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From the Coordinator's Desk

by James Henderson, Extension Specialist

Another year has passed and soon your local county forestry associations will be planning quarterly meetings and possible forestry short courses, workshops, and field days. I encourage you to talk with your local CFA leadership and your local county Extension agent and consider having your county host one or more Extension forestry short courses from a long list of possible subjects.

We can offer educational programs on a range of subjects that include how to profitably market a timber sale, establishing a new forest after a timber harvest, pine plantation thinning, hardwood forest management, herbicides, managing invasive species, income tax implications of forest ownership, and many others. While we can offer a short course in great detail on anyone of these subjects, we also offer an “overview” short course than can provide information on several specialized forestry topics of great benefit to forest landowners. We have just such a course titled “Managing the Family Forest in Mississippi” that comes along with a 100-page full-color book with the same title that provides an overview of major forestry topics of interest to family forest owners. This may be a good option for your county forestry association.

To learn about other upcoming educational forestry programs, visit our website. And if you haven’t already, we encourage you to visit our blog and sign-up for email alerts. This way you will always know about upcoming forestry education events conducted anywhere in the state. We also use the blog to alert you about new publications and the quarterly timber price report. If you haven’t done so already, please visit the blog and join our email list.

Feature Article

American Chestnut – Survival or Extinction

by: Randall .J. Rousseau, Extension Specialist

Today as we worry about extreme weather conditions, global climate change, and invasive species, one of North America’s most magnificent tree species, the American chestnut, continues its near 100 year-old struggle to survive. The struggle began in 1904 when a fungus was accidentally moved from Asia to New York. This fungus, known as the chestnut blight, ran unchecked through the vast range of American chestnut that covered over 200 million acres of the eastern United States. By the late 1950s an estimated 4 billion American chestnut trees were reduced to snags and stumps. But the tree was not ready to give up the fight and has continued to sprout from the stump only to have the growing tree live for a short period before once again dying back. This struggle has been on-going for some 80 years and today time is running out. However, the restoration of the American chestnut has not been without its advocates, such as The American Chestnut Foundation (TACF), various universities, and the U.S. Forest Service. Today, these groups work closely with the TACF in leading the charge to hopefully restore this once great species. What many people in Mississippi don’t realize is that American chestnut was once found along the east-central part of the state from Corinth, MS to south of Hattiesburg, MS. This population represents the

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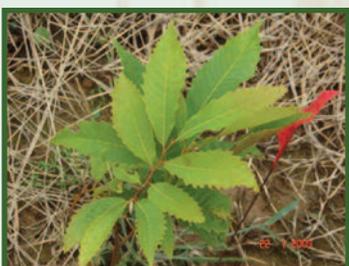
"The last word in ignorance is the man who says of an animal or plant: 'What good is it?'"
 — Aldo Leopold



An indigenous American chestnut found near Aberdeen, MS. Shows how chestnut blight fungus re-emerges and infects trees that have resprouted. In the top photo the sprouts on the left have already succumbed.



American chestnut - natural sprout - North Mississippi (photo - W. Nance)



American chestnut seedling - Holly Springs, MS - good leaf characteristics (photo - R. Rousseau)

The Overstory

Feature Article (continued from Page 1)

extreme western part of chestnut’s natural range and as such probably holds a unique complex of individuals, which may be far different from trees of more northern areas and higher elevations. If our proposal* goes through, Mississippi State University will also join in the fight to restore the American chestnut. Our proposal is focused on collecting as many probable American chestnut trees that have continued to re-sprout following repeated chestnut blight attacks and determining their specific genetic fingerprint. This will allow us to verify the parentage of the tree since we know that American chestnut will hybridize with both Alleghany chinkapin and Chinese chestnut. Our goal is to locate and conserve those trees that are determined to be pure American chestnut. We will also use biotechnology tools to compare the Mississippi population to that of other populations located further north and at higher elevations. This comparison will allow us to evaluate the genetic separation among numerous American chestnut populations. This biotechnology work will hopefully lead to American chestnut trees that may provide greater blight resistance and better southern adaptability.

* (Proposal: Randall Rousseau & Warren Nance to Monsanto and the TACF)

Focus on Best Management Practices: Water Diversion Structures

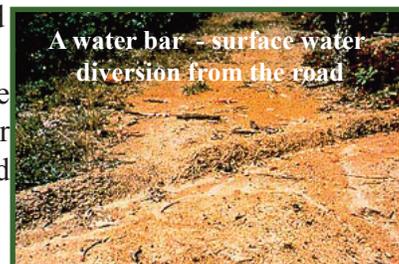
by John B. Auel, MS PLM Program Coordinator

The wet winter weather is upon us. Loggers and timber buyers will move to winter tracts that are higher and dryer to take advantage of days when logging is possible in these wetter times. Haul roads and skid trails will need to have adequate protection to control erosion and keep sediment out of streams, rivers, and lakes. The Mississippi Forestry Commission publication *Best Management Practices for Forestry In Mississippi*, provides information about the best methods to protect water quality through the use of water diversion structures during and after harvests.

A water diversion structure moves water off of the road and into vegetation. Diverting the water into vegetated areas slows the speed of the runoff and allows the sediment it is carrying to filter out before the water reaches a stream. Permanent roads and temporary haul roads can be protected using turnouts and water bars. A turnout is an extension of a drainage ditch along the side of the road. This feature will turn water into vegetation. These are used on permanent roads and open haul roads to control runoff. If the haul road is to be closed after harvest, waterbars are the most effective method of control. A waterbar is a mound of dirt angled across the road to divert water. If the road already has turnouts, the waterbars are placed at the turnouts.

Skid trails are always temporary and should be closed out with waterbars after harvest. But during harvest, a good practice is to put slash (tops and branches from the loading area) on the trails during use. This is the most effective method of runoff control. The machines work the slash into the top layer of soil as they operate on the trails. This stabilizes the soil and provides excellent erosion control.

For more information, you can get a copy of the MS BMP Manual through your county forester or county Extension Agent. You can also download a copy from the MS Forestry Commission Website.



A water bar - surface water diversion from the road



Mississippi Timber Price Report

3rd Quarter 2015

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 MSUCares.com/forestry, or by contacting your local county Extension office.

QUARTER'S PRICES: 3rd Quarter 2015 Stumpage Prices/Ton (Source: Timber-Mart South)

Pine Sawtimber - \$26, Pine Chip-N-Saw - \$14, Pine Pulpwood - \$7,
Mixed Hardwood Sawtimber - \$33, Hardwood Pulpwood - \$9

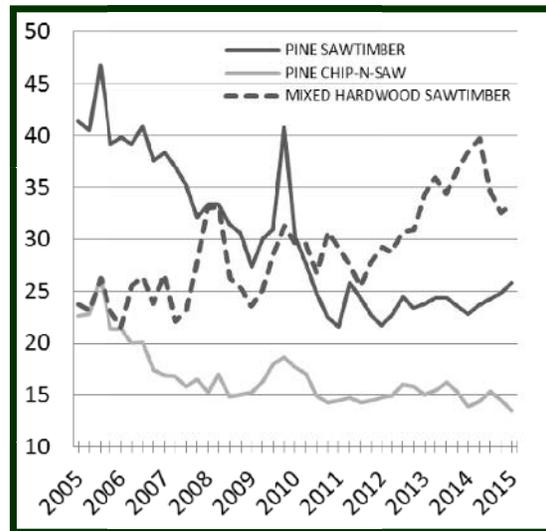
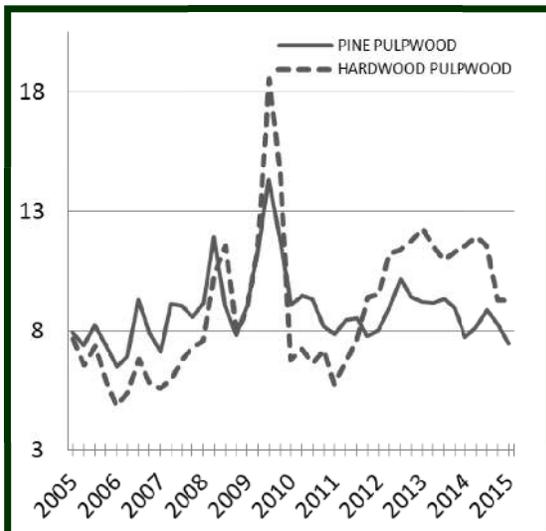
NOTE: Prices vary widely across the State; thus, average prices presented here may not reflect your local market.

WHAT'S MOVING PRICES - TRENDS:

Prices for all sawtimber products increased during the 3rd quarter while pulpwood and pine chip-n-saw decreased. Stumpage prices for pine sawtimber increased by 3.9%, pine chip-n-saw decreased by 6.4%, and pine pulpwood decreased by 9.8% from the previous quarter. Stumpage prices for mixed hardwood sawtimber increased from the previous quarter by 2.5% while hardwood pulpwood was relatively unchanged decreasing by 0.3%.

TIME SERIES:

**Average Mississippi Pine and Hardwood Stumpage Prices
3rd Quarter 2005 through 3rd Quarter 2015
(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.

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

Delta Hardwood Notes

by Brady Self, Extension Specialist

Problems with management of hardwood plantations (Part 2)

In the last edition of Delta Hardwood Notes, we left our discussion of hardwood plantations after a brief introduction detailing establishment problems in early planting efforts of CRP, WRP, and other afforestation programs. Low planting densities and the planting of only a single species on any given site has resulted in hundreds of thousands of acres of very low quality hardwoods from a commercial forestry standpoint. There are a number of factors, including planting species unsuited to the site, low seedling survival, and lower vigor due to competition, all of which can lead to reduced commercial stem quality in plantations. However, we are going to concentrate on persistent limbs.

Hardwood lumber is graded based on the presence/absence of defects. As defects/knots increase, overall grade and quality of sawn lumber decreases. Subsequently, increased limb scar defects result in decreased log grades and value (Figure 1). This proves problematic in most established hardwood plantations. As these stands age, an unacceptably high frequency of persistent limbs can be observed. Trees grown in these settings do not self-prune well when compared to trees grown in natural stands. This is primarily a function of aforementioned low planting densities. When planted in monocultures using wide spacings, oaks tend to hold branches much longer than when grown in closer proximity to other stems. In addition, a large proportion of seedlings planted in hardwood efforts were (and are) Nuttall oak (Figure 2). Even in natural stands, Nuttall is known to hold branches longer compared to other oaks. Moreover, Nuttall oak possesses a steeper branching angle compared to other oaks. These two factors result in the species exhibiting a higher incidence of longer lasting and more severe limb defects. Make sure to check the next installment of The Overstory for the continuation of this series.

Mystery of the Yellow Bush Part II

by Don Bales, Extension Specialist

In the last issue, we posted pictures of something we do not see every day in the forests of Mississippi (Figures 3 and 4). In a cutover in Lamar County, we found this “bush” that was a brilliant yellow color. As the leaves matured, the older growth finally started to take on some green color, and that color is due to chlorophyll production. We did have quite a number of readers contact us concerning this article!

The stump sprouts of a Sourwood (*Oxydendrum arboreum*) produced the yellow color, but why is the Sourwood the only tree in the cutover that produced this brilliant yellow color? I asked Dr. Jeffrey Dean, who offered a very plausible explanation. Dr. Dean is Professor and Head of the Department of Biochemistry, Molecular Biology, Entomology & Plant Pathology at Mississippi State University. His answer follows:

“Definitely sounds like an issue of rapid early growth of photosynthetic tissues outstripping the plant’s ability to provide nitrogen. Although in uncut trees some nitrogen gets picked up and transported from the roots for the spring flush, the vast majority is actually recycled from storage proteins that accumulate in the bark phloem tissues as the past season’s leaves senesced the preceding fall. Most of that nitrogen was removed from the system when the tree was cut. As the season progresses, the roots in the cut tree will do their best to pick up as much nitrogen as they can, and as that nitrogen makes its way to the leaves, they will green up as chlorophyll structures are synthesized. You are correct that the large root system will drive the stump shoots to grow bigger and faster than they would if the roots were more limited (a response to growth hormones normally produced in roots), and this exacerbates the tendency of leaves to be yellow, and lengthens the time necessary for the root system to accumulate enough nitrogen to synthesize a normal amount of photosystem proteins to make each leaf green.” He also surmised that there must be something unique about sourwood DNA because not all hardwood trees do this.”

According to Dr. John Hodges, Professor Emeritus of the Department of Forestry at MSU, it is occasionally seen in other species such as hickory but to a lesser extent. In September of this year, the yellow color was fading and the tree appeared to be in stress. I will try to locate it next summer to see if it survives. For more information on this beautiful tree of the upland forests in Mississippi, visit http://www.na.fs.fed.us/pubs/silvics_manual/volume_2/oxydendrum/arboreum.htm.



Figure 1. Quality degradation from epicormic branching (Dr. John Hodges, Professor Emeritus, Mississippi State University)



Figure 2. *Quercus texana* - Nuttall oak: Leaves (www.horticulture.lsu.edu)



Figure 3. Leaves of *Oxydendrum arboreum* (Don Bales, MSU Forestry Extension)



Figure 4. *Oxydendrum arboreum* sprouts from the stump of a cut tree (Don Bales, MSU Forestry Extension)

Mystery of the Yellow Bush

Oxydendrum arboreum
or
Sourwood

Did anyone ID this from the photo last quarter - or know the explanation?

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