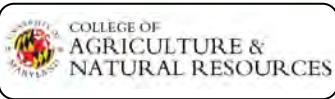


BRANCHING OUT

Maryland's Woodland Stewardship Educator



University of Maryland Extension – Woodland Stewardship Education
<http://extension.umd.edu/woodland>



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Fall, 2016

Leaves Are Falling All Around

Whether you call the season that follows summer “autumn” or “fall,” it reminds us that the growing season is coming to a close. Yes, you may still have to cut the grass while the leaves are falling, but the days are cooler while you’re doing it. The air conditioner runs less, you can open the windows at night, and those among us who suffer from pollen allergies look forward to the first frost. Soon the mower will be dormant, along with the trees and plants around you.

As the leaves fall, think about why deciduous trees lose their leaves. Most deciduous trees have broad leaves that are susceptible to being damaged during dry or cold weather. Evergreens, on the other hand, tend to have weather-resistant needles as foliage. (There are, of course, exceptions; tamaracks shed their needles every fall and live oaks keep their broad leaves year round.)

The key to shedding leaves is conservation of water and energy. According to earthsky.org, “As unfavorable weather approaches, hormones in the trees trigger the process of *abscission* whereby the leaves are actively cut-off of the tree by specialized cells.” At the beginning of the process, trees re-absorb vital nutrients from the leaves to be stored in their roots. Chlorophyll — the pigment that gives leaves their green color — is one of the first nutrients to be broken down for its nutrients. Without the chlorophyll, leaves

Sassafras.
Photo courtesy
Arbor Day Foundation



turn red, orange, or gold, and millions of people hit the road in search of the most colorful trees.

The Arbor Day Foundation has assembled a list of the most colorful fall trees in the United States. Of the nine, eight can be found in Maryland. (The full list can be found [here](#).) The World Wide Web has thousands of suggestions for places to see spectacular foliage, from hiking trails to driving routes to fall festivals. Many states have websites with foliage reports and forecasts to make planning easier. So this fall, take time out to go see your favorite trees before abscission takes place. Take a camera and your favorite field guide or app and wander. You may find a new favorite tree in the process.

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We're on Facebook!

The Woodland Stewardship Education program is on Facebook. We invite you to read about news and notes related to woodland management from across the region and the nation. We'll also share information about upcoming events and articles we think you'd find interesting.

Find our page at <https://www.facebook.com/UMDWSE>, or search for “Woodland Stewardship Education program” on Facebook.

For Best Results, Check Your Firewood's Moisture Content

As anyone who has built a fire knows, dry wood burns more easily than wet wood. The key to having dry wood for household use, particularly in a wood stove that heats your home, is understanding the relationship between the wood's moisture content and an efficient fire that burns cleanly, generates more heat and results in fewer emissions. And the easiest way to check your firewood's moisture content is with a moisture meter.

There are a wide variety of moisture meters available to consumers. Many use a set of probes that you insert into the wood. These measure the moisture, which is then displayed on the meter's screen.

To obtain an accurate reading, take a piece of firewood from the stack and split it. For best results, check the split wood's moisture content in two or three places to get an average reading. (See the photo at right.) You may also wish to split more than one piece of firewood from different areas of the stack. This will give you a more accurate representation of the stack's overall moisture content.

Depending on how the wood has been stacked, the wood may be drier at one end than the other. Wood that has a moisture content of 15% to 20% burns the most efficiently.

Remember that freshly-cut wood will take several months to a year to dry properly for burning. The length of time varies with the species, with the weather, and with how the wood is stacked. For example, wood that is covered tends to dry more quickly than uncovered stacks. Stacks that are free-standing (not against a wall) will dry more quickly because more air can circulate around it. Having a reliable moisture meter will allow you to track the wood's drying process and will help you better determine when the wood is ready for your woodstove. Properly-seasoned firewood will burn more cleanly and will generate more heat.



Maryland Joins the "Call Before You Cut" Program



Maryland has more than 2.5 million acres of woodlands. The majority are owned and managed by private landowners. Many of these landowners understand that successfully managing their property occasionally means cutting some trees for the overall health of the woods, but may have little knowledge about how best to do so. Now they have access to a free program that can help them make informed decisions about the timber harvesting process. The "Call Before You Cut" program offers professional assistance to landowners considering timber sales. Landowners can receive complimentary information by visiting the website www.callb4ucut.com, and clicking on the state of Maryland. Click "Request Info" in the banner and add your contact information, or call the University of Maryland Extension at 301-432-2767, extension 315.

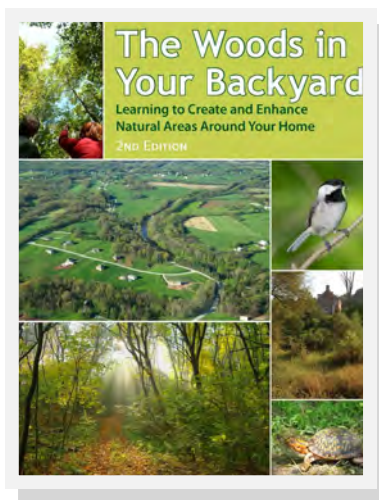
"Call Before You Cut" began in Ohio in 2006. Since then, it has grown to include states as far west as Missouri and as far north as Minnesota. In Maryland, the program is coordinated by the University of Maryland Extension, with support from over a dozen conservation and land management partners across the state. "Call Before You Cut" helps landowners develop effective forest stewardship plans for their property. The program also encourages sustainable harvesting of timber, supports the use of professional foresters, and promotes the use of Master Loggers to minimize the impacts of timber harvests on forests and the state's valuable soil and water resources.

According to Jonathan Kays, Extension Forester with the University of Maryland Extension, "Having a credible information source that targets the nuts-and-bolts of timber harvesting can be a real asset for landowners when they need timely information concerning a harvest decision."

The "Call Before You Cut" program will help woodland property owners achieve their management goals, and help ensure the health of their forests for the coming years and future generations. Visit www.callb4ucut.com or go directly to the Maryland page at www.callb4ucut.com/maryland to learn more.

Now Available!

The Woods in Your Backyard, 2nd Edition



The first edition of *The Woods in Your Backyard: Learning to Create and Enhance Natural Areas Around Your Home* was published in 2006. The guide helped thousands of landowners of 1 to 10 acres in the mid-Atlantic area enhance the stewardship of their land. They learned valuable techniques about caring for their natural areas, including how to convert lawn to woodland, how to enhance existing wooded areas, and how to cooperate with neighbors to enhance wildlife habitat.

Now the guide has been revised and updated. Highlights of the new edition include:

- ◆ A new Foreword by Doug Tallamy, author of [Bringing Nature Home](#)
- ◆ Methods for documenting your natural area projects through a “stewardship journal”
- ◆ Tips for identifying your natural area’s natural and wildlife habitats
- ◆ Expanded and up-to-date information related to non-invasive plant species
- ◆ Expanded information about water resources, including tips for creating and maintaining riparian buffers, and identifying and preserving wetlands
- ◆ A new section on best management practices for soil resources and conservation
- ◆ A fully revised and expanded Glossary

The 108-page guide contains more than 100 color photos and illustrations, and includes information tables, case studies, appendices, and an index.

Contributors include natural resources specialists at the University of Maryland, Penn State University, Virginia Tech and Forests for the Bay.

The 2nd edition of *The Woods in Your Backyard* is now available to order through Cornell University’s Plant and Life Sciences Publishing (PALS, formerly NRAES). Each copy is \$23.00, with quantity discounts available. For more information, click on the cover image or go to <http://go.umd.edu/WIYB-2nd-edition> to order.



Sample pages from the second edition.

Maryland's Lookout Towers: Finding Forest Fires

As the Maryland Department of Natural Resources Forest Service grew in the early years of the 20th century, its responsibilities grew beyond teaching Marylanders the value of sound forest management techniques. Frederick W. Besley was appointed as the first State Forester in 1907, and he shortly thereafter began creating a network of forest wardens. These volunteers educated residents about the state's new forest fire protection laws. By 1910, new legislation gave these wardens the power to arrest individuals who violated any of the state forest regulations, as well as an annual salary that included additional wages for fighting fires.

One of the Forest Service's essential tools in fighting forest fires across Maryland was the lookout tower. The first recorded tower was constructed in 1915 in Bittinger on Garrett County's Meadow Mountain. It was part of a planned network of thirty to thirty-five towers that would be placed twenty-five miles apart in order to facilitate communications with neighboring structures.

Ten such towers were constructed during the 1930s by the Civilian Conservation Corps. By 1940, there were 32



Nassawango Forestry Tower (built 1929), Worcester County MD. The tower is maintained by the Maryland DNR Forest Service as a communications site and for emergency fire detection. Photo from the National Historic Lookout Register.

across the state. While many of the first towers were built of wood, prefabricated metal towers from the Aermotor Company began to dot the landscape from the 1920s on. These towers were 80-100 feet tall and were surmounted by a 7-by-7-foot enclosed space, called a "cab," for the lookout observers.

The local fire wardens selected observers — both male and female—to occupy the towers during the spring and fall fire seasons. The observer climbed the stairs and entered the cab through a trapdoor in the floor, and began the essential job of scanning the landscape for the first sign of a forest fire. Using

binoculars, the lookout scanned the entire 360-degree horizon every fifteen minutes. Upon detection of a fire, the observer used an "alidade" (also known as an Osborne fire-finder), a large circular device with an azimuth compass with 0 to 360 degrees. The alidade was placed on a table 3 feet in diameter

and approximately 4 to 5 feet in height which included a map representing a 30 to 50 mile radius from the tower. The observer placed the alidade on the map and used its sighting peephole to obtain an azimuth reading to the fire. This information was sent by radio, and later by telephone, to the forest warden. Using the bearings from one or more other towers, the warden could triangulate the location of the fire. For example, information from the Town Hill tower, located in Allegany County's Green Ridge State Forest, could be added to measurements from the Warrior Mountain tower to the southwest.

Following World War II, many of Maryland's towers supported antennas and transmission equipment to enhance the nation's communications network.

Today, more than twenty of these lookout towers can be found across Maryland. Many are still valuable as communications relays, particularly for the DNR. Nearly all of them are on public lands, and four are open for climbing. The Hollofield tower, which was re-located to Prince George's County's Merkle Natural Resource Management Area, is open to the public. The other three (Fairview in Washington County, Lathrop E. Smith in Montgomery County, and Hebron at the Chesapeake Fire Museum in Wicomico County) are on private property and require permission to visit.

Additionally, five of Maryland's towers are included in the [National Historic Lookout Register](#), a cooperative effort of the US Forest Service, the Forest Fire Lookout Association, and state and private groups dedicated to recognizing fire lookouts across the country. A listing in this register is often a first step towards nomination to the National Register of Historic Places.

While none of Maryland's towers is manned during fire season, they remain an important feature on the landscape. They recall a time when men and women performed a valuable service in helping to manage Maryland's forest resources.



Pete Bond sighting smoke with alidade in Long Hill fire tower in the early 1940s. Photo courtesy Jenny Bond in "A History of Green Ridge State Forest," 2010.

Woodland Wildlife Spotlight: Bobwhite Quail

Many have heard the bobwhite quail without ever seeing it. While the bird itself is often difficult to observe, the bird's emphatic whistle calls out "bob-white" across grassy fields or piney woods. Also known as the northern bobwhite or the Virginia quail, this bird has been in sharp decline over the last fifty years, leading the International Union for Conservation of Nature and Natural Resources to list the species as "near threatened." Today several dedicated groups are working to reverse this trend.

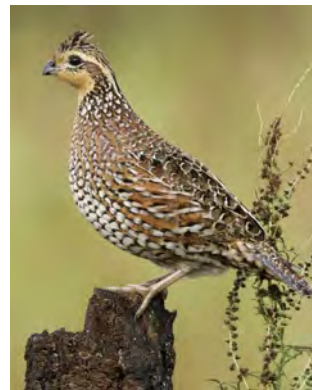
The bobwhite quail is a small but distinctive species native to much of North America, including the eastern coast of Mexico and the islands of the Caribbean. In Maryland, they are common throughout the year in the eastern counties and less common west of the Chesapeake Bay. The bobwhite is a small bird, ranging from 9 to 11 inches in length and 13 to 15 inches in wingspan, weighing from 6 to 9 ounces each. While there are regional variations in appearance among males across its range, the females are similar in all locations. Females are generally dull brown with a buff-colored throat, while males have a white throat and a distinctive brow stripe with a black border. Eastern bobwhites may have rufous-colored breast feathers.

Groups of bobwhites, called "coveys," will scurry rather than fly between areas of cover, but will take flight for short distances when alarmed. Coveys forage for food in habitat with dense low cover by scratching and pecking through leaf litter. Their diet includes seeds, leaves, buds, berries, acorns, roots, and insects, spiders, and snails. They will eat insects when they are plentiful during the summer, and during the fall begin to make a transition to a diet that is more based on vegetation as insects die off. When snow falls, the quail will seek out patches of bare ground under brushy areas.

September marks the end of the bobwhite quail mating season that begins in May. Scientists had believed that the species was monogamous until recent investigations with radio-collared birds revealed that both male and female bobwhites can have multiple mates in one season. When a pair chooses to nest, both will work together to scrape a depression in the ground, roughly two inches deep and six inches across, which they then line with grass and other dead vegetation. They often weave grasses and weeds into an arch to completely hide the nest. The process takes up to five days.

A clutch consists of usually 12-16 white to pale buff eggs, and both sexes participate in the incubation, which takes about three weeks. The downy young will leave the nest

shortly after hatching and can feed themselves almost immediately. The parents watch over the young and may exhibit distraction behavior if the young are threatened, such as feigning injury to draw the predator's attention to the adult. The chicks can make short flights at 1-2 weeks of age, but will not be fully grown for several more weeks.



Male bobwhite quail (above); photo courtesy James M. Wedge/VIREO.

Female (left); photo courtesy Brian E. Small/VIREO

Each female can lay up to three clutches of eggs a year. This prolific behavior is designed to maintain the species' population in compensation for the adults' short life span; the oldest known bobwhite lived only six years. But even these numbers have not been enough to maintain the overall population numbers. Its decline is due in large part to man-made changes.

As human populations shift and grow, open grasslands and farms are converted to other uses or become mature woodlands, reducing suitable habitat for the bobwhite. Consequently, the bird's population has declined in eastern North America as much as 4% per year between 1966 and 2014. However, as this bird has been traditionally seen as a game species, it has been well-studied, and scientists and managers are working to restore populations through habitat changes.

For example, the National Bobwhite Conservation Initiative works with the US Fish & Wildlife Service, the USDA Forest Service, and many other state, local, federal and private organizations to help landowners identify, restore and preserve suitable bobwhite habitat. In Maryland, the Department of Natural Resources and the University of Maryland Extension both provide resources for landowners. Understanding the bobwhite quail's particular habitat needs and adopting effective land management practices may help improve the species' prospects.

News and Notes

Updated Wood Heat Policies by State

For more than ten years, the Alliance for Green Heat has tracked policies across the country related to wood heat and wood and/or pellet stoves. Their most recent update can now be found on their website. Some of the policies have been implemented by communities that are prone to widespread atmospheric inversions, while others are intended to reduce dependence on fossil fuels. The list also lists existing local and state rebate policies associated with the purchase or installation of new wood heat technologies.



Find the list on the Alliance for Green Heat's website at http://www.forgreenheat.org/policy/state_policy.html.

University of Maryland Engineers Create See-Through Wood

A research team at the University of Maryland's Energy Research Center have developed a process to turn wood transparent. The resulting product combines the strength and durability of wood with the light-transferring ability of glass. The team, led by material scientist Liangbing Hu, notes that the material has "high impact energy absorption" — in other words, is shatter-resistant — and is a better insulator against heat and heat loss than glass.



The process, for now, is a closely-guarded secret, but it involves lye and epoxy. The latter ingredient is not environmentally-friendly, but the team is working to refine the technique with recyclable compounds.

Watch a video from *Business Insider* about the process [here](#), and one from the University of Maryland team [here](#).

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Partners: Forests For the Bay, MD Association of Forest Conservancy District Boards, MD Association of Soil Conservation Districts, MD/DE Master Logger, MD/DE Society of American Foresters, MD DNR Forest Service, MD Farm Bureau, MD Forestry Foundation, MD Forests Association, MD Tree Farm Committee, The Nature Conservancy, Western MD Resource, Conservation and Development.

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Maryland Bans Sale of Three Invasive Plants

Starting next year, it will be illegal for Maryland retail outlets, such as garden centers and nurseries, to sell three invasive species: fig buttercup, shining cranesbill, and yellow flag iris. Additionally, the Maryland Dept. of Agriculture (MDA)'s Invasive Plants Advisory Committee plans to evaluate a further 28 species in the coming years.

With this measure, Maryland joins a growing movement of states working to fight the growing tide of invasive plants. Texas prohibits the sale of 32 invasive species; New York bans 68, and Massachusetts bans 137.

For more information on MDA's prevention program, visit

http://mda.maryland.gov/plants-pests/Pages/maryland_invasive_plants_prevention_and_control.aspx

Has Tree-of-Heaven Met Its Match?

Aaron Cook, Washington County (MD) Forester; Lee Reich, Associated Press

A naturally-occurring fungus might help curb the spread of an invasive tree species that is threatening forests in most of the United States, according to researchers at Penn State, Virginia Tech, and West Virginia University.

Researchers tested the fungus, *Verticillium nonalfalfae*, by injecting it into tree-of-heaven, or *Ailanthus*, plots. The treatment completely eradicated the tree-of-heaven plants in those forests.

“It appears that this treatment is effective in Pennsylvania and could be used as a bio-control agent throughout the United States,” said Matt Kasson, a former Doctoral Candidate at Penn State University.

Since tree-of-heaven’s introduction into Pennsylvania in the 1780s, the tree has spread from a rare and prized plant for collectors to a nuisance in at least 40 of the 48 contiguous states.

One of the problems is that if you cut it down, it won’t go away. New sprouts enthusiastically pop up from the cut stump, even after years of re-cutting. What’s more, the spreading roots send up sprouts that eventually can grow into full-size trees at some distance from the mother plants. “Full-size” for tree-of-heaven means 40 to 60 feet or more.

Although a single tree-of-heaven lives rarely more than 50 years, those roots sprouts stand ready and waiting to replace any old top growth in decline.

Additionally, tree-of-heaven also is among the fastest-growing trees. At 3 to 5 feet per year, it can quickly outstrip competitors, whether they are cultivated plants or weeds. It also tolerates adversity. This is “a tree that grows in Brooklyn,” thriving despite heat, cold, alkaline or acidic soil, wet or dry soil, even infertile soil and polluted air.

Further complicating matters are its seeds. Each tree can



Tree-of-heaven.

Photo by James H. Miller, USDA Forest Service,
www.invasive.org

potentially cast more than 300,000 seeds to the wind.

Each seed has wings that ensure it doesn’t drop to the ground before first hitch-hiking a ride on the slightest breeze.

Trying to find the best way to get rid of tree-of-heaven has become a serious land-management issue; it can cost up to \$3,500 an acre to eradicate the invasive tree.

Dr. Donald Davis, professor of plant pathology at Penn State University, said that in 2003, he noticed a large number of tree-of-heaven deaths in a southwestern Pennsylvania forest. The foresters in the area then took him to a site where large-scale wilt was affecting the trees. Davis described hundreds, if not thousands, of dying and dead tree-of-heaven in the area, which is very unusual, because tree-of-heaven is very hard to kill.

The researchers also noticed a number of Ambrosia beetles near the infected stands, leading them to theorize that the fungus, often carried through the forests by beetles, was involved in the tree deaths. The Ambrosia beetles may explain some of the long-range spread of the disease; one theory is that the beetles feed on an infected tree and then take those spores to another healthy tree, which could be miles away.

Studies on the vegetation that surrounds *Ailanthus* groves indicate the fungus does not harm nearby plants and trees. Only a small percentage of plants near the infected tree-of-heaven plots showed signs of being harmed by the fungus, specifically devil’s walking stick and striped maple, both uncommon in central Maryland.

Perhaps tree-of-heaven in Maryland has met its match?

Perhaps tree-of-heaven in Maryland has met its match?

Invasives in Your Woodland: Norway Maple

This issue's spotlight falls on the Norway Maple. This invasive species is so conspicuous throughout the United States that it is often easy to forget that it is an introduced species that can adversely affect the environment.

What is it?

The Norway Maple (*Acer platanoides*) is native to Europe. Its natural range stretches from western France in the east to central Russia in the west, and from southern Scandinavia to northern Turkey. It was first introduced to North America in 1756, when John Bartram of Philadelphia imported trees for sale as ornamental landscaping plants. It was planted on farms and in towns and became a popular choice for its hardiness, adaptability to harsh conditions, and its lush canopy and generous shade. It was also a popular choice in the mid-twentieth century to replace dying American Elm trees in cities and towns.

From there, it has spread throughout the northeastern US, from Maine to Wisconsin, south to Tennessee and Virginia, and to the Pacific Northwest. It has spread as reforestation occurred across the Northeast, and has also escaped from town plantings.

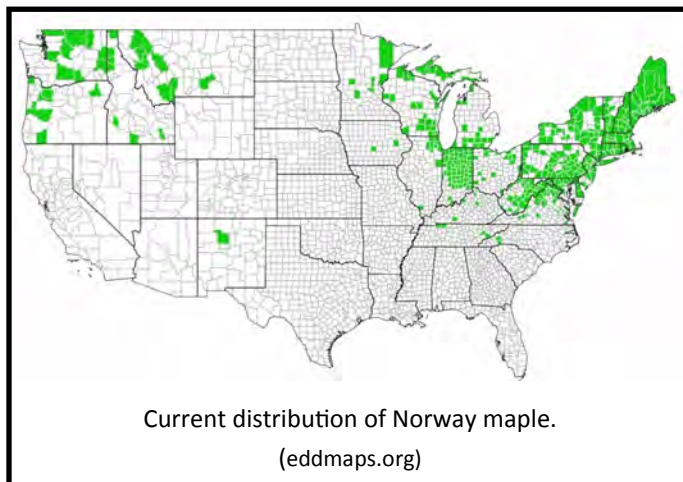
The Norway maple is a fast-growing deciduous tree that commonly grows to 40-50 feet in height, but may grow as tall as 100 feet. It tolerates a wide range of light conditions (from full sun to part shade) and soil types (growing in clays, loams, and sandy soils, tolerating both acidic and alkaline conditions). It also tolerates compacted soils and urban environments. It has a shallow root system, and its dense canopy suppresses growth of grasses and seedlings beneath it.

These characteristics have led New Hampshire and Massachusetts to ban Norway maples. Seventeen states, including Maryland, Virginia, West Virginia and Delaware, classify it as an invasive plant species.



Fall color of Norway maple

Photo by Leslie Mehrhoff/University of Connecticut—
Bugwood.org



Current distribution of Norway maple.
(eddmaps.org)

How does it spread?

Norway maple flowers early in the spring, before many native North American trees and shrubs, which may favor its ability to spread. It grows more quickly than the native sugar maple, and apparently reproduces more quickly as well. It produces large numbers of seeds that are dispersed by the wind. When seeds land in garden beds or other open areas, they germinate readily in the following spring.

How can I identify it?

Because Norway maples are so widespread throughout the northeastern US, they are often overlooked as a native species. Additionally, their leaf shape and branching pattern are very similar to native sugar and red maples. The fruits are also similar in appearance; the paired "samaras" have widely-spaced wings that spin and flutter in the wind when falling from the tree.

Norway maple leaves have deeper sinuses between the lobes than those found on sugar maples. Norway maple samaras resemble a coat

hanger; sugar maple samaras resemble horseshoes. See photos on the following page.

How can I control it?

Seedlings can be pulled by hand and small to large trees can be cut to the ground. Repeat when necessary to control re-growth from sprouts.

For more information:

A wide variety of resources exist about the Norway maple:

[National Park Service](#)

[North American Native Plant Society](#)

[Virginia Cooperative Extension](#)

[Invasive Plant Atlas of the United States](#)

See the Norway maple gallery on the next page.

Image Gallery: Norway Maple



Above left: Norway maple leaves and samaras. Contrast with sugar maple leaf and samara (right).

Photos courtesy Norm Meyn, blogs.pjstar.com



Mature Norway maples have deeply furrowed bark.
Photo courtesy Bud Reaves, Anne Arundel County (MD)
Forestry Board



Norway maple sapling invading a New Jersey forest.
Photo from commons.wikimedia.org



Norway maple flowers. Photo courtesy Photo by Leslie Mehrhoff/
University of Connecticut—Bugwood.org

Virginia Tech Researchers Have An Itch to Understand Poison Ivy

Robby Korth, The Roanoke Times

John Jelesko said his obsession with poison ivy started with a burning sensation several years ago. And now he burns to find out more about the plant, which can turn summertime into a stretch of itching and discomfort for many.

He and a team of four other Virginia Tech faculty members are now using samples from different parts of the Appalachian Trail — including a 100-kilometer transect from near Blacksburg to Peaks of Otter — as a laboratory to determine why and how the plant grows and spreads.

The project is funded by a College of Agriculture and Life Sciences proposal development grant worth \$5,000 that Jelesko hopes to use to leverage additional funding in the future. That grant would get the team enough funding to study the entire length.

Researchers want to know why poison ivy grows in so many different ways, said David Haak, a Tech assistant professor of plant pathology, physiology and weed science. Folks hiking through the forest know the distinct three leaves that signal “get away,” Haak said, but the plant can grow in so many different ways, from a creeping vine to a bushy shrub and scientists really don’t know why.



Virginia Tech researchers David Haak (left) and John Jelesko study poison ivy. Photo by Matt Gentry, The Roanoke Times

So, Haak is sequencing the plant’s DNA from different types of plants gathered from various points on the Appalachian Trail, as well as some plants from other parts of the country such as Texas and Iowa. He said researchers can analyze the DNA to see which traits from poison ivy are genetic and which come from adapting to external factors such as soil type or the amount of sunlight received, he said.

The goal, according to Jelesko, is to figure out how and why poison ivy grows so prevalently in areas disturbed by humans. “If we see genes associated with human-created habitats and few in wild populations ... it begs the question is poison ivy domesticating itself?” said Jelesko, a Tech associate professor of plant biotechnology.

Jelesko’s nasty run-in with the plant was in 2012. A tree in Jelesko’s back yard was knocked over by that summer’s

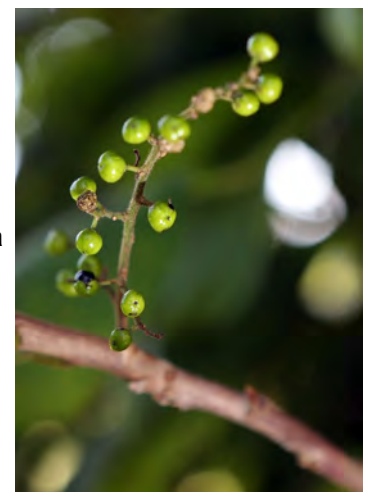
infamous derecho. Per his wife’s request, he said he was careful to avoid the plant on the tree. However, he wasn’t watching an extension cord connected to his yard trimmers. “I had what could only be described as chainsaw-induced testosterone poisoning,” he said. The cord was running straight through a pair of poison ivy plants. When he used his arm to tie it up, urushiol — the nasty natural chemical that leaves its mark — spread all over his arms.

The encounter left his forearms swollen and rash-covered, leaving him with a desire to “claw my flesh off,” he said. During one night of tossing and turning because of the poison ivy-induced agony, he decided he wanted to know more about his torturer. So as any good plant biologist would do, he turned to peer reviewed scientific journals to learn more about why poison ivy is such a pain. But there was almost nothing to read. “There was very, very, very, very, very little known about the plant,” Jelesko said.

He’s investigated the plant, studying how it reproduces, how it dies when a specific fungus attacks its seedlings and practical applications for urushiol, the biological chemical that can cause so much pain. “It’s the thing in your backyard that we really know nothing about,” Jelesko said.

Through a couple of years of investigation, Jelesko has learned a few things about the plant like a unique way to kill it and how it reproduces.

Jelesko has figured out there’s a fungus that naturally grows on the plant’s seeds. He hypothesizes that the fungus appears on the seeds to prevent seedling competition with mother poison ivy plants. The only way the fungus will disappear in the wild is when it passes through the digestive tract of a bird. A bird will eat the seed, fly away and when it excretes the seed in a new location the seed won’t have the fungus, increasing its chances of growing into a healthy poison ivy plant, Jelesko said.



Poison ivy berries are eaten and dispersed by birds. Photo by Matt Gentry, The Roanoke Times

The fungus can then be used to kill poison ivy and doesn’t appear to harm other organisms, other than an invasive insect found in New England for which it was first practical-

ly applied. Birds and mammals other than humans don't get rashes from poison ivy when they come into contact with urushiol, Jelesko said. Deer will eat the plant "like crazy," he said. For an unknown reason, the chemical in poison ivy afflicts only people.

The plant seems to thrive in so-called edge environments that are created by humans like fence lines on agricultural fields or woodlands that abut roadways. Using GIS mapping technology, the Tech team will study genetic markers in poison ivy plants based on a particular plant's precise location on the trail. They'll also be able to look at physical surroundings and habitat to see how genetic makeup influences where different types of poison ivy thrive.

The information may provide researchers with the ecological role that poison ivy plays, according to Haak. He said scientists are also unsure how the plant plays into the North American ecosystem. "We don't really know why it's here," Haak said.

That element is like many facets of poison ivy in that scientists know little about it. Jelesko said he hopes to continue pushing the frontier on knowledge about the plant that began with an unfortunate encounter during yard work and lasted two weeks. After all, he says now, his wife had warned him to be careful around the plant. Now, whenever he comes close to it he avoids it at all cost.

But if he or someone else does come into contact with the plant, he has a simple suggestion: visit a doctor and get prednisone, a steroid.

This Issue's Brain Tickler ...

This tree can be found on the grounds of Ferry Hill, a property of the C&O Canal NHP in Washington County, MD. It's a Maryland State Big Tree co-champion. What species is it?



Events Calendar

For more events and information, go to <http://extension.umd.edu/woodland/events>

September 29, 2016, 1:00 PM—8:00 PM

Maryland Forests Association— Central Region Workshop

Edrich Lumber, Windsor Mill MD

The Maryland Forests Association will be hosting a series of regional workshops across the state this fall. Each will include a tour by the host location, dinner, and additional educational sessions. The central region workshop will feature an afternoon tour of Edrich Lumber by mill president Doug Wolinski and Andrew Stanfield, manager of their recently-opened scragg mill. The after-dinner sessions will feature updates on the tree farm program, pest issues and management, and an update from the DNR. The workshop costs \$30 per person. For more information, go [here](#). To register on line, click [here](#).

*September 29 and October 6, 2016, 6:30—9:00 PM
(consecutive Thursdays)*

"The Woods in Your Backyard" Evening Workshop

Maryland Extension Office, Ellicott City MD

The University of Maryland Extension and the Howard County Forestry Board will host two evening workshops for landowners with 1—10 acres who wish to learn about getting more out of their land, converting lawn to woodland, habitat management, and much more. Classes will feature presentations by foresters, arborists, landscape designers and Master Naturalists. The cost for both evenings is \$25 per person or \$30 per couple, which includes all materials needed to complete the evenings' activities. For more information and how to register, go to the Howard County Forestry Board's page [here](#).

October 6, 2016, 1:00 PM—8:00 PM

Maryland Forests Association— Western Region Workshop

Green Ridge State Forest, Flintstone MD

The Maryland Forests Association will be hosting a series of regional workshops across the state this fall. Each will include a tour by the host location, dinner, and additional educational sessions. The western region workshop will feature an afternoon tour of Green Ridge by Forest Manager Mark Beals and retired DNR wildlife biologist Tom Mathews. The after-dinner sessions will feature updates on the tree farm program, pest issues and management,

and an update from the DNR. The workshop costs \$30 per person. For more information, go [here](#). To register on line, click [here](#).

October 14, 2016, 8:00 AM—5:00 PM

Fall Forestry & Wildlife Field Tour

Manassas National Battlefield Park, Manassas VA

Join the Virginia Forest Landowner Education Program and Virginia Cooperative Extension as they celebrate their 40th anniversary by taking a bus tour to a variety of important conservation areas in Prince William (Virginia) County. The tour begins at and returns to Manassas National Battlefield Park, and will be held rain or shine. Please dress appropriately. The tour costs \$35.00, which includes transportation, lunch and refreshments. For more information and to register, go [here](#).

October 19, 2016, 7:30 AM—4:00 PM

Trees Matter Symposium

Silver Spring Civic Center, Silver Spring MD

The fifth annual Trees Matter Symposium's theme is "Trees and the Built Environment," and will focus on the health and welfare of trees in an increasingly urbanized landscape. Learn from experts about innovative efforts to plant, protect, and preserve trees in urban and suburban settings. Arborists, landscape and environmental engineers, developers and interested citizens will all find opportunities to learn new techniques and concepts for preserving and enhancing the trees in our communities. Early bird registration (until September 17) is \$75.00; after September 17, registration is \$90.00. For more information, go [here](#). To register, visit [this link](#).

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