College of Forest Resources
Extension Forestry

The Overstory

MSU Forestry Extension Newsletter

Volume 6, Issue 3, October 2017

INSIDE THIS ISSUE

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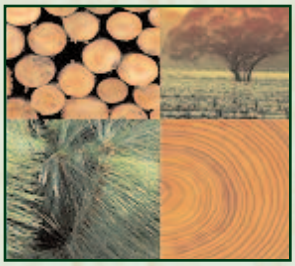


MISSISSIPPI STATE UNIVERSITY EXTENSION

Feature Article

Pine Needles - Why They Turn Brown in Autumn

Butch Bailey, Extension Associate II

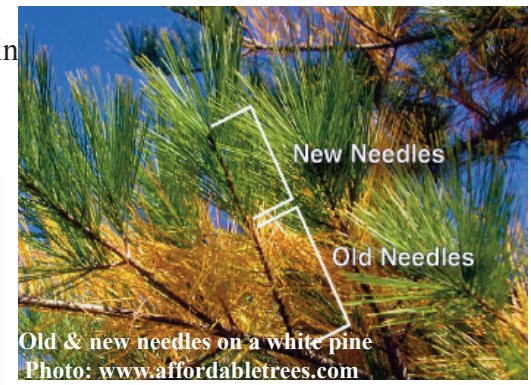
Check out the video on page 5

Deciduous trees grow new leaves in the spring which will last for the length of that growing season, usually seven to eight months in our part of the world. Then, come autumn, the tree will reabsorb what nutrients it can from its leaves (the removal of various nutrients is why they change colors in the fall) eventually dropping the leaves and staying bare for the dormant season. But what about our evergreen pines? Do they keep their needles for life? Do they shed them annually like our broadleaf trees? It turns out that the life-cycle of needles on our pines is a little more complicated than our broadleaf deciduous trees.

Every September I'm sure to get at least a few calls or emails from concerned tree owners about why their so-called evergreen pine trees are turning brown. To answer those questions, we need to understand the life-cycle of needles on our southern yellow pines. Each needle on a pine lives roughly one and a half years. Each spring when the pines begin to grow new tissue, they add new needles to the ends of each branch, roughly doubling the number of needles on the tree. These new needles are stuck out on the ends of the branches, out beyond the "old" needles. The tree uses both the old and new needles during that growing season. Then in the fall they reabsorb the nutrients from the old needles only and drop them. This is noticeable in late September and October as the portion of each tuft of needles closest to the trunk turns brown. The "new" needles - those that were newly grown the previous spring - stay on the tree all through the winter. In the spring, a new batch of needles will be grown on the ends of the branches and the cycle continues.

In the summer, pines have two ages of needles: one set a few months old (located on the ends of each branch), and another 15-18 months old (located on the trunk end of each branch), each doing photosynthesis. In the winter, all their needles are the same age – the older needles being dropped the previous fall.

When you look outside in the fall and see that the needles on your pines are turning brown closer to the trunk, there's no reason to worry. It might not have the wow-factor of maples and aspens, but it's our own bit of fall "color" here in the pine woods. Notice that I didn't say "through the dormant season." Our pines don't ever go into true dormancy. Any time the conditions are right, think of those warm, sunny winter days with temperatures in the high 60s and 70s, the tree will absorb sunlight just like it does in the spring.



Old & new needles on a white pine
Photo: www.affordabletrees.com

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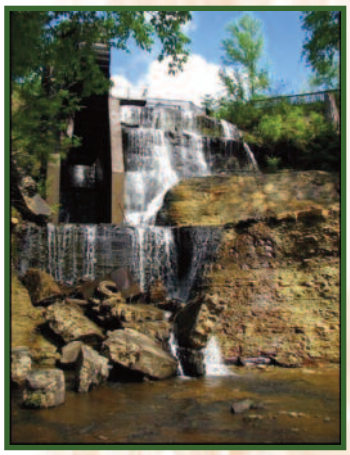
https//twitter.com/MSUExtForestry
See our blog at www.blogs.msucares.com/forestry

When we tug at a single thing in nature, we find it attached to the rest of the world

- John Muir



Dunn's Falls, Lauderdale County, MS
Photo: 2016 BMP Implementation Survey, MS Forestry Commission

Mississippi's BMPs

Mississippi's Best Management Practices Logo. Download Manual at: www.mfc.ms.gov/sites/default/files/Entire_bmp_2008-7-24_2.pdf

Photo: 2016 BMP Implementation Survey, MS Forestry Commission

Fire Lane Construction - a monitored forest management practice
Photo: www.totalearthworks.com

Streamside Management Zone (SMZ)
Photo: texasforestservice.tamu.edu

Mississippi Best Management Practices Compliance Survey

John Auel, Assistant Extension Professor

Best Management Practices (BMPs) were developed to ensure that forestry operations protect Mississippi's rivers, lakes and streams from pollution that could occur as a result of harvesting, site preparation, or prescribed burning. All foresters and loggers in the state are trained in using appropriate BMPs for the operations they are conducting. The Mississippi Forestry Commission (MFC) conducts compliance surveys every three years to evaluate the use and effectiveness of BMPs across the state.

BMP compliance is evaluated across eight different forest management situations; streamside management zones (SMZs), stream crossings, permanent roads, skid trails, site preparation, landings, wetlands, and fire lane construction. Within each classification, there are specific recommendations that must be met to conform to the water quality goals of that particular situation. For example, there are ten individual BMP recommendations necessary to ensure the integrity of SMZs. Each of the ten are evaluated for compliance. Those scores are averaged to calculate the overall score for SMZs. Each of the other management situations are calculated similarly based on their specific BMP recommendations. Each of the eight scores are then averaged for an overall compliance score for the state.

Harvested sites are randomly selected for evaluation without respect to ownership. The 2016 survey included 253 tracts from nonindustrial private landowners, forest industry lands, federal lands, and state lands located in 69 counties. The only criteria for selection of a property is that it must be larger than 10 acres and had to have been harvested within the previous two years.

Overall compliance for Mississippi in 2016 was 96% . This survey is the 5th since 2003. Each survey has shown improvements in all eight categories since then. The individual compliance rates are presented in Table 1.

Table 1: BMP Compliance Rates for 2016 by Category

Best Management Practice	Compliance Rate
Streamside Management Zones	96%
Stream Crossings	97%
Permanent Roads	97%
Temporary Roads/Trails	92%
Site Preparation	98%
Landings	98%
Wetlands	100%
Fire Lane Construction	94%
Overall Compliance Rate	**96%**

Mississippi Forestry Commission. 2016. 2016 BMP Implementation Survey for Mississippi. Mississippi's Voluntary Silvicultural Best Management Practices Implementation Monitoring Program. 25 pp.

Mississippi Timber Price Report

MISSISSIPPI STATE UNIVERSITY EXTENSION

2nd Quarter 2017

The Mississippi Timber Price Report (MTPR) is a quarterly survey of stumpage timber prices in Mississippi. It is developed to provide a picture of timber market activity. The state average prices for common forest products are listed. Values given are offered as a guide to help individuals assess the fair market value of their timber. The average price should not be applied as the exact value for a particular tract. This report is updated quarterly and available at extension.msstate.edu or by contacting your local county Extension office.

QUARTER'S PRICES: 2nd Quarter 2017 Stumpage Prices/Ton (Source: Timber-Mart South)

Pine Sawtimber - $22, Pine Chip-N-Saw - $15, Pine Pulpwood - $7, Mixed Hardwood Sawtimber - $39, Hardwood Pulpwood - $7

NOTE: Prices vary widely across the State; thus, average prices presented here may not reflect your local market.

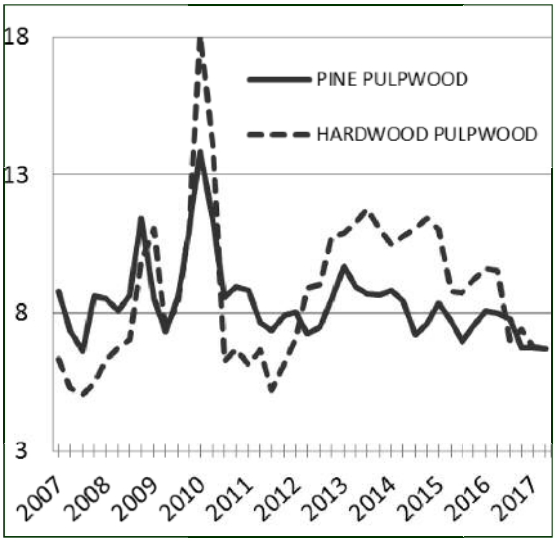
WHAT'S MOVING PRICES - TRENDS:

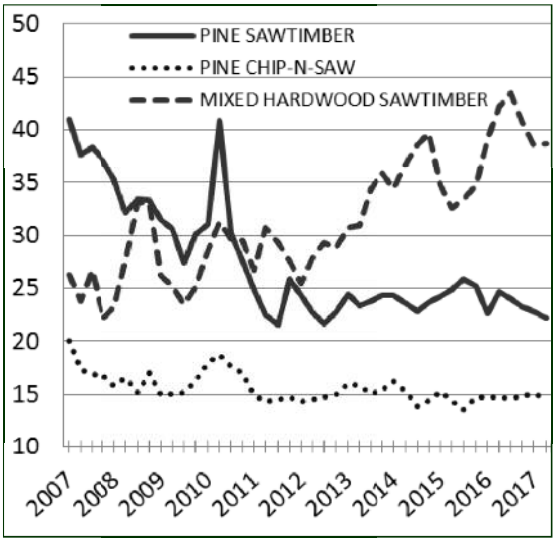
Prices for all products decreased during the 2nd quarter with the exception of mixed hardwood sawtimber which slightly increased.

Stumpage prices for pine sawtimber decreased 2.8%, pine chip-n-saw decreased 2.9%, and pine pulpwood decreased 0.6% from the previous quarter. Stumpage prices for mixed hardwood sawtimber increased 0.3% and hardwood pulpwood decreased 1.2% from the previous quarter.

TIME SERIES:

Average Mississippi Pine and Hardwood Stumpage Prices
1st Quarter 2007 through 2nd Quarter 2017
(All prices in $/TON)





Timber-Mart South (TMS), Inc. has more detailed data available by subscription that contains values for other timber products not included in this report.TMS is compiled and produced at the Center for forest Business, Warnell School of Forest Resources, University of Georgia, under contract with the Frank w. Norris Foundation, a non-profit corporation serving the forest products industry. See http://WWW.TMART-SOUTH.COM/ for information on subscriptions.

Please don't forget to check out our Blog at www.blogs.msucares.com/forestry and sign up for email notices!

Delta Hardwood Notes

So What's the Deal with Nuttall Oaks?

Brady Self, NWMS Extension Forestry Specialist

Check out the video on page 5

Nuttall oak (aka Texas red oak) (*Quercus texana/Quercus nuttallii*) is one of, if not the most commonly planted oak species in hardwood plantations in the South. The wood of Nuttall oak is typically of lower quality than some other species of red oak used in plantation efforts with persistent branches being the primary culprit. Branching angle tends to be steep and self-pruning is slow, leading to the larger, more prevalent knots this species is known for. However, there are positive characteristics associated with Nuttall that encourage landowners to include it in their plantings.

Nuttall oak is an excellent mast producer that produces acorns relatively early (as young as at 10 years of age). The species is the fastest growing red oak native to the South, making establishment in areas with high levels of vegetative competition both easier and cheaper than some other oaks. These two factors make the species an excellent choice for those forest owners interested in planting oaks for wildlife. In addition, while some oak species are extremely site specific and have very narrow bands of site suitability, Nuttall oak can be successfully planted across a very wide range of sites. This wide range of site suitability has resulted in heavy planting of the species in many plantations enrolled in cost share programs.

While Nuttall can be successfully planted on a variety of sites, it grows best on heavy, poorly drained, alluvial clay soils in the Mississippi Delta region. Unfavorable site conditions include: pH levels of less than 4.0 or greater than 7.5, water table depths of less than one foot or greater than ten feet, and continuous flooding or waterlogged conditions year round. In addition, establishment on compacted soils and those with inherent pans or artificially created plow pans may be problematic unless some form of mechanical site preparation is used to correct these problems.

Despite lower inherent wood quality, Nuttall oak may be an appropriate species to consider in your planting efforts. As with all hardwood species, careful site analysis of your planting area is necessary prior to planting. For more information on species/site relationships, please read Mississippi State University Extension publication 2004 "Bottomland Hardwood Management: Species/Site Relationships."

Nuttall Oak is an excellent mast producer & therefore a good choice for those managing for wildlife habitat
Photo: wildlifeheritagetreenursery.com

Freshly planted Nuttall Oak seedling in a Forestry Extension Research Plot
Photo: Brady Self

RESOURCES & UPCOMING EVENTS

October, 2017

"TREES IN THREE"
New Forestry Extension YouTube Short Videos

Pine Needles - Why They Turn Brown in Autumn - Butch Bailey: Click HEREto watch.
Delta Hardwoods: So What's the Deal with Nuttall Oaks? - Brady Self: Click HEREto watch.

Check out the short courses offered by Extension Forestry upon request. Contact the Extension County Agent in your area about scheduling one or more for an enjoyable and educational experience.

Short Courses

1. Profitable Marketing and Harvesting of Timber
2. Forest Regeneration: An Investment in the Future
3. Managing the Family Forest in Mississippi
4. Having Your Timber and Wildlife Too
5. How to Manage Your Pine Plantation
6. Introduction to Hardwood Management
7. Improving Pine Forest Revenue Using Simple Improved Seedling Selection
8. Understanding Forest Management as an Investment
9. Forest Herbicides
10. Longleaf Pine Management
11. Income Taxes and the Family Forest
12. Management Succession "Ties to the Land"
13. Introduction to Biomass, Bioenergy, and Biofuels
14. Extreme Weather Events and Risk Management Options for Family Forests

Other Locations for Forestry Extension Information

http://extension.msstate.edu/natural-resources/forestry- Events
www.facebook.com/MississippiStateUniversityExtensionForestry
www.blogs.msucares.com/forestry, OR, ... twitter.com/MSUExtForestry

EXTENDING KNOWLEDGE SOLVING PROBLEMS

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MSU-ES Region Map