



The Ohio Hetuch



Summer 2015

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Chair Comments –Jeremy Scherf, OSAF Chair

It is hard to believe that summer is almost here. Especially because I am writing this in late May and I just walked a woods in 55 degree weather. I will take it over a hot day anytime though.

I have been putting a lot of planning time into the Summer Meeting. We will be exploring some really interesting tree planting sites in Eastern Ohio. For decades, strip mining has created compacted soil with heavy vegetation that has struggled to grow trees. In recent years, many foresters have worked hard to find other reclamation methods to promote tree growth. The Appalachian Regional Reforestation Initiative (ARRI) has brought together foresters, soil scientists, and researchers to study this problem in a multi-state area. A lot has been learned with much more to discover.

You may be thinking... “there’s no strip mining in the region of Ohio that I work, so I will probably skip this meeting.” But I caution you to think otherwise. Much of what we are learning about tree seedling survival and growth will carry over to many other reforestation projects. We have trees growing faster on some of these projects than they do on virgin ground.

I hope that you will join us on July 8th and 9th for the Ohio SAF Summer Meeting. We will take a charter bus tour into Guernsey, Belmont and Harrison Counties to visit projects on both private and public land. We will see a variety of efforts to promote tree growth using soil loosening, low-compaction, and low vegetation competition. It has been many years since OSAF has held a meeting in Eastern Ohio, and I think this is a great opportunity for you to get back over here and enjoy the scenery. Plus, I am promising a pretty great BBQ dinner on Wednesday evening. The hotel has given us a pretty good rate and their lounge will be open to spend the evening catching up with your fellow foresters.

The executive committee continues to work on various projects including the Thompson Library project and some policy issues. We want to hear from you. If you see something you feel we should be working on, please let us know. I plan to have a short OSAF Business Meeting during dinner of the Summer Meeting with an opportunity again for the membership to comment and discuss our organization.

Thanks to Pat Migliozi for taking over as Foresters Fund Chair. He is already planning some fund raising for the Summer Meeting. The SAF Foresters Fund has been good to us here in Ohio, so it is great to be able to give back.

I look forward to seeing you at the Summer Meeting! Being Chair of Ohio SAF has been more rewarding than I ever expected. I truly hope that you also find your membership in SAF rewarding and if there is anything I can do to improve that, please let me know.



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Raffle for Foresters Fund

This summer we are going to try something a little different by having one big raffle. The winner will receive an ax, fully restored and ready to use! Bring some cash or your checkbook and enter to win at the Summer Meeting. It's for a great cause! If you have any questions please contact me at pat.migliozi@gmail.com.

GMO's For Your WO's- Or, how to upgrade the genetics of the white oaks in your woods.

- Jim P. Stafford, CF Muskingum Valley Woodland Services

One of the common misconceptions both professional and non-professional woodsmen have is that “any time you put full sunlight on the bole of any white oak (*Quercus alba*), it will feather out.” (figure 1). That is certainly not the case! Early in my career an old forester taught me look carefully at the bark patterns on the main stem for clues as to how it would respond to more sun. As we see in the photo, many white oaks are pin feathered. Sunlight stimulates epicormic buds located within the bark’s cambium layer to grow out to capture more light. These potential bud locations can usually be found by looking for a swirled spot in the outer bark pattern (figure 2). But not all white oaks have these buds (figure 3). A tree with “clear” bark tends not to feather out. Since knotty white oak boards are generally of less value, it behooves a forest manager to favor clear barked trees over feathered white oaks. For this reason all the employees marking timber for Muskingum Valley Woodland Services know if they find a 16” DBH, feathered white oak next to a 20” DBH, clear white oak, they must mark the 16” tree and leave the 20”. Why do this? It’s important to understand the basic principles of sexual reproduction to appreciate this strategy.

In both the animal and plant kingdoms on planet Earth, one rule applies to moving from the first generation to the next. Whether you are discussing chickens, flies, fish, corn, oak trees or people, when a male and female reproduce, 25% of the offspring will strongly favor the mother, 25% will strongly favor the father and the other 50% will range somewhere between the two. So, if you leave all the feathered white oaks in the woods and take out all the clear ones, you are assuring that 50% of the next generation will automatically be feathered, and the rest not much better. As professional foresters dedicated to improving the ecosystem we manage, our foresters leave as many clear white oaks as practical and remove as many feathered white oaks as we possibly can to upgrade the white oak gene pool for the next generation to enjoy.

Keep these points in mind as you walk through your woods with your managing forester. It doesn’t cost much to improve your woods just by paying attention to what trees are left to parent the young forest of the future.



Figure 1– Branching from epicormic buds



Figure 2- Bark swirl pattern



Figure 3– Clear bark indicating no potential epicormic buds

Science Report: Epicormic Buds in Trees: a review of bud establishment, development and dormancy release

—Andrew R. Meier, Michael R. Saunders, Charles H. Michler

Editor’s note: We still have a lot to learn about forests and genetics. The following is an excerpt from an article in March 2013 edition of *Tree Physiology* by researchers at the Hardwood Tree Improvement and Regeneration Center at Purdue University focused on the very thing Jim addressed in his article. This, of course, is a summary of research on a variety of species. Andrew Meier specifically recently studied *Quercus alba* which had some very interesting results. For the full article and Andrew Meier’s dissertation on this subject, visit these websites: <http://treephys.oxfordjournals.org/content/early/2012/05/03/treephys.tps040.full.pdf> and <http://docs.lib.purdue.edu/dissertations/AAI1535078/>

Conclusions

The production of epicormic meristems is a trait that is highly conserved among tree species around the globe as a mechanism to either reestablish leaf area following a disturbance (Bellingham and Sparrow 2000, Crisp et al. 2011) or to maximize light capture in the absence of disturbance (Nicolini et al. 2001). There is significant diversity in the anatomy and morphology of these meristems in tree species; however, much of this diversity can be categorized into four different general epicormic strategies: external clustering, isolated buds, detached meristems and meristem strands. There is a gradient in the level of development of meristems between these strategies which corresponds to a gradient in the likelihood of epicormic sprouting. In the absence of disturbance, epicormic bud sprouting and development is moderated both by plant hormone dynamics and by variation in bud size. Following a severe stress event, such as top removal, trees initiate a stress response that stimulates the growth of much less developed meristems to rapidly replace lost biomass. Therefore, species that do not form sprouts in undisturbed forests but still maintain sprouting capacity most often maintain regenerative meristems in a minimally developed state that are only capable of sprouting with severe disturbance.

However, from the perspective of forest managers and geneticists interested in limiting the impact of epicormic branching on the future value of forest products, important questions still remain. Until recently, both basic and applied research have focused mainly on branch formation subsequent to stand disturbance, while there has been little consideration of the basic factors that influence the establishment of epicormic buds and their maintenance over time. This review has aimed to elucidate some of these factors. We hope that the current resurgence in epicormic research will finally provide answers to many longstanding questions and provide a direction for practical application.

Dave Apsley Fellow OSAF Award's Committee

Congratulations to Ohio's newest SAF Fellow: Dave Apsley! Dave spent much of his youth exploring and hunting the wooded hills in southeastern Indiana. Once he attended Youth Conservation Camp in the summer of 1979 and was selected to become a youth leader for a second session, he was hooked on Forestry. This eight-week experience exposed him to forestry as a profession and inspired him to pursue a career as a forester. Dave has been a leader in Ohio forestry, touching many lives within and outside of the forestry community. He seems to have endless energy taking on the toughest tasks and is professional in every way.

Dave has been actively involved with SAF in some capacity since he was a student at Purdue University. He has played many roles within SAF including Purdue Student Chapter Chair, working with students at Hocking College and OSU's Forestry Forum, Charter Member of Iron Furnace Chapter, OSAF Treasurer and Chair. He is a regular at OSAF events and has attended many National Conventions. Dave has been the OSAF Foresters Directory Committee Chair and Administrator since 2006 and is largely responsible for the ongoing success of the online Foresters Directory.

Dave's forestry career is impressive. He was a teaching assistant at Purdue University and Research Coordinator at the University of Georgia where he earned his MS in Forest Resources. Dave was a forester for the Department of Army and involved in many initiatives at the 110,000 acre Fort Knox Army reservation including inventory, fire management, timber management, and leading the way for Fort Knox to be a Tree City USA. In December of 2000, he became the Natural Resources Extension Specialist for Ohio State University. In 2004, Dave position was expanded to include state-wide responsibilities focusing mainly on forestry and wildlife. Dave now concentrates his research and Extension efforts on forestry issues primarily on private lands.

Dave is an experienced and gifted instructor and educator. As a forestry instructor at Hocking College, he was a mentor serving as the Student Chapter Advisor and Academic Advisor for most of the students in the forestry technology program. He maintains regular contact with many of his students. He has delivered over 900 programs to nearly 15,000 clients during his career at OSU. Dave has authored a number of forestry factsheets, bulletins, articles, and peer/editor reviewed publications.

Dave's research efforts are primarily focused on developing and evaluating innovative outreach efforts which increase woodland owner participation in educational programs designed to encourage proactive forest management and forest management on private lands with a focus on oak and invasive species. These Extension and research efforts support the overarching goal of engaging private woodland owners in the sustainable management of Ohio's precious forest resource.

Dave is a Certified Forester, Tree Farm Inspector, the recipient of many awards and honors. While offering so much to our profession, he is dedicated to his family. They live on a Certified Tree Farm and manage Apsley Family Christmas Trees in Jackson County, Ohio. Congratulations Dave!



Winter Meeting Award Winners

Cowen-Embree Scholarship Winners



Scholarship Chair- Byran Feicht and Kaylynn Kotlar (Hocking)



Michelle Kaiser (Ohio State)

Ohio SAF Member of the Year



Stephen Rist, Phil Perry (recipient), Abby Kindler

Ohio SAF Communicator of the Year



Jeremy Scherf, JoAnn Rebbic (recipient), Greg Smith

Memory Snippets– Pitch-Loblolly Pine - Walt Smith

More than once I have been interested in what I will term “life’s circles” – how things sometimes keep coming around in circles. The phenomenon can best be described by using the wide tie – narrow tie fashion style. If a particular width tie is not in style, do not throw it away. Eventually, that style will come back into fashion. So it was with the pitch-loblolly pine hybrid and me. Like narrow ties, I was introduced to the hybrid early in the career. Pitch-loblolly pine or pitchxlob or pitchlolly were some of the names ascribed to this hybrid.

In 1964, nearing the end of my first tree-planting season, Rod Krause my first boss at Ohio Power Reclamation Section, showed me a crate of bare-root seedlings in cold storage. Those seedlings were from a federal agency, maybe in Maryland, maybe the Soil Conservation Service, but do not hold me to that fact. Anyway, the seedlings were a hybrid of Korean pitch pine and loblolly pine. Evidently, Rod had field planted this hybrid seedling some years back (Rod showed me the planting) and the agency wanted him to try another batch. The hybrid expressed the desire to give the fast growing characteristic of loblolly pine and a cold hardiness from the Korean pitch pine. Half of the seedlings were to be planted on reclaimed, graded strip-mined land and the remaining half were to be planted by me on an old-field site. This was a task I was up to and enjoyed. I still somewhat remember where the two sites were located; but, knowing strip-mine operations, the sites have probably long been mined through. Anyway, I remember the seedlings surviving and growing okay; but, as in most of these “research” instances, there never was any follow up measurement record. Although my memory is fuzzy on this point, I believe there were one or two more such plantings done – one again with the Korean pitch and another with the native pitch pine and loblolly pine. Anyway, that was my introduction to “pitchxlob” hybrids. As a newly graduated forester, the word “hybrid” sparked a lot of interest from me. It extended to hybrid poplar but that is another story.

By 2000, with the Mead Paper conifer tree planting program, the primary seedling being planted had changed from white pine to either a northern seed source (Maryland) of pure loblolly pine or native pitch pine x loblolly hybrid (pitchxlob) pine seedlings. And by 2002 or 2003, the specie of choice was the pitchxlob. For the record, I was very much involved with the evolution away from white pine toward the “lob” specie, then the pitchxlob hybrid. The key element was the development of herbicides and herbicide recipes that provided easier, cheaper, and quite successful pine plantation establishment and growth on the hardwood conversion sites. The herbicide recipe came up out of the southern loblolly region and boy, was it a good one. I might also add that the genetic improvements in loblolly pine also added luster to this hybrid. Although we planted and successfully established many an acre of white pine plantations on hardwood conversion sites, the “lob” and “pitchxlob” specie and the site preparation and release techniques provided by the new herbicides made the job much more efficient and successful. The survival and growth was excellent.

The Southern pine beetle had made its presence known a few years back especially on the poorer, high-dry ridge locations. The affected trees died in small, quarter acre patches but the healthier trees survived the impact and the plantations were little affected volume-wise. For the most part, sub-zero weather (minus 4 degrees for 2 days) keeps the bug below the Ohio River and maybe further south. Also, it was my observed experience and more recently, comments from some Glatfelter foresters that the preconceived thought about potential snow and ice damage in pitchxlob has really never materialized.

Recently, I was fortunate enough to be allowed to spend some time inspecting a few of the 2004-2005 pitchxlob plantations – the last tree plantings I made. With only one exception, all of the plantations were free to grow. One plantation had a little more black locust and tulip poplar in it than I would desire but the pitchxlob trees were still completing well. In another ten years, go make a harvest. That was a surprise. A couple years ago, I got the chance via Mike Gaus, Glatfelter forester, to watch the harvesting of an eighteen year old pitch-lob pine plantation (a Mead plantation presently managed by F&W Forestry) in Scioto County (see photo). Using the latest tree length mechanical harvester and self-loading (and weighing) forwarders, the two-man operation was having a field day. The harvesting efficiencies demonstrated by that operation were apparent. I do have to admit that there were almost a million dollars in harvesting equipment making everyone look good.

I had an early career introduction to the “pitchxlob” tree and in the last five years of my forestry career, I supervised the planting of over 8 million “pitchxlob” hybrid seedlings. I am now wearing wide or at least wider ties than I did in 1964. But, I never kept my narrow, polyester, double-knit ties. So with the years I have left in life, maybe I can sneak around any fashion changes by claiming old age mental deficiencies. Life’s circles are interesting phenomena.



Urban Corner – The Mightiest Pollution Fighters of All

Article from forestry.ohiodnr.gov Urban Forestry

Let's face it. Most human activities -- from breathing to burning fossil fuels -- cause air pollution. And, while we may not want Big Brother watching over us, it's a good thing Mother Nature is. It's as if she knew we'd need saving from ourselves and created trees to produce oxygen and reduce the atmospheric levels of carbon dioxide created by everyday living.

The U.S. Department of Agriculture says a **single acre of trees puts out four tons of oxygen** -- enough to meet the annual oxygen needs of 18 people. This same acre of trees can absorb the carbon dioxide produced by driving a car 26,000 miles. This intake of carbon dioxide and output of oxygen happens during photosynthesis...fortunately for us.

Not only do trees give us the oxygen we need to breathe, they also fight air pollution by directly reducing nitrogen oxide and sulfur dioxide, major components of photochemical smog, ozone pollution and acid rain. On a more tangible front, trees act as a giant filter on the world. Their leaves, stems and twigs trap and filter out particulate matter, such as dust, ash, pollen and smoke, from the air.

Trees also help keep our water clean. As paving increases in neighborhoods and business districts, rain from storms flows more quickly across paved areas than it does across treed areas. The faster this storm runoff moves, the more it erodes and washes sediment and chemicals into drainage channels. The runoff carries with it oil and grime from parking lots, soil from construction sites, fertilizers from lawns, and chemicals from industrial discharges.

This storm runoff with its soil sediment and pollutants flows into drainage pipes and ditches and then into creeks, rivers and lakes. Increased sediment clouds streams and destroys fish habitat. Chemicals make water undrinkable. So how can we promote clean water?



Trees. Tree leaves help interrupt and slow rainfall, allowing the water to soak into the soil. This reduces runoff and decreases the need for additional erosion control. Tree roots also hold soil in place, further slowing erosion.

Another job to leave to the professionals is pruning tree limbs near electrical and utility wires. Contact utility companies or city maintenance workers to handle this dangerous task.

City workers should also remove other tree branches on city property that overhang homes, garages, parking areas, sidewalks, or obstruct vision at traffic intersections. If you notice a lack of regular pruning in your neighborhood, lobby city officials to get a tree care program in place.

Back on the home front, prune away any branches that obscure your home's entry to deter potential intruders. If any of your trees appear to be developing two trunks, prune away all but one centrally located trunk. A tree with two or more trunks is not as strong and may be torn

apart during ice or windstorms.

One of the most common pruning mistakes is to cut off the top of a tree. "Topping" starves the tree by drastically reducing its food-making ability and leaves stubs that make the tree more susceptible to insects, disease, and decay. It also destroys the plant's natural shape and promotes the development of weak branch structure. When topped, a tree sends out multiple shoots that grow rapidly. These shoots are weakly attached and are prone to breaking, creating a hazardous condition. Proper pruning removes excessive growth without the problems caused by topping.

Many of us prune our trees to create shapes that we think are more aesthetically pleasing. Pruning should enhance and maintain the natural shape of the plant. Over pruning or trimming into tight geometric forms usually has adverse effects on trees. If the tree is naturally oval-shaped, don't make it cone-shaped. If it is a naturally spreading type, don't attempt to force it to grow upright.

Above all, remember that mature, urban trees are valuable assets to our property and proper pruning will help keep them healthy year round. For more detailed pruning specifications or information about hiring qualified arborists, contact your State Urban Forester or local municipal forester.



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Upcoming Events

OSAF Summer Meeting

July 8-9, 2015, Southgate Hotel, Cambridge, Ohio

Registration enclosed, visit <http://ohiosaf.org/>

Summer Ohio Christmas Tree Growers Association Meeting

July 17, 2015, Homestead Farms, Granville, Ohio

For more information visit <http://ohiochristmastree.org/>

Farm Science Review

September 15-17, 2015, Molly Caren Agricultural Center, London, Ohio

For more information visit <http://fsr.osu.edu/>

Tree Farm Tour

September 19, 2015, Sycamore Hills Tree Farm, Harrison County

For more information, visit <http://www.ohioforest.org/page/OhioTreeFarmHome/>