



FORESTRY, WILDLIFE & FISHERIES UPDATE NEWSLETTER

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SHELBY COUNTY FORESTRY TEAM RECOGNIZED BY COMMISSIONERS



The Shelby County 4-H forestry judging team was recognized by the Shelby County commissioners with a resolution acknowledging their state-winning accomplishment. Team members Amber Joy Cleveland, Emma Osborne, Hayden Quick and Michael Crenshaw also placed third in the National 4-H Forestry Judging Contest in West Virginia. The resolution was sponsored by commissioner Terry Roland and supported by all the commissioners. For a photo of the team receiving their award, go to

<http://4h.tennessee.edu/ideas12/images/shelby.jpg>.

The team was coached by volunteer Weida Ringley.

Becky Bonner
Extension Agent
Shelby County

SITE PREPARATION WHEN PLANTING HARDWOODS

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Weed control is best used during the establishment of hardwood plantings on former agricultural or pasture land. Mechanical cultivation is a control method that requires disking and hoeing several times a year. Normally, mechanical methods are expensive and do not succeed in controlling the rootstocks of most plants, which continue to resprout and grow. In addition, planted seedlings can be damaged by the frequent use of equipment. Herbicidal weed control is a better choice because the chemical translocates to the roots of unwanted vegetation, disrupting plant processes and causing the plant to die or be stunted and diminished.

Most of the herbicides used in forest applications were not specifically developed for forest operations, but have been adapted from agronomic crops. Species selectivity is presently lacking for most forest herbicides. This is more of a concern with hardwood plantings than softwood because the waxy needles of pines do not receive and retain the herbicide as well as broadleaves. Thus, herbicide application on hardwood stands depends on the growth stage of the favored and competing plants, condition of leaves, as well as soil moisture to maximize control of weeds.

Agronomic Termination

The easiest land to convert to plantations is land being removed from previous long-term agronomic production, i.e., row crops. Planting is made easy by the soil condition and because the site is usually free of unwanted woody perennial weeds and tree species. Before planting, the site only needs treatment with a non-residual herbicide to remove unwanted annual weeds.

Pasture Conversion

The two most common pasture grass types are Bermuda grass and tall fescue. Both grasses occur as a solid stand or contain some clover or orchard grass. The area should be treated with a grass herbicide before tree planting either in strips or broadcast over the entire area to remove these grass types. Common grass herbicides are clethodim (*Select*), sethoxydim (*Poast*), and Fluazifop (*Poast plus Fusilade*). Glyphosate, a broader spectrum herbicide, can also be used to kill grasses, but it will also impact other vegetation.

Unmanaged Land

This situation requires the greatest effort in site preparation prior to forest establishment. Land that has been unmanaged for several years will contain some level of a grass undercover with a canopy mixture of woody vines, shrubs, and unwanted trees. The establishment of a plantation may need to be delayed for several years to conduct proper procedures to minimize or control these unwanted and competitive perennial plants. The steps of preparing this site for planting will depend on the unwanted plant species present and the type and height of the canopy. Often, the height of the canopy will be dependent on how long the land has been left unmanaged.

For land that has been left unmanaged for several to many years, the first step will be to cut down or remove all the current unwanted woody species. Once the canopy is lowered, the next step will be to treat and re-treat with herbicides that will provide effective control. Then, the area will be free of woody species to allow an herbicide treatment to remove undesired grasses.

The most difficult and frustrating part of reclaiming this unmanaged land is the removal of the unwanted and usually invasive plants. These aggressive plants have great reproductive capacity, which is not halted by removal of top growth. The well-established root systems possess the ability to continue to grow prolifically. The result of this incredible regeneration capacity is the need for herbicide treatment and continual and timely re-treatment. Usually more than one herbicide is applied in a mixture from one tank for broad spectrum control. Most unwanted plants can be controlled or minimized in one, two, or three well-timed applications. Well-timed, repeated applications deplete the stored energy reserves in the root system. Control is achieved when shoots do not regenerate from the underground roots.

FOREST CARBONS STOCKS AND FLOWS

David Mercker, Extension Specialist, Forestry

The Society of American Foresters Task Force on Forest Climate Change Offsets¹ recently released a report that addresses the importance of carbon in the forest system. The following is a brief summary of the report.

Forests, as with oceans and non-forested lands, both emit carbon to, and absorb it from the atmosphere. In this sense, carbon moves in a two-way flow. Not only is carbon absorbed by trees through the photosynthesis process, but trees store carbon as well, eventually releasing it upon death and decay. Absorbing carbon is not the case with fossil fuels, or at least not in a time scale that can be measured. Consider these truths relative to the value of forests and carbon:

- > When forests are young and vigorously growing they sequester carbon rapidly, becoming carbon neutral as they mature, and eventually a net emitter of carbon upon over-maturity;
- > Old forests have large stores of carbon, but very low rates of additional carbon sequestration;
- > As they mature, forests experience loss due to insect, disease, and storm-related conversion – if mature trees are harvested and utilized rather than allowed to succumb and rot, much of the stored carbon will continue to be stored in wood products rather than be released back into the environment;
- > When agricultural or degraded lands are converted to forests, above ground carbon stocks as well as soil carbon stocks increase;
- > US forest cover has increased continuously for over 70 years and net growth of wood fiber has exceeded removals, thus increasing carbon storage;
- > Once harvested, most wood products last for decades if not centuries, continuing to prevent carbon from releasing back into the atmosphere;
- > Wood requires only natural energy to grow and considerably less energy to make a final product than competitors like steel, plastic, concrete or aluminum;

We harvest trees, complete with all the aesthetic concerns, for many reasons. Landowners view timber harvesting as an opportunity to gain a return on their investment, to salvage damaged timber, to diversify their wildlife habitat and to enhance forest health. Loggers do it for a profession. Mills do it because they are capitalists, providing employment for thousands of Tennesseans. From this flow of revenue, taxes are generated. These taxes, in turn, help pay for roads, schools, security, municipalities and more.

So if you are concerned about atmospheric carbon, *harvest* some trees and encourage the growth of even more than you harvest. In the end, trees are the answer to so many of our natural resource problems. They're renewable.

¹Society of American Foresters. 2011. Journal of Forestry. Vol. 109, No. 75.

CROSS LAMINATED TIMBER

Adam Taylor, Associate Professor, Forest Products

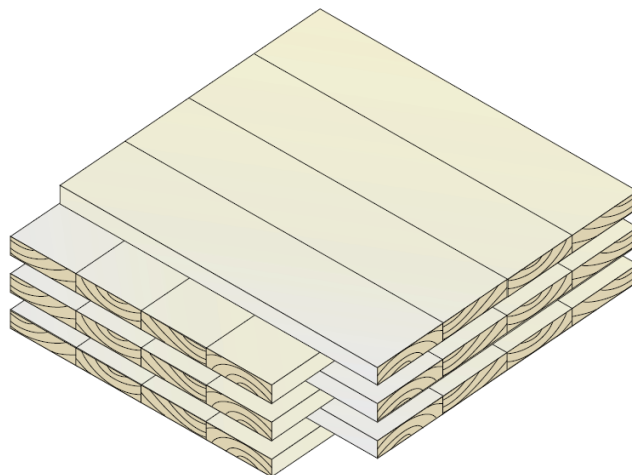
Building houses with wood framing is standard practice in the United States. However, for bigger buildings, steel and concrete are the dominant materials. A new wood technology – cross laminated timber – may soon open up the commercial and industrial building sector to wood building.

Wood is an excellent structural material because it is strong, lightweight, easy to work with, inexpensive and environmentally friendly. So-called “stick-frame” construction, where dimension lumber (2x4’s, 2x6s, etc), are used to create the building’s structure dominates for building houses in this country. However, its use in larger buildings (e.g. above 3 stories) is limited by building codes for structural and fire-resistance reasons. For larger buildings, steel and reinforced concrete are the dominant structural materials. However, a new technology originating from Europe could change this dependence on non-renewable resources for larger buildings.

Cross laminated timber (CLT) refers to large panels that are created by laminating dimensional lumber. The panels can be very large – 50 feet long, 10 feet high and a foot thick or larger – depending on the structure requirements. Because they are very thick, they have the excellent fire properties of large timbers. And, because they cross-laminated like plywood, they are very stable. Finally, because they are manufactured in a factory, quality control is very high and prefabricated panels can be easily and rapidly put together on the building site.

Cross-laminated panels can be used to create very large and structurally-sound buildings. A nine-storey building was recently built in England using CLT. And a seven-storey CLT structure that was tested for earthquake resistance suffered no damage. CLT is currently being manufactured and used in Europe but the technology may soon become available in North America, as builders, wood products manufacturers and building code officials learn more about this exciting new option.

Building with wood is good because it allows us to use an affordable and renewable material for one of our most important needs. CLT may now allow us to build even more things with wood.



FEDERAL INCOME TAX ON TIMBER, MOST FREQUENTLY ASKED QUESTIONS

Larry Tankersley, Extension Associate, Forestry

The US Forest Service released the 2011 edition of [Federal Income Tax on Timber: A Key to Your Most Frequently Asked Questions](#), a quick-reference guide to timber tax laws impacting woodland owners. Complete with the new tax law updates, this publication provides a timely tax reporting information for the 2011 return filing season.

To access the publication: <http://www.fs.fed.us/spf/coop/library/taxpubfaqs.pdf>

Linda Wang, National Timber Tax Specialist, USDA Forest Service

WILDLIFE MANAGEMENT CALENDAR FOR MARCH

Craig Harper, Professor, Wildlife Management

Wildlife Notes

White-tailed deer are shedding antlers
 Cottontails begin breeding
 Bears emerge from dens
 River otters are born
 Spring squirrel litters are born
 Male wild turkeys begin strutting and gobbling
 Bobwhites are pairing up
 Male ruffed grouse begin drumming
 Mourning doves begin nesting
 Crows are nesting
 Male woodcock courtship flights can be observed at dusk
 Wood ducks and Canada geese begin nesting
 Bald eagles hatch
 Red-tailed hawks are nesting
 Barred owls and screech owls are nesting
 Purple martins begin to arrive
 Tiger salamanders may be seen searching for ephemeral ponds
 Southeastern chorus frogs, spring peepers, American toads, Southern leopard frogs, and crawfish
 frogs are calling and breeding

Habitat Management

Burn woods and old-fields using prescribed fire to enhance conditions for wildlife

- secure burning permit and develop burning plan with Tennessee Division of Forestry
- make sure firebreaks are in place
- get help from experienced personnel if you don't have experience burning
- burning fields is **much** more beneficial for wildlife than mowing!
- refer to [Chapter 6](#) in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, for additional information on managing early successional habitats

Disk fields to maintain early succession

- disking is especially good to set back succession if you can't burn
- disk one-third of the field in a block or strips
- blocks are better than strips—makes it more difficult for predators to find nests
- strips should be **at least** 30 feet wide

Disk strips around field edges to encourage early successional growth

- disk strips the width of your sprayer to facilitate killing undesirable plants if needed
- can be used as firebreaks for fields managed with prescribed fire
- leave a soft edge buffer between woods and the field edge, at least out to the drip-line of the trees

Plant firebreaks for additional forage, seed, bugging opportunities

- alfalfa, clovers, and annual lespedezas can be planted through March
- warm-season plantings can be made later in May
- see *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for seeding rates and additional information

If you won't burn or disk fields, mow in late March – just before spring green-up

- for best results for wildlife, **disk the area after mowing** to facilitate litter decomposition, improve travel for small wildlife and stimulate the seedbank
- if you must mow, do so in late March, but **not during the growing season** or you'll disrupt nesting and reduce fall recruitment of wildlife that use early successional cover in summer

Spray tall fescue, orchardgrass, and other perennial cool-season grasses

- spraying now is not as effective at killing these grasses as spraying in October/November; however, a 70% reduction in grass coverage can be expected following spring sprayings
- spray a glyphosate herbicide @ 2 quarts per acre (with surfactant) when grass is 8 – 10 inches tall and actively growing in late March/early April (just prior to warm-season plants germinating or sprouting)
- after grass is killed, burn the field (if needed), then disk to stimulate the seedbank
- when disking in the spring, a preemergence application of imazapic (6 – 10 ounces of Plateau) may be necessary after disking to control johnsongrass, crabgrass, broadleaf signalgrass, and other undesirables germinating in late spring
- Refer to Chapter 5 in *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752, for additional information on eradicating perennial cool-season grasses and other undesirable species

Finish planting trees/shrubs for wildlife

- establish hedgerows across fields with soft-mast bearing trees and shrubs
- hedgerows can be used to break-up fields into sections
- also plant trees/shrubs in blocks at end of fields or in "odd" areas
- apple, pear, crabapple, persimmon, wild plum, elderberry are good choices
- refer to *Improving Your Backyard Wildlife Habitat*, for a list of other trees and shrubs to consider

Fertilize/prune trees/shrubs for increased soft mast production

- this is for trees out in the open, not those in woods
- fertilizing oaks in woods is a waste of time and money; to increase mast potential for trees in the woods, timber stand improvement practices are needed

Erect boxes for wood ducks and bluebirds

- 1 box per 100 yards of shoreline is adequate for wood ducks
- clean out old wood duck boxes and replenish with fresh wood shavings (about 4 – 6 inches)
- repair/install predator shields if necessary
- In Tennessee, wood ducks may begin searching for nest sites in February / March
- bluebird boxes should be no closer than 80 yards apart

Build brushpiles from thinned trees and pruned limbs

- put large limbs on bottom and small limbs on top for crevice space and overhead protection
- this is best done and the effect greatest along the edges of and within high-quality early successional habitat (native forbs and grasses with scattered brambles and shrubs) where good cover already exists
- building brushpiles along a woods edge adjacent to a tall fescue pasture or hayfield may do more harm than good because all rabbits present will then be isolated for predation

Keep bird feeders full

- black-oil sunflowers are a favorite of many birds
- thistle seed is preferred by goldfinches
- suet provides energy for lots of birds during winter
- refer to *Improving Your Backyard Wildlife Habitat*, for information on specific feeders and seed for birds

Finish strip-mowing or silage chopping grain fields to provide seed

Spray Chinese privet and Japanese honeysuckle

- spraying the green foliage of these species now prevents harming dormant desirable species
- 5% solution of Garlon 3-A or 1% solution of glyphosate herbicide and water works well for honeysuckle
- 1% solution of Arsenal AC works well for privet
- for privet too large to spray foliage, cut stem and treat cut stump surface with 1% Arsenal AC or 50% Garlon 3-A; ALSO, stems may be treated with basal application of 20% Garlon 4 with commercially available basal oil with a penetrant

Plant perennial clover and alfalfa plots

- ladino white clover, alsike clover, red clover, chicory, and alfalfa do well when sown in March
- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for information on planting and soil amendment

Spray weeds in cool-season food plots before the weeds get too large

- most cool-season weeds are best killed when sprayed before they reach 3 inches tall
- refer to *A Guide to Successful Wildlife Food Plots: Blending Science with Common Sense*, PB 1769, for herbicide recommendations
- always read and follow directions on the herbicide label before using

Fertilize cool-season forage plots

- those containing oats, wheat, and/or cereal rye will respond to 30 pounds of N per acre
- fertilize perennial forage plots with P and K according to soil test recommendations

Collect soil test samples from plots to be planted this fall and lime now as needed

- applications of lime require about 6 months before full effect on pH is realized

Establish salt/mineral licks for white-tailed deer

- this is especially helpful to attract deer to sites that will used with an infrared-triggered camera survey later in August
- do not expect increased weights, reproductive success, or larger antlers following establishment of mineral sites; there are no data to support such

Complete drawdown of fields flooded for waterfowl

Wildlife Damage/Population Management

Skunks are on the move

- skunks mate in February and March
- live traps work well
- once skunk is trapped, approach slowly, cover with a tarp, carry to water source (in truck bed), and drown the skunk
- it is illegal to release a live skunk or raccoon on someone else's property without written permission

Close crawl spaces under the house and check for openings in the attic

- helps keep skunks and squirrels from getting into places where they are not welcome

Set traps correctly to catch moles!

- make sure runway (tunnel) is active before setting traps
- excavate 6-inch by 6-inch square exposing runway and determine exact depth of runway
- replace dirt firmly, but not compacted
- set trap at exact depth so mole will be caught

Vultures can present a real problem for calving by plucking out eyes and eventually killing calves

- try scare tactics as soon as vultures appear during calving season
- contact USDA-Wildlife Services if problems continue; they can give you a referral to the US Fish and Wildlife Service for depredation permit if warranted

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

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