production. However, your reputation may suffer if you have significant mill problems that reduce your production, and high-volume days may leave you underpaid.
3. **Shares.** Charging by a share basis (you will get a percentage of the lumber produced) is more difficult and initially requires that you have the ability to judge the potential quality and quantity of lumber that will be produced from logs. You must also have a market for the lumber that will be yours. A higher percentage share should be required as lumber value decreases. You also will likely have to arrange for hauling of your lumber from the site. Share charging is advantageous if sawing high-quality material and very disadvantageous if sawing low-quality material.

Determining Costs

Regardless of how you plan on charging for your products or services, it is very important to know what your production costs are. By knowing your production costs and including a profit margin, you are better positioned to make reasonable decisions when new opportunities arise.

An approach to determining small sawmill costs — developed by Robert Pajala at the University of Minnesota — is detailed in an excellent publication, "A Simple Profit Planning and Cost Management System for Small Sawmills." This is available at *www.extension.umn.edudistribution/naturalresources/ dd6075.html.*

For larger mills there are two excellent methods available to assist you in determining your operating costs. COST (Cost of Sawing Timber), from the USDA Forest Service, is a computer program that calculates the cost-per-minute to operate your sawmill. To obtain a free copy of COST, contact the USDA Forest Service in Princeton, West Virginia, by telephone (304/431-2700) or visit their webpage: *www.fs.fed.us/ne/princeton*.

A simple spreadsheet program for determining your potential annual income (financial feasibility analysis) for small sawmills is available free for download from *https://extension.umd.edu/ sites/default/files/_docs/programs/woodland-steward/sawmill05_07_07.xls*. It can also be used to assist you in determining your operating costs.

Oftentimes, your local county extension office will have business expertise or is in contact with regional expertise provided through your state university. They often concentrate on small businesses, so their advice is practical for you.

One closing comment: There are two popular online forums that can help provide practical information. Check out the Sawing and Drying forum at *www.woodweb.com*, and also the Sawmills and Milling forum at *www.forestryforum.com*.

(Source: *Independent Sawmill & Woodlot Management* (IS&WM) magazine, Oct./Nov. 2013. Excerpt from the article "Your Big Ten Questions About Hardwood Sawing" written by Gene Wengert, Professor Emeritus, Univ. of Wisconsin-Madison and President of The Wood Doctor's RX, LLC, Madison, WI and Brian H. Bond, Associate Professor and Extension Specialist, Dept. of Sustainable Biomaterials, Virginia Tech. University. For more information or to subscribe to IS&WM, call 1-888-762-8476 or website: *www.sawmillmag.com*.)

Pressure Treated Wood

Wood is pressure-treated with certain chemicals that act as insecticides and fungicides. These chemicals control insect damage and decay, preventing such infestations for 30 to 100 years. In order to get enough chemical into wood to act as a poison, the chemical is pushed into the wood under pressure. Hence the name — pressure-treated wood. Sometimes this is abbreviated as PT wood.

When Must PT Wood Be Used

Generally, building codes require preservative-treated or naturally durable wood for protection in the following applications:

- Wood in contact with the ground or fresh water.
- Wood used above ground in contact with concrete or masonry. Example: sill plates on a concrete slab.
- Wood used above ground where specified distances from exposed earth are not met. Example: floor assembly when wood joists are closer than 18 inches to exposed earth, or wooden girders closer than 12 inches.
- Wood providing structural support and exposed to the weather. Example: balcony joists without adequate protection to prevent moisture or water accumulation on the surface or at joints between members.
- Wood floor framing in areas where hazard of termite damage is known to be very heavy, unless provided with approved methods of termite protection.
- Wood used below the Design Flood Elevation (DFE).

Why Insects and Fungi Like Wood

In order for insects and decay fungi to be active in wood, there are four essential elements that must be present:

- **Food —** The food can be sugars in the wood, dirt or microorganisms on the wood's surface, or various components of the wood itself. (Carpenter bees use the wood for a home and do not digest the wood.)
- **Water —** There is no such thing as dry rot. Eliminate water and we eliminate the risk, the decay, and damage from most insects. A few insects require very little water (powderpost beetle and the old house borer) and subterranean termites can build a tunnel between the wood and the water supply.
- **Temperature —** The activity of insects and fungi is extremely slow under 50°F. Likewise, over 115°F, activity is slow. The optimum temperature for activity is 80°F to 100°F. Although we cannot kill them by freezing, we can kill them with 30 minutes of heat at about 133°F.
- **Oxygen —** If we can eliminate one of these four factors required for active growth, we can stop growth. Most often, we will eliminate the moisture. When we cannot eliminate moisture, then we will usually poison the food.

Wood Species

Some species of wood, including old-growth redwood, white oak, black locust, Osage orange, old-growth cypress and various cedars, have chemicals naturally formed within the wood during growth of the tree that are poison to some or all insects and fungi. Many other woods have little or no natural resistance to these organisms.

When wood is at risk of becoming damaged from insects or decay fungi (the four elements above are present), and if the wood has no natural decay resistance, then we need to provide protection by adding poisonous chemicals to the wood—poisonous to insects and fungi, that is. The wood species itself must be quite porous to allow easy entry of the chemicals. If the wood species is not porous enough, then the wood must be perforated with a multitude of small cuts to allow the preservative chemicals to penetrate.

Southern pine lumber is very permeable, and is strong and is plentiful. In fact, 85% of all pressure-treated lumber in the U.S. is southern yellow pine; probably close to 100% of the treated lumber available in the southern states is SYP. Estimates are that about 8 billion board feet of SYP is treated annually. Southern Pine consists of four main species: loblolly, longleaf, shortleaf and slash.

Although the use of such strong chemicals may be of concern to the environmental well-being of the earth, we, as a society, have determined that extending the life of wood structures from perhaps five years to 50 years or more, as well as providing safer structures and fences, is worth the risk. Plastic and steel use more energy to produce and are non-renewable resources. And note that the modern chemicals when properly applied and used do not leach out of the wood and contaminate the soil, except for creosote.

Preservative Chemicals

There are several different chemicals that can be used when pressure-treating wood. These chemicals are divided into three groups based on the liquid that carries them. Some are waterborne (and these are what almost all consumers will purchase and use); some are oil-borne (utility poles); and then there is creosote (RR ties and marine pilings). Because the handling of oil-borne and creosote treated wood is quite detailed and could be dangerous without adequate training and protection equipment, it is not discussed further here.

Within the waterborne group, we have three groups that reflect three different exposures and risk of damage.

1. Above ground, but dry or damp conditions (mostly interior uses)
2. Above ground, but exterior exposure so some wetting is expected.
3. Ground contact or fresh water contact

Again, within each of these three groupings we have chemicals that contain copper (oftentimes giving the wood a greenish color) and those without copper. Some people feel copper should not be in the environment; this belief is very strong in Europe.

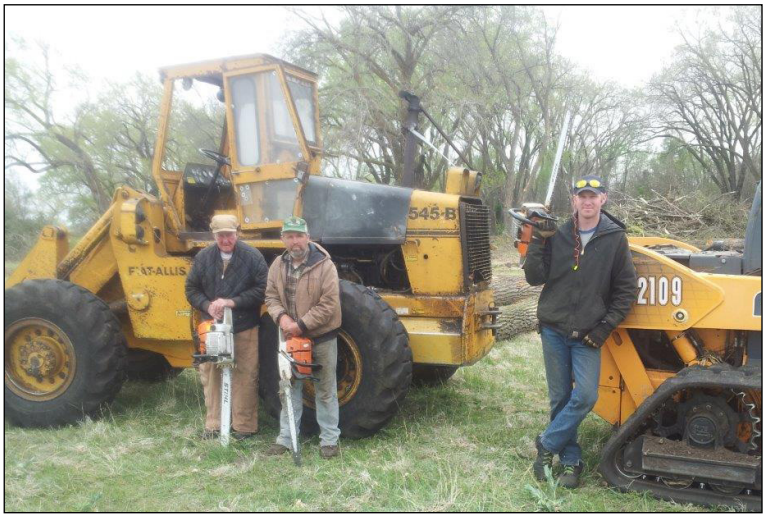
For above-ground but dry or damp conditions (mostly interior uses), inorganic boron (similar to borax soap) can be used (no copper; very safe) with trade names such as Timbor, Solubor, and Boracare. These are often applied to dry wood and then the wood gradually soaks up the chemical. This chemical will leach out, so it should never be used in wet conditions. Note that pressure treating is quicker and more thorough, but borate does provide some degree of protection with on-site application for SYP or any other porous wood species. The other chemicals cannot be effectively applied on-site.

(continued on page 7)

Nebraska Forest Industry Spotlight

MICHAEL KLABENES LOGGING

Michael Klabenes, from O'Neill, Nebraska, got his start in the logging business in 2002 by cutting cottonwood logs for his dad's 60 inch circle sawmill. Since then, he has been acquiring and upgrading logging equipment to cut and haul cottonwood and cedar logs from various harvest and tree clearing projects.



Pictured from left to right: Oakley Ray, Kenneth Klabenes, Michael Klabenes

When the market for cottonwood pallets and dunnage declined in 2007, Michael started working for Ray's Logging at Cotesfield, NE. He worked with Oakley Ray until 2010 when he went semi-independent with his own truck. Most of his work was salvaging trees from construction and land change projects. In 2011, he tried something totally different when he branched out to harvest and haul eastern redcedar trees from a USDA Wetland Reserve Program site in Knox County along the Niobrara River where cedars were being removed to improve the oak hardwood forest and adjacent grassland. Thick groves of cedar trees were crowding out the hardwood trees and grassland so removal of the cedars was identified as one step to improve the site for wildlife habitat and the sustained hardwood forest and grassland community. A research project is on some of the work area to determine how the site will respond after the cedars are removed. Michael's harvesting work allowed close to 10 tons of cedar material per acre to be harvested and utilized rather than be piled and burned or chipped.

With the switch from cottonwood to cedar harvest required more equipment. Currently, Michael has: two skidsteer loaders, a Mustang 2109 with a Ground Force tree saw and a Gehl 835sxt with a root grapple and brush rake; John Deere 340D Forwarder with single bunk; Hahn 110B tree processor; 1995 Freightliner semi-tractor with a 51 foot, 3 axle and 5 bunk log trailer with 29 ton capacity. His portable shop is a 20 foot gooseneck cargo trailer and he uses 660 and 880 Stihl chainsaws.

This time of year, Michael is involved with harvesting cottonwood west of Inman, NE. Material less than 36 inch diameter is being processed into wood shavings. Larger logs are sorted and sent for milling into pallet material and dunnage. He hopes to get back into the cedar harvest and hauling projects again. Michael plans to make cedar log hauling more profitable by converting the log trailer to aluminum bunks to increase log capacity to 31 tons.

Michael Klabenes can be contacted at: 49550 Hwy 20, O'Neill, NE 68763; phone: 402.336.7098; email: *KKLAB@Live.com*

Little Known Nebraska Facts

The cost of the Nebraska Capital building was $9,800,440.07 in 1932. The construction job came in under budget and the building was paid for by the time it was completed.

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.

Pressure Treated Wood (continued from page 5)

For the past 70-plus years, the main waterborne preservative was CCA (chromated copper arsenate). It is still approved for commercial use and structural members for farms and similar uses. However, CCA has been replaced with chemicals thought by some to be a bit safer. The main replacement chemical is ACQ (copper quat, Alkaline Copper Quaternary) and copper azole (CA-B). Both of these can be used above ground or in ground contact; a stronger solution is used when in ground contact. For non-copper, PTI is used, but not in ground contact.

Selecting PT Wood

I suggest that any commercial treated and certified pressure treatment is suitable (within the above guidelines), but do not use ground-contact treatments for above ground, and vice versa. Some vendors carry non-certified (there is no stamp or sticker) wood products that often have inadequate protection.

Preserved wood should not be used where it may come into direct or indirect contact with drinking water, except for uses involving incidental contact such as fresh water docks and bridges.

Do not use preserved wood under circumstances where the preservative may become a component of food, animal feed, or beehives. It is okay to use preservative wood in a garden. As children seem to be more susceptible to possible negative effects of contact with PT wood, make sure they wash their hands after contact and do not eat while in contact.

ACQ is approved for picnic tables that are used for serving food and not preparing food. Never use PT wood for cutting boards and countertops.

As the PT chemicals are carried in water, after treating, the wood is wet. It will shrink as it dries down to its in-use moisture content. With this drying will come shrinkage and nail popping and warping. Therefore, either let the wood dry in the air for a few weeks of warm weather before use, or specify "kiln-dried after treatment" (KDAT) lumber. KDAT is the best choice in many cases. For enclosed locations where the wood cannot dry after use, it must be dried beforehand.

For ACQ, chemical retention levels are 0.25 pounds of chemical per cubic foot of wood for above ground. For ground contact, 0.4 pounds per cubic foot, with critical structural members requiring 0.6 pounds per cubic foot. Other chemicals have different retention levels.

Special note: Some "less than good quality" operators try to push these chemicals into wood that is green or partly air-dried. Of course the water that is in the living tree fills most of the spacing in the wood, so such attempts with green or partly air-dried wood result in very little chemical entering the wood. The end result is an inferior treatment. Such a process is often called "treated to refusal"; don't be fooled by such jargon.

(Source: *Independent Sawmill and Woodlot Management* (IS&WM) magazine, December 08-January 09. 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, call 1-888-762-8476 or website: *www.sawmillmag.com*)

Food for Thought

TIME

Imagine there is a bank that credits your account each morning with $86,400. It carries over no balance from day to day. Every evening deletes whatever part of the balance you failed to use during the day.

What would you do? Draw out very penny, of course!!!

Each of us has such a bank. Its name is TIME. Every morning, it credits you with 86,400 seconds. Every night it writes off, as lost, whatever time you have failed to invest to good purpose. It carries over no balance. It allows no overdraft. Each day it opens a new account for you. Each night it burns the remains of the day. If you fail to use the day's deposits, the loss is yours.

There is no going back. There is no drawing again the "tomorrow." You must live in the present on today's deposits. Invest it so as to get from it the utmost in health, happiness, and success. The clock is running. Make the most of today.

To realize the value of **ONE YEAR**, ask a student who failed a grade.

To realize the value of **ONE MONTH**, ask the mother who gave birth to a premature baby.

To realize the value of **ONE WEEK**, ask the editor of a weekly newspaper.

To realize the value of **ONE HOUR**, ask the lovers who are waiting to meet.

To realize the value of **ONE MINUTE**, ask a person who missed the train.

To realize the value of **ONE SECOND**, ask a person who just avoided an accident.

To realize the value of **ONE MILLISECOND**, ask the person who won a silver medal in the Olympics.

Treasure every month that you have! And, remember that time waits for no one.