West Virginia Nursery & Landscape Association, Inc.
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HERE ARE SOME OF OUR SPEAKERS FOR THE WVNLA WINTER CONFERENCE JANUARY 22-23, 2009!

TRACY DISABATO-AUST

Has earned international acclaim as one of America's most entertaining and knowledgeable garden writers and professional speakers. She has extensive experience in the United States, and abroad working for over 30 years in the industry, speaking for over 25 years and designing for over 20 years.

Her experience includes stints at Longwood Gardens in the U.S., The Montreal Botanical Garden in Canada, the Kalmthout Arboretum in Belgium, and Knightshayes Court in England. She earned a B.S. and M.S. in Horticulture from The Ohio State University. She is owner of Horticultural Classics and Consultations, Sunbury, OH.

Her first book The Well-Tended Perennial Garden, which has been referred to by many as "the bible for perennial maintenance", has sold over 150,000 copies and has become Timber Press' best selling book in their 25 year history of publishing. Now available in a beautiful expanded edition.

Her second book The Well-Designed Mixed Garden, which has sold over 30,000 copies, brings her trademark exuberance, expertise, and efficiency to bear on frequently daunting elements of garden design demystifying them with her direct approach.

Tracy is a gifted and award winning designer who combines artistic vision with practical horticultural strategies.

Tracy's followers now welcome her long awaited newest book (2009)—*50 High- Impact, Low- Care Garden Plants: Tough but Beautiful Plants That Anyone Can Grow* which features easy care dynamic selections for our busy lives.

DiSabato-Aust is a frequent guest on national garden television and radio gardening shows. She is a vibrant speaker, and in great demand nationally and internationally, on the lecture circuit. Venues include New Zealand & Australia Landscape Design Conferences, England's Royal Botanic Garden-Kew, England's Royal Horticulture Society Garden- Wisley, The English Gardening School, The Oxford Botanic Garden The Smithsonian Institute, The Perennial Plant Association, numerous botanical gardens and professional association meetings.

Tracy has contributed articles or been featured in numerous national and international magazines, books, and newpapers. Magazines include: Fine Gardening, Horticulture, Garden Design, & Gardens Illustrated (London, England. The New York Times, The Daily Telegraph in London, England, and The

National Post, Toronto Canada have all published articles on Tracy. She has appeared on several gardening television shows including, Way to Grow & Smart Gardening. She is a frequent guest on Martha Stewart Radio.When Tracy is not busy with horticulture adventures she is training and racing as an "All American" at the national and world's level in triathlons and duathlons.

JAMES DAVID

I earned a bachelor of Landscape Architecture from Louisiana State University in 1969 and a Master in Community and Regional Planning from the University of Texas in the School of Architecture in 1973.

I worked for the Texas Parks and Wildlife Department for eight years as Head of the Landscape program for the State Parks. In 1975 I established a Landscape Architectural practice and founded in 1981 GARDENS. GARDENS was a design/build Landscape Architectural firm,of approximately 100 employees that included a nursery, a home and garden store, and a construction company. Our projects were generally residential and includes the design and construction of the hardscape and plantings. Projects included

(Continued on page 2)

work in Mexico, France, England, and across the United States. My partner Gary Peese, and I sold GARDENS two years ago and now work as landscape architects (DAVID/PEESE DESIGN) in Austin, Texas.

DR. DENNIS WERNER

Department of Horticultural Science
North Carolina State University
Raleigh, NC

Dennis is Professor of Horticultural Science at North Carolina State University and former Director of the JC Raulston Arboretum. His research has focused on breeding and genetics of peach and woody ornamentals. Current research in ornamentals breeding emphasizes the development of improved forms of *Cercis* and *Buddleja*. His most recent *Buddleja* introductions are 'Blue Chip' and 'Miss Ruby', breeding breakthroughs in growth habit and flower color, respectively. In addition to his research interests, Dennis teaches courses in plant propagation, herbaceous perennials, and plant breeding. An avid gardener, his home landscape includes a 3,000 sq.ft. herbaceous perennial border, and a diverse collection of woody shrubs and trees. Dennis' presentation will highlight some of the "best of show" woody plants at the JC Raulston Arboretum, and he will also update the audience on recent progress in the *Cercis* and *Buddleja* breeding efforts.

LOUIS BAUER

Louis Bauer has been a life-long gardener. He is the former Curator of the Flower Garden at Wave Hill, the public garden in The Bronx, NY, and is now Director of Horticulture at Greenwood Gardens in Short Hills, NJ – an early 20th century estate that is transitioning into a public garden. Louis has been featured in articles in Garden Design, House Beautiful, Horticulture, and other magazines and in several features in the New York Times.

Scene from Greenwood Gardens, Short Hills, NJ

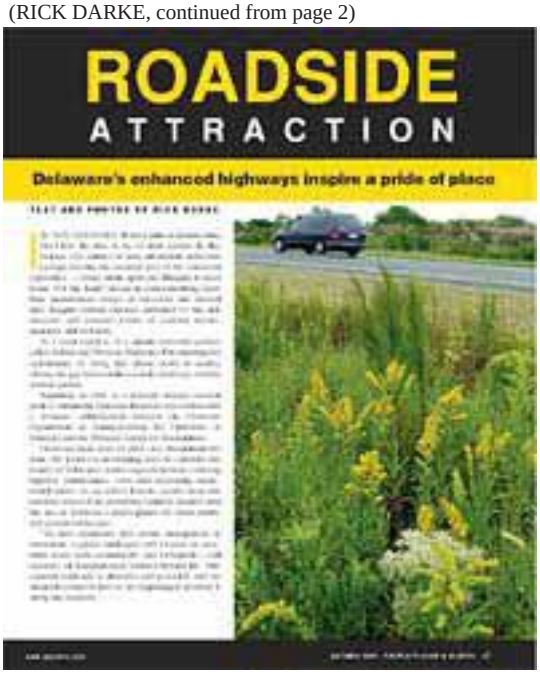
RICK DARKE

Rick Darke heads a Pennsylvania-based consulting firm focused on landscape ethics, photography, and contextual design. His work blends art, ecology, and cultural geography in the creation and conservation of livable landscapes. His projects include scenic byways, transportation corridors, corporate and collegiate campuses, conservation developments, botanic gardens, and private residential landscapes. Rick's work has been featured on National Public Radio and is reflected in his many books including *The American Woodland Garden: Capturing the Spirit of the Deciduous Forest* and his latest, *The Encyclopedia of Grasses for Livable Landscapes*. Rick's knowledge of regional plants and landscapes has been enriched by countless hikes in West Virginia's mountains and valleys, and his presentation will draw directly from this experience. Further information is available at: www.rickdarke.com

Ilex cornuta 'Autumn Fire' early-fruiting Chinese holly October 7, 2008 at J. C. Raulston Arboretum

(Continued on page 3)

(RICK DARKE, continued from page 2)


ROADSIDE
ATTRACTION
Delaware's enhanced highways inspire a pride of place

.Current clients and projects include Montgomery Farm, a 500-acre conservation development in Allen, Texas that is employing a unique team to create an essentially livable landscape; .....the Delaware Center for Horticulture and the Delaware Department of Transportation (DelDOT), for which he is a team member of the *Enhancing Delaware Highways* project. This cooperative research project is conserving and enhancing the beauty and environmental diversity of Delaware's regional landscape through inspired management of roadside rights-of-way. *Enhancing Delaware Highways* was featured in the August 2003 *People Places and Plants* magazine article "Roadside Attraction"

MICHAEL GOATLEY, JR.

Michael Goatley, Jr., is a faculty member in the Crop, Soil, and Environmental Sciences department of Virginia Tech and has been the Extension Turfgrass Specialist since January, 2004. He has statewide responsibilities in the development and implementation of educational outreach programs for all areas of turfgrass management in the state of Virginia. His research program focuses on applied strategies in environmental stewardship in turfgrass management by way of cultivar selection, improved establishment and maintenance methods, and nutrient management. He maintains a weblog/podcast site detailing lawn care for homeowners entitled "Turf and Garden Tips" (www.weblogs.cals.vt.edu/lawn_garden/) at Virginia Tech and currently serves as the Educational Director for the Sports Turf Manager's Association. He has co-authored three books, with the most recent effort ("Sports Turf Management in the Transition Zone") published in January, 2008 by Pocahontas Press of Blacksburg, VA. He has BS and MS degrees in Agronomy from the Univ. of Kentucky and received his PhD in Crop Science from Virginia Tech in 1988. He was on the faculty at Mississippi State University for 15 ½ years before returning to Blacksburg.

(Continued on page 10)

ROBERT E. LYONS
University of Delaware/Longwood Gardens

As Program Director and Professor, Dr. Robert Lyons oversees the professional development and research projects of the students in the Longwood Graduate Program in Public Horticulture. He received his B.A. in Biology from Rutgers College of Rutgers University and went on to earn an M.S. and Ph.D. from the University of Minnesota, both in Horticultural Science. From 1998 – 2004, Dr. Lyons held the J.C. Raulston Distinguished Professor chair in Horticultural Science at NC State University where he was also the Director of the JC Raulston Arboretum in Raleigh, N.C. From 1981 – 1998, he was Professor of Horticulture at Virginia Tech and also Co-founder/Director of the VT Horticulture Gardens. Dr. Lyons received the 2001 Outstanding Undergraduate Educator award from the American Landscape & Nursery Association; in 1999 he received the National Outstanding Undergraduate Educator Award and in 1993 the Outstanding Research Paper Award, both from the American Society for Horticultural Science. In 1996 he received the Virginia Tech W.E. Wine Award for excellence in undergraduate education. Dr. Lyons served as an Associate Editor/Teaching Methods for *HortTechnology* from 1997 – 2003 and developed the theme issue, "Arboreta and Gardens – Teaching Labs for Undergraduates" (*HortTechnology* 9(4): 548 – 576). He is currently the Consulting Editor for the Public Horticulture section of *HortTechnology*, which he coordinated as a new section within *HortTechnology*. Dr. Lyons became a Fellow in the American Society for Horticultural Science in 2008 and received the Outstanding Alumni Achievement Award from the University of Minnesota that same year. He is one of the founding photographers of "Horticopia," which assists the green industry and home gardeners alike with landscape plant selection and identification.

Scene at Longwood Gardens, Kennett Square, PA

WVDA SEEKING APPLICATIONS FOR 2009 SPECIALTY CROP GRANT PROGRAM

The West Virginia Department of Agriculture (WVDA) is inviting groups or individuals with ideas for improving the competitiveness of the state's specialty crops industries to submit grant applications. Deadline for submission is November 1."We have provided 51 projects with approximately $180,000 in the past two years," said West Virginia Commissioner of Agriculture Gus R. Douglass. "These grants have been extremely helpful to many of our farms and agribusinesses, and are helping small states with small producers take advantage of the growing specialty crops market."Douglass sees this program as a boost to many new producers looking at the production and marketing of local foods as a viable income source in rural communities. Existing producers can use this grant program to initiate new growing methods, explore marketing options and generate more efficient revenue streams for their agricultural enterprise.Previously approved projects include the development of a farmers market in Gilmer County, varietal grape demonstrations for the wine industry and a study of the applicability of geothermal energy in a greenhouse environment.Specialty crops are defined as fruits and vegetables, dried fruits, tree nuts, nursery crops, floriculture, herbs, honey, maple syrup, mushrooms and Christmas trees. Both fresh and processed specialty crops are included.The types of eligible projects have been intentionally left open-ended to encourage creative projects, but applications should focus on one or more of the following categories: Promotion/marketing, research, education/training, innovation/efficiency of facilities and equipment. USDA rules prohibit grants for projects that directly benefit or provide profit to a single company or individual. Research projects must make results public, or provide for some type of public education component to the project.Examples of eligible expenses include promotional materials, developing associations to promote specialty crops, creating a cooperative to increase purchasing power, consumer education and increased consumption marketing campaigns (i.e. buy local initiative), product development of specialty crops, improved planting techniques to increase yield, and innovative fencing used to protect crops.Grant money cannot be used for construction projects, establishing secondary grant pools, land acquisitions, taxes, vehicle registration, overhead expenses or indirect costs, legal costs, contingency funds, proposal preparation, insurance, contractual project administration, costs that have or will be paid by another entity, salaries, any expenses incurred prior to the award date of this grant, or political or lobbying activities. Submission of a proposal does not guarantee funding. Proposal packets with program information and application instructions can be downloaded at www.wvagriculture.org. For more information, contact Debra Gard at 304-932-7588 or Cindy Martel at 304-469-9738.*The West Virginia Department of Agriculture protects plant, animal and human health through a variety of scientific, regulatory and consumer protection programs, as mandated by state law. The Commissioner of Agriculture is one of six statewide elected officials in West Virginia. Currently, Commissioner Gus R. Douglass is the longest-serving agriculture commissioner in the nation. For more information, visit www.wvagriculture.org.*

WVNLA Awards Scholarships

At the November 13, 2008, Board of Directors' Meeting, scholarships of $1,000 each were awarded to the following students.

Justin Michael Madron
Arbovale, WV
Landscape Architecture, WVU
Shawn Mathios
Morgantown, WV
Landscape Architecture, WVU
Dan Foreman
Bruceton Mills, WV
Landscape Architecture, WVU

Congratulations to these students! The members of WVNLA hope that these awards make significant assistance and encouragement to your chosen career goals.

Connecticut NLA
Update October 10

A possible shortage of peat moss is on the horizon. Canada's sphagnum peat moss trade group says harvests are critically low for 2008 due to wet weather. Canadian peat harvest is only at 43 percent at the end of August with a carry-over inventory of 17 percent. "The inevitable result will likely be a shortage of professional grower peat," says Paul Short, leader of the peat growers.

Update November 7, 2008,
Connecticut NLA

Heating oil has been stolen from at least two Connecticut Green Industry Companies. In one case, thieves stole an estimated 1,600 gallons from a Cheshire greenhouse grower. The fuel tanks were located in an unmonitored area. Lessons to be learned: first, check your tanks regularly for theft. Consider installing cameras for surveillance, as one grower now has done. Inform your local police and ask for routine patrol checks. Make sure your business insurance covers this type of theft. And, think twice about installing locking tank caps: a person who is sophisticated enough to know how to pump 1,600 gallons of fuel oil out of a tank probably also knows how to cut into it with other creative methods, such as pulling it directly from the fuel line.

Losses from plant diseases may spur Connecticut lawsuits against suppliers. A major Bridgeport law firm representing a large Connecticut re-wholesaler is working on one such suit to recover thousands of dollars in losses two years ago due to *Phytophthora ramorum* (A.K.A. sudden oak death) that the company believes came from an Oregon tree grower. The Oregon company has so far refused to compensate for the loss. There may be similar attempts to recoup losses from Chrysanthemum white rust. But if the cases actually went to trial, the plaintiffs will face the tough callenge of proving in court exactly where the pathogen originated, and who's liable. Crop insurance may be one way of handling the problem. A program on managing ag risk is coming at the CNLA-CGGA Winter Symposium in Wallingford, January 14-15. Also, ther'll be two more programs on how-to-handle plant quarantines, and plant pathogen updates.

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(Update CNLA continued from page 4.)

Boston's Flower Show has been cancelled for 2009. The New England Spring Flower Show after 137 years has been canceled, though its sponsors are hoping to stage two smaller events in 2009. Massachusetts Horticultural Society lost money on the show which in previous years attracted more than 100,000 people from around the region. The show generated $1.99 million in 2006 revenue. In contrast, Connecticut's Flower & Garden Show is all set for Feb. 19-22 in Hartford. Our state's green industry is heavily involved with this privately-operated show, where our new Connecticut Garden & Landscape Trail will be unveiled to the public for the first time. To volunteer, contact CNLA.

CT has signed on to a new web site for Green Industry careers. CNLA is one of 28 state green industry associations that created the new Web site, www.theLandLovers.org, focused on raising awareness of green industry careers to junior high and high school students. The site provides students with a comprehensive overview of the many career options available in the green industry including: aboriculture, garden center, gardening services, irrigation, landscape design, landscape installation, landscape management and lawn care, as well as nursery and greenhouse production. It links to the CT Green Industries employment web page.

"Linda Talley"
linda@lindatalley.com

SUCCESS: Leave a Network That Is Sinking

There's nothing wrong with networking. In fact, it's a great way to build different networking contacts—personal as well as business. However, the network must bring 50% to the table just as you need to bring 50% to the table. This may sound disloyal, regardless if it is a business or personal networking group that you are a part. However, if you are on a sinking ship, it may be time to jump ship and get on a ship that is working well. Networks come and go—it's really about the people who are involved in the network that matter most. Here are some signs that your network is in trouble:

1. Its only purpose is for lead generation and swapping leads. This is too cold, too promotive.
2. It is so political that clichés are created and power trippers rise to the surface.
3. It's boring to attend and the members are boring.
4. Members are taking, taking, taking and not exchanging ideas, energy, support, information. An example: a person runs for the spot of President and then uses the mailing list to market his products/services.
5. The mission/vision has been lost or hasn't kept up with the times. In other words, no leadership. It happens when you try to be everything to everyone and let anyone and everyone into the organization without proper credentials.

Steps to Take:

1. Jump ship immediately! Do not pass GO, do not collect $200!
2. Sign on to another networking group that makes you feel REAL GOOD!.

NEW ARTICLE: No Rest for the Weary. Click on Articles on the left side after entering the web site. www.lindatalley.com

"Linda Talley" linda@lindatalley.com

SUCCESS: The Stock Market Turtle

Sunday, November 16, 2008 2:56 PM

May your troubles be less, may your blessings be more, and may nothing but happiness come through or go out your door! Easier said than done in today's economy, but you don't have to push people, either physically or emotionally, away from you because you're reacting to the stock market, the economy, etc. You can always spot the stock market turtle a mile off! When the market is up, his is up. Head erect, shoulders back, walking confidently or standing with feet in the "A" position with arms bent at a 90 degree angle holding a pen or cup. Then there's the turtle when the market is down: feet dragging, head lowered, shoulders slumping, eyes always looking down. She has trained herself to react and assume positive or defensive body positions because of market events and it's not healthy! Every day you get to choose who you are going to be, regardless of what the stock market or economy is doing! You can do that in 2 different ways Change your psychology in order to change your physiology or body language. This is about changing your attitude and your beliefs. Do you get up every morning and say "Good Morning Lord!" or do you get up every morning and say, "Oh Lord, it's morning." When you start the morning with the former, you are programming your psychology to think positive and you set the tone for the rest of your day and your body language will show it. Change your physiology in order to change your psychology. This is about positioning yourself in the power standing, as described above or power sitting position. It's about smiling, skipping, singing a song or singing along with the radio. It's about staying away from whiners and naggers and manipulators because everyone knows negative attitudes are contagious. When you realize you have these choices to change your thoughts as well as your body language so that it works for you, happiness

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(The Stock Market Turtle continued from page 5)

comes in and out your door! Be sure to check out the Talley Toons this month for more on the Stock Market Turtle!

NEW TALLEYTOON: Are You the Wall Street Morale Turtle? Click on Talleytoons on the left side after entering the web site.

www.lindatalley.com

Big Tree of the Month
American Sweetgum
West Virginia Division of Forestry
Charleston, WV
http://www.hort.uconn.edu/plants/l/liqsty/liqsty1.html

American Sweetgum, *Liquidambar styraciflua*, is native to the Eastern United States, from Southwestern Connecticut to Florida and is also found in mountains of Mexico and Guatemala. It is cold hardy to zone 5. It is a deciduous shade tree, typically 60 to 80' tall and 40 to 60' wide but can easily exceed 100' tall. It is pyramidal when young, becoming oblong to rounded when mature. Our West Virginia Big American Sweetgum was nominated by Mike Morris, Tommy George and Matt Grooves and is located on Leatherwood Creek, Clay County. It has a trunk circumference of 155 inches (49 inches DBH), a height of 122 feet and an average crown spread of 55 feet. Dirr's National Champion, located in Craven County, NC, is 96 feet tall and has a 66 feet spread. Sweetgum usually maintains a single leader and is a medium to fast grower. Once more, our WV Big Tree comes out ahead on height!

The wood of Sweetgum is used for plywood, furniture, cabinet making, flooring and veneers and can be sold as imitation Walnut and Mahogany. It has the greatest variety of uses of any single species in the U.S. Its name comes from its sweet gummy sap. Sweetgum's summer foliage consists of alternate "maple-like" star shaped leaves 5- to 7- lobed, 4 to 8" long and wide with serrate margins. Its leaves are dark to medium glossy green and produce a camphor odor when crushed.

Autumn foliage is typically quite showy on most individuals. The best trees are orange, red, burgundy, and purplish while some trees drop leaves yellow and green. Flowers are monoecious, yellowish-green in May and not showy. The globe-shaped female flowers are borne on a slender stalk and male flowers in terminal upright 3-4 inch long panicles. Fruits are 1 to 1.5 inch spiny balls, changing from green to brown and resembling a mace weapon. They become noticeable in the late summer and fall and persist in winter.

Sweetgum bark is grayish brown and deeply furrowed with narrow ridges. The stem bark is reddish or yellowish brown and shiny. Some trees develop interesting corky ridges on 2 year old stems. Sweetgum prefers deep, moist, bottomland soils. It grows best in full sun, but tolerates partial shade. It should be transplanted B&B due to its fleshy, coarse root system. Use larger plants when transplanting in colder areas to avoid cold injury to twigs.

In the landscape, the Sweetgum makes a good lawn tree or shade tree for larger residences. It is highly valued for its fall color and the ridged twigs provide winter interest. It is a good street tree where ample room is provided and is suitable for parks and campuses. Limitations of Sweetgum are its tendency to become chlorotic on high pH soils and its lack of cold hardiness, especially young trees. Because of its wide geographical range it is important to use northern seed sources for trees in New England or the Northeast. It has a shallow root system. The spiny fruit balls can be a litter problem and a hazard when hurled from mower blades or trod upon by unprotected feet.

Propagation of Sweetgum is very easy from seed. Cultivars must be grafted or micro-propagated.

Some Cultivars/Varieties of Sweetgum:

'Grazam' (**Grandmaster**™) - This new pyramidal selection grows 50' tall and wide with glossy green leaves that turn shades of red-purple and orange in fall. **'Gumball'** and **'Oconee'** - These cultivars are both notable for their dwarf, multi-stemmed shrubby habit to 15' tall with a smaller spread. They exhibit good fall color, with 'Oconee' expressing better cold-hardiness. '**Moraine**' - Probably the most common cultivar in the industry, this plant has a uniform upright rounded habit. It is faster growing and more hardy than other forms, plus it features good red fall color. '**Rotundiloba**' -This is an interesting form whose leaves have rounded lobes. It appears to set fruit rarely or never. The degree of fall color varies widely each year; in addition the tree can develop narrow branch crotch angles and a more open habit. It is probably only cold hardy to -10, but a tree in Storrs, CT has survived several winters without injury. Due to its non-fruiting habit, it may be a viable choice for warmer zones. **"Shadow Columnar Form"** - An as yet unnamed selection with a remarkable fastigiate, columnar habit. Woody plant expert Michael Dirr feels this plant has great commercial potential. '**Variegata**' (may be the same as **'Aurea'** and **'Goduzam'** (**Gold Dust**™))- One of the finest variegated, hardy shade trees, this plant is a strong grower to 60' tall with a narrower spread. The leaves are mottled with cream areas that intensify as the season progresses. The habit is oval-rounded and the plant exhibits good cold-hardiness. Other variegated forms include **'Silver King'** and **'Golden Treasure'**, with margined leaves.

(See pictures on page 8)

SNA Green Industry WINTER Trade Show February 12-13, 2009, Cobb Galleria Centre, Atlanta, GA. Special Events: Garden Center, Landscape Contractors & Designers Swap Shops, SNA Annual Research Conference, Best Management Practices Workshop with Dr. Ted Bilderback of NCState. Contact: SNA (770) 953-3311

Plant of the Month
Enkianthus campanulatus
Redvein Enkianthus

http://www.hort.uconn.edu/plants/e/enkcam/enkcam1.html

The beautiful flowers and fall color of this native of Japan have graced my garden for over 20 years, making it a distinct pleasure to write about it.

Redvein Enkianthus is an upright deciduous shrub growing to 6' to 12' tall and usually 4' to 6' wide under most conditions. Its foliage is clustered at the tips of branches and often appears to be layered. It is often somewhat open at the plant base

The deciduous leaves are 1-3 inches long by 0.5 inches wide, elliptical in shape with bristly teeth on the margins and alternately arranged on the twigs. Leaf color is medium green to bluish green with red petioles. Autumn foliage is yellow, orange, or red and quality of fall color varies with the individual. Selected clones should be used if good fall color desired.

Redvein Enkianthus bears small yellowish bell-shaped flowers with red veins and markings opening in May and early June. The flowers are held in pendulous clusters and are relatively showy with heavy bloom. Fruit is a small capsule of no ornamental value, turning brown in fall. The bark on new shoots somewhat reddish while bark on older wood is gray-brown and smooth, for the most part.

Enkianthus prefers an acid, moist, cool soil and partial shade to full sun. Hot, dry sites should be avoided. It can be transplanted from container or B&B and is slow growing. In the landscape, Enkianthus presents itself well as a specimen or planted in small groups. It can be trained into a small tree and mixes well with other ericaceous plants. It is most useful for its flowers and fall color. Choose a planting site where the small flowers can be viewed at close range. Enkianthus needs acidic cool, moist soil to grow well. Spider mites are problematic in hot locations. Seed-grown plants may not have red fall color. It is cold hardy to zone 5.

Propagation of Enkianthus is by seed; very easy. Softwood cuttings and tissue culture should be used to keep desirable characteristics of selections.

Some Cultivars/Varieties of Redvein Enkianthus are: 'Albiflorus' - A form with creamy white flowers that lack significant red markings. The plant is compact growing with reasonably good orange-red fall color. 'Red Bells' - Probably the most common cultivar, this plant has flowers with a reddish edge. The fall color is consistently good and the growth habit is upright. 'Showy Lantern' - A new form selected at a Massachusetts nursery, this cultivar sports deep pink flowers and dense branching from the ground up. Summer foliage is dark green and the leaves turn scarlet come fall. A superior clone, but less hardy than the species. 'Sikokianus' (also seen listed as var. sikokianus and 'Siko-kianus') - A special flowering selection with maroon flower buds which open to reveal brick red flowers. Occasionally available from specialty nurseries. 'Variegata' (perhaps the same as 'Tokyo Masquerade') - This form has leaves edged with white that are held on reddish stems. It is rarely seen and probably less hardy than the species.

Top to bottom: Redvein Enkianthus flowers; shrub in full bloom; closeup of flowers and foliage; fall color.

Sweet Gum, from top left clockwise: tree in summer; leaves, leaves of '**Variegata**' (may be the same as **'Aurea'** and **'Goduzam'** (**Gold Dust**™); flowers; fruit; tree in fall color; ridged twigs in winter.

CORNELL COOPERATIVE EXTENSION - SUFFOLK COUNTY

INSECT AND PLANT DISEASE DIAGNOSTIC LABORATORY

EDUCATION CENTER
423 GRIFFING AVENUE
RIVERHEAD, NY 11901
HORT INFO LINE 631.727.4126

Cornell University
Cooperative Extension
of Suffolk County

BAYARD CUTTING ARBORETUM
MONTAUK HWY. PO BOX 463
OAKDALE, NY 11769
HORT INFO LINE 631.581.4223

HOLLY LEAF MINERS

Fig. 1. Mines in holly leaf caused by the feeding of *Phytomyza ilicicola*. (*Note the larger terminal blotch at the end of mines*.) (Michael Masiuk, Ohio State University)

Fig. 2. Mines caused by damage incurred by *Phytomyza ilicis*. *Note: the larger blotch in comparison to damage from P. ilicicola* (Rob Edmunds, British Leafminers www.leafmines.co.uk)

Injury: Leaves of American holly, inkberry and English holly are often marked with winding yellowish-brown mines or irregular blotches. These symptoms are caused by small leaf feeding maggots commonly called holly leaf miners. The larvae feed between upper and lower leaf tissues producing the symptom called a leaf mine.

Adult females injure leaves with their ovipositors causing small holes which are punched in the leaves from which sap exudes (**Fig. 4.**). The sap is lapped up as food by both males and females. The hole remains in the leaf and upon healing looks like a tiny pit or pock mark. When the pits are abundant, the leaf may be distorted or deformed.

Description and Life History: There are 3 species which are of concern in New York.

One is the **native holly leafminer**, *Phytomyza ilicicola*, which feeds on *Ilex opaca* (American holly), *I. crenata* (Japanese or box-leaved holly), and *I. acquifolium*, (English, European or Oregon Holly), and related cultivars but lays its eggs only in American holly. The native holly leafminer has one generation each year and it overwinters as a larva in the leaf mine. Pupation occurs in March or April, and adults emerge starting after a few new leaves (about ½ inch long) have formed. Females begin to lay eggs when about 10 days old, seeking the underside of a newly developing leaf. A tiny greenish blister appears at the ovipositon site. Egg hatching occurs after 1 or 2 weeks. Larvae start by mining in a serpentine fashion and mines become wider as feeding continues. By late winter, the mine will eventually end as a large terminal blotch (**Fig. 1.**)

The second is given the name **holly leafminer**, *Phytomyza ilicis* which feeds only on *Ilex aquifolium* (English, Oregon or European holly). Emergence of adult flies from pupae is likely to begin during the blossoming period in the spring. Female flies will lay eggs in the midrib of the leaf. Newly hatched larvae will feed between the upper and lower layers of leaf cells. First signs of damage will be noticed later in summer (August) as small red spots. By the middle of winter the feeding by the larva has been extensive enough to cause the characteristic mine of this species. These mines appear as light colored blotches (**Fig. 2.**), which are ½ inch or more in diameter. The insect will pupate within the mine during the winter or early spring and finally emerge as an adult fly around the blossoming period in the spring.

The third is the **inkberry holly leafminer**, *Phytomyza glabricola* which mines the leaves of *Ilex glabra* (inkberry). The insect spends the winter in the mine as a third instar larva or a pupa. In Ohio adults emerge in late April into early May (when new leaves begin to develop in spring). Female flies prefer to lay eggs in the previous year's leaves. First instar

Fig. 3. Damage to *Ilex glabra* from *Phytomyza glabricola*. (*Note the dark colored leaf tips, which are damaged*). D. J. Shetlar, The Ohio State University

Fig. 3. Sap exudes from the punctures inflicted by the female and used as food by both male and female holly leafminers. (J. Davidson, University of Maryland)

larvae make a short linear mine and do not stop their development. The second and third instar larvae make blotch mines (**Fig. 3.**) Eventually the damage causes the entire leaf tip to turn dark in color. It is reported in New Jersey that there are 2 generations of this insect a year, where adults emerge in the spring and then again in mid-summer.

Management: Some control may be obtained by hand picking and destroying infested leaves before May. This may be more effective where few leaves have been mined.

Several hybrid hollies, especially the Meserve types, are reported to be resistant leafminer attack.

Parasitic wasps are reported to attack the holly leafminer and the inkberry leafminer. To conserve these wasps avoid insecticides when the larval mines are about half formed.

For the **native holly leafminer** - use a sticky trap to detect adult flies. **Acephate**: spray in mid-May (192-298 GDD) and apply a second application in early July (1029-1266 GDD).

GDD = Growing Degree Days. Contact our office for information on how to use GDD for insect pest management.

2/2006 prepared by Thomas Kowalsick, Cornell Cooperative Extension – Suffolk County.

Resources for information: *Holly Leafminers*. Carolyn Klass. Department of Entomology, Cornell University, Ithaca, NY. 4/98. *A Field Guide to Insect Pests of Holly*. Charles W. McComb. Holly Society of America, Inc. Baltimore, Maryland. June 1986. *Holly & Inkberry Leafminers*. D.J. Shetlar. The Ohio State University. Revised 06/2002.

Pesticide recommendations obtained from: *Part II -- Pest Management Around the Home, 2005-2006 Pesticide Guidelines*, Miscellaneous Bulletin 139S74II, 4/05, A Cornell Cooperative Extension Publication.

The Pesticide Management Education Program (PMEP), in cooperation with the New York State Department of Environmental Conservation (NYSDEC), maintains a web site with a searchable database for pesticide products currently registered in New York State. Homeowners who have Internet access can locate currently registered products at **http://pmep.cce.cornell.edu/pims/current**. Several different queries are available that will produce a summary for the product(s) that the system locates. If the system fails to locate the product in question, then that product is not currently registered in New York State. The database also provides a summary of important information related to every product currently registered. Two data fields "Status" and "Expiration Date" are provided in each summary. Products with a status of "Registered - Discontinued" are currently registered but will probably be discontinued for use, sale, and distribution in New York State after the date noted in the "Expiration Date" field.

(SPEAKERS continued from page 3)

JOE BOGGS

Joe Boggs is an Assistant Professor of Extension, Ohio State University, Liberty Township, OH. His job is 50% Statewide Horticulture Specialist for OSU Extension and 50% Horticulture Educator, OSU Extension, Hamilton County, OH. His areas of specialization are tree and shrub plant problem diagnostics and management, and digital diagnostics (using a digital camera.He is a member of the OSU Extension Nursery, Landscape, and Turf Team and the OSU Extension Emerald Ash Borer Team. He holds a B.S. in Biology/Chemistry for Glenville State College, Glenville, WV, and an M.S. in Entomology from Ohio State University. His interests are photography, finding plants with pests and disease problems, eating, and eating while photographing plants with pests and diseases. His accomplishments include averaging over 70 teaching presentations per year, being a frequent contributor to American Nurseryman magazine, and remaining married for 30 years.

Dieback/Canker of Redbud (*Cercis canadensis*)

http://www.upenn.edu/paflora/plantclinic/cankers.htm

Dieback/Canker is the most destructive disease that attacks Redbud trees. It is first seen as a tree's leaves wilt and turn brown. Often cankers can be seen on branches and twigs. The cankers can either be seen as visible cankers on the surface of the branches or as dark sunken areas with black centers.

The canker or dieback is caused by a fungus (Botryosphaeria ribis) which attacks not only the redbud but more than fifty other types of trees and shrubs. The disease is spread throughout the tree, or from tree to tree, by splashing rain and winds that move the fungus from diseased areas to healthy parts of the tree. The fungus then enters the tree through wounds or dying branches. The fungus gradually spreads out within the tree's vascular system slowly blocking the tree's vascular system and inhibiting its ability to transport nutrients and water. The result is a gradual dieback of branches as the flow of nutrients and water is cut off.

There is no effective chemical control for the canker. If canker is identified in a tree, prune out and destroy dead branches and infested areas. Be sure to make pruning cuts at least 3 or 4 inches below the canker, so that the cut is into healthy viable wood. After every pruning cut, be sure to properly sanitize the pruning tools so that the fungus is not transported on the tools and infects healthy parts of the tree.

An effective pruning and sanitization program can be helped with a fungicide spray program. Spray both the healthy and diseased sections of a tree with Liquid Copper during and shortly after periods of excessive rain. Using a fungicide such as Liquid Copper will not eliminate the disease but it can help slow the spread of the fungal disease to healthy trees.

Top three pictures from 1517 Kingwood Pike, Morgantown.

Redbud (*Cercis canadensis*) from top left clockwise: sunken cankers partially healing on trunks; old diseased trunks cut out to allow new healthy basal shoots to perpetuate trees; flower buds; Redbud tree in flower. Flower pictures from http://www.hort.uconn.edu/plants/c/cercan/cercan1.html.

Invasive Plants of the Eastern United States

Plant Invaders of Mid-Atlantic Natural Areas Swearingen, J., K. Reshetiloff, B. Slattery, and S. Zwicker. 2002. Plant Invaders ofMid-Atlantic Natural Areas. National Park Service and U.S. Fish & Wildlife Service, 82 pp.

James L. Reveal Exotic Bush HoneysucklesAmur (*Lonicera maackii*),Bell's (*L.* x *bella*),Dwarf (*L. xylosteum*),Fragrant (*L. fragrantissima*),Morrow's (*L. morrowii*),Standish's (*L. standishii*),Tartarian (*L. tatarica*)

Origin: Eurasia, Japan, China, Korea, Manchuria, Turkey and southern Russia.

Background: Exotic bush honeysuckles have been used for many years as ornamentals, for wildlife cover and for soil erosion control. Exotic bush honeysuckles out-compete and displace native plants and alter natural habitats by decreasing light availability and depleting soil moisture and nutrients for native species. Exotic bush honeysuckles compete with native plants for pollinators, resulting in reduced seed set for native species. Unlike native shrubs, the fruits of exotic bush honeysuckles are carbohydrate-rich and do not provide migrating birds with the high-fat content needed for long flights.

Distribution and Ecological Threat: Amur, Tartarian, Morrow's and Bell's honeysuckle generally range from the central Great Plains to southern New England and south to Tennessee and North Carolina. The remaining species are sporadically distributed. Exotic bush honeysuckles are relatively shade-intolerant and most often occur in forest edge, abandoned field, pasture, roadsides and other open, upland habitats. Woodlands, especially those that have been grazed or otherwise disturbed, may also be invaded by exotic bush honeysuckles. Morrow's honeysuckle and Bell's honeysuckle have the greatest habitat breadth and are capable of invading bogs, fens, lakeshores, sand plains and other uncommon habitat types.

Description and Biology: Plant:Upright, generally deciduous shrubs from 6 to 15 feet in height. Older stems are often hollow. Leaves:1 to 2 1/2 inch, egg-shaped leaves are opposite along the stem and short-stalked. Flowers, fruits and seeds: pairs of fragrant, tubular flowers less than 1 inch long are borne along the stem in the leaf axils. Flower color varies from creamy white to pink or crimson in some varieties of Tartarian honeysuckle. Flowering generally occurs from early to late spring, but varies for each species and cultivar.

James L. Reveal

John M. Randall, TNC

The fruits are red to orange, many-seeded berries that ripen from early summer to fall depending on the species.

Spreads: prolific fruits are highly attractive to birds. Vegetative sprouting aids in the persistence and spread of these exotic shrubs.

Look-alikes: native species of shrub honeysuckles; most native bush honeysuckles have solid stems, and exotic species have hollow stems.

Prevention and Control: Mechanical and chemical methods are the primary means of control of exotic bush honeysuckles. No biological control agents are currently available for these plants. Hand removal of seedlings or small plants may be useful for light infestations.

Lonicera fragrantissima leaves

Native Alternatives to Exotic Honeysuckles (Clockwise from upper left): Arrowwood (*Viburnum dentatum*) *Britt Slattery, USFWS*; Northern Bayberry (*Myrica pensylvanica*) *Chris Miller, NRCS*; Swamp Rose (*Rosa palustris*) *Chris Miller, NRCS*; Groundsel Tree (*Baccharis halimifolia*) *Britt Slattery, USFWS*; Spicebush (*Lindera benzoin*) *Chris Miller, NRCS*; Red or Black Chokeberry(*Aronia arbutifolia or A. melanocarpa) Britt Slattery, USFWS.*






EARLY REMINDER! The WVNLA Winter Meeting will be held January 22-23, 2009, at the Embassy Suites Hotel in Charleston. WVNLA has reserved a block of rooms at the Embassy Suites Hotel. For reservations call toll-free 1-800-EMBASSY and use the three letter code, NLA. Election of Officers will be held at the Business Meeting on January 23! Once again, we will have an excellent slate of educational speakers and Pesticide Application Recertification credits for WVNLA Members. Put it on your calendar!

READ ABOUT THE SPEAKERS ON PAGES 1-3 & 10 OF THIS ISSUE!

Above: A group of Crotons provides a spot of color at WVNLA member Gritt's Midway Greenhouses in Red House, WV.

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