West Virginia Nursery & Landscape Association, Inc.
1517 Kingwood Pike Morgantown, WV 26508-3938

Official Bulletin of the West Virginia Nursery & Landscape Association, Inc. May 15, 2008
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What's In Bloom This Week?

This must be one of the most floriferous, showy springs ever. With no killing frosts throughout April, huge amount of blossoms are seen on fruit and ornamental trees and shrubs alike, all no doubt compensating for the early April 2007 freeze that ruined flowers and fruit on many plants budding and blooming at that time. Let us hope that some of them don't start biennial blooming, heavy bloom one year - sparse the next, a frequent phenomenom when plants exhausted with an overabundance of bloom and fruit, take the next growing season off, failing to set flower buds in the fall, to recover reserves used up by the over production. Not only woody plants gave an unusual show this spring; strawberries, blackberries, raspberries, tulips, daffodils, and minor bulbs such as Crocus, snowdrops, Chionodoxa, and *Scilla siberica* joined the colorful chorus. Pawpaws, sweet cherries, plums and *Amelanchier canadensis* are loaded with blossoms, not a one of which has a brown center. This should be a flower year to long remember.

Above, May 6, 2008, at 1517 Kingwood Pike, Morgantown, *Spiraea prunifolia* and *Wisteria sinensis* compete for attention. Amber, the Leonberger, who unexpectedly showed up in the picture when it was viewed back in the office, adds a little color accent Below: a planting of *Tulipa Kaufmanniana* 'Quebec' with pansies, also May 6.

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In bloom at 1517 Kingwood Pike on May 6, 2008. **At top**: light pink very fragrant 8 feet tall deciduous azalea planted years ago - from White Flower Farm; *Fothergilla gardenii* also 8 feet; **midpage**: seedling *Paeonia sufruticosa* about 30 years old - 4 feet high with *Euphorbia griffithii* 'Fireglow' from Sunshine Farms providing a color accent in front; *Viburnum plicatum tomentosum* flowers; **bottom**: *Prunus maritima*, Beach Plum (flowers look white at a distance and pink shows up when viewer comes close; Hino Crimson azalea.

NEW WVNLA MEMBERS
The following firms have been admitted to membership in the West Virginia Nursery & Landscape Association. Let's give them a call and welcome them to our Association!

GRITT'S MIDWAY GREENHOUSES
Penny Goff
Route 2, Box 2B
Red House, WV 25168
Tel: 304-586-2449
ACTIVE

SAUNDERS BROTHERS, iNC.
Beth Scott
2717 Tye Brook Highway
Piny River, VA 22964
Tel: 434-277-5455
ASSOCIATE

Blue Star Memorial Dedications in May

On May 17, 1:00 pm, A Blue Star Memorial Marker and Honor Memory Garden will be dedicated at the Veterans' Administration Medical Center in Huntington. The Honor Memory Garden is funded by the Ohio Guyan District of West Virginia Garden Club, a few clubs, veteran groups and a Grant from Wal Mart. The WVNLA provided funding for the Blue Star Memorial Marker. **RSVP: Ruth Ann Koch, Director, Ohio Guyan District, WVGC, 304-523-5311.**

Funded also by WVNLA is a Blue Star Memorial Marker to be placed at the Route 33 Exit to Buckhannon by the Tygart Valley District of the WVGC on May 25 at 3:00 pm. **RSVP: Leona Goff, Director, Tygart Valley District, WVGC, 304-472-3061.**

Paeonia suffruticosa 'Hana-kisoi', planted in 1989 at 1517 Kingwood Pike, Morgantown.

Azalea 'Knap Hill Yellow'. Above pictures taken May 6, 2008.

Spanish Version of Pest Management Guide Available Free From BASF

To help Spanish-speaking growers select the most effective solutions for a variety of pest management challenges, BASF Turf & Ornamentals has posted a free Spanish version of its Pest Mangement Guide on www.betterplants.com. The guide addresses fungicides, herbicides and insecticides. Charts in each section of the guide include information on Fungicide Resistance Action Committee (FRAC), Weed Science Society of America (WSSA) and Insecticide Resistance Action Committee (IRAC) mode of action classifications for each product listed. In addition, the charts provide a side-by-side overview of primary target pests, chemical group, active ingredients and trade names, as well as restricted entry interval (REI) and use sites for each product.

Ohio Florists' Short Course
July 12-15, 2008
Columbus, OH

Get answers to your most challenging business issues. More than 130 sessions and a 1,400-booth trade show designed to give you an edge on the competition.

Short pre-registration deadline is June 27, 2008. Registration and hotel reservations are accepted online: www.ofa.org or http://reg.itsmeetings.com/ofa and by phone: 800-424-5249, fax: 800-521-6017, and mail: OFA, 2130 Stella Court, Columbus, OH 43215-1033.

New (2nd Edition) <u>Best Management Practices: Guide for Producing Nursery Crops</u> Available at WVNLA Office

This 2007 Guide , published by the Southern Nursery Association, in addition to the updated sections on irrigation, container management and water and nutrition management, contains a brand-new section on <u>Field Production of Nursery Stock</u>. **The SNA has sent several copies to this office. Those members wishing to receive a copy should contact Brad Bearce at 800-239-0796 or email him at wvnla@prodigy.net. First come, first served!**

SNA Tradeshow Aug 7-9!

The Southeast's largest horticulture and landscaping event is coming to Atlanta, Georgia. Join this industry only event featuring more than 500 growers and suppliers. Be ahead of your competition and customer demands this fall by seeing the latest plant introductions and product offerings from the industry's best at the 2008 SNA Tradeshow. Visit www.sna.org to register today.

Glee Made Easy
September 21-23, 2008
NEC Birmingham UK

This is the world's number one international garden, pet and leisure trade event made easy with Ian Baldwin and the ANLA. To get the most out of Glee and England, join Ian & Lisa, September 17-23, 2008 for an intense Garden Center Tour and then on to Glee, the international home of garden & leisure for focused buying and display inspiration. Glee is the world's largest annual international trade event for lawn and garden. From garden tools and pottery to landscaping and water gardening, you'll find thousands of products that will excite and inspire you.

For further details, contact Ian Baldwin
tel: 916-682-1069
email: ianbaldwin@comcast.net
web: www.ianbaldwin.com

International Plant Propagators' Society to Meet
October 19-22, 2008

The Southern Region of North America - IPPS will have its 33rd annual meeting from Oct. 19-22, Sunday through Wednesday, 2008 at the Omni Hotel, Charlottesville, VA. Highlights include: nursery & arboretum tours Sunday, Monday and Tuesday; top-notch speakers on the mornings of Monday, Tuesday and Wednesday; reception at Wintergreen Resort; banquet and Southern Region Auction on Monday. For further information and registration packets, please contact: Ronnie Stisher, Secretary- Treasurer, IPPS Southern Region of N.A., 3649 Crestside Road, Birmingham, AL 35223; tel: 205-967-7896, cell: 205-369-7913; email: RStisher-@aol.com. The IPPS-SRNA website is: http://www.ips.org/SouthernNA/.

Connecticut Nursery & Landscape Association (CNLA) Update
April-May 2008

Invasive Plants Bill Dies Despite intense lobbying by CNLA, the bill to update invasive plant laws died, even though it was the third year attempt. The bill actually passed the House and Senate, but on separate bills. It would have pre-empted towns from enacting their own plant bans for the next 5 years, refined imperfections in current invasive laws, and clarified state inspectors roles in plant inspections. Where the issue goes from here is unknown. The state Invasive Plants Council meets next in September.

Employer Sick Leave Fails The bill requiring employers to pay sick leave to their employees came very close to passing, having passed the Senate but ran out of time in the House. Senate Bill 217 would have created the nation's first such requirement. Employers of 50 or more employees would have had to provide paid sick leave to hourly and nonexempt employees at a rate of one hour for every 40 hours worked, to a maximum of 52 hours per year; unused hours could be carried over into the next year. It could pass next year, with a new Speaker of the House, Chris Donovan, who is close to the AFL-CIO.

Riverfront & Wetland Bills Dead Two bills that would have opened new protections for use of land within 100 feet of a river's and wetland's high water marks were both killed in committees after being declared ready for floor action. CNLA had insisted on the bill allowing "as of right" "grazing, farming, nurseries, gardening and harvesting of crops" in riverfront areas, although the current requirement to go through the permit process for watercourses and wetlands would remain. The bill would have allowed clear-cutting of timber to expand crop land near river banks, but not the mining of topsoil, peat or similar materials. The bill also raised the legal test for applicants to prove, by *preponderance of evidence*, that their activities will not have an adverse impact on the river.

What is "Plant-watering Wastewater"? The Conn. DEP used the new term in a new notice to one of the state's largest greenhouse growers, even though it may not have any legal basis. DEP is cutting new ground here, subjecting the first greenhouse grower in the state to the agency's rigorous stormwater discharge regulations. DEP requires a stormwater permit for any site or building that has five acres or more of an impervious surface. The agency has noticed that some larger greenhouse facilities trip this requirement. In this notice, DEP says, "wastewaters include...floor wash water, plant-watering wastewaters, and runoff consisting of chemicals used to coat greenhouse glass."

A Bill that would allow Unionization of Nursery and Greenhouse Workers in Connecticut has been temporarily stopped in the state legislature, but may be resurrected before the General Assembly adjourns May 7. Senate Bill 489 was technically killed in the Appropriations Committee. But the Bill's sponsor, the AFL-CIO, can be expected to try bringing the bill up on the House or Senate floor as an amendment to another bill. If that happens, the CT Green Industries and the CT Farm Bureau will offer an amendment to exempt agriculture.

Green Industry Companies are facing Zoning Battles around the State, prompted by strong opposition of neighbors to their expansion. Marcucio Gardens on busy Route 34 in Derby is dealing with adverse reaction of adjoining residents to its application for a special exception permit allowing the garden center to use more of its 15-acre parcel than the one acre housing the nursery. Neighbors don't like the trucking and storage of plant stock. Halas Farm of Danbury, a third-generation Danbury farm, is requesting a zoning amendment from the city that would allow it to store mulch and equipment across the street from the Route 37 farm market. Again, neighbors are complaining. Zoning is more often a function of neighbor disputes than a tool for orderly growth.

Journal of Environmental Horticulture: Selected March 2008 Abstract

IBA Formulation, Concentration, and Stock Plant Growth Stage Affect Rooting of Stem Cuttings of *Viburnum rufidulum*

Jason J. Griffith. Kansas State University, Department of Horticulture, Forestry, and Recreation Resources, John C. Pair Horticultural Center, 1901 East 95th Street South, Haysville, KS 67060. *Journal of Environmental Horticulture 26(1):1-3. March 2008.* (The Journal is published quarterly by the Horticultural Research Institute, to which WVNLA regularly contributes.)

Viburnum rufidulum Raf. (southern or rusty blackhaw) has potential to be a popular landscape plant as it is an attractive large shrub tolerant of many common landscape stresses. However, propagation difficulties have thus far limited wide scale use. Therefore, the influence of IBA formulation and concentration on adventitious rooting of stem cuttings of southern blackhaw taken at different stock plant growth stages on August 25, 2005 (semi-hardwood), June 14, 2006 (softwood), and December 15, 2006 (hardwood) were investigated. Liquid formulations of the potassium salt (K-salt) of indolebutyric acid (K-IBA) at 0, 3000, 6000, or 9000 ppm (0, 0.3, 0.6, or 0.9%) as well as talc formulations of IBA at 1000, 3000, or 8000 ppm (0.1, 0.3, or 0.8%) were utilized. Talc formulations failed to stimulate rooting regardless of concentration or growth stage. A quick-dip of K-IBA increased rooting percentage at all growth stages. Softwood and hardwood cuttings had the highest rooting percentages. Hardwood cuttings treated with 6000 ppm (0.6%) or 9000 ppm (0.9%) rooted 90 and 100% respectively. Softwood cuttings treated with 6000 ppm (0.6%) rooted 87%. K-IBA improved root number per rooted cutting for softwood cuttings, whereas root length was unaffected by K-IBA at any growth stage.

Linda Talley's SUCCESS Newsletter

SUCCESS: Have You Ever Gone NUTS?

No, I don't mean insane or crazy but just gotten a little stressed out? Well, a friend of mine, Dr. Ken Davis told me that there are 4 reasons why people get stressed out and he used the acronym, NUTS. Why am I writing about this? Because we all get a little or "a lot" stressed out in our lives whether it be on the job or at home. I believe that if you know what causes this stress, you can recognize it faster and deal with it sooner before it gets really big and slows you down.

So here are the 4 things:

N= Something/Someone new or novel

U=Something/Someone unpredictable

T=A threat to the ego

S=A sense of control or loss of control

My button is when I feel a loss of control. Then I must take myself away somewhere quiet and relaxing and regain, reenergize and get my control back. Recently I bought a lake house and this is where I "hunker down" till the stress has passed. However, now that I can articulate why I am stressed out, I don't seem to have the need to "hunker "down" as much. I simply say to myself: "Hum, isn't this interesting, I am getting stressed because this is out of my hands. Since finding our about NUTS—I also realize that I get stressed out when I am in a new situation. For example, if I have to drive to an event in a "foreign" town (read that as outside of Houston, TX), I experience a little angst. Now I say, "hum, I'm getting stressed out because this is all new to me" and it settles me down immediately. Try it.

BTW, if you have recently forgotten a special birthday or anniversary, here's the answer to save you grief in the future: jackcards.com. Check it out. Good selection! Sign up, when the time comes for the special day, they will mail you the card to sign and send. I am not associated with the site, just think it's a good idea for those of you who don't have time.

NEW TALLEYTOON: How to Have a Successful Business Lunch! Click on Talleytoons on the left side after entering the web site.
www.lindatalley.com

Big Tree of the Month Common Hackberry

West Virginia Division of Forestry Charleston, WV
http://www.hort.uconn.edu/plantsc/celocc/celocc

Hackberry or Sugarberry, *Celtis occidentalis*, is native to Quebec & southwest to Oklahoma. It is common in parts of the Eastern and Northern Panhandles of West Virginia. It is hardy in zone 3. Hackberry wood was used to make hunting bows. Today it is used to make athletic equipment, furniture and plywood.

Our West Virginia Big Hackberry is located on the Kathleen Cole property in Shepherdstown, Jefferson County, and was nominated by F. Wolfes in 1999. It is 199 inches in circumference (63 inches DBH), 88 feet tall and has an average crown spread of 83 feet. Michael Dirr: "Co-national champions are 94 X 85 feet in Mason City, IL, and 87 X 86 feet in Lafayette County, MO." Hackberry is a large deciduous tree with a cylindrical shape when mature. It can reach 40' to 60' tall and has an almost equal spread. Its branches tend to droop. It has a fast growth rate and coarse texture. The leaves of hackberry are

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(Hackberry continued from page 5)

alternately arranged and simple, 3-5 inches long, with oblique leaf bases and serrate margins except at their bases. Leaf color is medium green with a pale yellow-green underside. The leaves are glabrous on the underside, especially around the veins and feel rough to the touch..Fall leaf color is a not very showy yellow.

Flowers of hackberry bloom in late April to early May, emerging with the leaves. The flowers are polygamo-monoecious, the staminate borne on cymes from flower buds at the base of the season's growth; the perfect and pistillate solitary or in few-flowered fascicles from the axils of the upper leaves. They are not ornamentally important

Hackberry fruit is a yellow to orangy-red fleshy oval 1/4 inch long drupe, turning purple with yellow flesh when it ripens in September - October. It has an edible, sweet date taste. The fruit is not ornamentally important Its flesh surrounds a hard seed that can break teeth if bitten into.

Hackberry bark has a grayish color and a recognizable interesting corky, warty pattern. The younger stems grow in a zigzag pattern and have prominent lenticels.

Hackberry is easily transplanted from B&B, container or bare root. It prefers rich soil but is very soil adaptable and tolerant of most conditions including wind. It grows best in full sun and is urban tolerant.

Hackberry is a good tree for poor conditions. It makes a good park tree, is used for a screen. The edible fruit usually hangs on the tree for most of the winter.

Hackberry is susceptible to leaf spot, powdery mildew, hackberry nipple gall, scale and a witches' broom disease thought to be caused by a myco-plasma like organism. These problems don't kill the tree, but can make it very unattractive.

Propagation of hackberry is by budding or grafting with Celtis occidentalis and C. laevigata as rootstock. Seeds are also used, sown either in the fall or stratified for 2-3 months at 40 degrees and planted in spring.

The fall 2007-spring 2008 Princeton Nurseries catalog lists a *Celtis X occidentalis* 'Magnifica' and describes it as follows: "this hybrid of *C. laevigata* and *C. occidentalis* is faster growing, more insect resistant, and has larger, glossier leaves than common hackberry. Corky gray bark provides winter interest. A tough, urban tolerant tree that resists witches broom. Princeton recommends this hybrid for a street tree, parks and as a specimen. (There is a well-formed hackberry growing at the south edge of the walk between the Creative Arts Center and the Coliseum at WVU.)

Plant of the Month
Southern or Rusty Blackhaw

Edward F. Gilman and Dennis G. Watson
University of Florida
Gainesville, FL
http://hort.ufl.edu/trees/VIBRUFA.pdf

Rusty Blackhaw, *Viburnum rufidulum*, is a native of the well-drained upland woods of southeastern North America. The common name comes from the short, dense, rusty brown hairs on leaf petioles and buds. This plant forms a multiple or (occasionally) single-trunked small tree or large shrub, reaching 25 feet in height with an equal spread. The dark bark is blocky, resembling older Flowering Dogwood bark. Trunks usually grow no thicker than six inches and arch away from the tree, forming a pleasing, vase-shaped crown. Leaves are dark green, three inches long leathery, and extremely glossy. The tree is covered in springtime with striking five-inch-wide clusters of small, white blooms. These flowers are followed by clusters of dark blue, waxy, one-half-inch-long fruits that are extremely popular with wildlife and will occasionally persist on the plant from September throughout the autumn if not eaten by wildlife. In fall, Rusty Blackhaw puts on a brilliant display of scarlet red to purple foliage.

Rusty Blackhaw is hardy from zones 5B through 9. Potential planting range is from southern New Hampshire to south-mid Florida, south Michigan to Texas and Washington through California.

Rusty Blackhaw grows in full sun to shade and tolerates a wide range of soil types and reactions from clay to sandy and acidic to alkaline. It has a high drought tolerance but low salt tolerance.

Rusty Blackhaw will grow and look nice in full sun or partial shade on any reasonably fertile, well-drained soil. The tree grows in a shady spot but forms a more open habit. Flowering is significantly reduced in the shade.

Although tolerant of drought, it will not tolerate compacted soil. This would be a good tree for planting beneath power lines and in other limited space areas.

Useful as a hedge, specimen, or border tree, this deciduous tree adapts well to urban areas. Shoots arise from the root system, sometimes as far out as the dripline. This could be a maintenance problem when planted in a bed of mulch. But sprouts would be routinely cut with regular mowing when planted as a street tree in a lawn. Pests are not usually a major problem.

Propagation is by seed or cuttings.

Insect of the Month
Hemlock Woolly Adelgid
Notes on Its Control

This April, a WVNLA member had some questions about formulations and methods of application of Imidacloprid for control of Hemlock Woolly Adelgid (HWA). Emails to the experts gave the following answers on our member's questions.

Mike Raupp, Entomologist, University of Maryland, responded:

"My responses are in CAPS."

The questions were:

1)What is the timing of the Merit application?
NOW WOULD BE A GOOD TIME. HEMLOCKS ARE PUTTING OUT NEW GROWTH VERY SOON.

2)The label on the 2.5g Merit product says reapply every so often. Is it active for a short time as the label states or longer?
I HAVE FOUND IT ACTIVE FOR 3 YEARS OR MORE.

3)Is granular better than the liquid?
I DO NOT THINK THIS MATTERS.

4) Is there a difference in how long one is active vs. the other?
I DO NOT KNOW BUT DOUBT IT.

5) Where is the merit located when applied?

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Grown around love

Tatham's gardening business a family affair

BY RACHEL FLUHARTY
For The Dominion Post

Tatham's has been "growing ideas" for spring since 1980.

What first began as a hobby of selling fruit trees out of their garage sprang into a thriving business that involves the entire family.

Chris Tatham handles the greenhouse while his wife, Joyce Tatham, and her twin sister, Judy O'Conner, do bookkeeping and other side jobs. Lucas, Chris and Joyce's son, plans and designs customer gardens.

With the help of other employees, they break in the warm weather by providing blooming plants, trees and vegetables.

Previously located in both Kingwood and Morgantown, Tatham's owners — Chris and Joyce — decided to consolidate the business and relocate to Reedsville in 2006.

The business bustled on a warm April day. A few days prior, it had been cold and rainy — and business, Lucas Tatham said, "had been dead."

The Tatham men, Chris and Lucas sit in a sunny room with Brad Teets, the horticulturist and retail employee.

"There are times when mom will look at Brad and say, 'Go ask your dad about that,'" Lucas said.

Chris talked about the start of the business, which started as a hobby.

"I've always been interested in plants," he said. "This was just a hobby. We sold fruit trees out of the garage. My wife said she wanted, 'someone with a strong back and knew something about plants.'"

The Tatham's son, Lucas, grew up helping his parents and with the help of his father gutted the 100-year-old brick house to use for the retail end of the gardening business. In April 2006, Tatham's reopened with an adjoining greenhouse and a one-acre nursery behind the house.

Tatham's offers professional landscape services as well as retail vegetable plants, flowers and trees. When a customer wants their landscaping completely redone, Lucas Tatham goes to the residence and draws out a rough sketch of the property with measurements and takes photos.

Then, he uploads the pictures into a photo imaging program. With the software, he places images of plants, trees and flowers on the photos.

Next, Tatham can show the customer what the house will look like with the new landscaping.

"I think that blooming flowers calm you down, the pride of growing it and nurturing it," Lucas said. "Nothing else can make you smile like a blooming flower."

Jane Light, a retired teacher, has known the Tathams for several years, having had Lucas in class. When the store moved to Reedsville, she decided to stay a customer despite the longer drive. "It was handier in Kingwood," she said. "But this is unique and historical. I think it's neat that they are using this old house."

Established gardeners can also bring in photos of their houses or flowerbeds to Teets at Tatham's. He said different things are planted at different times, due to changes in the weather.

Due to debilitating frosts, the staff at Tatham's has been moving plants in and out of their storage spaces. This shuffle could last until May 15 — about the time of spring when the danger of frost is over. Then, hardier plants and annual flowers can be set out.

"You're competing with Mother Nature to grow things you want," Lucas said.

Tatham's suggests that vegetables like broccoli and cabbage can be planted in April, as well as pansies and fruit trees. Tatham's carries 12 different kinds of fruit trees, such as cherry, plum and pear.

Once either Tatham's or the gardener sets out their garden, the crew at Tatham's can come in, preferably four times a year, to provide maintenance.

"A lot of people, if they only get nights and weekends off, they don't want to spend five to six hours of their Saturday shearing shrubs," Lucas Tatham said. "We can come in three to four times a year and do shearing, mulching and fertilizing, and in May, we can do flower planting."

Tatham's also provides fall clean-up after the season is over. Fall flowers can also be planted as well as Christmas decorating. Tatham's closes for the season from January to February.

"That's when we sleep," Lucas said.

Tatham's retail side provides silk flower arrangements, hanging baskets which can be planted at the store every season and garden supplies to fit basic needs.

Right now, Tatham's is preparing to set up the nursery in the back and making sure flowers are ready for May 15.

"It's a great way to spend your time," Lucas said. "I feel proud carrying on something that my family started."

This article and the pictures on page 7 appeared in the Sunday, May 11, 2008, edition of the Morgantown, WV, The Dominion Post and are copied here by permission from the Tatham family and the Editors of The Dominion Post. Pictures on the left are Tatham's greenhouse (top), which "holds many varieties of plants and trees. The business also provides landscaping work. Lucas (left, below), Joyce and Chris Tatham operate the family planting business together."

(HWA continued from page 6)

I USE A BASAL DRENCH. I MIX IT UP IN A BIG BUCKET AND APPLY IT IN A RING AROUND THE BASE OF THE TREE FROM ABOUT 2 FEET OUT FOR SMALL TREES TO 4 FEET OUT FOR BIG TREES. I ALWAYS USE THE HIGHEST RATE. I HAVE FOUND THAT MERIT WORKS BEST ON SMALLER TREES AND THAT IT TAKES LONGER ON VERY LARGE TREES, LET'S SAY 24 INCHES DBH OR LARGER. I HAVE HAD VERY GOOD LUCK WITH ANOTHER PRODUCT CALLED SAFARI ON VERY LARGE TREES. THIS IS APPLIED THE SAME WAY WITH THE SAME TIMING. EXCELLENT CONTROL ON TREES UP TO 50 INCHES DBH.

6) If granular how close, how much, what makes it active under the canopy of a hemlock? If liquid how close, how much, how deep, and what is the best applicator?

Joe Boggs, Entomologist, Ohio State University, replied:

I appreciate the reminder that I need to brush-up on an insect that I've had no direct experience with for my January presentation! Established hemlock woolly adelgid (HWA) infestations have not yet been found in Ohio, although two localized infestations were found in the northeast part of the state in 2002, and 2004. Both were eliminated; however, I'm sure it's only a matter of time before we are directly dealing with the pest in Ohio.

I'm heavily involved with emerald ash borer (EAB) because established infestations are found in 41 counties in Ohio, including my own. As you know, it's also been found in West Virginia. What we know about imidacloprid (Merit) and EAB only partially applies to HWA; however, here's what I've learned about controlling HWA with Merit, and I'm going to add some perspectives learned from EAB.

First, Merit as a soil drench/injection, lasts in the tree for a very long time compared to many other insecticides! In fact, research with HWA has shown that Merit applied as a soil drench/injection will provide control for 24 months!

It does appear that foliar applications provide a much shorter control longevity. It is recommended that two foliar applications should be made during the season: the first between mid-May to mid-June; the second between late-July to early-October.

Although Merit has worked well when sprayed onto the tree, however, the application requires thorough coverage, and the true systemic quality of Merit is not fully realize ... thus, the need for two applications. I'm a greater fan of applying Merit by soil drench/injection. While we know that it takes about 30 days for the insecticide to move throughout the tree (this seems true for both EAB and HWA), once it infuses the whole tree, control lasts for a long time.

There are two application windows for soil drench/injections targeting HWA: March-June; or September-October. Based on what I've learned with EAB, I'm a bigger fan of spring applications. However, I'd recommend that the application be made in March, if possible. While fall applications have looked good in research trials, I'm concerned that systemic activity may be reduced as the tree shuts down for the winter. In other words, you may not get the maximum concentration in the tree. I believe the same considerations should hold true for HWA. One of the best published studies on HWA involved spring applications. So, I'd recommend concentrating on the spring for Merit soil drench/injection applications.

Regarding the formulation, I'd recommend using the WP or liquid formulations rather than granules for several reasons. There is no difference between the formulations relative to longevity of activity; however, you want the insecticide to get into the tree as quickly as possible, and there could be differences in formulations. The insecticide must first be leached from the granules before moving into the soil for root uptake. As it stands, water remains an important component for WP formulations to work, and it would simply add another wrinkle to go wrong with granules.

On the placement, the soil drench/injections must be within 1-2' from the trunk. Trees have an abundance of feeder roots in this zone, and these roots are particularly effective in taking-up Merit. Applying further away from the tree would introduce a "hit-or-miss" problem with the possibility the product will not be deposited near functional roots.

Regarding depth, if soil injections are used, the depth should be 2-3".

Now for the water. Both soil drenches and soil injections require water to move the material to the roots. Obviously, drenches require less because of the volume of water used in the application. However, this is where your members should read and follow the label directions closely: too much or too little water applied after the application is a major reason for insecticide failure! Also, both applications must be made to moist soil.

Finally, here are a few other considerations. Unlike ash trees and EAB, hemlocks are often found near streams. There is great concern about Merit leaching into streams, so once again, the label recommendations need to be followed closely. Another concern has to do with assessing overall tree health prior to making the application. As with EAB and ash, if the hemlock is not worth saving, there's no point in making the application! Also, the overall health of the tree can radically affect insecticide movement.

Hemlock Woolly Adelgid Research at WV Botanic Garden

At the March 9, 2008, Board meeting of the WV Botanic Garden, Rick Turcotte, U.S. Forest Service, reported on his Hemlock Woolly Adelgid (HWA) research at the WVBG. He has found no HWA at WVBG to this date. He described the HWA life cycle and feeding method. HWA is evenly distributed on the new growth in hemlocks. The insecticide, Imidacloprid (Merit) became distributed throughout the treated hemlocks. His literature search on arthropods associated with Eastern Hemlock found none to be specific for hemlock, although 95 insect and 3 mite species were listed. Hemlock contains many compounds repellant and/or poisonous to arthropods. In his investigation of WVU Forest hemlocks, he has discovered 33 species of mites (2 new), 181 insect species and more than 700 species of spider. He explained that hemlocks collect huge amounts of detritus from associated tree species in their twigs on which an extremely diverse food chain lives. This may be the reason for the few problems which exist with hemlocks in a mixed forest situation and for the problems with hemlocks in urban situations. Imidacloprid injected gives a quick kill of HWA while soil applications move more slowly into

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(HWA Research at WVBG continued from page 9)

and throughout hemlocks. An injection/soil application gives quick kill plus long term protection against HWA. Imidacloprid remains and gives protection in trees for 3-5 years. It lasts about 1 year in the soil and 24 hours in light. Bayer Tree & Shrub insecticide is an over the counter formulation of Imidacloprid.

Disease of the Month
Fire Blight

by Connie Reeves
http://www.extension.umn.edu/yardandgarden/ygbriefs/p223fireblight.html

Fire blight, caused by the bacterium *Erwinia amylovora*, affects over 130 plant species in the rose family. In Minnesota, fire blight is most often seen on apple, crabapple, pear, mountain ash, and cotoneaster. Bacteria survive winter near the edge of cankers and become active in the spring during warm, humid weather. Bacterial ooze, a sweet and sticky substance containing bacteria and plant sap, flows out of infected trees through natural openings and cracks in the bark. Bacterial ooze can be spread to young succulent growth on nearby plants by wind, rain, or birds. Most often, pollinating insects attracted to the sweet smelling ooze are responsible for transmitting the bacteria to flowers of susceptible hosts. Infected flowers first appear water-soaked, then shrivel, turning brown or black. As the infection progresses, leaves on the same spur turn dark brown or black as though scorched by fire. The dark, shriveled leaves hang downward and usually cling to blighted twigs. Infected shoots, twigs, and suckers turn brown to black and often bend in a characteristic shepherd's-crook. Infected immature fruit turns dark, shrivels, mummifies, and rots. Mummified fruit may cling to the tree for several months. A canker is formed when an infection progresses into larger branches. The host may produce callus tissue that walls off the canker, or a host may continue to be infected causing death of the branch. Weather conditions are an important variable influencing the severity of fire blight. New infections may occur throughout the growing season during warm, humid weather, and are especially common after a summer hailstorm when bacteria are washed into wounds created by hail. Cultural practices, such as proper pruning, fertilizing, and site selection, can help prevent or minimize fire blight. Young, succulent growth is very susceptible to fire blight, so avoid heavy pruning which stimulates excessive new growth. Prune young trees annually during dormancy (late winter) to eliminate the danger of large cuts which may promote the growth of suckers. Use a balanced fertilizer early in the spring to encourage tree growth during the first part of the season when temperatures are cooler and less conducive to the spread of fire blight. Excess nitrogen stimulates new growth, which is highly susceptible to fire blight, so fertilize only as needed. Fertilizer applied to the lawn is often adequate for the needs of nearby trees. Trees with dark green, well-developed leaves and adequate growth would not benefit significantly from an application of fertilizer. Plant new trees on the proper site to minimize stress. Diseased twigs, branches, and trees may be removed in late winter. Cuts should be made at least six inches below the diseased area into healthy wood and at a proper pruning site. Summer pruning can be hazardous, however highly susceptible trees may be killed if the disease is not pruned out as soon as possible. Infected twigs and sprouts which are pruned in summer should be cut at least twelve inches below the point of visible infection and at a proper pruning site. If fire blight is seriously damaging a cotoneaster hedge, cut the hedge about six inches above the ground in late winter. If only a few stems are blighted, they can be removed as described for trees. Pruning shears should be dipped for five seconds in a freshly made 10% bleach solution (one part bleach to nine parts water, equivalent to 1½ cups bleach in 1 gallon of water) between each cut. If trees are severely infected or if fire blight continues to be a yearly problem, a copper-based fungicide like Bordeaux or a fire blight spray containing streptomycin sulfate can be applied. Follow directions on the label for application procedures. Read the label carefully and apply only asdirected. The following list includes varieties of apples and crabapples and their resistance or susceptibility to fire blight. Susceptibility to other diseases, especially apple scab, should be considered when purchasing new trees. Note that the resistance of the following varieties should be used only as a ranking for comparison between varieties. Resistant varieties can still become infected with fire blight!

Apples/*Crabapples grown for eating

Most Resistant Chestnut, Crab, Dolgo*, Haralson, Honeycrisp, Liberty, Red Baron, Red Delicious
Somewhat Resistant Zestar!
Less Resistant Centennial*, Cortland, Keepsake, McIntosh, Minjon, Regent, State Fair, Sweet Sixteen, Whitney*, Zesta
Least Resistant Beacon, Fireside, Honey Gold, Wealthy

Ornamental Crabapples

Most Resistant Adams, Adirondack, Camelot, Lancelot
Somewhat Resistant Candymint, Pink Princess, Red Splendor, Silverdrift
Less Resistant Golden Raindrops, Purple Prince, Red Jade, Spring Snow, SugarTyme
Least Resistant Madonna, Sinai Fire, Snowdrift

Representative trade names may be included along with generic names. This information is supplied with the understanding that no discrimination is intended and no endorsement is implied.

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Beer, S.V. 1990. Fire Blight, pp. 61-63 In: *Compendium of Apple and Pear Diseases*. The American Phytopathological Society, St. Paul, MN. 100 pp.
Van Der Zwet, Tom and Keil, Harry L. 1979. *Fire Blight, A Bacterial Disease of Rosaceous Plants*. USDA Agriculture

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(Fire Blight continued from page 10)

Handbook #510, Washington, D.C. 200 pp. NOTE: Resistance information on apples was updated by Dave Bedford at the U of MN Horticultural Research Center, and Harold Pellett and Nancy Rose at the U of MN Landscape Arboretum. University researchers will be continually screening for fire blight susceptible varieties. It is possible that additional data may change current resistant-susceptible categories of some varieties. Readers may wish to check in the future for updated information.

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Perennial Plant Symposium and Trade Show
July 20-26, 2008
Sheraton City Center Hotel, Philadelphia, PA

The weeklong educational program includes lectures, workshops, tours, and a trade show. The symposium is dedicated to education and networking for the perennial industry. Attendees are growers, retailers, wholesalers, designers, contractors, educators, garden writers, and other professionals in the perennial industry.

CONTACT: Perennial Plant Association, 3383 Schirtzinger Road, Hilliard, OH 43026 Phone: 614-771-8431, Fax: 614-876-5238
Web: www.perennialplant.org, email: ppa@perennialplant.org

Below: Common Hackberry, *Celtis occidentalis*: from top clockwise: tree, bark, flowers, fruit, fall foliage, leaves. Pictures from http://www.cas.vanderbilt.edu/bioimages/species/ceoco2.htm. Steven J. Baskauf, photographer

Above, left to right: *Viburnum rufidulum* Rusty Blackhaw, leaves, flowers, fruit and shrub. Pictures of leaves, flowers and fruit from http://plants.usda.gov/java/profile?symbol=VIRU. Picture of shrub from floridata.com, photographer, Steve Christman. Below, left to right: Hemlock Woolly Adelgid, actual size, closeup of nymphs and dying hemlocks in Greenland Gap, Grant County, WV. Nearly all of the hemlocks in that area have been killed by HWA. HWA pictures of actual size HWA and dying trees by permission from WV Department of Agriculture Cooperative Forest Health Programs 2008 Calendar. Closeup of HWA nymphs from woodypests.cas.psu.edu/.../html/HemlockWA.html. Picture by Jeff McMillian, Courtesy of Almost Eden, US. Bottom, left to right: Fire Blight; characteristic shepherd's crook appearance of wilting pear shoots infected with the bacterium, Erwinia amylovera, overwintering canker on pear and amber colored bacterial ooze on sepal and stem below ovary of pear blossom. Fire Blight pictures from http://www.caf.wvu.edu/Kearneysville/

Black Jetbead *Rhodotypos scandens*

http://www.invasive.org/browse/subject.cfm?sub=6891

Native Origin: Black Jetbead is a native of Central China, Korea and Japan. It was introduced into the United States in 1866 as an ornamental.

Description: Black Jetbead is a small (up to 6 feet tall), multi-stemmed shrub that invades natural areas in the eastern United States. Leaves are opposite, simple and doubly serrate with a rough leaf surface. White, four-petaled flowers occur in small terminal clusters. The flowers give way to small, black, bead-like fruit. Jetbead invades forested areas creating a thick shrub layer which could displace native shrubs, shade out understory species, and restrict tree seedling establishment. Jetbead is native to eastern Asia and was first introduced into the United States in 1866 as an ornamental.

Habitat: This species can grow in full sun to full shade but prefers full sun with moist, well-drained soils. It is adaptable to poor soils, various soil pH, soil compaction, shady spots, drought, shearing, heavy pruning, and urban tolerances such as pollution and salt tolerance.

Distribution: This species is reported from states shaded on Plants Database map. It is reported invasive in DE, IL, MA, MI, NY, PA, VA, and WI.

Ecological Impacts: Black Jetbead invades forested areas, creating a thick shrub layer which could displace native shrubs, shade out understory species and restrict tree seedling establishment. Found in at least 17 states east of the Mississippi, it is invasive in natural habitats away from intentional plantings.

Control and Management:

- **Manual-** Small plants may be removed by handdigging. Remove the entire root system. For larger infestations, cut shrubs to the ground in the fall or winter.
- **Chemical-** It can be effectively controlled using any of several readily available general use herbicides such as glysophate. Apply in spring. Follow label and state requirements.

Twig and leaves of Black Jetbead

Flowers and fruit of Black Jetbead
http://www.mobot.org/gardeninghelp/plantfinder/plant.asp?code=F170

Seed of Black Jetbead

Below: Distribution of Black Jetbead: States colored red are those in which it has been reported as an invasive.

References:

www.invasive.org, http://plants.usda.gov, www.hort.uconn.edu/plants/r/rhosca/rhosca1.html,

www.hcs.ohio-state.edu/hcs/TMI/Plantlist/rh_ndens.html

Plant Invaders of the Mid-Atlantic Natural Areas, NPS, p. 49

Produced by the USDA Forest Service, Forest Health Staff, Newtown Square, PA. WOW 05-30-05

Invasive Plants Website: **http://www.na.fs.fed.is/fhp/invasive_plants**

On February 13, 2008, Sonja and I joined the Seniors from Heritage Point in Morgantown for a visit to Phipps Conservatory in Pittsburgh to view the "Chihuly at Phipps" exhibit of glass sculpture. Here are some of the pictures we took. The glass sculptures were set among the plants and we were visiting at night. Pictures were taken by Sonja Bearce

Here is one of the few large American Elms remaining in Morgantown. It's on the southeast corner of Point Marion Road (US 119 north of Morgantown) and Canyon Road. It has the classic vase shape. Next time you come to town, go see it!