Volume 24 Issue 2 Fall 2009

In This Issue

Editor: Susan Barton, Extension Specialist, University of Delaware
The DNLA Newsletter is produced with the assistance of University of Delaware Cooperative Extension

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

Fall greetings to all of you. Are you wishing you could just wake-up and put 2009 behind you? Are you looking for a bright spot on the horizon? Well we've got just the thing for you. The DNLA has two great conferences on the horizon. The **Ornamental and Turf Workshop** is almost upon us (November 18th), and the **Delaware Horticulture Industry Expo (DHIE) & Annual Pesticide Conference** isn't far behind. Below is a description of both. We sure hope you'll be able to join us.

The **Ornamental and Turf Workshop** will be held November 18th at the Hockessin Memorial Hall in Hockessin, DE. Registration for the event is currently underway. If you haven't received your registration form, please call the DNLA office at (888) 448-1203 or email me at dnlainc@comcast.net Speakers include Gary Smith who will describe the process he used to design Peirce's Woods at Longwood Gardens. UD's Chad Nelson will illustrate that a modest investment in bulbs can yield a big return on investment; Sue Barton and Tom Taylor will team up to show us how UD is incorporating sustainability into the landscape; and lastly Stanton Gill of Univ. of Maryland and Steve Hart of Rutgers will show us the latest, greatest control methods for scales, ambrosia beetle, emerald ash borer, crabgrass and yellow nutsedge.

The **DE Horticulture Industry Expo & Annual Pesticide Conference** will be held on January 13th and 14th at the Modern Maturity Center in Dover. This event also promises to be winner! We're fortunate to have Larry Weaner of Larry Weaner Design join us. Larry's going to discuss natural landscaping techniques. Ann English, the Low Impact Development Center's rain garden guru is going to show us the ABC's of rain gardens. Delaware State's Art Tucker is going to give us a lesson on plant nomenclature. UD's own Dave Frey will show us some common landscape mistakes. Henry Poole of the DE Forest Service will make sure we don't forget the basics when planting trees. Lastly, the weed, disease and pest team consisting of Univ.of Maryland's Mike Raupp, Longwood's Casey Sclar, Brian O'Neill of Weeds, Inc., and Brian Kunkel of UD will join forces to make sure we're able to identify problems and have the most recent control ammunition. I could go on and on. Stay tuned for more information. Please sure to join us!

Other news:
The DNLA received many fine entries for the 2009 Landscape Awards contest. The judging took place in October. Congratulations to our winners! They will be honored at the DHIE. The winning entries were submitted by the following:

Tom Taylor of the University of Delaware in Newark, DE

Rick & Steve Cordrey of R.SC. Landscaping in Millsboro, DE

Larry Joyce of Kern Brothers Tree Service and Landscaping in Wilmington, DE

New CNPs:

Larry Joyce of Kern Brothers Tree Service and Landscaping in Wilmington, DE added a **Landscape Design Specialty**

U of D NEWS
Susan Barton, Extension Specialist

This summer, for the first time, the Specialty Crops Block Grant Program targeted ornamental crops. The Delaware Secretary of Agriculture, Ed Kee presented the request for proposals to the DNLA Board and a team of industry members and extension professionals developed what turned out to be a successful proposal. We received funding to implement the project—**Native Plants- Increasing Demand and Production Capacities in Delaware.**

Delaware Cooperative Extension, The University of Delaware Botanic Gardens, the Delaware Nursery and Landscape Association and several individual Delaware nurseries are collaborating to explore the feasibility of growing underused native plants in Delaware nurseries. This project will create and document demand for native plants in both the landscape restoration and home gardening markets. It will also evaluate feasibility of native plant production by tracking inputs, growth rate and plant quality on a select set of native trees and shrubs grown in 3 Delaware nursery production facilities. Simultaneously, we will evaluate the landscape success of the same set of native trees and shrubs in four landscape settings. Finally, we will report demand, production and landscape performance data to the green industry.

This project includes the following:

1.) Development of a fourth publication in the popular Plants for a Livable Delaware series that will address ecosystem services provided by native plant landscaping (possible title: What can your landscape do for you?). It will include benefits associated with plant and animal diversity, storm water management and other important sustainable landscape strategies. This publication will continue to educate consumers about native plants and develop that will ultimately drive the economic success of nurseries who choose to grow native species.

2.) Development of procedures for the production of native plants that fit into current production practices. By providing rooted cuttings, liners and small plants for three production facilities to "grow on" in their current production systems, we will be able to evaluate production adaptability, growth rate, required inputs, harvest-ability and market success of selected native plants currently not widely available in the nursery industry in Delaware.

3.) Demonstration of landscape success of the selected species. The native trees and shrubs selected for this project will be grown at four sites in Delaware--New Castle County Extension Office, Research and Education Center, Smyrna Outreach and Research Center, and the University of Delaware Botanic Gardens (UDBG)--and evaluated for establishment success, adaptability, and aesthetics.

To facilitate native plant production, we will work with three production facilities in Delaware including: The Sterling Nursery (liner grower), Forest View Nursery (field nursery) and the UDBG (container plant producers for spring and fall plant sales). Each nursery will be provided with the appropriate sized plants for their facility (Spring 2010). They will incorporate the trial plants into their normal production practices. The project administrator (PA), will visit each nursery four times per year (April, June, September, November in 2010 and 2011) to assess plant growth, health and quality as well as record inputs (fertilizer, pesticides, water, etc.) required by the trial plants. The PA will also record growers' concerns about incorporating the trial plants into their production system. At the end of the project (or

once the plants have reached salable size) the growers will sell the trial plants through their normal marketing channels. Sales data for these plants will be recorded (quantity sold, price, buyer). The plants we plan to grow are:

Trees:

Paw Paw	*Asimina triloba*
Hickory	*Carya glabra*
Atlantic White Cedar	*Chamaecyparis thyoides*
Fringe tree	*Chionanthus virginicus*
Alternate Leaved Dogwood	*Cornus alternifolia*
Persimmon	*Diospyros virginiana*
Pond Baldcypress	*Taxodium ascendens*
Bald Cypress	*Taxodium distichum*

Shrubs:

Spicebush	*Lindera benzoin*
Highbush Blueberry	*Vaccinium corymbosum*
Blackhaw viburnum	*Viburnum prunifolium*

Establishment success and plant growth will be evaluated at four sites in Delaware—New Castle County Extension Office, Smyrna Outreach and Research Center, Research and Education Center, and the UDBG. Five plants of each species will be planted at each site (Spring 2010). The PA will work with county horticulture agents, master gardeners and the UDBG interns/staff to evaluate plants at all four sites. Data will be recorded on plant growth, health, quality, insect and disease problems encountered and overall plant aesthetics each month during the growing season starting one month after planting (Spring 2010) and continuing until the end of the project (Winter 2011). Home gardeners will have the opportunity to view the "trial plants" in their display/demonstration sites and informal evaluation will be conducted during special events, open houses, workshops, etc.

So look for reports about information we generate from this grant over the next few years.

BASICS OF THE SNOW & ICE BID

Brian Birch, Assistant Executive Director
Snow & Ice Management Association (SIMA)

Bidding on work in the snow and ice industry can be a time-intensive and challenging part of the business, but often the most important aspect of your snow strategy.

One of the first struggles is simply determining how to price the work, and there are many models including seasonal bidding, per push, per inch, or even per hours. Determining this, however, should be secondary to your overall bidding process. The ultimate goal is to develop a method that allows you to price in any structure you need to, either because of the market you are in or at the request of an important client.

Over the last year, the Snow and Ice Management Association (SIMA) has worked with a group of members to develop a Build a Bid workshop specific to snow and ice contractors. The Association has conducted several workshops and plans more in 2009. Four core concepts of the bidding process include: Financials, Production numbers, Event history and Customers.

Know Your Financials

As in any other business, understanding how your company generates revenue, controls expense, and grows equity is paramount. If you don't have a solid foundation and set plan for analyzing financial statements, controlled and strategized growth of your snow business will be extremely difficult. In terms of bidding, at the most basic level a contractor should grasp a number of items.

Basic Financial Statements: Being able to create, read, and understand a balance sheet and profit & loss statement are very important in bidding for snow removal work. A company

with a strong process for bidding is able to pull all of the needed financial information from previous years into the bidding process for the current year. Planning for the future including planning for growth cannot be accomplished without a solid foundation and understanding of the financial position of the company.

Job-Costing and Overhead: In order to bid on work, you must understand the basic costs that your company incurs while clearing snow and ice. For example, bidding on work with one plow truck and one spreader entails understanding all of the costs it takes to run that equipment, which could include the cost of the truck for one snow season (this involves itemizing the cost of the truck over an estimated number of years), cost of the plow/spreader for the season (again, itemized over an estimated number of years), maintenance for the season, insurance for the season, and loan interest over the season.

Production Numbers and Measuring

SIMA defines a production number as the number of units produced in a given period of time or the time required to produce a single article. Another way to describe it is the average amount of time it takes a piece of equipment, a person, or a material to finish a measurable job. While there are many similarities, these production rates need to be built over time for each company, specific to the weather in the region, the equipment being used, and the employees operating the equipment. Production numbers at their best are an accumulation of recorded data history, tracking lows and highs with the use of averages. What do you need in order to begin tracking your own production numbers?

1. A duration of time
2. The man-hours involved (crew size)
3. An amount of work produced
4. The equipment that is being used
5. Any materials that are being used
6. A measurement of an area

Measuring: Measuring a basic element that is essential to an accurate estimate. There are many devices and methods that can be used to measure a property, including a measuring wheel and range finder. Other ways to measure include a tape measure, counting parking spaces, using satellite images of the lot on the Internet, or pacing the lot. SIMA recommends the use of a measuring wheel or range finder as the most accurate methods for measuring. After measuring, developing a system that allows you to assign a level of difficulty for each property will be a highly useful tool in estimating a bid.

Event History

Event history, in this context, relates to the type, duration, and strength of snow and ice events each year in a region. Snow contractors must manage the risk that comes along with the unpredictability of weather, as it is challenging to predict the amount of winter events a given region will experience each year. A good bidding process should include steps to help manage and minimize the risk a company is financially exposed to during either a very low snowfall winter or a very high snowfall winter.

In order to bring event history into play in your bids, you must once again use averages to help manage risk and create a solid bidding foundation. Here is a simplified example: Let's say that for the past three years the averages have been:

15 events at 2" --- Normal
7 events at 4" – 5" – Medium
3 events at 6" or higher -- Heavy

Once these numbers are reviewed and once production numbers for the company have been established, a contractor can then put them together to determine a more accurate understanding of how many hours or minutes a

season/property will take to plow. For example:

Fifteen normal events x 45 minutes for 30,000 sq. feet (size of property) = 675 minutes to plow this property over a season during 'normal' events. This is based on a 45 – minute production time estimate for a 'normal' property at 30,000 square feet. (This is an example to illustrate the process, and is not based on real-time production).

Repeat for 'medium' and 'heavy' events and then adding the 'normal', 'medium', and 'heavy' event estimates together can yield a good foundation for the amount of time that it will take to clear a property for a season.

The next step is calculating a burden or break-even rate for the site, defined as: The estimated amount of money it will cost a company to do a job over a period of time after taking equipment, labor, materials, the site, the weather history, and overhead into account. Once the burden rate is calculated, it can be used to determine pricing in a number of different pricing structures, but don't forget to add in profit before you present the bid to the customer!

Customers Are Key

The final aspect of bidding in snow and ice, and perhaps the most important, can have a profound effect on the snow and ice business. Forming a consistent bidding process is null and void if the process goes out the window when you are selling a contract to a customer. Understanding your costs, but not analyzing your profit margins by customer, by zone, and over all will not alone grow the company. It's the combination of the first three bidding concepts pulled into the customer framework that allow us to meet the customers' needs, while not overextending and sacrificing service in the process. This includes:

Qualifying the Customer: Before you bid determine whether a customer or potential client is a good fit for your snow removal service. Qualifying them with a series of direct questions, as well as internal questions, will provide the information to help you make the decision whether to bid or not bid on the property. Areas to consider include:

Logistics: Fits with existing routes, size of property, unique challenges and special needs, high priority areas, building hours etc.

Customer Expectations: Desired level of service, past experiences, client communication, contract negotiations (signing their contract or yours?), decision-making process, etc.

Strategy: Support goals of growth vs. just taking on more work; fit your company's niche/target market, etc.

Delivering the Bid: So, you have a price, just email it on over, right? Wrong! There are a number of things you can try and do to ensure that you are at the front of the line when being considered:

- Meet in person with the client to deliver the bid, if possible.
- During the conversation, establish your vision of where you would like the meeting to end.
- Plan the meeting and understand what your strategy is, as well as who will be involved.
- Establish rapport and trust with the client.
- Do your best to show them you understand their special needs.
- Know beforehand what you will agree to and what line you won't cross.
- Ask for the sale!

For more information, contact SIMA at Brian@sima.org or visit www.sima.org

Excerpted from *The Michigan Landscape*, September 2009

GROWING WITH COMPOSTS

Allen V. Baker
Plant and Soil Sciences, UM

Composting is a process for stabilization of organic wastes or by-products, such as farm manures, field crop residues, yard and kitchen wastes, municipal sewage bio-solids, organic urban wastes, and other biodegradable materials. Stabilization converts materials that may be unfit or unsafe for application to land into an end product with many agricultural applications. Without this conversion, these materials might be deposited in landfills or wasted at high environmental and financial costs. Many improvements in the quality of organic matter occur during the conversion or stabilization of the wastes.

For example, many organic contaminants, such as some pesticides in crop residues, are degraded during composting. However, metallic contaminants, glass, and plastic are not degraded and should be separated from feedstock for composting. Carbon-rich materials, such as straw manures, autumn leaves, and wood chips, are rotted during composting to give material that lacks the "nutrient-robbing" potential of the raw matter. Composting diminishes populations of plant and animal pathogens in raw materials, thereby reducing transmission of these diseases to crops, livestock, and humans. Nitrogen-rich materials, such as raw farm manures, although sometimes suitable for direct land application, are improved by composting since the stabilized end product has less potential for stimulating and transmitting diseases to plants, farm animals, or humans than the raw materials. The bulk and offensive odors of raw materials are reduced by composting, making the end product pleasant to handle.

Agricultural use of compost is mainly as an amendment incorporated into land to improve soil structure and to supply plant nutrients. Surface application of compost to land provides a protective covering or mulch. Whether compost has its best use for incorporation into soil or as a mulch depends on its quality. Quality is measured by many factors, among which are maturity and composition.

Only mature composts having a humus-like appearance should be used in agriculture. Fully, mature composts typically have primary nutrient concentrations by dry mass of 1% nitrogen (N), 1% phosphate ($P_2 02$), and 1% potash (K20). This nutrient content is low, and all of the nutrients are not available in a growing season. So, it takes a lot of compost to fertilize a crop--one, two, or more pounds of compost per square foot of land or perhaps a third or half of the volume of a container. Usually, large, soil-incorporated applications of mature compost can be made with little fear of harm to crops. However, to avoid crop damage in container production, only mature composts should be used.

Immature composts prevail among composts used in the springtime after an attempt to produce compost over the winter and early spring, when cool weather slows the processes of composting. Some immature composts are characterized by ammoniacal or foul odors. Immature composts are likely hot (for example, 120° F), even following periods of time favorable for composting. Immature composts made from farm manures or sewages may have relatively high nitrogen contents of 2 or 3% and should be used with caution. The amounts of phosphorus and potassium in immature composts are likely the same as those of mature composts and present no problems relative to deficiencies or excesses of these nutrients.

Immature composts should be allowed to mature on site by allowing a 1-to-3 week waiting period between application and seeding or planting in land or in containers. If immature composts

must be used because of need to proceed with planting, use less of this immature material than mature composts. Leaching is not a solution for curing the problems associated with immature composts. In fact, attempts at leaching worsen the problems by water-logging the media and actually delay amelioration of the immature compost.

All immature composts are not nitrogen-rich. Leaf composts take a long time to mature, perhaps two years. Problems with leaf -based composts are related to their low nitrogen. On land, nitrogen-poor (those with less than 1% total N) composts might be considered for use as mulches rather than as incorporated soil amendments. If these materials are used in containers, they should be considered as sources of organic matter only, and nutrients should be supplied by fertilization with an appropriate water-soluble or slow-release fertilizer. Needs for fertilization will equal or exceed those needed with peat moss as the source of organic matter.

Composts for any use can be purchased commercially. Some of the best ones are made of wood- chips and sewage bio-solids. Composts made from farm manures and crop residues or food-processing by-products are excellent materials. Composts can be made on farms or at home. Almost any farm or household-generated organic wastes can be com- posted, to include spoiled hay or silage, newspapers (avoid wax-coated paper and try to limit paper to 10% of the volume of the pile), grass clippings, yard trimmings, and kitchen garbage.

Everything about composting is not easy. Composting requires hard labor. Large-scale operations require equipment to manage the piles. The piles must be sheltered from view and managed, so that offensive odors are not generated.

Emission of odors from piles is the most common reason for complaints from the public and cease- and-desist orders from governmental agencies. Varmints, including bears, like to raid piles.

To avoid the labor and expenses of conventional composting with piles, growers may consider direct application of some materials to land for sheet composting. Sheet composting restricts losses of nutrients, since the operation occurs directly in the soil. Farm manures and green plant residues are examples of materials suitable for direct application to land, especially for non-food crops. Green manuring is a practice of sheet composting.

Organic nitrogen fertilizers should be considered only as amendments to compost piles to accelerate the rate of rotting. Some organizations recommend composting of cottonseed meals and poultry manures to allow for degradation of perceived pesticide contamination or ammonium. Generally, com-posting of fertilizers is wasteful, because of the loss of nutrients during compo sting.

Many types of bins can be bought or constructed to lessen labor, to protect the pile from wildlife, to hide the piles, and to lessen emission of odors. On the other hand, growers might want to purchase compost, if they use only a few cubic yards of compost annually or do not want to invest time and money into making composts.

Excerpted from *Growline* (publication of Massachusetts Cooperative Extension), September 2009.

COMPOST TEA ANYONE?
PILOT PROJECT USES ORGANIC SLURRY MIX TO REVEGETATE STREAMBANKS
Mark Middendorf

For more than 30 years, the Chesapeake Bay has struggled to maintain its water quality and improve the natural habitat that is home to several types of plant and animal life. While many factors have contributed to the environmental deterioration of the bay, one of the largest problems has come from the heavily polluted water carried by the more than 150 rivers and streams that drain into the bay. Nutrients such as nitrogen and phosphorous, along with an abundance of total suspended solids (TSS), like clay and silt, have harmed plants and animals, and disrupted the entire biology of the aquatic system.

Two Anacostia River tributaries, Glenmont and Northwood, had been selected by the Montgomery County Department of Environmental Protection (DEP) for pilot revegetation projects following initial channel restoration work. This article will address the goals of establishing vegetation and building healthy soil in order to stabilize the banks and reduce the amount of TSS washing off the banks into the water. *(Editor's note: Delaware has similar problems with its waterways and the concepts explained in this article are also applicable to the inland bays.)* Because of the role healthy soil plays in providing stormwater management and effective erosion control protection, establishing it was of high importance to the project. Healthy soils are able to cycle and retain nutrients better, and also support plant health, encourage plant growth and minimize erosion.

Montgomery County DEP was in the process of exploring different approaches for a cost-effective, low impact method to build soils and establish native vegetation on eroding stream banks. In nearby Sunshine, Md., Kevin Richardson and Pogo Sherwood were hard at work conducting research that they hoped would help develop high quality compost better than any Current offering on the market.

Richardson proposed his vegetation application idea of spraying an organic compost slurry mix with native seed onto the banks of the streams to Montgomery County DEP, and it was accepted. He received a great opportunity to apply his years of research and experimentation to the Anacostia tributaries' restoration projects.

"I knew their goal was to revegetate the soil." Said Richardson, "but I also knew that it was about more than just spraying a typical seed and fertilizer mix to get the process going. First, the soil needed to be healthy".

With a degree in Environmental Science, Richardson always knew the benefits compost provided in creating healthy soil. It wasn't until after college when he was working in Alaska that he was introduced to the new concept of compost tea, which is compost that has been turned into a liquid solution so that it can be sprayed.

"I've always known that you don't need chemicals to achieve healthy environments," said Richardson. "I found out that it's the presence of beneficial microorganisms in the compost that really makes it tick".

Following his work in Alaska, Richardson created his own company, Local Solutions, which he positioned as a company providing "green" practices including ecological landscaping, restoration, and sustainable energy systems. His approach to biological answers over chemical answers caught the attention of Sherwood who had his own tree care company and was looking to expand the organic side of

the business.

"I met the Pogo (Sherwood) and he asked me to work with him," said Richardson. "He wanted to get Pogo Organics going and our first mission was to develop a really efficient way to brew and store this compost tea."

The partnership was a success as the men found a way to make the tea into a fine powder, extending its shelf life and making it easier to sell and ship to others. Richardson then began combining various organic materials such as wood mulch, oat flour and enzymatic digested fish, called fish hydrolysate, with the compost tea to create slurry mixes. The next step was to experiment with the hydroseeders and use the machines to apply these organic compost slurry mixes.

Richardson and Sherwood looked to Wolbert & Master, Inc., a local distributor, for help. Ron Ciolfi, a principle at Wolbert & Master, was eager to provide assistance. A distributor of FINN Corporation products since 1968, Wolbert & Master supplies the duo with a T-75 HydroSeeder.

"The hydraulically driven mechanical agitation system allows their hydroseeders to handle a wide variety of slurries. It's a solid design," said Ciolfi. "FINN invented the hydroseeder. They've innovated ever since. So I felt confident the T-75 would work well for the guys and their unique application."

The pair became familiar with the hydroseeder and how it worked, and experimented with spraying their organic compost slurry mixes. "They were looking for a solution to a problem and I had it," said Richardson. "I know how important healthy soil is to establishing vegetation. And healthy soil comes from compost. I felt my organic compost slurry mix would be great for this job."

Montgomery County's stream restoration projects were an ideal proving ground for Richardson's innovative technique. Before any actual hydroseeding took place, Richardson took samples of the soil and sent to some of his former colleagues at a laboratory in Alaska. The professionals at the lab reported back to Richardson on the biology levels of the soil and made recommendations on how he could achieve his desired results. Then Richardson began his work.

"I took the same hydroseeder that Ron (Ciolfi) had sold to Pogo and used it to apply the organic compost slurry mix to the stream banks." said Richardson. "Within two weeks, we began seeing the establishment of vegetation. But more than that, I've studied the effects compost has on soil so I knew the process was also making soil healthy."

The process Richardson used was actually quite simple. He used the hydroseeder and applied the mix like any other hydroseeding application. The difference was, instead of using a typical hydroseeding mix consisting of ordinary seed and fertilizer, he used his organic compost slurry mix in lieu of the standard fertilizer. I used a diagonal installation process. In some places I'd spray a lighter mix, and in other places a heavier mix," said Richardson. "But the mix was getting right into the ground, right onto the soil."

Richardson said the hydroseeders achieved spraying distances of up to 450 feet from the machine using 350 feet of hose, which was important considering the banks were often located in the middle of thick forests.

Another factor that came into play with this project was the environmental responsibility to the area, especially the water. Because the material would be sprayed onto the banks, there

was the chance that some could accidentally get into the water. But Richardson felt his mix, consisting of all organic materials, would pose little threat.

"That was the big thing, the water quality. But we didn't use any chemicals, so if some of the mix accidentally got into the water the stream flow quickly diluted the mixture," said Richardson

While the application did achieve the initial desired result, which was the establishment of vegetation, the process is still considered experimental. "It's in a testing phase at this point," said Craig Carson of Montgomery County DEP. "We did achieve the immediate goal of establishing vegetation, and based on that, we are interested in using the application on future projects."

As for Richardson, his work with the county and Pogo Organics may be complete, hut his mission is far from over. His goal is to raise environmental awareness and show people that something can be done to maintain and improve the environment.

"I want people to know that, yes, it can be done," said Richardson. "With the right equipment and products, we can create real solutions to environmental problems."

For more information, contact Mark Middendorf, FINN Corporation, Phone: (800) 543-7166, or e-mail: mmiddendorf@finncorp.com.

Excerpted from *Land and Water*, July/August 2009.

MAKING WAVES -- RAIN GARDENS FOR THE BAYS CAMPAIGN: LANDSCAPING FOR CLEANER WATER

Laura Whalen
Delaware Estuary Program

In recent months with the troubled economy, it seems like everyone is trying to think "green" and figure out ways to save or reuse resources that were once thrown away. Rain water, or stormwater, is one of those resources that is often thrown away by sending it down storm drains as quickly as possible without utilizing its benefits. Rain gardens are a good way everyone can save some of that stormwater instead of throwing it away, and rain gardens offer an additional benefit by also helping to clean stormwater before it enters our groundwater and waterways.

Stormwater runoff and flooding are top concerns in the Delaware Estuary because of the damage that can occur when large volumes of rainwater rush off rooftops, driveways, streets, and other impervious surfaces, through storm-drain pipes, and directly into our streams, rivers, and boys, causing severe erosion and destroying habitat. This stormwater also carries many pollutants into streams, which are picked up from impervious surfaces. Rain gardens provide on easy, low-cost way to manage some of these issues in our own backyards while also improving water quality in the Delaware Estuary

What is a rain garden and how can it help our bays?

According to the Low Impact Development Center, a leading organization in land planning and water quality research, a rain garden is "a garden which takes advantage of rainfall and stormwater runoff in its design and plant selection." Usually it is a small garden that is designed to withstand the

extremes of moisture and concentrations of nutrients, particularly the nitrogen and phosphorus that are found in polluted runoff.

Rain gardens are ideally located close to the source of runoff, such as a downspout or connected to a rain barrel, and serve to slow the stormwater as it travels downhill. This gives the stormwater more time to infiltrate and less opportunity to gain momentum and erosive power. The Low Impact Development Center is a great resource for learning more about rain gardens, including various designs, what plants to use, and the best location in your yard. Check out their website for more information at www.LowlmpactDevelopment. org/RainGarden_Design. The Low Impact Development Center will also be hosting a new website for the Rain Gardens for the Bays Campaign.

The U.S. Environmental Protection Agency's (EPA) Region 3 office is promoting the Rain Gardens for the Bays Campaign through its three Notional Estuary Programs in the region: the Center for Inland Bays, the Maryland Coastal Bays Program, and the Partnership for the Delaware Estuary. The idea came from the 10,000 Rain Gardens Campaign in Kansas City, which was an initiative to establish the Kansas City area as a leader in water quality protection. The Rain Gardens for the Bays Campaign has goals similar to the Kansas City campaign: to educate the public about rain gardens and other stormwater solutions and to improve water quality in the Delaware Estuary, Delaware Inland Bays, and Maryland Coastal Bays.

Other partners involved in the Rain Gardens for the Boys Campaign include the:

- **Delaware Nature Society**
- **Delaware Department of Natural Resources and Environmental Control's Watershed Assessment Division**
- **Sussex County Conservation District**
- **University of Delaware Cooperative Extension**
- **University of Delaware Sea Grant Program**

In May, the Center for the Inland Bays launched their part of the campaign, called "1,000 Rain Gardens for the Inland Bays," with several workshops on rain gardens and native plants. The Partnership for the Delaware Estuary's campaign will also kick off this year with a rain garden installation at a high school in the Estuary. The remainder of the campaign is currently being finalized with the EPA and other partners, so please stay tuned for more details.

For information about the Rain Gardens for the Bays Campaign, or to become a partner, please contact Laura Whalen at (800J 445-4935, extension 107, or LWhalen@ DelawareEstuary.org.

Excerpted from *Estuary News*, Summer 2009, Vol. 19, Issue 3.

BUTLER UNIVERSITY BIO-RETENTION BASIN SOLVES WATER VOLUME ISSUES

Kevin Tugesvick, Spence Restoration Nursery

Infiltration Best Management Practices (BMPs) are increasingly seen as a solution to our overtaxed storm sewer infrastructure and for improved water quality. This is especially important in major cities where old combined sewer systems overflow during most rain events, resulting in raw sewage flowing into rivers and streams (like Wilmington!). The BMPs may be vegetated with dense stands of native plants that filter the runoff, improve infiltration, and provide habitat. Applications of these practices may range from rain gardens added to older suburban neighborhoods to larger scale bio-retention basins added to new or renovated developments. The latter was the case at Butler University located on the north side of Indianapolis.

In conjunction with the renovation of the north portion of campus, two bio-retention basins were constructed at Butler University. Schneider Corporation and RATIO Architects designed the basins, which are connected with a pipe that equalizes the water level.

These basins, with their adjacent forebay, provide the required BMP treatment of the storm water. Their location on a high terrace above the White River floodplain allows them to take advantage of the layer of sandy alluvial material to infiltrate storm water runoff. This was critical since the overloaded combined sewer system could not handle the additional volume as it was functioning at maximum capacity. In fact, this sewer had a history of surcharging, resulting in basement flooding in nearby homes.

The new bio-retention basins resulted in the storm water from the project area being totally removed from the combined sewer, alleviating the flooding and combined sewer overflows. The project area consists of approximately 25 acres consisting of a mix of parking lots, athletic fields, lawns and buildings.

The basins were constructed in 2006. The basins were initially retaining about 2 feet of water through all but the driest weather. This problem was traced to excessive construction sediment that impeded infiltration and clay that had been inadvertently mixed into the basin floor soil. Corrective measures included re-excavating the basin bottoms and placing a layer of open graded stone under a layer of engineered soil mix to improve infiltration into the sandy alluvium below.

Ratio Architects developed a planting plan utilizing a wide variety of native wetland and prairie plugs. The planting plan was devised to utilize dry mesic prairie plants on the upper slopes of the basin, wet mesic prairie species on the lower slopes and sedge meadow species that tolerate drying the bottom of the basin. The upper slopes are always well drained and will only be impacted by storm water in rare extreme events. The lower slopes will be briefly inundated during most rain events. The bottom of the basin will be inundated during every significant rain event and may stay wet for weeks at a time during periods of above normal rainfall. The plant species utilized in these 3 planting zones are listed at the end of the article.

The setting of these basins at a university also allows for their use as an educational tool. Therefore, a highly diverse community was planned with 57 species of native plants included in the planting plan. The plants included two to three species in each area with at least one graminoid in each area for stabilization and erosion control. The slopes had already been seeded to a temporary grass mix which was

killed with a glyphosate herbicide, leaving dead The great diversity of plant material utilized in this project provides excellent education opportunities for Butler University. The opportunity exists to study the plants themselves, their pollinators, songbirds attracted to the habitat and seeds, and the developing rhizosphere. In fact, due to the presence of milkweeds and numerous other nectar procuring species, the basins have been registered as an official Monarch way station by Monarch Watch. Further educational opportunities will involve the management of storm water, including infiltration rates, filtration by the plant community, and analysis of the changes in these variables over time. Signage is planned to interpret the function of the basins to the local community.

Infiltration BMP's offer a great opportunity to reduce the amount of storm water leaving our suburban developments. By capturing and infiltrating storm water, they prevent pollutants in the runoff from entering the storm water system. Further, they can greatly reduce the combined sewer overflows that typically occur in our older neighborhoods, and most importantly, reduce flooding.

Bottom of Basin (tolerant of alternating wetting & drying)
Ascelpias incarnata (Marsh Milkweed)
Calamagrositis candensis (Blue-joint Grass)
Carex frankii (Frank's Sedge)
Carex emoryi (Riverbank Tussock Sedge)
Carex vulpinoiden (Fox Sedge)
Hibiscus palustris (Swamp Rose Mallow)
Iris virginica shrevei (Blue Flag)
Scripus cyperinus (Woolgrass)
Scirpus pendulus (Reddish Bulrush)
Spartina pectinata (Prairie Cordgrass)

Lower Slopes (wet mesic)
Andropogon gerardi (Big Bluestem)
sod that provided natural erosion control.
Aster novae-angliae (New England Aster)
Carex annectans xanthocarpa (Yellow Fox Sedge
Carex normalis (Spreding Oval Sedge)
Carex vulpinoidea (Fox Sedge)
Cassia hebecarpa (Wild Senna)
Chelone oblique (Pink Turtlehead)
Elymus virginicus (Virginia Wild Rye
Helenium autumnale (Autumn Sneezeweed)
Lobelia cardinalis (Cardinal Flower)
Lobelia siphilitica (Great Blue Lobelia
Minulus ringens (Monkeyflower)
Panicum virgatum (Switchgrass)
Penstemon digitalis (Foxglove Beardtongue)
Physostegia virginiana (Obedient Plant)
Rudbeckia subtomentosa (Sweet Black-Eyed Susan)
Senecio aureus (Golden Ragwort)
Silphium integrifolium (Rosinweed)
Silphium terebinthinaceum (Prairie Dock)
Solidago riddellii (Riddell's Goldenrod)
Solidago rugosa (Wrinkled Goldenrod)
Vernonia faciculata (Smooth Ironweed)
Zizia aurea (Golden Alexander)

Upper Slopes (dry mesic)

Allium cernuum (Nodding Wild Onion)
Asclepias tuberosa (Butterfly Weed)
Aster azureus (Sky Blue Aster)
Aster ericoides (Heath Aster)
Aster laevis (Smooth Aster)
Aster novae-angliae (New England Aster)
Bouteloua curtipendula (Side-Oats Grama)
Carex muhlenbergii (Sand Bracted Sedge)
Coreopsis palmata (Plains Coreopsis)
Echinacea purpurea (Purple Coneflower)
Eryngium yuccifolium (Rattlesnake Master)
Helianthus occidentalis (Western Sunflower)
Heliopsis helianthoides (False Sunflower)
Liatris aspera (Rough Blazing Star)
Liatris scariosa var *nieuwlandii* (Savanna Blazing Star)
Monarda fistulosa (Bergamot)

Panicum virgatum (Switchgrass)
Petalostemum purpureum (Purple Prairie Clover)
Pycnanthemium tenuifolium (Narrowleaf Mountain Mint)
Pycnanthemun virginianum (Mountain Mint)
Ratibida pinnata (Yellow Conflower)
Rudbeckia subtomentosa (Sweet-Black-Eyed Susan)
Schizachyrium scoparium (Little Bluestem)
Silene regia (Royal Catchfly)
Solidago nemoralis (Gray Goldenrod)
Sorghastrum nutans (Indian Grass)
Sporobolus heterolepis (Prairie Dropseed)
Zizia aurea (Golden Alexanders)

Editor's note: While this plant list if for Indianapolis, many of these plants would also be appropriate for a bioretention site in Delaware.

Excerpted from *Land and Water*, July/August 2009.

LOOKING TO CHANGE WHO HOSTS YOUR WEBSITE?

John Forsberg
Integration/Forsberg Multimedia

Whether you are building a new website or moving an existing one, changing hosting providers can be challenging, both technically and logistically. Over the years, I have seen the process go with flawless ease and I have witnessed the occasional migration nightmare. As with most things, preplanning is the key to success. Here are some things to look out for and address before moving your website to a new hosting provider.

Before all else: Get a backup of your site
A few years back, a company wished to change hosting providers. Being nice, the company notified the existing hosting provider, giving them a heads up of the change that would take place in six months. The result: The existing hosting company immediately removed the company's website from its server ... and deleted it! Neither the provider (nor the company) had a backup, so the entire website was lost.

Always get a complete copy of the existing website yourself, including text, graphics, documents and data, before contacting the existing hosting provider and notifying them of your intention to move. Ninety-nine percent of the time, the existing provider will be helpful and accommodating; however, it's always best to plan for the worst-case scenario.

If you do not have FTP access to your website and simply want to "grab" a copy of it for a backup, go to www.httrack.com. The site offers a free downloadable tool where you enter the website address (www.mycompany.com) and the software automatically grabs everything that is publicly available within the website including text and photos. It's the equivalent of going to each page of your website and saving it

to your local workstation. It's not the ideal solution as it does not capture secured data, but in a pinch it could save you from a disaster like the one described earlier.

Who controls your domain?

From my experience, one of the most common challenges of moving websites from one provider to another is transferring the domain. The domain is your address (company.com) to your website. When moving your website, it is necessary to modify the domain, pointing the website to the new hosting provider and server. Here's a typical scenario when modifying the domain:

1. The new hosting provider sends a request to the domain registration company, asking to move the website.
2. The domain registration company then sends an e-mail to the primary contacts of the domain (registrant, technical, administrative, billing), asking for their authorization to make the change.
3. The contact responds "yes" via e-mail, and the domain is transferred, usually taking 24 to 48 hours for the rest of the Internet to acquire the update.

Your company should be one of the primary contacts listed in #2 above. Ideally, you should be the registrant, the administrative and, possibly, the billing contacts. If you are not, the modification process can be time consuming in order to prove you are the true owner of the domain. In some cases, I've seen domain registration companies require a digital photo of your driver's license be sent to them. With identify theft on the rise, sending that kind of information is not something I'd prefer to do.

Your hosting company should work with you to ensure that the domain contact information is correct and under your name. Lastly, I recommend that the e-mail accounts listed for the contacts are generic (info@company.com), rather than an employee's e-mail. That way, if an employee leaves the company and the e-mail is discontinued, it won't cause problems with the domain in the future.

Some other things to consider when moving your website:

Do you own the code to your' website?

In most cases, website developers provide their clients with the source code, but there are instances where the code may be proprietary, This could complicate the process and should be addressed well before a hosting transfer gets under way.

Are the servers compatible?

If you are moving your existing website, make sure the new hosting provider can accommodate the programming language and databases used in your website.

It may all sound complex, but in most cases the process of changing hosting providers is quite simple and painless. Taking the time to preplan the movement of your website can save a great deal of time and cost, not to mention aggravation. Knowing the pitfalls to avoid is key, as well as working closely with your hosting providers (both new and old) to help you along the way. ~

This article was previously published in the February 2007 issue of The Greater Lansing Business Monthly (www.lansingbuJinessmonthly.com).

Excerpted from *The Michigan Landscape*, July 2009.

THE GARDEN OF HEALING AND RENEWAL: A PUBLIC HEALING GARDEN

Jeffrey T. Smith, ASLA, LEED A.P.
Professional Engineering Associates

The concept of providing healing gardens is growing among healthcare providers, but they are still rare and are often not welcoming to the public because they are typically small spaces associated with private healthcare facilities. The Garden of Healing and Renewal at the McLaren Health Care Village in Michigan changes that trend. It is easily accessible, welcoming to the community, and designed as a healing resource for a broad user group. Over the last decade many health care facilities have incorporated healing gardens, but it is extremely rare for them to be accessible to the public," says Naomi Sachs, the Executive Director of the Therapeutic Landscapes Resource Center. "Many healing gardens are developed at existing healthcare facilities in urban areas where available space for new gardens is often limited. As a result, healing gardens arc often planned for less than ideal locations. A more ideal approach to creating a healing garden is to incorporate an area into a site plan from the very beginning of a development, so the space can have greater visibility and accessibility," says Sachs

The landscape architects at Professional Engineering Associates (PEA), a multidisciplinary firm based in Troy and Howell, Michigan, began working with the McLaren Health Care Corporation in 2005 to develop a unique plan for a public healing garden. A four-acre site was chosen after an in-depth analysis. The garden was one of the first aspects of the campus to be designed. The designers chose an area of the campus that was inherently public and not directly attached to any building. The site contained a significant amount of existing natural features that could be incorporated into the gardens. Construction began on the project in 2007 and The Garden of Healing and Renewal was completed in Spring of 2009 as part of Phase I of the campus, which also consists of the Great Lakes Cancer Center and the Clarkston Medical Group building. Up to a dozen medical buildings, including a hospital, are planned for the campus.

While the location of the McLaren Healing Garden is essential to its success as a public space, the value of the design details that provide the healing resources should not be overlooked. The site chosen for the healing garden was meticulously designed to address the therapeutic program for the project. For the more developed areas of the Gardens, bold abstract design statements, and complex geometric patterns were avoided in favor of a balanced, harmonized, functional design that uses traditional materials such as wood and stone to create a sense of familiarity, comfort and peacefulness. Design elements were first designed to serve their healing function, but also provide a high level of aesthetic beauty to please visitors.

The design for the gardens was based on input for the healthcare provider and key community members, along with extensive research. The primary challenge was to develop a program that satisfied the needs of a group as broad as the community at large, while still addressing the needs of patients from the cancer center, heart center, and hospital. Stress ailment that all potential users would likely have in common. Stress is commonly caused by lack of exercise of control, isolation, lack of social support, or lack of access to nature or other positive distractions. The final design program was to provide coping and restoring mechanisms that address each of the common causes of stress. A list of criteria was established for each of the four main stress causes, and then the garden was designed to provide the desired resources.

Criteria for Coping and Restoring Resources for Stress Reduction

Sense of control

- Make space easily accessible and provide awareness of the space to users such as prominent signage
- Allow many options as to how the space can be used (passive or active)
- Provide a wide variety of seating
- Provide access to privacy
- Provide a sense of "being away"
- Provide a sense of security

Physical movement or exercise

- Provide a space that offers exercise opportunities
- Create destinations or attractions that encourage physical movement

Social support

- Allow space for gathering of small groups
- Create "outdoor rooms" that offer a sense of privacy for conversation
- Provide a wide variety of seating options that allow for social interaction

Access to nature and other positive distractions

- Create views dominated by natural features such as trees, flowers, water, etc.
- Provide natural sounds such as water movement, birds, etc.
- Provide some spatial openness
- Avoid negative distractions such as views of cars, traffic sounds, sunlight glare, etc.

The garden is designed as a series of outdoor spaces, each of which provides one or more of the specific coping and restoring resources noted earlier. The various spaces are all located within a four-acre area that is enclosed by a combination of garden walls, evergreen trees, or fences that provide a security for the gardens. The main entrance, prominently located just inside the primary campus entrance, is highly visible and welcoming to all. Stone walls combined with lush vegetation at the entrance create a private space in this otherwise very public area of the site. Wide pathways within the garden circulate throughout the site and connect to the adjacent Great Lakes Cancer Center. The pathways create a series of loops of varying distances to offer exercise or physical therapy goals for those of differing abilities. The pathways create a series of loops of varying distances to offer exercise or physical therapy goals for those of differing abilities. The pathways have gentle slopes and are wide to comfortably accommodate small group or multiple passing wheelchairs. A variety of pavement colors and textures with low reflectivity were used, such as colored concrete to create visual comfort for patients who may be sensitive to light exposure.

The garden offers a wide variety of seating options, from custom carved wood benches, to contemporary decorative metal benches and traditional. Adirondack chairs geared toward more able bodied users. The majority of the benches are from the Wellspring Series by Landscape Forms, which are specifically designed for an elderly population. Dozens of benches are provided along curved pathways to offer a variety of sun exposure options for users throughout the day. The nearly thirty benches around the garden give users a sense of control as to how they want to use the site. The seating arrangements offer both opportunities for privacy and for socializing, and even small group meetings.

A fountain wall with local artisan tiles made by Motowi Tileworks, ornate bronze suppers, and falling water offers a positive distraction for users and masks the noise of the bustling

community that surrounds the gardens. This area of the site was designed to give people the sense of "being away". An intimate sitting area with rocking benches mirrors the fountain's form and creates a relaxing setting that earns high praise from users. When sitting in the fountain plaza, it's easy to forget about the busy world outside of the gardens.

Another sitting area with a custom curved wood bench offers opportunities for people to socialize or just relax and look onto the stunning gardens. The curve of the bench creates a natural seating orientation for conservation. A sculptural red bowl fountain in this area provides a soothing rhythm of falling water that helps people relax.

A social space offers seating for up to twenty people at moveable tables and chairs, so small groups can gather or individuals can visit or eat meals outside. A quiet area for contemplation, in contrast to the social space, offers just two benches arranged for intimate conversation in a peaceful area of the site. The contemplation area is bathed in cool green colors of woodland plants, but accented by bright red benches and contrasting boulders and stones to add interest and draw people into the space. Large wind chimes hang from trees in the contemplation area and elsewhere throughout the site to provide gentle background music.

The primary attraction and amenity of the site is the sensory garden, which provides thousands of ornamental plants of hundreds of different species clustered in complementary arrangements that harmonize color, texture, and form throughout the four seasons. The garden contains not only a diverse palette of perennials and shrubs, but over a dozen different specimen trees such as fernleaf beech, yellowwood, katsura tree, lacebark pine, Persian parrotia, and paperbark maple. Sculptures also accentuate the gardens. Nearly a dozen sculptures can currently be found in the garden and more installations are planned for the near future. The sheer beauty of the colorful arrangements of plants immediately captivates users upon entering the site.

The garden itself is nearly four acres in size, which is among the largest therapeutic garden in the nation according to the Therapeutic Landscape Database. This large site provides several highly effective stress reduction mechanisms, such as exercise and access to nature. The resources include one half mile of pathways, a portion of that is quarter mile paved trail that loops through beautiful woods surrounding a wetland. The landscape architects designed the walking paths by visiting the site in all four seasons to determine the most seasonally attractive areas. The pathway was then located to move visitors past landmark trees, beautiful wetlands, seasonal ponds and streams, and patches of native wildflowers. Four boardwalks were designed to cross the wetland or span the small creeks to minimize impacts to the wetland, while allowing users access to natural to natural areas of the site. Further interest was added to the natural areas through the addition of whimsical sculptures along the pathways to lift the spirits of visitors.

"One initial observation we had of the garden's use was that visitors often headed straight for the walking trail, instead of the more intricately designed garden space," observed Lauren Williams, design team member from PEA, Inc. "We attribute this not only to the desire for exercise, but also people's desire to temporarily escape from their daily lives. The tranquil setting of woods and wetlands at the rear of the garden offers a stark contrast from the surrounding developments. The garden serves as an oasis within the busy community," says Williams. On a daily basis, medical staff from the nearby healthcare facilities can be seen exercising on the pathways or relaxing in the

gardens during their break or lunch time.

A labyrinth is one of the more unique and complex design elements on the site. The labyrinth provides a resource for meditative exercise, which has many known therapeutic benefits, including stress reduction. A labyrinth is an ancient circular pattern used for walking meditation. This labyrinth is unique to this project. It was designed in collaboration with Geomancy consultant Paula Peace from Peacescapes. The spiritual geometry is based on the precise longitude and latitude of the site. The center of the labyrinth is located at vortex as determined by the ancient process of dowsing. Four custom stone engravings anchor the corners of a square that enclose the circular labyrinth. Four white birch trees form an alternate square around the circle and make the cardinal directions. The entrance to the labyrinth walkway faces directly west per tradition. Every dimension of the labyrinth was customized to fit the harmonics of the site. The labyrinth also offers a surprise element. If you stand precisely at the center of the labyrinth and talk, your voice will sound contorted. This amuses many visitors.

The Garden of Healing and Renewal was formally opened to the public in May of 2009, and seeing frequent use by both local residents and regional users who visit the healthcare village. The site has already been featured on garden tours and hundreds of visitors have come out to see this unique public amenity. The campus surrounding the healing garden may ultimately welcome over three thousand employees, plus thousands of patients and visitors each day, all of whom will have the option of using the gardens. Community members are making visits to the garden part of their daily or weekly routine, and it is having a positive impact on their quality of life.

Excerpted from *The Michigan Landscape*, September 2009.

VEGETABLE GARDENING STILL TOPS MOST CONSUMER GARDENING LISTS

Incidence of Gardens and Lawns

- The majority of American households have some type of lawn or garden (77% in the latest wave).
- Please note that from this point forward the terms "household" or "Americans" refers to households with a lawn or garden.

Planned Lawn Activities

- Weed control (53%) continues to be the number one activity Americans are planning for their lawns this year, while insect control (33%) and over- seeding with new seed (20%) capture second and third place, respectively.
- Just over one third (34%) say they have no activities planned for their gardens.

Reasons to Garden

- Over one third of Americans (35%) say that their primary reason for gardening is better mental health, nutrition or fitness.
- Nearly a quarter (23%) say they garden because they want to increase curb appeal and property value, while one out of four (25%) garden so that they can create a better home environment.
- Fifteen percent (15%) garden for other, unstated, reasons.

Garden Property Additions

- The number of gardeners that plan on adding vegetables to their garden increased by 12 percentage points in the past year, while the number of gardeners that plan on adding more perennials to their property during the spring or summer season has been increasing year-by-year.
- The number of gardeners that plan on adding more perennials to their property during this year's spring or summer season jumped from 34% in 2006 to 42% this year. This year, a large portion of Americans are planning on adding vegetable gardens (44%) and more annuals (34%), while about one in five (19%) plan on adding herb gardens and one in ten plan on adding foundation plantings (11 %).

Reading Blogs

- Blogs have a strong following among gardeners, with about a third (33%) saying that they read blogs in general.
- Of that third, more than a quarter (29%) say that they read garden- related blogs either frequently (6%) or occasionally (23%). Over half (62%) do not read blogs because they are not interested, while one in ten (10%) do not because they do not know about them.

Garden Area Preparation

- Work-in manure or compost (37%) is the number one activity gardeners are planning to do in order to prepare their garden areas during this year's spring and summer plantings, al- though fertilizing isn't too far behind (36%). One third (33%) are planning on buying soil mix from a store, while 14% are planning to work-in peat moss.
- Fourteen percent (14%) aren't planning on doing anything at all.

Excerpted from *VNLA Newsletter*, May.June 2009.

IS YOUR COMPANY A DESTINATION COMPANY
Jeffrey Scott

You might think in these bad economic times, that recruiting good employees is easy. To quote songwriter George Gershwin: It ain't necessarily so. The issue of becoming a destination company was raised recently at a two-day intensive "Leaders Edge" peer group retreat. In this meeting the question was raised: "How do I attract a good right-hand man/woman, or a good department manager, or a good field manager, (or good people in general), so that I can worry less about the work, and spend more time with my clients and/or in the community growing the company?" The answers to this question ranged from the obvious to the very surprising.

On the obvious side, the answers were based on the following straightforward questions: Does your company "look" like a destination company? Does it dress professional? Does it have up-to-date equipment? Does it work on job sites that reflect a high standard? Do you have job descriptions and processes that explain the job clearly and how to do the work?

On the less obvious side, as we explored the question, we dug deep and found more profound questions that we had to answer, such as: Are you a "destination company leader"? Do you think of yourself as a professional? Do you have an up-to-date vision and direction for your company's growth? Do you reflect and demand high standards- of yourself, your people and in your work? Do you see yourself succeeding and creating room for others in that success? Do you have the self image of a "destination company leader"?

On the surprising side, as we dug even deeper, an even more profound question was raised: Do you have a "destination company leader PSYCHE"?

Destination company leader psyches are created in part by what you do outside of your work. Who do you hang out with outside of work? Who are your friends? Who do you rub shoulders with? Who do you rub shoulders with? Do you get mentoring or coaching or advice from other "destination" leaders? Are you hanging out with people that are pulling you down - or that are urging you to stretch and grow?

To summarize: to attract the best talent, you must become a destination company. And, to create a destination company, you must have a clear and compelling vision, high standards and you must constantly raise your standards. You raise your standards by rubbing elbows with others who have high standards and the desire to achieve high standards. As the famous quote says (I paraphrase): Your success in 10 years will become the product of what you read today and who you count as your friends and mentors today. And, at The Leaders Edge peer group retreat, we added to this: Your success will be the result of your vision - for your company and yourself.

A Quick Test

Walk your hallways and your job sites and look at your firm as a prospective employee might - does it attract the high achiever within you? Review your standards - do they raise the bar for what is acceptable in your industry niche? Consider who you surround yourself with- are these people demanding the most out of you? To learn more about how to take the first steps to becoming a "destination leader", email JeffWlJeffreyScott.biz

Excerpted from The Michigan Landscape, August 2009.

CATNIP CURBS ASIAN LADY BEETLES
Jan Suszkiw, ARS, USDA

Multicolored Asian lady beetles are appreciated by farmers and home gardeners alike – until the pest eating insects decide to spend the winter indoors. The beetle, *Harmonia axyridis,* becomes a nuisance insect upon entering homes to escape the cold, sometimes in huge numbers. When threatened, it releases a yellow liquid that, while nontoxic, smells foul and produces stains. Agricultural Research Service (ARS) scientists have sought to develop beetle-friendly methods of keeping the helpful predators outside. Most recently, ARS entomologist Eric Riddick and colleagues in Stoneville, Miss., in collaboration with ARS natural product chemist Kamal Chauhan, tested compounds in catnip oil that naturally repel the beetles, causing them to fly off, stop crawling, move back or turn away.

In studies, 95 percent of adult male and female lady beetles altered their course upon encountering filter paper impregnated with the highest of three doses of the catnip compound nepetalactone . The researchers chose nepetalactone because it had previously been shown to repel some species of cockroaches, flies, termites and mosquitoes. They also tested nootkatone (a grape fruit extract), iridomyrmecin (another catnip oil compound), but none performed as well as nepetalactone.

Such observations could lead to a "push-pull strategy," combining repellents that deter lady beetles from entering a home's cracks and crevices with traps that lure the predators to an attractant for collection and release elsewhere--a friendlier alternative to insecticide spraying and preserves the insects' usefulness as efficient predators of aphids, scale and other soft-bodied arthropods that damage plants.

Excerpted from *VNLA Newsletter,* May/June 2009.

Research Briefs

Propagation

Cutting back stock plants promotes rooting of swamp white oak and bur oak. Poor adventitious rooting continues to limit selection of superior woody species and propagation of cuttings. Rooting potential of layered stems and softwood cuttings of both oaks increased with the severity of stock plant cutback. Overall, the highest rooting and greatest number of roots occurred in etiolated layers and cuttings from the 4 c cutback group. Rooting generally increased with increasing extent of stock plant cutback. (J.N. Amissah and N. Bassuk)

Excerpted from J. Environ. Hort. *27(3):159-165. September 2009.*

NAA recommended for rooting stem cuttings of *Nyssa.* To improve asexual propagation of Nyssa to allow for multiplication of superior genotypes and increased use in the horticultural industry, cuttings were treated with auxin formulations. Recommendations from this research suggest treating juvenile softwood cuttings of *N. aquatica* and *N. ogogeche* with NAA in liquid at 1500 to 3000 ppm. Using these methods, genotypes that show desirable traits at the juvenile stage could be propagated asexually, but future research is needed to define protocols for propagating selections that are identified when plants are mature. (N.Z. Boyer and W.R. Graves)

Excerpted from J. Environ. Hort. *27(3):183-187. September 2009.*

Container Production

Scheduling irrigation of container grown woody ornamentals based on daily water use (DWU). Conserving water and reducing the

environmental impact of runoff are two important issues presently confronting container nurseries. Applying irrigation based on plant demand or daily water use (combined loss of water from plant transpiration and substrate irrigation—as measured by soil moisture sensors) is key concept in water conserving irrigation scheduling. The goal of water-conserving irrigation scheduling is to base irrigation applications on plant demand and to group plants with similar water uses together. Scheduling irrigation according to plant DWU substantially reduced the amount of irrigation applied compared with a control for 23 of the 24 species of container-grown ornamentals evaluated in this experiment while producing larger or the same sized plants for all species. The decision on which DWU treatment should be used to schedule irrigation depends on a number of factors. The ideal irrigation regimen should provide the most economical balance between crop returns and water management concerns, which ultimately will vary with crop, water availability, regulations, and location. The cost of water, type of irrigation system and programming capabilities will affect choices as well. For example, a nursery near a large urban area in a state with regulated water use and runoff may elect to irrigate at a slight deficit, using the 100-75 or 100-75-75 irrigation schedules to minimize water extraction and runoff. (A.L. Warsaw, R. T. Fernandez, B.M. Cregg and J.A. Anderson)

Excerpted from HortScience *44(5):1308-1318. August 2009.*

Greenhouse Production

Growth regulators promote shoot development and flowering of 'Moonbeam' coreopsis. To produce saleable plants of 'Moonbeam' coreopsis for the peak spring market requires propagation from cuttings or division. Tip cuttings are harvested from stock plants from fall through spring or any time flowers are not present. Following rooting and repotting, vegetative plants are pruned multiple times to increase potential flowering shoots and promote compactness and fullness. Results indicated that a foliar spray or substrate drench of 250 to 500 ppm BA applied to dormant or actively growing vegetative plants effectively promoted vegetative and reproduction short formation and flower bud production with minimal delay in flowering and only transient foliar chlorosis. Cyclanilide treatments resulted in a more horizontal growth habit that was aesthetically unacceptable. (M.E. Farris, G.J. Kessler and J.W. Olive)

Excerpted from J. Environ. Hort. *27(3):176-182. September 2009.*

PGRs reduce height of ornamental sedges and grasses. Uniconazole was effective in controlling the height of the sedges (leatherleaf sedge, 'Frosted Curls' sedge and 'Toffee Twist' sedge) at 8 weeks after initial treatment (WAIT). Overall, TE (trinexapac-ethyl) was the most effective PGR for controlling the height of the grasses tested ('Gracillimus' miscanthus, 'Rosea' pampas grass and pink muhly grass). BA (benzyladenine) produced low and inconsistent results so it is not recommended for height suppression of these grasses and sedges. (S.R. Padhye and J.K. Groninger)

Excerpted from HortTechnology *19(4):737-742. October-December 2009.*

Growth and flowering of mixed containers in a reduced water regime. Changes in climate and increased demand for water resources are likely to result in increased pressure to reduce water use in ornamental horticulture. Rather than eliminating bedding plant displays outright, however, the data from this research indicate that acceptable bedding displays can be achieved even when water consumption is

reduced by 67% below minimum. In petunia, reductions for flower number, height, and flower size were 55%, 33% and 13%, respectively. But visually, there was little loss of ornamental properties under the lower irrigation regime; the plants appeared compact and retained relatively good flower cover in proportion to their biomass. But reduced irrigation of impatiens resulted in lower plant quality. For impatiens to have acceptable quality in a mixed container with petunia, near-optimal irrigation is required. (T. Blanusa and E. Vysini and R.W.F. Cameron)

Excerpted from HortScience *44(5):1304-1307. August 2009.*

Factors affecting grower's willingness to adopt sustainable floriculture practices. Growers view sustainability as important to the environment and these positive attitudes greatly improve adoption rates of sustainable practices. Yet positive attitudes alone were unable to predict a grower's behavior toward sustainability. Growers' concern about the ease of implementation was the most significant factor affecting the adoption of sustainable practices followed by the production risk perceived by growers. Environmental regulations and customer value are insignificant factors on the adoption of sustainable practices. (T.J. Hall, J.H. Dennis, R.G. Lopez, M.I Marshall.)

Excerpted from HortScience *44(5):1346-1351. August 2009.*

Parboiled rice hulls in growing media does not attract fungus gnats. Parboiled rice hulls (PRH) are a type of fresh rice hull derived specifically from parboiled rice that are obtained during a steaming process. They are alternative to perlite and can be incorporated into growing media to improve drainage and air-filled pore space. Various media components may or may not attract fungus gnats. The data from this study indicate that PBH, when incorporate in growing media, do not attract fungus gnat adults, and as such, greenhouse producers can use PBH as an amendment without concern about the prospect of luring fungus gnat adults and sustaining plant damage. (R.A. Cloyd, K.A. Marley, R.A. Larson and B. Arieli)

Excerpted from HortScience *44(5):1366-1369. August 2009.*

Screening indoor plants for volatile organic pollutant removal efficiency. Twenty-eight ornamental species commonly used for interior plantscapes were screened for their ability to remove five volatile indoor pollutants: aromatic hydrocarbons (benzene and toluene), aliphatic hydrocarbon (octane), halogenated hydrocarbon, and terpene. Of the 28 species tested, *Hemigraphis alternata, Hedera helix, Hoya carnosa,* and *Asparagus densiflorus* had the highest removal efficiencies for all pollutants; *Tradescantia pallida* displayed superior removal efficiency for four of the five VOCs (i.e., benzene, toluene, TCE, and terpene). *Fittonia argyroneura* effectively removed benzene, toluene, and TCE. *Figus benjamina* effectively removed octane and terpene, whereas *Polyscias fruitcosa* effectively removed octane. The variation in removal efficiency among species indicates that for maximum improvement of indoor air quality, multiple species are needed. The number and type of plants should be tailored to the type of VOC's present and their rates of emanation at each specific indoor location. (D.S. Yang, S.V. Pennisi, K.C. Son and S.J. Kays)

Excerpted from HortScience *44(5):1377-1381. August 2009.*

Field production

Above ground fabric containers provide an alternative to plastic containers for tree

production. Live oak, red maple, sweet gum and golden rain tree were grown in both plastic containers and above ground fabric containers. No differences were observed in average daily substrate temperature between container types. Few differences in height, canopy width, or trunk caliper occurred between container types for any of the species tested. Less root circling was observed in sweet gum and red maple trees in fabric containers compared to those in plastic containers. (P.K. Tauer and J.C. Cole)

Excerpted from J. Environ. Hort. *27(3):145-148. September 2009.*

Landscape

In vitro screening of fungicides to control artillery fungus. Mushroom compost when blended into landscape mulch at ≥40% by volume suppresses sporulation of artillery fungus. 26 fungicides were screened in petri dishes to evaluate their potential for suppressing sporulation. Endorse 2.5WP and Heritage 50WG were the most effective followed by Insignia 20 WG, Bayleton 50DF, Lynx 45WP, Banner MAXX 1.24 ME, Clearys 336 50WP, Chipco Triton 1.67SC, Spotrete 4L and Medallion 50 WP. These fungicides need to be evaluated in field tests before control of artillery fungi in landscape mulch can be added to the product label. (M.A. Fidanza, D.D. Davis)

Excerpted from J. Environ. Hort. *27(3):155-158. September 2009.*

Weed control and organic mulches affect physiology and growth of landscape shrubs. There was no difference in soil pH or foliar nitrogen among treatments. All mulches, except cypress mulch increased plant growth of most shrub taxa compared with no mulch without weed control. Overall, the results suggest that except for cypress mulch the other organic mulches tested (pine bark, hardwood fines, color-enhanced ground pallets) are equally effective in improving growth of landscape plants. Reduced photosynthetic efficiency and growth of shrubs with cypress mulch suggest potential allelopathic effects. (B.M. Cregg and R. Schutzki)

Excerpted from HortScience *44(5):1419-1424. August 2009.*

Disease Control

Fungicides provide varying levels of anthracnose control in wintercreeper euonymus. Several fungicides are labeled for control of anthracnose on wintercreeper euonymus but efficacy tests indicate that some are not effective. Results o fthis study indicate that mancozeb is more effective at controlling anthracnose in wintercreeper euonymus than propiconazole or thiophanate methyl, but none of these fungicides eliminates anthracnose symptoms. (J.C. Cole, S.L. Schupbach and K.E. Conway)

Excerpted from J. Environ. Hort. *27(3):171-175. September 2009.*

Treatments to control *Rhizoctonia* AG P infesting stem cuttings of azalea. Rhizoctonia is an annual problem on some evergreen azalea cultivars grown in containerized nurseries. Of the methods tested, submersion in hot water has the greatest potential for eliminating *Rhizoctonia* Ag P from azalea stem cuttings. Submerging stem pieces in 50C water for 21 minutes eliminated Rhizoctonia and provided the least risk for development of severe leaf damage. (W.E. Copes and E.K. Blythe)

Excerpted from HortScience *44(5):1370-1376. August 2009.*

Weed Control

Comparison of plastic films for soil solarization and weed control. Soil solarization (passive heating of moist soil covered with transparent film for more than 6 weeks) is a useful technique for controlling weeds, nematodes and several soil-borne diseases. Solarization times of 6 weeks or longer are needed for consistent weed management and these were achieved by some of the plastics tested. However, if plastic breaks down prematurely, the temperatures in the exposed areas cool, and weeds such as nutsedge are better able to survive and emerge. Ultraviolet-stabilized films (Polydak® and ISO) were durable, while the durability of plastic films that were not UV stabilized was variable. Poly Pak and VeriPack were stable under field conditions, but Bromostop® and white plastic deteriorated rapidly and did not provide season-long control of nutsedges. Polydak® remained intact throughout the season, even though the film is very thin. (H.K. Gill, R. McSorley and D.D. Treadwell)

Excerpted from HortTechnology *19(4):769-774. October-December 2009.*

New Plant Introductions

Two *Buddleja* cultivars recommended for greenhouse or conservatory display. 'Winter Waterfall' features larger flowers and a longer bloom time compared to the commonly grown Buddleja. This cultivar has an abundance of white drooping panicles and is highly fragrant with a sweet scent. 'Orange Sceptre' produces upright inflorescences of orange flowers throughout most of the year. It would be a focal point in any conservatory with its bright orange flowers. Outdoors, 'Orange Sceptre' behaves as a n herbaceous perennial dying back to the base by the end of the winter up to Zone 7a, but inflorescences should be removed post-flowering to prevent seed production. Currently these cultivars are not is general commerce. Propagules can be obtained by contacting Jon T. Lindstrom, Department of Horticulture, University of Arkansas, Fayetteville. (J.T. Lindstrom, B.L. Dunn and S.E. Renfro)

Excerpted from J. Environ. Hort. *27(3):188-189. September 2009.*

***Taxus cuspidata* 'Keumbitnoeul'** As a result of the market preference for ornamental and landscape yews, a breeding program was initiated at the Korea National Arboretum in 1988 to select and develop a cultivar with attractive foliage and small stature so it is suitable for growing inside a house. The first cultivar resulting from this project is 'Keumbitnoeul', which has outstanding yellow-green foliage and a relatively slow growing habit. Keumbit means gold color and noeul means evening sun. This cultivar is now available and an application for the protection of new plant varieties ahs been files. Registration is expected in 2009. IN accordance with the Seed and Industrial Act, *Taxus cuspidata* will be registered for protection of New Varieties of Plants by an Ordinance of the Ministry for Food, Agriculture, Forestry and Fisheries in 2009. (J.H. Lee)

Excerpted from HortScience *44(5):1454-1455. August 2009.*

Gaura linheimeri 'Snowstorm'. 'Snowstorm' is floiferous with white flowers that will 'pink" as the flower petals age. The flowering period is from June to a hard frost. 'Snowstorm' is both heat- and cold-tolerant. It is ideal for containers and in the landscape it is used as a specimen plant or mass (such as in highway median plantings). 'Snowstorm' is available as rooted or unrooted cuttings from Malmborg's Inc. (http://www.malmborgsinc.com/) a licensed propagator. Royalty administrations ($0.35/cutting) are assessed at the wholesale level and licenses are administered under the

auspices of the Minnesota Nursery Research Corporation. Parties interested in licensing, propagating and distributing 'Snowstorm' may contact Mr. Jim Stolzenburg at the Minnesota Nursery Research Corporation (jim-stlzenburg@bailey nursery.com). (N. Anderson, L. Klossner, N. Eash, V. Fritz, M. Wang, S. Poppe, J. Reith-Rozelle, D. Widung, S. Yao, P. Johnson and B.E. Leidl)

Excerpted from HortScience *44(5):1481-1483. August 2009.*

Marketing

Survey of organic ornamental bedding plant producers in Maine. Organic and conventional greenhouse growers in Maine were surveyed about organic production of ornamental bedding plants. The greatest percentage of organic growers indicated they choose to grow organically because "it's the right thing to do." The second greatest percentage (36%) indicated choose organic production because they grow food crops organically and consider it convenient to use only one production technique. Only 7% or organic growers considered the market for organic ornamental plants to be a strong motivator for growing organically. Insect and disease management, organic fertility, substrate and pH management were listed as the greatest problems in organic production. Conventional growers primarily avoid organic production because they consider organic fertilization or organic insect management to be too big of a challenge. (S.E. Burnett and L.B. Stack)

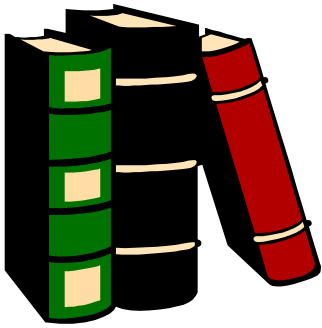
Excerpted from HortTechnology *19(4):743-747. October-December 2009.*

Publications

VNLA – Best Management Practices: Guide for Producing Nursery Crops. The following Best Management Practices (BMPs) were developed as a guide for implementing proactive management practices that are necessary to produce plants with minimal environmental impact by the Southern Nursery Association (SNA). **The purpose of this guide is three fold**: 1) Establish a document that puts in writing many BMPS already in place at nurseries. 2) Establish a site-specific menu of management practices that can be implemented regardless of nursery size or location. 3) Promote environmental stewardship among plant producers.

The guide is divided into subtopics dealing with specific production practices. Within a specific Subtopic, BMPs are identified in short simple statements. The BMPs are research-based where definitive information is available: otherwise the best judgment available was used to structure a BMP. References and a glossary are provided. Spiral bound, 104 pages. For a copy of the table of contents, go to: http://wla.org/Info/BMP09-CoverTOC.pdf. Copies are available from the VNLA Office for $75.00 plus tax and shipping. Call 800-476-0055 to order info@vnla.org

Tree Benefits Calculator. The Maryland Department of Natural Resources just launched



a new program, "Marylander's Plant Trees." This program offers consumers a coupon towards the

purchase of a new tree. A really exciting tool unveiled with the launch of this program is a "tree benefit calculator," which consumers or industry folk can use to quantify the benefits of planting a tree. Landscape contractors, arborists, and retailers, especially may want to be aware of this calculator, to further educate your customers on the benefits of trees. The calculator provides data on storm water runoff intercepted by a tree, impact of the tree on property value, energy conserved by the presence of the tree, contribution of the tree to air quality, and effect of the tree on the reduction of atmospheric carbon. To access the calculator, go to www.treebenefits.com., which is a separate page found within the Marylander'S Plant Trees website.

New Emerald Ash Borer Insecticide Guide. Homeowners, arborists and tree care specialists nationwide now have a comprehensive guide on emerald ash borer (EAB) control. This insect pest feeds under the bark and has killed tens of millions of ash trees in Michigan and northern Ohio alone. "Insecticide Options for Protecting Ash Trees from Emerald Ash Borer," written by research specialists from Michigan State University (MSU), The Ohio State University, Purdue University, the University of Wisconsin and the University of Illinois, is available online at *www.emeraldashborer.info.* Printed copies will be available soon. The guide includes frequently asked questions, information on insecticide products available for EAB control and how to use them, and a summary of results from studies that test the effectiveness of the various insecticides. The guide also presents key points to consider and recommendations for dealing with EAB. Find the guide, along with other information on EAB at: *www.emeraldashborer.info* or *http://ashalert.osu.edu*

.

Calendar

November 18 – Turf and Ornamentals Workshop. Location: Hockessin Memorial Hall, Hockessin, DE, Contact: Valann Budischak (888)448-1203.

December 4 – Conservation Landscaping Conference – turning a New Leaf. The Chesapeake Conservation Landscaping Council; George Washington University Conference Center, Washington, DC; Contact 443-482-2156, www.chesapeakelandscape.org

December 7-9 – Turfgrass Short Course, Blacksburg, VA, sponsored by the Virginia Turfgrass Council, 757-464-1004, Contact: vaturf@thevtc.org

December 7-9 – Turfgrass Short Course, Virginia Beach, VA, sponsored by the Virginia Turfgrass Council, 757-464-1004, Contact: vaturf@thevtc.org

December 8, 9, 15 & 16 – Pesticide Short Course, Bucks County Emergency Training Facility, Doylestown, PA. Contact: Scott Guiser 215-345-3283.

December 8 – Pruning for Professionals, Grow Healthy Trees, Penn State Great Valley, Malvern, PA, Chester County Extension; Contact 610-696-3500 or cab46@psu.edu

December 14 – Pesticide Institute, Holiday Inn, Grantville, PA, Contact: 717-921-8803

January 6-8 – MANTS, Baltimore, MD, www.mants.com

January 7 – Southeast PA Green Industry Conference, Delaware Valley College, Doylestown, PA, Contact: Scott Guiser, 215-345-3283

January 7 – Arborist Short Course, Penn State Great Valley, Malvern, PA, Contact: Cheryl Bjornson, 610-696-3500

January 12-13 – Mid-states Horticultural Expo; Kentucky Exposition Center, Louisville, KY; Contact: 931-473-3951, www.MSHE.org

January 12 -14 – 2010 Easter PA Turf Conference and Trade Show, Valley Forge Convention Center, King of Prussia, PA. Contact PA Turfgrass Council 877-326-5996 or info@paturf.org

January 12-16 – NCNLA :Green & Growing Show" Education: Sheraton Four Seasons, January 12-14; Trade Show: Greensboro Coliseum, January 15-16, Greensboro, NC; www.ncnla.org; 919-816-9119

January 13 & 14 – Delaware Hort Industry Expo. Location: Modern Maturity Center, Dover, DE. Contact: Valann Budischak (888)448-1203.

January 18-22 – Turfgrass Short Course, Fredericksburg, VA, sponsored by the Virginia Turfgrass Council, 757-464-1004, Contact: vaturf@thevtc.org

January 19-20 – Estimating and Bidding for Landscape Installation, Kutztown Grange, Kutztown, PA, Contact: Emelie Swackhamer, 610-391-9840

January 31 – February 2 – Shade Tree Symposium, Lancaster Host Resort, Lancaster, PA. Contact Betsy Wertz 215-795-0411 or penndelisa05@comcast.net

February 9 – LCAP Winter Conference, Holiday Inn Lehigh Valley, Gofelsville, PA. Contact Lawn Care Association of PA, 888-577-6801 or info@lawncareofpa.org

February 10 – PLNA Winter Conference, Holiday Inn, Grantville, PA. Contact Pennsylvania Nursery Landscape Association, 800-898-3411 or www.PLNA.com

February 18 – Land Ethics Symposium: Creative Approaches for Ecological Landscaping. Sheraton Bucks County Hotel, Langhorne, PA. Contact Bowman's Hill Wildflower Preserve, 215-862-2924 or bhwp@bhwp.org

February 18 and 19 – Conifer Identification, Penn State Cooperative Extension in Delaware County, Smedley Park, PA, Contact: Cheryl Bjornson, 610-696-3500

February 19 – KAFMO Winter Conference – Athletic Field Management Conference, Holiday Inn, Harrisbur/Hershey. Contact Linda Kulp, Keystone Athlectic Field Managers' Organization, 717-921-8803 or kafmo@aol.com

March 2 – Turf Topics: Weed Wizardry, Montgomery County 4-H Center, Creamery, PA, Contact: Nancy Bosold, 610-378-1327

March 31– Back to Basics, Penn State Great Valley, Malvern, PA, Contact: Cheryl Bjornson, 610-696-3500