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<http://tn.gov/agriculture/topic/forest-businesses>

Pine Sawtimber Resources in Central/West Tennessee

The Tennessee Division of Forestry (TDF) has been contacted by several companies in regard to assessing the opportunities for developing a facility utilizing pine resources in middle-west Tennessee. Tennessee, unlike most of the other southern states, is dominated by hardwood species. In fact, oak and hickory forests comprise 46% of the standing volume (ft³), whereas, southern yellow pine makes up only 8%. Timberland totals 13.4 million acres of the State's 26.9 million acres. Growing stock trees (live trees of commercial value) contain 24.4 billion cubic feet in 2013, an average of 1,818 cubic feet per acre. The volume of all sawtimber trees in the State is 86.4 billion board feet which averages to 6,444 board feet per acre for the entire State.

The Tennessee forest industries sector is still recovering from the recession of 2007 – 2009. Log prices are up, mills have increased output and log purchases, and idle mills have been brought back into production. However, the closing of the International Paper mill in Courtland, Alabama and more recently, the idling of the Verso Company mill in Wickliffe, Kentucky has had a major impact on the forest industry of the State and especially the Southern Middle Region. The Courtland mill produced 950,000 tons of paper a year, 1,100 people lost their job, 3 million tons of wood per year are no longer being purchased by the company, and over 20,000 acres of forestland in Tennessee will no longer be harvested each year. The Verso mill employs over 300 and is set to close in November, 2015. The market is still adjusting to the closing of the mills but pulpwood prices in the region have dropped over the last year and loggers have also been restricted as to the amount of pulpwood they can deliver. Lower prices may also discourage landowners from replanting pine.

Study Region

Using Savannah, Tennessee as a central location for the west central pine region, the counties within a 50 mile radius of Savannah, 17 in Tennessee, 3 in Alabama, and 6 in Mississippi are shown in Figure 1. These counties are located along the Mississippi and Alabama borders on either side of the

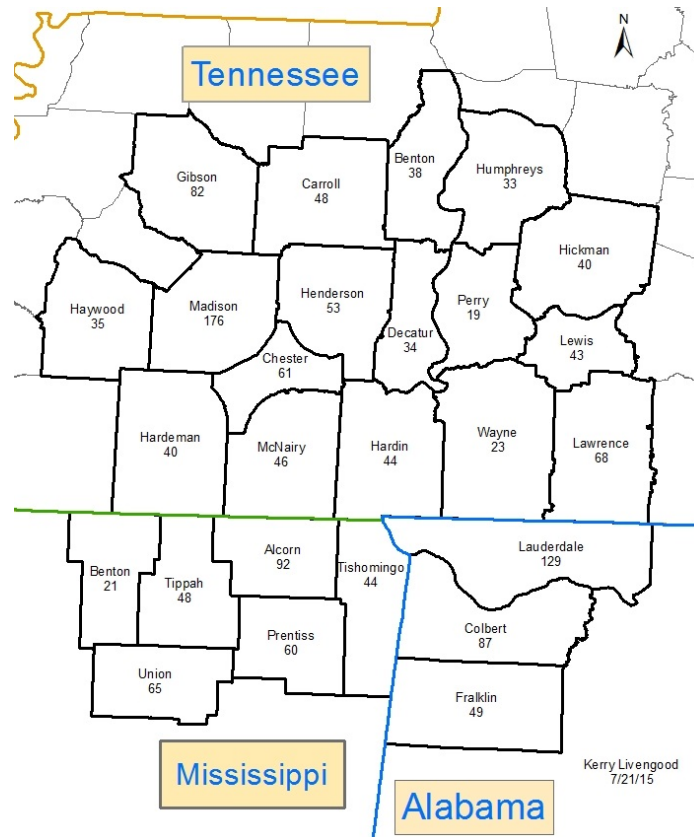


Figure 1. Counties and Population Density in West Central Pine Region

Tennessee River as it turns north and flows into Kentucky. The Tennessee part of the region is mostly rural with Jackson in Madison County being the only large urban center. The average for the Tennessee counties in the region is 52 persons per square mile. Perry County is the most rural with 18.7 and Madison the most urban with 176 persons per square mile. Agriculture and forestry are the primary industries. Primary forest industries employ over 1,400 workers in the Tennessee Counties in the region.

Forest Industry

The entire State of Tennessee has over 300 active primary sawmills - all cut primarily hardwood but no mill that cuts only pine. In comparison, Mississippi has 33 pine mills statewide. Generally, hardwood mills cut various thicknesses of lumber that go to secondary manufacturers such as flooring or furniture plants but pine is used primarily for structural lumber such as 2 x 4s and 2 x 6s. In the study region, Tennessee has 93 mills (Figure 2). Most are fairly small with less than 5

employees. Mississippi has 4 mills with one large mill which cuts only pine located in Tippah County. Alabama has 59 wood processing facilities. The Packaging Corporation of America corrugated paper mill in Counce, Tennessee (Figure 3) is one of largest employers in the region with about 200 workers. The mill utilizes both pine and hardwood pulpwood but not normally sawtimber.

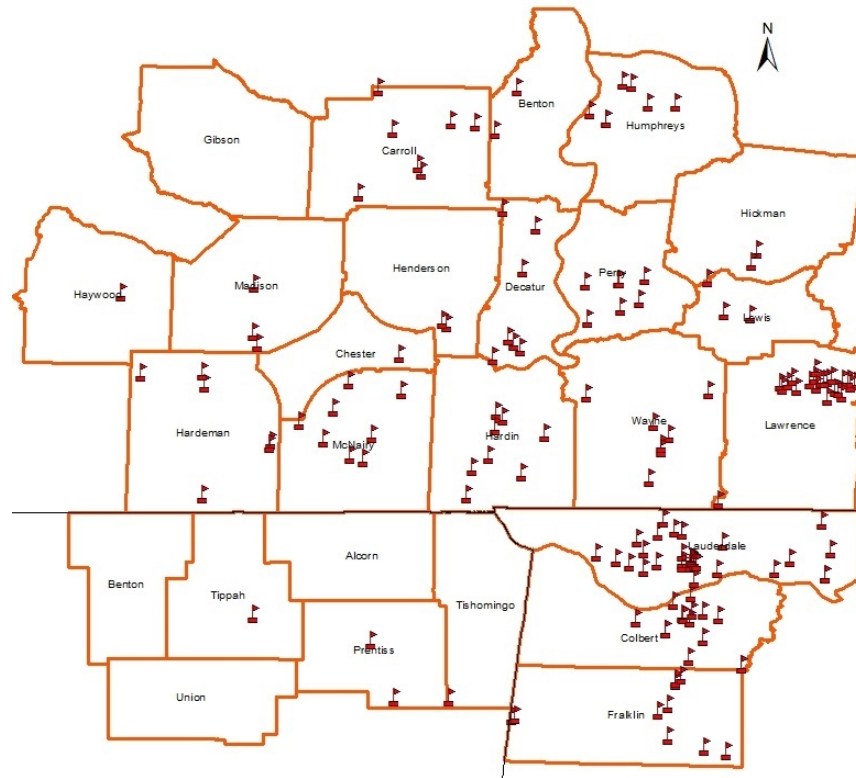


Figure 2. Regional Wood Based Industry Locations

The largest sawmill in the region is the Hassel and Hughes facility in Collinwood, Tennessee has over 200 employees (Figure 4). The mill produces hardwood flooring and wood fuel pellets. Hassell and Hughes maintains an inventory of 5 million BF of hardwood lumber, and can dry 1 million BF in their kilns per year.



Figure 3. Packaging Corporation of America, Counce, Tn



Figure 4. Hassell & Hughes Lumber Company, Collinwood, Tn

Forest Area

As shown in Figure 5, there are over 5 million acres of forestland in the region, making it 59% forested. Total area and forest area for the region by state is shown in Table 1.

Table 1. Forest Area by State (Acres)

Region	Total	Forested	Percent
Alabama Counties	1,273,298	676,767	53%
Mississippi Counties	1,632,232	1,072,886	66%
Tennessee Counties	5,727,264	3,372,967	59%

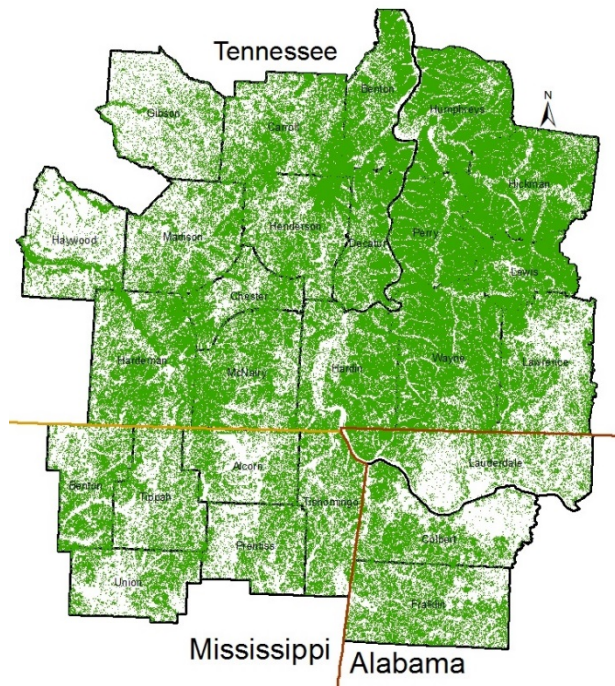


Figure 5. Regional Forest Cover

Forest Inventory

One of the most important factors in determining the feasibility of a wood using facility is estimating the supply of wood in the region. Tennessee is known for producing high quality white and red oak lumber and white oak staves for barrels but it also has pine forestland. The US Forest Service and the Tennessee Division of Forestry surveys the forests of Tennessee by measuring trees in 5,469 small plots across the State. This program known as Forest Inventory and Analysis (FIA) visits plots on a 5 year cycle - about 1,000 plots per year. Plot data accumulated through 2013 show nearly 14 million acres of forestland in the State. Most of this forestland is dominated by oaks and hickories, about 10 million acres. The loblolly/shortleaf pine group totals right at 1 million acres statewide.

The FIA database shows 7.1 billion board feet (MMBF) of southern yellow pines in the State in 2013. The southern yellow pines group is made up primarily of loblolly (*Pinus taeda*), shortleaf (*Pinus echinata*), and Virginia (*Pinus virginiana*) pines. This compares to the pine states of Alabama with 55.1 MMBFT and Mississippi with 55.5 MMBF (includes longleaf and slash). Tennessee has no significant amounts of longleaf or slash pine. The pine resources (by BFT volume) of Tennessee (Figure 6) are concentrated in three areas: East Tennessee in Cherokee National Forest and the Great Smoky Mountains National Park; the Cumberland Plateau and the west -central region along the Tennessee River.

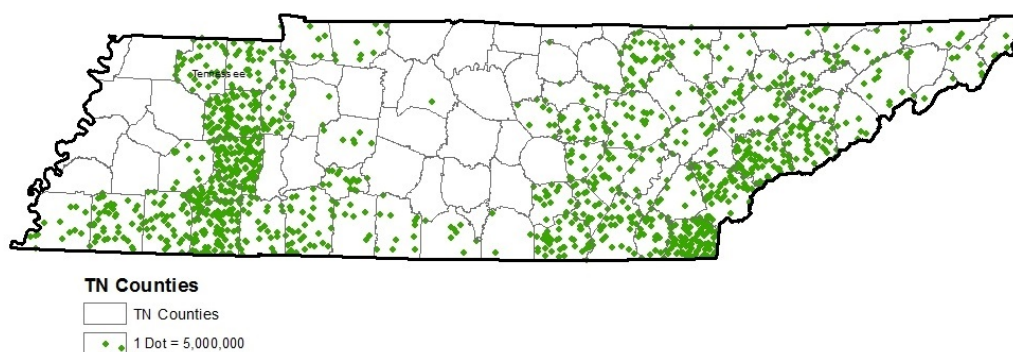


Figure 6. Tennessee Pine Sawtimber Volume 2013

Much of the pine in the East is on public lands and is not readily accessible. One caveat must be pointed out, the distribution of pine is based on FIA county data; which amounts to only 1 plot for nearly 5,000 acres so data at the county level for scattered species is not statistically sound. As shown in Figure 7, Decatur County shows no pine sawtimber inventory yet data from the same year shows nearly 6,000 acres of pine forestland. Decatur has 39 FIA plots and if all plots containing pine sawtimber have been recently harvested, or if the plots are too young to show sawtimber volume, or all plots fall in hardwood stands, then no volume will be reported even though there are pine forests in the county. There are also other scattered pine in the mixed oak/pine group that shows 16,337 acres in Decatur County in 2013.

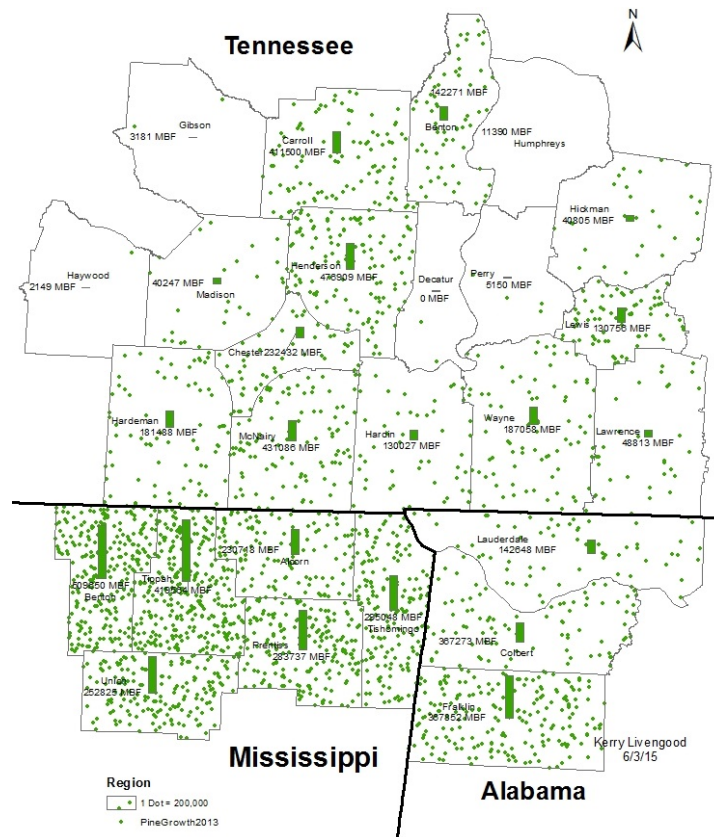


Figure 8. Pine Sawtimber Growth 2013

Forest Removals

In the absence of insect, disease and catastrophes, removals are primarily due to timber harvesting. Madison and McNairy counties in Tennessee show the largest removals for the year (Figure 9). The data in Figure 10 compare growth and removals for each county in the region. Growth was greater than removals in 19 of the 26 counties. For the region, pine growth was two times removals. However, in Tennessee, removals exceeded growth in the two counties with the largest pine inventory, McNairy, and Wayne. Removals exceed growth in 7 of the counties, all but one in Tennessee. McNairy and Wayne in Tennessee, and Lauderdale in Alabama are the only counties with more than 100,000 MBF of pine inventory where removals exceed growth for 2013.

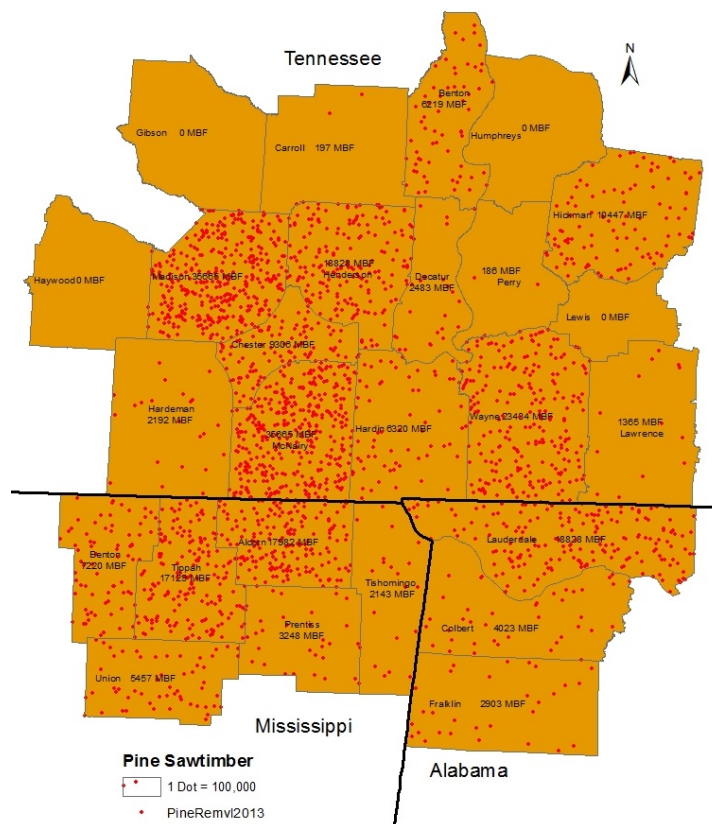


Figure 9. Pine Sawtimber Removals 2013

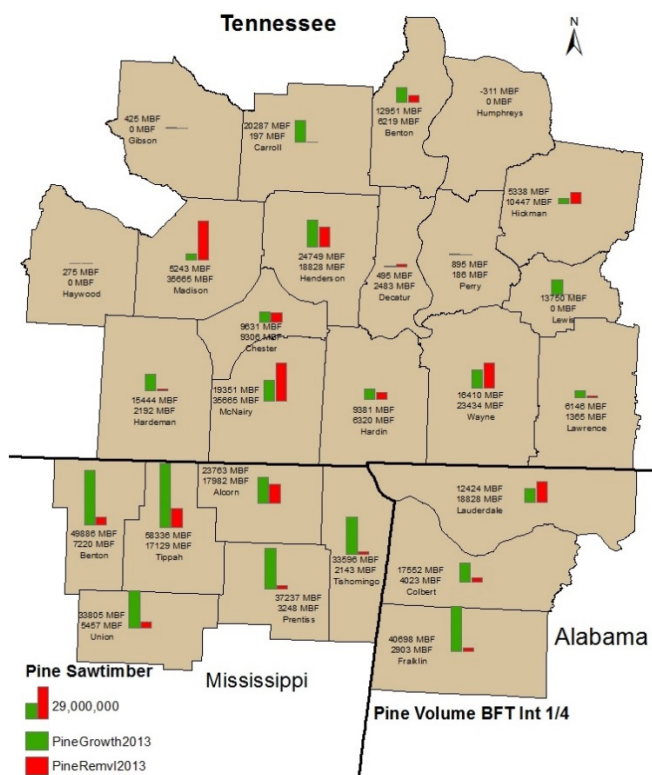


Figure 10. Pine Sawtimber Growth and Removals 2013

It must be noted again that statistics in the counties with low pine inventory have large sampling errors due to the limited number of plots. Also the data in Figure 10 represents a snapshot of one point in time. Growth and removal ratios can be expected to vary over time. . For all the Tennessee counties in the region in 2013, the growth/removals ratio is 1.05, meaning that growth exceeded removals by a comfortable 8 million board feet. With a total inventory of 2.5 billion BFT, inventory is increasing at a rate of 0.33% per year.*

**This article is an excerpt from a study entitled "Pine Sawtimber Resources in Central/West Tennessee" by Kerry Livengood.*



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Delivered Forest Products Prices in Tennessee
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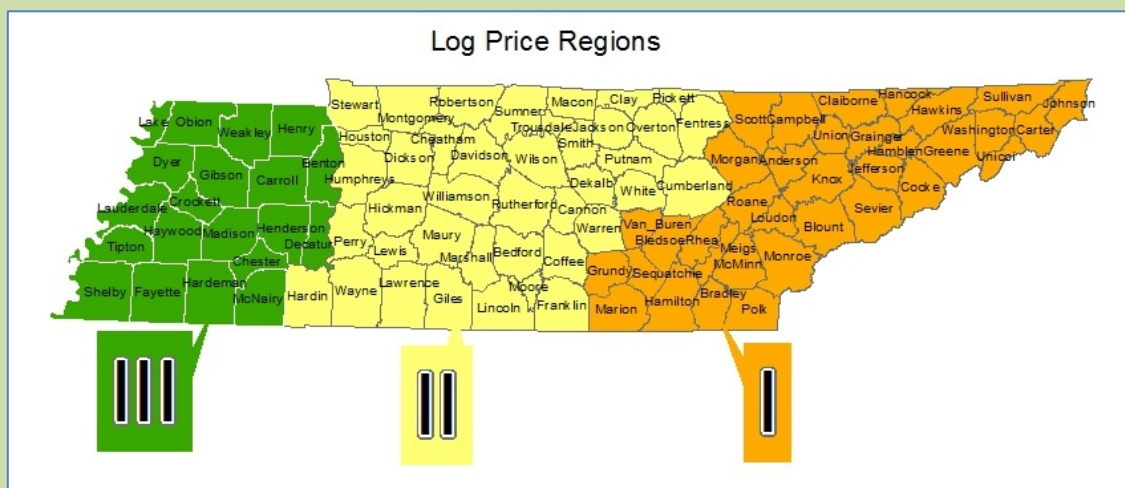
Cedar Logs	Length-6' to 12' and min DIB 4" at small end	\$85.00/ton \$400.00/MBF Cedar Rule) Chipper logs \$40/ton	II & III
Crosstie Logs	Length-8' 8"min DIB 11" and up Must be sound on both ends	<u>Oak</u> Grade 1: \$405/MBF Doyle Grade 2: \$249/MBF Doyle \$63 per ton <u>Mixed Hardwoods</u> Grade 1: \$326/MBF Doyle Grade 2: \$216/MBF Doyle \$63 per ton	I, II & III
Hickory Handle Logs	Each mill will have their own requirements.	Grade 1: \$475/MBF Doyle Grade 2: \$325/MBF Doyle	I & II
White Oak Stave Logs	White Oak-Length: 8 ½' min and add on 2' increments (allow 1 knot per 3' of length", and min. DIB 12"at small end)	Grade 1: \$917/MBF Doyle Grade 2: \$743/MBF Doyle Grade 3: not enough data	I & II
Paulownia Logs	Min. length 2 meters + trim allowance (6' 6"+trim) and Min. DIB 8" at small end (Must be slow grown – prefer 8-10 growth rings per inch); season Oct- April	Grade 1 \$850	I, II & III
Pine Pulpwood	Pine: Diameter, length, and species may vary with purchasing company. Consult firm first before cutting	\$26/ton or \$69.55/cord (5350 lbs/ cord)	II & III

Hardwood Pulpwood	Hardwood: Diameter, length, and species may vary with purchasing company. Consult firm first before cutting	\$28/ton or \$81.20/cord (5800 lbs/ cord)	I, II & III
Softwood Logs	Length: 8'-16' and min DIB 6" at small end	Prices are dated. No mills surveyed currently list softwood prices. SY Pine: \$200/MBF Doyle White Pine: \$250/MBF Doyle Hemlock: \$180/MBF Doyle SY Pine CNS: \$25/ton	I & II
Veneer Logs	Prime logs only (specifications vary with buyer).	Red Oak: Average \$745/MBF Doyle White Oak: Average \$1,280+/MBF Doyle Walnut: Average \$2,024+/MBF Doyle Cherry Average \$850/MBF Doyle Poplar Average \$529/MBF Doyle	I, II & III

*Information is taken from a survey of wood-using industries in Tennessee

**Specifications vary with industries

***All prices are regional averages and are delivered prices per MBF Doyle unless otherwise indicated. They are subject to change and will vary locally. ("+" indicates an increase since our last bulletin; "-" indicates a decrease)



Hardwood Sawlogs*

Species	Region I	Region II	Region III
Red Oak	Grade 1: \$416-- Grade 2: \$325+ Grade 3: \$154-	Grade 1: \$513+ Grade 2: \$398 Grade 3: \$303-	Grade 1: \$573 Grade 2: \$457 Grade 3: \$371-
White Oak	Grade 1: \$478- Grade 2: \$331- Grade 3: \$152-	Grade 1: \$666+ Grade 2: \$429 Grade 3: \$307-	Grade 1: \$645 Grade 2: \$529 Grade 3: \$363+
Ash	Grade 1: \$363+ Grade 2: \$252- Grade 3: \$132-	Grade 1: \$486 Grade 2: \$343+ Grade 3: \$291-	Grade 1: \$542- Grade 2: \$483- Grade 3: \$350-
Yellow Poplar	Grade 1: \$303- Grade 2: \$211- Grade 3: \$130--	Grade 1: \$364- Grade 2: \$277+ Grade 3: \$230-	Grade 1: \$345- Grade 2: \$294- Grade 3: \$240-
Walnut	Grade 1: \$506 Grade 2: \$322+ Grade 3: \$175-	Grade 1: \$1,027+ Grade 2: \$621+ Grade 3: \$544-	Grade 1: \$1,083- Grade 2: \$850 Grade 3: \$533
Cherry	Grade 1: \$356- Grade 2: \$259+ Grade 3: \$149-	Grade 1: \$459+ Grade 2: \$323 Grade 3: \$274	Grade 1: \$467- Grade 2: \$358- Grade 3: \$323-
Hard Maple	Grade 1: \$419- Grade 2: \$294- Grade 3: \$141-	Grade 1: \$498- Grade 2: \$380- Grade 3: \$274-	Grade 1: \$550- Grade 2: \$200- Grade 3: \$300
Hickory	Grade 1: \$311- Grade 2: \$246- Grade 3: \$134	Grade 1: \$349- Grade 2: \$316- Grade 3: \$193-	Grade 1: no data Grade 2: \$408- Grade 3: \$325-
Misc. Hardwoods	Average: \$169	Average: \$211-	Average: \$332-

Increase from last quarter (+); Decrease from last quarter (-)

**Specifications: (Length: 8'-16'; and Min. DIB 8 " at small end) Delivered Price*

Prices quoted are per thousand board feet (MBF) Doyle Rule delivered to mill. Prices will vary greatly depending on many factors such as weather and mill inventories. Prices received for standing timber will be less than the delivered price based on harvest cost, haul cost and buyer profit:

Standing timber (stumpage) price = delivered price - harvest cost - haul cost - buyer profit



Wanted to Buy:

- ❖ **Hardwood Sawmill:** Foreign company with offices in Taiwan, China and Southeast Asian is looking to expand and is interested in purchasing a hardwood mill in the States. For more information, contact Cleo Fu, Agricultural Marketing Specialist with the USDA Foreign Agricultural Service: +886-2-2705-6536 ext. 242; fucwy@state.gov
- ❖ **Loblolly or shortleaf pine for utility poles:** 36 foot to 76 foot in length (length is determined by diameter). Roadside pricing. Call Doug Curry, Bell Timber for specifications and details. 715-418-9333.
- ❖ **Logs for Export:** An exporting company based out of Southern Illinois is interested in buying veneer logs for export. Any information or bid proposals can be e-mailed to swsveneer@gmail.com or call Derek Wilson at 618-559-7568.

For Sale:

- ❖ **SCHAEFER ENTERPRISES OF WOLF LAKE, INC** –Rely on our experience, established in 1967. Used Parts Shipped Daily for Log Skidders, Crawlers, Loader Backhoes, Excavators, Wheel Loaders and Skid Steers. We have many reconditioned engines and transmissions that are Dyno-Tested. Rebuilt winches, final drives and used tires. If we do not have a part – we can locate it for you on one of our three nationwide parts locators
- ❖ **Parts for:** Allis Chalmers, Athey, Bantam/Koehring, Bobcat, Case, Clark, Daewoo, Dresser, Drott, Fiat Allis, Franklin, Hitachi, Hough, Hyundai, International, John Deere, Kobelco, Komatsu, Leihberr, Linkbelt, Michigan, Mitsubishi, New Holland, New Process, Pettibone, Samsung, Timbco, Timberjack, TreeFarmer, VME, Volvo
- ❖ We have many reconditioned engines and transmissions that are dyno-tested, rebuilt winches, final drives and used tires.
- ❖ Contact a parts professional at: (618) 833-5498 or (800) 626-6046. Ask for Andy, Brad Jill, Joe, Kevin, or Matt if buying. Ask for Jerry or Tom if selling.
- ❖ We are located at 4535 State Route 3 North, Wolf Lake, IL 62998.
- ❖ Check out our inventory at – www.sewlparts.com or you may send email requests to parts@sewlparts.com.

Components from a biofuel thermal treatment plant used to make biochar and other products

A partial listing of what is available: Wood chip/sawdust dryer with cyclone: NG/#2 fuel oil/propane furnace; motors, auger assemblies with motors, stainless steel flue gas ducting, conveyors, airlocks, condensers, air handler, flowmeters and other instruments, electrostatic precipitator, stainless steel storage tanks; climate controlled 16' control room trailer with VFDs, HMI, PLC, kWh meters, circuit breakers, considerable power and sensor wiring, etc.

The skinny on this equipment:

- ❖ Biofuel plant used intermittently for research and development over two years

- ❖ All equipment was in good condition and fully operational upon shutdown, and all equipment with the exception of the dryer cyclone and control room trailer have been kept under roof.
- ❖ Pictures and more detailed information available
- ❖ Arrangements can be made to view and inspect the equipment. Location NW Alabama
- ❖ **Buyer pays no sales commissions**

Owner is anxious to sell so make an offer. This is an unusual opportunity for the right party. Seller lost his lease and must move. Lots of good, useful items in good shape and ready to load out. These items can be used in a variety of ways for a variety of purposes.

Contact Phillip Badger, cell phone 256-762-2886, email: pbadger@bioenergyupdate.com

Other:

- ❖ **"Logs, Chips and Lumber Trucking Company:** West Tennessee company specializes in providing trucking services for area loggers, sawmills and papermills located within a 100 mile radius of Paris, TN. We currently have 20 trucks and over 60 trailers in our fleet for quick "drop and hook" service. Flatbed Trailer and Live Floor Chip Trailer services also available. Fully licensed, bonded and insured. Competitive rates. References available. Call Revel Logging, LLC at 731-642-3944 for more information. "
- ❖ **"ATTENTION LOGGERS!"** "Waverly Wood, LLC" of Waverly, TN is looking to employ additional logging crews, to log their timber tracts; long-term employment possible. All prospective contractors must have workers' compensation and general liability insurance. Also, wanting to buy white oak stave logs and tie logs. Please contact: Mike Phillipi, Timber Procurement Manager or Todd Richardson (Office: 931-296-1455; Mobile: 615-418-0276)

The Tennessee Forest Products Bulletin welcomes those items that you are looking to buy or sell in The Trading Post. Contact Kerry Livengood (email: Kerry.R.Livengood@tn.gov); (Fax: 615-837-5003) with your submissions.