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

Holiday Greetings! When Sue Barton first mentioned that my column was due for our quarterly newsletter, my thoughts were that I have so much to say, and the D.N.L.A. has so much going on, where do I begin? I know the same holds true for many of you. It's a frantic, but wonderful time of year.

It seems like it was just yesterday that many of us gathered at Hockessin Memorial Hall for our annual Ornamental & Turf Workshop. November 17<sup>th</sup> found 139 of us hearing the latest on Managing Wildlife; Habitat Gardens; Pruning; Soils Management; Seeding & Sodding Techniques; and New Irrigation Methods & Products. This event seems to be growing in popularity each year.

The Delaware Horticulture Industry Expo and Annual Pesticide Conference are just around the corner. The two-day event will, once again, be held on January 18<sup>th</sup> and 19<sup>th</sup> at the Modern Maturity Center in Dover. Back by popular demand is Kirk Brown, business manager of award-winning Joanne Kostecky Garden Designs. Kirk will show you ways to grow your image and stretch your reputation with limited advertising funds, in this growing competitive market. Other topics include: Using Plants with Colored Foliage; Good Street Trees for Delaware; Sorting-Out Plant Choices for Increased Diversity; and many more. **New for this year's event...** the ammunition needed for you to persuade other green industry business owners that have never attended a DNLA event, to try us on for size! This is a great opportunity to help "raise the bar" of excellence in the green industry. Please see the registration flyer for more details on this exciting offer.

The DNLA is the process of obtaining quotes

for the development of a web site. We've got some ideas of the features we'd like to offer our members. However, we realize there are probably some we haven't thought of. We also realize that web site development is ongoing. In other words, we're going to have to walk before we can run. This is where you can help! Please feel free to call me with ideas and priorities. Remember this is your web site – your resource. I hope to hear from you. Our toll free number is (888)448-1203.

On October 18<sup>th</sup>, two individuals sat for the Certified Nursery Professional core and/or specialty exams. Congratulations are in order to the following individual:

**New CNP:**

Rhonda Goldsboro  
*Ronny's Garden World*  
Landscape Specialist  
Landscape Design Specialist

**Welcome New Member:**

**Newark Country Club**  
Kevin Mayhew  
300 West Main Street  
Newark, DE 19711  
(302) 229-5695

## U of D NEWS

### Susan Barton, Extension Specialist

The Ornamentals Task Force at the U of D has been busily planning the educational sessions for 2006. We hope we are offering something for everyone in the industry this year.

**HORT 101** - This series is designed for people entering the nursery and landscape industry or for industry professionals who'd like a good review. Each 2-hour session will cover the basics that practitioners need to get started.

**Soils and Managing Nutrients** - Basics of soils as applied to landscaping and turf management. Topics will include: properties of soils, characteristics of good soils, improving soils, soil health, soil sampling and testing, determining liming and fertilization needs, common soil problems and remedies.

**Plant Growth** - How plants grow and develop. Topics will include growth areas in plants (meristems); plant parts and functions – roots, stems, leaves, reproductive parts, and specialized plant parts; plant growth processes - seed germination, seedling development, bud break, juvenile growth, flowering and fruiting, senescence, and dormancy. Other topics will include environmental effects on plant growth and horticultural measures to manage plant growth.

**Pruning** - Learn how to prune trees and shrubs properly by exploring the branch trunk attachment. Overall guidelines for pruning techniques and pruning timing will be covered.

**Turf/Weeds\*** - Cultural recommendations for managing healthy turf to prevent or reduce disease, insect or weed problems. Weed control recommendations for lawns will be provided.

**Insects and Using Pesticides Safely\*** -

Principles of insect ID and control using alternative control methods following adequate pest population assessment. Basics of pesticide use and safety issues when employing pesticides in pest control.

**Diseases\*** – Understanding the disease triangle, an overview of disease organisms (bacteria, viruses, fungi and nematodes), and how to diagnose and control some common diseases of ornamental plants.

These sessions will be offered in New Castle County at the Extension Office from 3-5 PM on Tuesdays (Feb. 14, 21, 28, March 7, 21, 28) and in Sussex County at the Research and Education Center from 7-9 PM on Wednesdays (and one Thursday) (Feb. 1, 15, 22, March 2, 15, 22). Cost of each session is \$5 or \$25 for the series.

### **Landscape installation do's and don'ts** -

Many landscape problems begin with improper installation. In this session, best installation techniques will be presented. Topics will include site preparation, soil amendments, planting holes, methods for planting B & B materials, methods for planting container stock, planting bare root material, planting larger trees, moving plants, plant division, staking and attaching guy wires, mulching, irrigation systems, dealing with compaction, dealing with poor drainage, planting in limited areas such as parking lot islands, dealing with building effects, and planting material related issues such as circling roots

January 24 (Tuesday), 7-9 PM , Kent County Extension Office (\$5)

### **WORKING WITH CLIENTS SERIES**

**Educating your clients** - Learn how to grow and sustain your business by educating your clients. Topics will include: critical information to share, methods of communication, being a good communicator, effective written materials,

dispelling horticultural “myths”, and education as a sales tool or income generation tool.

**Developing long lasting relationships with clients** –In this roundtable discussion, participants will share their experiences with clients. Discussions will center around ways to build relationships with clients and how to maintain excellent relations. In workshop portions of the session, different client interaction scenarios will be presented and then discussed. Another topic will be what type of client do you want to work with.

January 31 (Tuesday) and February 9 (Thursday) from 7-9 PM in the Kent County Extension Office. (Each session, \$5; Both sessions, \$8)

**THE ECOLOGICAL LANDSCAPE** - This 4-part series is intended to focus on the integrated landscape and show practitioners why disturbed landscapes are difficult to manage and how planted landscapes might be brought back to a more balanced state.

**Horticultural Ecosystems** - An overview of landscaping from an ecological perspective. Topics will include differences between natural and horticultural ecosystems, the effects of land disturbance, impacts of plant selection and plant diversity, controlled succession and plant species management, plant-environment interactions, how plants modify the environment, plant stress and plant health, impacts of native and non-native plants, effects of plant selection on other organisms, and landscaping using ecological principles.

**Ecosystem Diversity from an Animal Perspective** - Methods to encourage and promote a diverse ecosystem by keeping often dominant pest species in balance with their natural enemies. How to discourage pests and attract beneficials such as pollinators, birds, small animals and other desirable species into

landscapes. Diversifying the landscape to promote species diversity and aesthetic appeal.

**Ecosystem Diversity from a Plant Perspective\*** - Invasive plants can take over and dominate a landscape, completely choking out desirable species. This class will cover invasive plant control and the reestablishment of a desirable compliment of diverse plants that function together effectively as a balanced ecosystem.

**Managing Water in the Landscape** – A look at rain garden technology and planting as well as an overview of products, plants and methods currently available to help address storm water management and restoration.

These sessions will be offered in New Castle County at the Extension Office from 7-9 PM on Thursdays and one Wednesday (April 6,13, 20, 26, ). Cost of each session is \$5 or \$15 for the series.

**GREENHOUSE BASICS** - This 4 part series is an introduction to greenhouse production for those new to commercial greenhouse production or considering a greenhouse business. There will be 2 classroom sessions and 2 sessions in commercial greenhouses. Topics will include facilities, materials, greenhouse plants, production practices, and marketing.  
Saturday mornings 9-11 AM  
January 28 Classroom Session, Kent Office  
February 4 Greenhouse Session – Site TBA  
February 11 Classroom Session Kent Office  
February 18 Greenhouse Session – Site TBA  
Cost is \$15 for the series.

**PROBLEMS IN NEW DEVELOPMENTS Classroom Session** - In this session, the effect of soil disturbance will be studied. Topics will include properties of topsoils, properties of subsoils, soil compaction, grade changes, soil mixing, topsoil quality, soil layering effects,

root growth effects, construction and tree damage, aeration of soils, subsoiling, air spade use, amending problem soils, and other techniques for dealing with the effects of construction. Wednesday, April 5, 7-9 PM at Research and Education Center (\$5)

**Twilight Session Outdoors** - Principles discussed in the classroom session will be demonstrated at a newly constructed site. Participants will learn how to measure and locate compaction, evaluate disturbed soils, prepare new sites for planting, use aeration equipment, and deal with problem areas. Wednesday, April 12, 5-7 PM (\$5)

### **NATIVE PLANTS IN THE LANDSCAPE**

This workshop will be offered as an 'inside/outside' classroom, so participants need to come prepared for both environments. We'll discuss the value of native plants (especially shrubs and trees) in our landscape vs. encouraging non-natives and how the entire ecosystem (local and regional) is impacted.

This class will be offered in three locations: One session on Wednesday, June 21 from 9 AM till noon at the Research and Education Center in Georgetown; two sessions on June 29 and July 6 from 7-9 PM at the Fischer Greenhouse in Newark; and one session on Wednesday July 5 from 9 AM till noon at the Kent County Extension Office in Dover. Cost is \$5/session.

### **HEADS UP FOR FALL**

We will offer 2 intensive 2 ½ hour sessions on each of the following three topics: Diseases\*, Insects\* and Weeds\*.

To register for any session, contact Dot Milsom at 302-831-2531.

\* pesticide credits for attendance

## **ECONOMIC IMPACTS OF THE GREEN INDUSTRY IN THE UNITED STATES**

**Dr. Charles R. Hall, University of Tennessee**

**Dr. Alan W. Hodges, University of Florida**

**Dr. John J. Haydu, University of Florida**

### Acknowledgements

This research report was made possible by a grant from USDA-Forest Service, *National Urban and Community Forestry Advisory Committee*, along with funding from the American Nursery and Landscape Association (ANLA) and the Associated Landscape Contractors of America (formerly ALCA, now PLAET – the Professional Landcare Network). Others who contributed to the effort by providing information or technical reviews included John Brooker (University of Tennessee), David Mulkey and Tom Stevens (University of Florida) Jennifer Dennis (Purdue University), and members of the Green Industry Research Consortium (S-290 Multi-State Research Committee of USDA-CSREES). The full report is available at

[www.utextension.utk.edu/hbin/greenimpact.htm](http://www.utextension.utk.edu/hbin/greenimpact.htm)

### Executive Summary

The environmental horticulture industry, also known as the “Green Industry”, is comprised of a variety of businesses involved in production, distribution and services associated with ornamental plants, landscape and garden supplies and equipment. Segments of the industry include wholesale nursery, greenhouse and sod growers, landscape architects, contractors and maintenance firms, retail garden centers, home centers and mass merchandisers with lawn and garden departments, and marketing intermediaries such as brokers, horticultural distribution centers, and re-wholesalers. In addition to these commercial sectors, many state and local governments have significant urban forestry operations for

management of parks, botanic gardens, and right-of-ways that are an integral segment of community infrastructure. The Green Industry is linked to urban forestry by providing quality plant material and professional personnel with specialized expertise for growing, maintaining, and managing city trees.

In view of its importance, numerous studies have been conducted to document the Green Industry's economic impacts in individual states or regions; however, the present study represents the first attempt to evaluate its economic impacts for the entire United States using data from previous studies together with secondary industry statistics. A specific objective of the study was to evaluate the role, value and economic impact of forest tree species (woody ornamental trees) in the urban forestry environment. Nationwide estimates of the economic impacts of the Green Industry were derived from a variety of information sources, including industry statistics from the U.S. Economic Census and Census of Agriculture (2002), County Business Patterns, and primary surveys by horticulture economics researchers. Economic impacts for each state were computed using the *Implan Pro* software to build regional input-output models to derive economic multipliers that estimate the indirect effects of industry purchases and induced effects of employee household spending, and also capture the effects of taxes and transfer payments.

Economic impacts for the U.S. Green Industry were estimated at \$147.8 billion (Bn) in output, 1,964,339 jobs, \$95.1 Bn in value added, \$64.3 Bn in labor income, and \$6.9 Bn in indirect business taxes, with these values expressed in 2004 dollars (Table Es-1). For the production and manufacturing sectors, including nurseries/greenhouses, lawn and garden equipment manufacturers, and greenhouse manufacturers, total output impacts were \$34.6 Bn, employment impacts were 33,677 jobs, and

value added impacts were \$20.8 Bn. For the horticultural services sectors of landscape services and landscape architects, total impacts were \$57.8 Bn, employment impacts were 753,557 jobs, and value added impacts were \$39.0 Bn. For the wholesale/retail trade sectors, total output impacts were \$55.5 Bn, employment impacts were 910,104 jobs, and value added impacts were \$35.3 Bn. The largest individual sectors in terms of employment and value added impacts were landscaping services (704,875 jobs, \$35.6 Bn), lawn and garden stores (347,916 jobs, \$14.8 Bn), nursery and greenhouses (261,408 jobs, \$18.1 Bn), florists (200,451 jobs, \$4.0 Bn), and building material supply stores (123,591 jobs, \$6.5 Bn). Other sectors with large value added impacts were general merchandise stores (\$4.0 Bn), landscape architects (\$3.5 Bn), lawn and garden equipment manufacturers (\$2.6 Bn), lawn and garden equipment wholesalers (\$2.7 Bn), wholesale flower, nursery stock and florist supplies (\$1.9 Bn), and food & beverage stores (\$1.4 Bn).

Total value added impacts were largest in the Midwest region (\$19.2 Bn), followed by the Pacific region (\$18.4 Bn), Northeast (\$17.9 Bn), and Southeast (\$13.5 Bn). The largest individual states in terms of value added impacts, all exceeding \$3 billion, were California (\$13.7 Bn), Florida (\$7.1 Bn), Texas (\$6.1 Bn), Illinois (\$4.3 Bn), Pennsylvania (\$3.7 Bn), New York (\$3.5 Bn), and Ohio (\$3.5 Bn).

The economic impacts of the urban forestry sector within the Green Industry were evaluated in relation to (1) the production of trees suitable for urban forestry by nurseries, and (2) tree care services provided by the landscape services sector. Based on survey information, the value of trees production suitable for urban forestry, including deciduous, evergreen, fruit, and Christmas trees, was \$4.63 Bn. This value represented 27.2 percent of total output by the nursery and greenhouse sector. The value of

trees care services was \$9.92 Bn, which represented 27.1 percent of the output of the landscaping services sector. The total output of tree production and care services was valued at \$14.55 Bn, which translated into \$21.02 Bn in total output impacts, 259,224 jobs, \$14.12 Bn in value added, \$9.93 Bn in labor income, and \$516 Mn in indirect business tax impacts. Trees sold to municipalities for use in urban forest settings (e.g., parks and other recreational areas) also are associated with significant public sector employment. In addition to these economic

impacts of commercial activity within the Green Industry, various studies have shown that urban forests have other non-monetary or non-market economic and environmental impacts, including energy savings for building heating and cooling, reduction of atmospheric carbon dioxide, improved air quality, reduction of stormwater runoff, and other aesthetic benefits. Well landscaped homes with appropriate tree canopy have a 7 to 11 percent premium in value compared to similar properties without such amenities.

## **REDUCING EROSION AND RUNOFF**

**Diane Relf Extension Specialist,  
Environmental Horticulture, VA Tech.**

Soil erosion occurs when soil particles are carried off by water or wind and deposited somewhere else such as into a stream or at the bottom of a bay. Often soil particles are carried by runoff, water that does not soak into the ground, but flows over the surface and runs to another area – such as into storm drains, streams, or lakes. In addition to soil sediment, runoff can wash fertilizer and other pollutants along with it. Sediment makes up most of the pollutant carried off runoff, however, and most of the phosphate and pesticides entering Virginia's waters are attached to these soil particles. Therefore, controlling erosion will make a significant contribution to the control of water pollution. Runoff entering lakes and stream, in addition to carrying pollutants, is water that is needed to soak through the soil to re-supply our groundwater. Reducing erosion and runoff is important to protect both our soils and our water supplies. Erosion and runoff in the home landscape also create unsightly bare areas and deposit mud and dust on driveways and walkways that is then tracked into the house.

Erosion begins when rain or irrigation water loosens soil particles. When there is too much water to soak into the soil, it fills surface depressions and begins to flow. With enough speed, this surface runoff carries away the loosened soil. Runoff from roofs and paved areas can contribute to erosion by directing large amounts of water in a short time period to nearby areas that are unable to absorb it quickly enough.

### Signs of Erosion

- Tree roots, small stones, or rocks become exposed.

- Small rills or gullies begin to show.
- Soil splashes on windows and outside walls.
- Stream channels widen or deepen.
- Sediment collects in low areas or on pavement.

### Signs of Runoff

- After a rain, you may observe runoff as water flowing over the soil surface or collecting in low spots on your property.
- Anywhere you see signs of erosion, there is most likely runoff.
- Notice any paved areas on your property or on neighboring properties. If these are not porous, rain will run off into an adjacent area.
- Runoff may be supplying some of the water that collects on your property. Look for runoff sources on your property or your neighbor's, such as pavement, compacted soil, or roofs.
- Even if water does not collect on your property, you may be contributing to runoff onto adjacent property or into storm sewers and thus into our lakes and streams. Examine any paved area or area where water puddles, and try to observe where water runs during a rain.

### Why Control Runoff and Erosion?

- Runoff can wash sediment, fertilizers, and pesticides into waterways.
- Nitrogen and phosphorus from fertilizers carried by runoff into our waters have been associated with many environmental problems, including excessive algae growth, depletion of the water's oxygen supply, and suffocation of aquatic organisms.
- Groundwater supplies much of Virginia's water, and it needs to be

recharged by water soaking through the soil rather than running off.

- Erosion removes valuable topsoil and clogs waterways and reservoirs with sediment.
- Runoff can contribute to flooding problems “downstream.”

### Use Plants to Reduce Erosion

Landscaping not only adds beauty and value to your property, but also helps control erosion by reducing the amount and speed of runoff.

Ground covers are one of the best erosion controls and include any plant material that covers the ground surface so the soil cannot be seen from above and rain does not strike directly upon it. Turfgrass is one important type of ground cover, but many other low-growing herbaceous and woody plants work well and, once established, require less fertilizer, pesticide, and other maintenance than turf.

### Handling Steep Slopes

Steep slopes can be easily eroded and, even if erosion is controlled, may allow water to Reducing Erosion and Runoff collect in undesirable areas, such as near house foundations. There are many ways to reduce erosion and runoff, as well as control the direction of drainage. Plant a vigorous ground cover to reduce erosion and increase water penetration into the sod on the slope. Turf is often impractical here because mowing is difficult and dangerous on steep terrain.

Build terraces or a retaining wall. These catch runoff, giving water time to soak into the ground, and also make attractive planting beds. Be aware that changing soil level near well-established trees can seriously damage the root system.

Slope terraces by about 2 percent perpendicular

to the incline to direct drainage to one side or the other. To redirect excessive runoff, install perforated drainage pipe just below surface level across the direction of the slope. Drainage pipe should be laid perforated side down at a 2 percent slope in a gravel bed. The end of the pipe must be protected from clogging and must direct the water to an area able to handle it.

### Ground cover selection

Planting ground covers on slopes or bare areas helps control erosion and runoff because plant roots hold the soil in place, and the leaves protect the soil from the impact of raindrops, reducing soil compaction, and improving the speed with which water soaks into the ground. Ground covers can produce attractive patterns with variations in height, texture, and color. They also conserve soil moisture; reduce maintenance in narrow or odd-shaped areas where mowing, edging, and watering might be difficult; reduce heat, glare, noise, and dust; and block foot traffic without blocking the view. Some ground cover choices include:

- Ajuga or Bugleweed (*Ajuga reptans*) – Ajuga form a low, dense carpet of semi-evergreen foliage. Ajuga is tolerant of most conditions as long as drainage is good, but can be invasive.
- Liriope or Lilyturf (*Liriope muscari*, *L. spicata*) – Evergreen ground covers with grass-like leaves; adaptable to wide range of conditions.
- Ornamental grasses – A large selection is available; most prefer full sun.
- Dwarf Japanese Garden Juniper (*Juniperus procumbens* ‘Nana’) – Forms low, spreading mounds of evergreen foliage. Does best in full sun.

### Building and Protecting Soil

By caring for and improving your soil, you will

help it absorb water more readily, reducing runoff and erosion as well as improving plant health.

- Add organic matter to your soil to improve the speed with which water soaks into the ground, the ability of the soil to hold water, and soil drainage. Leave grass clippings on the lawn and till leaves and compost into flower and vegetable beds.
- Mulch around trees and shrubs to reduce runoff. Mulch protects soil from being hit directly by rain, reducing (crusting and increasing the speed with which water soaks into the ground.
- Till vegetable rows across the slope, rather than up and down.
- Don't leave garden soil bare over the winter. Mulch or plant a cover crop, such as annual rye.
- Prevent soil compaction by keeping off the lawn and using landscaping to direct foot traffic along walkway not through the yard.

## A REVIEW OF WEED CONTROL PRACTICES IN CONTAINER NURSERIES

L.T. Case, H.M. Mathers, and A.F. Senesac

**SUMMARY.** Weed growth in container-grown nursery stock is a particularly serious problem, because the nutrients, air, and water available are limited to the volume of the container. The extent of damage caused by weeds is often underestimated and effective control is essential. Various researchers have found that as little as one weed in a small (1 gal) pot affects the growth of a crop. However, even if weeds did not reduce growth, a container plant with weeds is a less marketable product than a weed-free product. This article reviews some current weed control methods, problems associated with these methods, and possible strategies that could be useful for container nursery growers. (*Editor's note: This article will be broken into several sections to be included in this and upcoming DNLA News issues.*)

Nurseries spend large amounts on manual removal of weeds, sometimes as much as \$4000/acre (Mathers, 2003). Based on an hourly wage of \$14.75, it costs @1367 to hand weed 1000 3-L pots over a 4-month period (Darden and Neal, 1999). This seems like a lot of money; however, the markets for nursery crops demand weed-free container-grown plants (Simpson et al., 2002). It is evident that although weed control is essential for growers, an abundance of money and time is required to control weeds in containers.

### Scouting and infestation sources

Weed identification and scouting are essential for proper weed control. The species that are most prevalent should get the most attention, however, the less prevalent should not be overlooked as these can become problematic in the future. After the weeds have been identified,

they should be grouped by lifespan. Perennials tend to be more problematic in terms of control. Weeds that escaped current weed management practices and any weeds on state or federal noxious weed lists deserve high priority. Special consideration should also be given to any new species of weeds. Scouting for weeds is not like scouting for insects (Neal, 1999). Determining exact population levels or numbers of species is not the intent. The purpose of weed scouting is to determine which weeds threaten our business (Neal, 1999). Control, not abolishment, should be the key to keep in mind.

Container nursery weed scouting should be scheduled at minimum of three or four times a year. First, a spring evaluation should be conducted to determine which weeds have escaped the fall preemergence program and which winter annuals are germinating. Then, a summer evaluation(s) should be conducted to identify summer annuals that are escaping the spring preemergence program and winter annuals that are persisting. Third, in the fall before the first frost, summer annuals and perennials that have escaped control and winter annual seedlings should be identified (Neal, 1999).

Managing weeds in a container nursery involves eliminating weeds and preventing their spread (Fausey, 2003). This usually requires chemical controls, but these should never be the only management tools implemented. Maximizing cultural and mechanical controls through proper sanitation and hand weeding are two important means to prevent the spread and regeneration of troublesome weeds (Fausey, 2003). It is important to eliminate problematic weeds before they have time to spread.

Proper sanitation ensures that wind dispersal of weed seeds from adjacent areas is minimized, since this can be a major source of imported weed seeds (Elmore and Wilen, 2000). Adjacent

areas in container nurseries include fence lines, roads, irrigation ditches, the container yard (between and near pots), and around shade structures and other nursery buildings. Some common container weed species that are easily wind-dispersed include: annual sowthistle (*Sonchus oleraceus*), common groundsel (*Senecio vulgaris*), horseweed (*Conyza Canadensis*), and northern willowherb (*Epilobium ciliatum*). Non-crop area or adjacent area weeds can also harbor many types of insects, which in turn can transmit disease or directly attack the crop (Cranston, 1994). Weeds can also serve as secondary hosts for crop pathogens (Hobbs et al., 1996). Other sources of weed seed introduction are irrigation water, vehicles, equipment, birds and movement of soil (Elmore and Wilen, 2000).

Weed seed contamination of container mixes can be another major source of problems (Elmore and Wilen, 2000). Conducting a germination test to see if weed seeds are present in the media before planting is one way to control potential weed problems. Limiting exposure of mix to potential weed seed blow-in by covering mix piles (Elmore and Wilen, 2000) and isolation of containers purchased from other nurseries until they are determined to be weed-free are important steps. If prevention of weed seed infestation is not possible, then weed control can be implemented through several methods.

### **Cultural control of weeds**

Different approaches have been used to control weeds to economical and aesthetic levels, and many have been quite successful. Cultural controls include mulching, subirrigation (Wilen et al., 1999), using large-porous media (Atland, 2004) in the containers, and as previously mentioned, keeping the media covered to prevent seed contamination.

One of the first ways to suppress weed growth was to use mulch in the surrounding area of the plant (Robinson, 1988). Mulch is any material, other than soil, specifically established at the soil-air interface to manage soil and water and create favorable environments for plant growth (Lal, 2002). Mulches are effective suppressors of water evaporation (School and Schwemmer, 1982). Organic mulches suppress weeds by inhibition of germination and suppression of weed growth (Mathers, 2002a). Mulches have not been used extensively as weed suppressants in container production. However, there are a number of organic mulches that have been proposed and investigated for container weed control. These range from the bark of different trees, to Wulpack (Horti-feeds, Lincoln, U.K.), which is palletized wood left over from sheep trimmings, and PennMulch (Lebanon Seaboard Crop., Lebanon, PA.), a palletized version of shredded newspaper. Both Wulpack and PennMulch double their volume when rainfall/irrigation is applied (Abbey et al, 2001; Mathers and Ozkan, 2001).

Rice hulls have been used as mulch in containers and have been known to be efficacious on different weeds (Ahn and Chung, 2000). Pine bark nuggets, shredded hardwood mulch, and cypress mulch when applied in the landscape or in containers significantly reduce weed counts (Billeaud and Zajicek, 1989). Landscape mulches also have been shown to not provide the weed control desired by commercial and non-commercial landscapers. Skroch et al. (1992) found only 50% reduction in weeds from bark mulches at 3.5 inches thick, which was not acceptable. One disadvantage of organic mulches is that they can reduce the amount of readily available nitrogen (Billeaud and Zajicek, 1989). Mulches with high carbon: nitrogen (C:N) ratios will require additional nitrogen source due to the high uptake by soil microbes of released nitrogen (D. Eckert, personal communication). Over time, the C:N ratio will

stabilize around 10:1, and then there will be an increased amount of nitrogen from organic matter.

Other cultural methods include: woven textiles such as collars of the Geodisc (Texel USA, Hendersonville, N.C.), a needle punched, nonwoven polypropylene fabric treated on one side with copper hydroxide (Spinout; Griffin LLC, Valdosta, Calif.) have been used to reduce weed competition (Mathers, 2003 in 1-gal pots. In a study with containers containing willow oak (*Quercus phellos*) seedlings Appleton and French (2000) found the Geodisc provided complete weed control. The Geodisc is the most commonly used “Non-chemical” weed control alternative to hand-weeding in container nurseries, although copper hydroxide is a chemical. Disadvantages of the Geodisc include size of the opening in the disc for the plant, and wind blowing the disc from the pot. Plastic lids called Enviro LIDs (Enviro LID, Landley, B.C.) that fit over the container with holes for the plants have been used in container nurseries (Mathers, 2003). Polyethylene sleeves have been used by Mori Nurseries in Niagara-on-the-Lake, Ont. (Mathers, 2003).

*Excerpted from HortTechnology – July-September 2005, 15(3).*

**KEEP THE BREAD WELL BUTTERED**  
**Dr. Allen Armitage, University of Georgia**

This story begins and ends at the University of Georgia research greenhouses on a fine May day. Amongst a few “normal” plants were many unusual but highly sought after plants by the garden community. I was working on ways to incorporate such plants into the greenhouse palette, to complement our bread and butter plants. I was full of enthusiasm and delight as I looked over the many treasures therein. Plants which I had collected or with which I had conducted some preliminary research were arranged in proper rows, and flowers of all kinds and colors greeted those who entered.

I had been busy throughout the winter bringing unusual annuals with commercial potential, perennials useful for greenhouse forcing, species terrific for baskets or patio containers and some plants I thought might have use in gardens or as cut flowers. Some of the plants which greeted me that afternoon were overflowing baskets of Scaevola and the new trailing petunias, flowing like ice cream from the cone to touch the ground. A fascinating iridescent black-leaved sweet potato, terrific for baskets or in mixed containers draped over pots of red and yellow columbines and rose colored forget-me-nots. Scarlet hummingbird flowers, two orange-yellow parrot-flower plants, a spectacular yellow-flowered climbing bleeding heart plant, variegated plants with a dwarf habit whose leaves smelled like fresh oregano and sun loving two-foot tall vegetative coleus were also strutting their stuff. To round out the show were the industry trials in which variegated double impatiens, shone like beacons in the night. A reverse Dantesque horticulture happening. In my mind, a cornucopia of riches for gardeners and plantspeople.

Around 4:50 that afternoon, a lady introducing herself as Rachel walked in and asked if she

could go into the greenhouse. Having uninvited guests was not uncommon and she was allowed to go in without any second thought. About 15 minutes later, she came into the office carrying a couple of plants and digging through her purse. I thought she had some questions but I realized she was trying to find her wallet to pay for the plants. I told her that they were not for sale, they were research plants. Unfortunately, she had mixed up greenhouses and she thought that this was the location of the plant sale by the Horticulture Club, just up the street. However, I looked at her choices and was stunned.

Having wandered among all those beautiful plants and not knowing anything about price, what did Rachel want to buy? A 4” POT OF LEYLAND CYPRESS AND A 4” POT OF BETTER BOY TOMATO!

For a long moment, the air was heavy with silence. I was astonished by her choice of plant material and she was upset that she couldn’t buy one lousy tomato plant. Finally I asked “Rachel, with all those wonderful plants on display in the greenhouse, why did you choose a Leyland cypress, and a tomato plant?” She answered without hesitation, “Those were the only ones I recognized.”

There is a lesson here, somewhere, because they are more Rachels out there than there are Armitages or Dirrs. It is the Rachels who only buy plants with which they are comfortable; the Better Boy tomatoes, the Super Majestic pansies and the yellow marigolds. A scaevola plant is too different, too scary and in all likelihood, she thinks she would kill it anywhere. The Rachel of the world are why the improvements in plant performance are as important as a breakthrough variegation. Rachel doesn’t need another red petunia, she needs a better red petunia. To take it one step further, Rachel needs a retailer who carries that better red petunia and the retailer needs a grower to produce it for him. It is only

when Rachel is comfortable and successful that she will look forward to some of the new plants available to her.

I am a great believer in a continuous flow of new crops from research to gardener. Some of the old crops today (Vinca, Pansies) were relatively minor crops a few short years ago. Even Rachel buys them now. Scaevola, trailing petunias, golden globe flowers, violas, hummingbird flower and flowering columbine have all found their market, and are slowly becoming profitable. The Master Gardeners are the generals of the gardening public; they look aggressively for new annuals and perennials and buy them, often without price resistance. The Rachels are the foot soldiers and they just want the plants to work and look nice. While introducing new crops to a grower mix, let's remember Rachel and be sure we keep the horticultural bread well buttered.

I am planning on calling Rachel in a few weeks to see if she would like to take the Master Gardener course. I can understand the tomato, but the leyland cypress?

*Reprinted from Jul-Sep SNA Newslines.*

## **USING DEGREE-DAYS TO ACCURATELY PREDICT ORNAMENTAL PLANT PEST POPULATIONS IN THE MID-ATLANTIC**

**Matthew L. Richardson, Dewey M. Caron and David J. Suchanic**

The Southeast Pennsylvania Integrated Pest management Research Group is a collaboration of cooperators at 25 location in southeast Pennsylvania and northern Delaware. From 1991 to 2001, the group accumulated an extensive database of arthropod pest life history events indexed to degree-day data at the site where the vent occurred. We determined a degree-day range for 16 ornamental pests. For insects with multiple generations per year, ranges for each generation were determined when sufficient records allowed. Perhaps a more useful index is first occurrence of life stages susceptible to control measures, and we provide that information as well.

Using degree-days to predict insect events is based on the premise that they are more accurate and quantitative than calendar date (Raupp et al. 1992). Weather can vary from year-to-year, but numerous studies have shown that degree-days can be effectively used to monitor and time control measures in specific regions where the data were gathered (Herms 1990, Hoover 2002, Mussey and Potter 1997, Orton and Green, 1989).

The following two tables present a summary of the data collected from 1991 to 2001. Table 1 includes the complete range during which an insect was found to be present. It also includes the range of growing degree-days accumulated at the time of first occurrence over the 10 years of collected data. Table 2 includes the range of each generation for insects that have multiple generations.





## LABOR AND IMMIGRATION

**Craig J. Regelbrugge**

**Senior Director of Government Relations  
American Nursery & Landscape Association**

Craig Regelbrugge was a featured speaker at the VNLA Risk Management Seminars at Virginia Tech – The following is a summary of his talk:

I would like to start today by giving you a 40,000 foot view of the immigration issue, then some specifics on what may happen next in Congress and implications for the green industry.

I am talking about a problem without simple solutions, though every now and again one is proposed. I believe it was George Carlin who observed that we have the capability here in the United States to track a cow from the moment of birth, though its growth and development, eventual slaughter and processing, right up to when meat is sold to the consumer. Yet, we cannot even begin to track the entry, employment, comings and goings of an estimated 10 million illegal aliens living among us. Carlin's solution was rather practical – if we want to successfully track these aliens, as they cross the border we should give each one a cow!

*Let's Put a Face and Some Numbers on the Issue.* Overall, it is estimated that there are 10.3 to 11 million illegal aliens living in the U.S., of which between 7 million and 8 million are working. This is 5% of the workforce! 92% of undocumented adult men, aged 18 to 64, actively participate in the workforce. Most are working, paying taxes and Social Security.

*Who are these people?* 57% are Mexicans, another quarter are from elsewhere in Latin America, Asians make up 9%, and Europeans and Canadians are the remaining 6%. Of all the foreign-born in the country, 32% are Mexican. This number seems very high, yet by

historical standards both the German and Irish immigrants of the 19<sup>th</sup> made up a greater percentage.

*Of the Agricultural workforce* – In 1998, 52% self-declared that they were not work-authorized. The problem has worsened, and we estimate that at least 70% of the ag workforce today lacks legal status. In the service sector, the percentage of the workforce feared out of status is lower, but significant and growing. Frankly, these workforces are quite interrelated. Agriculture by the numbers is entry-level work in our economy. Over time, many agricultural workers find work in the construction, hospitality, landscape, and related industries.

For the green industry, there is much common concern. All industry sectors need seasonal labor. Most employers also need some full-time, year round workers. Many are concerned about the limitations of the current guest worker programs, principally H-2A and H-2B. We are all concerned with a labor pool that is significantly improperly documented. The bottom line is that the fates of all in the green industry, and in labor intensive agriculture, are intertwined.

*What will the future bring?* In recent Congressional testimony, Tom Donahue, talked about the future. The number of people in the labor force ages 25 to 34 is projected to increase by only three million people between 2002 and 2012, while those 55 and older will increase by 18 million. This is sobering for industries like ours that rely heavily on young workers. By 2015 to 2020, the fertility rate in the U.S. is projected to fall below the level where we replace our population.

In a recent report titled *The Jobs Revolution: Changing How America Works*, the authors note “the most inescapable challenge facing the American workforce in the coming 20 years is

that, barring substantial change, we will not have enough people to fill [available] jobs.”

Federal Reserve Chairman Alan Greenspan has testified before Congress “immigration, if we choose to expand it, could prove a potent antidote for slowing growth in the working-age population.”

Another important statistic: there is almost \$300 billion sitting in what is called the Social Security Suspense Account...payments into Social Security that cannot be allocated to proper accounts. Most of this comes from unauthorized workers using fraudulent identities. Of that almost \$300 billion, 30% is attributed to agriculture, even though agriculture represents 2% or less of U.S. workforce. In the end, our challenge is not an illegal worker problem. It is fundamentally a problem of there being enough bodies to fill available employment opportunities.

And while some service sector jobs cannot be off-shored, agricultural production including nursery and greenhouse plants can. If we choose to off-shore our production of fruits, vegetables, meat, milk, and plants, we will have a hard time recapturing it. We will also lose 3.5 domestic jobs in packaging, processing, equipment, insurance, lending, etc., for every farm worker job we lose. Imagine a world in which we are as reliant on sometimes-hostile trading partners for our food as we are oil.

Mention the word “immigration” and emotions flare. Add the word “illegal” and watch out! No one is “for” illegal immigration, except perhaps the smugglers and those truly seeking to exploit others for their own gain. Still, misperceptions abound. For instance, many Americans seem to feel that most of these illegal immigrants are nothing but a drain on the American economy. In the real world, most of these unauthorized workers are giving to, not

taking from the system. Most are working, paying taxes and Social Security, and needing little in the way of social services. Health care is an exception; many of our employers provide health care. And, if these workers were legal, they would not be seeking emergency care as a last resort. That’s the most expensive way for our society to deliver health care.

This year we are beginning to see real worker shortages translating to crops left unplanted or unharvested. These shortages are surfacing in the West first. On the service side, the temporary H-2B cap legislation passed in May with the hard work of many in this room buys us a little time, though we hear often of labor shortages among firms who are not using H-2B. The bottom line is, we need comprehensive immigration reform – whether it comes in one package, or in installments.

*Let’s Talk About Solutions* - Much of what I say will be framed around Agriculture and the AgJOBS bill. This is not because agriculture is more important, or deserves reform first. Rather, it is because agriculture was the first industry to begin to seek reforms in the early 1990’s and has- pardon the pun – plowed a lot of ground since. The good news is, the general business community is awakening on the issue now too. But, the AgJOBS bill created a working model that has become the framework for all serious reform proposals. The building blocks are:

A long-term solution in the form of a legal and reliable path for guest workers to enter work, and leave for seasonal or even some year-round jobs that Americans choose not to fill. Such workers ought to be able to enter and leave safely and legally.

A near-term solution – call it a transition strategy – that allows the currently employed but unauthorized workforce a chance to come

forward, get registered, continue working, and earn a legal status over time.

In the current environment, a third component – enforcement-type reforms – are almost certain to be a part of any legislation that passes. Border and employment based enforcement give political cover to lawmakers, and are likely to grease the skid for labor supply reforms. Our fear is that employer-targeted enforcement, including requiring mandatory electronic verification of an employee’s status at the time of hiring – might proceed ahead of labor supply reforms. This would be devastating!

In terms of current legislative vehicles, there are several. Some are sector-specific, like AgJOBS. It would overhaul the agricultural H-2A program, and provide a path for an estimated 500,000 to 750,000 experienced farm workers to earn legal status through future hard work and lawful behavior. Alternative bills would reform H-2A, but would require the unauthorized workforce to return home now or at some future time. Such a formulation would be a disaster, and would hit the nursery industry especially hard. *Why?* Agricultural labor is, by the numbers, entry-level work in our economy. Many workers will do migrant labor jobs for a while, but large numbers migrate up and out within a few years for jobs in other sectors, like construction and hospitality. However, significant numbers migrate “up and in.” They seek out the best jobs within agriculture, including the longest-season or year-round opportunities more likely to be found in nurseries, dairies, and ranches. They often attain crew leader, supervisory, and middle management positions. So, the backbone of the agricultural workforce is substantially illegal. Forcing these people to “go home” would be devastating to the agricultural economy.

Other legislation is comprehensive, like the new McCain/Kennedy bill, which would create an

all-industry earned legalization program and a broad future guest worker program. With a few caveats, the business community has been supportive of McCain/Kennedy. Legislation introduced in late July by Sens. John Cornyn (R-TX) and Jon Kyl (R-AZ) would require that unauthorized workers return home within a year or face stiff fines. After five years, all would be required to leave. This bill also emphasizes border enforcement and employer sanctions. Immigrant groups immediately attacked the bill. Business groups were more cautious, but last week decided that the Cornyn-Kyl bill is not an acceptable framework from which to proceed. The Essential Worker Immigration coalition and the U.S. Chamber of Commerce last week endorsed McCain/Kennedy.

*Let’s talk About the Politics* - No other issue is as polarizing in Congress today. No issue will be as important to defining our nation sees itself, its people, and its role in the world. Having said that, the Republican party, in particular, is deeply divided by the immigration issue. There are at least three distinct camps.

First, we have some cultural conservatives that we will call the *restrictionist* Republicans. They favor closed borders, strong enforcement and employer sanctions. They are opposed to any legalization scheme that allows someone who entered illegally to stay and keep working. They are adamantly opposed to the idea that someone who did so might one day become a US. Citizen. Many oppose guest worker programs, arguing, “we ought to try increasing wages first.” They are the first to use the “amnesty” bumper sticker as a way to stifle debate, and to suggest that would-be terrorists have entered or will enter through guest worker programs. They perpetuate fear and insecurity.

At the other end of the Republican spectrum, we have the economic, or business oriented Republicans. They tend to favor free markets

and more or less free flow of capital, goods, and people. They recognize the important historic and future role immigration plays in our society.

Third, we have the pragmatists. Some are cultural conservatives, some are moderates. They understand what their farm and business constituents need and why. They accept that we have this problem because we have for decades failed to provide adequate legal channels for immigration or temporary workers. They are principled, but they are willing to do what is necessary to reconcile our laws with reality.

The Republican Party – especially in the House – wants to be unified. However, these ideological positions cannot be bridged completely. We learned during the 1990’s that guest worker reform bills attracted the opposition – for different reasons – of both restrictionist Republicans and most Democrats. With the close margins of control in Congress, such an unholy alliance can block legislation. The alternative is to build a coalition from the middle. Find a formulation that the free-market Republicans, and the pragmatists, and most Democrats can support, and you will have the votes to win. There is a challenge, however, with that approach. Key leadership and chairmanship positions are held by immigration restrictionists, or by those who prefer passing bills with a large Republican majority and just enough Democrats to pass. This is a major obstacle to progress.

Then there is the White House. It was stunned by the anti-immigrant backlash when President first spoke on the issue, and fears alienating cultural conservatives that are viewed as a core part of Bush’s base. This would be so much easier with White House support.

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## **ORGANIZATION IS THE KEY TO A**

## **SUCCESSFUL LANDSCAPE CONTRACTOR**

**Monroe Porter**

### **PROOF Management Consultants**

Landscape contractors face a multitude of obstacles in their quest to build a successful business. Besides keeping an eye on the weather, the economy, and employee costs, a disorganized business model is the one obstacle that contractors can control.

Many landscapers are too optimistic and let their entrepreneurial spirit get in the way of their business success. Thinking that the next job will solve all of your past problems can lead to a string of failed opportunities and years of frustration. Facts, not emotions, are the sign of a good businessperson.

Profitability, not growth, is the key to contractor success. For unprofitable contractors, consider the importance of raising prices, making money, and then using that money to grow and strengthen the business. Uncontrolled growth is not a contractor’s friend, and growth brings on the need for more people, more cash, a better closing ratio, and more equipment. The list goes on and on.

Here are a few of the “29 Things I Should Have Learned In Contractor Kindergarten.”

**Accounting:** Don’t understand your books or look at them monthly? Have your accountant or bookkeeper put the information into a format that makes sense and use that information accordingly. Conduct a monthly financial meeting and ask questions until you do understand it.

**Collections:** Have a collection policy and stick to it. Make one person in the office in charge of collections. Follow a written procedure that includes filing a lien for past due jobs.

**Pay yourself a salary:** Don't mix business and personal finances. Pay yourself a salary each month. Write a check and put it in a desk drawer, even if you can't afford to cash it.

**Keep a time card on yourself:** Want to make a six-figure income? Then you have to perform tasks that are worth six figures. Keep a time card on yourself in 30-minute intervals, and then put an hourly rate by every task you perform. Delegate or eliminate tasks that do not generate income.

**Pay taxes on time:** Whether it is personal or payroll taxes pay your tax bills on time and avoid a penalty. The government is a very expensive banker.

**Set job targets:** It's hard to win or run a race when you do not know how far you are going to run and how fast you need to get there. Set job targets and milestones for employees to use as a production guideline.

**Terminate difficult employees:** The employee you fire never keeps you up at night. If you have a person who complains, drinks, misses time or causes other problems let he or she go. In a few weeks, you will ask yourself why you did not fire him or her years ago.

**Hire work ethic; teach skill:** Hire people who will show up and who you can turn into employees. If people have a work ethic problem then you probably cannot change their ethics, but you can teach a dependable, hard worker the necessary skills.

Another problem in the landscape contracting industry is arbitrary pricing. Many contractors use inaccurate unit prices. A unit price is really a mini-estimate. At one point, someone took the time to figure out how long it takes to do a certain thing. That unit is made up of labor,

material overhead. Contractors are busy, and maybe when those units were created 10 years ago costs were different. Yes, it is easy, but is it still accurate? To make matters worse, contractors fool around with the numbers and adjust the unit prices to what they think are right for them, but no scientific study was done to determine if this was the right approach. Usually, they simply use the following logic: "Well, if they use \$1.50 per square foot, than I can do it for \$1.30 because we are smaller with less overhead, or my guys are better."

Job situations and sizes can dramatically alter unit prices and really leave contractors in trouble. The following example shows how job conditions can impact a contractor's bottom line. Let's suppose a contractor is installing a patio using pavers and pavers in your area are \$7 per square foot. For our example, we are going to use 1,000 square feet of pavers and determine how the analysis of the job might look different based on job conditions. Using this \$7 per square foot price, a simple job might look something like this: 1,000 square feet multiplied by \$7 equals \$7,000. Suppose that \$3,000 of this cost is for all material, including pavers, sand, crusher run and other expenses and the other \$4,000 is for labor, overhead, and profit. Our first scenario might be a new construction patio that takes four days to install; you now have \$1,000 per day recovery of labor, overhead, and profit, of \$4,000 divided by four days.

Our next scenario might be the same new construction patio. However, it is not a perfect rectangle, and you now must cut and place stone in a more detailed pattern. The job now takes five days. If you used those same unit prices, then your labor, overhead, and profit recovery would now drop to \$800 per day, or \$4,000 divided by five days.

If we move this patio into the backyard of an

existing home, then you now must haul all of the material into the backyard, do more excavation, and haul the dirt away. Now the job takes eight days. Using that same square footage price, your daily overhead and recovery now drops to \$500 per day, or \$4,000 divided by eight days. Make sure that your logic is correct and build adequate time into the job.

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*Excerpted from The Michigan Landscape, November/December, 2005.*

## ENTERTAIN THEM ALWAYS

**Greg M. Gorman,  
GMG Designs, Inc.**

Nurseries need to show their best work upfront. While this certainly includes plantings, the potential of architectural elements, large stones or walls, sculptures, fountains, and even signage should not be minimized. Contrasting textures and shapes are far more interesting than just plants and mulch.

Consider the customer's path as they enter your parking lot. Interesting gates or archways define and frame an entrance. It makes a person feel special, shows that you care, and increases the impulse buys because the customers like what they see and want to be a part of it. Displaying great designs and merchandising sells more product. This is a retail fact. You are retailers competing for the customer's expendable income.

As you enter the parking lot and park near buildings, there should be eye-catching and appealing attractions, in addition to plants. Signage, sculpture, and artwork should compliment plants, and vice versa. If you include designed items that can also work in customers' yards, you will sell more than just an idea. You should always sell more than plantings.

Think about the visual excitement of seeing a group of large oversized multicolored butterflies or large bugs. They do not have to be perfect and can offer some humor, like cartoon characters. At night, use spotlights so they glow and can be seen from the road. Moving them every week to a different main focal area will keep people looking and they will remember you. In fact, your nursery will be a visitor's destination so they can often see what new and exciting things you have done.

Showing examples of patios, seating areas, fountains, walls, and lighting will also illustrate to the customer that your nursery is capable of providing these services to complete a landscaping story. Even if you don't actually sell and provide the displayed items, you can garner support from other companies that do. Start partnerships so your nursery can be more and offer more.

The same applies to the office and to greenhouse buildings you use as a major part of the business. Think first about the entrance areas and what is seen as soon as you enter a space. Create a minimum of three to four large focal areas, located higher off of the ground or on walls. You can even use the ceiling as a design palette to create visual excitement.

To see great examples of how retailers define and use such spaces, visit department stores, specialty stores, and even shopping centers. Many regional or outlet malls spend time and money to visually entertain shoppers. Landscape nurseries have to do the same.

Once to several times a year, many farms are open to the public (e.g. pumpkin patches and farmers markets). Even apple orchards plan for weekend events that attract people, turning them into customers. Your business should take advantage of this opportunity. Home Depot has educational workshops for kids, women, and men. Paint stores show the latest trends in colors and finish techniques. Bookstores have special readings and signings. Start a list of potential ideas for your business and you will be surprised at how long the list becomes. Get creative and consider everything a possibility, but prioritize the best ideas.

In addition to curb appeal, it's about being recognized as a retailer that has fun ideas and products. It is about being a place where people can get ideas or spend time being visually

entertained. It is truly about being a place that easily comes to everyone's mind and pops up in conversation as being exciting and different.

Plan for it, and you will be a destination. Install it and they will come. Entertain them and you will reap the rewards of increased sales. Entertain them even when you are closed!

CLOSED for the season? NEVER!

I drive by a local nursery in my neighborhood in January and February without ever noticing anything of interest. In fact, I wonder if they are closed or have simply gone out of business since last year? What I see is a chain across the driveway entrance, an office building that needs attention on the exterior, some rock piles, and mainly empty lot space! It is not a pretty sight.

As business people, owners always have to think ahead about sales, business, and the image that they are presenting. Even when your business is closed, you need to attract attention so when Spring arrives, and it will, you are at the top of the "Honey Do" list for homeowners.

As with any promotional signage or display, this is not a major task, but it receives major attention. It keeps your business on the customer's mind, so the customer is thinking ahead, with you. Here are some simple examples that work.

**Spring is around the corner** – Display a large sign that has a simple but direct marketing message. This can be achieved with a four-foot by eight-foot piece of exterior plywood. In fact, you can add character to the wood by cutting a custom-designed shape, as opposed to a rectangular sheet of wood. Bright and bold colors are mandatory. The shape could have an organic and plant-like top and sides with blades of grass and flowers. One optional message could be, "Closed for the season but planning

for your Spring landscaping projects.”

**Get your project list ready** – Utilizing a custom-designed and cut painted piece of wood, replicate a “Project” or “Honey Do” list, which contains all of the basic materials that your business sells and that a typical landscaping project will require. Specify a date to buy the items and coordinate that with your reopening date for Spring sales. Use a large red check mark in a box in front of the items required. Add some basic required tools in front of and around the sign. Examples include shovels and other garden tools, wheelbarrows, bags of soil, buckets, and hay bales. You could actually place the sign and tools on top of a ton of top soil for added height and increased visibility.

Regardless of which direction you take, make sure that there are lights used at night to highlight the signage and the display.

Another nursery in my city takes a different approach based on their lot and building design. They have a parking lot in front of the main building on a major street. Passersby can easily see into the building entrance through glass doors and side panels. Just inside, they have a themed display for Christmas that changes into something New Year’s-related, becomes Spring-oriented, and so on. The building is illuminated at night and actually glows in the direction of the street. This is a great reminder and seasonal marketing approach that is useful at any time of the year.

Greg M Gorman is a Principal with GMG Design, Inc. a multi-disciplinary design and planning firm that specializes in retail branding for specialty retailers. For more information, visit [www.gmgdesigninc.com](http://www.gmgdesigninc.com)

*Excerpted from The Michigan Landscape, November/December, 2005.*

## **PLAN AHEAD FOR YOUR COMPANY’S SURVIVAL**

As the founder, owner, and manager of your family business, you probably have a hard time imagining anyone else running your company as well as you. You may be right, but that attitude spells trouble. Even though they know better, many successful entrepreneurs choose to ignore the need for planning for their business succession.

For many, it’s a question of facing up to their own mortality. For others, it means making a difficult choice of a successor from among their children or valued employees. Since many owners’ income and assets are tied up primarily in the business, passing it on means not only giving up control, but also their financial security.

Family businesses face other problems too: sibling rivalry, squeamishness among family members about addressing tough business issues, and a lack of talented or willing management to carry the business into the next generation. In order to avoid a family rift, many families avoid the difficult question of what will happen to the business after the entrepreneur retires or dies. True, emotions are part of nearly every decision affecting the future of the company.

The business owner must be able to objectively assess the business from both a personnel and financial point of view.

Failure to adequately prepare for the future has been the death knell of many family businesses. According to a study by the Wharton Business School of the University of Pennsylvania, only about one-third of family-owned or controlled businesses survive into the second generation. And, the odds of continuing into the third

generation are even slimmer.

Waiting too long to put a business succession plan into place can also damage the business. Customers, creditors, suppliers, and even employees grow nervous about whether the company will fall apart once the owner is gone. Without a clear-cut program of succession, your family business may begin and end with you.

### **Creating a Solid Succession Plan**

If you want your business to be in the one-third of businesses that survive, planning is essential. In essence, a business succession plan is a documented road map for your partners, heirs, and successors to follow in the event of your death, disability, retirement. It can include a strategy for distributing business stock and other company assets, buy-sell agreements, life insurance policies for estate tax liabilities, debt retirement schedules, and the division of responsibilities among successors. A plan may also be used to orchestrate the sale of your business if your children aren't interested in or capable of running it.

### **Plan for the Unpredictable**

A viable business succession plan is, above all else, flexible. Business, family, health, and partnership situations can change at any moment. You should be able to easily modify and amend your plan to adapt to any changes that may lie ahead. Consider these examples:

- For years, your son has been an active player in your business; he's come up through the ranks and his last three deals netted a hefty profit for the company. Now it turns out your daughter wants in, too. Her legal background will be a big plus. How will you divide company ownership and leadership responsibilities between them without causing family friction?

- What happens if someone on your management team is suddenly disabled and most likely will not return to work? What if your partner and her husband divorce and the settlement calls for a division of a portion of the business? Or, what if you need an infusion of capital to take advantage of a sudden expansion opportunity? Whatever situation may arise is your business structured to handle unexpected changes and opportunities? Be prepared with a plan that can help meet the challenges of life's twists and turns.

### **Who Will Carry the Torch?**

Is there really anyone out there who can run your business with that same inimitable style and acumen that you've brought to it? There won't be unless you are there to teach that person how. By grooming a successor now, you will be able to impart the knowledge and experience you have accumulated over the years, and be assured of continuity in leadership style and, hopefully, profitability after you're gone. Picking a successor can be a minefield, especially if you have a choice of equally qualified children or employees.

With more than one child involved in the business, you must decide which one gets to be boss and which merely get voting stock. How will you divide assets equitably among your heirs if some are active business participants and others are off in their own careers? The distribution of power and assets among siblings can be a highly divisive issue, even in the happiest of families. More than one family business has folded because of discord over these problems.

Your challenge: divvy up business responsibilities and assets in a way that allows

your business to survive while preserving family harmony. If you are lucky, you may already have a capable child to whom you'd be pleased to pass the reins. Once you have chosen your successor from among your children, the only hitch is keeping the others interested, loyal, and productive, despite being passed over.

No likely candidates among family members or your employee pool? That is a warning sign you shouldn't ignore. Your management style may be hampering employees from turning into leadership material. Or, your hiring and training programs simply may not be doing the job. It is difficult for any business owner to let go, but letting go and training the next generation of leadership is the only way to protect your company's future. Be sure to make career advancement and management training programs a top priority.

Don't wait until it is too late. With the guidance of qualified financial and legal professionals, put in place a business succession plan that will give your business the solid financial and leadership base that it needs to survive.

Cathy Narvarre-Ross, is a registered representative of Lincoln Financial Advisors, a broker/dealer, and offers investment advisory service through Sagemark Consulting, a division of Lincoln Financial Advisors Corp., a registered investment advisor, 26555 Evergreen Rd., 16<sup>th</sup> Floor, Southfield, MI, 248-948-5144. Insurance offered through Lincoln affiliates and other fine companies.

This information should not be construed as legal or tax advice. You may want to consult a tax advisor regarding this information as it relates to your personal circumstances.

*Excerpted from The Michigan Landscape, November/December, 2005.*

## FALL GARDENING TRENDS RESEARCH REPORT

*The 2005 Fall Gardening Trends Research* report contains great information on consumer attitudes for the fall gardening season. How are consumers planning to spend their gardening dollars to address current issues?

1. For garden-related purchases this fall, a quarter of households plan to buy fall flowers (25%). Plant so purchase bulbs this fall increased by 5 percentage points over last year. Plans for purchasing fall vegetables remain consistent with last year.
2. More than a third of households (37%) cite "lack of time" as their main obstacle to fall gardening. Other obstacles include the weather, shorter daylight hours, and reduced interest.
3. Americans plan to protect plants from winter damage. One in four plan to mulch outdoor beds (25% in 2005 and 29% in 2004). Households planning to use fabric, tree wrap and deer or rodent control complete the list of methods of protection from winter damage.
4. This year, as well as late (37% in 2005 and 35% in 2004), growing houseplants is expected to be the most popular fall indoor activity.
5. Two out of five households feel the most important criteria for selecting plants this fall is their viability to serve as spring plants (38%). A quarter of households plan to choose plants that extend fall color and only about one in ten plan to buy plants for winter interest.
6. Almost half of the population (49%) plan to give some type of gardening items as gifts to family, relatives, friends, or business associates. Completing the list of planned garden-related gifts are gardening books, magazines, garden tools and seeds or bulbs.

The fall survey is the final scheduled *Gardening Trends Research* report for 2005. Survey questions were developed by a panel of experts based on current industry issues. The research was made possible by a generous grant from *Fiskars Garden & Outdoor Living* for the benefit of the lawn & garden industry.

The *Fall Gardening Trends Research Report* was conducted in August and covers consumer expectations and attitudes for activities and purchases planned for October 2005 through January 2006. The survey was conducted by Techno Metrica Market Intelligence, a national consumer polling organization, and statistically represents the attitudes of 105 million households with an accuracy of 95% (+/-3 percentage points).

For more information: [www.gardenwriters.org/](http://www.gardenwriters.org/)

*Excerpted from VNLA Newsletter, September/October, 2005.*

## WHY DO YOU GARDEN?

**Kathy Sevebeck**

Editor's Note: The following was also printed in the Sept/Oct issue of the VNLA Newsletter and might offer insights into why people garden.

In the November/December 2004 issue of the VNLA Newsletter, the Certification Quiz asked the question "Why do you garden." Below are the responses from those returning the quiz postcard.

- I breath better; feel happier
- Relaxing hobby that I can share with my son
- Plants don't talk back
- Helps me to relax after work
- Gives me my regular physical exercise and helps reduce stress

- I maintain a park-like setting outside my large office windows with bird attracting plants and feeders. Taking just two minutes to focus on them in the park refreshes me for more work at the drafting table
- Helps me turn off negative thought
- Calms me down; reduces stress
- I sleep better now that I work in the industry versus office work which I used to do
- Stress relief; say goodbye to the gym; a balm for divorce; kid relief; Zen
- I always feel great after working in my yard. Only darkness chases me in
- Makes me feel healthy and alive
- Calming and enjoyable therapy. Satisfaction. I see the results I have completed and designed
- Relaxing and very enjoyable. Being outside and getting some exercise is a very good way to spend a day or weekend
- Great feeling of accomplishment improving the environment one home at a time
- Using a push mower to mow 1 1/2 acres relieves my workday stress and keeps my weight down
- My father and I always garden together and now my son and I do. It's a great family activity
- Helps me stay healthy and fit
- I moved into a renovated home that had minimal landscaping. I feel a sense of pride every time I add to my garden. The exercise and creative process involved with gardening make me a happy homeowner
- Plants brighten my day and bring happiness
- When things become stressful in the house with the children, I escape to the quiet yard and work off my aggressions in a multitude of ways.
- The windows in my house frame landscape features to draw attention to the outdoors. This lets me feel closer to nature and backyard wildlife
- After spending 14 years in law enforcement, in which you receive very little recognition for your services, I find that in my lawn and landscape business, when customers praise my services, it is gratifying to know that I have truly satisfied their needs and it gives me confidence in myself. This has given me a better outlook on life with much reduced stress.
- Love my job

## **FUZZY MATH: PRODUCT PRICING**

**Stan Pohmer**

**Pohmer Consulting Group**

Determining value requires a look at consumers and your business. Over the past few years we've seen an emphasis, no, more like a religious-like crusade, to focus on lower costs to achieve lower retails so that some retailers can claim they are the lowest cost providers to the American consumer. And, yes, it's true that our economy has been lagging and consumers have had to tighten their proverbial spending belts to maintain a standard of living during a period of self-doubt over job security, so it may have been the right strategy at the right time.

Wal-Mart has single-handedly changed the consumer mindset about the definition of value with its relentless message focused on low prices, building its entire image on price value. Its logic and business model has been that, by lowering retails, it can increase unit sales velocity. Increased unit velocity allows improvement of distribution and logistics efficiencies, achieving lower operational costs. These operational savings can then be used to again lower its retails while maintaining its margins to again increase the unit velocity and achieve even more operational savings...and then this process is repeated again and again.

And accounting for over 8% of all retail sales in the United States, Wal-Mart's sheer size and its dominant business philosophy has forced many retailers to change their emphasis to price value in order to compete for the consumers' minds, hearts and dollars.

Now don't get me wrong...I'm not a Wal-Mart or big box basher by any stretch of the imagination. I truly believe they have done more for our industry to expose new consumers to our category than the traditional retailers

could have ever thought possible. And I also believe that they have issued the wake up call to our industry that we needed to approach our production and distribution in a more business-like way, forcing us to look for smarter, more efficient ways of operating.

However, the challenge producers and independent retailers face is that we can't necessarily achieve the same operational cost savings based on increased volume that the mass market retailers can. There are many producers and retailers who have invested tremendous amounts of capital into building new state-of-the-art facilities outfitted with the most advanced computerized systems and labor-saving technology in an attempt to reduce their costs of doing business, and, if done for the right reasons and if they can staunch the profit erosion caused by being the lowest cost/retail provider, it's a prudent investment. Too often, however, I hear "I'll work on lower margins, but I'll make the profit up in increased volume" as the justification for these investments. However, wait a minute...these investments should be made to achieve cost containment, not profit containment! The reality is that there's a definite point of diminishing returns on just how much cost savings a grower can realize by operating and producing more efficiently; if, after exhausting all of the cost containment activities and investments, he wants to continue feeding the Wal-Mart-like decreasing price spiral business model, the only way to participate is by reducing profit. And in my way of thinking, this is not a place one wants to be for the long term.

### **Determining Value**

Something we often forget is that it's the consumer who ultimately determines the value of a product, not some accountant or business analyst who is focused on crunching numbers. And price, though important in the value

determination process, is not the sole criteria. My personal view is that we, ourselves, devalue the perception of our products much more than the consumer does. We, ourselves, place the limits on the intrinsic value we offer the consumer. We, ourselves, are the ones that are overly engrossed with the “how low can we go” mentality.

A study performed in more than 2,400 companies from various industries by McKinsey, one of the few major consulting groups that I have respect for, researched the impact pricing decision strategies have on profitability. What they found was that:

- A 1% reduction in fixed costs alone improved profitability by 2.3%;
- A 1% increase in volume alone will result in a 3.3% increase in profit;
- A 1-percent reduction in variable costs alone will prompt a 7.8% increase in the bottom line; but
- A 1% hike in selling price alone can boost profitability by 11%.

What we often fail to remember with our myopic focus on reducing costs is that all of the expenses are measured as percents...percents to sales. Raising the selling price incrementally by 1% should not have a material effect on unit velocity, so higher net sales dollars should result; this automatically reduces the percent to sales for all of the other business expenses...fixed costs, variable costs, etc. And just think of the bottom line impact if you can raise your selling price and achieve real dollar cost savings in fixed and variable costs simultaneously... here's where the multiplier effect really comes into play.

Okay right about now some of you may be thinking that I'm chasing windmills and not playing in the real world that we all are living in, that I must be living on Walden Pond or in

Utopia. However, there are concrete actions you can take to make these dreams into realities, but it's going to require real change and true alliances. Retailers can provide some of the solutions, but producers or manufacturers need to provide the rest; individually you can achieve part of the benefit, but working together you can make it happen.

Here are some things to consider:

- Take our primary focus off cost, and put the focus on ways to improve real consumer value. This might include the consumer's in-store purchase experience, the presentations, the displays, the signage, the information and education provided...and yes, the product itself.
- Remember what we are really selling...satisfaction, success, enjoyment, fun, home/yard decorating; the products we sell are the means to the end, not the end unto themselves.
- Market the consumer end result, not just advertise product at a price
- Suppliers need to become service and product providers, to help the retailers deliver this value to the consumer.

The mass market has done a lot for us by forcing us to become better operators. Now it's up to us to leverage what we've accomplished and take it to new levels that benefit the industry and our consumer. Remember, it's the consumer who determines our value!

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*Reprinted from VNLA Newsletter, Sept/Oct, 2005.*

## STORING PESTICIDES SAFELY

The proper storage of pesticides, both synthetic and botanical, in and around the home is important for many reasons, including protecting human health, preserving the environment, and maintaining chemical effectiveness. One way to minimize storage problems is through good planning.

Buy only the amount of pesticide that you need for a specific job or for the current growing season. The smaller-volume containers, even if more expensive ounce for ounce, may in fact be the “best buy” in the long run by eliminating waste and the need for storage space. If you need to store pesticides on your property, follow these guidelines – for safety’s sake!

**Consult the label for specific storage requirements.** Always read the pesticide label for specific storage requirements. The chemical and the container in which it is purchased must be maintained in good condition. This is necessary to ensure that the material remains useful and to avoid environmental or human health hazards.

**Design a pesticide storage area.** Design or designate a pesticide storage area that meets the following requirements:

- Easy to lock
- Well-ventilated
- Properly lighted when in use
- Dry – protected both from flooding and high humidity
- Protected from extreme heat and freezing
- Spacious enough to allow for separation of herbicides, fungicides, insecticides, and fertilizers if all these types of materials are to be stored
- Enclosed in such a manner that leaks and/or spills may be contained and cleaned

without compromising the soil and water quality in the vicinity.

Design storage areas to keep out unwanted visitors, especially children and animals! Good lighting and ventilation are important to protect the health of anyone using the storage area. Proper ventilation can also prevent chemicals from affecting other materials in storage. Be sure to store pesticides where their fumes cannot invade areas used by people or pets. Group stored chemicals by type as a precaution against cross-contamination.

Dampness is a serious problem, as it reduces the shelf life of many chemicals and causes metal and paper containers to decompose. Design storage areas so there is no danger of chemicals being washed into our water by flooding or by accidental spills into water drains.

Temperature extremes can cause physical or chemical changes to pesticide products. Such changes may make the product ineffective and/or cause plant injury. Heat makes chemicals more volatile and unstable. Freezing can cause some types of containers to break open. If specific temperature ranges are required for proper storage, they will be printed on the product label.

Finally, design the site to contain, or stop the further spread of, any spills and/or leaks.

**Store pesticides safely.** Use approved techniques for storing pesticides safely:

- Locate your storage area where cleanup materials (absorbents, water) will close by.
- Keep pesticides in their original containers. A legible product label must be attached to the container.
- Do not store pesticides with or near food, medicine, or cleaning supplies

## ANLA UPDATE

- Do not store pesticides with or near seed or animal feed.
- Do not store flammable materials with pesticides.
- Organize pesticide products in storage so they are accessible and visible.
- Place opened containers in clear plastic bags or see through plastic ware. This will allow for easy identification of products while containing leaks and helping to avoid accidental spills.
- Mark all containers with the date of purchase. Keep a written inventory of materials on hand, and use older chemicals first. A storage inventory helps in planning purchases next season. Useful records may include product name, active ingredient, date of purchase, record of use, and date of purchase, record of use, and date and volume stored.
- Routinely inspect your storage area. Check containers for damage or leaks. Dispose of unwanted or outdated material according to the label recommendations.

Never transfer excess pesticide or fertilizer to an empty foot container. A child or nonreader may be poisoned accidentally!

The original development of this series was funded by ES-USDA Smith Lever 3(d) National Water Quality Initiative Funds and the Virginia Department of Conservation and Recreation, Division of Soil.

*Reprinted from the VNLA Newsletter, Sept/Oct, 2005.*

### **Highway Bill Passes, Stripped of Most**

**Invasive Species Language.** The final \$286 billion highway and mass transportation funding bill authorizes the use of federal funds for plant establishment and management. ANLA succeeded in offering alternative language that took the place of a problematic section dealing with the control of invasive plant species and establishment of native species. The original language, which had been included in an earlier Senate-approved version, had caused concern among numerous stakeholders. ANLA worked with Senate and House staffers to prepare alternative language that would keep planting and landscaping projects eligible for funding and avoid inclusion of a controversial “invasive species” definition.

Unfortunately, language crept back into the final bill directing the use of “native species where possible.” It remains to be seen how this ambiguous language will be interpreted. ANLA believes that state and local decision makers should have the flexibility to choose the best plants for the circumstances. In some cases, native plants may be the best choice, and in others, non-native plants may provide the attributes and benefits needed. The federal government should not attempt to mandate plant choice.

### **“Farm Bill” Listening Tours” Underway.**

Every four years, Congress considers-and usually adopts – a “Farm Bill.”

Although the subsidies and loan rates in farm bills typically relate to large commodity crops, the bills usually include environmental and conservation provisions of interest to non-row crop states and industries, including the nursery and greenhouse industry. ANLA has already advised several state associations and members on topics to raise during upcoming “listening

sessions” with Secretary of Agriculture Mike Johanns and also will advocate for provisions benefiting nursery and greenhouse growers.

#### **EPA Issues 2, 4 – D Re-Registration Decision.**

EPA is issuing its re-registration eligibility decision (RED) for the widely used agricultural, pasture and rangeland, and residential lawn herbicide 2, 4-D. With the risk mitigation measures specified in the Agency’s RED document. 2, 4-D is eligible for re-registration and can be used without posing risks of concern to human health or the environment. This risk management decision was developed with significant input through the agency’s public participation process for re-registration and tolerance reassessment. To meet the new re-registration requirements, EPA is requiring changes for residential lawn and turf and aquatic applications, as well as drinking water, occupational and ecological risks.

Carcinogenicity concerns have placed 2, 4-D under preliminary special review status since 1986. In 1992, based on scientific input, EPA classified 2, 4-D as Group D, not classifiable as to human carcinogenicity. The agency reaffirmed that conclusion in 1999. More recently, EPA twice reviewed epidemiological studies linking 2, 4-D to cancer and concluded in January and December 2004, that none of the more recent studies definitely link human cancer cases to 2, 4-D. A final notice of the agency’s decision not to initiate a full special review will be issued at the completion of the re-registration process. Documents relevant to the re-registration of 2, 4-D are available on EPA’s 2, 4-D re-registration website:

<http://www.epa.gov/oppsrrd1/reregistration/24d>.

If you have any questions or would like further information on these and other important industry issues, please contact Craig Regelbrugge of ANLA at 202-789-2900 or [cregelbrugge@anla.org](mailto:cregelbrugge@anla.org)

## **Research Briefs**

### ***Propagation:***

**Efficacy of plant growth regulator preplant bulb dips.** This research indicates that as many as 55, 14- to 16-cm lily bulbs may be dip-treated per liter of Bonzi or Sumagic without loss of solution efficacy. In this study, bulbs were washed and unwashed (peat or soil particles clinging to bulb). Washed bulbs were significantly taller than unwashed bulbs. This result indicates that washed bulbs absorbed water resulting in less growth regulator absorbed during the dip treatment. Since unwashed bulbs were shorter than washed bulbs it is presumed that the presence of peat and soil from did not reduce the efficacy of the growth regulator solution. (M.K. Dmoyanthi Ranwala, A.P. Ranwala and W.B. Miller)

*Excerpted from HortTechnology, 15(3):551-553, July-September, 2005.*

**Bulb soak basics from NC State.** The following are the results from a series of studies performed at NC State to analyze the process of soaking bulbs in plant growth regulator solutions. No differences were found in height control when hyacinth bulbs were soaked the day of, the day before or seven days before planting. So the procedure allows some flexibility as to when you can soak bulbs. It takes about 370 hyacinth bulbs to use up 1 gal. of solution. Based on these results, the solution will be used up before any loss of efficacy occurs. Soak time depends on the bulb. Two minutes is the recommended soak time for hyacinths, but longer is OK, too. Freesias require a longer soak time (60 minutes) because of the outside tunic. Ten-minute soak times worked for tulips, narcissus, dahlias ‘Star-Gazer’ lilies and Easter lilies. You can not legally dispose of PGR solution. Either use it

up by soaking bulbs or use as a substrate drench to another crop. Solution temperature should be in the range of 60-75 F. (B. Krug, B. Whipker and I. McCall)

*Excerpted from Greenhouse Product News, 15(10):44-49, October 2006.*

### **Container Production:**

**Cotton gin compost as a container substrate for nursery crops.** Cotton gin waste (CGW) that had been composted for one year (CGC) was used to replace 25, 50 or 75% of the pine bark fraction of a substrate blend. In both experiments, growth indices of all cultivars (plants tested included boxwood, azalea and nandina) in substrates containing CGC were similar to or greater than those of the pinebark:sand control blend. Visual quality of root systems was similar for all plants across all substrates. Composting of cotton gin by-products provides a viable substrate for use in the production of container grown nursery crops. (In another study, these same researchers found that root growth of tomato, lantana and weeping fig was similar or enhanced in substrates containing CGC as compared to 100% pinebark) (B.E. Jackson, A.N. Wright, D.M. Cole and J.L. Sibley)

*Excerpted from J. Environ. Hort. 23(3):118-122 and 133-137. September 2005.*

### **Greenhouse Production:**

**Fire Flash: An exotic ornamental foliage plant.** Fire flash (*Chlorophytum amaniense*), a member of Liliaceae, is attracting considerable attention in the foliage plant industry as a new addition for interior landscaping. Coral-colored petioles and midribs contrasting with dark green leaves make it a sought after specimen. Originally collected from rainforests of eastern Africa in 1902, it has remained largely obscure

for a century. Recently, studies on fire flash's propagation, production, and interiorscape performance have been completed. Fire flash can be propagated through seed, division, or tissue culture and produces as a potted foliage plant under light levels from 114 to 228  $\mu\text{mol}/\text{m}^2/\text{s}$  and temperatures from 18 to 32 C. Finished plants after being placed in building interiors are able to maintain their aesthetic appearances under a light level as low as 8  $\mu\text{mol}/\text{m}^2/\text{s}$  for 8 months or longer. (J. Chen, D.B. McConnell, R.J. Henny, K. Everitt and R.D. Caldwell)

*Excerpted from HortTechnology, 15(3):686-689, July-September, 2005.*

### **Field Production:**

**Alternatives to methyl bromide for field-grown herbaceous perennial production.** Finding alternatives to replace Methyl Bromide (MeBr) is an important issue for herbaceous perennial plant growers. Methyl bromide is a widely used soil fumigant for control of soil borne pests. The Montreal Protocol agreed to phase out MeBr by December 2005 due to its ozone depletion activity. Fifteen treatments were applied on September 12, 2002. (Treatments included the following chemicals tarped and not tarped at different rates: Basamid, iodomethane 50% plus chloropicrin 50%, metham sodium, 1:4 water, Telone C-35, iodomethane (98%) + 2% chloropicrin.) Seven ornamental species were planted in June 2003 (nine months after treatment): *Euphorbia polychrome*, *Echinops bannaticus* 'Blue Globe', *Lavandula angustifolia* 'Hidcote Blue', *Hosta* 'Twilight PP14040', *Artemisia schmidtiana* 'Silver Mound', *Chrysanthemum xsuperbum* 'Snow Lady' and *Coreopsis verticillata* 'Moon Beam'. Most fumigants tested gave good weed control up to 20 months after application. Iodomethane 50% + 50% chloropicrin (200 lb/A) tarped and Metham (75 gal/A, 1:4 water)

not tarped had the poorest control of most summer annual weeds. In the first case, the low rate and in the second case, lack of tarping could be the factors that contributed to the poor weed control. In general, most fumigants did not injure the ornamental crops evaluated in this experiment. Minor injury to Euphorbia caused by some treatments was reflected in the size when measured in November 2003 and May 2004; however, this minor injury may not be important for the plant sales. In addition, further investigation needs to be done to determine if any other variable could cause this injury and smaller crops. All these fumigants have potential to replace MeBr. They had good weed control and did not interfere in crop development. (R. Uhlig, G. Bird, J. Davenport, M. Particka, R. Richardson, B. Zandstra)

*Excerpted from The Michigan Landscape, September/October 2005.*

#### **Landscape:**

***Ilex glabra* (inkberry) survival in beach restoration projects.** Inkberry is a stoloniferous shrub forming extensive, dense colonies. Reestablishment of inkberry via nursery transplants following complete loss of primary and secondary dunes was attempted because the colonizing nature of the plant serves as habitat in the coastal dunes. Inkberry plants from gallon containers and 3-gal treepot containers were planted at 92, 124, 170 and 200 m from the Gulf mean high tide line on Santa Rosa Island, Fla. Inkberry survived greater wind speeds, salt deposition, and lower soil moisture when grown in 3-gal treepot containers (80% survival vs. 50% survival in one gallon containers). Regardless of size, the authors do not recommend planting inkberry except in a beach zone with a foredune ridge (>1 m) or another similar source of protection between the planting and the Gulf and at least 142 m from the Gulf mean high tide line. (M. Thetford, D.

Miller, K. Smith and M. Schneider)

*Excerpted from HortTechnology, 15(3):554-559, July-September, 2005.*

**Turfgrass seed and sod establishment on compost amended soil.** Overall, the compost performed well as a soil amendment for turfgrass. A 2-to 3-inch depth of compost appeared to be the best incorporation rate for the soil and compost used in this study. High salinity and excessive ammonium nitrogen levels in the compost-amended soil at the time of establishment caused a 2-to 3-week delay in seed and sod establishment. After the 2 to 3 weeks, the compost-amended plots outperformed the one-time fertilized plots in turfgrass color and density. Turf managers may want to account for the delay in establishment when incorporating 60-day-cured compost. (D.T. Linde and L.D. Hepner)

*Excerpted from HortTechnology, 15(3):577-583, July-September, 2005.*

#### **Insect Control:**

**Fertilizer affects pest populations.** Higher nitrogen concentrations in the form of supplemental fertility used in greenhouse production systems result in enhanced performance of citrus mealybugs based on higher egg loads, larger mature females and shorter developmental times on coleus plants. The results of this study were similar to those dealing with insect pests, particularly phloem-feeders such as sweet potato whitefly, greenhouse whitefly, melon aphid and green peach aphid, when exposed to high nitrogen concentrations. When greenhouse growers attempt to “push” their crops by fertilizing at rates higher than those recommended by manufacturers they increase the likelihood of plants falling over and elevated pest outbreaks. (B. Hogendorp and R. Cloyd)

*Excerpted from Greenhouse Product News, 15(10):32-36, October 2006.*

**Efficacy and costs of bagworm manual removal.** Handpicking bagworms from leyland cypress provided 92% control. The estimated cost to hand pick one tree was \$44 and over \$1700 for 40 trees. The estimated cost to spray the trees with the insect growth regulator tebufenozide (Confirm©) was \$28 for one tree and \$105 for forty trees. At low populations levels or if only a few plants are affected, handpicking may be a viable option for bagworm control. However, if many plants require treatment, handpicking may be more than ten times as expensive. (H.D. Lemkle, M.J. Raupp and P.M. Shrewsbury)

*Excerpted from J. Environ. Hort. 23(3):123-126. September 2005.*

**Control of crapemyrtle aphid and Japanese beetle on crapemyrtle.** Flagship and Merit provided excellent control of both aphids and Japanese beetles. Greatest reduction in Japanese beetle damage was evident with Talstar and Scimitar. Tame displayed moderate to good control of both pests. Azatin, a neem extract, showed relatively low effectiveness for aphid control when compared to the other products.(G.V. Pettis, S.K. Braman, L.P. Guillebeau and B. Sparks)

*Excerpted from J. Environ. Hort. 23(3):145-148. September 2005.*

**Comparison of instruments and contract services to calculate degree-days.** The following instruments and services were found to have no significant differences in degree-day calculation (Wescor Biophenometer Datalogger, Avatel HarvestGuard, Avatel Datascribe Junior, Davis Weather Monitor II, Accu-Trax, and the HOBO H8 Pro Temperature Data Logger.

Selection of an instrument should be driven by factors such as cost, time required to access/interpret data, and personal preference. (M.L. Richardson and D.M. Caron)

*Excerpted from HortTechnology July-Sept. 2005 15(3).*

### **Marketing:**

#### **Landscape plant material, size and design sophistication increase perceived home value.**

Overall, participants valued the landscape design sophistication most. Landscape professionals should emphasize to customers that island beds and curved bed lines add to the perceived value of a home. Results showed that in the seven states, plant material type was least important. Plant size was of intermediate importance. Still, the largest affordable plant size should be used as it consistently provided a higher perceived value. Professional landscape managers can show potential clients that a good landscape adds 5 to 11% to the perceived value of a home. (B.Behe et. al.)

*Excerpted from J. Environ. Hort. 23(3):127-133. September 2005.*

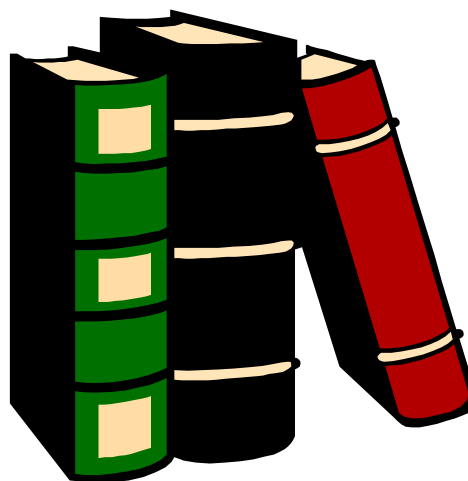
# Publications

**Resource Guide for Organic Insect and Disease Management**, now available from Cornell Cooperative Extension. Publication provides organic farmers a well designed, smartly organized, and scientifically accurate source for organic farming best practices, available pest control materials, and organic farm production rules as set forth by the USDA National Organic Program and the US. EPA. Consists of 169 pages. Spiral Bound Paperback. ISBN: 0-9676507-2-0. Item code: 102RGOIDM, list price \$14.95. Order online: [www.cce.cornell.edu/store](http://www.cce.cornell.edu/store), or call 1-607-255-2080, fax-in 1-607-255-9946.

**Looking for a Pesticide Label Online?** EPA's pesticide product label system (PPLS) database has been updated. This is a collection of images, in multi-page TIFF format, of pesticide labels approved by the Office of Pesticide Programs under Section 3 of the Federal Insecticide, Fungicide and Rodenticide Act. The collection contains the initially approved label for pesticide products registered under FIFRA Section 3, as well as subsequent versions of labels, which have changed via amendment or notification. In addition to the stamped approved labels, this collection contains any associated correspondence about the terms of registration, specifying any changes that the registrant was required to make in the final printed label. Because some label amendments address only portions of the label, you may have to review several labels for a single product to determine the complete terms of registration.

The collection does not identify those products that have been subsequently cancelled or transferred, but rather identified each pesticide label as it appeared at the time it was approved. The label images are indexed by EPA

registration number and the date on which the label was initially registered or amended. If you do not know the registration number, you can search all federally-registered products by active ingredient, product name or company name IN EPA's Pesticide Product Information System, which you can access on the California Department of Pesticide Regulation website at <http://www.cdpr.ca.gov/docs/epa/epamenu.htm> For more information, contact Marc Tefteau at [mteffeau@anla.org](mailto:mteffeau@anla.org).



# Calendar

**January 2-17, 2006** – Winter School for Turf Managers, University of Massachusetts, Amherst. Application deadline: Sept 16<sup>th</sup>. For more information- Phone(413)545-0530; fax: (413)5454-3351, e-mail: [academicprograms@contined.umass.edu](mailto:academicprograms@contined.umass.edu)

**January 5** – Educational Programs for the Green Industry: Southeast Pennsylvania Nursery/Landscape Conference, Delaware Valley College, Doylestown, PA. Contact Scott Guiser (215)345-3283 for more information. Pesticide update credits will be provided.

**January 5, 6, 12, 13** – Educational Programs for the Green Industry: Arborist Short Course, Montgomery County 4-H Center, Creamery, PA. Contact Julianne Schieffer (610)489-4315 or [jxs51@psu.edu](mailto:jxs51@psu.edu)

**January 10-12** – Educational Programs for the Green Industry: Eastern PA Turf Conference and Trade Show, Valley Forge Convention Center, King of Prussia, PA. Contact Pennsylvania Turfgrass Council (814)355-8010 or [ptcinfo@paturf.org](mailto:ptcinfo@paturf.org). Pesticide update credits will be provided.

**January 11-13** – Mid-Atlantic Nursery Trade Show 2006 (MANTS). Maryland Nursery & Landscape Association, Virginia Nursery & Landscape Association, West Virginia Nursery & Landscape Association. Baltimore Convention Center. Call(410)296-6959; fax (410)296-8288; e-mail: [mants2006@mants.com](mailto:mants2006@mants.com); [www.mants.com](http://www.mants.com)

**January 18-19, 2006** – Delaware Horticulture Industry Expo, Modern Maturity Center, Dover, DE. Contact Valann Budischak (610)274-2166.

**January 18-20** – Mid-American Horticultural Trade Show (Mid-Am), Chicago, IL. Call for information: 1-847-526-2010 – [www.midam.org](http://www.midam.org)

**January 19-21** – Tropical Plant Industry Exhibition (TPIE), Fort Lauderdale, Fla. For more information call: 1-407-295j-7994 – [www.fngla.org/tpie/](http://www.fngla.org/tpie/)

**January 23-25** – Central Environmental Nursery Trade Show (CENTS), Columbus, Ohio, 1-800-825-5062 – [www.onla.org/cents.html](http://www.onla.org/cents.html)

**January 24** - Landscape Installation Do's and Don'ts. Instructor: Gordon Johnson, 7-9 PM, Kent County

Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**January 26** – Educational Programs for the Green Industry: Northeastern PA Turf Conference and Trade Show, The Woodlands Inn and Resort, Wilkes-Barre, PA. Contact Pennsylvania Turfgrass Council (814)355-8010 or [ptcinfo@paturf.org](mailto:ptcinfo@paturf.org). Pesticide update credits will be provided.

**January 28** – Greenhouse Basics – Classroom Session 1. Instructors: Gordon Johnson, 9-11 AM, Kent County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**January 29-31** – 40<sup>th</sup> Annual Penn-Del ISA Shade Tree Symposium, Lancaster Host Resort, Lancaster, PA. Contact: Betsy Wertz (215)795-0411 or [www.pennidelisa.org](http://www.pennidelisa.org). Pesticide update credits will be provided.

**January 30-31** - Educational Programs for the Green Industry: Deciduous Tree Identification, Smedley Park, Springfield PA. Contact: Cheryl Bjornson (61)696-3500 for more information.

**January 31**- Working with Clients - Educating your clients, Instructor: Gordon Johnson, 7-9 PM, Kent County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**February 1** - HORT 101 - Session 1 - Soils and Managing Nutrients, Instructor: Gordon Johnson, 7-9 PM, Research and Education Center, Georgetown, DE \$5, Contact Dot Milsom (302-831-2531).

**February 1-4** – ANLA Management Clinic, Louisville, KY For more information call: 1-202-789-2900 – [www.anla.org](http://www.anla.org)

**February 2** – Green Roofs for Healthy Cities – Knoxville, TN. For more information or to register online, visit [www.greenroofs.org](http://www.greenroofs.org).

**February 4** – Greenhouse Basics – Greenhouse Session 1, Instructors: Gordon Johnson, 9-11 AM, Location to be announced, \$5, Contact Dot Milsom (302-831-2531).

**February 7-9** – 2006 Pennsylvania Landscape and Nursery Conference, The Penn Stater Conference Center, Hotel, State College, PA. Contact: Linda at [lweiss@plna.com](mailto:lweiss@plna.com) or (800)898-3411. Pesticide update credits will be provided.

**February 9** - Working with Clients - Developing long lasting relationships with your clients, Discussion leader: Gordon Johnson, Guest Expert: Susan Barton, 6-8 PM (dinner will be provided), Kent County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**February 9** – 2006 AABGA (APGA) Design and Planning Symposium, Longwood Gardens. The content of the program is being developed by the newly created Design and Planning Committee, will focus on issues related to design and planning at public gardens. Contact Longwood Gardens.

**February 11** – Greenhouse Basics – Classroom Session 2. Instructors: Gordon Johnson, 9-11 AM, Kent County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**February 14** - HORT 101 - Session 1 - Soils and Managing Nutrients, Instructor: Jo Mercer, 3-5 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**February 14** – LCAP Winter Conference, Holiday Inn, Fogelsville, PA. Contact: Jeanie Crowl, Lawn Care Association of Pa, (800)577-6801 or [lawncareofpa@aol.com](mailto:lawncareofpa@aol.com)  
Pesticide update credits will be provided.

**February 15** - HORT 101 - Session 2 – Plant Growth, Instructor: Gordon Johnson, 7-9 PM, Research and Education Center, Georgetown, DE \$5, Contact Dot Milsom (302-831-2531).

**February 15** – Educational Programs for the Green Industry: Winter Grounds Management Seminar, Kutztown Grange, Kutztown, PA. Contact: Emelie Swackhamer (610-391-9840. Pesticide update credits will be provided.

**February 15-16** – Educational Programs for the Green Industry: Christmas Tree Management Short Course, Ramada Inn and Conference Center, State College, PA. Contact: George Perry (570)622-4255 or Rick Bates (814)863-2198. Pesticide update credits will be provided.

**February 17** – 10<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. Pesticide update credits will be provided.

**February 18** – Greenhouse Basics – Greenhouse Session 2, Instructors: Gordon Johnson, 9-11 AM, Location to be

announced, \$5, Contact Dot Milsom (302-831-2531).

**February 21** - HORT 101 - Session 2- Plant Growth, Instructor: Gordon Johnson, 3-5 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**February 22** - HORT 101 - Session 3 – Diseases, Instructor: Bob Mulrooney, 7-9 PM, Research and Education Center, Georgetown, DE \$5, Contact Dot Milsom (302-831-2531).

**February 28** - HORT 101 - Session 3- Pruning, Instructor: Susan Barton, 3-5 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**March 2** - HORT 101 - Session 4 – Pruning, Instructor: Susan Barton, 7-9 PM, Research and Education Center, Georgetown, DE \$5, Contact Dot Milsom (302-831-2531).

**March 5-12** – Philadelphia Flower Show, Pennsylvania Convention Center, Philadelphia, PA. Contact: Pennsylvania Horticultural Society (215)988-8800 or [www.theflowershow.com](http://www.theflowershow.com)

**March 7** - HORT 101 - Session 4 - Turf/Weeds, Instructor: Susan Barton, 3-5 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**March 15** - HORT 101 - Session 5 – Turf/Weeds, Susan Barton, 7-9 PM, Research and Education Center, Georgetown, DE \$5, Contact Dot Milsom (302-831-2531).

**March 16** - Educational Programs for the Green Industry: Back to Basics – Tree Planting, Chester County Government Services Bldg., West Chester, PA. contact: Cheryl Bjornson (610)696-3500.

**March 21**- HORT 101 - Session 5 - Insects and Using Pesticides Safely, Instructor: Susan Whitney, 3-5 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**March 22** - HORT 101 - Session 6 – Insects and Using Pesticides Safely, Instructor: Dewey Caron, 7-9 PM, Research and Education Center, Georgetown, DE \$5, Contact Dot Milsom (302-831-2531).

**March 28** - HORT 101 - Session 6 - Diseases, Instructor: Bob Mulrooney, 3-5 PM, New Castle County Extension

Office, \$5, Contact Dot Milsom (302-831-2531).

**April 5** – Problems in New Developments – Classroom Session, Instructor: Gordon Johnson, 7-9 PM, Research and Education Center, Georgetown, DE, \$5, Contact Dot Milsom (302-831-2531).

**April 5**, - Educational Programs for the Green Industry: Pruning Woody Plants, Wilson Farm, Tredyferin Township, PA. Contact: Julianne Schieffer, (610)489-4315 or Cheryl Bjornson (610)696-3500.

**April 6** – The Ecological Landscape – Session 1 – Horticultural Ecosystems, Instructor: Gordon Johnson, 7-9 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**April 12** – Problems in New Developments – Twilight Session, Instructors: Gordon Johnson and Tracy Wooten, 5-7 PM, Research and Education Center, Georgetown, DE, \$5, Contact Dot Milsom (302-831-2531).

**April 13** – The Ecological Landscape – Session 2– Ecosystem Diversity from an Animal Perspective, Coordinator: Dewey Caron, 7-9 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**April 20** – The Ecological Landscape – Session 3– Ecosystem Diversity from a Plant Perspective, Coordinator: Susan Barton, 7-9 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**April 26** – The Ecological Landscape – Session 4– Managing Water in the Landscape: Wetland Creation and Rain Gardens, Instructors: Jim MacKenzie, Valann

Budischak, Leslie Carter, 7-9 PM, New Castle County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

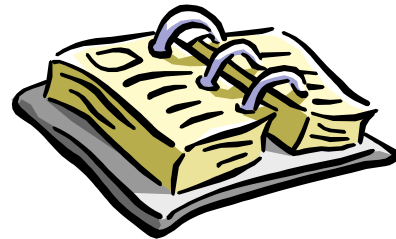
**June 21** – Native Plants in the Landscape, Instructor: Dot Abbott, 9-noon, Research and Education Center, Georgetown, DE, \$5, Contact Dot Milsom (302-831-2531).

**June 29 and July 6** – Native Plants in the Landscape, Instructor: Jo Mercer, 7-9 PM, Fischer Greenhouse, Newark, DE, \$8, Contact Dot Milsom (302-831-2531).

**July 5** – Native Plants in the Landscape, Instructor: Dot Abbott, 9-noon, Kent County Extension Office, \$5, Contact Dot Milsom (302-831-2531).

**July 25-27** – Penn Allied Nursery Trade Show (PANTS), Atlantic City, NJ. E-mail [www.plna.com](http://www.plna.com)

**August 10-12**- SNA 2006 The World's Showcase of Horticulture, Atlanta, GA. Call 1-770-953-3311, [www.sna.org](http://www.sna.org) for more information.



## PLASTICS RECYCLING PROGRAM

### Who can participate?

The program is open to all commercial nurseries and growers in Maryland, Virginia, North Carolina, Delaware, Pennsylvania, New Jersey, West Virginia and Ohio.

### What types of plastics are accepted?

Pots, plug trays, flats and greenhouse film are recyclable. The pots and trays will be stamped with a recycling code—generally “2” for pots and “6” for trays.

### How should the plastic be prepared?

Each type of plastic must be separated on its own pallet. As long as the recycling code is the same, different colors and sizes can be mixed on a pallet. Mixed pallets can be put on the truck, as long as each pallet only contains one type of plastic. If you are unsure of the plastic, please call and we will try to help figure it out. If you have only a little plastic, that you can not determine the type, you can put it on one pallet and mark it “miscellaneous”.

Try to knock the majority of the dirt out of the pots and trays. Usually, tapping the back of the piece will accomplish this. A thin layer of dirt is permissible but excessive dirt could result in rejection of the load. Trays and pots should be nested tightly and stacked on the pallet. Generally, it is best to create 4-foot stacks and then lay each stack, on its side, on the pallet. The pallet should be stacked 7-8 feet high and then banded or stretch-wrapped to avoid movement during transport. The key is to place as much as possible on each pallet.

The greenhouse film should be folded or rolled and placed on a pallet and, then, secured, with film or banding. Greenhouse film will also be accepted in bales or stuffed in cartons. In no case, can the film be stuffed into the truck. All plastic must be easy to load and unload.

### What is the plastic worth?

The value of the plastic depends on the type of plastic, the total weight and your location.

We pay the freight, in all cases, so it is critical to load the truck as heavy as possible. Locations close to our hubs in Delaware and Ohio can earn a bit more than further distant places.

On loads under 20,000 lbs, most plastics are worth about \$.02 per pound. Loads over 20,000 can earn an additional \$.02 per pound. Locations near to our hub can earn another \$.01-\$.02 per pound. The weight is determined after grinding. We will ballpark the value, for you, prior to pickup. Checks are sent within 30 days of the pickup. Besides earning money for the plastic, you also save the hauling and dumping charges that run into the hundreds of dollars. And you are helping the environment.

### How do I arrange a pickup?

Call Steve Wasserman at 410-374-2196 or email [swasserman9@yahoo.com](mailto:swasserman9@yahoo.com). If you have a full load, we can make a pickup within a few days. If you have a partial load, we will need to match you with another nursery in your area. This may require a few extra days to arrange the pickup.

### Please direct all questions to: Steve Wasserman

Cindarn Recycling  
16154 Trenton Road  
Upperco, Md. 21155  
410-374-2196

Note: Usual disclaimer applies. Cindarn Recycling may not be responsible for any errors, omissions, and/or inconsistencies stated here. Our offer prices may change depending on the market conditions. We reserve the option of rejecting materials which may be contaminated, not properly sorted or not packaged according to our instructions.

