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Department of Forestry, Wildlife and Fisheries

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A Forest Certification Workshop for Family Forest Owners

David Mercker, Extension Specialist, Forestry

Owners of family forests are invited to attend one of five forest certification workshops located throughout Tennessee. The events will occur August 17–25, 2009, and will explain the benefits and process of forest certification through the American Tree Farm System.

Forest certification means that forests are managed in a sustainable manner and that trees are harvested with environmentally sound practices. These management practices are certified by objective third parties. The American Tree Farm System is one source for family forests to become certified. Since 1941, the American Tree Farm (ATF) System has been active in recognizing private landowners who excel in forest management. Dr. David Mercker, University of Tennessee Extension Forester, will address the following at the workshops:

- Overview of the American Tree Farm System
- Explanation and benefits of forest certification
- The process of certifying your family forest
- The emerging carbon credit markets

Dinner for the participants will be provided at no charge, compliments of the Tennessee Forestry Association Tree Farm Committee. However each location is limited to the first 40 to register. The events will be from 6:00-8:30. Dates and locations include:

August 17 - Jackson University of Tennessee County Office Bldg., 309 N. Parkway
(Note: this is not at the Experiment Station)
August 18 – Lawrenceburg – “Taste of Town Restaurant” - 204 East Gaines Street
August 20 – Decherd - Farm Bureau Bldg., 1401 Nicholson Street.
August 24 – Waverly – Natural Resources Conservation Service, 234 W. Blue Creek Rd.
August 25 – Cookeville – Hyder/Burks Agricultural Pavilion, 2390 Gainesboro Grade.
To register: Please call the Tennessee Forestry Association at 615-883-3832 and state you wish to register for the “Tree Farm Workshops.” Please give the location you will be attending and number of participants (limit 3 per party). Please register 3 days in advance of each workshop. These events are sanctioned by the University of Tennessee Extension, the Tennessee Forestry Association, and the Tennessee Dept. of Agriculture Forestry Division.

Enhanced Tax Incentives for Conservation Easement Donations Set to Expire December 31, 2009

Larry Tankersley, Extension Forester

In 2008, Congress enacted significant changes to the Federal income tax incentives for conservation agreement donations. The changes:

- Raised the deduction a landowner can take for donating a conservation agreement from 30% of their income in any year to 50%;
- Allowed qualifying farmers and farm corporations to deduct up to 100% of their adjusted gross income; and
- Increased the number of years over which any donor can take those deductions from 6 years to 16 years beginning the year the donation is made.

However, the law stipulated that these changes will expire on December 31, 2009. While Congress may act to extend these changes, it may be prudent for a landowner to act before the end of the year to take advantage of this tax break if he/she is interested.

--George Smith, Interim Dean, UTIA

1099-S, Required for Lump-Sum Timber Sale

Larry Tankersley, Extension Forester

The IRS wants timber buyers to report amounts paid to timber sellers during lump-sum transactions via IRS Form 1099-S (Proceeds from Real Estate Transactions). A copy is sent to the seller by January 31 of the year following the sale. The start date for this regulation is all transactions completed after May 28, 2009. Look for the announcement at timbertax.org under "new developments".

Individuals and firms should check with their tax advisor to see how these changes in Treasury Regulations and the Internal Revenue Code(IRC) will affect them.

It should be noted that Form 1099-S requires identification numbers. Sellers should be prepared to provide their Social Security number or other Federal Taxpayer Id. to buyers. The IRS suggests that buyers might want to request a taxpayer Id number via Form W-9 (Request for Taxpayer Identification Number and Certification).

Let us know if we can explain this further
This past spring, in May, the following was reported in HAT:

“Don’t expect any consistent and much welcomed price rebound until housing starts begin to increase. All other economic indicators for the hardwood industry play second to housing starts. It’s all about cabinets, flooring, furniture, trim and other accessories. Demand for these products only comes after houses are started. Speculative buyers of standing trees will be more willing to enter the market when housing starts resume a more favorable pattern. Essentially they will once again bid on trees based on where the market appears to be headed, not where it’s at.”

Shortly after reporting this, an article emerged that addressed the signs of recovery for the timber industry (Pelkki, M. and G. Clippert, 2009). In it, the authors agree that new housing starts are vital to the industry, but such starts aren’t likely to begin as long as existing housing inventory remains high. Housing inventory is the number of existing homes (already) available for sale at the end of each month.

Welcome news is that housing inventory levels are steadily trending lower from last summer’s all-time high (Hanley Wood Market Intelligence, July 2009). Inventories have declined 15 percent, from 4.5 million units in May 2008 to 3.8 million units in May 2009. This latter figure represents a 9.6 month supply. Measurable new housing starts should pick up when the inventory level reaches 2.5 million, or slightly less than an 8 month supply. After this milestone is reached, hardwood stumpage prices are expected to begin a gradual recovery – perhaps a lag time of 6 – 18 months. Tempering this, unfortunately, is that the average size home in the future is expected to decline, for reasons associated with retirees, smaller families and environmental consciousness.

We’re not “out of the woods yet” - - - rather a long way from it. However, if stabilization is the first sign of recovery, we appear to have achieved step one. HAT will keep you posted on the housing inventory level and months of supply. Remember, 2.5 million units and an 8 month supply . . . these are step two.

Criteria for Hardwood Veneer Trees

Criteria for qualifying as a fine face veneer tree can be condensed into one precondition . . . top quality. Top quality is related to the amount and extent of grade defects found in the lower trunk of the tree. Typically veneer logs are only produced on the butt log (first log cut from the lower tree trunk). Grade defects are abnormalities that lower quality by reducing utility and cannot be removed by adjustments in scaling; they are permanent. Two types of grade defects are recognized: exterior and interior.

Exterior grade defects include abnormalities on the bark surface that can be seen. They indicate interior degrade, and include: bumps, bulges, buttswell, knots, lesions and sweep (or curve). Holes (both large and very small, including bird peck) are also exterior grade defects, as are seams caused by lightning, frost or drought. Perhaps the most difficult exterior grade defect to detect is dormant buds. These are very small recessed buds that exist along the trunk from which small sprouts (called epicormic branches) will periodically flush. If logs with dormant buds are processed into veneer slices, the resulting veneer slice will be of lower value.
Interior grade defects are abnormalities that are typically not apparent on the exterior bark surface but that become visible on the end when the tree is felled and “bucked” into logs. The most common interior grade defect noticeable from the end of the log view is discoloration such as staining or streaking of the wood. Interior defects also include: double pith (two-hearts resulting from two stems growing together when they were young), loose heart (separating of the annual growth rings), and grease spots, soak or pin worms (all results of poor site quality or mismanagement of the forest).

Internal natural wood characteristics such as texture and color are also factors. Premium veneer logs must have a well-centered heart and an even-grain texture, meaning that the annual growth rings are relatively evenly spaced, not fluctuating between rapid and slow growth. The wood color should be consistent, without mineral or fungal streaks. It should be noted that there are limited markets for off-colored, lower quality veneer wood.

Interior grade defects are very difficult to detect. Proficiency comes only after years of experience. Seasoned foresters, veneer buyers and loggers are often surprised by the presence of internal defects once harvested, even though the tree’s exterior signals appeared safe prior to the harvest. Judgment on interior wood quality often can be associated with the characteristics of the forest. Forest clues can signal poor internal wood quality. For example, evidence of heavy woodlot grazing or ground fires indicate an increased potential for lower grade veneer. Poor sites also indicate high risk and typically exhibit shallow topsoil, droughty conditions, poor internal drainage, and are often found on southern and western slopes. Further, forest stands that are overly-mature are also high risk for interior grade defects. Overly-mature forests have trees with many broken tops, stem holes or swollen (often hollow) bases. Irregular bark pattern will often signal damage, indicating a site limitation or that tree growth has been altered by a pathogen or environmental stress such as fire, ice or wind.

Specifications relative to log length and diameter must also be met. Markets for quality face veneer logs require a minimum of 8 feet in length (10 to 12 feet for top price) and prefer at least a 16 inch diameter inside the bark (dib) at the small end of the log. This is a general guide. Many veneer mills have their own specifications.

Most hardwood trees never qualify as veneer. Normally only 1-2 percent of the board foot volume in a hardwood timber sale is veneer. Yet that same volume could account for as much as 20 percent of the total sale value. Thus, mis-grading a veneer tree as a standard lumber tree, could be very costly.

A summary of the characteristics of the ideal veneer log includes: straight and round, without defects on the log surface, with a centered pith, having uniform color and growth rate, and without mineral deposits. Landowners are advised to consult with an experienced forester prior to selling their veneer trees. A directory of consulting foresters operating in Tennessee can be found at: [http://www.state.tn.us/agriculture/publications/forestry/cfdirectory.pdf](http://www.state.tn.us/agriculture/publications/forestry/cfdirectory.pdf)

Is “Going Paperless” Good for the Environment

Adam Taylor, Assistant Professor, Forest Products

The growth of population of the globe and the use of resources has exploded over the last century and show little sign of slowing. So it is reasonable to examine the choices that we make as individuals to see if there are ways that we can live our lives that result in less impact on the environment. However, often the choices are not as simple as they might at first appear.

For example, reducing our use of paper seems like a “no-brainer”: less waste paper, less energy required to make the paper, and less need to harvest trees.
However, there is more to consider. First and foremost, we need to ask what - if anything- will take the place of the a paper. For example, if instead of a paper newspaper, we read a newspaper on-line, we may be reducing our use of paper but actually increasing our use of other resources. It takes a lot of energy to manufacture and operate the computers that we use to read our “paperless” (electronic” newspapers. Furthermore, a lot of renewable bio-energy (wood residues) is used to make paper, whereas the electrical power for computers comes almost entirely from non-renewable resources such as cola. Finally, paper is readily recyclable and is made from a renewable resource (trees). This is not true of electronics. More information on this topic can be found at this website: http://www.internationalpaper.com/PDF/PDFPaper/Environmental/DTE4PX.pdf

“Life Cycle Assessment” (LCA) is a technique that can help to make rational environmental impact comparisons between products that serve the same function. LCA accounts for all the inputs and outputs related to the production, use and disposal of products. This “big picture” analysis can help consumers to make smarter choices.

Many LCA studies have been done on various wood products. The results consistently show that using wood has less environmental impact than using concrete, steel or plastics. So, while consuming less overall will do the most to reduce our environmental impact, using renewable resources like wood is usually a better choice than non-renewable substitutes. So, going paperless can be good for the environment. But only if we don’t replace that paper use with something else.

Wildlife Management Calendar for August
Craig Harper, Professor, Wildlife Management

Wildlife Notes

Bluebirds are hatching their third nests
Young bats learn to fly
Chipmunks are bearing their second litter
The bobwhite population is probably at its annual peak in August
American kestrels begin migrating into Tennessee by late August

Habitat Management

Prepare new cool-season plots for fall planting
- spray existing sod with glyphosate herbicide (such as Roundup—2 quarts per acre)
- amend soil according to soil test recommendations
- incorporate (disk or plow) lime and fertilizer into root zone of plot
- refer to A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense, PB 1769, for additional information on seeding rates and management recommendations

Spray and/or mow perennial forage food plots for weed control if necessary
- refer to Appendix 2 in A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense, PB 1769, for herbicide recommendations
Spray undesirable woody plants in early successional habitat
- multiflora rose, privet, sericea lespedeza, sweetgum, green ash, and Ailanthus are examples of undesirable woody plants in early successional habitat
- Roundup, Garlon 3-A, Arsenal, Cimarron, and PastureGard should be considered
- refer to Appendix 4 in Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South, PB 1752, for additional information

Begin silage chopping or strip-mowing dove fields as they mature

Top-sow winter wheat in late August to attract doves and provide forage for white-tailed deer, wild turkeys, and other wildlife through fall and winter

Burn old-fields to stimulate forbs and reduce grass dominance (late August)
- Smokey Bear is 65 years old this month. Let’s pray he will retire!

Don’t mow native grass hayfields past mid-August
- winter cover provided by native grasses is the primary usefulness of native grass hayfields for wildlife
- if you hay past mid-August, there will not be enough regrowth to provide sufficient winter cover
- refer to Chapter 3 in Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South, PB 1752, for additional information on using native warm-season grasses as forage for livestock

Plant firebreaks (late August) and other disked strips not left for natural vegetation
- annual cool-season grains (such as wheat and oats) along with annual legumes (crimson and arrowleaf clover and Austrian winter peas) are excellent choices

Begin flooding fields for migrating blue-winged teal and local wood ducks

Finish planting wild millet and buckwheat around beaver sloughs and other areas that will be flooded in November for ducks

Construct/repair dikes and water-control structures for flooding fields/woodlands for waterfowl this fall/winter

Wildlife Damage/Population Management

Conduct survey for white-tailed deer using infrared-triggered cameras
- one camera per 100 – 150 acres
- prebait with trace mineral salt and shelled corn for one week
- after prebait week, continue baiting sites and taking pictures for 2 weeks
- refer to Quality Deer Management: Guidelines for Implementation, PB 1643, for information on calculating deer density estimates
If bats are in your attic, don’t close them up now
- young are still present, but will be flying soon
- if you close them up, they will die and produce a terrible odor
- maternal colonies will be leaving for hibernation before too long
- close all outside openings to attics as soon as the bats leave

Blackbirds begin flocking later in August
- don’t allow them to roost in the trees in your yard; if they start, they’ll form a habit
- repel them with noise makers consistently until they stop returning in the evening
  (shotguns, firecrackers, banging metal pans together)
- be persistent

Refer to *Managing Nuisance Animals and Associated Damage Around the Home*, PB 1624, for additional information on wildlife damage management.

**Timber Stand Improvement (TSI) Methods**
or Controlling Unwanted Individual Trees

*Wayne K. Clatterbuck, Professor, Forest Management and Silviculture*

Controlling individual unwanted trees in forest stands is one method of improving the value of future forests. In mixed hardwood stands, species differ considerably in value. Even within a species, individual trees differ in quality. Control of these inferior or lower valued trees allows more growing space and resources for the more valuable trees to grow and become larger in size at an earlier age.

Individual control of stems is a mechanical or chemical weeding operation that eliminates undesired trees from competing for site resources. Both methods have advantages and disadvantages. The risk of personal injury is a safety problem with mechanical methods. Injury to desirable plants is a potential problem with chemical methods through “flashback” ---- herbicide uptake by untreated trees through root grafts, herbicide exuding from the roots or herbicide spillage.

Several techniques are practiced in controlling undesirable trees: girdling, frilling, spaced cuts/tree injection, cut stump and basal spraying

**Girdling**

An ax (small diameter trees) or a saw is used to cut through the bark and into the wood around the entire stem of the tree. Usually the girdle is much wider when using an ax than a chain saw. Often a double girdle is applied with a chain saw, 2 to 4 inches apart. The double girdle is more effective in reducing the likelihood of the cambium growing over or bridging a single narrow chainsaw girdle.

**Advantages**

No specialized equipment needed (use of ax or chain saw)

**Disadvantages**

Tendency for the tree to bridge a narrow girdle
Sprouts will occur below the girdle
Some species such as dogwood, red maple, blackgum, hickory,
  and beech are difficult to kill
Girdling with a chain saw is laborious and hazardous
Frilling (girdling plus herbicide)

Frilling is a variation of girdling. With an ax, hatchet or similar tool, a series of downward cuts are made around the tree. The bark and wood are left as a flap into which herbicide is added to improve the effectiveness. Since the cut is fairly narrow, the addition of herbicides helps prevent the tree from growing over the girdle. Chain saws can also be used to make the girdle cut. Often the herbicide is applied from a backpack sprayer, hand sprayer, or squirt bottle.

Advantages  
More effective control than girdling alone  
No specialized equipment required  
Can be done throughout the year

Disadvantages  
Frilling with an ax or chainsaw is laborious and hazardous  
More expensive and time consuming than girdling alone

Spaced Cuts/Tree Injection

Spaced cuts are made around the stem with an ax, hatchet or tree injector. Small amounts of herbicide are added to the cuts. This process is similar to frilling except the cuts do not overlap, so labor and herbicide usage are reduced. The cuts are one to two inches wide and are spaced around the trees at about one inch intervals. A small amount of herbicide, usually one to two millimeters, is added to each cut.

Advantages  
Faster and more complete control than girdling or frilling  
Less labor and herbicide than frilling

Disadvantages  
Erratically spaced cuts result in incomplete control  
Injections during periods of rapid sap flow (spring) reduces

Effectiveness  
Use of ax is hazardous

Cut Stump

Cutting undesired trees has immediate visual and release effects. Whether done with an ax or a saw, the stump will sprout if the cut surface of the stump is not treated with herbicide immediately after cutting. Stump sprouts can be competition for resources when adjacent to desirable trees. The herbicide should be applied immediately after cutting to the cambial area of the stump, where the bark and the wood meet. The entire stump does not need to be treated.

Advantages  
Immediate visual and release effects

Disadvantages  
High costs relative to benefits  
Use of chain saws or axes can be hazardous
Basal Herbicide Spray

Spraying the lower portion of tree stems with an herbicide mixed with an oil carrier is an effective method of controlling undesirable stems that are less than 4-inches in diameter. The oil carrier is used to stick-on and penetrate the bark. The herbicide/oil mixture is applied to the lower 12 to 18 inches of the stem in sufficient quantity to wet the surface, but not to the point of runoff. Generally the thicker the bark, the less control with basal herbicide sprays. Thus, this technique is more effective on trees less than 4 inches in diameter. With some species, the entire stem should be banded with spray for effective control. Otherwise, the portion of the stem without the spray will continue to allow stem conductance, i.e., herbicide spray does not spread to non-applied areas. Application to only 50 percent of the basal stem is effective for other species because the herbicide does spread throughout the tree.

Advantages
Effective year around
Cost effective for treating small stems

Disadvantages
Working with an oil carrier may be undesirable
Only can be used on stems less than 4 inches in diameter

The cost of TSI or individual tree control depends on the number and size of trees per unit area to be treated. The greater the number (usually smaller diameters) or the larger size of treated trees will determine the cost. Not every undesirable tree should be treated. Only those undesirable trees that are affecting or in direct proximity (adjacent) to desirable trees should be considered for treatment. The goal is to give the better trees the resources they need to grow at a faster and quicker rate such that the TSI treatment will pay for itself through the better growth of desirable trees than would otherwise occur without the TSI treatment.

Adapted from: Central Hardwood Notes 6.10, USDA Forest Service, North Central Forest Experiment Station

Herbicides Recommended for Timber Stand Improvement (TSI) and Crop Tree Release (CTR) Treatments in Hardwood Stands
Wayne K. Clatterbuck, Professor, Forest Management and Silviculture

The herbicides listed below are commonly used to deaden trees during TSI and CTR operations. The herbicides are listed to help you determine the best herbicide to meet your management objectives. **Read the entire label before using any herbicide.** The label contains information for use of the herbicide, procedures for application, and personal and environmental safety considerations. The effectiveness of the herbicide in controlling different species and species resistance to the herbicide is described on the label. When to apply the herbicide for best effectiveness is also listed. Due to the potential for herbicide splash with herbicide application, eye protection and protective clothing should be worn at all times during application, regardless of the herbicide used.
1. **Chemical Name (Trade Name):** Glyphosate (Accord and many others)  
   **Time of Year for Application:** During active growth after full leaf expansion, early summer  
   **Mixture:** Undiluted or 1:1 in water  
   **Method:** Make one injection or chop per 2” DBH, apply herbicide at rate of 1 ml per cut. Complete frill is best on large trees  
   **Species Resistance:** Weak for Holly, Maple, Hickory, Blackgum  
   **Approximate Cost (2007):** $40/gallon  
   **Comments:** Many trade names and formulations for glyphosate. Read the label!

2. **Chemical Name (Trade Name):** Picloram + 2,4-D (Pathway)  
   **Time of Year for Application:** Any time except early spring during spring sap flow  
   **Mixture:** Undiluted  
   **Method:** 1 ml undiluted in each frill with 2 to 3 inches between frills. Complete frill is best for hickory and dogwood. Do not apply within root zone of desirable trees unless such injury can be tolerated  
   **Species Resistance:** Beech, Holly, Maple, Dogwood  
   **Approximate Cost (2007):** $28/gallon  
   **Comments:** Can injure or kill non-target plants, particularly yellow-poplar

3. **Chemical Name (Trade Name):** Hexazinone (Velpar)  
   **Time of Year for Application:** Summer  
   **Mixture:** Undiluted  
   **Method:** 1 ml per 4” circumference. Controls black cherry, oaks, red maple, sweetgum  
   **Species Resistance:** Yellow-poplar, Hornbeam. Partial control  
   **Approximate Cost (2007):** $57/gallon  
   **Application Exposure:** DANGER (eye). Wear eye protection and protective clothing

4. **Chemical Name (Trade Name):** Triclopyr (Garlon 3A)  
   **Time of Year for Application:** Anytime except early spring  
   **Mixture:** Undiluted or 1:1 in water  
   **Method:** If undiluted, ½ ml; if 1:1 mix, 1 ml; in frills spaced 3 to 4 inches apart  
   **Species Resistance:** Maple, Dogwood, some Red Oaks  
   **Approximate Cost (2007):** $70/gallon  
   **Application Exposure:** DANGER (eye). Wear eye protection and protective clothing

5. **Chemical Name (Trade Name):** Imazapyr (Arsenal/Chopper)  
   **Time of Year for Application:** August-March  
   **Mixture:** 6 ounces of Arsenal Applicators Concentrate with 1 gallon of water.  
   **Method:** Apply 1 ml of solution in each frill spaced 1” apart.
**Species Resistance:** Weak on legumes such as black locust.

**Approximate Cost (2007):** $470/gallon or $130/quart. Cost per gallon is relatively high, but reduced application requirements make total application costs lower and cost effective.

**Comments:** Effectiveness occurs in the 2nd growing season after treatment. During the 1st growing season, trees will lose foliage, leaves will be small and may exhibit abnormal leaf shapes and color.

*Herbicides are approved and labeled for specific uses by the Environmental Protection Agency (EPA). Herbicides listed in this article were registered for the prescribed uses when printed. Herbicide registrations are continuously being reviewed. Due to constantly changing labels and product registration, some of the uses given in this article may no longer apply or be legal by the time you read them. If any information in this article disagrees with the label, then that information should be disregarded. Read and follow label directions carefully before you buy, mix, apply, store or dispose of an herbicide. According to laws regulating herbicides, they must be used only as directed by the label. Use of trade names in this article is for clarity and information; it does not imply approval of the product to the exclusion of others, which may be of similar, suitable composition, nor does it guarantee or warrant the standard of the product. The author and the University of Tennessee assume no liability resulting from the use of the information in the article.*
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