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Editor: Susan Barton, Extension Specialist, University of Delaware
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FROM THE PRESIDENT
Bruce Paulish
Delaware Nursery and Landscape Association

I would like to say farewell as President but not goodbye to the DNLA. Since I have been president, I have met many great people at business meetings, classes, trade shows and just out and about working. I want to than Valann for being so organized and making the DNLA such a great association. It is great to be a part of an organization in which your opinion counts and to receive tons of information so vital to running a business today. Providing this information takes work, so I encourage everyone who is serious about this business to join the DNLA board or at least come out and support DNLA functions. I plan to stay very active on the board as past president and thank you for all your support.

CNP Update: On October 21st, two individuals sat for the Certified Nursery Professional core and/or specialty exams. Congratulations are in order for the following individuals:

New CNP: C. Donald Stump
Barton's Landscaping/Lawn Co.
Garden Center Specialist

New Specialties Added: Earl Baker, *Delaware River and Bay Authority*
Nursery Specialist

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

Happy New Year! I hope you are now able to slow the pace a bit from the frenzy of the Christmas push at the garden centers, December snow removals, as well as our many personal commitments and general hustling and bustling. The DNLA is no different. We recently hosted another successful Ornamental & Turf Workshop, and are making final arrangements for the Delaware Horticulture Industry Expo and our 2004 Membership Directory.

The Ornamental & Turf Workshop was held on November 13th (the coldest & most blustery day in November) at the Hockessin Memorial Hall. Attendees enjoyed morning talks on "Right Plant? Right Place?"; "The Benefits & Problems Associated With Imidaclopyrid Use in Landscapes"; and "New Turf Varieties". The afternoon featured two outstanding tours amid rather adverse conditions. Dan Pierson at Wilmington Country Club gave a fertigation discussion (WCC was without electricity due to heavy winds), and tour of their facility's system. Dr. John Frett gave a tour of the University of Delaware Botanical Garden. He kept everyone moving so they wouldn't get too cold or blow away.

The DNLA received many fine entries for the 2003 Landscape Awards contest. The judging took place in October. Congratulations to our winners! They will be honored at the DHIE. The winning entries were submitted by the following:

Tony Lemper of Lemper's Landscaping, Inc. located in Newark, DE

Rick Hollender of Garden Design Group, Inc. located in Hockessin, DE

The Delaware Plant of the Year Nominating committee provided the DNLA with many

outstanding nominations for the 2004 Delaware Plant of the Year. The committee is comprised of individuals from academia, noted landscape authors and photographers, pioneers in plant exploration, writers, landscapers, growers, and garden center owners. Committee members nominate plants based on the following criteria: hardy in Delaware; few diseases and insect problems; non-invasive; adapts for a variety of landscape uses; possesses horticultural assets such as flower, fruit, leaf, habit, structure, attractiveness to wildlife, etc.;
currently under-used in Delaware landscapes; readily available from Delaware growers, nurseries, and garden center outlets. Based upon their input, the board on directors voted to select the following as the 2004 Delaware Plants of the Year:

Woody selection: **Magnolia grandiflora 'Little Gem'**
Herbaceous selection: **Ceratostigma plumbaginoides**

Informational sheets with photographs of the plants will be circulated to all members upon completion.

On a more somber note, the DNLA would like to express their deepest sympathy to the families of Frank J. Smith, of Frank J. Smith Nursery in Millsboro and Richard J. Hutton of Conard-Pyle Nursery . Frank, a DNLA Hall of Fame member, died on December 11th. Dick, a long-time industry member elected to the University of Delaware "Wall-of-Fame", died on December 22nd.

WELCOME TO OUR NEW MEMBER:

Grounds Maintenance, Inc.
P.O. Box 213
Claymont, DE 19703
(302) 798-0538

U of D NEWS
Susan Barton, Extension Specialist

We've got lots of good educational opportunities planned for 2004. The first is a special workshop.

The University of Delaware and the DNLA are cosponsoring a design workshop this January with the Association of Professional Landscape Designers (APLD). Deanna Pillarelli (Garden Escapes) has coordinated this 3-day workshop with Robin Templar Williams entitled "In the Design Trenches." It will be held on Janaury 7-9 in the design studio in Worrilow Hall on the University of Delaware campus in Newark, DE. Hold those dates if you are interested and more information will be forthcoming.

The Delaware Horticulture Industry Expo is once again joining forced with the Pesticide Conference to offer lots of good speakers and pesticide credits during the next week on January 14 and 15. The traditional DHIE will be on January 14 with Rick Darke as the keynote speaker. Rick will be speaking right after lunch and I'm sure no one will nod off as he presents "Transitions in the Landscape", an inspiring look at the opportunities and challenges of transitions in the designed landscape, through time and space, palette and purpose, and meaning and motivation. After a brief business meeting first thing in the morning, Lenny Wilson from the Delaware Center for Horticulture will talk about integrating tropical and exotic plants into containers and borders. Lenny does an excellent job with the DCH gardens and many public spaces in Wilmington. He will show you how you can tap into the large market of tropical and exotic plants. Paul Meyer from the Morris Arboretum will discuss the issues and challenges associated with plant exploration and highlight some of the individual species that have the greatest potential for the landscape

industry. Bob Mulrooney, everyone's favorite pathologist, will talk about diseases of perennials. As perennials become more popular in the landscape, it becomes more important to understand their diseases and the control measures you can take. Finally, for the business minded, Lyn Atz will talk about accurately calculating and allocating overhead costs so that you can prepare winning proposals.

On day two (January 15), we will focus on workplace safety with a fascinating story about pesticides on a family farm. A panel of experts from the nursery and landscape industry will discuss pesticide safety from the perspective of greenhouse, nursery and landscape businesses. In the afternoon, we will break out into category sessions and learn about new products.

PERENNIAL PLANT ASSOCIATION NAMES 2004 PERENNIAL PLANT OF THE YEAR

The Perennial Plant Association has named *Athyrium niponicum* 'Pictum' the 2004 Perennial Plant of the Year. This perennial low-maintenance Japanese painted fern is one of the showiest ferns for shade gardens. It is popular due to its hardiness nearly everywhere in the United States, except in the desert and northern most areas in zone 3. 'Pictum' grows 18 inches tall and as it multiplies can make a clump that is more than two feet wide. 'Pictum' produces 12- to 18-inch fronds that are a soft shade of metallic silver-gray with hints of red and blue. This lovely fern, which prefers partial to full shade, makes an outstanding combination plant for adding color, texture, and habit to landscape beds and containers.

For more information, please contact Dr. Steven Still at the Perennial Plant Association at (614) 771-8431.

LAUNDERING CLOTHING AFTER PESTICIDE USE DURING THE APPLICATION OF PESTICIDES

Ruth Hazzard, University of Massachusetts

Applicators cannot completely avoid exposure to the chemicals they apply. Exposure occurs during any of the many activities involved in the spraying operation, including transporting the pesticide, tank filling and mixing, container rinsing, spraying, sprayer maintenance, pesticide storage, and early re-entry to treated areas. Exposure can involve contact with pesticide vapors and aerosols, the concentrated pesticide formulation in a liquid, granular, or powder form, and the spray mixture itself. Workers absorb chemicals into the body through the skin, yes, respiratory (breathing) or digestive system (swallowing). Studies have shown that good personal hygiene practices reduce the risk of long-term health effects.

General Recommendations

- Read and understand the product label and material safety data sheet before application.
- Bathe or shower after completing of pesticide application, including shampooing hair thoroughly and cleaning under nails.
- Put on clean clothing.
- Clothing worn during application must be washed daily after each use.
- Launder all clothing used for spraying separately from the family's regular clothes. *Personal protection equipment should be cleaned daily after use.

Preparation for Laundering

- Remove pesticide granules from cuffs and pockets outdoors in the field.
- Discard, according to label instructions any garment saturated with a full-strength chemical.

- Handle soiled clothing with chemical resistant gloves.
- Use disposable plastic garbage bags for temporary storage of pesticide-soiled clothes before washing.
- Pre-treat pesticide-soil clothes with a laundry stain removal product intended for oily stains when an oil-base (emulsifiable) formulation has been used. Pre-treat heavily soiled areas.
- Read the pesticide label for information. Pre-rinse pesticide-soiled clothing: on presoak cycle of automatic washer or presoaking in a suitable container (dump water on field) or spray/hose the garment outdoors away from children and pets.
- Do not overcrowd clothes in the washing machine.

Instructions for Cleaning Protective Equipment

- Wear rubber gloves while cleaning equipment.
- Wash hardhat or waterproof hat, goggles, face shield, apron, and boots with hot soapy water, rinse and dry. Wash the respirator face-piece only. Before cleaning, remove the cartridges.
- Wash the respirator in warm soapy water, rinse and air-dry.
- Check seals and valves for signs of damage or wear.
- Store the respirator and cartridges in a sealed, plastic bag.
- Wash your gloves with, hot soapy water, rinse and dry.
- Inspect and replace any worn or damaged protective equipment.

Adapted from the Institute of Rural and Environmental Health, University of Saskatchewan by Craig Hollingsworth. Long Island Horticulture News *July 2003 Published* in Rutgers Cooperative Extension Newsletter, *Vol. 8, No. 9, www.rce.Rutgers.edu*

MANAGING WINTER INJURY TO TREES AND SHRUBS

Diane Relf and Bonnie Appleton

It is often necessary to provide extra attention to plants in the fall to help them over-winter and start spring in peak condition. Understanding certain principles and cultural practices will significantly reduce winter damage that can be divided into three categories: desiccation, freezing, and breakage.

Desiccation

Desiccation, or drying out, is a significant cause of damage, particularly on evergreens. Desiccation occurs when water leaves the plant faster than it is taken up. Several environmental factors can influence desiccation. Needles and leaves of evergreens transpire some moisture even during the winter months. During severely cold weather, the ground may freeze to a depth beyond the extent of the root system, thereby cutting off the supply of water. If the fall has been particularly dry, there may be insufficient ground moisture to supply the roots with adequate water. Water loss is greatest during periods of strong winds and during periods of sunny, mild weather. The heat of the sun can cause stomates on the lower sides of the leaves to open, increasing transpiration. Injury due to desiccation is commonly seen as discolored, burned evergreen needles or leaves. It is worst on the side facing the wind. This can be particularly serious if plants are near a white house where the suns rays reflect off the side, causing extra damage.

Management: Proper watering can is a critical factor in winterizing. If autumn rains have been insufficient, give plants a deep soaking that will supply water to the entire root system before the ground freezes. This practice is especially important for evergreens. Watering when there are warm days during January, February, and March is also important.

Also, mulching is an important control for erosion and loss of water. A 2-inch layer of mulch will reduce water loss and help maintain uniform soil moisture around roots.

Antidesiccant compounds are sold in many garden centers and supply catalogs, although research has shown that these compounds degrade rapidly and are of little value to homeowners.

Although it is unattractive, using windbreaks made out of burlap, canvas, or similar materials can protect small evergreens. Windbreaks will help reduce the force of the wind and shade the plants. Create windbreaks by attaching materials to a frame around a plant. A complete wrapping of straw or burlap is sometimes used. Black plastic should be avoided as a material for wrapping plants. During the day heat builds up inside, increasing the extreme fluctuation between day and night temperatures and speeding up growth of buds in the spring, making them more susceptible to a late frost. If plants require annual protection measures to this extent, move them to a more protected location or replace them with hardier specimens.

Frost heaving occurs when alternate freezing and thawing of the soil pushes small, shallow-rooted plants out of the ground. This prevents the plants from having firm contact with the soil and exposes the roots to wind desiccation.

Management: Mulch acts as a buffer to the soil. It reduces the amount of alternate freezing and thawing of the soil that causes frost heaving.

If a plant has been heaved from the ground, replant it as soon as the soil thaws. Unless the root system is small enough to be pushed easily with the fingers into the soft soil, dig up the plant retaining as much of the root system as possible within a soil ball, and replant it.

Freezing

Freezing injury can take several forms. New growth stimulated in early fall by late summer fertilization or pruning may not have had time to harden off sufficiently to survive sudden drops to below freezing. Ice crystals rupture cell walls; this damage will show up as dead branch tips and branches.

Management: Fall fertilization after plants are dormant but before soil temperatures drops below 45^{o}F, may be of value in preventing winter damage. Avoid late summer or early fall fertilization while plants are still active, as this stimulates growth, which is easily killed by cold.

A sharp temperature change between day and night may freeze the water within the trunk of a tree, causing it to explode or split open in a symptom called frost cracking. If not severe, these cracks seem to close when warm weather arrives, although the wood fibers within may not grow back together. This is sometimes called southwest injury because it is commonly found on the southwest side of shade trees where warm afternoon sun creates further extremes i the day and night temperatures. A similar phenomenon with many shrubs is called bark split. Particularly susceptible are many cultivars of evergreen azaleas. In most cases plants close over the cracks adequately, with no treatment necessary.

Management: Avoid wounding trees when they are young.

Wrapping trunks with burlap strips or commercial tree wrap, painting white, or even shading with a board may prevent bark splitting. All of these methods reflect sunlight and reduce the buildup of heat during the day, thus reducing the temperature fluctuations that cause splitting. Any wraps should be removed, after one season,

to prevent insect or moisture damage.

The sun can also prematurely stimulate the opening of flowers or leaf buds in the spring. Freezing night temperatures might kill these buds. Bud injury due to the cold temperatures of winter also occurs in the dormant state or more tender trees and shrubs. Flowering shrubs may lose their flower buds, although their leaf buds usually survive. Even with good management, injury to young growth or insufficiently hardened tissues may still occur as a result of unusual weather patterns. Little can be done to prevent injury in these instances.

Root injury may occur in containers and planters, or balled and burlapped (B&B) stock, which has been left, exposed during the winter. Lethal root temperatures can start at 28^{o}F on some species. Containerized or B&B plants should be placed in protected areas, sunk into the ground, grouped together, or heavily mulched to avoid low temperature injury to roots.

Breakage
Breakage of branches is usually related to snow and ice. Two causes of damage by snow and ice are weight and careless snow removal. High winds compound the damage done to ice-covered plants. Damage may take the form of misshapen plants, or may actually result in broken branches and split trunks.

Management: Proper pruning at an appropriate time throughout the year is effective in reducing damage by ice and snow. Particularly important is the removal of any weak, narrow-angled, V-shaped crotches. Avoid late-summer pruning that stimulates new, tender growth and reduces the supply of nutrients available to the plant through the winter.

Snow collecting on shrubs should be removed with a broom. Always sweep upward with the broom to lift snow off. When the branches are frozen and brittle, avoid disturbing them--wait until a warmer day or until ice naturally melts away.

Planning Ahead to Avoid Damage
Much of the disappointment and frustration of winter-damaged plants can be avoided by planning ahead.

Select Hardy Plants
Grow plant materials that are native or are known to be winter hardy in your area. Avoid planting exotic species north of their plant hardiness zones unless unique microclimates in the landscape are such so as to guarantee winter survival.

Select an Appropriate Site
When planting broadleaf evergreens that are known to be easily injured, such as some varieties of rhododendron, azalea, camellia, daphne, and holly, select a location on the north, northeast, or eastern side of a building or other barrier where they will be protected from prevailing winds and intense winter sun. These exposures will also delay spring growth, thus preventing late spring frost injury to new flower growth.

Avoid Low Spots and Roof Overhangs
Avoid low spots that create frost pockets and sites that are likely to experience rapid fluctuations in temperature. Since heavy snow and ice can cause a lot of damage to branches and trunks, it is important that plants be placed away from house eaves and other areas where snow or ice is likely to collect and fall or slide onto the plants.

Promote Healthy Plants
Plants that are diseased or deficient in nutrients are more susceptible to winter injury than strong, healthy plants.

Treating Winter Injury
Many plants have protective mechanisms that should not be confused with winter damage. Some will shed leaves (nandina, privet); some will position their leaves flat against their stems (fatsia); some will roll their leaves downward or the margins inward (rhododendron); while others will have wilted-looking leaves all winter (viburnum). In addition, the red, purple, bronze, and brown winter color of some evergreens (juniper, arboritae, cryptomeria, boxwood) should not be confused as winter injury.

After a particularly severe winter, many plants may show substantial injury. Damage symptoms include discolored, burned evergreen needles or leaves, dead branch tips and branches, heaved root systems, and broken branches. At winter's end, remove only those branches that are broken or so brown that they are obviously dead. Do not remove branches when scraping the outer bark reveals a green layer underneath. The extent of winter damage can best be determined after new growth starts in the spring. At that time prune all dead twigs or branches back to within one quarter of an inch above a live bud, or to the branch collar of the nearest live branch.

If discoloration on narrow-leafed evergreen needles is not too severe, they may regain their green color or new foliage may be produced on the undamaged stem. Broad-leaved evergreens showing leaf damage will usually produce new leaves if branches and vegetative leaf buds have not been too severely injured. Damaged leaves may drop or be removed. Prune to remove badly damaged or broken branches, to shape the plant, and to stimulate new growth.

An application of fertilizer to the soil around winter-damaged plants, accompanied by adequate watering, will usually induce new growth to compensate for winter injuries.

Special care should be given to plants injured by winters cold. The dry months of June, July, and August can be particularly damaging, as the plants are weak and often unable to survive the stress of drought. Be sure to water adequately.

Rodent Damage
Mice may cause serious damage to trees or shrubs. They chew off the bark at ground level or below an can completely girdle a tree, causing it to die. Most of this damage takes place during winter. Keep mulch pulled away from the base of the tree, and examine it frequently for the presence of mice.

In many home and commercial plantings, placing poison bait in their runways controls mice. These poisons and complete directions on how to use them may be obtained from many spray material dealers. Mice may also be controlled by trapping. This can be successful where only a few trees are involved.

Rabbits can also be responsible for the loss of young trees each year. Where rabbits are a common problem, a satisfactory method of preventing damage is the use of a mechanical guard. Cut a 36" wide roll of galvanized screen or "hardware cloth" with a ¼" mesh lengthwise, forming two 18" strips. By cutting these strips into pieces 14" long, guards 14 or 18" are obtained. Roll or bend the strip around the trunk of the tree so that the long side is up and down the trunk and the edges overlap. Twist a small wire loosely about the center to prevent the strip from unrolling. Push the lower edges well into the ground. This metal guard will last indefinitely and can be left in place all year.

Treewraps can also be used in a similar manner, but must be removed in the early spring to prevent damage to the tree.

Other methods of rabbit control have been

successful. Ordinary whitewash has given good results in some instances. Some commercial fruit tree growers use a repellent wash recommended by the USDA, containing equal parts of fish oil, concentrated lime sulfur, and water. Also, rabbit repellents under various trade names are available. All these materials may be applied with a paintbrush to the trunk of the tree from the ground up into the scaffold limbs.

Road Salt Damage to Garden and Landscape Plants

Road salt damage to garden and landscape plants is a problem for many gardeners. Runoff from the road contains dissolved salts that not only directly injure the plants but also can change the structure of the soil, causing it to become compacted, thereby restricting the nutrients, water, and oxygen available to the plants. Although the salt is applied throughout the winter, most salt damage occurs in late winter and early spring when plants are beginning active growth. Growing positions of the plant, such as shoot tips and young leaves are affected the most. One of the symptoms of salt damage is marginal scorch, a dried burnt effect on leaf edges. If you have plants near a possible source of excessive salt, bring a soil sample to your county extension office and request a soluble salts test to determine if you have a problem. In sandy soil, soluble salt levels of >1000PPM indicate potential trouble; clay-loom soils can handle levels up to 2000 PPM as they have much higher water-holding capacities which dilute the salt.

The battle against salt damage continues year round. During the winter, the goal is to prevent salt from reaching the plants, and to wash it off the plants that it does reach. Do not pile snow containing salt around plants or trees or put it where runoff will flow over plant root zones. Ask the road maintenance people if there is anything they can do to direct salty runoff away from your property. Where runoff is unavoidable, flush the area around the plants in early spring by applying 2" of water over a 2-3 hour period and repeating 3 days later. This will leach much of the salt from the soil. If salt spray from the road surface is a problem, use copious amounts of water to rinse the foliage and branches of any affected plants when salt spray is heavy and again in early spring.

During the summer, work to improve planting conditions. Incorporate large quantities of organic materials into salt damaged soil to enhance its texture and to increase its water and nutrient holding capacity. Plants that are already stressed by salt will do much better if no other stresses are added to them, so be sure that you properly fertilize, water, and otherwise care for them.

When selecting species for a new roadside planting, minimize the potential for salt damage by planting salt tolerant species such as white oak, honey locust, Scotch pine, red oak, junipers, roses, or asparagus. Avoid salt sensitive plants such as red pine, white pine, black walnut, red maple, and sugar maple. A low wall or a hedge of salt tolerant evergreens can deflect salt spray from sensitive plants nearby.

Remember the damage that salt can cause when removing ice from home walks and driveways. Instead of tossing a handful of rock salt on slick surfaces, stick with sand or sawdust to improve traction on slippery sidewalks.

Reprinted from VNLA Newsletter*, September/October 2003.*

TAX BENEFITS FOR LANDSCAPE INDUSTRY
Nancy Hardwick

The new 2003 Tax Law has the potential to give the landscape industry and installation contractors a major business boost, reported Michael McGrady, senior vice president at John Deere Landscapes.

"Now commercial property owners and landlords who purchased their investment properties after May 5, 2003, can take a significant 52.5 percent depreciation allowance on all irrigation and landscape improvements this year. This means that the cost of a new landscape or irrigation installation can be 'written off' at 52.5 percent in the first year. This is a big incentive for owners and managers to upgrade their investment properties – and landscape professionals now have a powerful new sales tool. When contractors show their commercial customers how landscape improvements can
1) improve their property's value,
2) lessen their tax liability, and
3) improve their cash flow, they can convert more leads into sales," he said.

The new 2003 depreciation allowance applies to landscape improvements for apartment houses, commercial properties, office buildings, factories, industrial parks and other business facilities. "Previously, the tax law allowed property owners to depreciate their landscape improvements a little at a time, usually over 15 years," said McGrady."

Property owners can take substantial tax deductions the first year. For example, if a property owner installs a new $10,000.00 irrigation system in a business park this year, he can deduct 52.5 percent of the cost (or $5,250.00) in 2003 as depreciation.

Other landscape improvements that qualify for this depreciation deduction include: landscaping – patios – fences – sidewalks – waterways – road and canals. 'It is also wise to remind clients that this overview of the tax law is a generalization and they should consult their tax advisor to see how it applies to their specific situation," said McGrady.

New Landscape Improvements
Depreciation Allowance

This reference chart shows how the new depreciation allowance adds up:

Installation Cost	Depreciation Allowance in 2003 (52.5%)
$5,000	$2,625
$7,500	$3.938
$10,000	$5,250
$15,000	$7,875
$20,000	$10,500
$40,000	$21,000

Contact: Nancy Hardwick 760-438-0745
E-Mail: Hardwick@Adwicks.com

Reprinted from VNLA Newsletter, *September/October 2003.*

INCREASED DEPRECIATION FOR BUSINESS VEHICLES

Christi Spencer, CPA
Bob Westbury, CPA, JD

The IRS is making it easier to depreciate your business vehicle over a shorter period of time and has added specific breaks for vans and light trucks. There are fewer limitations if you purchase a vehicle weighing over 6,000 lbs.

There are four different categories:
Passenger Automobile – These are four-wheeled vehicles manufactured primarily for use on public streets, roads and highways and weigh 6,000 lbs or less. The weight is determined using unloaded gross vehicle weight.

Light Truck or Van – This is a four-wheeled vehicle manufactured primarily for use on public streets, roads, and highways and weighs 6,000 lbs or less. Its weight is determined using gross vehicle weight, which would include the weight of passengers and cargo. Use loaded weight as specified by the manufacturer. SUV's are considered in this category.

Modified Light Truck or Van – This category includes vehicles placed in service on or after July 7, 2003 that have been modified in ways where the personal use would most likely be insignificant. Examples of modifications include installation of permanent shelving and painting the vehicles to display advertising or the company's name.

All Other Vehicles – A vehicle that weighs over 6,000 lbs.

The categories have different depreciation rules although generally all vehicles are depreciated over five years. Only the business percentage of a vehicle is depreciated. The IRS considers commuting as personal use.

Passenger Automobile – Annual depreciation is limited for taxable year 2003 for vehicles with a purchase price of about $15,300. The IRS refers to these as luxury vehicles. This purchase price increases to $17,850 if the vehicle qualifies for bonus first-year depreciation (discussed later).

Light Truck or Van – There are new regulations for vehicles placed in service on or after July 7, 2003 that will help accelerate the depreciation for these vehicles. This adjustment is meant to correct the disparity due to the higher rate of price inflation for light trucks or vans as compared to passenger automobiles since 1988. When this article was written, the

IRS hadn't announced how it would determine the applicable rate of inflation or when the 2003 figure would be released.

Modified Light Truck or Van & All Other Vehicles –There are no specific limitation other than business use.

Section 179 depreciation has been around for a while and allows you to immediately deduct the cost of most new and used personal property in the year you place it in service. The Jobs and Growth Tax Relief Reconciliation Act of 2003 (JGTRRA) increased expensing from $25,000 to $100,000. This deduction is subject to phase-out rules if the business personal property purchases are more than $400,000. This basically is the only rule that would distinguish a small business from a larger one. For purchases over $400,000, the deduction is reduced dollar for dollar. The deduction is also limited by the amount of business profit. Lawmakers increased the immediate deduction in hopes of encouraging business investment. The increased expensing is for tax periods beginning in 2003 throughout 2005 and will revert back to $25,000 after 2005 unless Congress acts to make the changes permanent. The Section 179 deduction can be taken on any vehicle purchases, but would be limited if the vehicle weighs 6,000 lbs or less.

The Job Creation and Worker Assistance Act of 2002 (JCWAA) and JGTTRA substantially increased the first year depreciation limits for all new vehicles. JCWAA allowed a special depreciation deduction of 30% of the cost of new (not used) equipment placed in service after September 2001 and before September 11, 2004 (extended to December 31, 2004). JGTTRA increased this to 50% for equipment placed in service after May 5, 2003 and prior to January 1, 2005 unless congress makes this permanent. For certain transportation property, the "placed in service dates" are extended to January 1, 2006. You can still use the 30% deduction instead of the 50% deduction if you want. This deduction must be taken on all equipment acquired in the same class. So, if you take it on one vehicle, it must be taken on all vehicles purchased during the tax period. Not all states allow this bonus depreciation as a deduction, so make sure to check with your specific state.

The following example illustrates how the Section 179 and bonus depreciation changes can substantially increase your depreciation deduction for 2003.

Example: Three vans were purchased at $40,000 each on or after July 7, 2003. All three weighted over 6,000 lbs and/or meet the modified exception.

	Prior Law	New Law
Cost of 3 new vans	$120,000	$120,000
Depreciation:		
Section 170	$25,000	$100,000
Bonus deprec. (30/50%)	$28,500	$10,000
Regular deprec. (20%)	$13,300	$2,000
Total 2003 deprec	$66,800	$112,000
Basis of vans after 2003 depreciation	$53,200	$8,000
2003 additional deprec. from new law		$45,200
Federal tax savings at highest rate (35%)		$15,820

So, if your cash flow allows for it, now might be a great time to invest in that new vehicle you've had your eye on. Please remember that tax laws need to be integrated with your entire business plan. You may want to discuss your specific business details with a tax professional.

Excerpted from The Michigan Landscape*, November/December 2003.*

THE PINES

Dr. Bert Cregg, Micchigan State University

Pines are the largest and most diverse genus within the *Pinaceae* family. The genus *Pinus* includes over 100 species distributed throughout the northern hemisphere. Although pines have a variety of habits, most are large trees that form pyramidal crowns. Taxonomically, pines are divided into three groups: hard (or yellow) pines, soft (or white) pines, and pinyon (or foxtail) pines. While the division between hard and soft pines is based on a number of characteristics including cone scales, arrangement of vascular bundles and stomatal arrangement, they are most commonly differentiated by number of needles per fascicle. Hard pines typically have needles in fascicles of twos or threes and comprise the largest group with about 73 species. Soft pines, in contrast, mostly have needles in fascicles of five.

Ecology

Fire plays an important role in the ecology of many pine species. These species have evolved fire adaptive traits that enable them to colonize sites after a fire. For example, jack pine and closely related lodgepole pine (*Pinus contorta*) have a serotinous cone. When the cones are heated in a fire, the resins that hold the cone scale together melt and the pine seeds are released. Longleaf pine (*Pinus palustris*), a fire adapted species in the South, has a serotinous bud. When a longleaf pine seed germinates the trees may spend 10 or more years in a "grass" stage. The tree does not grow in height, producing only a clump of needles resembling a clump of grass. When a fire moves through a serotinous bud is released and the stem begins to develop.

Economic Importance

Pines have long been important trees in the economy of the United States. In colonial times, exceptionally large and straight eastern white pine trees were prized for ship's masts. The English crown marked selected trees with a broad arrow to indicate they were reserved for harvest for the King's navy. The "broad arrow" policy, like the Tea Tax, added to the unrest in the colonies that lead to the American Revolution.

Worldwide, pines continue to be a leading source of timber and pulp production. In the South, loblolly pine (*Pinus taeda*) is planted extensively in forestry plantations and is harvested in as little as 25 years. Montery pine (*Pinus radiata*), native to a small area (less than 20,000 acres) on the coast of California, is the most widely planted pine in the world. Monterey pine has been planted in approximately 10 million acres of plantations, primarily in Chile, South Africa, Australia and New Zealand. The success of these plantations is not without controversy, however, and concerns of forest fragmentation and loss of native habitat is increasing.

Several pine species are major Christmas tree species throughout the United States including Virginia pine (*Pinus virginiana*), Scots pine, Austrian pine, and white pine

Pines in Landscaping

Pines are among the most important conifers for landscaping. Eastern white pine, Scots pine, and Austrian pine have been the bread-and-butter species for landscaping for many years. These trees were widely planted and accepted in the trade for obvious responses: they were easy to grow. Scots and Austrian pine, in particular, were especially well suited for landscaping because they were extremely stress tolerant. However, just as our native tree species are vulnerable to native pests. Dr. Deb McCullough, MSU Forest Entomologist, determined that Scot pine is attacked by over 30 different insect pests. Like Scots pine, Austrian pine is a remarkable tough tree that can

withstand severe drought and is also highly tolerant of road salt. Unfortunately, Austrian pine is a highly susceptible to *Sphaerophis* (formerly *Diplodia*) tip blight and trees begin to show characteristic shoot die-back at age 15 to 20 years.

Landscapers continue to plant large numbers of Eastern White Pine. White pine is probably the fastest growing conifer in landscapes. An unfortunate characteristic of pines, especially white pines, is that after pruning or shearing, vigorous terminal growth resumes but lateral growth remains suppressed resulting in "carrot-top syndrome". The resolution of this problem will require planning by growers (we need different pruning practices for trees destined for landscapes versus Christmas trees) and educating consumers (a less heavily sheared tree will work better in the landscape in the long run). Despite their flaws, homeowners and landscapers will continue to plant white and Austrian pines. However, there are other pines that are well adapted to landscapes that are worthy of consideration.

Korean Pine (*Pinus koraiensis*)
Zone 4 to 7
Needles: in fives, two-to four inches long, dark green, Height: 30-40 feet tall
Very adaptable and extremely cold hardy.
Chub notes: *One of my favorite pines, just an all around great tree.*
'Glauca' – this form bears long, soft needles of a pronounced blue color.
"Silveray' – this is a fastigiate, columnar form with bluish needles.
'Winton' – a low, spreading plant with blue-green needles, grows much wider than tall.

Japanese Red Pine (*Pinus densiflora*)
Zone 3b to 7
Needles: in twos, three-to five inches long, bright green to dark green, Height: 40-60 feet tall
The key ornamental feature of Japanese Red Pine is its orange exfoliating bark. When mature this tree can be an attractive specimen that provides year-round interest.
'Pendula' – a strong weeper, this cultivar needs training or grafting to maintain it as an upright tree. Otherwise, it can creep over the ground as a prostrate creeper. The needles are deep green and the bark becomes reddish.
'Umbraculifera' (also known as 'Tanyosho') – this is a popular form. It forms a multi-trunked tree or large shrub to approximately 20 feet tall and wide. The habit is vase shaped with an umbrella-like head that becomes flat-topped with age. The bark shows good orange color. It is often employed as a specimen or accent plant, though it can suffer severe damage from heavy snow or ice loading.

Swiss Stone Pine (*Pinus cembra*)
Zone 3b to 7
Needles: in fives, Height: 30-40 feet
This is a fairly dense and handsome ornamental. Somewhat slow growing and prefers full fun.
Cub notes: *I never met a* cembra *I didn't like. Lots of forms, dwarf, compact, all great.*
'Nana; - a slow-growing form, this plant features a pyramidal habit to 20 feet tall. Otherwise it is similar to the species.
'Pygmaea' is an even smaller form with needles tufted in congested growths.
'Columnaris' (perhaps the same as 'Chalet') – The most common form of the species, this plant has blue-green needles and a dense, narrow fastigiate form. More than one form may reside under this name.

Mugo Pine ((*Pinus mugo*)
Needles: in twos, one-to two inches long, curved dark to medium green
Mugo pine is one pine that is usually more of shrub than a tree. A versatile garden conifer. Well adapted and always seem to grow well. There is a wide range of growth habits, some actually grow fairly upright. The only issue

with Mugo is that pine sawflies really go for them.
Chub notes: *I've always had a soft spot in my heart for Mugo Pine.*
Var. 'pumilio' – a prostrate, open growing plant, this form can reach 10 feet wide and only a few feet tall. Small plants purchased under this name can be expected to grow large in time.
'Amber gold"' (perhaps the same as 'Pot O'Gold') – a mounding selection that is compact and slow growing, this plant truly shines in winter. The needles turn orange-yellow in the cold months, fading to green once again as spring commences. This novel habit ads interest to the winter landscape.
'Tannenbaum' – a large grower this plant forms a nicely pyramidal "Christmas tree" shape with dense habit and deep green needles. It grows 10 feet tall with a spread of six feet. Its extreme hardiness, to USDA Zone 2, makes it a good choice for a dwarf pine in cold areas.

Macedonia Pine (*Pinus peuce*)
Zone 4 to 7
Needles: in fives, three-to four inches long,
Height: 30-6 feet
Chub notes: *an ace conifer, wonderful fine texture.*

HELPING TREES RECOVER AFTER STORMS

Vincent Cotrone and Bill Elmendorf
Penn State Extension Urban Forestry

Storms can leave behind toppled trees and downed branches that cause power outages and damage to people and structures. In the wake of a storm it is often easy to "blame it on the trees." This often results in more damage being done to surviving trees. Following storms, a dramatic increase in poor tree maintenance occurs, such as tree topping. People think that topping a tree will keep it from failing in the next storm. In the long run the opposite is true. Improper pruning, such as topping, rounding-over, or heading back, leads to internal decay and weakening of tree structure. This decay will result in both future storm damage and more costs as the trees starts to fall apart.

How can people begin to repair storm damage done to trees? Safety is the first concern for everyone. People should absolutely avoid down power lines (even if the power is off), be aware of broken limbs hanging in trees, and stay away from unbalanced trees that have failed. Never work near a utility line. If you have a tree or branch affecting a utility line, call the local utility operator. People are killed and severely injured every year trying to prune limbs or remove trees damaged in storms. Often these limbs and trees are unbalanced and under extreme weight and force not apparent to inexperienced individuals. Like unsprung mouse traps, they wait to injure or kill the inexperienced person.

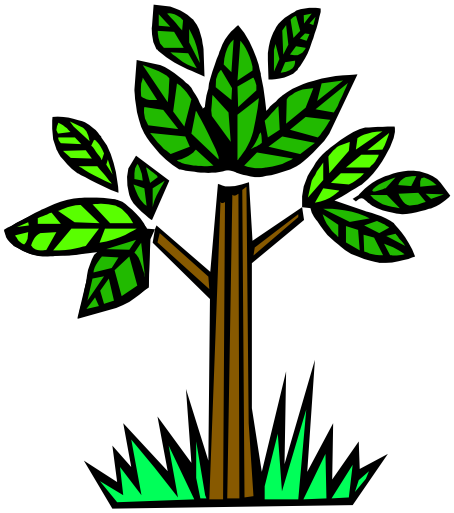
It is important to contact a qualified arborist to remove limbs or trees damaged in storms. Be aware that after a storm it is common for people to claim to be "tree specialists." Unfortunately, often these are people taking advantage of the situation with little training and no insurance. They often do more harm than good at unfair

prices.

Finding a qualified arborist after a storm can be hard. When one does arrive ask a few questions. How will you prune the tree? They should mention using ANSI A300 or ISA National Pruning Standards. Are you a member of a professional society and a certified arborist? The best arborists are both. Can you provide me with a certification of insurance? Qualified arborists can.

Sometimes it is important to be patient. If the tree does not represent an immediate hazard, take time to find and hire a qualified arborist who knows how to repair the damage to your tree. Be a smart consumer and protect your trees. Before you fire-up your chain saw or hire a tree-topper, contact the local Penn State Cooperative Extension Office or a DCNR Bureau of Forestry District Office for information on proper tree pruning repairing storm damage to trees, and information on qualified arborists.

If you have tree care questions take the time to visit the following web sites:
-www.extension.edu
-4trees.cas.psu.edu
-www.arborday.org
-www.isa-arbo.org



HOW NOT TO KILL TREES: UNDERSTANDING EFFECTS OF UNFAVORABLE SOIL CONDITIONS ON URBAN TREES

Johnson Parker, USDA Forest Service
Northeastern Forest Experiment Station

There are a variety of abnormal soil conditions that can lead to tree death and damage. Very often the effects do not seem related to anything in the soil, but closer examination usually reveals a soil problem that can be corrected.

Soil Compaction

When soil is subjected to frequent trampling or compression, as on picnic sites, park areas, and construction sites, the soil pore space and especially the air capacity of that pore space is decreased. For example, air capacity of sandy soil in an unused forested area may average 40 percent of the total soil volume, but in a trampled site that may be only 28 percent. In a sandy loam, air capacity in an unused area may be 38 percent and in a used area 20 percent. At the same time, the amount of pore space occupied by water seems to change relatively little. But the rate of water infiltration into the soil can be greatly reduced to about one-sixth of that in sandy soils of unused areas and even more so in loams and sandy loams. Soil permeability can be reduced to only 1/20 of that in uncompacted areas. As a result, roots have greater difficulty penetrating the soil. With reduced air space, roots are also subjected to poorer aeration and the buildup of carbon dioxide. Trees in areas where the soil is compacted grow more slowly and often develop long-term branch dieback. This may extend to the entire crown. Certain soil fungi may then attack the trees in their weakened condition.

A number of things can be done to improve compacted soils. If the leaf litter is allowed to accumulate, or mulch is correctly used, it tends

to improve soil permeability over the years. Although expensive, tile drains improve aeration and water movement. Cultivating the soil in large areas has been shown to be beneficial to deep-rooted species like longleaf pine, but surface roots in shallow-rooted trees would be seriously damaged. Both vertical mulching and air spades can be used to improve soil permeability.

Salt Leached from Highways

There has been much research on the effects of salt (sodium chloride) on roadside trees. Signs of these effects include chlorosis, leaf-tip burning, premature autumn coloration, dieback of branches, and even death of entire trees. Trees can be affected by road salt if they are a few feet, or as much as 300 meters, from a road. On the other hand, after years of salting a road, adjacent trees may show no symptoms, although their leaves may contain abnormally high levels of sodium chloride. Soil drought is sometimes combined with the effects of salt, which can be more damaging to a tree than salt alone. Deep irrigation can help trees rotting from salt. The sodium fraction of the salt, although somewhat poisonous in large amounts, does not seem to be as damaging as the chlorine fraction. Species of trees and shrubs vary considerably in their tolerance to soil salt. For example, basswood, sugar maple, and linden are susceptible, while honey locust, blue robbed honey locust, Kentucky coffee tree, and Japanese tree lilac are moderately resistant.

Flooding or Waterlogging

In poorly drained areas, or in soils that overlie clayey subsoils or rock, flooding or waterlogging can be a serious problem. Prolonged inundation or excessive soaking of the soil with standing water can result in yellowing leaves, poor growth, premature leaf fall, and even death of trees. With only occasional inundation, trees may become shallow-rooted. As a result when there is a drought, trees without deep roots are the first to suffer. Flooding during the dormant season is likely to be harmless, but during the growing season, leaves may quickly yellow and die. If the soil is drained, the tree may put out new growth from latent buds and recover, depending on the species. Paradoxically, leaves may dehydrate as a result of flooding. It is popularly thought that waterlogged roots are injured due to a lack of oxygen, but experiments have shown that in most cases an excess of carbon dioxide, partly produced by the living roots, is the more usual cause. Also, certain bog acids such as tannic acids may form in poorly aerated soils, and can injure roots. The symptoms of overwatering are identical to draught. Obviously, careful irrigation and carefully installed drainage are solutions to the problem, either by ditching or installing tile pipes.

The preceding two articles excerpted from Urban Forestry News*, Vol. 11, Issue 2, Autumn 2003, published in Pennsylvania.*

GET OUT YOUR BEATING STICK IN 2004- PERIODICAL CICADAS ARE COMING

Stanton Gill, Regional Specialist
University of Maryland Cooperative Extension

Are you musically inclined? If so, get out your drumsticks and drum along with the almost deafening noise that is going to show up in May of 2004. Yes almost 17 years have passed by again and it is time for one noisy insect to emerge. Many of you may claim you were still in kindergarten during the last emergence but those experienced types among us are proud to say we lived through the last 17-year periodical cicada emergence. Of course, our hearing range has been greatly reduced from the insistent noise of the male cicadas. How bad can it be? Well, to give you an idea, we received a call from a resident in Bethesda who requested information on when the periodical cicada would come out in 2004. We gave an estimate of May through June. This person wants it narrowed down to the exact dates because she is planning to leave town until they finish their noisy chorus. I never thought I would live to see the day that an insect would drive someone from his or her home.

For most of Maryland and Delaware the periodical cicada will be a fact of life in 2004. We are talking about one of the greatest natural percussionists around – the periodical cicada.

Entomologists have separated the different populations of periodical cicadas into "Broods" which are assigned a number, usually given in Roman numerals. These are used to describe a cicada population that emerges in a certain geographical area. Brood IX(9) emerged in parts of Virginia in 2003. In 2004 Brood X (10) emerges and should cover most of the Maryland area, Delaware, Northern Virginia and the District of Columbia. Brood X is the most important numerically and geographically.

There are three species of seventeen-year cicada (*Magicicada septendecim, M. cassini, and M. septendecula*). Believe it or not there are 30 different broods of periodical cicadas, most separated geographically. There is at least one to several broods emerging some place in the US each year. But back to Brood X – this will be the big one for us in Maryland, Delaware, Northern Virginia and D.C. You will recognize the adults by their red – orange eyes and the dark "W" on their membranous wings. They should be out in May and June of 2004.

How do they do that?

How do they make that entire racket without using Bose Outdoor Stereo speakers? The male cicada is equipped with two powerful tymbals that produce a screeching love-call for female cicada. This is done in a similar manner to the way that old fashion theaters used to create the sound of thunder by vibrating a sheet of metal. The tymbals are contained within a large air chamber for resonating the sound. The muscles contract and expand causing them to bow and flex rapidly giving out the distinct sound. When a group of males get excited about sex the noise is almost unbearable. Some power equipment such as gasoline hedge trimmers or weed whackers can unintentionally closely mimic the call of male cicadas. Stimulated females with sexual intentions may dive bomb your revving engines instead of a singing male. Not a pretty situation but if it happens send in photos. My e-mail address is sg10@umail.umd.edu. They can sing but can they dance?

After the male and female find each other, date for a while, and go dancing the female will end up laying eggs in the branches of trees. This is when the damage starts. The female lays eggs in branches of many different trees but their favorites include dogwood, crabapples, oaks, apples, ornamental plum, and maples. 2004 will not be a good year to plant these young tree

species that are highly susceptible to damage in your nursery. The damage can be substantial on young trees. Older mature trees will suffer wounding of small branches but they will easily recoup without you doing anything.

Can you spray?
Lots of luck trying a spray. You might kill the ones you directly hit with the spray. Often females will make contact with a residual spray only after they finish slashing into the branch and depositing her eggs. You may get revenge but still suffer the injury. The egg laying causes a wound site that on small branches causes dieback or the branch snaps off at the weak point.

What else can you do?
Young, small susceptible trees can be covered with netting with an opening smaller than ¾". You should be able to find netting suppliers but if you cannot give us a call and we will give you some leads. (301) 596-9413.

Get ready for the concert in 2004.
The noise should be tremendous in the May through June of 2004 but we have survived this pest before and we should be able to survive this time. We will document this blessed event on our web page at: www.agnr.umd.edu/IMNET. Until they check out the weekly insect reports we post for the landscape, nurseries and greenhouses.

Reprinted from Free State Nursery *and Landscape News, Winter 2003*.

Pesticide News

Insecticides:

FLAGSHIP (thiamethoxam) – Syngenta – This produce is now available for the ornamental market. It is used to control whiteflies, aphids and mealy bugs. It is a 25 WG formulation.

TALSTAR ONE (bifenthrin) – FMC – A newly labeled product to replace Talstar Termiticide and Talstar Insecticide. This product is labeled for use on termites, general household pest control, turf, ornamentals and in food handling establishments.

GUTHION (Azinphos-Methyl) – Bayer – In an important pest management victory this insecticide will maintain a nursery stock label for black vine weevil control. Thanks to ANLA's Pest Management Committee for their efforts to maintain nursery uses when EPA has eliminated most other uses. EPA approved the new label on August 21. Only one formulation, GUTHION SOLUPAK wettable powder, will be supported in the marketplace by the registrant.

FUJIMITE 5%EC (fenpyroximate) –0 Nichimo America Inc – Being developed to control insects and mites on cotton, pome fruit, grapes and ornamentals.

ONYX (bifenthrin) – FMC – A new formulation to control various insects in lawns and ornamentals. It is especially effective on borers in ornamental trees.

SEVIN (carbaryl) – Bayer Crop Science – At the request of the manufacturer they are deleting from their label the turf/lawn broadcast usage for their liquid formulations effective 5-3-04. (FR Vol. 68, 11-5-03)

SHUTTLE (acequinocyl) – Arvesta – A new

miticide being developed for use on ornamentals.

SPOD-X EC (nuclear polyhedrosis virus of Spodoptera exiqua(- Certis – A bio-insecticide used to control beet armyworms in field and greenhouse crops and on ornamentals.

TRILOGY XL (neem oil/pyrethrin/piperonyl/butoxide) – Certis USA – A new formulation to control insects and diseases on fruits, vegetables and ornamentals.

Fungicides:

RHAPSODY (Bacillus subtillus strain QST 713) – Agra Quest – Received registration to use on ornamentals to control various fungal and bacterial diseases.

SERENADE (QST strain of Bacillus subtillis) – Agra Quest – This bio-fungicide is being developed to control fire blight, scab and powdery mildew on pome fruits and vegetables. An RTU formulation is being developed for the homeowner market.

STATURE (dimethomorph) – BASF – A new fungicide to control downy mildew, phytophthora, stem rot and crown rot in greenhouse and nursery grown ornamentals.

Herbicides:

MONUMENT (trifloxysulfuron) – Syngenta – A new herbicide being developed to control nutgrass and grassy weeds in turf. It is a 75% WDG formulation.

QUICK SILVER IVM (carfentrazole-ethyl) – FMC – A new formulation to control various weeds in rights-of-way, fence rows, utility areas and industrial areas

RENOVATE 3 (triclopyr) – Sepro – Being developed to control woody plants, broadleaf weeds and aquatic weeds in ponds, lakes and marshes.

Miscellaneous:

GRIFFIN – The company has appointed Agrisel as the exclusive sales agent for their turf and ornamental products Camelot, Transit, Junction and Komeen.

NEW NURSERY IS LAUNCHED

James D. Brown and Octoraro Native Plant Nursery are proud to introduce the formation of New Moon Nursery, effective immediately. New Moon Nursery offers herbaceous perennials, wildflowers, grasses, rushes, sedges, aquatics and ferns for sale. Octoraro Native Plant Nursery is now an exclusively woody plant nursery continuing its tradition of providing outstanding quality native trees and shrubs in a variety of sizes. Plants from both nurseries are available wholesale only. With a focus on propagating and selling plants "from the water to the woods . . ." both companies are well prepared to fill the market niche for environmental restoration professionals, non-profit organizations, natural landscape designers and horticultural suppliers to the trade and public. For more information, please contact.

New Moon Nursery, LLC
1492 Kirkwood Pike 717-529-3870 – ph
Kirkwood, PA 17536 717-529-5657 – fax
www.newmoonnursery.com - website
info@newmoonnursery.com - general mailbox
Contact: James D. Brown

Octoraro Native Plant Nursery
6126 Street Road 717-529-3160 – phone
Kirkwood, PA 17536 717-529-4099 – fax
www.octorato.com - website
mail@octoraro.com - general mailbox
Contact: Jim MacKenzie, President

Research Briefs

Greenhouse Production:

Minimizing stem elongation when Gibberellin$_{4+7}$ is used to prevent leaf chlorosis in Easter Lilies. During a foliar spray application , GA_{4+7} can be absorbed through the lower leaves or the roots (as a result of run-off into the media). Although both modes of uptake can prevent leaf chlorosis, foliar uptake is much more effective than root uptake. In contrast, GA_{4+7} taken up by the roots contributes substantially to stem elongation. Therefore, the best strategy in spray application would be to use a volume that is sufficient to cover the foliage while minimizing runoff. A. P. Ranwala, G. Legnani and W.B. Miller.

Excerpted from HortScience *Vol. 38, October 2003:1210-1213.*

Ornamental ginger response to photoperiod. Vegetative growth of most of the ornamental ginger species (*Curcuma* sp.) used in this study was optimized when plants were grown under 16- and 20-h photoperiod. An 8-h photoperiod promoted dormancy for most species and increased number of tuberous roots. M.J. Sarmiento and J.S. Kuehny.

Excerpted from HortTechnology *January-March 2004 14(1):78-83.*

Container Production:

Mouse ear on river birch—A deficiency of nickel. Mouse ear (leaf curl, little leaf, squirrel ear) has been a problem on container-grown river birch (*Betula nigra*) since the early to mid 1990's. Research has shown that the cause of mouse ear on pecans appears to be a nickel (Ni) deficiency induced by high levels of zinc and/or other metal micronutrients in the soil. Applications of Ni to pecan trees in the fall eliminated mouse ear, and trees have resumed normal growth. River birch trees showing improved growth also had a 76% increase in foliar nickel concentrations compared with the mouse-eared controls. In the early 90's, growers started using new controlled release fertilizers, which contained micronutrients. They have been used in conjunction with micronutrients incorporated in the substrate, possibly resulting in a doubling of metal micronutrients. This is the first research to document that applications of nickel to container-grown river birch can reverse the effect of the mouse ear disorder. Research is currently underway to refine methods of application, rates of application, cultural practices to assure the bioavailability of Nic and sources of Ni suitable for use. J. Ruter.

Excerpted from SNA NewsLine*, September/October 2003 p.16-17.*

Field Production:

Better storage of lilac seedlings. A major problem in the field production of lilacs is that seedlings usually retain their leaves late into the fall. If the leaves are not removed prior to storage or shipment (when seedlings are lifted in the fall), the seedlings will mold and deteriorate. Florel and chelated copper effectively reduced leaf area of lilac seedlings. Less than 20% of the initial leaf area remained on the 1% copper and Florel-treated seedling. The ½ Florel and 1% chelated copper completely defoliated 67% and 40% of the seedlings, repectively, whereas only 17% of the control seedlings lost all their leaves prior to lifting. Both levels of Florel and the 1% copper treatment reduced growth of seedlings after planting. Growth of the seedlings treated with 0.5% chelated copper was comparable to the untreated control and slightly greater than the seedlings that were defoliated by hand. So the recommended treatment is 0.5% chelated copper, which effectively reduced

seedling leaf area without affecting subsequent growth. B. Cregg.

Excerpted from The Michigan Landscape*, November/December 2003, p. 60-61.*

Diseases:

Resistance of daylily cultivars to daylily rust. A rust disease caused by *Puccinia hemerocallidis* has been identified as a significant problem for daylilies since 2000. In this study 84 daylily cultivars were inoculated in the greenhouse and classified as resistant, moderately resistant, moderately susceptible and susceptible. The resistant cultivars are listed here for a complete listing of all categories, see HortScience Vol. 38, October 2003:1137-1140 or contact Susan Barton (sbarton@udel.edu).
Resistant cultivars:
Praire Blue Eyes
Carolyn Criswell
Mardi Gras Parade
Woodside Ruby
Hush Little Baby
Follow Your Heart
Chicago Apache
Buttered Popcorn
Green Flutter
Plum Perfect
Frankly Scarlet
Mama Cha Cha
Chinese Scholar
Charlier Pierce Memorial

D.S. Mueller, J.L. Williams-Woodward
J.W. Buck.

Excerpted from HortScience *Vol. 38, October 2003:1137-1140.*

Potassium silicate injections decrease black spot in Fuschia Meidiland roses. Soluble silicon applications to rose do hold promise for increasing black spot resistance in roses when injected into irrigation water, but should be considered as a part of a disease management program and not as a stand-alone treatment. It seems likely that, with the silicate concentrations tested in this study, potassium silicate would have to be injected at every irrigation cycle to affect infestation of black spot. J. H. Gillman, D.C. Zlesak and J.A. Smith.

Excerpted from HortScience *Vol. 38, October 2003:1144-1147.*

Marketing:

Changing content of nursery grower's sales agreement. Terms of sale can affect nursery growers' costs. Growers were surveyed to determine which new terms of sale (in addition to price, quantity and quality) were currently required or requested by their buyers. Two items, apply barcode stickers and continuous inventory replenishment were requested by both garden center and mass merchandiser channels. Mass merchandisers also requested custom containers, provide returnable shipping equipment, and take back unsold merchandise. Garden centers requested attach product information tags and provide minimum volume. R.A. Hinson and R. Navajas.

Excerpted from HortTechnology, January-March 2004 14(1):119-123.

New Introductions:

x*Schimlinia floribunda* is a new intergeneric hybrid between *Franklinia alatamaha* and *Schima argentea*. *Franklinia alatamaha* is a small tree native to the southeastern US and know for its showy white flowers, bright crimson/maroon fall color and cold hardiness. It is susceptible to several fungal diseases. *Schima* is a genus of evergreen trees and shrubs native to warm temperate and tropical regions of

southern and southeastern Asia. *Schima argentea* is an evergreen tree that is native to weastern China and is valued for its glossy foliage, late summer flowers, and as a landscape plant in mild climates. These two plants have been successfully hybridized and the proposed name of the new cultivar is x*Shimlinia floribunda* Ranney and Fantz (mountain schliminia). T.G. Ranney, T.A. Eaker, P.R. Fantz and C.R. Parks.

Excerpted from HortScience *Vol. 38, October 2003:1198-1200.*

Three white-bracted cultivars of *Cornus florida* resistant to powdery mildew. 'Jean's Appalachian Snow' is a white-bracted, flowering dogwood with reddish-green fall color. 'Karen's Appalachian Blush' is a white-bracted, flowering dogwood with light pink brach margins. Fall color is a vivid red. Both have demonstrated resistance to powdery mildew for 5 years. 'Kay's Appalachian Mist' is a white-bracted dogwood with overlapping bracts and vivid red fall color. It has demonstrated resistance to powdery mildew for 6 years. Plant patents for these three cultivars have been granted and a limited quantity of bud sticks has been distributed to nurseries in TN. For a list of nurseries that have received budwood, contact rtrigian@utk.edu. M.T. Windham, W.T. Witte and R.N. Trigiano.

Excerpted from HortScience *Vol. 38, October 2003:1253-1255.*

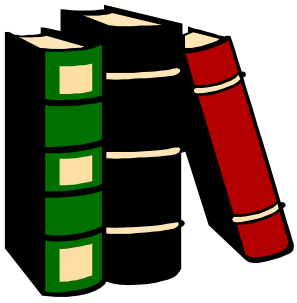
'Compass Harbor' Black Crowberry. *Empetrum nigrum* is an evergreen, procumbent shrub native throughout much of northern Europe, northern Asian and northern North America, south to New York, Michigan and Northern California. *Empetrum nigrum* 'Compass Harbor' was selected from a population in Maine for its deeper green summer foliage and more compact branching than is typical of the species. 'Compass Harbor' is best propagated by stem cuttings. It is best grown in full sun to filtered shade in soils with good drainage in hardiness zones 6 and north. 'Compass Harbor' has been distributed to a number of nurseries and botanic gardens. It is not patented and information about propagation material can be received by contacting paulc@yewdellgardens.org. P.E. Cappiello.

Excerpted from HortScience *Vol. 38, October 2003:1256.*

Publications

Landscaping: from grassy verges to urban parks, a stroll through all kinds of public green spaces. This publication provides a wealth of ideas and information for many different amenity-planting situations. A cooperative publication of Plant Publicity Holland and the International Flowerbulb Centre, this full-colour. This 44-page booklet is critical to developing effective and enjoyable public landscape planning. Visit us at www.hollandnurserynews.com

Biological Control of Invasive Plants in Eastern Unites States. 2002 This book reviews the biology, impacts and biological control of 30 invasive plant species. To request a free copy, contact Richard Reardon of the U.S. forest Service in Morgantown, WV at rreardon@fs.fed.us



Calendar

January 5-9 – Advanced Landscape Plant IPM PHC short course. University of Maryland Dept of Entomology, Dept of Natural Resource Sciences, Dept of Landscape Architecture, Plant Sciences Bldg., University of Maryland, College Park. Call (301)405-3913 or fax (301)314-9290.

January 7-9, 2004 - In the Design Trenches with Robin Templar Williams. Design Workshop sponsored by APLD, DNLA and UD. Rates are $340 for APLD and DNLA members, $315 for Students and $450 for non-members. For more information, contact Deanna Pillarelli at dpillarelli@comcast.net.

January 7-9, 2004 Mid-Atlantic Nursery Trade Show (MANTS). Maryland Nursery and Landscape Association, Inc., West Virginia Nursery & Landscape Association. Baltimore Convention Center. Call (800)431-0066 or fax (410)296-8288.

January 12-15 – Turfgrass IPM short course. University of Maryland Dept of Entomology, Dept of Natural Resource Sciences, Dept of Landscape Architecture. Plant Sciences bldg., University of Maryland, College Park. Call (301)405-3913 or fax (301)314-9290.

January 13 – Eastern Regional Landscape – Nursery Seminar, Student Center; Delaware Valley College, Doylestown, PA, sponsored by: Delaware Valley College, Pa Landscape Nursery Asso & Penn State Cooperative Extension. Registration $55 per person. For more information call: 610-489-4315, fax: 610-489-9277.

January 13 & 20 – Tree Identification. Sponsor: Chester County Penn State Cooperative Extension, Smedley Park. Course fee $50/book fee $45. contact: Cheryl A. Bjornson, e-mail: cab46@psu.edu. Phone: 610-696-3500, ext. 20, fax: 610-696-4831.

January 13 – 15 – 2004 Eastern Pennsylvania Turf conference and Trade Show, Valley Forge Convention Center and the Radisson Hotel Valley Forge, King of Prussia, PA For more information: 814-355-1912, e-mail: busofc@paturf.org

January 14-15 – Delaware Horticulture Industry Expo, Dover, DE Contact Valann Budischak, phone: (888)448-1203.

January 14-17 – NCAN "Green & Grownin' Show", Winston-Salem, NC
January 19-22 – Mid-atlantic Horticulture Short Course, VA Beach, VA Contact: www.phcv.org

January 21 & 22 – Conifer Identification, 10am – 3:30pm, Salem U.C.C., 2218 Community Drive, Bath. Cost $50 per person, includes lunch and handouts. Phone 610-391-9840, fax: 610-391-0683, e-mail: lehighext.psu.edu for more information.

January 23-25 - Management Clinic. American Nursery & Landscape Association. Galt House, Louisville, KY. Call (202)789-5980, ext. 3012; e-mail mhinkle@anla.org

January 26-28 – CENTS Show – Ohio; Contact: ONLA-(800) 825-5062, www.onla.org

January 27 & 28 – 14th Annual New Directions in the American Landscape Symposium, "Natural Design in context: Intimate to Grand," Villanova University, Villanova. This two-day event examines state-of-the-art ecological landscape design and features a diverse and accomplished group of designers, horticulturists, and scientists in an informal, interactive forum. For information, contact (215)247-5777, ext.

156 or jlm@pobox.upenn.edu
January 27 – 13th Annual Winter Conference, Lawn Care Assoc of Pennsylvania & PA Dept of Agriculture, Holiday Inn – Lehigh Valley, Allentown, PA. 1800-577-6801, lawncareofpa@aol.com

January 28, 29 – New Jersey Trade Show. New Jersey Nursery & Landscape Assoc., Garden State Exhibit Center, Somerset. Call (800)314-4836.

January 30-31 – ALCA's Masters in Management for the Landscape Industry, Atlanta, GA; Contact: (800) 395-2522.

February 1-3 – 39th Annual Penn-Del Shade Tree Symposium – Lancaster Host Resort, Lancaster, PA. Information on the conference – contact: E. Wertz, Ex. Sec., P.O. Box 293, Bedminster, PA 18910, 215-795-0411, www.penndelisa.org

February 5-7 – New England Grows Inc. New England Nursery Association, Associated Landscape Contractors of Massachusetts, Massachusetts Arborists Association, Massachusetts Nursery & Landscape Association. J.B. Hynes convention Center, Boston. Call (508)653-3009 or fax (508)653-4112; e-mail NEGrows@aol.com

February 6 - Today's Horticulture, produced by the Professional Gardener Alumni Assoc. of Longwood Gardens, Kennett Square, PA. Featured this year are Todd Lasseigne from The J.C. Raulston Arboretum at North Carolina State University, Raleigh, Dan Hinkley of Heronswood Nursery, Kingston, Washington, Bernd Blossey, professor of biology at Cornell University, Ithaca, NY., Kris Benarcik of Breger Flowers, Wilmington, De, and Mike Owen, a graduate of the Professional Gardener Training Program and West Coast grower for a private garden. For more information, visit www.longwoodgardens.org or call (610)388-1000, ext. 507.

February 19 – Land Ethics Symposium, "Creative Approaches for Ecological Landscaping," Aldi Mansion, Doylestown, PA, sponsored by Bowman's Hill Wildflower Preserve, New Hope, PA. Focuses on ways to create low-maintenance, economical, and ecologically balanced landscapes using native plants and restoration techniques. For landscape architects, designers, contractors and other members of the landscape industry; public and private land owners/managers, land planners and developers, environmental consultants, state and municipal officials. Offered through professional organizations, including American Society of Landscape Architects, Pennsylvania Landscape and Nursery Association, and Association of Professional Landscape Designers. For information, contact Nancy Beaubaire at (215)862-2924 or at beaubaire@bhwp.org

February 27- Green Matters Symposium: Exotic Invasive Plants, Brookside Gardens, Wheaton, MD. Speakers include: Johnny Randall, Ph.D., North Carolina Botanical Garden; Carole Bergmann, Maryland National Capital Park and Planning Commission; Jil Swearingen, Center for Urban Ecology, National Park Service; John Peter Thompson, The Behnke Nurseries Company; Sylvan Kaufman, Ph,D., Adkins Arboretum; Joan Feely, Fern Valley Native Plant Collection, US National Arboretum; and Susan Kalisz, Ph.D., University of Pittsburgh. For more information, call 301-962-1400, or visit www.brooksidegardens.org to download a copy of the brochure and registration form.

March 16 – AIBS 2004 Annual Meeting: Invasive Species: The Search for Solutions, Westin Grand Hotel, Washington, DC. Speakers include: Ann Bartuska, The Nature

Conservancy; Richard Mack, Washington State University; Stephen Morse, Columbia University; David Lodge, University of Notre Dame; Andrew Dobson, Princeton University; and Daniel Simberloff, University of Tennessee. Poster submissions close February 16, 2004. Early registration closes March 2, 2004. To register, or submit poster abstracts, visit http://www.aibs.org/annualmeetig-2004/. For further information, contact rogrady@aibs.org.

March 18 – 2003 Longwood Graduate Program Symposium, " Creative Approaches to Expanding Your Audience," held at Longwood Gardens, Kennett Square, PA and Winterthur in Winterthur, DE. The event will inform public horticultural and other nonprofit professionals of ways to use collaborations, special programs, marketing, and the media to expand and diversify their audiences. Call 302-831-2517 or visit www.udel.edu/LongwoodGrad for information.

April 15 – Spring Symposium – Tender Plants in a Temperate Zone, Frelinghuysen Arboretum, Morristown, NJ, Keynote speaker is Marco Polo Stufano, retired Director of Horticulture at Wave Hill, Bronx, NY. Other speakers include Michael Ruggiero, co-author of *Annuals With Style* and former Senior Curator at New York Botanical Garden, Bronx, NY., Marilyn Daly of York college in Pa., and Jessica Wallister, garden designer, writer, and owner of Northwood Landscape, Glenshaw, PA. For more information, call: (973)326-7627 or email pwilson@morrisparks.net

April 20 – Healing Gardens: Horticulture Therapy and Site Design for Health Care Setting and Adult communities, Medford Leas Continuing Care Retirement Community, Medoford, NJ. Co-sponsored by The Morris Arboretum, this day-long seminar is geared toward horticulture or recreation therapists, continuing care activities coordinators, and administrators, as well as landscape architects and designers. Speakers will include Dr. Roger Ulrich of the Center for Health Systems and Design at Texas A&M University and Mona Gold, Horticultural Therapist and Special Projects coordinator at Friends Hospital in Philadelphia. For more information, call 215-247-5777, ext. 156 or 125 or email Jan McFarlan at jlm@pobox.upenn.edu

May 6 – Smithsonian Botanical Symposium 2004, "botanical Progress, Horticultural Innovations, and cultural Changes," Dumbarton Oaks, Washington, DC: May 6-7, 2004 and at the National Museum of Natural History, Washington, DC: May 8, 2004. Five sessions will be presented during the three-day symposium: Ancient Linkages between Cultural, Horticultural, and Political changes; Linkages between Plants, Horticultural, and Political Changes; Horticultural Contributions to Cultural Developments; Horticultural and Botanical Contributions to Economic and Cultural Changes; and Contemporary Botany and Horticulture in a Changing World. For more information, visit http://persoon.si.edu.sbs/or call (202)357-2534.