



FORESTRY, WILDLIFE & FISHERIES UPDATE NEWSLETTER

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THOUSAND CANKER DISEASE OF WALNUT, RECENT NEWS—GOOD AND BAD

Adam Taylor, Associate Professor, Forest Products

Thousand canker disease (TCD) results from a fungus attacking, and eventually killing, black walnut trees. The fungus is carried by a small beetle (the Walnut twig beetle) and infested trees have been found in Knox county and surrounding areas since 2010. Currently Knox and adjacent counties are under a quarantine that limits the movement of walnut tree products. More information about TCD can be found at: <http://www.tn.gov/agriculture/regulatory/tcd.shtml>

A wide range of detection and control activities related to TCD are ongoing by many organizations. A recent unfortunate, although not very surprising, development is the discovery of TCD for the first time in North Carolina, near the border with Tennessee. TCD is native to the western United States but has now been found in Tennessee, Virginia, Pennsylvania and North Carolina in the east.

A more positive finding is that the normal treatments (heating and fumigation) used to ensure pallets and other wood items are free of insects and other pests are also effective at ridding infested walnut logs from the TCD fungus and the walnut twig beetle. Researchers from the Forest Service, the Animal and Plant Health Inspection Service (APHIS), the University of Georgia and UT have been collecting, treating and monitoring TCD-infested material over the last two years. The results are promising that walnut logs and other products can be successfully treated so that they will be safe for transport to non-infested areas.

More information can be found at <http://thousandcankers.com/media/docs/AMayfieldabstract2.pdf> .

FUNDING TO IMPROVE WATERFOWL HABITAT - - TN PARTNERS PROJECT

USDA-NRCS, NASHVILLE, TENNESSEE

The USDA Natural Resources Conservation Service (NRCS) has recently allocated \$100,000 in funding for the Tennessee Partner's Project (TPP) to help improve waterfowl habitat through the USDA Environmental Quality Incentives Program (EQIP). The TPP is a local multi-agency partnership effort that includes the USDA Natural Resources Conservation Service, Ducks Unlimited, Tennessee Dept. of Agriculture, U.S. Fish & Wildlife Service, UT Extension Service, and Tennessee Wildlife Resources Agency that hopes to return waterfowl to the breeding ground physically conditioned for maximum reproductive success.

Ducks Unlimited Regional Biologist Tim Willis says, "The Tennessee Partner's Project has been very successful. It is a true partnership among various agencies and organizations that share a common goal of enhancing wintering waterfowl habitat while improving water quality."

Tennessee landowners can apply for funding on a continuous basis but the next funding deadline is February 15, 2013 at their local USDA Service Center. These conservation practices will provide habitat for waterfowl, shorebirds, songbirds, and other wetland dependent wildlife. If selected, producers can utilize these funds to install water control structures, build or repair dikes that will promote minimum or no-till farming, increase soil moisture, and inhibit weed growth while providing wetland habitat.

The Tennessee Partners Project is designed to provide water and food sources for wintering waterfowl and associated wetland species in the Tennessee portion of the birds' migration route. Participating landowners receive a project construction plan, financial assistance for water control structure materials, technical assistance during installation, and management recommendations.



According to Mike Hansbrough, USDA-NRCS Area Biologist, "Impounded water will allow settlement of silt and pesticides and inhibit runoff into surface water that drains into streams, rivers, and eventually the Gulf of Mexico. These structures will also help control flooding, control erosion, and improve biodiversity for a wide range of wildlife."

Selected projects will encompass a minimum of 5 acres of surface water and adjacent habitat buffer zones. Participants agree to sign a minimum 10-year Wetland Development Agreement, not permit hunting after 12 noon, and permit an annual inspection by any representation of the partners.

More information on Ducks Unlimited Conservation Projects can be found at <http://www.ducks.org/tennessee/tennessee-projects>. Applications for Tennessee Partners Project assistance funds can be made at your local USDA Service Center. For more information on USDA Conservation Programs please visit: <http://www.tn.nrcs.usda.gov/>.

TIMBER TAXES FOR 2012

Larry Tankersley, Extension Specialist, Forestry

Happy New Year!

If you sold timber last year, you may be wondering if anything changed given all the “fiscal cliff” discussions. The short answer is not much unless you are now in the highest tax bracket for incomes over \$400,000.

The Bush era long-term capital gains rates were extended, which means that if you are in the 10 or 15% tax brackets for ordinary income the rate is zero. If you are in the 25% thru 35% ordinary income tax rates, your long-term capital gains rate remains 15%. If you are in the “new” 39.6% ordinary income tax rate your long-term capital gains rate went up to 20%.

It is important to note that when doing your taxes in order to receive the reduced taxes owed for your long-term capital gains, do not take your taxable income to the tax tables to figure your taxes. The tax tables show your taxes owed at ordinary rate. If you have long-term capital gains you need to use the “**Qualified Dividends and Capital Gains Tax Worksheet**” found in the instructions for Form 1040 to determine your taxes owed. This worksheet separates your ordinary income from your long-term capital gains and calculates your taxes owed according to the appropriate rates for the different types of income.

Be sure to let us know if we can help with your timber tax questions!
Larry Tankersley, 865-974-7977, ltanker1@utk.edu

BASAL SPRAYS

Larry Tankersley, Extension Specialist, Forestry

Basal sprays offer an alternative herbicide application method for controlling woody stems less than about 6 inches in diameter or larger diameters of susceptible species, before bark becomes thick, corky, and furrowed. The treatments are especially useful on species with smooth juvenile bark such as ailanthus, mimosa and red maple. This treatment is also useful for bush honeysuckle and privet. I like it for treating “clumps” or clusters of multiple small stems.

Basal sprays are herbicide-oil-penetrant mixtures sprayed or daubed onto the lower portion of woody stems, usually applied with a backpack sprayer or wick applicator. Full basal treatments require that the lower 12 to 20 inches of the target plant be completely wetted on all sides with an oil-based spray mixture.

Herbicides that are soluble in oil (mainly the ester formulation of triclopyr) are mixed with commercially available crop oil. Some herbicides are sold ready-to-use with these ingredients.

Late winter and early spring are usually recommended for Basal spray application as leaves are off and won't inhibit spraying the stem. Also esters are volatile during higher temperatures.

For more information on basal spraying see the attached USDA Forest Service publication, “Nonnative Invasive Plants of Southern Forests, a Field guide for Identification and Control” at

http://www.srs.fs.usda.gov/pubs/gtr/gtr_srs062/

MANAGING YOUNG HARDWOOD STANDS FOR SAWLOG PRODUCTION

Wayne Clatterbuck, Professor, Forest Management and Silviculture

Careful management of young hardwood stands (even-aged, 15 to 30 years old) can greatly increase the future value of trees for sale as sawlogs. One goal of managing young hardwood stands is to produce trees that have long, straight stems without branches for the lower 16 to 35 feet of their length at maturity and are free of defects. The process of increasing the value of the stand involves three steps: Selecting Crop Trees, Releasing the Stand, and Harvesting Sawlogs.

Selecting Crop Trees. Sawlog crop trees are those grown as an investment in the future. Select trees of the more highly valued species, whether for timber or wildlife value, with straight boles and few branches. Species should be selected that are well-adapted to the site and stand conditions. Trees in the intermediate or suppressed (overtopped) crown classes are not good candidates for crop trees. In Tennessee, examples of species that are often selected as crop trees are oaks, yellow-poplar, walnut, cherry (higher elevations), hard maple and hickories. Usually 40 to 60 desirable and well-distributed crop trees per acre are selected in well-stocked stands before the initial release treatment.

Releasing the Stand. Thinning a stand to give crop trees more room to grow is accomplished by removing trees that would compete with crop trees for sunlight, water and nutrients. Through natural competition, vigorous trees suppress slower growing trees causing them to succumb before they are large enough to be harvested. Thinning allows the faster growing, larger, and more valuable trees to grow to a commercial size in less time. Thinning also promotes the overall health of the stand by removing defective, poorly formed or diseased trees. Hardwood stands are usually thinned and trees released in an initial thinning and again every 10 to 20 years until trees reach marketable size.

Care should be taken not to thin too many trees at one time. Some competition with other trees is desired to encourage the growth of tall, straight, unforked stems, and to inhibit the growth of lower branches. If too many trees are removed, new branches may sprout along the stems of the remaining trees, causing defects and reducing wood value. Trees removed during thinning can be used for fuel wood, poles, and pulpwood if those markets are available.

Harvesting sawlogs. Once your trees reach a commercial size, they can be sold as sawlogs. The length of time it takes to reach a marketable size depends on the species of trees, site productivity and the market. Trees, when they reach maturity continue to increase in volume, but at a decreasing rate. Depending on the value of the stand (usually based on species value), this diminishing growth rate typically indicates that the stand should be cut (diminishing returns)

Consult with your local forester or County UT Extension office for assistance with selecting, releasing (thinning) and harvesting your crop trees.

TENNESSEE FOREST RESOURCE STATISTICS, 2012

Wayne Clatterbuck, Professor, Silviculture and Forest Management

- Forests in Tennessee cover 14 million acres, encompassing 52 percent of the State's land area. [FIA 2012](#)
- Private non-industrial landowners control 81 percent (11.4 million acres) of the forest land in Tennessee, while wood-using industry own 3 percent (374,000 acres) and 16 percent (2.3 million acres) is publicly owned by federal, state, and other public agencies. [FIA 2012](#)
- The total number of private woodland owners in Tennessee exceeds 530,000. [National Woodland Owners Survey 2008](#)
 - Approximately 344,000 (65 percent) forest owners control less than 1 million acres of forest in tracts of less than 10 acres or about 7 percent of the total acreage of private forest land in Tennessee
 - Conversely, 24,000 (5 percent) forest owners control 4.4 million acres in tracts larger than 100 acres or about 39 percent of the total acreage of private forest land in Tennessee.
 - An estimated 162,000 (30 percent) forest owners control 6 million acres in tracts between 10 and 100 acres or about 30 percent of the total acreage of private forest land in Tennessee.
- Approximately 89 percent of the trees in Tennessee's forests are hardwoods. More than 120 tree species occur in Tennessee. [FIA 2012](#)
- Oak-Hickory forest types account for an estimated 73 percent or 9.9 million acres of the forest land in Tennessee. [FIA 2012](#)
- Tennessee's forests are aging. A greater percentage of acres have trees in the mature or overmature age classes, than in the immature age classes. [FIA 2012](#)
- The standing wood volume or inventory continues to increase statewide at a rate of 2 percent per year. In 2008, approximately 1,100 million cubic feet of wood was grown, 314 million cubic feet died due to natural mortality (old age, insects, disease), and 407 million cubic feet was removed during harvests. The growth-to-removal ratio is 1.5 to 2.0 indicating that for every cubic foot of wood volume that is removed from Tennessee's forest, 1.5 to 2.0 cubic feet are grown. Even at the present rate of growth, Tennessee's forest land is producing wood volume at less than half of its potential capacity. [FIA 2011](#)
- Forest harvest and wood manufacturing uses about ½ to ⅓ of the wood grown in Tennessee each year. The remainder of the growth continues to accumulate on trees or is lost through natural mortality. An estimated 230,000 acres of forests are cut each year with partial harvests occurring for 65 percent of the total annual area cut, final harvests accounting for 28 percent and other harvests (7 percent) for timber stand improvement activities. [FIA 2012](#)
- The proportion of hardwood sawtimber volume in the better tree grades has declined. Grade 1 trees compose 7 percent of the volume, grade 2 compose 18 percent, grade 3 compose 45 percent and below grade trees compose 30 percent. Three out of every ten hardwood trees in Tennessee is considered a cull. The volume of wood in the forest is increasing, but the quality is decreasing. The decline in tree grade is most likely tied to past cutting practices and reflects the need for implementation of hardwood forest management practices. [FIA 2012](#)
- Sawlog and veneer logs compose 49 percent of the volume cut each year, pulpwood is 38 percent, other industrial products, primarily poles and posts are 3 percent and residential fuel wood is 9 percent. [FIA 2012](#)

- Forestry in Tennessee includes the management and logging of trees; sawmills (primary forest products), including pulp and paper mills, and forest products manufacturing (secondary forest products). The forest industries and businesses in 2008 (without indirect effects) contributed \$12.8 billion directly to the state's economy, 42,000 jobs and \$2.5 billion in wages and salaries. When spent throughout the economy, forestry accounted for 4.3 percent of the state's economy, employed over 101,700 Tennesseans and generated \$21.0 billion in total industrial output. [UT AIM-AG 2011](#)
- Tennessee generated \$288 million in timber sales on private lands in 2011. [TN Dept. of Agriculture 2012](#)
- Tennessee's forests provide clean water and abundant wildlife habitat which support the \$2.5 billion annual hunting and fishing industry. [TN Wildlife Federation 2011](#)
- Scenic beauty and opportunities for outdoor forest recreation contribute to the \$15 billion per year tourist industry in Tennessee and the high quality of life enjoyed by Tennesseans. [TN Dept. of Tourism 2012](#)
- Tennessee is among the top three hardwood lumber producing states every year. [TN Dept. of Agriculture 2012](#)

UNDERSTANDING OAK "STUMP SPROUTS"

David Mercker, Extension Specialist, Forestry

Forests, and trees in general, regenerate naturally one of two ways: from seed or from stump sprouts. Regeneration via *seed* is highly variable, and depends on such things as the available seed crop, sunlight, weather, soil condition, predation (from both insects and wildlife) and adjacent competition. Regeneration from *stumps* arises when trees are harvested or top killed (such as from fire) thereby causing dormant buds near the ground line to flush from a stump and grow to become a tree. Typically stump sprouts grow rapidly.

In forested settings, following a stand initiating disturbance (such as a heavy harvest), oak seedlings are normally more capable of surviving if they originate from stumps. This is attributed to large root systems that provide growth elements such as moisture and nutrients. On better forested sites, oak reproduction often cannot compete with reproduction of more aggressive species such as tulip-poplar and red maple, *unless* the reproduction originates from sprouts.

The position of the sprout on the stump often determines its future success. Sprouts that initiate closer to the ground line are normally more likely to survive and develop onto a favorable tree, than those originating higher on the stump. Also, sprouts on the windward side are less prone to breaking-off in high winds. The propensity of an oak tree to produce stump sprouts increases with stump diameter up to a point, peaking at about 8 inches in diameter then dropping dramatically. Very few oak stumps larger than 20 inches will sprout. It is believed that the thicker bark on larger stumps prohibits dormant bud penetration. Further, larger stumps have expansive root systems, and these require sufficient photosynthate to support root cells. New sprouts on sizable stumps cannot meet this photosynthate demand and root mortality (through energy depletion) results.

The season of cutting trees also affects sprouting success. This is a function of energy reserves in the roots. During the winter months, when trees are dormant, root energy concentration is high. If trees are cut during the dormant season, more root-stored energy is available in the spring to "feed" emerging stump sprouts. In contrast, if trees are cut shortly following leaf flush in the spring, fewer sprouts can be expected due to depleted root energy reserves.

Landowners and foresters should not rely solely on stump sprouts to replenish seedlings following a harvest because stumps that produce desirable sprouts will normally be too sparse for adequate stocking. Regeneration from seed will be needed too. Still, stump sprouts are important in maintaining an oak component in forested systems.

WILDLIFE MANAGEMENT CALENDAR FOR FEBRUARY

Craig Harper, Professor, Wildlife Management

Wildlife notes

White-tailed deer are shedding antlers
 Great horned owls have nestlings
 Bald eagles are nesting
 Red-tailed hawks are nesting
 River otters are born in February and March
 Eastern gray squirrels are giving birth
 Opossums are born and cling to their mother's pouch
 Coyotes are breeding
 Bluebirds and wood ducks are looking for nesting sites
 Salamanders may be seen searching for ephemeral ponds
 Spring peepers and chorus frogs are calling

Habitat management

It's time to burn – get out the drip torch!

Burn woods and old-fields using prescribed fire to maintain early succession and to enhance cover and food availability for many wildlife species in upland hardwoods

- 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 succession

Disk fields to encourage 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
- if you disk strips, they should be **at least** 30 feet wide

Plant firebreaks for additional forage, seed, bugging opportunities

- alfalfa, clovers, and annual lespedezas can be planted in mid- to late February
- 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, do not mow old-fields yet – wildlife need the winter cover until late March/early April.

Plant 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
- planting a small orchard (6 – 12 trees) at end of hedgerows or in “odd” areas is a good idea
- 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, refer to TSI activities

Finish Timber Stand Improvement (TSI) activities

- stimulate growth among oaks, beech, blackgum, cherry, persimmon, and other mast producers by killing surrounding competitors
- girdle unwanted trees and spray wound with imazapyr or triclopyr
- use a 20% solution of Arsenal AC (imazapyr) or a 50% solution of Garlon 3-A (triclopyr) with water
- work should be finished by end of February; March and April are not good months to complete TSI because herbicide effectiveness is reduced when sap is flowing

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 gray squirrels may use the boxes through winter
- repair/install predator shields to guard against raccoons and snakes if necessary
- in Tennessee, wood ducks begin searching for nest sites in late February / March
- bluebird boxes should be no closer than 80 yards apart
- up to 9 or more bluebirds may roost in a single bluebird box on cold nights

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 cover (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
- it is very important to clean feeders regularly to reduce disease outbreak
- refer to [Improving Your Backyard Wildlife Habitat](#), for information on specific feeders and seed for birds

Continue strip-mowing or silage chopping grain fields to provide seed for wildlife

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 in April
- 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

Plant perennial clover and alfalfa plots

- ladino white clover, alsike clover, red clover, and alfalfa do well when sown in mid- to late February
- 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

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 20% 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

Begin drawdown of fields flooded for waterfowl in mid-February

Wildlife damage/population management

Skunks are on the move

- skunks mate in February and March (litters of 3 – 10 usually born in May)

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

Moles also mate in February, so increased activity may be evident

- “molehills” are created as quart-sized chambers and deep runways are excavated where young may be born and raised
- moles are born (litters of 2 – 5) March – June; they are independent at 1 month

Set traps correctly to catch moles!

- make sure surface 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

Repel large winter flocks of blackbirds and starlings

- 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; you will have to scare them off at least 5 or 6 nights in a row before breaking their habit

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*](#), for additional wildlife damage management information

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