

FORESTRY, WILDLIFE & FISHERIES UPDATE NEWSLETTER

DECEMBER 2012

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SELECTING A CHRISTMAS TREE

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Christmas trees are a traditional part of the festive holiday season. The fresh scent of a real tree invigorates the Christmas spirit. The most popular Christmas trees that are grown in Tennessee are Virginia pine, eastern white pine, eastern redcedar, Fraser fir and Scotch pine. Here are some tips for choosing and maintaining your Christmas tree.

1. Measure the dimensions, including ceiling height, of the area where the tree will be placed before buying the tree. This will help you select the right size and shape of tree.
2. The easiest method to obtain a fresh tree is to cut one from a Tennessee Christmas tree grower. There are many growers of “choose and cut” Christmas trees in Tennessee. For a directory of Christmas tree growers, contact the Tennessee Dept. of Agriculture, Division of Marketing at (615) 837-5160 or access the following website:
<http://www.agriculture.state.tn.us/Marketing.asp?qstring=XDI>
3. Trees in Christmas tree lots are often obtained from Michigan, Oregon, Colorado and New England as well as regionally in Tennessee and adjacent states. These trees may have been cut 4 to 6 weeks before they appear on the lot. Make sure to test the tree for freshness by placing a branch between the thumb and forefinger of your hand. Pull your hand toward you allowing the branch to slip through your fingers. The needles should bend but not break, and adhere to the branch, not fall off in your hand. A second test is to lift the tree a few inches off the ground and drop it on the stump end. Some interior brown needles should fall, but if green needles fall in abundance, find another tree.

4. To keep your tree fresh, cut ½ to 1 inch of the bottom of the trunk. Immediately place the stump end in water. Keep water in the tree stand at all times. A cut tree can absorb 2 or 3 quarts of water the first day indoors. If the base of the tree dries out, sap from the tree will form a seal that will not allow water absorption. Water additives to enhance the “freshness” of the tree are not recommended. Research has shown that these additives will deter water absorption. Only use clean water in your tree stand.
5. The tree should be placed in a cool area. Keep your tree away from fireplaces, heat registers, radiators, heaters and televisions. Inspect your Christmas tree lights for broken insulation or faulty sockets each year. Always unplug tree lights when you are away from home and before you go to bed.

The National Christmas Tree Association website is a wonderful source of information on Christmas trees: <http://www.realchristmastrees.org/dnn/default.aspx> Choose the Education subheading for information about Christmas trees.

We, at the University of Tennessee, Forestry, Wildlife & Fisheries Dept. wish you a happy and prosperous holiday season!

KEEPING YOUR CHRISTMAS TREE FRESH

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Keeping your cut Christmas tree fresh so that it lasts longer during the holiday season involves making a fresh trunk cut when the tree is purchased and keeping it watered. Once the tree is brought home, and before the tree is set up and decorated, make a fresh, straight cut across the base of the trunk – about ¼ to ½ inch above the original cut. Place the tree in a tree stand that holds about a gallon of water immediately.

Keep the tree stand filled with water. A seal of dried sap will form over the cut stump in 4 to 6 hours if the water drops below the base of the tree, preventing the tree from absorbing water later when the tree stand is refilled. A tree will absorb as much as a gallon of water in the first 24 hours and one or more quarts a day thereafter. Keeping the tree watered will prevent the needles from drying and dropping and the boughs from drooping. Water also keeps the tree fragrant.

Do not use additives in the water. Advertisements on television, radio and newspapers sometimes suggest products that you add to the water in the tree stand that will prolong the “freshness” of the tree. Some of these concoctions include water-holding gels, commercial additives, bleach, syrup, aspirin, floral preservatives, sugar, soda, honey and even vodka or gin. Research at several universities has shown that these additives tend to deter water absorption and may actually accelerate needle loss. Just plain tap water is all that is needed to maintain freshness

Thus, maintaining tree freshness involves making a new stump cut and keeping your tree well-watered, not allowing the water level to get below the stump. Only use clean water in your tree stand with no additives.

The Extension section in Forestry, Wildlife and Fisheries at the University of Tennessee wish you a happy and prosperous holiday season? Enjoy your Christmas tree!

A COMPARISON OF REAL VS ARTIFICIAL CHRISTMAS TREES: YOU DECIDE

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Every Christmas, consumers are faced with a choice, whether to purchase a real or artificial Christmas tree. Advertisements are often biased based on the perspective of the organization sponsoring the product. Some of the advantages and disadvantages of using real vs. artificial trees are outlined below. The consumer should evaluate which product best suits their needs and values.

Cost

The cost of real and artificial trees is quite variable. Usually, artificial trees are a greater expense initially, but they can be reused in successive years. Most artificial trees are used for about 5 years before they are discarded. Real trees are generally less expensive than artificial trees, but a purchase is made on an annual basis. Whether one is more expensive than the other depends on how often the artificial tree is reused.

Origin

Most real trees are grown in the United States. Most artificial trees are manufactured in China and shipped to the United States.

Fire Hazard

Both real and artificial trees can be fire hazards. The artificial tree is composed of various plastics which are petroleum-based products and real trees are plant tissues that readily burn when dry. Overloaded electrical outlets and faulty wires are the most common causes of holiday fires, not the trees.

Convenience

Artificial trees can be more convenient compared to real trees. Many artificial trees come with Christmas lights incorporated into the tree. Real trees must be set in a tree stand, watered, and can lose needles that must be vacuumed or swept. However, artificial trees are also time-consuming to setup, take down, box and store every year. Real trees are discarded (hopefully recycled) each year. Some people enjoy the naturalness of real trees, their fragrance, and family memories selecting and cutting down Christmas trees.

Environment

Real trees are biodegradable, renewable, recyclable and carbon neutral compared to artificial trees. Artificial trees are composed of nonrenewable metals and petroleum-based plastics that are not biodegradable or recyclable. Real trees absorb carbon dioxide when growing and release many nutrients to the soil when they are decomposing. Growers usually plant 2 or 3 seedlings for every tree that is harvested.

Disposal

Although many real trees decompose in landfills, many communities have recycle programs which shred or chip trees to be used as mulch in parks, gardens or trails. Artificial trees cannot be recycled, do not decompose, and end up taking space in landfills.

Chemicals

Growing of real trees uses herbicides to control competing vegetation that may interfere with the growth of the trees and pesticides to control harmful insects such as beetles, borers, weevils and moths. These chemicals are closely monitored by the Environmental Protection Agency (EPA) where they are tested, approved and registered. The use of these chemicals for growing Christmas trees is not that different from growing any other agronomic crop. The residues from pesticides are short-lived and biodegrade within a few months. Christmas trees usually take 6 to 9 years to grow to salable

size. Artificial trees are manufactured from metals and petroleum-based plastics. These products can contain lead and other substances that can be harmful to the environment and to people during the manufacturing process.

Save a Tree promotes the use of artificial trees instead of real trees. The intent of the promotion is to provide the message that cutting trees is detrimental to the environment. Christmas trees do not come from the natural forest, but come from a farm where someone plants and cares for them. If there was not a market for Christmas trees, that land would probably be in some other agricultural, residential or industrial land use rather than growing trees. The Save a Tree campaign often resonates with those who are concerned about the environment, but are otherwise uninformed about how trees are grown and cultured. The box containing the artificial tree is made from cardboard and paper that comes from cutting trees. Are trees actually being saved?

The choice of whether to purchase a real or artificial tree is based on personal preference, cost, convenience (usually time expended), environmental considerations, and personal value or enjoyment. Both real and artificial trees have benefits and shortcomings. Be informed about all aspects of real and artificial trees during your Christmas purchase.

BIG TREES, LITTLE TREES – IS THERE ALWAYS A CORRELATION WITH AGE?

Wayne Clatterbuck, Professor, Silviculture and Forest Management

Big trees are usually older than smaller trees. Although there is some logic to this statement, the premise is not necessarily true.

Most hardwood trees regenerate from a disturbance creating even-aged stands. These disturbances could be acts of nature such as tornados, windstorms, fires, or catastrophic pest outbreaks or human-caused disturbances such as timber harvesting. Like most agronomic crops, most trees grow best in full sunlight.

Different species of trees grow at different rates. Fast growers differentiate (spread their crown) above the slower growers, occupying growing space and most of the sunlight shading the slower growers. The shaded trees persist in the lower canopy. Crowns are sparse and growth is minimal. These trees are not vigorous and many succumb. They are the same age as the faster-growing trees having regenerated at the same time, but the overstory inhibits them.

Popular sentiment is that the small trees in the lower canopy when released will become the large trees of tomorrow. This assumption has been perpetuated in the diameter-limit harvests that have led to what we call high-grading today. The largest and the best trees are harvested leaving the smaller, inferior trees to perpetuate the next stand. In reality, the trees being released are the same age as those being cut. The small, released trees did not have a chance to prosper in competition with the faster-growing, overstory trees. These released trees are incapable of continued growth with their small spindly crowns.

Research on overtopped white oak trees on the Cumberland Plateau illustrates this point. Thirty-year growth data after a harvest of the largest trees shows that the remaining lower canopy trees were not an asset worth taking into the future. Height, diameter, and volume growth was minimal. A cycle of repeated high-grade harvests resulted in the development of a low-quality forest.

With an increment borer or by simply cutting a few trees and counting the rings, the ages of these smaller trees can be determined. If the trees are truly younger, a previous harvest or disturbance created wide enough openings to allow these trees to regenerate and grow without being totally inhibited by the larger, adjacent trees. The crowns of these younger trees should be thrifty (not spindly) with a string terminal leader and a balanced crown. These trees are capable of responding to a release treatment. You will need 40 to 60 well-distributed, younger trees per acre to have enough crop trees in the next stand. If you have these conditions, the overstory should be harvested, releasing these younger trees, taking care not to damage these smaller trees during the harvest operation.

However, most small diameter trees are as old as or older than the overstory trees. The small trees are the same age as the big trees or if enough “younger” trees are not present, then the stand should be regenerated. The regeneration sources will be from seed, sprouts, and advance reproduction (small seedlings or saplings already present). Good visual indicators that smaller trees are older and will not respond to release include flat-topped crowns (without a terminal leader), lopsided, spindly, and small crowns. However, cutting these trees will provide a strong stump sprout that will probably be a future crop tree. Sprouts, with their larger root systems, will usually have a growth advantage over seed or planted seedlings that must develop a root system before accelerated growth can occur.

The economic ramification of leaving smaller diameter trees with little capability of growing once released is substantial. Growth could be accumulating on a tree that is actively growing from a sprout (see cross-sectional disk photos). An older stem that is not responding to release and is usually of poor form is occupying growing space and is not adding value to the stand.

The belief that larger trees should be cut and that the smaller trees will be released to become future crop trees can be a serious error. The lower canopy, smaller trees are usually just as old as the larger, overstory trees, they just did not have a chance to grow and prosper. Their weakened condition and advanced age are liabilities for the future.

Photo Caption: *Two white oak trees of similar diameters from adjacent sites. The 60-year old tree grew in the shade of larger, overstory trees. The tree is old, and slow-growing that did not have an opportunity to grow in full sunlight. If left behind after a harvest, it will block the sunlight and slow down the growth of the next generation. The 11 year-old tree is a stump sprout from a clearcut. This tree was never shaded by larger trees and has already reached the diameter of the older tree.*



TREE ROOTS; CORRECTING SOME MYTHS

Larry Tankersley, Extension Specialist, Forestry

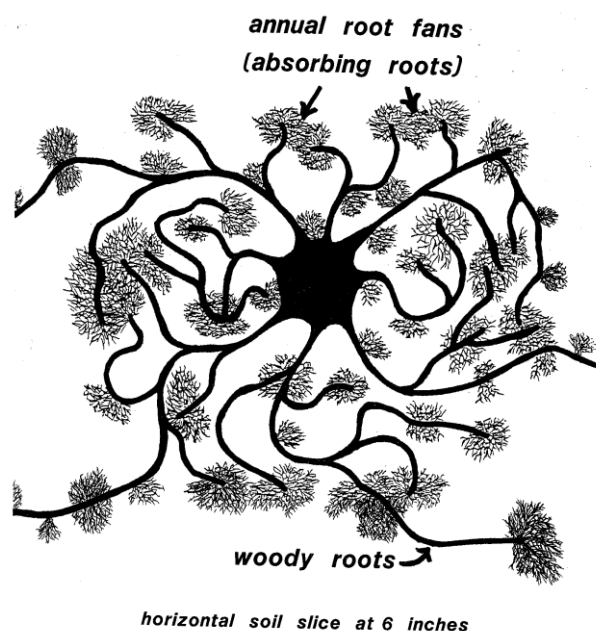
Myth: Tree Roots grow vertically downward and have limited lateral spread;
Actually very few tree species develop roots that penetrate the soil deeply.

Myth: the larger the tree, the deeper the penetration of roots; actually most roots are found in the upper three feet of the soil.

Myth: keeping the largest roots will keep the bulk of the tree's root system; actually most roots extend laterally and in unconfined soils they can spread up to three times the diameter of the tree crown.

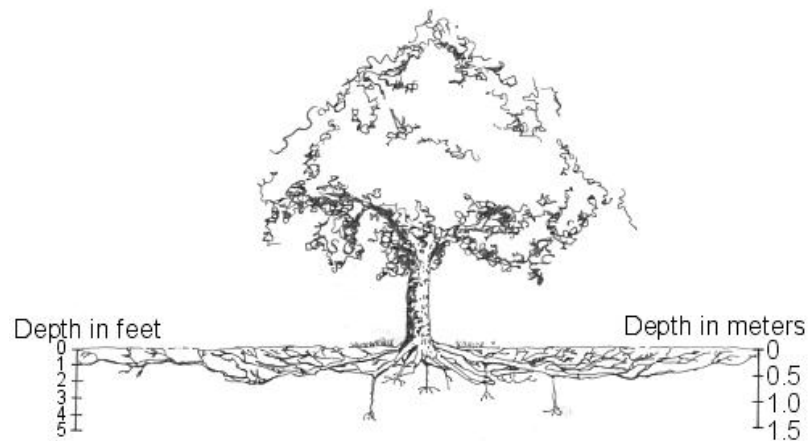
Myth: tree roots will tolerate all sorts of soil conditions; actually the finest roots (root hairs) responsible for the absorption of water and nutrients have a limited life span; hence soil conditions must remain favorable for their continuous regeneration.

The figure below shows a conceptual set of tree roots,



This figure provides a “top-down” view of the root envelope with tree trunk in the centers. This view is a horizontal slice of the soil six inches down. Notice eight long roots emanating from the tree trunk and the “annual root fans”. The main framework roots are composed of lateral roots that are rope-like and spread horizontally beneath the soil, mainly in the upper 20 inches of the soil. Most feeder or absorption roots branch off from the lateral roots and divide many times to grow in different directions including up.

This view of the root envelope shows an ideal situation; with no restrictions, roots can spread to a circular area with a diameter up to three times the crown width.



Recall these figures next time you operate around your trees especially when trenching for home foundations, utility installations, sewer lines, paving and any number of various activities that might affect your tree's roots. Depending on where you trench in relation to the tree trunk, as much as 80 percent of the roots could be cut. This of course, is not good for the tree (think nothing to absorb water or hold it up! yikes) but often symptoms of the damage often take years to express themselves, by which time the cause-effect association is diluted if not forgotten altogether.

Thoughtful planning that is sympathetic to trees will reduce unnecessary injuries to the tree and avoid future anxiety and expense on our part.

(This note inspired by C. Y. Jim, *Protection of urban trees from trenching damage in compact city environments* (2003) *Cities*, 20 (2), pp. 87-94).

AN EXPLANATION OF FOREST “ROTATION” FOR HARDWOOD TIMBER

David Mercker, Extension Specialist, Forestry

Readers should use this article only as a general guide. Always seek the advice of a professional forester prior to marketing timber or making forest management decisions.

In the simplest sense, forest rotation refers to the time interval between the establishment of a stand of trees and the final cutting. Normally rotation is a term used with even-aged silvicultural systems, such as stands that originate following the establishment of a forest plantation or when a new forest begins after a major disturbance (tornado). This definition seems fairly logical, but it can become complicated depending on the criteria used to determine the end-point. *Exactly when is the final cutting?* For instance, landowners might select tree size or age as the parameters; foresters might consider financial maturity or biological condition; yet loggers are driven by local sawmill demand. So who's right?

They all are. There are no regulations to control when a tree has “matured” and should be harvested any more than there are laws established to dictate when livestock is ready for slaughter. A tree (or a steer) is ready for market when its owner says it is ready. However, in the case of livestock, ranchers understand that when the law of diminishing returns has been met the steer should go to market (the principle that a continual increase in investment does not lead to a continual increase in profit). This concept is true with trees too, but not often practiced, especially with hardwoods.

Foresters are regularly asked how big a tree should be in order to harvest. Unless other criteria have been established, we tend lean toward the financial maturity criteria, and the answer is, “It depends.” Species and condition of tree, as well as the site productivity are three variables to consider. On good sites, with healthy trees that are in demand by the industry, timber reaches financial maturity at a larger diameter than unacceptable trees growing on poor sites. For example, a prime quality cherrybark oak existing on a rich bottomland site might reach financial maturity at 28 inch diameter, while a post oak on a dry, south facing slope may mature at only 18 inches. Thus, to make a blanket recommendation of harvesting all trees above a set diameter, normally is not a good financial decision. This is referred to a diameter limit cutting and should be avoided. Having said that, trees do eventually reach financial maturity, and if the forest is treated as any other financial investment, trees should be liquidated to capture their value. Diameter certainly can be one criteria used to estimate the economic maturity of a trees.

To aid in estimating financial maturity of hardwood timber, the following table was provided by my silvicultural instructor in 1984 (Dr. Carl Budelski, Southern Illinois University). If there was a reference, it is no longer available. However, I have found this table to be a very good *general* guide for landowners, loggers and foresters when determining when hardwood timber has reached financial maturity. Diameter refers to diameter at breast height (dbh), measured at 4.5 feet above ground. The guide assumes that the trees have had adequate room for development. If instead, trees have been suppressed or exposed to damaging abuses such as fire, livestock, previous hi-grading, etc., these diameters will be shifted downward.

Financial Maturity of Hardwood Timber (inches at dbh)

Species	Excellent Site	Good Site	Average Site	Poor Site
<u>Group #1</u>				
White Oak	24 to 28"	22 to 24"	20 to 22"	18 to 20"
Red Oak				
Yellow Poplar				
<u>Group #2</u>				
Black Oak	22 to 26"	20 to 22"	18 to 20"	16 to 18"
Ash				
Black Walnut				
Maple				
<u>Group #3</u>				
Sweetgum				
Hickory	18 to 22"	16 to 18"	14 to 16"	12 to 14"
Elm				
Beech				
Post Oak				
Scarlet Oak				
plus other undesirables				

Where:

- Excellent Site = rich soils adjacent to rivers and on north and northeast slopes
- Good Site = soils that have been protected from erosive farming or livestock practices, hill sides, moist and fertile
- Average Site = common upland sites and upper flats, somewhat shallow top soil, and droughty, most likely was previously exposed to grazing, fires or even farmed
- Poor Site = extremely poor/shallow soils with hardpan, south and southwest slopes, often with exposed rocks, stunted trees and limited advanced reproduction of seedlings

The takeaway message is that forest landowners should allow trees with good investment potential to reach financial maturity; undesirable trees reach financial maturity much earlier in the rotation. Undesirable trees can be either species of traditionally lower value, or desirable species that have developed with very poor form or grade, and their improvement is not likely. Also, readers should understand that site productivity is a determining factor when estimating financial maturity on timber. This requires educated judgment. It's complicated. That's why for most landowners, professional assessment and counsel is recommended.

HARDWOOD ANALYSIS AND TRENDS (HAT) – DECEMBER 2012

David Mercker, Extension Specialist, Forestry

The past seven years have been a difficult (and transitional) period for the hardwood industry. Prices for hardwood lumber began dropping in 2005, three years before the onset of the recession. According to the USFS (Luppold 2102), in nominal prices, a composite of mixed Appalachian hardwood lumber indicates that the 2012 price is now equal to the 1992 price. In other words, we are back to where we were 20 years ago. The real price (inflation adjusted) is grimmer, showing that since 1967 (when such records were first collected), prices have never been lower. Lumber value has just not kept up with inflation.

The forest industry, including loggers and mills, have been able to survive such a colossal decline through efficiencies: bigger and more efficient equipment, better utilization of woody material, smaller work force, etc. Of course to this is added a very sharp attention to operational costs, such as fuel, insurance and supplies. Adjustments like these are not possible with forest landowners. Aside from well-timed thinnings and growing appropriate species for their site, there is very little that hardwood forest landowners can do make their tree growing enterprise more efficient. Clearly there is a limit to the speed that trees can grow, at least in a short planning horizon.

This is leading many small to mid-sized landowners to hold onto their timber rather than sell it. In turn, that puts additional supply pressure on loggers and mills. The availability of standing timber for sale is lean. Area mills routinely build log inventories in late summer and early fall to account for shortages when the winter weather turns awry. This year that goal is unmet for many mills.

By way of positive news, housing sales and starts have had modest improvement. Although progress is well off the pace of traditional numbers, it is in the right direction. This tick upward should continue as long as interest rates are low and inflation is in check. But both of those indicators will eventually jump, and if too much, could add additional pressure to the entire chain. Since the last issue of **HAT**, next to nothing has happened to hardwood lumber prices. Red and white oak, cherry, and maple lumber have flat-lined. Poplar is up slightly. Black walnut dropped 9 percent (which is not surprising as it is utilized for luxury items).

Bottom line: we need greater demand for lumber. And until that comes, prices will not increase significantly. Of course in today's economic environment, some would say that "sideways is the new up."

Summarized with permission of the Hardwood Market Report, Memphis, Tn.

ACETYLATED WOOD: ANOTHER NEW DECKING OPTION

Adam Taylor, Associate Professor, Forest Products

In the past, options for decking lumber were limited to naturally durable wood species such as cedar and chemically-protected pine. Recently, new chemical formulations and new technologies such as wood-plastic composite and thermally modified wood have become available. Now there is a new product to add to the growing list of options: acetylated wood.

Lumber that is exposed outside needs to be protected from rot and insects. Some wood species such as cedar, cypress and white oak naturally are resistant to rot fungi, termites and other pests. The use of naturally-durable woods for applications such as decking lumber is the oldest option and remains a good choice. The most popular choice for decking lumber is southern pine that is protected with a chemical treatment (i.e. "pressure treated"). For many years there was only one chemical treatment used (CCA) but more recently a wide range of options has become available including ACQ, CA, micro-ACQ, micro-CA and EL. These various chemical formulations are expected to provide similar protection and treated pine is a relatively low-cost option. Unfortunately, treated pine is susceptible to warping and checking over time. Wood plastic composite, or WPC, is a commonly available but higher-priced option to wood decking. It is a mixture of thermoplastics and wood fiber that is extruded into decking and other shapes. It is not wood and thus does not warp and check like wood can.

Thermally-modified wood is more common in Europe but is beginning to be manufactured in the US. IN this process, dry lumber is heated in the absence of oxygen. The process darkens the wood and changes the chemical structure making the lumber less susceptible to warping and rot. It is relatively expensive but is promoted as an alternative to some premium tropical hardwoods.

Another recently commercialized decking alternative in the US is acetylated wood. One example manufactured by Eastman Chemical, a Tennessee-based company, is sold under the Perennial Wood brand (<http://www.perennialwood.com/Pages/Home.aspx>). The acetylation process involves pressure-treating dry lumber with a chemical and then heating the lumber, which causes the chemical to react with the wood. Acetylated wood remains its original color but has very low attraction to water, which greatly reduces its tendency to warp, check or rot. Acetylated lumber will be a premium product, roughly equivalent to WPC in price. However, it adds yet another option for homeowners using wood for exposed structures.

WILDLIFE MANAGEMENT CALENDAR FOR DECEMBER

Craig Harper, Professor, Wildlife Management

WILDLIFE NOTES

Black bears and chipmunks begin hibernating

Gray and fox squirrels are breeding

River otters begin breeding

Mink, muskrat, and bobcat fur are prime

Northern mourning doves migrating into TN

Migrating woodcock numbers peak

Waterfowl numbers often peak in December, according to the weather

Owls and hawks increase vocalization and are establishing territories just prior to mating season

Christmas Bird Count conducted in late December

HABITAT MANAGEMENT

Do **not** mow early successional fields if you have any interest in wildlife

- mowing at this time destroys much needed winter cover
- mowing accumulates thatch, limits mobility, and suppresses the seedbank
- wait until late March/early April and burn and/or disk the field
- if you just can't burn or disk, at least wait until early April (just prior to nesting seasons) before mowing
- burning or disking are preferable strategies for setting back succession and maintaining early successional areas
- 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 habitat

Portions of early successional areas (old-fields) may be burned or disked in December, but it is best if you wait until late winter/early spring if possible

- setting back succession later in the season (March) will allow winter cover to stand through the season
- burning / disking now, however, may be necessary if considerable acreage needs disturbance, but may be difficult pending wet weather
- **do not burn / disk all available cover in one year—leave at least two-thirds so that you manage approximately one-third available cover each year**
- ideally, disturbance, whether burning or disking, should be completed in a block pattern rather than strips

Disk firebreaks around fields and woods (if it's not too wet) before the ground freezes

- disking now will stimulate forbs next spring and will enable you to burn when conditions are favorable

It is not too early to conduct dormant-season burning in woods (hardwoods and pines) to reduce fuel loads and enhance conditions for wildlife; when the weather is right, get it done; this is especially important if you have a considerable amount of acreage to burn; if you wait until March/early April, you may not get it all done, depending on weather

- obtain burning permit from Tennessee Division of Forestry
- make sure firebreaks are in place
- only burn when duff layer (below leaf litter) is moist (not usually a problem in December)
- remove woody debris from around the base of desirable trees to avoid damaging the tree
- primarily use a backing fire with relatively low flame heights (6 – 8 inches)
- refer to [A Guide for Prescribed Fire in Southern Forests](#) for additional information on using prescribed fire

Enhance the cover around old-fields by thinning (killing) undesirable trees 100 feet into the woods

- girdle unwanted trees and spray wound with a mixture of Garlon and Arsenal
- a 50% solution of Garlon 3A and water and/or a 25% solution of Arsenal and water work well
- dead standing trees (snags) provide perching, roosting, denning, feeding sites for many wildlife species
- increased groundcover is stimulated by the additional sunlight, improving forage and nesting cover for many wildlife species

Native warm-season grasses can be planted during the dormant season

- don't plant too deep – no more than ¼ inch!
- don't forget preemergence weed control next April
- refer to Chapter 5 of *Native Warm-Season Grasses: Identification, Establishment, and Management for Wildlife and Forage Production in the Mid-South*, PB 1752 for additional information

Continue to strip-mow or silage-chop dove fields to provide seed and hunting opportunities

- don't cut it all – leave some for January/February
- migrating doves appreciate your efforts and late dove seasons can offer great shooting

Spray perennial forage food plots for weed control if necessary

- refer to *A Guide to Successful Food Plots: Blending Science with Common Sense*, PB 1769, for specific information

Fertilize winter forage plots containing oats, wheat, and/or cereal rye

- 30 pounds of N per acre
- P and K according to soil test

Soil test now for spring plots

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

Plant trees/shrubs for wildlife

- plant trees/shrubs in blocks at end of fields and in “odd” areas
- apple, pear, crabapple, wild plum, sumac, persimmon, and elderberry are good choices
- refer to *Improving Your Backyard Wildlife Habitat*, PB 1633, for a list of additional trees and shrubs to consider

Establish hedgerows across fields with soft-mast-bearing trees and shrubs

- hedgerows can be used to break-up fields into sections
- hedgerows should be at least 50 feet wide—a single row of planted shrubs/trees with at least 25 feet of fallow growth of blackberry, forbs, etc. on either side
- **spray tall fescue and other undesirable grasses before planting!**

Fertilize/prune trees/shrubs for increased soft mast production

- this is for trees/shrubs 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, refer to TSI activities

Continue Timber Stand Improvement (TSI) activities

- stimulate growth among oaks, beech, cherry, persimmon, blackgum, and other mast producers by killing surrounding competitors
- girdle unwanted trees and spray wound with appropriate herbicide
- a 50% solution of Garlon 3A and water and/or a 25% solution of Arsenal and water work well

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
- 3% solution of glyphosate herbicide works well for privet

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 good early successional cover (native forbs and grasses with scattered brambles and shrubs)
- 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 predators

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 fresh wood shavings (about 4 – 6 inches)
- screech owls and squirrels may use the boxes through winter
- repair/install predator shields if necessary
- bluebird boxes should be no closer than 80 yards apart
- up to 9 or more bluebirds may roost in a single box on cold nights

Put out bird feeders and keep them full

- refer to *Improving Your Backyard Wildlife Habitat*, PB 1633, for information on specific feeders and seed for birds

Flood waterfowl impoundments

- a depth of 8 – 12 inches is ideal for dabbling ducks

Duck numbers should be rising – watch the weather!

Wildlife damage/population management

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

- helps keep snakes, skunks, and squirrels from getting into places where they are not welcome
- rodents are caching food for the rest of winter; take action now to keep them out of your house
- glueboards are very effective in trapping mice, snakes, and lizards looking for a warm place inside your basement or garage

Blackbirds and starlings have gathered into large winter flocks

- don't allow them to roost in your trees; if they start, they'll form a habit
- repel them with noise makers (shotguns, firecrackers, banging metal pans together)
- be persistent

Vultures may be problematic around structures and livestock holding areas

- scare tactics using firearms and pyrotechnics are effective—persistence is necessary
- it is against the law to shoot a vulture without a permit
- contact USDA-Wildlife Services for severe problems and information on obtaining a permit

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

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