green horizons

Growing tomorrow's future today.

Fall 2017

A newsletter from the Center for Agroforestry in conjunction with the Forest and Woodland Association of Missouri
http://www.centerforagroforestry.org/pubs/newsletters.php

Volume 21 • Number 3
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NRCS Agroforestry and Woody Crop Establishment

NRCS Missouri Announces Agroforestry Financial Assistance through the Environmental Quality Incentives Program (EQIP) for Fiscal Year 2018. **Sign up deadline is November 17, 2017.**

The Natural Resources Conservation Service (NRCS) is an agency of the US Department of Agriculture (USDA) that is responsible for assisting landowners to address resource concerns on private land to improve our soil, water, air, plants, animals (both domestic and wild), and improve energy efficiency. The vision of NRCS is to ensure productive lands in harmony with a healthy environment.

Agroforestry is a unique land management approach that intentionally blends agriculture and forestry to enhance productivity, profitability, and environmental stewardship. In 2010, the USDA-NRCS and USDA Forest Service, along with numerous other partners and stakeholders, developed the USDA Agroforestry Strategic Framework to increase awareness and support for agroforestry across the country. As a result, starting in fiscal year 2017, NRCS in Missouri offered a dedicated funding pool for Agroforestry and Woody

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Tight Budgets Cause Green Horizons To Go 100% Digital

Green Horizons, the newsletter from the Center for Agroforestry, published jointly with the Forest and Woodland Association of Missouri, has been in existence for the past 21 years. The Missouri Dept. of Conservation (MDC) has generously provided financial support to the Center to help cover printing and mailing costs. This has enabled the Center to mail over 3,000 hard copies of each issue. Facing tightening budgets, MDC will no longer be able to continue to provide this support. Therefore, unless other financial support for printing and mailing Green Horizons is located, this will be the final issue of Green Horizons to be printed and mailed in hard copy to our readers. The good news, Green Horizons will continue to be produced (in full color) and mailed out electronically (as a pdf file). We call this the E-Version of Green Horizons. If you send your e-mail address to Michael Gold: goldm@missouri.edu he will add your e-mail address to the current list of individuals receiving the E-Version.

Track one million trees? Yep, there's an app for that!

Tom Ebeling, Forest ReLeaf of Missouri

The Missouri Community Forestry Council (MCFC) communications committee approached the MCFC executive board with an initiative to plant and verify one million trees by the year 2020. The MCFC executive council approved the goal in June of 2014, and since then, efforts have been made to move the goal forward. This initiative is known as the 20/20 Vision.

Planting one million trees is one thing. The physical counting of those one million trees is another thing. The goals for developing a tool to track these newly planted trees are to provide a means for the general public to engage in urban forestry efforts; accurately record the locations of trees that are planted as a part of the 20/20 Vision; and show the ecological and monetary value of the trees that are being planted.

The solution to this problem, in true contemporary form, is to create an app for that! Utilizing TRIM (Tree Resource Improvement and Maintenance) Grants from the Missouri Department of Conservation, Forest ReLeaf of Missouri partnered with Plan-it GEO, a Denver based urban forestry and GIS firm, and developed a web-accessible tree-plotting app.

The app, **PlantMOreTrees**, is a user friendly, GIS-based tree-plotting tool that provides the general public, as well as non-profit and private entities, with a means of recording where and when they plant a tree.

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Jim and Schatzi Ball Named Regional Tree Farmer of the Year

Matt Jones, Missouri State Tree Farm Committee

From among more than 73,000 Tree Farmers across America, the American Tree Farm System (ATFS) announced the four 2017 Regional Outstanding Tree Farmers of the Year. Our very own, Jim and Schatzi Ball of Parkville, Missouri, were selected for the North Central Region! They are now competing against Glenn and Scarlett Riley of Abbeville, Alabama (Southeast Region), Ned and Jean Therrien of Gilford, New Hampshire (Northeast Region) and the Chrisman Family of Kalispell, Montana (Western Region) for the National Tree Farmer of the Year award. The national winner will be announced in October.

To be considered for the Outstanding Tree Farm of the Year award, individuals must exhibit exceptional forest stewardship to protect and improve our forest resources. In addition, they must also promote forest stewardship within their communities. But, what else would one expect from two Show-Me State citizens and premier Tree Farmers!

The ATFS is a nationwide sustainable forestry and certification program designed specifically for small family and private forest owners. The program provides landowners with tools and guidance as well as a network of other landowners and experts, all to help them keep their forests healthy and providing clean water, wildlife habitat, wood supply and more. In total, there are 20 million forested acres within the ATFS program.

The following excerpt from an ATFS news release highlights some of the work Jim and Schatzi have done:

"North Central Regional Outstanding Tree Farmer of the Year, Jim Ball of Parkville, Missouri epitomizes forest stewardship in a state mostly known for its farm land. After serving in the military, Jim purchased 80 acres of land for hunting, but soon saw more opportunity in the property, acquiring other tracts to reach his now 850 acres. Interested in the beautiful hardwoods of the Midwest, Jim began planting and naturally growing black walnut and other hardwood species in 1991, since planting more than 160,000 trees. Actively caring for these stands has meant annually pruning and thinning to allow for optimal growth, most often with the work being done by his family alone. Jim has been met with challenges, particularly with runoff and drainage across the property. Taking them head on, he planned and created a 20-acre lake, and surrounding retention ponds on the property, an arduous task that many do not take on. Jim's continual management of both his forest stands and lake, has resulted in cleaner water (with less silt) as well as a thriving habitat for deer, turkey, quail and many other species."

Jim and Schatzi hosted this year's Missouri Tree Farm Conference at their Tree Farm in Caldwell County. Missouri Tree Farmers got to see and appreciate all the hard work they have done on the property. The Missouri Tree Farm Committee, on behalf of the entire Missouri forestry community extends heartfelt congratulations to Jim and Schatzi for this wonderful honor!

Track one million trees? Yep, there's an app for that!

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Not only does the tool allow an individual to record the exact location of a tree, but it also asks for information such as the species of tree, the size of the tree at planting and the type of nursery stock planted. All of these pieces of information will be crucial in the future for evaluating the success of the planting projects. In addition to providing a baseline for studies in the future, the tool also provides several interesting calculations pertaining to the ecosystem services provided by the trees, for example the amount of energy savings obtained or the amount of carbon sequestered.

The 20/20 Vision and Plant More Trees app were initially introduced at the 2016 MCFC conference in St. Joseph, MO. Donna Coble and Tom Ebeling with Forest ReLeaf of Missouri presented the 20/20 Vision, and how individuals and organizations can help move MCFC towards the goal of planting one million trees by the year 2020. Ian Hanou from Plan-it GEO demonstrated the many features of the app itself.

Improvements to the app were made through the TRIM grant, the tool was officially launched to the public at the 2017 MCFC conference in Springfield, MO. Check out the app at **pg-cloud.com/plantmoretrees.**

Acting under the direction of the MCFC communications committee, Forest ReLeaf of Missouri will be heading an effort to spread the word about the 20/20 Vision and the PlantMOreTrees app to local municipalities and other tree planting organizations that could utilize the tool. If you are interested in learning about either, contact Tom Ebeling with Forest ReLeaf of Missouri at tom@moreleaf.org.

NRCS Agroforestry and Woody Crop Establishment

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Crop Establishment within the Environmental Quality Incentives Program (EQIP). NRCS provides assistance to landowners in the form of Conservation Technical Assistance (CTA) and Financial Assistance. CTA is the help that NRCS and its partners provide to private landowners to address opportunities, concerns and problems related to the use of natural resources and to help landowners make sound natural resource management decisions on private, tribal and other non-federal lands. CTA is voluntary and free. One of the most beneficial outcomes of participating with NRCS CTA is the development of a Conservation Plan specific to each landowners' property and goals. If the landowner chooses CTA, the Conservation Plan serves as a springboard for those interested in participating in EQIP financial assistance. EQIP provides financial assistance to help implement conservation practices that address natural resource concerns and opportunities. Financial assistance is awarded to the producer for implementing conservation practices in accordance with established conservation standards established for each practice. The core conservation practices associated with the EQIP Agroforestry and Woody Crop Establishment funding pool are:

- Alley Cropping
- Multi-Story Cropping
- Riparian Forest Buffers
- Silvopasture
- Tree/Shrub Establishment
- Windbreak/Shelterbelt Establishment

These conservation practices may be utilized individually or in combination in different parts of the landscape depending on the landowner's goals. Landowners interested in Agroforestry and/or Woody Crop Establishment on their property have many resources at their disposal through the NRCS CTA and EQIP Financial Assistance opportunities. Agroforestry and Woody Crop Establishment is consistent with NRCS goals and vision.

Landowners interested in financial assistance through EQIP for Agroforestry and Woody Crop Establishment on their farm should submit an application to their local NRCS office by November 17, 2017 to be considered for Fiscal Year 18 financial assistance. An online application form is available here:
(https://www.nrcs.usda.gov/wps/PA_NRCSConsumption/download?cid=nrcseprd413429&ext=pdf)

For general questions about EQIP and the Agroforestry and Woody Crop Establishment funding opportunity please contact Lauren Cartwright, Missouri EQIP Program Coordinator at 573-876-9415 or lauren.cartwright@mo.usda.gov

To submit an application and make an appointment to visit with an NRCS certified conservation planner, contact your local USDA Service Center (https://offices.sc.egov.usda.gov/locator/app).

In addition, resources are available online to learn more about NRCS and EQIP. National NRCS Webpage https://www.nrcs.usda.gov/wps/portal/nrcs/site/national/home/

Missouri NRCS Webpage: https://www.nrcs.usda.gov/wps/portal/nrcs/site/mo/home/

Another good reference describing the program has been developed as a University of Missouri Center for Agroforestry, Agroforestry in Action publication:

Using NRCS Technical and Financial Assistance for Agroforestry and Woody Crop Establishment through the Environmental Quality Incentives Program (EQIP).

http://www.centerforagroforestry.org/pubs/NRCS_AgroforestryandWoodyCrop.pdf

Online Mapping Tools for Land Users

By Doug Wallace, NRCS Forester (retired)

As a land user or land owner, many times the idea or need of having a map or resource information covering some aspect of the land that you own or manage comes up. Fortunately with the current array of online tools, converting that idea or need into a usable document is now a real option. But, how or where to get started can be a stumbling factor. Below are three websites to help you get started developing and printing a number of useful and informative maps and retrieve data for your use in managing your property.

Peter F. Drucker, a famous management specialist liked to say, "What's measured improves". In other words, the more you know about your land, the easier it will be to make informed management decisions. These three sites should help you move in that direction and ultimately support your efforts to maximize the understanding of your property and its resources.

1. Web Soil Survey.

Web Soil Survey (WSS) provides soil data and information produced by the National Cooperative Soil Survey. The USDA Natural Resources Conservation Service (NRCS) maintains this site and provides access to the largest natural resource information system in the world. NRCS has soil maps and data available online for all of Missouri's counties. The site is updated annually and maintained online as the single authoritative source of soil survey information.

WSS allows you to select the information on the following:

- Map units for your geographic area of interest
- Information relevant to your land use concerns; e.g., grassland, forest land or cropland
- Downloadable soil survey data for use in a local geographic information system (GIS).
- Soil maps for your area using color imagery or a topographic map as a backdrop.
- Tables of soil property data and interpretations related to your area of interest
- Custom soil resource reports (in PDF).

2. My Land Plan.

My Land Plan, provided by the American Forest Foundation (AFF), is a resource for woodland owners to help protect and enjoy their woods. AFF works on behalf of family forest owners around the country who want to ensure their woods stay healthy. Easy to use tools guide you to map your land, set goals, keep a journal and connect with other woodland owners and foresters. The exclusive Land Plan tool gives you easy ways to get more involved with keeping your woods healthy. After you create a profile, you will have access to the Land Plan tool, an exclusive area of the website.

The planning tool lets you:

- Map the boundaries of your land
- Add features and special sites like trails, special trees and other favorite spots
- Set goals and plan actions to protect and care for your land
- Receive information specially tailored for what you want to do on your land
- Record your actions and experiences in your own personalized forest journal.

3. Community Commons.

Community Commons is an interactive mapping, networking, and learning platform for broad-based healthy, sustainable, and livable communities. The organizations that manage it are the Institute for People, Place and Possibility, the Center for Applied Research and Environmental Systems (CARES - MU), and Community Initiatives. This site provides public access to thousands of meaningful data layers that allow mapping and reporting capabilities so you can thoroughly explore your area of interest. This site allows you to enhance the management of your land with maps and data reports that can be shared and saved. When you visit their Map Room, it takes just a few clicks and you are on your way to looking at visual data in your area of interest. You can also see their full data list. Once you have made a map, you can save it privately to your profile or save and share it with your friends and family.

Find these resources online:

1. https://websoilsurvey.nrcs.usda.gov/app/HomePage.htm
2. https://mylandplan.org/
3. https://www.communitycommons.org/maps-data/

Forest ReLeaf helps replace trees lost to EAB

Tom Ebeling, Forest ReLeaf of Missouri

In September of 2016, the City of St. Louis began removing ash trees in response to the emerald ash borer (EAB) infestation. Thanks to grant funding from the Mysun Charitable Foundation, National Fish and Wildlife Foundation, and Wells Fargo, Forest ReLeaf of Missouri began planting new trees where ash trees once stood.

Forest ReLeaf hosted four planting days in November and December in the First Ward of St. Louis, planting approximately 50 trees at each event. Two seasonal volunteers from our organization were instrumental in the success of these events. They recruited neighborhood residents through door-to-door canvassing, posting fliers in local restaurants and convenience stores, and contacting congregations and schools in the area. They even got local businesses to help sponsor the events by providing coffee and doughnuts for the volunteers. All these efforts have resulted in establishing relationships among Forest ReLeaf, local businesses, and even the residents themselves!

The days of the plantings, volunteers ranging in age from 4 to 75 showed up and collectively planted 200 new trees in their yards. Getting the residents involved was crucial. By enabling the residents of these neighborhoods to plant the trees themselves, they now have a sense of ownership. With ownership comes stewardship thereby increasing the trees' chances of survival and growth.

Across four neighborhood events in Ward One, volunteers ranging in age from 4 to 75 planted 200 trees, representing a variety of native species, to replace the ash trees lost to EAB.

By enabling the residents of these neighborhoods to plant the trees themselves, they now have a sense of ownership. With ownership comes stewardship.

In addition to the 200 trees planted by residents, City of St. Louis forestry workers have planted another 600+ trees in the First Ward.

To ensure success, native species known to be long-lasting and relatively low-maintenance street trees were selected. The newly planted trees represent 35 different species, all native to the state of Missouri. In neighborhoods that were once entirely shaded by ash trees, future canopies will include black gum, sugarberry, river birch, northern catalpa, blackjack oak, Shumard oak, baldcypress and yellow-poplar, just to name a few of the 35 species.

To date, Forest ReLeaf has provided 1,200 trees to the City of St. Louis to help offset the loss of the city's ash trees. We are taking advantage of this tragic loss of so many trees by working with the city to increase species diversity in our urban canopy and engaging heavily impacted communities to inspire stewardship of the new urban green space they helped establish.

Forest ReLeaf is continuously seeking funding so that they can reforest other heavily impacted wards throughout the city. CommuniTree Gardens Nursery, the community assisted nursery operated by Forest ReLeaf, has plans to devote its entire 7- and 15-gallon grow zones to the production of high quality, native street trees to keep up with demand as citizens seek replacements for their ash trees lost to EAB.

To learn more about Forest ReLeaf's response to EAB, visit: www.moreleaf.org/ashreleaf

Species Spotlight: Persimmon

Hank Stelzer, MU Extension – School of Natural Resources

Persimmon (*Diospyros virginiana*) goes by many common names; American persimmon, common persimmon, eastern persimmon, "simmon", "possumwood", even "sugar-plum". It ranges from southern Connecticut/Long Island to Florida, and west to Texas, Louisiana, Oklahoma, Kansas, and Iowa.

On the local landscape, its range is just as variable; occurring in rocky, dry, open woods; edges of woods, glades, prairies and wetlands, old fields, fencerows, bottomland woods and along streams.

It is a medium-sized tree usually 30 through 80 feet in height, with a short, slender trunk and spreading, often pendulous branches, which form a broad or narrow, round-topped canopy.

The peculiar astringency of the fruit is due to the presence of a tannin similar to that of Cinchona. A common joke among people in the know is to induce strangers to taste unripe persimmon fruit, as its very astringent bitterness is shocking to those unfamiliar with it.

Persimmons are round, juicy berries, pale orange in color with a slight waxy bloom, ripening in late autumn.

And many folk use the seed to predict upcoming winter weather. Taking a ripe seed from a locally-grown tree, they carefully cut it open and observe the kernel inside. If the kernel is spoon-shaped, lots of heavy, wet snow will fall. Spoon = shovel! If it is fork-shaped, you can expect powdery, light snow and a mild winter. If the kernel is knife-shaped, expect to be "cut" by icy, cutting winds.

Persimmon Pudding.

This is a baked dessert with the taste of pumpkin and the texture of gingerbread. (Yum!). The recipe is from the "Indiana Nut Growers Cookbook" (1995), courtesy of the Indiana Nutgrowers Association.

Serve with a dollop of whipped cream and enjoy!

Ingredients:

- 2 Cups persimmon pulp
- 2 Cups sugar
- 3 small eggs
- ½ stick (4 Tablespoons) margarine
- 1 teaspoon baking soda
- ½ Cup buttermilk
- 1-¾ Cups sweet cream (or milk)
- 1 teaspoon cinnamon
- 2 Tablespoons additional persimmon pulp
- 1-¾ Cups flour
- 1 teaspoon baking powder

Instructions:

- Mix together the persimmon pulp, sugar and eggs.
- Mix baking soda with buttermilk and add to mixture in bowl.
- Melt margarine in baking pan and add to mixture.
- Sift flour and baking powder together and add alternately with cream or milk. Add cinnamon and mix well.
- Fold in the additional 2 Tablespoons persimmon pulp.
- Pour into 13 x 9-inch metal pan and bake at 350 °F for 55-60 minutes. Be careful not to over bake.

Leaves: Alternate, simple, four to six inches long, one to three inches wide, broadest above the middle. Leaf margins are smooth. Mature leaves are thick, dark green, shining above, pale and often pubescent beneath. In autumn, they sometimes turn orange or scarlet, but they can also fall without changing color. A tea can be made from the leaves.

Flowers: Fragrant male and female flowers are greenish-yellow to cream white and borne on separate trees in May/June, when leaves are half-grown. The flowers are pollinated by insects and wind. Fruiting typically begins when the tree is about six years old.

Fruit: A juicy berry about one inch in diameter, containing one to eight seeds. It ripens in late autumn, is pale orange with a red cheek, often covered with a slight glaucous bloom. The seeds can be roasted and used as a coffee substitute, and during the American Civil War they were used as buttons.

Its flesh is astringent while green, sweet and luscious when ripe. The fruit is high in Vitamin C. The fruit pulp can be used to make molasses or fermented with hops, cornmeal or wheat bran into a beer of sorts or made into brandy. Other popular uses include desserts such as persimmon pie, persimmon pudding, or persimmon candy.

Bark: Dark brown or dark gray, deeply divided into plates whose surface is scaly.

Twigs and winter buds: Twigs are slender, zigzag, varying in color from light brown to ashy gray and finally become reddish brown. Astringent and bitter. Buds are ovate, acute, one-eighth of an inch long, covered with thick reddish or purple scales.

Wood: Yellowish white sapwood; heavy, hard, strong and very close grained. The small amount of heartwood is a true ebony ranging in color from blackish brown to black, often streaked, and irregular in outline. One cubic foot weighs 49.28 pounds. It is difficult to season, difficult to work with tools, but fairly stable when dry. When subject to wear, it polishes to a very smooth surface. The wood has been used for golf club heads and shuttles in the textile industry.

Folklore: People think that frost is required to make the fruit edible. But, fully ripened fruit lightly shaken from the tree or found on the ground below the tree is sweet, juicy and delicious.

Missouri Managed Woods

Steve Westin, Missouri Department of Conservation

Missouri's forests and woodlands cover about one third (more than 15 million acres) of the state's landscape, with over 75% of that forested land in private, family ownership. Privately owned forests provide benefits to all Missourians in the form of water quality protection, areas for recreation, raw materials for the forest products industry, wildlife habitat, soil erosion control, and air pollution reduction. It is in all Missourians' best interest that our forests be as healthy and productive as possible.

In 1946, state legislators enacted the Missouri State Forestry Law with the purpose of improving Missouri's forests after the liquidation of the resource in the early 1900's. One component of the legislation was the Forest Crop Land (FCL) program. The FCL was voluntary and it encouraged landowners to manage their woodlands with the longer view in mind; producing a continuous crop of forest products, as well as the related benefits listed above by deferring property taxes, and providing access to professional advice.

In 2017, the reasons for good forest management are the same as they were back in the 1940's when the FCL was enacted. However, the general situation in Missouri's woods has changed as have our forest landowners and the world they live in.

In an effort to reach more private forest landowners and get more land under active, long-term, professionally directed management, the Missouri Department of Conservation's (MDC) Forestry Division has created a new program called Missouri Managed Woods (MMW), based on the original FCL program. Landowners who are actively managing their woods under an approved plan, such as members of the Missouri Tree Farm System, or those who are interested in developing and implementing a plan on their lands, can benefit from this program.

Program Requirements: Participating tracts must enroll a minimum of 20 contiguous acres of wooded land having a maximum market value of no more than $3,500 per acre. The landowner must agree to a 15-year enrollment commitment. Finally, enrolled lands cannot contain structures such as houses, barns, large sheds, or large bodies of water. Landowner Benefits & Services: Enrolled lands will receive priority assistance from a professional forester.

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“Shooting a Double”: Managing Oaks for Acorn and Timber Production

Hank Stelzer, MU Extension – School of Natural Resources

I fondly remember bird hunting with my dad. Clear, crisp autumn days made especially memorable seeing the satisfaction on his face when he “shot a double”, bagging two birds with one shot!

Flash forward to just the other day when I encountered a friend of mine, an avid deer hunter, coming back from a day of scouting his woodlands for the upcoming harvest season. His beaming countenance reminded me of my dad.

No. He did not take any deer out of season. His joy came from surveying the acorn crop an oak stand on his property he has been managing the past couple of years. Through his management efforts, he has “shot a double”; growing high-value timber and high-value food for wildlife!

Any landowner can do the same thing. For starters, do not try to do too much too fast. Many folks I know get easily discouraged trying to manage their entire property all at once. Think small and concentrate your effort on those acres of your property better able to respond to management. I am talking about north- and east-facing woodland slopes. On these sites, the soil tends to be deeper, moister, and more fertile. The microclimate is cooler and less stressful on tree growth. The result is potentially bigger trees (more wood) and larger crowns (more acorns).

Oaks are one of the most important and abundant hardwood trees found in Missouri’s forest. Besides producing high-quality wood products, oak acorns (along with nuts from hickory and walnut trees) provide an important food source called hard mast. This hard mast is not only used by deer, but also by wild turkeys, squirrels, and wood ducks. Their widespread occurrence, palatability, nutritional value, and availability during the fall and winter months make acorns and excellent source of needed energy.

Big oak trees with straight trunks are relatively easy for even a novice landowner to identify. But, what about a regular producer of acorns? The only way to know for sure which trees are the best producers is to check the acorn production over three to five years. When walking through your woodland, note the trees that seem to produce in an “off” year. These trees will likely yield the most acorns over the long run. If you do not want to wait three to five years, you can get a rough estimate of the acorn-producing capacity of individual trees by observing in a single year in which there is a good crop.

Releasing high-quality oak trees from neighboring trees can lead to an increase in wood volume and acorn production.

Not every oak tree in your woodland stand will be a ‘timber’ tree and a good acorn producer. Sometimes, you will have to make tough choices. That is where the advice of a professional forester comes in handy. He or she can evaluate an individual tree’s timber potential and its relationship with other trees in the stand to maintain proper spacing and species diversity. That information, coupled with your mast (acorn) records will help you make the final call as to which trees to keep in the stand.

Once you have identified which trees to keep, the next step is to conduct a ‘crop tree release’. This is where you remove neighboring trees to expose the crown of your crop tree to full sunlight on all sides. This thinning facilitates the expansion and density of branches within the crown. Increasing the density of branches within the crown not only increases the potential production of acorns, but it also allows the tree to produce more wood at a faster rate.

It is just like what happens when you weed a garden. Removing weeds and smaller tomato plants enables those remaining plants to not only grow bigger, but also produce more tomatoes!

Nineteen species of oaks are found in Missouri. They are divided into two groups: the red (or black) oak species and the white oak species. (Table 1). Acorns of the red oak group take two growing seasons to mature and are bitter because they are high in tannic acid. White oak acorns are less bitter and mature in one growing season.

The best time to observe and rank trees for their potential acorn production is from mid- to late-August before acorns are consumed by a variety of insects and wildlife. Acorns can be easily seen through binoculars on bright, sunny days when they are silhouetted against the sky. Table 2 provides some general criteria for ranking an individual tree's acorn production.

Removing competition of neighboring trees provides more sunlight to the crop tree.

Table 1. Oak species in Missouri.

Common name	Scientific name
White oak group	
burr oak	*Quercus macrocarpa*
chinkapin oak	*Q. muehlenbergii*
overcup oak	*Q. lyrata*
post oak	*Q. stellata*
swamp chestnut oak	*Q. michauxii*
swamp white oak	*Q. bicolor*
white oak	*Q. alba*
Red oak group	
black oak	*Q. velutina*
blackjack oak	*Q. marilandica*
cherrybark oak	*Q. pagoda*
northern red oak	*Q. rubra*
Nuttall oak	*Q. texana*
pin oak	*Q. palustris*
scarlet oak	*Q. coccinea*
shingle oak	*Q. imbricaria*
Shumard oak	*Q. shumardii*
southern red oak	*Q. falcata*
water oak	*Q. nigra*
willow oak	*Q. phellos*

Table 2. Ranking of acorn production potential for individual trees by red and white oak groups. These averages are based on the number of acorns counted on the terminal 24 inches of healthy branches found in the upper third of the tree crown.

Ranking	Average number of acorns per branch	
	White oak group	Red oak group
Excellent	18+	24+
Good	12 -17	16 - 23
Fair	6 – 11	8 - 15
Poor	0 -5	0 - 7

Table 2. Ranking of acorn production potential for individual trees by red and white oak groups. These averages are based on the number of acorns counted on the terminal 24 inches of healthy branches found in the upper third of the tree crown.

For more information on managing your woodland for timber and wildlife, check out these MU Extension Guides:

MU Guide 9414: Managing oaks for acorn production to benefit wildlife in Missouri.
MU Guide 9415: Integrating woodland and wildlife management practices on your property.

Missouri Managed Woods

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If one is not already in place, a forest management plan based on the landowner's goals for their land and the condition of the woods will be developed. MMW lands may also be eligible for an increased MDC cost share rate to assist with forest management practices.

Should a timber harvest be a viable option and desired by the landowner, assistance in the form of timber marking and sale administration will be provided to complete the sale in a sustainable way. If a trained logger is used and best management practices are installed, the landowner will then be eligible to receive an incentive payment equal to six percent of the stumpage value of the harvest. A timber basis evaluation will be prepared, if appropriate, to help with the income tax treatment of the proceeds from the timber sale.

As an additional benefit, landowners in MMW will see a reduction in their property taxes on enrolled woodlands. The amount of savings will vary across the state depending on local taxes and land values.

Landowner Obligations: In order to participate in the program landowners must sign their management plan and agree to implement it according to a schedule agreed upon jointly by the forester and the landowner, showing progress within five years. Additionally, property boundaries must be clearly marked and livestock must be fenced out of the woods.

If a timber sale occurs on lands while enrolled in the MMW program the landowner must pay a six percent yield tax on the stumpage value of the forest products sold.

Finally, the landowner will be encouraged to enroll in the Missouri Tree Farm program which will provide world-recognized certification of sustainable management for the property.

For more information and a Missouri Managed Woods application, call 877-564-7483, or visit:
https://mdc.mo.gov/property/property-assistance/missouri-managed-woods

The Bid Box

Hank Stelzer, MU Extension – School of Natural Resources

Bollinger County, Missouri

- 43 acres
- 520 marked trees
- Estimated volume: 138,393 bd. ft. (International Scale)
  - 25% of the volume was in white oak; remaining volume mixed hardwood.
- 18-month contract period (most contract periods are 12 months)
- Forester valued the sale at $30,000
- Four bids received
  - $50,250
  - $25,510
  - $24,500
  - $24,242
- Landowner took the high bid
- Return: $1,168 per acre

If you are thinking about selling your timber, contact your professional forester now! Not only will they help you get the highest price for the trees in your woodlots that need to be harvested, but they can help ensure future harvests are profitable, too! To help you become familiar with some of the aspects of selling timber, check out the following MU

Guides:
G5051 – Selling Timber: What the Landowner Needs to Know
G5057 – Basic Elements of a Timber Sale Contract
G5056 – Managing Your Timber Sale Tax
G5055 – Determining Timber Cost Basis

These guides will help you better understand the ins and outs of marketing your timber and help you help your professional forester!

green horizons

editorial board

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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. Marshall Stewart, Vice Chancellor for Extension and Engagement, University of Missouri, Columbia, MO 65211.

Past issues of Green Horizons are available on the Center's website: www.centerforagroforestry.org

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Calendar of Events

Missouri Walnut Council Fall Event
Sept 29-30, 2017
http://www.walnutcouncil.org/state-chapters/missouri.html

Silvopasture Field Day
October 4, 2017 | 2:00pm-5:00pm | Green Pastures Farm in Clark, Missouri
$5 registration. Contact: Gregory Ormsby Mori, (573) 882-9866, ormsbyg@missouri.edu
http://www.centerforagroforestry.org/events/Silvopasture%20Showcase%20and%20Tour%20Oct%204.pdf

Kansas 23nd Annual Fall Forestry Field Day
October 4, 2017
http://www.kansasforests.org/events/news_docs/calendar/FFD%20Brochure%202017.pdf

11th Annual Missouri Chestnut Roast
October 7, 2017 | 10:00 a.m. – 4:00 p.m.
Horticulture and Agroforestry Research Center, New Franklin, MO. Contact: 573-884-2874
http://www.centerforagroforestry.org/events/ChestnutRoast_2017.pdf

Green Lands Blue Waters (GLBW) Annual Conference
Nov. 28-29, 2017 | Madison, WI
Includes Mid-America Agroforestry Working Group (MAAWG) session in conjunction with Perennial Farm Gathering (see below). Two day registration: $185. For details: https://www.cias.wisc.edu/glbw2017/

Perennial Farm Gathering
Nov. 29, 2017 | Savanna Institute | Madison, WI
Details forthcoming: http://www.savannainstitute.org/perennial-farm-gathering.html

The Center for Agroforestry
University of Missouri

A Global Center for Agroforestry, Entrepreneurship and the Environment