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Editor: Susan Barton, Extension Specialist, University of Delaware  
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**MESSAGE FROM THE PRESIDENT  
JOSEPH C. WICK**

I would like to take a moment to thank all of you for your support in the past, and in the future. The DNLA is growing stronger with every new member, enabling us to add benefits and services for great members, like you. In 2006, we added a website allowing members to post classified ads, link their website, and give a brief summary of the services they offer.

The DNLA is improving our trade shows, enticing more vendors to exhibit. The new setup this year will allow you more time to visit with exhibitors without disrupting the seminars, or while attending the seminars not being disrupted by exhibitors. I hope all members will come to our winter show and see the changes we have implemented to make this our best show ever. The board and I believe we have put together a line up that will prove to be invaluable in the years to come. We will discuss many topics from labor issues to soil types in Delaware to plants for those various soil types. We are also investigating the idea of rotating our summer show between the three counties to allow each county to serve as host once in three years. We are planning a turf workshop during 2007 to be held in Sussex County. By using locations throughout the state, we hope many more members will have the opportunity to attend educational functions.

In closing, I would like to take an opportunity to mention an organization that has done remarkable things, not only for my family, but for hundreds of other families throughout the state—The Easter Seals of Delaware. The Easter Seals has completed a new state-of-the-art facility in Georgetown, DE, which will allow them to continue their much needed work. The facility currently has very minimal landscaping and I am asking each of you to consider some type of donation. The Tunnell Companies will

be donating a landscape design along with some of the materials. Joseph Wick Nurseries will be donating plant material. Much more is needed.

Anyone interested in assisting with this wonderful cause can contact any of the following DNLA members:

Cameron/Tunnell Companies (302) 945-9300  
Joe Wick/Joseph Wick Nurseries (302)653-9000  
Val/ the DNLA (888) 448-1203

Best wishes for a safe and happy holiday season and a fruitful and prosperous new year!

**Welcome New Members:**

**Garden Creation & Care**

Randy Whibley  
22955 Camp Arrowhead Road  
Lewes, DE 19958  
(302) 945-7114

**Greensward**

Adam Kindl  
5 Royal Drive  
Milford, DE 19963  
(302) 424-8477

**Hartefeld National**

Rob Billingham  
1 Hartefeld Drive  
Avondale, PA 19311  
(610) 268-7472

**Kern Brothers**

John M. Kerns  
P.O. Box 9324  
Wilmington, DE 19809  
(302) 475-0466

**Ruppert Nurseries**

Garth Jorgensen  
249 Chambers Road  
Toughkenamon, PA 19374  
(610) 925-2711

**ASSOCIATION NEWS**  
**Valann Budischak**  
**Executive Director, D.N.L.A.**

Merry Christmas! Somehow amid the blur and chaos often associated with this time of year, many of us take time to reflect on our many blessings. Being affiliated with the Delaware Nursery & Landscape Association is one of my blessings. The DNLA is comprised of great people that are affiliated with great organizations.

The DNLA has had a wonderful 2006! Hope you have, too. It seems like it was just yesterday that many of us gathered at Jonathan's Landing for our Summer Turf & Nursery Expo. The weather was delightful. The classes and camaraderie were even better. The winning foursome of our golf tournament consisted of Scott Roberson and J.R. Peck of First State Equipment, Ian Brown of Moon Nurseries, and Jim Remaily of The Bear Groundskeeper. Second place went to the foursome from Basher & Son. Basher & Son team members consisted of Warren Basher, Bob Morris, Roy Guzman, and Vincent Gildea. Our 'Closest to the Pin' winner was Gary Johnston of Tull's. The 'Longest Drive' winner was Joe Kelley of Burke Equipment. Congratulations to all our winners! Thanks to our many tournament sponsors and program advertisers. Your continued support is what makes the Expo and Golf Tournament a success.

The DNLA website was launched on October 27<sup>th</sup>. Please check it out if you haven't already. Your new website is [www.DNLAonline.org](http://www.DNLAonline.org)

Last month many of us gathered at Hockessin Memorial Hall for our annual Ornamental & Turf Workshop. This event seems to be growing in popularity each year. We enjoyed discussions on such topics as Meadow Establishment, New Regulations for Stormwater

Management Ponds, Seasonal Color, Turf Pests in DE & Options for their Control, and a fabulous panel discussion on the Latest Strategies to Managing Invasives.

The Delaware Horticulture Industry Expo and Annual Pesticide Conference are just around the corner. The two-day event will be held on January 17<sup>th</sup> and 18<sup>th</sup> at the Modern Maturity Center in Dover. Back by popular demand is Frank Gouin of the University of Maryland. Frank will discuss "Soil Amendments for Landscape Contractors", and "Common Mistakes in Landscaping". The DNLA is very excited to host John Peter Thompson of Behnke Nurseries. John will discuss "The Rise of Invasive Ornamentals". A panel discussion on Immigration will consist of DNLA members Bernie Kohl – Angelica Nurseries, Tony Sposato – Sposato Landscape Co., Rick Hollender – Garden Design Group, and David Wells – WD Wells & Associates. This is just a few of the many great speakers we'll hear from. Attendees will also have the opportunity to visit with exhibitors, see what's new, and place orders in a relaxed setting.

On October 17<sup>th</sup>, two individuals sat for the Certified Nursery Professional core and/or specialty exams. Congratulations are in order for the following individual:

**New CNP Specialty:**

Jill Wright  
*Wright's Lawn Care & Landscaping*  
Landscape Design Specialist

## U of D NEWS

### Susan Barton, Extension Specialist

There has been a lot of interest recently in New Castle County in the new Yard Waste Ban that goes into effect on January 1, 2007. Here are some details:

This ban is only for yard waste entering the Cherry Island Land Fill. It was imposed as part of the permitting process for the landfill. Over the next several years, other landfills in Delaware will renew their permits and yard waste bans will probably be imposed at that time. The intention is to increase the life of the Cherry Island Land Fill (and others in the future) since 23% of the residential waste stream is yard waste and yard waste can be recycled and reused as compost.

Currently, this ban only affects residents in New Castle County whose trash haulers use the Cherry Island Land Fill (most of northern New Castle County). So the first step for residents is to check with their trash hauler. Landscapers who need to dispose of yard waste can bring the waste to the Cherry Island Land Fill where it will be piled, chipped and used for roads in the land fill etc. The tipping fees will be the same as for other waste. Landscapers can also bring yard waste to private entrepreneurs who accept and compost yard waste. Strobert's Tree Service (475-7089) is accepting yard waste and the tipping fees are less than at the land fill.

Residents should understand they have three choices for dealing with yard waste:

1. Compost or use it on site - this is the best alternative since it doesn't involve using resources for transport of the waste.
2. Take it to a land fill or composting location yourself.
3. Pay a hauler to pick up the yard waste and take it to an appropriate site (depending on

the trash hauler, this service may be provided at no additional charge or there may be an additional fee for yard waste pick up).

DNREC is currently working with trash haulers in the state to identify the services they will be providing to their customers. Visit the DNREC website ([www.dnrec.delaware.gov/yardwaste](http://www.dnrec.delaware.gov/yardwaste)) for up-to-date information. The 2007 Short Course Program includes a series on Composting for the industry professional who might see the compost yard waste ban as a business opportunity (see below).

Once again the Ornamentals Task Force comprised of Extension professionals and faculty in Plant and Soil Sciences and Entomology and Wildlife Ecology have put together a great set of short courses for the green industry. Here is what we are offering for 2007.

**Resources for Small Businesses**— Gordon Johnson (Extension Ag Agent will help small business owners learn about resources they can use to help them improve their businesses. He will discuss agencies, such as SBA and SBDC that are available to help small business owners. Kent County Extension Office; Monday, 1/29, 7-9 PM. (Cost is \$10)

**CNP Prep Session - Basics** – These sessions will be held prior to the CNP exam and are designed to provide basic information about plants, soil and environmental interactions. All sessions will be held from 7-9 PM at the Kent County Extension Office, Dover. (Cost is \$15 or \$10 for each session)

Session 1: Plant Growth – Monday, 2/12

Session 2: Soils\*\* –Thursday, 2/15

Session 3: Plant Environmental Interaction\* – Thursday, 2/22

**CNP Prep Plant Walk** – John Frett, Director of the University of Delaware Botanic Garden (UDBG) will conduct a plant walk focusing on plants included in the CNP exam. A self-guided tour will also be set up in the UDBG to help CNP candidates prepare for the exam. The tour is scheduled for Monday, 2/19 from 3– 5 PM.

**Compost Series** – This series is geared for members of the nursery/landscape industry who may be interested in making or using compost in their businesses. Four classes would be held in New Castle County and scheduled for every other week in February and March. Classes will be held from 7-9 PM in Fischer Greenhouse, Newark. (Cost is \$25 or \$10 for each session)

Session 1: Compost Materials\*\* – discuss characteristics and C:N ratios of a wide variety of materials. Gordon Johnson, Kent County Ag Agent will lead this session. Tuesday, 2/13

Session 2: The Compost Process\*\* –the science of composting; aging vs. composting; exactly what you need to do to get high quality compost. Casey Sclar, Plant Health Care Division Leader at Longwood Gardens and Dot Abbott, Cooperative Extension Renewable Resources Agent will lead this session. Tuesday, 2/27

Session 3: Uses\*\* – using compost in landscape renovation, landscape maintenance, and plant production. Casey Sclar, Plant Health Care Division Leader at Longwood Gardens will share his experiences and research conducted at Longwood Gardens. Tuesday, 3/13

Session 4: Economics of Composting - How do you make composting work on a commercial scale? Nadine Davitt who coordinates a composting facility at Penn State will be the speaker. Tuesday, 3/27

**Plant Material Uses Series** –Plants will be presented in the context of how they are used in

the landscape. The goal of this series is to introduce landscapers to a wider plant palette and show them how to use those plants. This series will be offered in a combination of Kent and Sussex Counties from 7-9 PM. (Cost is \$35 or \$10 for each session)

Session 1: Windbreaks, Screens, Borders and Hedges – Research and Education Center, Georgetown, DE, Gordon Johnson, Extension Ag Agent, Monday, 2/7

Session 2: Drought Tolerant Plants - Kent County Extension Office, Dover, DE , Susan Barton, Extension Specialist, Ornamentals, Wednesday, 2/14

Session 3: Shade Plantings - Kent County Extension Office, Dover, Gordon Johnson, Extension Ag Agent, Wednesday, 2/21

Session 4: Problem-Free Plants\* – Research and Education Center, Georgetown, DE, Bob Mulrooney, Extension Pathologist, Monday, 2/26

Session 5: Plants for Massing –Kent County Extension Office, Dover, DE, Susan Barton, Extension Specialist, Ornamentals, Wednesday, 2/28

**Turf Series** – This series will focus on turfgrass installation, maintenance and management for the home and commercial landscape. Classes will be held in the Fischer Greenhouse, Newark, DE from 7-9 PM. (Cost is \$25 or \$10 for each session)

Session 1: Culture — Monday, 3/5

Session 2: Insect\* –Wednesday, 3/7

Session 3: Diseases\* – Monday, 3/12

Session 4: Weeds\* –Wednesday, 3/14

**Spring IPM Tune Up\*** –This one session will focus on getting started this spring with an IPM

program. Instructors will be Dewey Caron, Extension Entomologist and Brian Kunkel, Extension IPM Specialist. This session will be held from 7-9 PM at the New Castle County Extension Office, Newark, DE on Tuesday, 3/20. (Cost is \$10)

**Pruning Workshop** – Pruning Demonstration by Master Gardener Clyde Roberts. Short lecture inside then move outside to watch a pruning demonstration on live specimens in the garden; plants are representative of those to be offered in the Spring Plant Sale. Dress appropriately for outdoor weather. Tuesday, March 27, 4:30 – 6:00. Location: Fischer Greenhouse/UDBG Garden. (Cost is \$10)

Look for Pest Walks scheduled during the summer; Insect, Disease and Weed Sessions scheduled in the fall; and one more series scheduled between Thanksgiving and Christmas 2007.

**Landscape Series** – This series will be held in Kent County and focus on landscape installation, maintenance and management. It will be offered in December 2007 starting the week after Thanksgiving (4-6 PM)

Session 1: The Planting Process– 11/28

Session 2: Landscape Maintenance – Mulching, Fertilizing, Pruning– 12/3

Session 3: Problem Solving– 12/5

Session 4: Landscape IPM –2/10

Session 5: Landscaping With an Environmental Focus – 12/12

\*Pesticide credits will be awarded for attendance at these sessions.

\*\*Nutrient management credits will be awarded for attendance at these sessions.

## **MUSHROOM COMPOST**

**Susan Barton, U of D**

As this issue of the DNLA News is about to leave my computer and hit the printing presses, I attended a great meeting in Exton, PA on mushroom compost. I want to share some information I learned at that meeting, so here goes:

Dr. Donald Davis, Professor of Plant Pathology at Penn State presented results from his research that shows blending mushroom compost with bark mulch can significantly decrease the number of spores produced by artillery fungus in the mulch. He found that a 50:50 blend of mushroom compost and bark mulch resulted in very limited spore production from inoculated mulch. The researchers believe a fungus in the compost competes with the artillery fungus to decrease its vigor. This could be great news for landscapers who have almost no recourse when confronted with artillery fungus in the landscape.

Mike Fidanza, Associate Professor of Horticulture at Penn State Berks Campus showed that 1", 2" or 3" layers of mushroom compost tilled into soil resulted in excellent turf establishment. He used fresh compost (direct from the mushroom house), static aged compost and active aged compost (stored in turned windrows to promote aerobic decomposition) and all three products yielded high quality turf. He does recommend when using 3" of compost, tilling in 1 1/2" first and another 1 1/2" in a second tilling. He recommended a divot repair mix for golf courses consisting of 20-25% mushroom compost to 80-75% sand.

This issue of weeds in mushroom compost was discussed and it really is a matter of selecting a quality source. When mushroom compost is handled properly, it does not contain weed seeds.

## LISTING *Hemerocallis Fulva* AS AN INVASIVE SPECIES

Several state and agency publications and websites currently list *Hemerocallis fulva* as an invasive species. Due to its long life span and use in erosion control, *H. fulva* is often found near old home sites and along drainage ditches. The same properties that allow it to flourish with no care can also allow it to be considered invasive in certain settings where its slowly spreading habit might displace some native plants over time.

Unfortunately there appears to be some confusion in properly identifying the rhizomatous *H. fulva* species and setting it apart from the non-invasive, clump forming hybrid daylily cultivars. The American Hemerocallis Society encourages use of the following definitions to clarify the difference between the *H. fulva* species and hybrid daylily cultivars which are excellent garden plants:

Invasive Species: *Hemerocallis fulva*  
(Common names: Fulva, Tawny Daylily, Common Orange Daylily, Roadside Ditch Lily, and Tiger Lily). *H. fulva* is an infertile triploid daylily which does not set seed but spreads by rhizomes. It can form large colonies over time.

Alternatives include any of the thousands of commercially available hybrid daylily cultivars which are clump forming and are not invasive.

The American Hemerocallis Society, Inc. (AHS) is a non-profit organization. For more information, visit the AHS website at [www.daylilies.org](http://www.daylilies.org)  
Contact: Linda Sue Barnes, 6713  
Wade-Steadman Rd. Wade, NC 28395  
[lsbarnes@nc.rr.com](mailto:lsbarnes@nc.rr.com)

*Excerpted from The Michigan Landscape  
November 2006.*

## PLANT COLD HARDINESS

**Dr. Harold Pellett**

Landscape Plant Development Center

**Dr. Robert Schutzki**

Michigan State University.

This is the time of year when we start worrying about whether plants added to our garden and landscape during the past year will make it through the winter.

The ability of plants to survive cold weather is a fascinating study. The ability of our hardiest plants to withstand freezing temperatures changes a tremendous amount throughout the year. A plant such as Redosier Dogwood (*Cornus sericea*) can tolerate temperatures at least as cold as liquid nitrogen (-313°F) during midwinter when it is at its hardiest. The same plant, however, can be killed by temperatures only a few degrees below that of the freezing point of water when the plant is actively growing. Most plants cease growth and set terminal buds at some point in late summer or early fall when one or more environmental conditions become limiting. At this point the plant may be considered at rest.

### Understanding Dormancy

The onset of true dormancy comes during the fall. Plants have a critical daylength which, when reached during the fall triggers plants to enter dormancy and begin acclimation. At that time, the plant will begin to gain cold hardiness regardless of how warm the weather may be. During the first stage of acclimation, plants can gradually harden to withstand approximately 0°F even if day and night temperatures remain quite warm. Freezing temperatures trigger the second stage of cold acclimation (Weiser, 1970). During this stage, the plant hardens quite rapidly especially if night temperatures consistently fall below freezing.

Plant species differ widely in their capacity to

harden to withstand cold temperatures. While many of our hardiest plants found naturally in northern climates can withstand very cold temperatures when fully hardened, plants native to the tropics cannot harden to withstand freezing temperatures. In fact, tropical plants can become stressed when temperatures fall below approximately 50°F.

Even with plants that are quite cold hardy, there are considerable differences in hardiness of different tissues within the same plant. Root tissues cannot harden to the same extent as stem tissues. Overwintering flower buds are not nearly as hardy as stem tissues. Thus, stems and leaf buds of some spring flowering plants may be quite hardy while all flower buds may be killed. If the flowers are the primary attribute for those plants, then we need varieties that have sufficient flower bud hardiness or they will not provide the effect desired even though the plants may survive the winter very well. A classic example is *Cornus florida*, Flowering Dogwood. Hardiness evaluations reveal that there can be as much as a 20 degree difference in cold tolerance between floral (-9°F) and stem tissue (-29°F).

There are also differences in hardiness capability of different tissues in the stem and different tissues harden at different rates in the same plant. For example, the living cells in the phloem and xylem (conducting tissue) and cambium tissue (non-differentiated cells that divide to give rise to increased stem diameter during active growth) harden slower in the fall than do vegetative buds on the stem. This can lead to cold injury of those tissues in seasons with extreme low temperatures early in the winter season. In 1982, the temperature in the Twin Cities of Minnesota dropped to -11°F on November 13. Many vigorous young Norway maple tree cultivars growing in the research plots at the Minnesota Landscape Arboretum were killed. Initially, the trees started to leaf out

normally in the spring but the bark and cambium tissues were dead. The bark sloughed off and the expanding leaves eventually died from lack of water uptake.

For a plant to survive cold winters, it not only needs to have the capacity to harden to survive the coldest temperature encountered during mid-winter, but it must acclimate soon enough to survive any unusually low temperature that may occur in late fall or early winter before the plant has a chance to fully harden. Likewise, the plant must resist rapid deacclimation during unseasonably warm weather during late winter or early spring. Many plants have the capacity to harden to withstand the mid-winter low temperatures, but may still suffer severe winter kill if they do not harden soon enough or if they deacclimate too rapidly.

Plants that have the capacity to cold acclimate to withstand freezing temperatures differ considerably in their critical daylength that initiates the hardening process. In general, plants that are native to a northern climate (in the northern hemisphere) do not need as short a daylength to enter dormancy and begin acclimating as do plants native to more southerly locations. Even plants of the same species that have a broad native geographical range differ widely in the critical daylength that triggers them to start acclimating. Thus, they also differ widely in their ability to survive cold winters. Likewise, plants differ quite a bit in their ability to resist deacclimation in response to periods of warm winter temperatures. In general, plants from a more northern native range will deacclimate faster than plants from a more southern source. These differences suggest important considerations when choosing plants for your landscape or gardens.

We often hear recommendations that we should obtain northern grown or locally grown plants. That recommendation needs to be refined

somewhat. Where the plant is grown is not important as long as the plant is genetically hardy and is at the right stage of growth when cold weather occurs. Obviously, a plant grown in a warmer climate that is in full new growth may be damaged if transported to and planted in a northern location just prior to a hard freeze. However, if the plant has a full season to become established and hardens under normal fall conditions, there is no problem if the plant has the genetic capacity to begin acclimation early enough and the capacity to harden to withstand the low mid-winter temperatures.

The native source of the plant determines if it has the genetic capacity to acclimate and withstand low mid-winter temperatures in a given region. Thus, a cultivar of a plant species that is selected from a similar winter climate and at approximately the same latitude should be quite hardy. Plants have evolved with an appropriate critical daylength to begin the acclimation process to withstand severe freezing temperatures that may infrequently occur in late fall or early winter in their specific locale. They also have developed sufficient hardiness capability to withstand the extreme cold temperatures that may occur infrequently in mid-winter in a particular geographic region.

### **Choosing a Cultivar**

For best success with a given plant species, choose a cultivar or plants grown from a seed source that is as similar in conditions to your local area. To illustrate, let's use Red Maple, *Acer rubrum* as an example. *Acer rubrum* has a very wide native range in eastern North America. It is native from northern Florida to Ontario. Plants from a southern seed source, however, are not winter hardy in northern states and plants from a northern seed source do not perform well in the south. 'Autumn Spire' and 'Northwood' red maple cultivars selected from native populations in Minnesota will develop fall color and defoliate much earlier than

'October Glory' or 'Red Sunset' when grown in the same location. Early fall coloration (if the plants are healthy) and defoliation is a good indication that the plants acclimate early. The latter two cultivars are not reliably winter hardy in central and northern Minnesota, primarily because they do not acclimate soon enough to withstand the occasional early severe freeze. Dr. Alden Townsend (1977) conducted a provenance study of red maple (*Acer rubrum*). Plants grown from seed collected at many different sites throughout the native range of the species were grown at many different sites including Minnesota. At the same date a variety of leaves from different trees exhibited different stages of fall color. A green leaf was collected from a tree of West Virginia origin. Trees from that source usually were killed back in winter at the Minnesota site. Trees from more southern sites did not survive the first winter in Minnesota.

Another prominent ornamental tree with wide geographic range and cold tolerance issues is *Cornus florida*, flowering dogwood. Floral bract hardiness is a consideration when selecting seedling stock and cultivars of flowering dogwood. Floral bracts were part of a cold hardiness evaluation from a *Cornus florida* provenance plantation at W.K. Kellogg Experimental Forest in Augusta, Michigan. Bract distortion in some cultivars shows a wide range of flower bud cold tolerance when subjected to Michigan winter conditions.

Another important phenomena related to the ability of plants to survive winter conditions is their ability to resist rapid deacclimation and to reharden following periods of unseasonable warm weather in winter or a very early spring. If plants deacclimate rapidly during warm periods, they can be killed by subsequent cold weather unless they also reharden considerably. Research has shown that plants can deharden fairly rapidly in response to warm temperatures

when nighttime temperatures also remain above the freezing point for several days. Many plants can also rehardens fairly rapidly to resist subsequent low temperatures if deacclimation does not progress too far. Unfortunately, there is a lack of research data that relates desclimation and reacclimation responses of different plant species to various temperature regimes.

### **In summary**

Plant cold hardiness and the selection of ornamental plants for introduction require knowledge of a plant's native origin (seed source), an in-depth understanding of environmental plant physiology and plant responses to stress, and the desired outcome with respect to the plant's distribution and use. The Landscape Plant Development Center's search for new plants whether from plant exploration, provenance evaluation, or through hybridization is based on the factors listed in this article.

### Literature Cited:

Townsend, Alden. 1997. Characteristics of red maple progenies from different geographic areas. *Jour. Amer. Soc. Hort. Sci.* 102:4610166.

Weiser, Conrad. 1970. Cole resistance and injury in woody plants. *Science* 169:1269-1278.

*This article originally appeared in the Winter 2006 Landscape Plant News (Vol. 17, No. 1), a publication of the Landscape Plant Development Center. Reprinted with permission from the Landscape Plant Development Center.*

## **PROTECTING SHORELINES**

**Howard Wandell,**

**Department of Fisheries and Wildlife  
Lois Wolfson, Institute of Water Research  
Jane Herbert, Kellogg Biological Station,  
Michigan State University**

*Editor's Note: This article was written about development along lakeshores in Michigan but also applies to development along other bodies of water such as rivers, streams and bays.*

Shoreline development along lakes often result in the "cleaning up" of the lot and alteration of the native vegetation. Trees are cut and pruned while dead trees and fallen limbs are chain sawed and burned. The forest undergrowth is often removed and replaced with a lawn. Herbicides are sometimes used to eliminate the shoreline plants. The wild native shoreline is replaced with a highly ordered "suburban lawn" setting. As a result, many lakes today have little or none of their original native shoreline remaining.

### **What is lost with the wild shore?**

The shoreline is a transition zone where aquatic species such as frogs, turtles and fish merge with land species such as minks, raccoons and blue herons. The wild shore is one of the most biologically diverse plant and animal rich environments on earth. As the environment transitions from water to land, it creates conditions for different plants to grow, offering a variety of habitats for many animals. The suburban lawn, however, is one of the least biologically diverse environments. Shoreline wildlife and birds generally cannot live to reproduce on the suburban lawn. They move out or are pushed to local extinction when development destroys their habitat.

### **Impacts of the "suburban lawn" on a lake**

A native lakeshore is like a giant living sponge and filter. Nearly all of the water that falls as

rain is intercepted by the leaves and branch of the vegetation or soaks into the rich soils. Very little water is left to run across the land as surface runoff and carry pollutants to the lake. On the suburban lawn, tree cover is often greatly reduced. The under growth might be completely removed and the leaf covered forest floor replaced with flat lawn. Under these conditions, very little water is intercepted or soaks into the ground. Most of it flows over land and picks up pollutants such as fertilizers, pesticides, sediments, oil, grease and pet waste. These pollutants are carried with the water and deposited in the lake.

In addition to accelerating the movement of pollutants off the land, the suburban lawn adds other sources of pollutants such as lawn fertilizers and pesticides. Excessive use of fertilizers can stimulate growth of nuisance aquatic plants, including filamentous and bluegreen algae.

Another pollution problem associated with a suburban lawn is soil erosion. When a lawn is planted to the water's edge, the shallow grass roots are not able to withstand the forces of waves and ice. Over time, the lawn and land are eroded away and washed into the lake. The home owner may resort to rocks and/or a seawall to stop the erosion and loss of land. This hard armoring of the beach further diminishes the native shore and wild life habitat.

### **Using the native shoreline to protect the land and water**

When developing a lakefront lot, the lawn and buildings may be blended into an artistic natural setting rather than replacing the wild lakeshore with turf, rocks and steel. Through proper landscape design, it is possible to create a unique lakefront home instead of a typical subdivision house and yard. In addition to creating a unique lot, the natural shoreline will minimize pollution, protect the shoreline from

erosion and provide a home for the wildlife that live at the water's edge.

When constructing a distinctive waterfront home consider the following:

- Remove only those trees necessary to build and protect the house and open a view to the lake.
- Keep the lawn away from the lake. Use plants that need little watering or fertilization.
- Maintain brush cover on steep sloping lands.
- Allow a buffer zone of native vegetation along the lakeshore.
- Keep boating and swimming areas as small as possible to maintain the native shoreline.
- Avoid retaining walls; instead use long-rooted native plants and shrubs or rock rip-rap to control erosion. Always line rock with geotextile fabric.

### **Restoring the native shoreline**

If a lakefront home already has a suburban lawn to the edge of the lake, the wildlife habitat will be minimal and an erosion problem may already be present. The native shoreline can be reestablished by planting a lakeshore buffer zone. This zone might consist of low growing shrubs and flowers, with taller trees along the lot sides. This combination of planting maintains the view of the lake and screens other lot development from view.

When constructing the buffer zone and designing the plantings, the following guidelines should be considered:

- The buffer zone should extend 25 to 50 feet out into the water and up onto the land. It should occupy 60 to 80 percent of the lot's lake frontage.
- The buffer zone can be divided into three planting areas:

- 1) aquatic plants which grow below the water surface;
  - 2) moist-soil plants, such as cattail, bulrush, arrowhead and pickerelweed, growing in the wave-washed area; and
  - 3) dry-soil plant such as native grasses, wild flowers, shrubs and trees growing up slope from the water's edge
- Plants used in the buffer zone should be native plants that historically grew along the lakeshore in the local area. Native plants will be easier to establish, grow more luxuriously and require less maintenance. They also provide the structure, habitat and seed crop that local animals utilize in feeding, nesting and resting.
  - The lawn should be kept back from the lake's edge but may meander among the plantings as a pathway from the yard to the swimming and boating area.

Creative use of the lawn and native plants in artistically designed assemblages can prevent erosion, restore wild native habitat and associated wildlife and protect the lake from surface runoff.

More information about native lakeshore management is available in the book *Lakescaping for Wildlife and Water Quality*, written by C. Henderson, C. Dindorf and F. Rozumalski and published by the Nongame Wildlife Program, Minnesota Department of Natural Resources. It is available online at: [web2.msue.msu.edu/bulletins/mainsearch.cfm](http://web2.msue.msu.edu/bulletins/mainsearch.cfm). Request inventory number WQ57.

*Excerpted from The Michigan Landscape, November 2006.*

## **TURF BMPS PROTECT WATER QUALITY**

Over 80 lawn care companies and localities have water quality agreements with the Virginia Department of Conservation & Recreation (DCR). Their turf Best Management Practices are helping to protect Virginia's water bodies from nitrogen and phosphorus runoff. When in excess these two nutrients lead to excessive algae growth that clouds the water and later deprives it of needed oxygen. Dead zone areas in the Chesapeake Bay appear every summer when the oxygen levels are very low. With the fall fertilizing season here, it is important that lawn care company employees recognize that a little extra care now applying fertilizer can prevent excessive loss of nutrients that can end up polluting ground and surface water.

There are a number of practices that help protect water quality.

- Know the square footage of the area to be fertilized and calibrate application equipment accordingly
- Apply no more than 1 pound of soluble nitrogen per 1,000 square feet within a 30 day period
- Avoid spilling or spreading fertilizer on sidewalks, driveways, streets or in storm drains. If fertilizer is spilled in these areas, sweep it up and apply on the lawn.
- Do not apply fertilizer if heavy rain is expected that can wash away surface applied fertilizer
- Test the soil every three to four years to determine phosphorus rates and pH. At high soil test levels, phosphorus fertilizer is not needed on established turf.

- Know the frost dates in your area. Cool season grass should not be fertilized any sooner than six weeks prior to the average last frost date in the spring or later than six weeks after the first average frost date in the fall. Warm season grass should not be fertilized sooner than average last frost date in the spring or one month before the average first frost date in the fall.
- Grasses growing in heavily shaded areas require only 1/3 as much nitrogen as grasses growing in full sun.
- Recycle clippings to recycle nutrients back into the grass
- Water insoluble nitrogen (slow release N) should be used whenever possible
- Heavy spring nitrogen applications have the potential to lead to increased disease problems in the summer.
- In a normal year, no more than a total of 3 to 4.5 of N/1000 square feet should be applied to turf.

*Excerpted from VNLA Newsletter  
September/October 2006.*

## **A BRIEF LOOK AT TREE STAKING USE AND NEW MATERIALS**

**J. T. Whaley, RLA, and Certified Arborist,  
PennDOT**

Tree staking or tree bracing are general terms used in landscape planting for the support system used to keep a tree from leaning due to movement of the root ball in the planting pit. A tree staking system normally uses stakes and guys (ties or straps). Landscape professionals are aware that staking newly planted trees is not always necessary especially for larger sizes of balled and burlapped trees with heavy root balls. However, there are some trees, such as container and bare root that cannot stand upright without proper support. Trees also may face windy or other undesirable planting sites that could cause newly planted trees to need support while the roots establish in the planting hole.

Undersized root balls, containerized and bare root, and trees planted in sandy or wet soils or on windy sites most likely need to be staked. Trees that have been nursery dug with an incorrect sized root ball (less than 12-inches of ball size for every 1-inch caliper) will often lean or could be blown completely over in strong winds. Bare root or containerized trees are almost always susceptible to movement in the planting hole. Evergreen or conifer trees over four feet in height can provide a large wind resistant surface area and are often a problem to keep upright on wind swept locations without staking. Incorrect staking and staking materials can lead to tree bark and cambium damage, tree breakage, and death of the tree.

In addition to staking, it is essential to set the tree vertically in the planting hole on a firm soil surface and to properly backfill around the roots with firmly compacted and watered soil. This will allow the tree to flex in the wind without leaning or becoming dislodged.

Today's soft staking materials are less damaging to tree bark and have less potential for girdling of the bark and cambium. New guying materials are composed of wide, flat, soft, yet strong photodegradable fibers that have an exclusive weave that provides a rounded edge in contact with the tree bark at all times. These new materials should replace the now antiquated and potentially dangerous galvanized wire guys with hose sleeve protectors. Any staking system is also recommended to be removed after one year of use.

*Excerpted from Urban Forestry News, Vol. 15, Issue 1, 2006.*

## **WORKING SAFELY WITH CHEMICALS**

Professional lawn care workers and others in our industry who regularly apply chemicals have undoubtedly been trained in their safe use. Winter and early spring, however, are good times to retrain your employees on the basics. Crew leaders and other supervisors can use this English/Spanish checklist to train employees who work with or around pesticides and other chemicals.

Herbicides, insecticides, or other chemicals may be an important part of your job. These chemicals are used to kill weeds, insects, and other pests that can destroy customers' lawns.

Chemicals also may be used in other areas of your job. For example, gasoline oil, diesel fuel, and paint are all chemicals that require safety precautions. Regardless of whether you use chemicals regularly, periodically, or only work around them, it is important to follow certain safety rules.

Here are some tips to help prevent accidental exposure to chemicals, which could be harmful to your health:

- Always read the product label *before* you begin working with a chemical. If there is anything on the label that you do not understand, check with your supervisor.
- Use the personal protective equipment that is required by the product label.
- Some examples of personal protective equipment (PPE) that may be required are safety glasses or goggles, dust masks or other respirators, hearing protection, protective gloves, or chemical-resistant clothing.
- Know that the product label also includes important emergency first-aid information in the event of an accidental exposure.
- Be sure to review the product's material safety data sheet (MSDS) for additional safety information.
- Check your PPE before you put it on to make sure it is undamaged and in good condition. Do not start the job unless you have PPE that is in good repair.
- Never eat, drink, or smoke around chemicals. Also, be sure not to store chemicals near food or drinks.
- Know that all chemicals must be stored in their original containers. Never use a chemical that has been stored in an unmarked container.
- Wash your hands with soap and water each time you take a break from working with chemicals. Then thoroughly wash up at the end of the workday.

Excerpted from VNLA Newsletter, May/June 2006

## HOW TO HIRE EXCEPTIONAL PEOPLE

### Greg Smith

#### Each and Every Time

The interview process should determine if there is a match between the individual and the job. Furthermore, a good process allows you to understand the applicant's behavior, values, motivations, and qualifications. Time and time again people are hired for sales jobs who don't like calling people, and we see customer service people who can't look into your eyes and say, "Hello." Then there are good employees promoted into management positions lacking the competencies to lead and manage others. Here are several reasons why interviewing techniques fail:

**Lack of preparation** – The first impression lasts a long time. Prior to the interview make sure you understand the key elements of the job. Develop a simple outline that covers general job duties. Possibly work with the incumbent to get a better idea of what the job is about. Screen the resumes and application to gain information for the interview. Standardize and prepare the questions you will ask each applicant.

**Lack of purpose** – Not only are you trying to determine the best applicant, but you also have to convince the applicant that this is the best place for them to work. Today's workers have more job opportunities and choices.

**Lack of clearly defined job competencies** – Each job can have anywhere from 6-14 job competencies. Identify the behaviors, knowledge, motivations, and qualities incumbents need to have to be successful in the job. If the job requires special education or a license, be sure to include it on your list also. There are several assessments and profiles available to help insure you have a good match between the applicant and the job.

**Lack of structure** – The best interview follows

a structured process. This doesn't mean that the entire process is inflexible without spontaneity. Then each applicant is asked the same questions and is scored with a consistent rating process. A structured approach helps avoid bias and gives all applicants a fair chance. The best ways to accomplish this is by using behavioral based questions, role-plays, and situational questions. Here are some examples:

*Behavior Based Questions* - Behavioral based questions are used to evaluate the applicant's past behavior, experience and initiative such as:

- Give me an example when you...
- Describe an incident where you went over and beyond the call of duty...
- Tell me about the time you reached out for additional responsibility...
- Tell me about the largest project you worked on...
- Tell me about the last time you broke the rules...

*Situational Based Questions* - Situational based questions evaluate the applicant's judgment ability and knowledge. The interviewer first gives the applicant a hypothetical situation such as:

*"You are a manager and one of your employees has just told you that he thinks another worker is stealing merchandise from the store."*

- What should you do?
- What additional information should you obtain?
- How many options do you have?
- When or if should you call the police?

*Role Plays* - Sample role-plays are effective ways to learn and practice new skills. They can also be used during the interview process to determine the skills and personal charisma of people during stress. For example, if you are

interviewing a customer service representative you can use a role-play to see how this person can manage an irate customer. When using role-plays consider the following guidelines:

1. It is a good idea to write the situation down on paper. Give the person time or a short break to “get into character” prior to beginning the role-play.
2. Give the candidate clear guidelines and background information so they thoroughly understand the situation.
3. Allow them to ask questions before you begin.
4. Debrief the applicant at the conclusion of the role-play. Ask them to tell you how they thought they did and how they could have done it differently. Conclude the role-play in a positive way.

### **Insuring the “Right Fit”–Hiring Assessments**

Resumes and interviews are not as reliable as they used to be. Yes, a structured approach will improve your chances, but it is important to go one step further. Pre-employment profiles are a valid, legal, reliable, and important part of the hiring process for a growing number of employers.

Approximately 65% of all employers use some form of assessment during the hiring process. By using these tools, organizations have reduced turnover and improved the quality of the workforce. Assessments provide an accurate analysis of employee’s behaviors, skills, and attitudes otherwise left to subjective judgment.

There are a variety of assessments to choose from. Some assessments can measure the honesty and integrity of the applicant. Other assessments can determine the sales ability of the individual.

### **Targeted Selection**

Another way to hire great people is to understand your *current* top performers. Certain assessments allow you to graphically profile the behaviors, attitudes, and attributes of your people giving you the ability to compare the characteristics of top and low performing employees. This benchmark process puts you in a powerful position to predict success.

More information about assessments and free samples can be found at <http://www.BehaviorProfile.com>

*Greg Smith is a nationally recognized speaker, author, and business performance consultant. He has written numerous books including his latest, Here Today, Here Tomorrow: Transforming Your Workforce from High Turnover to High Retention. Greg has been featured on television programs such as Bloomberg News, PBS television, and in publications including Business Week, USA Today, Kiplinger’s, President and CEO, and the Christian Science Monitor. He is the President of a management-consulting firm, Chart Your Course International, located in Atlanta, Georgia, Phone him at 770-860-9464.*

*Excerpted from VNLA Newsletter, May/June 2006*

## PROLONGING QUALITY IN INTERIORSCAPES

**Thomas M. Blessington and David L. Clement, Central Maryland Research and Education Center, University of Maryland**

The purpose of reviewing the process of tropical plant handling is to identify factors responsible for prolonging quality.

Two main phases in the life of an interior plant

1. Production: growers propagate, finish plants, and acclimatize them to interior conditions
2. Postproduction: shippers and wholesalers transport and store plants

### Factors

The key factors that impact longevity include: light, temperature, nutrition, water, substrate, as well as being able to identify problems and disorders associated with several species. Includes plant growth from propagation to finish. Healthy plants are better able to endure stresses encountered in other phases and maintain high quality.

### *Light*

- Light requirements are genetically determined
- Plant light requirements vary by species, variety, and cultivar
- Some plants can survive under low light conditions may produce some physical changes in growth habit, leaf size, leaf color, and trunk caliper
- To minimize the effects of producing plants under low light levels they may be grown under higher light levels and then moved to shady conditions until acclimatized
  - Acclimatization may take 6-24 weeks or more
  - Plants grown under high light before shading are not as adapted to low light as those produced entirely under shade

### *Temperature*

- The majority of interiorscape plantings are from tropical regions
- Recommended minimum greenhouse temperature is 60-70°F
- Species vary in cold and heat tolerance
- Select species carefully when the interior environment is suboptimal with extremes in temperature

### *Nutrition*

- Over fertilization can decrease plants ability to acclimatize to interior conditions.
  - May increase respiration rate
  - Contributes to high soluble salts and root damage
- Under fertilization can result in nitrogen deficiency and stunted growth
- Nutrient availability is primarily influenced by substrate pH
- Optimum fertilizer ratio is 3:1:2 for soilless substrate
- Incorporate a micronutrient source into substrate prior to planting or apply at each irrigation
- Light influences fertilizer application rates
  - Plants grown in high light conditions require more fertilizer than those in shady conditions.
- Temperature affects fertilizer application rates
  - during cool season less fertilizer is required, more is needed under warmer conditions
- Temperature also influences the rate at which slow release fertilizers release their nutrients.

### *Water*

- Avoid extremes of wet and dry
- Frequent irrigations can result in fragile, succulent growth and increase soilborne diseases
- Insufficient watering reduces growth and stimulates leaf abscission

- Maintain best plant quality by allowing substrate to dry between through waterings
- Species native to very dry or wet and humid regions require special care

#### *Substrate*

- Substrate properties such as moisture retention, drainage characteristics and cation exchange influence plant health
- Mixes can include: bark, peat, sand, vermiculite, perlite, Styrofoam, cypress shavings, and coir
- Optimum pH range 5.5-6.5
- Before planting check substrate pH and soluble salt levels
- Add micronutrient source if required.

#### *Diseases and Pests*

- Good cultural practices, consistent sanitation, and careful observation can reduce disease and pest problems
- Important to control diseases and pests during production
  - Produces healthy plants that are more likely to maintain quality throughout the rest of their lives
  - During shipping plants are often placed close together and pests and diseases are able to spread quickly

#### *Disorders*

- Includes plant disfigurements due to environmental conditions
- Susceptibility to such injuries and disfigurements varies from species to species
- Many pesticides are phytotoxic to ferns
- Foliage plants can be sensitive to fluoride or boron
- Palms can develop poor, stunted growth if deficient in manganese, iron, or zinc
- Exceeding recommended light levels for a species may result in bleached, light green foliage

- Growing plants in too much shade may result in weak, elongated growth and loss of normal variegated patterns
- Chilling injury can take on many forms, in some crops the leaves turn red or they become dark and greasy

#### **Postproduction Factors**

The time the plant leaves the production environment until it arrives at the retail outlet. Factors that impact the longevity include; light, temperature, exposure to gases, quality retention in storage, and the care and grooming of the plant before it is packaged.

#### *Light*

- Most plants are shipped under dark conditions
- If plants must travel long distance they often require a recovery period to retrieve quality lost due to the extended period of stress
- Specially equipped greenhouses or rooms make ideal places for wholesalers to hold plants
- Optimum light levels for holding room are 500-1,000 foot candles (fc)
- Plants do best if temperature, water, and humidity are near those found in interiorscapes to retain acclimatization conditioning

#### *Temperature*

- Often useful to reduce temperatures to the point where the physiological processes of the plant slow down but chilling injury doesn't occur
- When physiological processes slow down plants can be shipped for longer periods

#### *Gases*

- During transit plants may generate ethylene gas
- Foliage plants are not heavy producers
- Avoid shipping with fruits or vegetables that release high levels of ethylene gas

- At 65°F or below plants release little gas and have little physiological activity and thus can be shipped safely
- If temperatures are above 65°F and ethylene is present at levels greater than 1-2 ppm plant damage may occur

#### *Lasting qualities*

- To maintain plant quality during shipping and storage, plants must be free from environmental stresses
- Best quality is maintained under shortest transit time possible
- Well prepared and packaged plants can usually tolerate 7 days of transit without significant quality loss
- Some species are able to survive longer travel times
- Plants produced or acclimatized under low light levels ship better than unacclimatized plants

#### *Care and Grooming*

- Keeping quality during this phase is greatly influenced if plants are well prepared and packaged before shipping
- Avoid fertilizing at least a week before shipping
- Schedule final irrigation so that soil is moist during shipping
  - Overly wet soil during shipping can contribute to disease problems
  - Dry soil is detrimental to plant health
- Ship plants when foliage is dry to reduce disease problems
- If foliage must be wet during shipment, reduce temperature to slow growth of organisms
- Protect plants from mechanical damage and desiccation by packaging them in sleeves, special moisture-resistant boxes, or other specifically designed shipping facility

*Excerpted from Free State, Spring 2006.*

## **SERVANT LEADERSHIP**

### **Larry Newlin**

#### **Territory Manager for Imperial Nurseries**

Effective leadership is the skill most needed to run a successful business today. Few colleges and universities include leadership in their curriculum. So, where do you learn or hone the necessary skills to be an effective leader? Read books, attend seminars and conferences, find a mentor with great leadership skills, read biographies of great leaders, network with leaders in and outside the horticultural industry.

Dr. Michael Esteem, Director of the Wharton School of Management's Center for Leadership and Change Management, advises, "Think strategically, communicate persuasively, and act decisively. Above all, do everything with integrity." *The Leadership Moment* is highly readable and offers nine real-life anecdotes where decisive and creative leadership or the lack thereof made a huge difference, and he concludes the book with valuable "lessons learned" from these illustrations.

Tom Peters, the excellence guru, has stated that business schools teach management but few address the critical elements of leadership necessary in today's chaotic business environment. If you are the owner or manager of a garden center, retail greenhouse, or other business and are too busy to focus on the issue of leadership, then perhaps you are too busy.

In the Sixties, the Smith Richardson Foundation, the philanthropic arm of the pharmaceutical company Vick's, established the Center for Creative Leadership in my hometown of Greensboro, NC. Today it is international in scope with a number of branches across the nation and in Europe. I have known a number of the instructors and researchers at CCL over the years, and those who have been through their intensive weeklong training include Fortune 500

leaders, government and military leaders, and heads of educational and non-profit institutions. If you cannot afford the time or money to participate in one of their training modules, you might browse through their book selection by googling “Center for Creative Leadership.”

What sounds like a contradiction in terms, “servant leadership” is an emerging field of leadership philosophy and style. Starbucks, Southwest Air, the Men’s Wearhouse, and other corporations have embraced the philosophy of servant leadership in their mission statement. Many business schools are offering courses entitled, “Servant Leadership”. Ken Blanchard of *One Minute-Manager* fame and Stephen Covey, author of *7 Habits of Highly Effective People* and recently published *Practicing Servant Leadership* are on the board of the Robert Greenleaf Center for Servant Leadership.

Robert Greenleaf had served for many years as a manager for AT&T and later as a consultant to many corporations. Upon his retirement, he launched an effort to educate and inform corporate leaders about “servant leadership”. That movement has survived his death and has evolved and grown for over three decades. The major principles include:

1. Listening – Traditionally, leaders have been valued for their communication and decision making skills. Servant-leaders must reinforce these important skills by making a deep commitment to listening intently to others. Servant-leaders seek to identify and clarify the will of a group. They seek to listen receptively to what is being said (and not said). Listening also encompasses getting in touch with one’s inner voice, and seeking to understand what one’s body spirit, and mind are communicating.
2. Empathy – Servant-leaders strive to understand and empathize with others.
3. Healing – Learning to heal is a powerful force for transformation and integration. One of the great strengths of servant-leadership is the potential for healing one’s self and others. In “*The Servant as Leader*”, Greenleaf writes, “There is something subtle communicated to one who is being served and led if, implicit in the compact between the servant-leader and led is the understanding that the search for wholeness is something that they have.”
4. Awareness – General awareness, and especially self-awareness, strengthens the servant-leader. Making a commitment to foster awareness can be scary—one never knows what one may discover! As Greenleaf observed, “Awareness is not a giver of solace – it’s just the opposite. It disturbs. They are not seekers of solace. They have their own inner security.”
5. Persuasion – Servant-leaders rely on persuasion, rather than positional authority in making decisions. Servant-leaders seek to convince others, rather than coerce compliance. This particular element offers one of the clearest distinctions between the traditional authoritarian model and that of servant-leadership. The servant-leader is effective at building consensus within groups.
6. Conceptualization – Servant-leaders seek to nurture their abilities to “dream great dreams.” The ability to look at a problem (or an organization) from a conceptualizing perspective means that one must think

beyond day-to-day realities. Servant-leaders must seek a delicate balance between conceptualization and day-to-day focus.

7. Foresight – Foresight is a characteristic that enables servant-leaders to understand lessons from the past, the realities of the present, and the likely consequence of a decision in the future. It is deeply rooted in the intuitive mind.
8. Stewardship – Robert Greenleaf’s view of all institutions was one in which CEO’s, staff, directors, and trustees all plant significance roles in holding their institutions in trust for the great good of society.
9. Commitment to the Growth of People – Servant-leaders believe that people have an intrinsic value beyond their tangible contributions as workers. As such, Servant-leaders are deeply committed to a personal, professional, and spiritual growth of each and every individual within the organization.
10. Building Community – Servant-leaders are aware that the shift from local communities to large institutions as the primary shaper of human lives has changed out perceptions and caused a sense of loss. Servant-leaders seek to identify a means for building community among those who work within a given institutions.

To learn more about what the Robert K. Greenleaf Center for Servant Leadership has to offer, Google it and review their online catalog or ask for their free information packet. Read, network, recruit a mentor, attend training, and become open to new ideas about leadership.

*Excerpted from VNLA Newsletter, May/June 2006.*

## **PEOPLE SOLUTIONS - POWER OF NETWORKING**

**Jim Paluch**

### **It’s Not What You Know**

Everyone has heard the age old adage, “It’s not what you know; it’s who you know.”

Although this statement is often presented with negative undertones, alluding to the fact that the person did not earn the success themselves, it rings of truth; no one reaches high levels of success without the help of others. Harvey Mackay wrote the following statement in his book, *Dig Your Well Before You’re Thirsty*, “If I had to name a single characteristic shared by all truly successful people I’ve met over a lifetime, I’d say it is the ability to create and nurture a network of contacts.” Learning to utilize the expertise, connections and friendly assistance of others has been a key factor in reaching goals throughout recorded history. The weaknesses of an individual can be strengthened by a group of comrades.

### **Nobody Said It Is Easy**

You’ve just completed a hectic day consisting of piles of paperwork, interoffice conflicts, a heated client phone conversation, and whatever food you grabbed for lunch. There is nothing you would enjoy more than a quiet evening at home, and you’re headed in the opposite direction to invest a few hours with a professional organization and reap the benefits of a “power networking” session. Yes, it’s true, regardless of the benefits of mingling with people, making contacts and putting yourself in the right place at the right time; it is sometimes the last thing you would choose to do.

For a privileged few, meeting people is a fun, natural, easygoing process. For most of us, however, stepping into a room full of people and striking up several intelligent, interesting

conversations is at best a challenge and sometimes just plain work.

When I was designing and selling landscape services, much of my success came from the relationships formed in network settings. I not only developed incredible business leads, but I also became friends with individuals I'm still in contact with today.

I remember many evenings standing next to the shrimp bowl trying to gather enough courage to approach a developer I was dying to do business with, while contemplating the drawing I had yet to do when I arrived at home that night. There was something in me that knew the effort made in meeting and enjoying people was going to be the secret to my success. So the fear remained, but I inched away from the shrimp, put on a confident smile and began talking to people.

Years later, as I began speaking to groups around the country, I found myself in more "networking" situations than ever. After one such gathering with my wife by my side, we both collapsed in the car.

"I know that's easy for you," she said with a sigh, "but I'm exhausted!"

"What makes you think it's easy for me?" I laughed. "That's work!"

"Well, you make it look so easy and fun I thought it just came naturally," she concluded.

As I told her that night and we remind each other of even today, networking takes enthusiasm, energy, and effort, and even if you don't make a life-changing connection, you'll usually learn something about people or yourself in each experience. If you enjoy the challenge you will reap the benefits of networking.

*Excerpted from VNLA Newsletter, May/June*

2006.

## **DOS & DON'TS OF NETWORKING**

**Phillip J. Stella**

### **DO**

Do remember networking isn't selling-it's building relationships that are mutually beneficial.

Do understand personality styles-treat people the way they want to be treated.

Do begin every conversation with a question-listen and learn from what you hear.

Do carry business cards-be sure you always have enough.

Do write on the back of any card you receive where you met and what you want to remember.

Do realize that networking improves with practice

### **DON'T.**

Don't be late to a meeting-get there early.

Don't sit by someone you know-sit by strangers.

Don't sit by an aisle, empty seat or in the back row-surround yourself with people.

Don't do all the talking-the best conversationalists say the least.

Don't use inappropriate humor.

Don't become comfortable and monopolize one person's evening-after 5 or 10 minutes move on.

*Excerpted from VNLA Newsletter,  
May/June 2006*

## **NATIVE PLANTS AND BARBED WIRE**

Behind the stark exterior of the Sussex County Correctional Facility, offenders are cultivating new life skills and a healthier environment. The Environmental Horticulture and Landscaping Certification Program (ELHC) is the brainchild of Warden Bob George and Environmental Concern Inc. In a few short weeks, the inaugural class made up of seven offenders enrolled in the Crest Program – designed to help drug offenders transition to life outside of prison - will complete the 10-week, 40-hour course that was developed and is being presented by Environmental Concern Inc.

The training course is a comprehensive introduction to landscaping and horticulture presented within an ecological framework. Beginning with watersheds, students learn how activities and actions on land can adversely affect water quality through non-point source pollution and how plants can be used to ameliorate these effects. Students then move from over-arching ecological themes to more focused lessons including plant biology and physiology, nursery operations, principles of landscaping, integrated pest management, and composting. The course information comes full circle and concludes with land-use management, non-native versus native species, and current Delaware environmental issues.

The instructional pedagogy employed is learner-centric, hands-on and practical. This not only fully engages the students, but leads to greater information and skill retention. For example, students practice repotting and cutting, design and install landscaping projects at the correction facility, and create a composting bin that will be used for cafeteria scraps. In addition, great care has been taken to tailor the training to address

the unique workforce needs of the landscaping/horticulture industries. A full session is devoted to learning about the scope and breadth of both industries including employment opportunities linked to expected roles and responsibilities.

An extension of the training course is a working greenhouse, in which four species of native plants will be cultivated for use in state-led wetland restoration efforts. The greenhouse is currently being reconfigured to house a series of waterboxes – the preferred growing method for the selected species. For the remainder of the incarceration, graduates of the ELHC program, under the guidance of separately trained corrections personnel and Environmental Concern, will mentor fellow offenders in greenhouse operations.

Many correction facilities throughout the U.S. have developed horticulture programs to propagate fruits and vegetables or flowering ornamentals. Some also include a training component. However, the Delaware program may be the first in the nation focused on native plants propagation presented within an environmental context. ELHC is not compulsory. Students have a variety of programs from which to choose. The ones participating in ELCH are interested in practically applying the knowledge and skills obtained from the course as part of the landscaping and horticulture industries.

A provider of educational resources and programs for over 34 years, Environmental Concern traditionally caters to the educational needs of resource professionals, educators, school children, and interested members of the general public. It was not without a bit of apprehension that this project was undertaken. There were many unknowns associated with the non-traditional students and non-traditional education setting. However, these

apprehensions proved unfounded. The class is made up of students who are inquisitive, fully engaged, and genuinely excited about the subject matter.

The ultimate success of the program will be measured with the integration of the graduates into the workforce. In a few months, these students will be in your communities looking for gainful employment while their spaces in the classroom will be filled with a new crop of students enthusiastic about learning and becoming a part of the landscaping and horticulture industries. If you are interested in filling any current or upcoming labor needs with one or more of the program participants, or for more information about the program, please feel free to contact Bronwyn Mitchell, Education Director, Environmental Concern Inc. ([dir.educate@wetland.org](mailto:dir.educate@wetland.org)) or (410) 745-9620.

us of any suspect damage on ash that you or your contacts encounter.

**EMERALD ASH BORER DETECTED IN  
MARYLAND  
Faith Kuehn, DDA**

The emerald ash borer was detected in Maryland in August 2006. The State had been surveying trees, after an initial infestation and subsequent eradication effort in 2003. A quarantine on Prince George's Co., allows no ash trees or hardwood firewood to cross county lines.

DDA has been conducting surveys for this pest since its initial MD detection. The repeat find in MD has led us to believe that an enhanced detection/survey plan is now in order. DDA Forestry, Plant Industries and USDA have met and are crafting a plan for a sentinel tree system and increased survey. Bonnie MacCulloch, a consultant to DDA, completed a project on firewood transport in the state. We will be using the results of this study to increase public awareness about the dangers of transporting firewood across state line. We are hoping that you all can help us in these efforts, and inform

# Pesticide Update

## **Chloroneb; Termination of certain uses and label amendments**

Date of Publication: August 16, 2006

Citation: Volume 71, Number 158, Page 47213-47215

<http://www.epa.gov/fedrgstr/EPA-PEST/2006/August/Day-16/p13343.htm>

Purpose: This notice announces EPA's cancellation order for the termination of certain uses and label amendments, voluntarily requested by the registrant and accepted by the Agency, of products containing the pesticide chloroneb, pursuant to section 6(f)(1) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended. The request would terminate chloroneb's use on residential lawns and turf, as well as on lawns and turf of parks and schools.

Chemicals: Chloroneb

Comments: EPA has established a docket for this action under docket identification (ID) number EPA-HQ-OPP-2004-0369.

Contact: Wilhelmena Livingston, Special Review and Reregistration Division (7508P), telephone number: (703) 308-8025; e-mail address: [livingston.wilhelmena@epa.gov](mailto:livingston.wilhelmena@epa.gov).

## **Title: Methyl bromide tolerance reassessment and risk management decision (tred) for methyl bromide, and reregistration eligibility decision (red) for methyl bromide's commodity uses; notice of availability**

Date of Publication: August 9, 2006

Citation: Volume 71, Number 153, Page 45546-45548

<http://www.epa.gov/fedrgstr/EPA-PEST/2006/August/Day-09/p12898.htm>

Purpose: This notice announces the availability of EPA's Tolerance

Reassessment and Risk Management Decision (TRED) for Methyl Bromide, and Reregistration Eligibility Decision (RED) for Methyl

Bromide's Commodity Uses, and opens a public comment period on this document. The Agency's risk assessments and other related documents also are available in the methyl bromide docket. Methyl bromide is a broad-spectrum fumigant chemical that can be used as an acaricide, antimicrobial, fungicide, herbicide, insecticide, nematocide, and vertebrate control agent. This reregistration decision document covers the methyl bromide uses that have accompanying food residue tolerances such as post-harvest fumigation of food commodities in chambers at ports or specialized structural fumigations at food processing facilities, as well as some uses without tolerances that are performed in similar facilities. A decision on the reregistration of methyl bromide's non-commodity uses that do not have food tolerances (e.g., pre-plant soil, greenhouse, residential) is scheduled to be completed in 2007 with other soil fumigants.

Chemicals: Methyl Bromide

Comments: EPA has established a docket for this action under docket identification (ID) number EPA-HQ-OPP-2005-0123.

Contact: Steven Weiss, Special Review and Reregistration Division (7508P), telephone number: (703) 308-8293; fax number: (703) 308-8005; E-mail address: [weiss.steven@epa.gov](mailto:weiss.steven@epa.gov).

## **Title: Propiconazole reregistration eligibility decision**

Date of publication: August 23, 2006

Citation: Volume 71, Number 163, Page 49447-49448

<http://www.epa.gov/fedrgstr/EPA-PEST/2006/August/Day-23/p13859.htm>

Purpose: This notice announces the availability of EPA's Reregistration Eligibility Decision (RED) for the pesticide propiconazole. The Agency's risk assessments and other related documents also are available in the propiconazole docket. Propiconazole is used as

a conventional fungicide on agricultural crops, ornamentals, and turf and is used as an antimicrobial material preservative and wood preservative. EPA has reviewed propiconazole through the public participation process that the Agency uses to involve the public in developing pesticide reregistration and tolerance reassessment decisions.

Chemical(s): Propiconazole

Comments: EPA has established a docket for this action under docket identification (ID) number EPA-HQ-OPP- 2005-0497. There is no Comment period.

Contact: Christina Scheltema, Special Review and Reregistration Division (7508P), Office of Pesticide Programs, Environmental Protection Agency, telephone number: (703) 308-2201; fax number: (703) 308-8005; e-mail address: [scheltema.christina@epa.gov](mailto:scheltema.christina@epa.gov)

**Title: Carbofuran; Interim reregistration eligibility decision; Notice of availability**

Date of publication: August 30, 2006

Citation: Volume 71, Number 168, Page 51610-51612

<http://www.epa.gov/fedrgstr/EPA-PEST/2006/August/Day-30/p14213.htm>

Purpose: This notice announces the availability of EPA's Interim Reregistration Eligibility Decision (IRED) for the N-methyl carbamate pesticide carbofuran, and opens a public comment period on this document. The Agency's risk assessments and other related documents also are available in the carbofuran docket. Carbofuran works as a cholinesterase inhibitor and is used to treat pests of food and non-food crops as either a flowable or granular formulation. It is registered for use on a variety of fruit and vegetable crops, as well as ornamentals and agricultural fallow land. EPA has reviewed carbofuran through the public participation process that the Agency uses to involve the public in developing pesticide reregistration and tolerance reassessment decisions.

Chemical(s): Carbofuran \*\*

Comments: EPA has established a docket identification (ID) number EPA-HQ-OPP-2005-0162. Comments must be received on or before October 30, 2006.

Contact: Stephanie Plummer, Special Review and Reregistration Division (7508P), Office of Pesticide Programs, Environmental Protection Agency, telephone number: (703) 305-0076; e-mail address: [plummer.stephanie@epa.gov](mailto:plummer.stephanie@epa.gov)

**Title: Triadimefon and Triadimenol; Reregistration eligibility decision (red) for triadimefon and tolerance reassessment and risk management decision (tred) for triadimenol; Notice of availability**

Date of publication: August 30, 2006

Citation: Volume 71, Number 168, Page 51612-51614

<http://www.epa.gov/fedrgstr/EPA-PEST/2006/August/Day-30/p14318.htm>

Purpose: This notice announces the availability of EPA's Reregistration Eligibility Decision (RED) for triadimefon and Tolerance Reassessment and Risk Management Decision (TRED) for triadimenol, and opens a public comment period on this (RED/TRED) document. Triadimefon is a broad spectrum, systemic fungicide used to control rust and mildew on pineapple. In addition, it is used to control various fungal diseases on non-food use sites such as golf course and sod farm turf, pine seedlings, Christmas trees, and ornamentals. Use on residential turf will be voluntarily cancelled. The primary metabolite of triadimefon is triadimenol, which is also registered separately as a systemic fungicide for seed treatment of barley, corn, cotton, oats, rye, sorghum, and wheat.

Chemical(s): Triadimefon and Triadimenol

Comments: EPA has established a docket identification number EPA-HQ-OPP-2005-0258 (Triadimefon) and EPA-HQ-OPP-2006-0038 (Triadimenol). Comments must be received on or before October 30, 2006.

Contact: John W. Pates, Jr., Special Review and Reregistration Division (7508P), Office of Pesticide Programs, Environmental Protection Agency, telephone number: (703) 308-8195; e-mail address: [pates.john@epa.gov](mailto:pates.john@epa.gov).

### **Shakeaway Deer Repellent Granules**

Title: Pesticide Product Registration Approval; Request for Comments

Date of publication: September 6, 2006

Citation: Volume 71, Number 172, Page 52539-52541

<http://www.epa.gov/fedrgstr/EPA-PEST/2006/September/Day-06/p14718.htm>

Purpose: This notice announces and requests comments on an application from Shake-Away to register the pesticide product ShakeAway Deer Repellent Granules containing an active ingredient not included in any previously registered product pursuant to the provisions of section 3(c)(5) of the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA), as amended.

Chemical(s): Biopesticide chemical containing 5% coyote urine

Comments: docket identification (ID) number EPA-HQ-OPP-2004-0389,

Contact: Todd Peterson, Ph.D., Biopesticides and Pollution Prevention Division (7511P telephone number: (703) 308-7224; e-mail address: [peterston.todd@epa.gov](mailto:peterston.todd@epa.gov).

## **Pest Alert**

**Nancy Gregory, Dept. of Plant and Soil Sciences. University of Delaware**

This (see below) was a documented case of "ramorum blight" on one cultivar of rhododendron in PA in a garden center. The plant tested positive through the PA survey. We have surveyed all nursery stock of susceptible plants in DE for three years now, have found no *P. ramorum*, and will survey again next year. We did not receive stock of "Joe Paterno" or stock from the suspect nursery supplier on the west coast, or it would have resulted in a trace forward survey of that stock. By all means, if homeowners in PA have purchased rhododendron Joe Paterno, they should notify the PA Dept of Ag in Harrisburg. The disease on oaks on the west coast is known as sudden oak death, but the disease we would be on the look-out for here in the east on rhododendron, camellia, pieris, syringa, etc., is called ramorum blight, due to the very different symptom picture. Here is a web site from USDA: <http://www.aphis.usda.gov/ppq/ispm/pramorun/>

### ***Be Alert to Diseased Rhododendron***

If you live in southeastern Pennsylvania and purchased the rhododendron variety known or labeled as 'Joe Paterno' this year, it's important that you contact the Pennsylvania Department of Agriculture's regional office in Creamery, Montgomery County, at (610) 489-1003. A rhodie with the disease called "sudden oak decline" (*Phytophthora ramorum*) was reportedly found in September in a Delaware County nursery. Sudden oak decline is a potentially serious disease for a variety of plants including lilac, mountain laurel, pieris, camellia, and viburnum. Until recently, sudden oak decline was confined to the west coast. Pennsylvania officials hope to limit its escape in the environment by asking consumers to report purchases of this potentially diseased rhododendron cultivar.

# Research Briefs

## *Propagation*

### **System for rooting softwood cuttings of Leyland cypress outdoors under shade.**

(Editor's note: not that we really need any more Leyland cypress in De, but . . .) High quality Leyland cypress can be produced outdoors under 50% shade and intermittent mist, as follows: A) collect vigorous, healthy cuttings in late May or June, B) use a rooting substrate of 1:1, 1:2 or 1:4 peat perlite amended with 4 or 5 lb/cu yd of long term controlled release fertilizer, C) size cuttings to a length of 6 to 10 inches and if necessary, remove soft, succulent growth at the distal ends to provide straight cuttings; D) just before treatment with auxin, trim each cutting so that the base is green (preferable) or light tan, E) strip foliage from the lower 5 cm of the stem just above the basal cut, F) dip the base in water, shade off the excess and treat the base with about 3000 ppm IBA in talc, G) set cuttings into the rooting substrate using a dibble, and H) mist 10 sec every 5 min during daylight hours and once hourly at night, using nozzles similar in output to small (color code "green") Roberts spot-spinners. The rooting period can vary in length, depending on objectives, but 5 to 6 months is adequate to produce a high percentage of rooted cutting with good root systems and vigorous shoot growth. These cuttings could be field planted or potted in the fall, or maintained overwinter until the following spring. (L.E. Hinesley, F.A. Blazich and S.A. Derby)

*Excerpted from Journal of Environ. Hort. 24(3):124-128, September 2006.*

**Controlling height of marigold and celosia plugs.** Soaking French marigold seeds in 1 to 5 ppm Sumagic solutions for 0.15, 5 or 45 minutes effectively controlled plug height without reductions in seedling emergence. The

benefits of applying Sumagic directly to seeds included control of seedling height at the early stages of plant growth, use of small amounts of active ingredient, simplicity of application, and lack of field contamination with PGR residues. (S.V. Magnitskiy, C.C. Pasian, M.A. Bennett and J. D. Metzger)

*Excerpted from Journal of Environ. Hort. 24(3):165-168, September 2006.*

## *Container Production*

**Herbicide-treated mulches for weed control in nursery container crops.** Sureguard and Surflan can be combined with different mulches for weed control to increase and extend the efficacy up to 115 DAT and provide low phytotoxicity compared to over the top sprays. Herbicide is sprayed directly on the mulch and then mulch is placed in the desired environment (containers, landscapes, field nurseries) without the herbicide touching the desirable plant. For some herbicides like SureGuard that have foliar activity, this significantly reduces phytotoxicity. More research on the interactions of mulch and herbicides is required. Since no two herbicides are the same, it follows that no herbicide x mulch combination acts the same. (L.T. Case and H.M. Mathers)

*Excerpted from J. of Environ. Hort. 24(2):84-90. June 2006*

**Effect of potting media components on the infectivity of *Metarhizium anisopliae* against the black vine weevil.** A new tool for BVW management is the incorporation of the entomopathogenic fungus *M. anisopliae* into the media at potting (recently registered by EPA). It has been shown to persist and perform well in peat and bark-based potting media. Initial data from this research indicate that *M. anisopliae* is compatible with common media components (coir, fir bark, hemlock bark, peat moss and

perlite) and has the potential to control BVW larval infestations for at least one or potentially more growing seasons with a single incorporation at planting. (D.J. Bruck)

*Excerpted from J. of Environ. Hort. 24(2):91-94. June 2006*

**Preemergence and early postemergence control of selected container nursery weeds with BroadStar, OH2, and Snapshot TG.**

BroadStar, OH2, or Snapshot TG were applied to nursery containers. Applied preemergence, each herbicide controlled hairy bittercress, spotted spurge, and common groundsel for at least four weeds. These herbicides also controlled hairy bittercress and spotted spurge or to the four-leaf stage. Herbicides were less effective postemergence on common groundsel. Therefore, if all weeds are not hand removed from containers or it time passes between hand weeding and preemergence applications, BroadStar, OH2, or Snapshot TG can provide some early postemergence control but the level of control will depend upon the weed species, developmental growth stage of the plant, and the herbicide. (C.A. Judge and J.C. Neal)

*Excerpted from J. of Environ. Hort. 24(2):105-108. June 2006*

**Growth and flowering response of container grown passion flower cultivars to fertilizer and paclobutrazol.**

A four month production system for passion flower included propagating cuttings in late winter, followed by greenhouse liner production in early, spring, and finally by two months of outdoor container production. Shoot growth was increased by increasing fertilizer rates and the response was highly cultivar dependent. Fertilizer rates resulting in the highest levels of growth for each cultivar were generally higher than those required for most container grown nursery crops, ranging between 0.44 and 0.73 oz/gal of Osmocote (14-

14-14). Paclobutrazol reduced overall plant size without increasing the number of nodes or flowers and is therefore unnecessary for this system. Cultivars were chosen based on cold tolerance and vigor. Of the cultivars evaluated 'Lady Margaret' was most suitable for the four month production system. (S. Berberich, J. Snyder, R. Geneve and M.A. Williams)

*Excerpted from J. of Environ. Hort. 24(2):109-114. June 2006*

**Whip production in a retractable roof structure.**

The species studied were Autumn Blaze maple, Eastern redbud, Prairifire crabapple and red oak. When averaged over fertilizer application methods (water soluble and controlled release), height, caliper, water and N use efficiency were greater when whips were grown in retractable roof structures than on outdoor gravel pads. Greater growth was attributed to reduced ambient and substrate temperature stress. (A. S. Stoven, H.M. Mathers and D.K. Struve).

*Excerpted from HortScience Vol. 41(5):1206-1212, August 2006.*

**Effect of earthworm castings on marigold growth.**

Castings alone or castings mixed with other growing media resulted in higher growth indices as compared to media without castings. Greater amount of nutrients, higher pH, and increased water-holding capacity may have caused this greater growth. Castings were found to be a suitable substrate amendment for growing potted marigolds. (P.R. Hidalgo, F.B. Matta and R.L. Harkess)

*Excerpted from HortScience Vol. 41(6):1474-1476, October 2006.*

**Controlling oxalis in nursery containers with diuron (Direx 4L).** Oxalis is a serious problem in container nursery pots, especially with

container grown crops emerging from winter protection. Previous research showed that diuron has the potential to control oxalis when applied postemergence over-the-top to dormant camellia, liriop and spirea. However in some cases slight crop injury resulted from the application of diuron, and injury was more severe with actively growing crops. This research indicated that irrigation at 1 hour after diuron application reduced diuron-induced injury without compromising oxalis control. (B.M. Richardson, C.H. Gilliam, G.R. Wehtje and G.B. Fain)

*Excerpted from Journal of Environ. Hort. 24(3):129-132, September 2006.*

### ***Nursery Production***

**Constructed wetland systems help manage nutrient runoff of nursery water.** Nurseries have several options for limiting nutrients in nursery discharge water to meet current and future water quality standards. The approach taken depends on several factors, including state water quality standards and discharge effluent guidelines or limits, rainfall pattern and intensity, catchment topography and nursery layout, and the volume of discharge. With proper management of soluble fertilizers, water quality parameters, water-borne disease organisms, and N and P levels, recapture and holding ponds can be used to retain potential discharge on-site. The least expensive alternative is to reduce the use of N and P to the minimum levels required to achieve profitable plant growth rates and plant quality, as this achieves the goal of cleaner water at both the beginning and the end of production. For horticultural operations that generate large quantities of runoff that require remediation before discharge, surface-flow Constructed Wetlands (CWs) may offer an attractive alternative. They require sufficient land for their construction and are moderately expensive

to build and plant initially, surface-flow CWs can be placed on low, unsuitable land and require little maintenance. The 9.31-acre surface-flow CW was highly efficient at removing N from nursery runoff from a 120-acre catchment, although it failed to consistently lower orthophosphate levels in effluent. (M. D. Taylor, S.A. White, S.L. Chandler, S.J. Klaine and D. Whitwell)

*Excerpted from HortTechnology 16(4), October-December 2006.*

***Acer rubrum* ‘Franksred’ chlorosis due to a manganese deficiency.** The best management practice for preventing Mn-induced maple chlorosis is to collect soil samples, measure soil pH, and then avoid planting red maples in fields with pH greater than 5.6. When all planting sites have high soil pH, amending the soil with S to lower pH and adding MnSO<sub>4</sub> to increase available Mn is recommended. Management of Mn deficiency must occur before planting. Postplant remedies are less effective. (J. Atland)

*Excerpted from HortScience 41(5):1347-1350, August 2006.*

### ***Landscape***

**Bagged soil as an alternative for growing bedding plants in the landscape.** “Gardening in a Bag” is a method of growing herbaceous ornamentals in a bag of topsoil rather than in the ground. Visual quality was generally unaffected by growth in a bag compared to growth in soil. The labor saving benefits of growing bedding plants in a bag may make it a useful means for bedding plant displays in landscapes where soil quality is poor or people lack time to prepare the soil. “Gardening in a Bag” is a promising method for growing annual bedding plants, especially for gardeners who want to contain plant growth of ornamentals to a small space. (C.A. Alsup and P.B. Trewatha)

*Excerpted from HortScience 41(5):1273-1275, August 2006.*

**Green roofs for sustainable development.** We have identified environmental benefits that green roofs can provide such as stormwater retention, stormwater runoff delay and rate reduction, increase roofing membrane life, shading and insulation benefits, biodiversity and habitat, aesthetics, and control of noise and air pollution. Because roofs represent 21% to 26% of urban areass, both residential and nonresidential, they provide a unique opportunity. These typically unused spaces can become a way to reclaim habitat that was lost as a result of construction while also aiding in the protection of our environment through more sustainable practices. Green roofs can provide economic benefits to the green industry. Nurseries that are growing ground covers, perennials, or grasses will have the most to gain. Although woody plants can be used as green roof plants, they require a much deeper substrate, additional maintenance, and the need for a more structurally sound building. For landscape contractors, the potential exists for installations and maintenance contracts. In Germany, many landscape contractors have construction, maintenance and green roof divisions, and other specialize in green roofs along. In North America, the concept of green roofs is just ow being introduced and will likely become more common in the future. They represent an entirely new market for nursery stock and landscape contractors, and the potential market consists of all existing and future roofs in the country. (K.L. Getter and D.B. Rowe)

*Excerpted from HortScience 41(5):1276-1285, August 2006.*

**xGordlinia grandiflora is a new intergeneric hybrid between *Franklinia alatomaha* and**

***Gordonia lasianthus*.** Controlled crosses between *F. alatomaha* and *G. lasianthus* resulted in intergeneric hybrid progeny. Although *Franklinia* is very ornamental, with showy flowers and crimson/maroon fall foliage, it tends to be short lived when grown as a landscape tree and is known to be susceptible to a variety of root pathogens. *Gordonia lasianthus* is an evergreen tree native to the southeastern United States, typically growing in riparian habitats. *Gordonia lasianthus* has attractive foliage and large, white, showy flowers, but limited cold hardiness. Hybridization could combine the desirable traits of both species. Mountain gordlinia is the proposed name for these hybrids. (T.G. Ranney and P. R. Fantz)

*Excerpted from HortScience 41(6):1386-1388, October 2006.*

**Do colored leaf barberry genotypes produce green leaf seedlings?** This research demonstrated that all green, purple and yellow Japanese barberry genotypes studied produced some green seedlings. Percentages of green progeny varied by genotype and proximity to potential purple pollen donors, with the popular commercial cultivars ‘Crimson Pigmy’ and ‘Rose Glow’ yielding significantly more green seedling than var. *atropupurea* under conditions of comparable pollen donor proximity. Although the green seedlings produced by commercial barberry selections bear phenotypic resemblance to feral plants, these results alone establish no definitive link to invasive species. (J.M. Lehrer, M.H. Brand and J.D. Lubell)

*Excerpted from Journal of Environ. Hort. 24(3):133-136, September 2006.*

***Nandina domestica* cultivars evaluated for performance and invasive potential.** Ten cultivars and the species were evaluated in southern and northern Florida. ‘Gulf Stream’,

‘Jaytee’ and ‘Harbour Dwarf’ had above average visual quality ratings, good survival, and poor or not fruit production when grown in south Florida. In north Florida, where wild-type heavenly bamboo has escaped and is considered invasive, these three cultivars had limited fruit production. Results of this study emphasize the importance of cultivar and geographic distinctions in determining the invasive status of a species. (G.W. Knox and S.B. Wilson)

*Excerpted from Journal of Environ. Hort. 24(3):137-142, September 2006.*

**Influence of biostimulants and water-retaining polymers on transplant success of bareroot silver birch (*Betula pendula*) and rowan (*Sorbus aucuparia*).** Applications of water-retaining polymer alone had no significant effect on growth and vitality measurements for rowan and significantly reduced some indices for silver birch. Some combinations of polymers and biostimulants improved growth of some species. However, where independent scientific data are not available to support the claims of the manufacturer, using an unevaluated biostimulant is not recommended. (S. Barnes and G.C. Percival)

*Excerpted from Journal of Environ. Hort. 24(3):173-179, September 2006.*

## **Turf**

**Aggressive potential of glyphosate-resistant creeping bentgrass.** Currently, creeping bentgrass is not considered an important weed of production agriculture and is considered a minor weed of pastures and naturalized areas. Several herbicides in addition to glyphosate are registered for control of creeping bentgrass in these situations. This research demonstrates that glyphosate-resistant creeping bentgrass does not exhibit a novel phenotype that would make it more fit to occupy or become more invasive in

unmanaged ecosystems or production agriculture then traditional creeping bentgrass. (D.S. Gardner, E.K. Nelson, M.A. Waldecker and W.R. Tarter)

*Excerpted from HortTechnology 16(4), October-December 2006.*

## **Insects**

**Sanitation is an important strategy to avoid insect problems in greenhouses.** This study demonstrated that it is important to remove plant and growing medium debris from greenhouses or at least place into refuse containers with tight-sealing lids. In addition, greenhouse produces that leave refuse containers in greenhouses may want to consider coating the inside of the lid with a sticky substance or adhesive to trap insects. Sanitation is an important component of any pest management program; however, this practice must be used in conjunction with alternative management strategies, including the use of insecticides or natural enemies in order to minimize problems with plant-feeding insects in greenhouses. (B.K. Hogendorp and R.A. Cloyd)

*Excerpted from HortTechnology 16(4), October-December 2006.*

## **Marketing**

**Consumer purchasing habits of environmental horticulture products in Florida.** Garden center shoppers were interviewed in March and April in 2002 in Florida. Convenience/location was the most important reason for shopping at a particular store, followed by price, quality, service, information and misc. other reasons. Most respondents were shopping for hardgoods. Of those who were shopping for plants, flowering plants for the outdoors were most sought after. Respondents who reported having college level

education, an annual income greater than \$50,000 or were shopping at an independent garden center, indicated convenience/location as their primary reason for selecting a particular garden center, but price was not their second most important reason. (L.N. Satterthwaite, J.J. Haydu and A.W. Hodges)

*Excerpted from J. of Environ. Hort. 24(2):68-73. June 2006*

**Endowment Strategies for the University of Delaware Botanic Garden through Case Study Analysis.** The UDBG is in transition, moving from its initial founding as a public garden by dedicated faculty and a volunteer group to an organized and efficient entity with widely recognized achievements and reputation. To make this leap, UDBG is faced with the need for an endowment to fund its operations, staff, and collections to continue future success. This study was conducted to discover the best endowment strategies based on the experience of four other public gardens associated with universities. Clear organizational structure is necessary to develop an endowment; the garden or arboreta must strengthen ties to its affiliated college and university to ensure full support at all levels and stages of development. Creating a board with a clearly defined purpose that incorporates fundraising is vital. Planning must include a strategic and master plan; without them, successful fund-soliciting from donors will be difficult to achieve. UDBG must implement and develop current strategies for fundraising to include innovative and appropriate events, naming opportunities with maintenance costs included, and other means of reaching potential donors. (M. Stephens, A. Steil, M.Gray, A. Hird, S. Lepper, E. Moydell, J. Paul, C. Prestowitz, S. Sharber, T. Sturman, and R.E. Lyons)

*Excerpted from HortTechnology 16(4), October-December 2006.*

## Publications

### New Epa brochure provides tips on green landscaping practices

EPA's Office of Pesticide Programs is pleased to announce a new publication, GreenScaping: The Easy Way to a Greener, Healthier Yard. This brochure was developed for homeowners and is a joint effort of the EPA Office of Solid Waste, Office of Water and Office of Pesticide Programs. To view the brochure on line, go to: <http://epa.gov/oppfead1/Publications/catalog/greenscaping.pdf> and find out how to plant right for the site, conserve water, reduce yard waste, and use pesticides wisely. EPA's GreenScapes Alliance program provides cost-effective and environmentally friendly solutions for landscaping. The Alliance is a growing group of organizations, large and small, that implements and promotes sustainable landscape design, construction, and maintenance. For general information about GreenScapes, visit the web site at [www.epa.gov/greenscapes](http://www.epa.gov/greenscapes) and look over the introductory brochure at: <http://www.epa.gov/epaoswer/non-hw/green/pubs/brochure.pdf>.

To order free copies of the GreenScaping brochure (EPA530-K-06-002), orders (between 5 and 100 copies), contact the National Service Center for Environmental Publications (NSCEP) on the Internet at [www.epa.gov/epaoswer/osw/pub-n](http://www.epa.gov/epaoswer/osw/pub-n), by email at [ncepimal@one.net](mailto:ncepimal@one.net), by phone 1-800-490-9198 or (513) 489-8190 or by mail U.S. EPA/NSCEP P. O. Box 42419 Cincinnati, Ohio 45242-0419. For large orders (100 or more), please contact Kathy Seikel at [Seikel.Kathy@epa.gov](mailto:Seikel.Kathy@epa.gov) with your contact information and the number of copies you would like sent to you.

## **Manage Insects on Your Farm: A Guide To Ecological Strategies**

Nationwide, farmers are in need of insect pest management strategies that are effective, affordable and environmentally sound. To help meet that need, the Sustainable Agriculture Network (SAN) announces the release of "Manage Insects on Your Farm: A Guide to Ecological Strategies," a primer designed to help farmers improve their farms' natural defenses against insect pests.

While every farming system is unique, the principles of ecological pest management apply universally. "Manage Insects on Your Farm" outlines the principles of ecologically based pest management and illustrates the strategies used by farmers around the world to address insect problems by:

- Increasing on-farm diversity above and below ground
  - Encouraging beneficial insects to attack their worst pests
  - Enhancing plants' natural defenses against pests
- Managing soil to minimize crop pests

Examples of successful pest management strategies featured throughout the book demonstrate real-life examples of how to address insect problems and develop a more complex and diverse on-farm ecosystem. Readers will learn how to minimize insect damage with wise soil management and identify beneficial insects to put these "good bugs" to work. Download a complete copy of "Manage Insects on Your Farm" at [www.sare.org/publications/insect.htm](http://www.sare.org/publications/insect.htm) for free. To order print copies (\$15.95 plus \$5.95 s/h) visit [www.sare.org/WebStore](http://www.sare.org/WebStore), call 301/374-9696 or send check or money order to Sustainable Agriculture Publications, PO Box 753, Waldorf, Maryland 20604-0753. (Please specify title requested when ordering by mail.) Discounts are available on orders of 10 or more.

Allow 3-4 weeks for delivery. Call 301/374-9696 for more information on bulk, rush or international shipments.

**Nutrient Management Handbook.** Those with responsibilities or interest in Nutrient Management should be aware of the recently completed The Mid-Atlantic Nutrient Management Handbook, a production of a regional (Virginia, Maryland, West Virginia, Pennsylvania, Delaware, and the D.C.) interdisciplinary water quality program ([www.mawaterquality.org](http://www.mawaterquality.org)) has recently been completed and can be accessed at <http://www.agnr.umd.edu/users/waterqual/Publications/index.html>

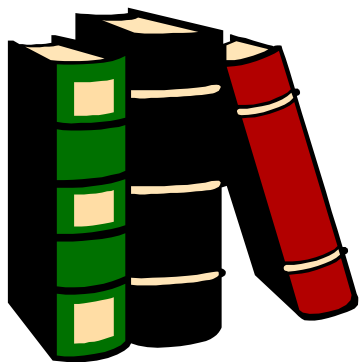
The <http://www.mawaterquality.org/CSREES> Mid-Atlantic Regional Water Program published the <http://www.agnr.umd.edu/users/waterqual/Publications/index.html> Mid-Atlantic Nutrient Management Handbook in April. The new handbook represents a complete rewrite, update, and expansion of a 1995 manual written for the Chesapeake Bay Program. Nutrient management scientists from four universities wrote the handbook, while scientists and practitioners from across the region reviewed it. Virginia Tech provided editorial and technical leadership.

The handbook is organized using an "info-mapping" approach that enhances the arrangement, flow, and readability of the technical information. Its 252 pages contain chapters on all aspects of agronomic nutrient management, including:

- Basic soils and landscapes,
- Soil fertility and chemistry,
- Crop production,
- Soil management,
- Nutrient testing and fertilizer,
- Manure, and;
- Bio-solids use.

Particular emphasis is placed on the most recent science regarding nitrogen and phosphorus use in agronomic production in an environmentally sustainable manner. The Chesapeake Bay Program Nutrient Subcommittee and the nutrient management programs of the Mid-Atlantic States coordinated handbook development to ensure consistency and usefulness. Nutrient management program managers in State and Federal agencies, organizations, and the agricultural industry will be trained to use the new handbook. All five Mid-Atlantic Region States plan to use the handbook in their nutrient management certification and training programs.

**Perennial Solutions-** A Grower's Guide to Commercial Perennial Production by Paul Pilon. This book covers all aspects of producing perennial crops-propagation, fertility, media, pest and disease management, weed control, height control, and overwintering. *Perennial Solutions* presents specific production guidelines for thirty popular crops, including Aster, Delphinium, Hemerocallis, Hosta, Rudbeckia, and ornamental grasses. Detailed tables also offer specific recommendations for using plant growth regulators (PGRs), herbicides, forcing schedules, and more. Item #B072, ISBN 1-883052-47-5, 560 pages hardcover, price \$64.95.  
[www.ballbookshelf.com](http://www.ballbookshelf.com)



## Calendar

**January 4** – Landscape-Nursery Conference Delaware Valley College, Doylestown, PA. Contact: Scott Guiser, (214)345-3283

**January 9-11** – 2007 Eastern PA Turfgrass Conference and Trade Show. The Valley Forge Convention Center and Radisson Hotel King of Prussia, PA. Registration forms at: [www.paturf.org](http://www.paturf.org). Reach the Registration Office by phone (814-355-1912), fax (814-355-2452), or email ([busofc@paturf.org](mailto:busofc@paturf.org))

**January 10-12** – MANTS – Mid-Atlantic Nursery Trade Show-Baltimore, MD [www.mants.com](http://www.mants.com)

**January 17 & 18** – Delaware Hort Industry Expo, Modern Maturity Center, Dover, DE. Contact Valann Budischak (610) 274-2166.

**January 17 & 18** – Estimating and Bidding for Landscape Installation, Lehigh County agricultural Center, Allentown, PA. Contact: Emelie Swackhamer (610)391-9840 for more information.

**January 17 & 18 and 24 & 25** – Arborist Short Course, Montgomery County 4-H Center, Creamery. Contact: Julianne Schieffer (610)489-4315; [jxs51@psu.edu](mailto:jxs51@psu.edu)

**January 17-20** – NCAN “Green & Growin’ Show”, Greensboro, NC, (919)816-9119, [www.ncan.com](http://www.ncan.com)

**January 22 & 23** – Penn State Extension: Hands-On Pruning Workshop. Meadowwood Retirement Community, Rt 73, Worcester. Meet in the Schultz community Center. Cost \$20. Time (9:30 – 12 noon. For more information call: 610-489-4315.

**January 25** – Northeastern Pennsylvania Turf Conference & Trade Show, The Woodlands Inn & Resort, Wilkes-Barre, PA. Contact: Dr. Andy McNitt, (814)863-1368; email [asm4@psu.edu](mailto:asm4@psu.edu)

**January 29**– 2007 Ornamentals Short course Program: Resources for Small Business, Kent County Extension Office, Dover, DE, 7-9 PM, cost is \$10.

**January 29-31** – Mid-Atlantic Horticulture Short Course (MSHSC), Ramada at the Ocean front, Virginia Beach, VA. Contact: [www.MSHSC.org](http://www.MSHSC.org) (757)647-0110

**January 31-February 3** – ANLA Management Clinic, Galt House in Louisville, KY, Contact: ANLA at [www.anla.org](http://www.anla.org)

**February 5 & 6** – 42<sup>nd</sup> Annual Penn-Del ISA Shade Tree Symposium, Lancaster Host Resort, Lancaster, PA. Contact: Betsy Wertz (215)795-0411; email [penndelisa05@comcast.net](mailto:penndelisa05@comcast.net)

**February 6-8** -2007 Pennsylvania Landscape & Nursery Conference, the Penn State Conference Center Hotel, State College, PA. Contact: Linda at [lweiss@plna.com](mailto:lweiss@plna.com) Or 1-800-898-3411

**February 7** – 2007 Ornamentals Short Course Program: Plant Material Uses Series 7-9 PM; Session (1) Windbreaks, Screens, Borders and Hedges-Research/Education Center, Georgetown; Cost is \$35 (series) or \$10 for each session.

**February 12** – 2007 Ornamentals Short Course Program: CNP Prep Session – Basics. Session (1) Plant Growth; 7-9 PM at the Kent County Extension Office, Dover; Cost is \$15 (series) or \$10 for each session.

**February 12-13** – Conifer Identification. Scott Arboretum, Swarthmore College Time 8:30 AM Fee: \$75. For further information call: 610-696-3500.

**February 13** – 16<sup>th</sup> Annual Winter Lawn Care Conference, Holiday Inn, Fogelsville, PA. Contact: Jeanie Crowl, Lawn Care Assoc. of PA, 1-800-577-6801 [lawncareofpa@aol.com](mailto:lawncareofpa@aol.com) Or visit [www.lawncareofpa.org](http://www.lawncareofpa.org)

**February 13** – 2007 Ornamentals Short Course Program: Compost Series (4 Sessions); Session (1) Compost Materials: (Nutrient management credits will be awarded); Fischer Greenhouse, Newark; 7-9 PM; Cost \$25(series) or \$10 for each session.

**February 14** – 2007 Ornamentals Short Course Program: Plant Material Uses Series 7-9 PM; Session (2) Drought Tolerant Plants – Kent County Extension Office, Dover; Cost is \$35 (series) or \$10 for each session.

**February 14** – Winter Grounds Maintenance Seminar; Kutztown Grange, Kutztown, PA. Contact: Emeli Swackhamer (610)391-9840.

**February 14 & 15** – Christmas Tree Management Short Course, Ramada Inn, State College, PA. Contact: George Perry (570)622-4225; Rick Bates (814)863-3198.

**February 15** – 2007 Ornamentals Short Course Program: CNP Prep Session – Basics. Session (2) Soils (Nutrient management credits will be awarded); 7-9 PM at the Kent County Extension Office, Dover; Cost is \$15 (series) or \$10 for each session.

**February 16** – 11<sup>th</sup> Annual KAFMO Athletic Field Conference, Holiday Inn, Grantville, PA. Contact: Linda Kulp (717-921-8803; or Dan Douglas (610-375-8469, Ext. 212; KAFMO.org

**February 19** – 2007 Ornamentals Short Course Program: CNP Prep Plant Walk, Dr. John Frett will conduct a plant walk focusing on plants that are included in the CNP exam; 3-5 PM, UDBG, Newark; Cost is \$10.

**February 21** – 2007 Ornamentals Short Course Program: Plant Material Uses Series 7-9 PM; Session (3) Shade Plantings – Kent County Extension Office, Dover; Cost is \$35 (series) or \$10 for each session.

**February 22** – 2007 Ornamentals Short Course Program: CNP Prep Session – Basics. Session (3) Plant Environmental Interaction; (Pesticide credits will be awarded); 7-9 PM at the Kent County Extension Office, Dover, Cost is \$15 (series) or \$10 for each session.

**February 26** – 2007 Ornamentals Short Course Program: Plant Material Uses Series 7-9 PM; Session (4) Problem-Free Plants (Pesticide credits will be awarded). Research/Education Center, Georgetown; Cost is \$35 (series) or \$10 for each session.

**February 27** -2007 Ornamentals Short Course Program: Compost Series (4 Sessions); Session (2) The Compost Process (Nutrient management credits will be awarded). The science of composting; Fischer Greenhouse, Newark; 7-9 PM; Cost \$25 or \$10 for each session.

**February 28** – 2007 Ornamentals Short Course Program: Plant Material Uses Series 7-9 PM; Session (5) Plants for Massing – Kent County Extension Office, Dover; Cost is \$35 (series) or \$10 for each session.

**March 5** – 2007 Ornamentals Short Course Program: Turf Series- This series will focus on turfgrass installation, maintenance/management for home and commercial landscape. Session (1) Culture; Fischer Greenhouse, Newark; 7-9 PM, cost is \$25 (series) or \$10 each session.

**March 7** - 2007 Ornamentals Short Course Program: Turf Series- This series will focus on turfgrass installation, maintenance/management for home and commercial landscape; Session (2) Insect (Pesticide credits will be awarded for attendance); Fischer Greenhouse, Newark; 7-

9 PM, cost is \$25 (series) or \$10 each session.

**March 12** - 2007 Ornamentals Short Course Program: Turf Series- This series will focus on turfgrass installation, maintenance/management for home and commercial landscape; Session (3) Diseases (Pesticide credits will be awarded for attendance);Fischer Greenhouse, Newark; 7-9 PM, cost is \$25 (series) or \$10 each session.

**March 13** - 2007 Ornamentals Short Course Program: Compost Series (4 Sessions); Session (3) Uses: (Nutrient management credits will be awarded). Using compost in landscape renovation, maintenance and plant production. Fischer Greenhouse, Newark; 7-9 PM; Cost \$25 (series) or \$10 for each session .

**March 14** - 2007 Ornamentals Short Course Program: Turf Series- This series will focus on turfgrass installation, maintenance/management for home and commercial landscape; Session (4) Weeds (Pesticide credits will be awarded for attendance); Fischer Greenhouse, Newark; 7-9 PM, cost is \$25 (series) or \$10 each session.

**March 14** (English) & **15** (Spanish) – Back to Basics Plant Care, Chester County Government Services Bldg. Contact: Cheryl Bjornson (610)696-3500.

**March 20** – 2007 Ornamentals Short Course Program: Spring IPM Tune Up. 7-9 PM at the New Castle County Extension Office, Newark, DE, Cost is \$10. (Pesticide

credits will be awarded for attendance)

**March 27** – 2007 Ornamentals Short Course Program: Pruning Workshop – Location: Fischer Greenhouse, Newark, DE 4:30-6 PM. Cost \$10.

**March 27** - 2007 Ornamentals Short Course Program: Compost Series (4 Sessions); Session (4) Economics of Composting. How do you make composting work on a commercial scale? Fischer Greenhouse, Newark; 7-9 PM; Cost \$25 (series) or \$10 for each session.



