

green horizons

Growing tomorrow's future today.

January 2015

A newsletter from the Center for Agroforestry in
conjunction with the Forest and Woodland Association of Missouri

Volume 19 • Number 1
Mike Gold, Gene Garrett and Savannah Kannberg,
editors

AGROFORESTRY

Alley cropping: Farming between the trees

By GENE GARRETT | *Sr. Outreach Specialist*
W. (DUSTY) WALTER | *Dir. Res. Mgmt, MUAES*
LARRY D. GODSEY | *Asst. Prof., Agri-Business, Mo Valley College*

Alley cropping, one of the five temperate zone agroforestry practices, requires the planting of trees at wide spacings creating alleyways within which companion crops can be grown. Companion crops can be conventional (e.g., corn or soybeans) or unconventional (e.g., biomass for energy or elderberry for jellies and wine). They can be a crop of high economic value (e.g., blueberries) or one of low economic but high aesthetic value (e.g., tall grass prairie for quail and other wildlife). Alley cropping can serve to transition fields of row crops into forests or, because of its desirable stewardship qualities, can be viewed as a stand-alone practice designed to provide a source of income, conservation and environmental benefits.

The early history of alley cropping has its roots in Southeast Asia. During the early 19th century, the Taungya System of forest management was developed by the British in Burma. In exchange for tending their Teak plantations, the wealthy allowed the poor the opportunity to grow food crops between and alongside their trees. Beginning in the 1960s and 1970s, a few visionaries began to speak out on the benefits of growing trees and food crops together to address hunger and ecological degradation in many parts of the world.

It was at this time that the Center for Agroforestry at the University of Missouri began research on alley cropping



Photo courtesy of Dusty Walter

Alley cropping shown at work with this 40-foot alleyway.

with black walnut. The initial plantings, which created 40-foot alleyways, proved too narrow to maximize the production opportunities, but much was learned.

Today's recommendation is to establish 40- to 50-foot alleyways only if the landowner is planning to transition from crops requiring full sun to crops more shade tolerant or transition from cropland to forest land, within an 8- to 12-year period. Under conditions where sun-loving plants (corn, soybeans, sunflowers etc.) are to be grown for longer periods, alleyways that are 60 feet or greater in width should be considered. Furthermore, to maximize the light reaching the alleyway crops, tree rows should be oriented east and west. Alley cropping is at its best when the species of choice offers high income opportunities while providing a suitable microenvironment within which companion crops can be grown. Specialty crop trees such as those that produce edible crops (Chinese chestnut, walnut and pecan) or long-needled pines (in Missouri -- loblolly, pitch X loblolly hybrid, etc.) for the production of pine straw used as a landscaping mulch, are good examples. Yields of as high as 2,000 pounds or more per acre can be expected

Continues on page 10 >

In this issue

Agroforestry	1
Forest Management	2, 4, 5
Forest Pest Update	3
Forest Industry	6
Urban Forestry	9

The greatest threat to our forests

By BRIAN SCHWEISS | *MDC Private Land Forestry Programs*



Forest threats are everywhere. Shown here is a dense bush honeysuckle that is choking the life out of the forest.

Photo courtesy of Brian Schweiss

Our abundance of trees puts many Missouri citizens at ease about the health and condition of our Missouri Woods. We tout their value in terms of beauty, soil conservation, homes for wildlife, and wood products. Spring woods turn green and then change to vibrant colors in fall for a season of growth, but unknown to many, our forests are in a perilous transition.

There are many threats to our forests that often go unnamed and undiscussed. Invasive plants are silently creeping through our native woods. If you knew what to look for, you could likely find invasive plants in woods near you. Many of our forests have become overgrown with bush honeysuckle and other exotic shrubs. The invasive plants become established in the understory of a mature forest and then proceed to choke out all other native shrubs and seedlings needed to repopulate our forests. Before you know it, you have

overstory trees in decline because of age or other reasons and nothing in the understory to replace them. A great victory for bush honeysuckle and other invaders but a loss for the long-term sustainability of our native forests.

Timber harvests that do not take into account future forest conditions and needs are another threat. A national woodland owner survey indicates that 31% of landowners have had a timber sale. Yet only 3% had a management plan and only 16% of landowners had sought advice on woodland management. Twelve percent of landowners plan to have a timber sale in the next five years. Will they use a forester? Will they leave quality trees for future generations? Or will they harvest the best and leave the rest? Foresters call this last approach hi-grading and it degrades the forest ecosystem and results in a forest of less value over time.

Our forests are also at risk of being converted to other uses. This happens in many forms from the rapid conversion due to advancing urban occupation, to a slower conversion by unmanaged cattle grazing in the forest understory where no plan for regeneration exists and the site gradually converts to pasture.

While all of these threats are real and need to be addressed, the threat that trumps all others, the greatest menace to Missouri trees and woods is a silent killer. The greatest threat is contentment. Most people are happy with their woods. It gives them what they need with minimal action. But like Kryptonite to Superman, contentment leads to a slow, agonizing decline and death of trees and woods, an issue with foreboding consequences.

How can doing nothing be bad for trees? A forest was never meant to be static. It benefits from a certain level of disturbance achieved through careful management. Various wildlife species will respond favorably or unfavorably depending on species and disturbance type. Lack of management and the overcrowding of trees that results can lead to several issues: Trees are more prone to insect and disease attacks; there is less food and cover for certain wildlife; trees grow slower; trees decline and die from overcrowding; tree species transition to less desirable ones.

Without disturbance, a forest will continue to grow, but it becomes over-crowded and trees will begin to die, sometimes individually and

Continues on page 5 >

FOREST PEST UPDATE

Rapid white oak mortality in Missouri

By SHARON REED | *Research Scientist, Plant Sciences Division, University of Missouri*
SIMEON WRIGHT | *Missouri Department of Conservation*

White oak mortality is not new in Missouri but the large number of trees dying and the unusual pattern has forest and land managers concerned. Since 2011, the MDC has received numerous reports of white oak mortality in southeast, central, and east-central Missouri. Unlike other common oak decline patterns, mortality appears to be rapid and affects white oak on high quality sites. Consequently, the phenomenon has been described as “rapid white oak mortality” (RWOM) to distinguish it from other oak decline patterns.

Research efforts

A team of University of Missouri researchers, including Drs. Sharon Reed, Jim English, Rose-Marie Muzika and John Kabrick (USDA-Forest Service) received funding from USDA-Forest Service’s Forest Health Protection Evaluation Monitoring program and the MDC for a one-year study to describe the regional extent of the mortality in Missouri, Arkansas and Iowa, and to identify associated pathogens and insects.

Major findings

A survey was completed by professional foresters and landowners in Missouri at 87 locations. Survey results indicate white oak mortality consistent with RWOM is occurring in pockets in central, east-central and southeast Missouri. More limited pockets of mortality are also occurring in northeast Missouri and southeast Iowa. Mortality in north-central Arkansas is consistent with traditional oak decline patterns. Mortality is occurring on state, federal and private lands with and without active management. Tree mortality is most frequent on lower slopes of all aspects and next to seasonal drainages. Large overstory white oak are affected most often, but other sizes, crown positions, and species, including post oak and red oak species, are also affected. Some healthy white oak remain in most affected stands. A detailed investigation of pathogens and insects associated with declining white oak at two research sites in the Missouri Ozarks is ongoing.

So far, scientists have detected the following pathogens and insects thought to contribute to mortality: *Armillaria*, *Hypoxylon* (*Biscogniauxia*), *Phytophthora cinnamomi*, two-lined chestnut borer and a wood boring ambrosia beetle *Xyleborinus gracilis*. All except *P. cinnamomi* and



Photo courtesy of Sharon Reed

RWOM pocket at Huzzah Conservation Area in Crawford County, Missouri.

X. gracilis are commonly associated with oak decline in Missouri. *P. cinnamomi* is a root rotting organism that has been associated with oak decline in Europe and similar white oak mortality patterns in Ohio. *P. cinnamomi* causes plant diseases world-wide. It was introduced into the southeast U.S. in the late 1700s or early 1800s and disproportionately affects susceptible species on lower slopes and along drainages.

Future direction

Scientists want to learn which locations are most at risk of RWOM so that management plans can be made. They also want to know if extreme weather events in the past few decades have played a role in RWOM. Some of these events include several localized and regional droughts since the ‘80s, a severe freeze in early April 2007, and the wettest back-to-back years in state history between 2008 and 2009. Additional funding has been applied for to expand current research regionally as well as to include weather data from the past few decades in the study. Please contact Dr. Reed (ReedSH@missouri.edu) if large numbers of white oaks are dead or dying on your property.

FOREST MANAGEMENT

TSI: Create healthy, vigorous stands

By FRED CROUSE | *Consulting Forester*

Timber Stand Improvement (TSI) is a practice that foresters recommend to improve the forest stand, just as the name implies. This practice has often been compared to weeding a garden. A garden is usually full of unwanted plants (weeds) competing with the desired crop and it is the same with the timber. There are unwanted trees in the forest and these need to be removed.

The basic principle behind timber stand improvement is to remove/kill a certain number of trees or stems so that those remaining will have more room to expand their crown or top. Leaves drive the forest and with more foliage produced, energy production is increased which is turned into more wood and fruit production. Most of our oak stands are even-aged, meaning that the acorns germinated and sprouted to produce a seedling in about the same year, give or take a few. In an average oak stand there are 6-inch diameter trees and 11+inch diameter trees, all the same age. Most of the 6-inch trees have already been targeted by Mother Nature for removal from the stand and will die over the course of a few years.

A typical forest stand may have started with as many as 10,000 seedlings per acre. When the trees have finally matured in a century, that initial number of 10,000 will have been reduced to 75-100 trees. The TSI practice reduces that time frame to a few days with the help of a chainsaw or other equipment.

There are many reasons and benefits to thinning a

forest stand and some of them are to improve the growth rate, forest health, species composition, ground cover, mast (fruit) production, economic value, aesthetics and so on.

From a timber stand point, the best trees (crop trees) should be left to grow. Squirrel, turkey, deer and other wildlife do not care what quality oak tree an acorn falls from as long as there are acorns for them to eat. A landowner should care whether that tree is a low quality pallet grade tree worth 7 cents per board-foot or a high quality veneer tree worth over a \$1 per board-foot (a bd.-foot measures 12" x 12" x 1" thick). The low quality tree is taking up the same space and producing the same benefits, except for the dollars. Not all trees are going to be veneer grade trees but the best tree for a given spot should be left to grow.

A typical unthinned forest is growing at the rate of 20-40 annual rings per inch. This means that it is taking the tree 10-20 years to add an inch of diameter. With thinning, this is reduced to an average of four years per inch for oak. Red and black oak grow faster than white oak and can add as much as an inch of diameter every two years.

Wildlife benefit from TSI because the mast production is greatly increased for soft and hard mast trees. Soft mast tree species include mulberry, serviceberry, dogwood, persimmon and paw-paw. Hard mast tree species include the oaks, hickories and

Continues on page 5 >

The basic principle behind TSI is to remove/kill a certain number of trees or stems so that those remaining will have more room to expand their crown or top.

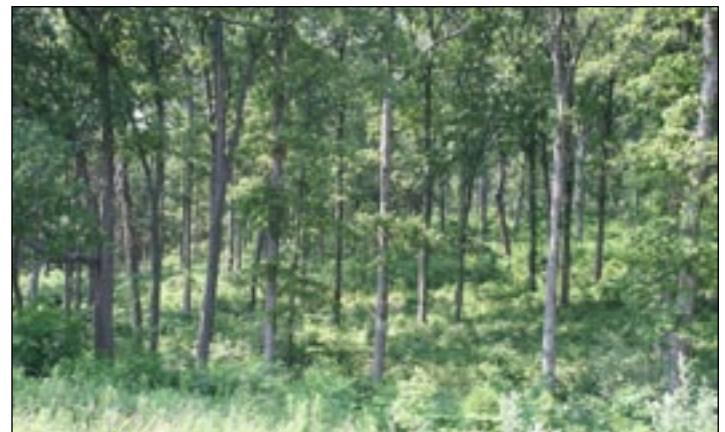


Photo on left: before TSi. Photo on right: after TSi.

Photos courtesy of Hank Stelzer

‘TSI’

Continued from page 4

walnut. Other side benefits from TSI are an increase in ground cover which wildlife use for food, escape cover, and nesting sites. If spring color (flowers) or fall color is a goal, thinning improves tree vigor and creates a better show of color in the spring and fall.

Thinning or weeding the forest also helps the overall health of the forest. A healthy, vigorous growing tree is better able to withstand native pest and disease attacks or even prevents them from happening. Most native pests and diseases are opportunistic in that they usually attack a weakened tree. This does not apply to introduced insects and diseases like emerald ash borer, Dutch elm disease, chestnut blight and others which have invaded our shores. The impact of weather variations, too wet-too dry, can also be greatly reduced when the forest stand is vigorous and growing well.

If you are interested in improving your forest stands contact a forester. Contact information for foresters can be found in this issue of GH (See page 5).

‘Greatest threat’

Continued from page 2

sometimes in groups. Over-crowded trees will also become susceptible to other stressors. Over time, a preponderance of shade tolerant species that have lower commercial and wildlife value will dominate the site.

Humans at one time were great contributors to disturbance. Native Americans burned the forests creating more open conditions for hunting and other purposes. Early pioneers harvested, cleared and abandoned land creating a series of disturbances. Unfortunately, many landowners today choose to do nothing which has serious future implications to the health and quality of the trees.

Missouri forests have rebounded from the massive harvesting of the early 1900s and the subsistence farming that followed. They have gone through a great period of regrowth and are reaching a point of maturity. A significant percentage of Missouri’s woods are in excess of 60 years of age, with some more than 80 years. For some species, this is their life span. The era of growth in Missouri forests has been excellent, now it is time for the era of management.

Learn more about the Call Before You Cut program

The Missouri Department of Conservation (MDC) is granting funds to the Missouri Consulting Foresters Association (MCFA) for the reimbursement of a portion of expenses involved in consulting foresters servicing requests for timber sale assistance under the “callb4ucut” program (www.callb4ucut.com). Owners of Missouri forest land who are interested in professional assistance in the sale of their timber can call MDC at (1-877-564-7483) for a packet of information and, if interested, can be referred to a professional consulting forester. Timber sales are financial in nature and using a professional forester has its benefits.

These benefits include:

- Learn if harvesting is right for your forest stands.
- Maximize timber income and save on taxes.
- Harvest to increase the quality and health of your trees and add value to the forest.
- Create a healthy forest for future generations.
- Find the best logger for the job.

More information can be found at the MDC’s website: <http://mdc.mo.gov/newsroom/thinking-abouttimber-sale-call-you-cut-0>

To sell or not to sell — that is the question

By JEREMY WILSON | *Consulting Forester*

Key questions to ask before signing that contract:

Are my trees ready to sell?

How do I market my timber?

Whom should I contact as my forester?

How much is my timber worth?

What should I expect my woods to look like after a sale?

While landowners may have heard that our timber markets are at record high levels, it is still wise to use discretion when marketing timber. Those who enjoy growing and managing timber know that in order to fully maximize timber's potential, management decisions must be viewed long-term. Many decisions are made not for ourselves, but for future generations and for future benefits of our forests. That is why it is wise to not get too excited about selling timber during good markets or too depressed during bad markets. Market value is only one of many factors to consider when making the decision to sell timber. While now is a good time to sell, especially white oak and walnut, it should not be done at the expense of the future health and productivity of our woods. If a landowner is considering a sale, here are a few key questions to ask before signing that contract:

1. Are my trees ready to sell? This is a question that should be answered by a professional forester who evaluates the landowner's woods. Factors such as soil, timber health, regeneration, stocking level and size, all figure into the equation of whether or not timber is ready to harvest. As a broad generalization, most of our upland

sites in Missouri will grow good timber up to 20 – 24 inches DBH (diameter at breast height – 4.5 feet above ground). On our best sites, such as on bottom ground and in the river hills, that diameter will increase to around 30 inches. Most trees reach both physiological and economic maturity by the time they reach the above size classes. If the landowner's best trees are only 16-18 inches DBH on a good site, it is probably not a good idea to sell, even in a good market.

2. How do I market my timber?

There are two basic options that most landowners have for selling timber in Missouri. Currently, the most common option (approach) is to enter into an agreement with a logging company to sell on shares. Generally, this is a 50/50 or 60/40 split between the landowner and the buyer. While there have been numerous sales successfully transacted in this manner by good, reputable buyers, this method lends itself to uncertainty and the possibility of the landowner being taken advantage of by a few dishonest buyers. Most landowners have probably heard more horror stories than success stories. The second option is to use the services of a professional forester. This is the best, from the perspective of the landowner and the long-term, well-being of the forest. A good forester will assist through the entire process of a sale. Usually, he/she will paint mark, measure and tally all trees determined to be ready for sale. Once that step is completed, the forester can assist with either bidding out the sale or contracting a good logger. While the sale is ongoing, the forester can monitor progress and act as a

facilitator to ensure the process goes smoothly.

3. Whom should I contact as my forester? Again, the landowner has two basic options. The first is to hire a private consulting forester, who are located throughout the state and offer their services for a fee (contact information can be found at the MCFA website: <http://www.missouriforesters.com>). Consulting foresters offer a full range of services including: paint marking of trees; value assessment; harvest monitoring; reports for tax savings; etc. The second option is to contact a Missouri Department of Conservation (MDC) forester (see contact article in this issue of GH). MDC foresters are also distributed throughout the state and can assist with a timber sale at no charge. All are well-trained professionals; however, due to work-load time constraints, MDC foresters may be restricted in the timely services they can offer.

4. How much is my timber worth?

The answer is dependent on a number of variables including type, condition, location, etc. The only way to get an accurate estimate of value is to have an appraisal prior to selling. Personally speaking, the sales I administer as a consulting forester, range between a couple hundred to several thousand dollars per acre. The average is around \$500-\$600 per acre. To arrive at this value, 10–20 trees per acre are usually marked to sell, depending on a number of factors.

5. What should I expect my woods to look like after a sale? "Beauty is in the eyes of the beholder." Obviously, when a tree is cut that is 60–100 feet tall and weighs several thousand

Continues on page 7 >



'Timber sales'

Continued from page 6

pounds, it will cause some damage when it falls. When you multiply this by the number of trees per acre to be cut, a landowner's woods will look different after a harvest. What should be considered is that trees are a renewable resource and that every time a tree is cut, an opportunity is created for surrounding trees and regeneration to fill that void and perpetuate a new healthy forest. The landowner should attempt to look past the site disturbance and see the new saplings and wildlife habitat that have been created, along with the small trees that have been released to grow, as a result of the harvest. The flush of new growth and diversity created following a harvest is beautiful, because I know that through the harvest, I have helped sustain or create a healthy, vigorous forest.

MU Guides online for your perusal

An MU guide entitled "Basic Elements of a Timber Sale Contract," created with input from MDC, MCFA, MFPA and the Master Loggers, can be found at: <http://extension.missouri.edu/p/G5057>. This guide, in association with **G5051**, Selling Timber: What the Landowner Needs to Know (<http://extension.missouri.edu/p/G5051>); **G5056**, Managing Your Timber Sale Tax (<http://extension.missouri.edu/p/G5056>); and **G5055**, Determining Timber Cost Basis (<http://extension.missouri.edu/p/g5055>) presents a nice informational packet for forest landowners.

If landowners are actively managing their woods, they are silviculturalists. And, they must realize that there is no single way to accomplish their management goals and objectives. Forest Management is based on science but its application, is an absolute art. An analogy for woodland owners is that of growing a garden. Like with a garden, the landowner is growing and managing a population of plants to harvest at maturity. However, unlike vegetable gardening, forest management deals in years, not days. Both are similar though in that the results of ones' work are readily visible during the rotation (growth period) and at harvest. As a fellow tree "gardener", I hope that all landowners derive the same satisfaction and enjoyment out of working the woods as I have. Always remember that if assistance is needed, a professional forester is only a phone call/email away.

The Bid Box By HANK STELZER | *MU Forestry Extension*

HOWARD COUNTY, MO.

100 acres
966 mixed hardwoods
(60% white oak)

Doyle tree scale used, 115,100 bd.ft.

Forester valued sale: \$32,000
2 bids: \$35,500; \$17,295
Return: \$355/acre

BOONE COUNTY, MO.

50 acres
27 walnut trees, 133 mixed hardwoods
(40% white oak)

Doyle tree scale used, 5,650 bd.ft. (walnut)
and 41,140 bd.ft. (mixed hardwoods)

Forester valued sale: \$22,000
3 bids: \$24,720; \$19,000; \$14,250
Return: \$494/acre

Jason Jensen, Forestry Field Programs Supervisor with the Missouri Department of Conservation, reported in the latest *Missouri Timber Price Trends* that markets have fluctuated, but still remain strong. Grade lumber markets, particularly grade red oak, have taken a couple of drops in price. Demand for railroad ties, stave quality white oak, and walnut remains very strong. Pallet markets are very good as well. Pine markets exist although they aren't as strong as we'd like to see them. Overall markets are still strong.

If you are a landowner considering a timber sale, now is a good time to contact a professional forester and start the process of initiating a sale. In addition to utilizing a professional forester, take the selection of your logger very seriously. The action of the logger during the harvest will determine the future value of the timber resource on your property. Fortunately, there are over 400 loggers that have completed Professional Timber Harvester training and 13 that have taken the extra step of becoming Certified Master Loggers. A professional forester and a trained logger should be a part of every timber sale in Missouri.

If you have competitively sold your timber in the past few months and would like to share the information with other landowners, we would welcome your input. All sales will be reported at the county level as shown at left and no personal information will be divulged.

Water quality is everyone's responsibility but the Missouri DNR has a lead role

By ROBERT STOUT | *Mo. DNR*

Missouri abounds with natural diversity in abundance. Our varied landscapes range from the rolling farmlands in the north to the Ozark hills in the south to the Mississippi River bottoms in the east and the open prairies in the west. Our water resources are equally diverse with crystal clear spring-fed streams, man-made recreational lakes and the Mississippi and Missouri Rivers.

Gov. Nixon announced in November that he has



Photo courtesy of MDNR

designated 2015 as the Year of Water. We can celebrate the fact that our water and air are significantly cleaner today than they were 40 years ago. While the issues we face today are not as obvious as they used to be, there is still a great deal we need to do. Maintaining water quality

relies in large part on the stewardship efforts of all Missourians. Agricultural and suburban-urban stormwater and wastewater disposal, mining, stormwater runoff, improper well construction or closure and on-site wastewater disposal practices can pose threats to our surface water and groundwater quality.

The Mo. Department of Natural Resources celebrated its 40th anniversary in 2014. The Omnibus State Reorganization Act of 1974 created the department, bringing together nearly 15 existing agencies that shared complementary missions to achieve common goals in environmental protection and cleanup, conservation and management of Missouri's natural, cultural and energy resources.

In the past 40 years: we've improved water quality by issuing and enforcing permits to control the quality and amount of wastewater that enters our waters; we've ensured the state's 2,738 public water systems provide safe drinking water to every resident and visitor to the state; we've helped

communities build and maintain their water and wastewater infrastructure; we've provided financial assistance to address point and nonpoint source pollution to improve our state's water quality; and we've properly disposed of nearly 17 million scrap tires from Missouri's landscapes and waterways.

Every Missourian depends on good quality water for their quality of life. We depend on abundant clean water for drinking, agriculture and industrial purposes. We want clean, pristine rivers and lakes when we are swimming, canoeing, boating and playing in our waters during the recreational season.

Water pollution compromises the ability of our streams and lakes to provide us with quality drinking water, abundant fish stocks, irrigation, recreation and other vital services.

"Our Missouri Waters" is the department's forward-looking effort to improve the water quality in every watershed in Missouri. The department understands the importance of collaboration and cooperation with the people who live and work in the watershed. So those are the people we are talking to throughout the state. We want to share what we know with them, listen to their ideas and help them to identify what needs to be done. Then together we can take action to work on our common priorities to protect, preserve and enhance the water resources in their watershed.

We have committed through "Our Missouri Waters" to establish and sustain the cooperative effort to meet with local partners to discuss and develop a watershed management plan. This plan will provide a clear path forward for groups to address sources of water pollution in their watershed. It will also serve as a guide to help meet the needs in areas of the state where sustainable groundwater supplies are limited or, where the projected need will exceed available resources.

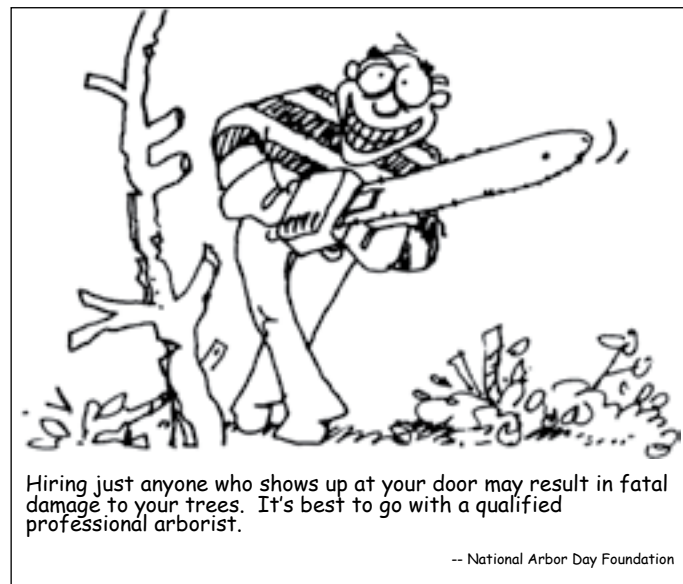
Protecting our waters is necessary to ensure that future Missourians can have the same quality of life and opportunities we enjoy today. The DNR needs the help of citizens, landowners, communities, industries and local leaders for this effort to be successful. We can focus scientific, technical and financial resources to empower and support the people and communities in the watershed community. Continued public participation and building strong partnerships will be the key to our success. We can't do this alone—clean water is everyone's responsibility and we must all work together.

URBAN FORESTRY

Dealing with storm damage

By EUGENE L. BRUNK | *MDC Retiree*

When a storm passes through and damages our property, most people want to deal with the damage as soon as possible, so they can “get things back the way they were.” We don’t like to have our lives disrupted any longer than absolutely necessary. Certainly, we need to begin the cleanup as soon as possible with regard to those actions necessary to provide for safety to ourselves and others, and also to prevent further damage to our homes from additional environmental factors such as rain, snow, etc. Fortunately, it is not always necessary to immediately try to remedy damage done to our landscape trees; and in many cases, it is best to take a more cautious approach so we do not do irreparable, long-term damage to the residual trees that survived the storm.



Taking your time will allow for a more deliberate process, and should help in making decisions about which trees should be removed.

Cleanup and recovery of storm damaged trees can be bewildering. Some injured trees can be treated and repaired to maintain their health and value to your property. Others should be removed completely, if they cannot be successfully repaired. The process of

dealing with storm damaged trees consists of three phases: making things safe, assessing the damage, and doing the recovery work.

Reducing hazards should be the first, and most immediate, action in order to make things safe. Many times damaged trees are entangled in downed electrical lines and it is essential that this danger be removed. However, homeowners should not attempt this work. It should only be done by the electrical provider, or persons qualified by the provider to do the work. If there are no electrical hazards present, or they have been removed/repared, the first step is to remove trees, limbs, etc. that have fallen on your home or are blocking access. Also, look for hanging limbs, or other debris, that could drop on your home or family. They should be removed immediately: Remember, safety first!

Any other tree damage can wait until the immediate

crisis has passed. Take your time to assess the damage, or have it assessed by an arborist, so you will have an idea of the magnitude and potential cost of any repair work that is indicated. Be patient. Develop a plan for dealing with each damaged tree. Taking your time will allow for a more deliberative process, and should help in making decisions about which trees should be removed; which is often one of the most heart wrenching decisions a homeowner must make. Again, professional advice can help you determine a course of action, if you are not familiar with the technical aspects involved.

Once a plan is developed to deal with the damage, it is probably best to hire a certified arborist to do the work. Check with your insurance carrier. Many homeowners policies provide coverage of storm damage to trees, and could significantly reduce the out-of-pocket costs to you. If your policy has no such coverage, get bids for the work to assure competitive prices.

Do not just let anyone who owns a chainsaw work on your trees. It could result in fatal damage to your trees! Unless you are competent yourself and know what you’re doing, it’s best to hire a qualified, professional, certified and insured arborist. It’s the best value in the long run, and the best medicine for your injured trees.

Forestry assistance for landowners

By BRIAN SCHWEISS | *MDC Private Land Forestry Programs*

At some point, every forest landowner can benefit from the services of a professional forester, which are available from the Missouri Department of Conservation to assist with a variety of landowner needs, including advice on hunting land, timber land and urban trees.

Approximately 48 Department of Conservation foresters are scattered about with assignments to work with landowners in designated counties. In addition, there are another 48 Private Land Conservationists whose job duties are to assist landowners with forest, fish, and wildlife management needs.

The easiest way to find a forester is to visit the MDC website (www.mdc.mo.gov). On the right side of the page is the “Local Contact” page, or you can contact a regional office. The primary role of MDC Foresters on sales and other assistance is to ensure the long-term health of the forest resource. Foresters can assist with sales that take into account the needs of wildlife, revenue for the landowner, and long-term productivity of the resource. The assistance is free but landowners must agree to manage their woods to maintain a healthy sustainable resource.

Landowners interested in wildlife management activities will find a wealth of resources in the Department of Conservation. Foresters and Private Land Conservationists can assist in forest thinning activities that improve the health of remaining trees and conditions for wildlife. Field management advice for “open land” wildlife such as quail is also available. Moreover, cost share programs are available for many forest and wildlife activities that are serviced by MDC Foresters and Private land Conservationists.

MDC Foresters can provide timely assistance for management advice but other services may take longer to set up. Landowners interested in a timber sale within a short time frame may want to contact www.callb4ucut.com or 1-877-564-7483 on how to set up the sale. There is also an app available for smartphones that provides a basic assessment for the potential of a timber sale, forest health and wildlife on the property.

If you are considering a timber sale, develop a harvesting approach that meets your needs. A harvest can benefit or hurt desired wildlife or future timber value depending on how it is conducted. Contact a Forester to get the best out of what is important to you and your woods (See page 5).

Regional Offices

Central Region
Columbia, MO
573.815.7900

KC Region
Lee's Summit, MO
816.622.0900

NE Region
Kirkville, MO
660.785.2420

NW Region
St. Joseph, MO
816.271.3100

Ozark Region
West Plains, MO
573.256.7161

SE Region
Cape Girardeau, MO
573.290.5730

SW Region
Springfield, MO
417.895.6880

STL Region
St. Charles, MO
636.441.4554

‘Alley cropping’

Continued from page 1

from Chinese chestnuts with a market value ranging from \$1.50 to \$7 per pound. Pine straw yields per acre will range from 150 to 250 or more 30-pound bales every other year, with a value between \$4 and \$7 per bale wholesale. When tree species that produce an annual or biennial crop are matched with the appropriate companion crop, alley cropping can become a practice of great economic value. (*Portions of this article first appeared in “Inside Agroforestry” Vol. 19 Issue 2, 2011*)

SAVE THE DATE

Allen Research and Education Site Field Day, April 11, on Old Eight Rd. off Rt. O, Laurie, Mo. The 2015 Field Day will be the first of many held on this highly diverse 560-acre farm. Agroforestry, forestry, wildlife, and warm-season grass management will be illustrated and discussed. Topics will include timber stand improvement (TSI), shiitake mushroom culture, “hack and squirt,” chain saw safety, forest farming with botanicals, “feathering” for wildlife benefits, and more. Weather permitting, a warm-season grass burn will be conducted. Directions and other information will be posted on the UMCA website—centerforagroforestry.org



green horizons

editorial board

Mike Gold, Research Prof., co-editor
MU Center for Agroforestry

Gene Garrett, Emeritus Professor, co-editor
MU Center for Agroforestry

Savannah Kannberg, co-editor
MU Center for Agroforestry

Joe Alley, Resource Conservationist
NRCS, MO SAF

Scott Brundage, Consulting Forester

Eugene L. Brunk, MDC Retiree

Donna Coble, Executive Director
Forest ReLeaf of Missouri

Lynn Barnickol, Executive Director,
Missouri Consulting Foresters Association

Shibu Jose, Professor, Director,
MU Center for Agroforestry

Rebecca Landewe, Current River Project
Manager
The Nature Conservancy – Missouri

Rick Merritt, chair,
Missouri Tree Farm Committee

Dennis Potter, chair,
Missouri Walnut Council

Brian Schweiss,
MDC Private Land Forestry Programs

Clell Solomon,
Mo. Christmas Tree Producers Association

Hank Stelzer, Professor
MU Forestry Extension

Robert Stout
Mo. Department of Natural Resources

Kim Young, Vice President/General Manager
Forrest Keeling Nursery

Bob Ball, Woodland Landowner

CONTRIBUTORS



CONTACT GREEN HORIZONS

Send story ideas, address
changes and subscription requests
for Green Horizons to:

Mike Gold, Gene Garrett
Green Horizons

University of Missouri
203 ABNR

Columbia, MO 65211

goldm@missouri.edu | (573) 884-1448

garretth@missouri.edu | (573) 882-3647

Issued in furtherance of Cooperative Extension Work Acts of May 8 and June 30, 1914, in cooperation with the United States Department of Agriculture. Dr. Michael Ouart, Vice Provost and Director, Cooperative Extension, University of Missouri, Columbia, MO 65211. University of Missouri Extension does not discriminate on the basis of race, color, national origin, sex, sexual orientation, religion, age, disability or status as a Vietnam era veteran in employment or programs. If you have special needs as addressed by the Americans with Disabilities Act and need this publication in an alternative format, write ADA Officer, Extension and Agricultural Information, 1-98 Agriculture Building, Columbia, MO 65211, or call (573) 882-7216. Reasonable efforts will be made to accommodate your special needs.



A Global Center for Agroforestry, Entrepreneurship and the Environment

Calendar of Events

January 24-25, 2015 — Practical Farmers of Iowa Conference, Ames, Iowa - practicalfarmers.org

February 4-6, 2015 — Missouri Natural Resources Conference, Lake of the Ozarks, Mo. - www.mnrc.org

February 5-7, 2015 — MOA Organic Association Annual Conference, Springfield, Mo. - www.moaconference.org

February 7, 2015 — Missouri Nut Growers Association, Pleasant Hill, Mo. - www.missourinutgrowers.org
New location: Community Life Center, United Methodist Church in Pleasant Hill, Mo. (30 miles SE of Kansas City)

February 17-18, 2015 — Iowa Cover Crops Conference, West Des Moines, Iowa

February 26-28, 2015 — MOSES Annual Conference, La Crosse, Wisc. - www.mosesorganic.org/conference/

March 4-8, 2015 — Permaculture Voices 2, San Diego, Calif. - www.permaculturevoices.com

April 11, 2015 — UMCA Field Day; Doug Allen Research and Education Site, Laurie, Mo.

April 30 - May 2, 2015 — Forestry on the Grow Landowner Conference, Idabel, Okla. - 4stateforestryonthegrow.org

May 31 - June 3, 2015 — North American Agroforestry Conference, Ames, Iowa - www.aftaweb.org