



TREE Cookies Etc.

Winter 2011/12

Volume 6, Issue 1



tree cookie (trē´ kookē) n. a cross sectional slice of a trunk or branch. The concentric rings tell not only the age of that part of the tree, but also a story about the environmental conditions, history, and dynamics of that tree, in that place.

TREE Cookies Etc. n. 1. a free electronic newsletter dedicated to tell the story of forest stewardship, tree care, and natural resource management. 2. to help people make best decisions regarding the resources entrusted to them.

Calendar

- December 30
[Virginia Loves Trees Specialty plate Goal](#)
- February 4
[Going Wild in Your Backyard - Openhouse](#)
Culpeper, VA
- February 18
[Landowner's Woods & Wildlife Conference](#)
Manassas, VA
- February 22
[SHARP Logger - OSHA review](#)
Bumpass, VA
- March 5 - May
[Woodland Options for Landowners](#)
10 weeks online
- March (TBD)
[NoVa Urban Forestry Roundtable](#)
Prince William County
- March 13 (tentative)
[Real Forestry for Real Estate](#)
Fredericksburg, VA
- April 17
[Montpelier Working Woods Walk](#)
Orange, VA

Dear Reader,

Parts of Virginia have already seen snow and the excitement of Christmas and a New Year are "in the air." I enjoy the merry greetings this season brings and celebrating with friends and family the hope this time of year reminds us of.

This newsletter has a mixture of "good" and "bad" news and hopefully some useful information for you. Kind of like life I suppose, there are good times and times we might call bad but it's often those "bad" times that we can look back on and see how we grew for the better through the challenges. My hope in sending this is to equip and encourage you to do good. Virginia's abundant and valuable natural resources depend on you the owner, the voter, the decision maker!

Merry Christmas!

Adam

Hunters: Virginia's Conservationists 'in-arms'

In some circles, hunting is controversial. To be sure, in the history of hunting, there have been chapters of abuse, tragedy and barbaric actions. Killing for the sake of killing is not honorable... but sometimes things do not look as they are.

Before we continue with this brief discussion, let me share my background. I did not grow up with the beginning of deer season second only to Christmas. I did go rabbit hunting with my father twice and I've gone deer hunting two or three times. My passion for hunting is obviously not from a personal pastime perspective. Yet, I have come to deeply appreciate hunting for several reasons.

First, from a wildlife management perspective, hunting is a necessity in some cases. This is particularly exemplified considering deer. Because of the lack of large predators, large prey can easily reach population densities that exceed carrying capacity, both cultural and biological. More deer than society wants (hitting cars, eating azaleas, etc.) and more than a habitat can sustain, which leads to degraded ecosystem functions and management opportunities. Hunters are the most economical, efficient large predator. Research has repeatedly shown this.

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A Thousand (or more) Cankers found in Virginia

A disease known as Thousand Cankers Disease, which infects Black Walnut (*Juglans nigra*) trees, was recently found in Virginia (June 24, 2011) less than a year after it was first discovered in the Eastern United States. Experts suspect it is widespread.

While the name may conjure up pictures of a tree riddled with big cankers, which are typically areas of sunken wood tissue sometimes looking like a target, the cankers from this disease are not obvious to the casual observer. As cankers go, they are small, but they are many. Over the course of years and decades, they coalesce and begin to cut off the flow of water, nutrients and sugars throughout the tree. This leads to a gradual decline in overall vigor and eventual death.

The fungus (*Geosmithia morbida*) that causes the cankers is introduced into the tree by a 2mm long “twig beetle” (*Pityophthorus juglandis*). This Latin name tells us that the beetle is specific to trees in the *Juglandaceae*, or walnut family. Fortunately, pecan seems to be resistant to thousand cankers disease as is the main host of the beetle, Arizona Walnut (*Juglans major*).

This beetle and disease have been well known for over a decade in the Western United States. In fact, both the beetle and fungal pathogen are believed to be native to North America. The problem seems to have begun when Black Walnut (an eastern species in its native range) was introduced to the West. When it was

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EAB Larvae

Photo Citation: David Cappaert, Michigan State University, <http://www.forestryimages.org/>



EAB monitoring trap
Purdue University photo



VA Quarantine Area

EAB Update

Officials are continuing to monitor movement of the exotic invasive Emerald Ash Borer (EAB), *Agilus planipennis*, in Virginia which reappeared in 2008 after an attempt to eradicate it following the initial 2003 infestation. There had been no documented spread outside of the quarantine since 2008.

This past summer, officials greatly expanded the trapping area to include most of Virginia and with extra high densities in suspect areas like Madison and Culpeper Counties. Amazingly, no further spread of the EAB was confirmed!

What YOU can do to stop the spread of the Emerald Ash Borer:

- ✓ Don't move firewood! Bring your own wood to your fire site and take home what you don't burn or, better yet, use wood from the site. Go to www.DontMoveFirewood.org for more reasons not to move firewood.
- ✓ Monitor ash trees near you. Notify your [VA Cooperative Extension](#) office or [VA Dept. of Forestry](#) of “suspicious behavior.”

VDACS Quarantine Details: Articles under quarantine are the emerald ash borer in *any* life state, firewood of all hardwood (non-coniferous) species, Ash (*Fraxinus* spp.) nursery stock, green (non-heat treated) ash lumber, and other living, dead, cut, or fallen material of the genus *Fraxinus*, including wood chips. Any of the articles above may be moved *within* the quarantined area without restrictions. Movement from a quarantined area to a non-quarantined area requires a Va Department of Agriculture and Consumer Services (VDACS) permit. For more information, please contact VDACS at (804) 786-3515.

More information at:

www.emeraldashborer.info



A good time to prune

From the perspective of most woody plants, winter is the “dormant” season. Which means there is little metabolic activity happening, rather the tree or shrub basically goes into “plant hibernation”. Hopefully the previous growing season was good and the excess sugars produced have been stored as starch in the larger woody portions of the plant, especially the roots. With the reserves out of the branches, it’s a good time to prune. When spring time comes, those reserves will work to “seal” the pruning cut by compartmentalizing the wound/decay.

Proper pruning takes into account the objectives of the owner, the species to be pruned and the specimen itself. The most overlooked pruning objective is probably that to establish good structure. This is best accomplished with young trees that will then have fewer structural problems over their lifetime such as reducing the risk of branch failure or trunk splitting in the future.

If you’ve got trees, consider inviting a [certified arborist](#) to examine them for pruning needs. A small investment now could save you hundreds later.

Introducing the Virginia Loves Trees License Plate



Apply for yours TODAY at www.valovestrees.org

The Virginia Loves Trees campaign is dedicated to raising public awareness and funding support for urban and community trees in Virginia.

You do not need to wait for your current plate to expire before you apply for the Virginia Loves Trees specialty license plate. [Do it today!](#) Once we receive the required 450 applications, we will submit our request to the General Assembly. Once the plate design is approved, you will be notified by the DMV and your plate will be sent to you. See the [DMV's FAQ sheet](#) on the specialized plate development process.

Funds raised through license plate sales will be used by Trees Virginia and the Urban Forestry Program at Virginia Tech to improve tree canopy in communities of all Virginians through creative and cost-effective programs.



We need 450 applications by the end of December in order to submit this plate design to the General Assembly. So, don't delay!

To learn more, or to apply, visit: Use your smartphone's QR reader to snap a picture of the barcode to go to our website www.valovestrees.org



Hunting: Continued from Page 1

Another reason I'm a fan of hunting is as a means to get adult and child in the field or forest together. Sociologists have been sounding an alarm for some time now about absent dads. Kids long for and need the attention and approval of their parents. In some families, hunting is the vehicle to spend both quality and quantity time together. Related to this is the general lack of nature experiences today's youth have.

Richard Louv coined a "diagnosis" in his book, *Last Child in the Woods* calling attention to a epidemic of youth with a "Nature Deficit Disorder." While not a medical condition, it is a social ill that will reveal its worse symptoms as today's youth become tomorrow's decision makers without a connection to the out of doors. In far too many cases, their "reality" has been largely influenced by various electronic inputs rather than real life lessons nature teaches naturally. Hunting can be a good tonic to cure Nature Deficit Disorder.

Hunting is a good tool for more than one issue, but hunting and hunters as a group, face some difficult challenges. To begin with, many "hunnable properties" have become unavailable to hunters. Ownership changes and development often results in property being too small for traditional hunting or unavailable due to owners wishes.

If you own land, consider opening it to hunting if it is not already. Many landowners cite mutually beneficial relationships when granting hunting rights to someone they trust. The hunter with permission, for example, helps police the property for trespassers. In exchange for hunting privileges, some hunters will provide management services such as fence repair, road work, mowing and more.

The second big issue for hunting is the decline in the number of hunters over the past several decades. Like any new hobby, there is an expense and learning curve to get into hunting. Fortunately, costs can be kept to a minimum with a borrowed weapon and simple garb for the out of doors. While some retailers would like you to believe that camouflage and other special gear is necessary, in most cases this stuff is a luxury, not a necessity. Additionally, hunter education classes are available for the young and old, for free.

For more information on hunting in Virginia: www.dgif.virginia.gov/hunting

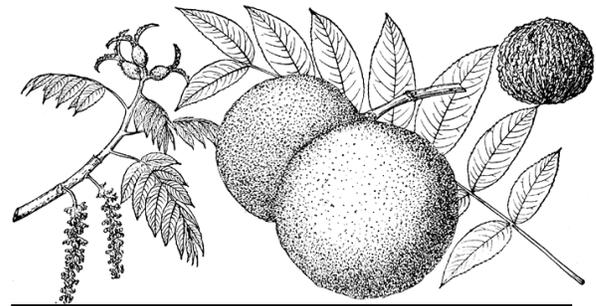


Cracking the Walnut Case

By Norris Z. Muth, Assistant Professor, and Acer VanWallendael, Undergraduate Student, Juniata College

Walnut trees have long had a bad reputation. In ancient Rome, Pliny the Elder complained that it “causes headache in man and injury to anything planted in its vicinity.” More recently, in the 19th century, farmers bemoaned damage to crops planted adjacent to or under black walnut and some warned of the “poisonous nature of the drip”. Through the late 19th and early 20th centuries, there are numerous historical reports of wilted or dead apple trees, alfalfa, and tomatoes, found in the vicinity of lurking walnut trees. By the turn of the 20th century, black walnut stood indicted of many crimes against botany. With walnut’s suspicious lack of alibi, researchers moved from documenting “opportunity” to a full criminal investigation of motive and a search for the murder weapon.

A big break in the case against black walnut came in 1928, when Everett Davis of the Virginia Agricultural Experimentation Station presented the results of a study describing a newly isolated chemical from black walnut. Davis’ presentation further claimed that the chemical (named juglone after the walnut family, Juglandaceae) was shown to be injurious to tomato and alfalfa plants. Here was the smoking gun of mechanism that quickly led to the conviction of black walnut. Subsequent research proceeded to demonstrate that many other species were susceptible to juglone. Extension agencies from across the range of the black walnut relayed this information and provided lists of species known to be susceptible and those thought to be more tolerant of walnut’s deadly poison.



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Alongside studies of mechanism, other researchers began to piece together a coherent theory of motive. Black walnut became (and in some cases remains) the textbook example of allelopathy. While allelopathy is a very general term that refers to the negative effect of a chemical produced by any organism to harm another, use of the term is often restricted to the toxic chemicals produced by plants that affect co-occurring vegetation. But why should a plant poison its own environment? A Darwinian perspective can provide sufficient insight. A plant with many competitors stands to gain much from poisoning itself a little, if in so doing, it also poisons its competitors and gains access to their foregone resources (light, water, nutrients, etc.).

Opportunity, motive and a smoking gun. Case closed. People familiar with the phenomenon (including the current authors) can easily find landscapes filled with walnuts and relatively open, park like, understories. Verifications of this pattern are seemingly abundant, but verification comes cheaply and is not the stuff of rigorous science.

Our own modest investigations of black walnut toxicity took form when we noticed that quite a few walnut understories weren’t barren at all, but were chock full of shrubs and herbs. Not only that, but full of invasive shrubs (honeysuckles, privets, and autumn olives) and herbs (garlic mustard, a well known allelopath in its own right). Why a bunch of non-native plants would have



been adapted to be tolerant of black walnut was perplexing enough a pattern to start (literally and literarily) digging around.

The literal digging around led to some frustrating experiments that resulted in our utter inability to kill any plant by treating them with juglone or walnut tissue. Meanwhile, our literary investigations led to some very interesting findings that seemed to explain our inability to experimentally poison plants with black walnut. Though we wouldn't go so far as to say the charges against black walnut are entirely trumped up, they are a far cry from the open and shut case that has become conventional wisdom.

Consider that the “smoking gun” experiment by Davis involved direct stem injection of unidentified concentrations of juglone without mention of control groups. The surviving details of these experiments are from a published abstract of a presentation. No materials, methods or results open to scrutiny. Consider that the multitude of studies afterwards were almost singularly experiments where extremely high concentrations of juglone (orders of magnitude higher than those documented in soil under walnuts) were added to hydroponic cultures. Consider that the original observations at the turn of the 20th century were most often documenting crop failures at the edges of agricultural fields where conditions were uniformly unfriendly to crops, walnuts or no. When all the evidence is in, the case against black walnut is not very convincing.

We aren't claiming here that black walnut should be acquitted on all counts. There is substantial evidence that black walnut doesn't play well with others (most notably pines and plants in the tomato family), but the “don't plant” lists should be more restricted than most currently are. Be skeptical of claims that a certain plant won't live near black walnut. Pay close attention to what you observe in your own forests and fields. The park like appearance and open understory is often as easily explained by walnut's incredible abilities to colonize open areas as much as by its alleged toxicity. Leave a part of your field or pasture unmown for a year and you'll quickly figure that out.

Black walnuts are a common and useful component of our native forests. For our part we hope they stick around and prosper. With the deadly Thousand Cankers Disease looming near Pennsylvania's borders, black walnut may not only need our apologies, but our assistance. We think it deserves both.

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National Tree Benefit Calculator

Conceived and developed by Davey Tree Expert Co and Casey Trees.

<http://www.arborday.org/calculator/index.cfm>

Basic Chainsaw Safety & Directional Felling

Online training from: Virginia's SHARP Logger Program

<http://sharplotter.vt.edu/onlineCE.html>

Energyville

From: The Economist Group

<http://www.energyville.com/>



TCD: Continued from page 2



Left: Cankers caused by thousand cankers disease (Elizabeth Bush, VT)

Right: Late stage decline from thousand cankers disease (Gary Griffin, VT)



apparent that Black Walnut was not resistant to Thousand Cankers disease in the West, suspicions were high the same would be true if the disease ever made a trip to the East.

That did prove to be the case. Last August Thousand Cankers Disease was confirmed for the first time in the East in Knox County Tennessee.

The confirmation of this disease in Virginia's Chesterfield & Henrico Counties less than a year later leads us to believe it is present and established in many places throughout the Eastern United States. It is highly likely that Black Walnut in poor health have been misdiagnosed in the recent past with some other disease or condition, which may well have been present but the primary factor was in actuality thousand cankers disease.

At first glance, the symptoms present very much like any number of problems such as compaction, root damage, Phytophthora collar rot, etc. The cankers are not obvious. The first symptoms may be sudden leaf wilting in the spring and branch die back. Upon closer examination, a tree with thousand cankers disease will have tiny exit holes where the adult beetle emerged and brown stained cankers just under the bark. At this point, the disease may have been present many years but the tree is probably only a year or two away from its end.

There are two bottom lines with this story. **First**, the message is, once again, don't move firewood! Moving untreated wood is the primary cause of problems like this and the Emerald Ash Borer. Don't buy wood that has been moved from more than one or two counties away or you may be an accomplice unawares. To "encourage" this good behavior, quarantine is in effect for Chesterfield and Henrico Counties as well as the city of Richmond. This makes it illegal to move walnut plants and plant parts (such as wood) out of the area.

Losing a few walnut trees here and there may not be a big deal, but this has the potential to cause significant economic and ecologic damage. Researchers are studying this disease, looking for resistance and exploring options. At this time there is no treatment or preventative measure nor are there any known black walnut trees with natural resistance. Will we see the likes of another Chestnut Blight? Are we looking at the possible extinction of a species? We simply don't have these answers, but we do know that you can help.

Which brings us to the **second** bottom line: If you notice Black Walnut trees not looking so good, contact your local Extension Office, or Virginia Department of Forestry. Another resource is the State Plant Pathologist at the Virginia Department of Agriculture and Consumer Services at 804-371-5086. For more information go to: <http://www.vdacs.virginia.gov/plant&pest/disease-tcd.shtml>



Virginia Cooperative Extension

A partnership of Virginia Tech and Virginia State University



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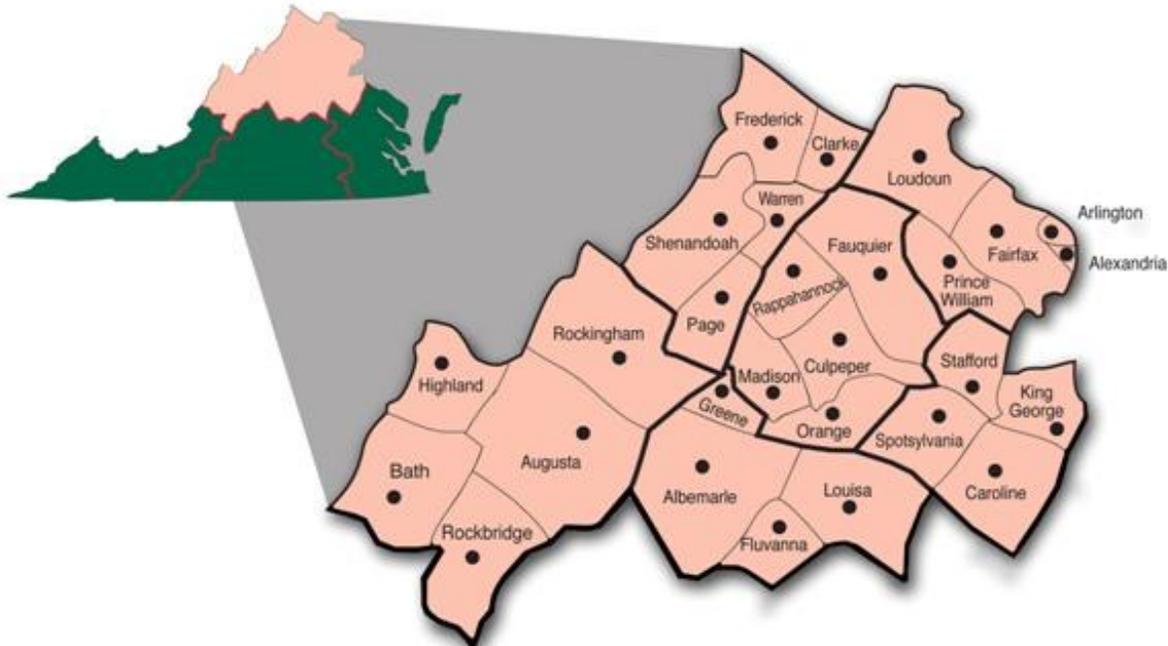
<http://offices.ext.vt.edu/madison>

Date: December 14, 2011

To: Citizens, Landowners, and Natural resource professionals

From: Adam K. Downing
Extension Agent, Forestry & Natural Resources
Northern Region

Northern District



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