Welcome!

Welcome to “Missouri Chapter News” distributed to members of the Missouri Chapter, Walnut Council. The newsletter is intended to keep you informed about timely events while also distributing general information about the management of fine hardwoods. Members are encouraged to provide feedback about this outreach approach and suggest topics for future issues. Comments and suggestions can be emailed to Dennis Evans, Chapter President.

During the year we will also distribute “technical articles” on specific topics of interest to woodland landowners. Both the newsletters and technical articles will be archived at our chapter website.

I’m excited for the future of the Missouri Chapter of the Walnut Council!

Several members of the Walnut Council met in December for a daylong session on the future of the organization. Over the last few years we have experienced a gradual decline in membership. Presently, membership is at 122 members from the high of 150. The Missouri chapter is not alone in declining membership. We developed a membership strategy with the intent of identifying issues that may be responsible for the decline of membership and a strategy on how to grow and retain members. We have determined that the purpose of our organization is to encourage the management of privately owned forest resources in Missouri. I feel that our mission statement actually changed a few years ago, but finally, we have changed it in writing. The change of our statement will attract more tree farmers and landowners into our organization. We have not changed who we are: we still share information from personal experiences, provide science-based information to members, provide outreach learning activities and encourage best management practices.

Over the last several years, you may have noticed during our field days and newsletters more emphasis has been placed on the management of all the fine hardwood, which includes both the oaks and black walnut. In fact, we have toured sites where a black walnut tree was not present in the stand of trees. There are tree farmers with excellent stands of high quality oaks that may not have a have a large inventory of black walnut in their stands. I want to reach out to those tree farmers who don’t own a large number of walnut trees who may not participate in the Walnut Council if we exclusively discuss black walnut management.

In order to communicate to potential new members, we are updating our brochure to reflect our changes and to improve our appeal to the privately owned forest resources owners of Missouri. Also, look for my article on pages 6 and 7 in the January 2016 issue of “Green Horizons” to learn more about changes ahead within the Chapter. This publication is a newsletter from the Center for Agroforestry in conjunction with the Forest and Woodland Association of Missouri. If you are not now receiving “Green Horizons,” please subscribe to this free newsletter and learn and read about “growing tomorrow’s future today.”

The most successful method of obtaining new members is to invite someone to a field day. The brochures and the printed articles will inform the public about our organization, but an invitation to a neighbor, friend or relative will be the best way of attracting new members. Watch for news about our April 1-2 spring meeting and field day.

Thank you for your continued support.
Spring Meeting and Field Day
Harlan Palm, Primary Contact

SAVE THE DATE! The theme for the Missouri Chapter’s spring meeting and field day Friday and Saturday, April 1-2, is “White Oak Management,” emphasizing the logging and barrel stave industry. Events will take place in Montgomery County near New Florence and High Hill.

The Missouri Chapter of the Walnut Council is inviting woodland landowners to meet Friday afternoon at Dad’s Junction Café at Exit 175 to hear speakers discuss woodland management followed by the Chapter business meeting. Saturday morning, the group will caravan to Independent Stave Company (ISC) south of New Florence and then to a stand of white oak timber south of High Hill. Managers of ISC will explain white oak log qualities, values and the staves milled for barrels. A Missouri Department of Conservation Forester and a private Consulting Forester will highlight the woodland management plan that focuses on managing and harvesting white oak timber. There will be a demonstration of timber stand improvement procedures used on the farm.

Woodland landowners owning white oak timber in Montgomery and Callaway Counties are especially encouraged to attend. The agenda and specific details will be provided in early March. Questions about this event can be directed to Harlan by calling 573-228-0898.

MoFRAC facilitates communication among all who are interested in Missouri’s forests to assure long term forest health, productivity, and sustainability. It serves as a sounding board for the member organizations and agencies regarding planning, operations, programs, policies, or legislation affecting forestry. MoFRAC supports meetings, workshops, field days, and conferences to promote the importance of Missouri’s forests and awareness of forestry issues. Finally, MoFRAC supports science-based research and surveys to gather information and opinions related to forestry issues in Missouri.

Our chapter is represented today by members Scott Brundage and Fred Crouse.

Walnut Veneer Log Grades
Dan Harris - Walnut Council Industry Representative

Woodland landowners managing valuable hardwood timber need at least an awareness of walnut log grades. Knowing what the log buyers want can sometimes influence how you manage your stands of timber. During a recent Walnut Council field day in Missouri, after hearing a lot of discussion about growing veneer quality trees, a landowner raised the question, “Just what is a veneer log?”

Veneer log grades can get quite technical from the perspective of log buyers. Companies generally have their own set of rules for grading logs depending on their market strategy. The list of grading rules with this article are basic and meet the needs of someone wanting an idea of log grading, but there is a lot of art to the science!

When developing log grades we work backwards from the eventual product or usage of that species. First, we define what is considered as defects then consider cutting lengths, log lengths, and diameter. Walnut is one species which has a myriad of defects such as cat faces (limb knots), pin knots, growth texture, sap percentage, figure, and bird peck to name the most common. Cutting lengths also generally follow the products being manufactured. Architectural panels and high end furniture are generated from the ‘A’ quality logs so 10’ and longer logs are required. Standard 4’x 8’ panels require 99” net. Door and desk lengths are normally in the 7’- 8’ range. Trim allowance is normal in both veneer and lumber logs. A 4”- 6” trim allowance compensates for end checking.
and mineral stain. Specific cutting lengths are provided in a log grade specification sheet supplied by the buyers for their projects. Often you will hear reference to the minimum veneer log length of 8'-4" which includes the cutting length for the product say of 8’ plus a 4” trim allowance. Ultimately log lengths are determined by the buyer’s needs.

When grading veneer, we consider three basic criteria (color, structure, and yield) for developing a grade/price for a particular flitch (log halves or quarters) or log. Flat slicing veneer requires a log to be slabbed on two sides then sawn through the center (heart to heart) thus creating two roughly equal ‘flitches’ from the log.

Color can be specific to particular areas of the country where walnut is grown influenced largely by soil types and specifically the mineral content of the soil. For example, Missouri walnut will have a particular color in comparison to Michigan or Ohio grown walnut. Generally, for our domestic markets, the lighter color material is preferred since in the staining process it is easier to stain down in color rather than up. Export markets generally prefer the darker colors. Bark characteristics of a standing tree can be indicative of the interior heartwood color, but even professional log graders can be challenged by trying to accurately anticipate the color of the wood by studying the bark.

Structure is the relative grain pattern which is portrayed by the veneer and can be manipulated by the type of cutting method. True rift, or straight grain, plain sliced, or half round, all give different structures which various markets prefer. A subcategory in structure is the issue of pin knots or suppressed dormant buds which persist for many years as a bud trace. The extent of pin knots in walnut can vary. Again, territories of origin relate to pin knots as well as open grown trees as opposed to woods grown trees. Generally, the higher end markets prefer pin knot free logs. Missouri-grown walnut timber typically has more pin knots and is a price factor for log buyers. Note: Pin knots are covered thoroughly in the technical referenced at the end of this article.

Yield is typically the number of sheets of veneer which can be used in sequence generating a particular length of cut. For example, to consider a particular log for A grade, we normally look at a minimum of four bundles (24 sheets per bundle). You can infer when we say “prime or A-grade logs” they need to be a minimum of 18 inches DIB (diameter inside the bark measured on the small end of the log) and anticipate generating enough sequence for A-grade veneer. This DIB size coincides with our generally accepted definition of 20" DBH (diameter breast height on the stump) minimums for landowners looking at their standing trees. Another consideration within yield is the relative amount of sap wood for a particular diameter class of log. Sap wood is generally accepted in lumber grading, but for veneer, the amount of sap wood is considered a secondary product used for backing, or in a lot of cases, clipped off entirely and discarded. An interesting example would be to look at a 1 1/2-inch sap line on a 14-inch log vs. a 1 ½-inch sap line on a 22-inch log. Obviously, the percentage of sap wood per diameter class is significant when considering the “black wood” yield. The lumber industry looks at sap wood differently than the veneer industry.

State departments of forestry typically provide log grading rules that are generally accepted within the logging industry in each state. Dr. Daniel L. Cassens, Professor of Wood Products, Purdue University, has several excellent publications of interest to both landowners and the logging industry, but one “Factors Affecting the Quality of Hardwood Timber and Logs for Face Veneer” covers all aspects of veneer log grades thoroughly.

### WALNUT VENEER LOG GRADES

**Veneer A**
1. 16” DIB and larger – 9’ logs and longer
2. Butt cuts
3. 90% of measured diameter to be heartwood
4. Clear faces and straight

**Veneer B**
1. 15” DIB and larger – 8’ and longer
2. Clear faces
3. Logs with 60 - 80 bd. ft. must be free of defects

**Veneer C**
1. 14” DIB and larger – 8' long logs and longer
2. Up to 4 defects
3. 15” DIB and larger – 6’ and 7’ logs and longer
4. Logs with 45 - 59 bd. ft. must be free of defects

**Veneer D**
1. 14” DIB and larger – 8’ and longer
2. 15” DIB and larger – 6’ and 7’ logs and longer
3. 3 Clear faces
4. Logs with 106 bd. ft. – allow 3 defects

**Veneer E**
1. 14” DIB and larger – 8’ logs and longer
2. 15” DIB and larger – 6’ and 7’ logs and longer
3. Logs 45 – 105 bd. ft. – allow 1 defect

**Definitions and Clarifications**
- Diameter Inside the Bark (DIB) on the small end of the log.
- All board footage is Doyle Log Scale.
Risk of Oak Wilt from Pruning  
Simeon Wright, MDC, Forest Pathologist

The risk of oak wilt through pruning wounds occurs when sap feeding beetles pick up the fungus from fungal mats produced under the bark of trees that died previously after oak wilt infection, and carry the spores to fresh wounds on healthy oak trees. This primarily occurs in the spring when the fungus produces the fungal mats, and the beetles are active. At that time of year (a few weeks before bud break, usually mid-March) until June, you want to avoid wounds on the oaks or use a paint/tree wound dressing immediately on any cuts. Any wounds that are created can potentially be visited by these beetles within a few minutes, however after a few days the wounds are less attractive.

Most of the fungal mats are believed to develop in the spring. There are some reports of fungal mats developing in the fall in the northern states. This is thought to be rare in Missouri. Years ago, it was thought the fungal mats were rarely produced in Missouri even in the spring, however more recent research suggests these fungal mats are more common in the spring than previously thought. There has been no recent research in Missouri on fungal mat production and the potential for oak wilt infection through wounds in the fall, but the presence of fungal mats depends on the weather in a given year.

To be extra safe if active oak wilt occurs nearby, delay pruning the oaks until temperatures are consistently below 50 degrees. Refer to MDC’s Oak Wilt Guide for more information.

Oil Change  
Sara Reistad-Long, Better Nutrition

“A little fat does your body good, and these oils are loaded with the healthy kind that keeps your systems running smoothly: sesame, olive, grapeseed, and WALNUT. One of the best nut sources of omega-3 fatty acids that are good for your heart and brain. Walnut oil also has a low smoke point; try this one in vinaigrettes or drizzle on veggies.”

Selling Timber Can Be Risky – Call a Forester First!  
Scott Brundage, Consulting Forester and Bob Ball, Editor

Growing hardwood trees for harvest is a slow process, but your sweat equity and expenses in growing that timber can vanish very quickly by someone with bad intentions. The message we preach over and over again is simply “contact a professional forester before you cut”. Stories about landowners being taken advantage of when selling timber are too common during a time when professional help is only a phone call away.

Recently, we were reminded of two sad stories that occurred in north Missouri where timber buyers approached senior citizens with cash offers at a time when the sellers either needed income or felt it might be wise to dispose of the timber now so their heirs would not have to make those decisions. Usually, these experiences begin with a knock at the door by someone wanting to buy a few trees they could see from the road. Typically, the buyer only has a few thousand dollars at the time but promises to make up any difference for “unlimited cutting” once they are able to sell the logs.

This influx of fly by night hucksters invading rural areas is due in part to the high demand in the Midwest for white oak for barrel staves driving the price for white oak to near record levels. It’s not uncommon for these hucksters to offer cutting and removing less desirable species to improve the woods and nearby lands which the landowner sees as a big benefit. Often these cuts include black walnut, black cherry, or red oak. Watch too for the buyer offering to remove diseased trees for their salvage value. The reality of these situations is if woody material is leaving your land it may be worth a lot more than you have been led to believe!

The Missouri Department of Conservation (MDC) is partnering with the Society of American Foresters, American Forest Foundation, U.S. Forest Service and the American Tree Farm Program to offer assistance in these situations. The “Call Before You Cut” program provides contact with agency foresters at no cost or consulting foresters who can assist on a fee basis. Whatever the reason for harvesting, a professional forester is uniquely qualified to assist you with a timber harvest that accomplishes your needs and expectations.

To receive a comprehensive packet of woodland management information, ask a question about forestry, or comment on the Call Before You Cut campaign complete the online form at their website or call (877) 564-7483.
Managing a Successful Timber Harvest
Bob Ball, Editor

- Read the publication “Managing a Successful Timber Harvest” or the chapter titled “Marketing Timber” within the “Forest Management for Missouri Landowners” publication produced by the Missouri Department of Conservation; follow their recommendations.
- Secure the services of a professional forester through a written agreement to identify trees of market value as well as trees that should be removed from the stand, determine sale volumes, finalize a timber sale contract and advertise for bids.
- Select a highly qualified timber logger with proven credentials offering a fair price.
- Together with the forester and selected logger:
  - Review the key parts of the timber sale contract.
  - Identify the locations of primary skid trails and log landing areas.
  - Verify needed BMPs as well as the locations where those practices will be applied.
- The forester administers all aspects of the timber sale in accordance with the contract.
- Conduct a final walk through of the harvested areas before releasing the forester from his agreement with the landowner and the logger from the timber sale contract.

Choosing a Consulting Forester
Bob Ball, Editor

This article was originally printed in the “Woodland Owner News” and then re-printed by Randall B. Heiligmann, State Forestry Specialist, Ohio Cooperative Extension Service.

Consulting foresters are professionally trained foresters whose services are available on a fee basis. They are an important source of technical forestry service for woodland landowners. Private consulting foresters generally can provide a wider range of services than public agency foresters and are not limited in the amount of time they can spend with forest landowners. Fees for forestry consultants vary by individual consultant and by the per diem charges, or percentage of return on income-generating activities such as timber sales.

Choosing a satisfactory forestry consultant to work with you requires some effort on your part. Consider the following factors when selecting a consulting forester.

Professional Competency & Experience
Be sure the individual or firm is a professional with the competency and experience you need for the forest management activities you require. A list of consultants operating in Missouri is available from the Missouri Consulting Foresters Association. This list includes the consultants and their contact information, along with their professional qualifications (degrees/training), the part of the state in which they work, and their specific areas of specialization (e.g. appraisals, cruising, tree planting, wildlife management, etc.).

Reputation
You should satisfy yourself that the individual/firm you intend to hire has a reputation for reliable, competent, honest work. Ask woodland landowners who have used the consultant’s professional services, other foresters, or in some cases local bankers, lawyers, or accountants. Don’t hesitate to ask the consultant for references.

Staff
Who will do the work? Some consultants employ foresters, technicians, or laborers to carry out some of the work. The quality of these employees and their work is important to you. Find out who they are and if they are well-supervised.

Location
A consultant usually needs to be located near small jobs to satisfactorily complete them in a timely manner. Large jobs may be economical at greater travel distances.

Philosophy
All consultants do not think alike with respect to business or woodland management philosophies, or the role of the consultants in the consultant-woodland landowner relationship. During initial discussions with a consultant, landowners should discuss their land ownership objectives and their general woodland management philosophy. Discuss the long- and short-term goals. Are certain practices unacceptable to you or the consultant? Later, all or part of this discussion may occur again after the consultant has spent time on the property and can better evaluate and present management alternatives and expected results.
Rapport

Rapport is an elusive element of the landowner-consultant relationship that is very important. It is a feeling of comfort, trust, and respect; a confidence that the landowner's desires are being heard and understood and will be satisfactorily carried out.

Agreements

Landowners and consultants should both have a clear understanding of the work to be performed, the fees to be paid, and how they are to be assessed. For example, if work is to be charged on an hourly basis, how much per hour, approximately how many hours will be required, the maximum hours to be worked, etc. A written contract outlining work to be done, charging method, cost estimate, and time schedule is highly desirable. Continued communication between landowner and consultant will facilitate solving any problems that arise.

Your woodland represents an important resource, both monetarily and in terms of its other values and uses. If you choose to work with a consulting forester you are placing in their hands a great deal of trust concerning the future of that resource. Take the time to select the consultant carefully, communicate your objectives and desires fully and accurately, and establish a written contractual agreement outlining the important elements of your professional agreement.

A Fine Hardwood: White Oak for Fine Flavor

Written by: Lynn Barnickol, Executive Director, Missouri Consulting foresters Association, Shelby Jones, Consulting Forester, and Mike Morris, Forest Products Program Leader, Missouri Department of Conservation

White oak is a fine hardwood that grows nearly statewide in Missouri and tolerates our dry soils. While not all of Missouri’s white oaks are large enough or have enough clear wood to make veneer, many forest owners benefit from selling some of their better quality white oaks to help meet the world-wide demand for white oak barrels.

Why are white oak barrels in high demand for aging spirits and wines? Barrels made from other species would not hold liquids without leaking. A unique feature of the white oak is tyloses, gum-like substances plugging the early-wood pores of the heartwood and contributing flavor and color to spirits and wines. Missouri’s cooperage (barrel making) industry supplies a significant portion of the white oak used in aging spirits and wine throughout the U.S. and internationally. Demand for barrels is increasing with craft distilleries, and wineries entering markets traditionally dominated by large distilleries. The supply of stave quality logs is also adversely impacted by wet weather keeping loggers out of the woods. There are also other uses for white oak that competes with cooperage. Laws of supply and demand result in rising prices for staves and barrels.

A barrel is a unique circular container featuring a bulge in its middle. The result is a double arch design that is one of the strongest assemblies known and dates to the Egyptian tombs. European coopers brought their trade to the North American Colonies in the 1600’s where they were awed by tall, straight, and plentiful white oak trees.

Barrel-making begins with loggers harvesting trees to meet timber management objectives. White oak logs suitable for staves and heading range from 8 feet to 20 feet in length, at least 11 inches in diameter measured inside the bark at the small end, and are fairly free of defects such as knots.

At the stave mill logs are cut into lengths of about 39 inches that are quartered lengthwise into four bolts. Heading bolts (to make the top and bottom of the barrels) are about 20 inches long and are quartered from larger diameter logs. Staves having defects, such as knots, can be trimmed shorter to be used as heading.

The quartered stave bolts are then band-sawed into flat, “quarter-sawn” stave blanks. Stave blanks are random width after defects are trimmed off the edges. Staves for wine barrels are air-dried for 24 to 36 months, whereas staves used in whiskey barrels are commonly air dried for only 40 days and finished in a dry kiln. During the air drying process, the wood reacts with the outside air and begins to develop components that contribute complexity to the flavor of wines.

Once dry, stave blanks are planed so the outside is slightly rounded side to side grown white oak like these are preferred for barrel making.
side and the inside is cupped. This is necessary to make a round barrel. The edges of stave blanks are jointed at a slight angle that helps make the barrel round and provides a tight joint between staves. Each stave is jointed wider at its middle than its ends.

About 33 staves are assembled into an individual barrel in the assembly process where the goal is to make a barrel tight enough so it does not leak. Heavy metal hoops hold the staves temporarily in place for steaming to make the wood pliable and less likely to break as it is bent into the barrel shape.

A deep char is developed by burning the inside of whiskey barrels for the purpose of giving an amber color to the clear spirits. The charring also imparts a smoky, caramel and clove-like flavor to the spirits. Similar to your breakfast toast, the insides of wine barrels are toasted ranging from dark to light depending on the preferences of the wine maker.

A groove is then cut into the inside outer ends of the barrels to accept the heading and a bung hole is bored into a wide stave for filling (and eventually emptying) the spirits or wine.

In a separate production line, the quarter-sawn heading staves are dowel-pinned together, cut into a circular panel of the required diameter, and the edges beveled to be inserted into the top and bottom grooves. Thin metal bands called hoops hold the barrel together. Because wines are more acidic than spirits, galvanized hoops are used and wine barrels are sanded smooth for appearance.

Why are trees, growing on rocky Missouri soils some of the most desired for staves? Part of the answer is that the trees on these sites grow slowly. Only heartwood is used in staves and slow growing trees have thin sapwood. Sapwood pores are not plugged with tyloses and if used as staves would result in a leaky barrel. Another aspect of the answer involves the coarse appearing early-wood, formed in the spring, and later in the season a dense layer called late-wood. There is a greater percentage of early-wood in slow growing trees. The early-wood pores are plugged by tyloses composed of a complex chemical called lignin. The principle component of lignin is vanillin which imparts a hint of vanilla flavor in Scotch.

Desired annual ring counts for wine staves are 15 rings per inch but 18 to 20 rings per inch are preferred. The ring count is not as important in staves for barrels used for aging spirits.

Barrel making begins with professionally harvested trees, having specific requirements to meet cooperage industry needs and is a complex process of manufacturing and assembly that ends with satisfied consumers of wines and spirits.

Missouri white oak is popular because of our climate and soils that influence the growth rate, amount of heartwood formed in the trees, and accumulation of tyloses. The Missouri Society of American Foresters advises forest owners there are many factors influencing tree growth. You are urged to follow the advice of your forester in growing a healthy forest and harvesting your trees using professionally trained loggers.

About MOSAF MOSAF is the Missouri state unit of the Society of American Foresters, a professional society with the following objectives:

- to advance the science, education, technology, and practice of forestry;
- to enhance the competency of its members;
- to establish professional excellence;
- and to use the knowledge, skills, and conservation ethic of the profession to ensure the continued health and use of forest ecosystems and the present and future availability of forest resources to benefit society.

For more information visit the MOSAF website.

Save These Dates!

Friday-Saturday, April 1-2, 2016
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Spring Meeting & Field Day
New Florence & High Hill