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# Capital District Growing Trends

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## **Become a New York State Certified Nursery Landscape Professional**

Chuck Schmitt, Regional Nursery/Landscape Educator,  
Cornell Cooperative Extension, Albany County

Use this winter season to hone your horticultural knowledge and consider becoming a New York State Certified Nursery Landscape Professional (CNLP). The CNLP program is an educational program, governed by the New York State Nursery Landscape Association, designed to improve the professional standards of the nursery, landscape, and garden center industry through education and employee training.

To qualify as a CNLP candidate, an individual must have 3 or more years work experience in the industry or have completed a 2 or 4 year degree in a horticultural field and have at least 1 year of experience in the industry. To receive a CNLP application, visit the New York State Nursery Landscape Association (NYSNLA) website at [www.nynla.com](http://www.nynla.com) and click on the Discover tab. Purchase the training manual and the right to take the exam from the state association then attend the comprehensive 4 day review session at Cornell Cooperative Extension Albany County to prepare for the exam.

The exam is a comprehensive review of botany, soil science, insects and diseases of ornamentals, pruning, landscape maintenance, hardscaping and turfgrass management. An additional section on plant identification is also required. Upon successful completion of the exam you are given the title of New York State Certified Nursery and Landscape Professional as a sign of your professional expertise. You have met a standard of performance recognized by the State of New York. This program also encourages continued education to maintain your certification. Continuing education credits can also be earned at Cornell Cooperative Extension programs throughout the year. Contact Cornell Cooperative Extension Albany County or visit our website at [www.ccealbany.com](http://www.ccealbany.com) regularly to see what offering are available.

## **Greenhouse Management: Growth Medium pH and Water-soluble Fertilizers**

Douglas Cox, Plant, Soil and Insect Sciences,  
University of Massachusetts, Amherst

Growth medium pH is affected by many of factors during commercial production. The most important of these are components of the mix (e.g., peat moss, compost, etc.), limestone type and rate of incorporation, plant root effects, irrigation water pH/alkalinity, and fertilizer type. In my experience fertilizer type is not fully recognized as a pH factor by many growers.

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### Fertilizer effects on pH

All water-soluble fertilizers potentially affect growth medium pH and you can find an indication of what the effect will be on the bag of most brands. Fertilizers are rated as to their calcium carbonate equivalent (CCE) or **potential acidity/ potential basicity** (Table 1). For example, Peat-lite 15-16-17 has a **potential acidity** of 196 lbs. of calcium carbonate per ton of fertilizer. This means it would take 196 lbs. of calcitic limestone to neutralize the **acidic** effect caused by the application of one ton of 15-16-17. On the other hand 15-0-15 has a **potential basicity** of 290 lbs. of calcium carbonate per ton of fertilizer. A ton of 15-0-15 would **raise** the pH of the growth medium as much as 290 lbs. of calcitic limestone. In each case, the larger the number the greater the potential effect of the fertilizer on pH.

The pH effect is the result of the nitrogen form in the fertilizer and how it is used by the plant roots and the microorganisms in the growth medium. Fertilizers with high percentages of ammonium and/or urea are acidic fertilizers and tend to lower pH. Basic fertilizers are characterized by a high percentage of nitrate and tend to raise pH.

Switching between acidic and basic fertilizers will not cause a quick change in growth medium pH. The effect make take several weeks before a change will start to show up.

**Table 1.** Acidity or basicity of some common water-soluble fertilizers

Fertilizer	Potential acidity	Potential basicity
General Purpose 20-20-20	558	
Peat-lite 20-10-20	406	
Geranium Special 15-15-15	246	
Peat-lite 15-16-17	196	
Peat-lite Special 20-1-20	86	
Poinsettia Peat-lite 15-5-25	37	
High Cal Peat-lite 20-0-20		10
EXCEL Cal-Mag 15-5-15		141
Dark Weather 15-0-15		290
EXCEL Cal-Lite 15.5-0-0		400
Potassium nitrate 13-0-44		520

Remember that many factors are interacting to determine pH. Obviously pH must be measured periodically to check the progress of change.

Precise pH control with acid and basic fertilizers has not been worked out yet. But this technique can be effective in checking a drifting pH or correcting pH  $\pm 0.1-0.3$  units. Switching fertilizers is what I recommend when a grower has a pH at or slightly above or below the upper or lower ends, respectively, of the pH optimum range for a species.

Be careful when using the acidic fertilizers because they supply significant amounts of ammonium. Many plants can not tolerate ammonium nutrition. I recommend Peat-lite 20-10-20 or 15-16-17 as the best acidic fertilizers. Also, if you decide to use 15-0-15 to raise pH keep in mind that it doesn't supply phosphorus. Prolonged use of this fertilizer may lead to phosphorus deficiency.

### Making big changes in pH

Sometimes pH is much higher or lower than the desired optimum with the real potential for poor plant performance. Abnormally low pH is much more common in Massachusetts than abnormally high pH. This mainly due to the acidic nature of the fertilizers and soilless growth media in common use and the low alkalinity of most water supplies in the state. If very high pH is a common occurrence, acid injection might be appropriate following a water test confirming high alkalinity.

Abnormally low pH most often results from inadequate liming and/or the prolonged use of a very acid fertilizer. Also, some plants, particularly geranium, can have dramatic acidic effects on pH. If pH is too low by more than 0.3 units a grower should switch to a basic fertilizer and consider the use of a liquid limestone treatment which will change pH faster than the fertilizer alone. A commercial liquid lime can be used following the label rates or mix 1 lb. of hydrated lime (calcium hydroxide) with 5 gal. of water and apply the clear solution to the plants. Potassium hydroxide can be injected during irrigation but I consider this a treatment of last resort for most growers.

### Water pH and Alkalinity

Many growers are confused by “high pH” and “high alkalinity” in relation to water quality and growth medium pH. Generally water with a high pH (7-8) and **low** alkalinity (<100 ppm CaCO<sub>3</sub>) is **not** a problem. This type of water is typical in Massachusetts and it has very little effect on pH relative to fertilizer type and the other cultural factors. Generally acid injection is **not** needed to maintain the proper growth medium pH range when water has **low alkalinity** regardless of pH level.

The combination of high pH and **high** alkalinity (>100 ppm CaCO<sub>3</sub>) is a problem; irrigation with alkaline water will lead to increased growth medium pH which could adversely affect some species and plant types (e.g., certain plug species). This situation may call for acid injection. However, with the exception of some parts of Berkshire county, alkaline water is not typical in Massachusetts.

## Pink Ugly Mix Keeps Holiday Green

David Chinery, Regional Turfgrass Educator,  
Cornell Cooperative Extension

Just as there are holiday givers, there are Grinches, too. And just like Dr. Suess’s mean one, some even steal Christmas trees, such as happened at the Washington Park Arboretum in Seattle. But in the Arboretum’s case, it was no ordinary pine, spruce or fir, but an extremely rare needled specimen, the loss of which is a blow to the botanical sciences.

According to The Seattle Times, the coddled conifer, a *Keteleeria evelyniana*, came to the Arboretum in 1998 as a seedling and had grown to a height of seven feet. Hailing from the mountainous Yunnan province of China, it is described as endangered, and although it can also be found in Laos and Vietnam too, nowhere are there very many in the wild. Keteleerias from China may be genetically distinct from those elsewhere, adding to this particular tree’s value.

Just like scarce animals, growing such trees in the captivity of a nursery or arboretum can allow them to be conserved, propagated and saved from extinction. It’s a great plan, until some numbskull comes along with a saw. And while the pilfering of the Seattle tree left the nation sleepless, theft of trees for the Yuletide season, as well as for their timber value, is a common problem.

Major lumber companies figure that about 3% of their trees are stolen each year, often by disgruntled lumbermen, amounting to a \$350 million dollar loss. The U.S. Forest Service estimates are even more alarming, with

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as many as one in ten trees taken illegally. No one knows how much is stolen from small forest owners, such as many folks owning land in rural New York. Forestry economists contacted by The Associated Press concluded that there is a perhaps \$1 billion worth of trees carted off by robbers annually.

While we might not be surprised that shady things are happening in the forest, it hits closer to home when trees are stolen from landscapes. At a botanical garden I once worked at, crooks carted off a massive and rare Empress tree (*Paulownia*), which is highly valued for its wood in Asian cultures. A rash of similar thefts plagued homeowners in the Maryland and Virginia suburbs back in the 90's. California communities have taken to microchipping expensive cactuses which are lifted from ecologically-correct municipal xeriscapes. But locally, conifers for Christmas are still the biggest target, such as the one stolen from a Troy City schoolyard.

Luckily, Extension has an answer. In response to Christmas bandits in their college town, Cornell Plantations in Ithaca came up with a non-toxic concoction called "Ugly Mix" that dissuades even the most indiscriminate criminal. Mix one gallon of water, 15 ounces of hydrated lime, four ounces of Wilt-Pruf or other anti-desiccant, and two ounces of red food coloring in a large pail. Stir well before and during application. Apply with a sprayer, broom, or brush on a dry day that is above freezing. It will look like a toddler vomited on your tree, but hey, at least it will live to see the New Year.

**Growing Degree-Day Update**  
**Albany, NY.... GDD's base 50° F will resume in the spring 2010.**  
**For more info on weather forecasts, pest predictions and growing degree days visit [www.nrcc.cornell.edu/grass](http://www.nrcc.cornell.edu/grass)**

**PESTICIDE EMERGENCY NUMBERS**

*Emergency responder information on pesticide spills and accidents*  
 CHEMTREC: 800-424-9300

*For pesticide information*  
 National Pesticide Information Center:  
 800-858-7378

***To Report Oil and Hazardous Material Spills in New York State***  
 NYS Department of Environmental Conservation  
 Spill Response:  
 800-457-7362 (in NYS)  
 518-457-7362 (outside NYS)

***Poison Control Centers***  
 Poison Control Centers nationwide:  
 800-222-1222

If you are unable to reach a Poison Control Center or obtain the information your doctor needs, the office of the NYS Pesticide Coordinator at Cornell University, 607-255-1866, may be able to assist you in obtaining such information.

**2010 Pest Management Guidelines**  
*Available upon request*

- Guidelines for Commercial Turfgrass \$21.00
- Guidelines for the Integrated Management of Greenhouse Florist Crops \$25.00
- Guidelines for Commercial Production and Maintenance of Trees and Shrubs \$25.00
- Guidelines for Production and Maintenance of Herbaceous Perennials \$25.00
- Guide for Berry Crops \$25.00
- Guide for Grapes \$21.00
- Vegetables \$30.00
- Tree Fruit \$35.00
- Field Crops \$21.00

Contact your local Cornell Cooperative Extension office for availability.

Looking for Cornell Pest Management Guidelines on-line? Visit <http://ipmguidelines.org/>

## Educational Opportunities:

**January 7, 2010**

### **Bedding Plant Conference**

**The Century House in Latham, NY**

Learn about innovations in greenhouse production, pest management, new varieties and other trends. DEC pesticide credits applied for. Contact Chris Logue at 518-372-1622 X 252 or [cal20@cornell.edu](mailto:cal20@cornell.edu).

**January 12 - 14, 2010**

### **2010 Empire State Green Industry Show**

**Rochester, NY**

For more information  
Call: 800-873-8873  
Email: [show@nysta.org](mailto:show@nysta.org)  
Visit: [www.nysta.org](http://www.nysta.org)

**February 2 - 4 & 9 - 11, 2010**

### **30 Hour Class for Category 3a (Turf and Ornamentals) and Categories 7a, (Structural and Rodent)**

Six days of pesticide training offered in preparation for taking the NYSDEC Certified Pesticide Applicator Exams. Classes held at the Cornell Cooperative Extension Rensselaer County office, 61 State Street, Troy NY 12180. For more information and to register for classes contact David Chinery at 518-272-4210 or [dhc3@cornell.edu](mailto:dhc3@cornell.edu).

**February 3 - 5, 2010**

### **New England Grows**

**Boston Convention and Visitors Center,  
Boston, MA**

Learn about the latest in design, sales, technology, and plant trends from some of the brightest minds in the horticultural and green industry today. Examine bold new horticultural products, make great deals, and get business done with 700 exhibiting companies.

Connect with thousands of successful green industry entrepreneurs.

Earn important horticultural CEU credits with 30 ground-breaking sessions.

Stay ahead of your competition with the knowledge and resources that will have an immediate impact on your horticultural and green industry business.

Discover what's next for the horticultural and green industry...now.

For more information check the website @ <http://www.negrows.org/>

**February 23 & 24, 2010**

### **Turfgrass 101**

**Cornell Cooperative Extension Rensselaer Co.  
Troy, NY**

Learn the basics of growing turfgrass in the Capital District. Areas of study and discussion will include turf species and varieties, nutrition and fertilization, soils, insect, disease and weed management, organic management options and much more. DEC credits have been awarded, Feb. 23 offers 3.75 credits and the 24th will have 4.25 credits. Classes will be held at the Cornell Cooperative Extension Rensselaer Co. office, 61 State Street, Troy, NY.

For more information and to register for the program contact David Chinery at (518) 272-4210 or [dhc3@cornell.edu](mailto:dhc3@cornell.edu). <http://www.ccerensselaer.org/Horticulture-Program.aspx>

**March 2 - 5, 2010**

### **Nursery and Landscape Worker Training and CNLP (Certified Nursery Landscape Professional) Review Session**

A 4-day review session in preparation for taking the CNLP exam. Topics include botany, soils, landscape installation and maintenance, plant identification, and insect, disease and weed pests. Classes held at the Cornell Cooperative Extension Albany County office, William Rice Jr. Extension Center, 24 Martin Rd., Voorheesville, NY 12186. Contact Chuck Schmitt at 518-765-3500 or [cds34@cornell.edu](mailto:cds34@cornell.edu)

**March 11, 2010**

### **Pesticide Recertification Day**

Learn the latest on pesticide use, safety, and pest management for the coming season. Meeting held

at the Italian American Community Center, in Albany.

Up to 3 Core and 3 Category Specific DEC pesticide credits available. Contact Chuck Schmitt at 518-765-3500 or [cgs34@cornell.edu](mailto:cds34@cornell.edu)

### March 15, 2010 CNLP Region #3 Exam

Exam held at the Cornell Cooperative Extension Albany County office, William Rice Jr. Extension Center, 24 Martin Rd., Voorheesville, NY 12186. 9:00 - 11:00 am. To register Contact Chuck Schmitt at 518-765-3500 or [cgs34@cornell.edu](mailto:cgs34@cornell.edu)

### March 19, 2010 Northeastern New York (Region #3) Nursery Landscape Associations 25th Annual Education Day SUNY Cobleskill

Classes on current issues including pest management, regulations and production. DEC pesticide credits will be applied for. Contact NENYNLA executive secretary Jerry Parmenter at 518-779-6530 or [info@nenynla.org](mailto:info@nenynla.org) or Chuck Schmitt at 518-765-3513 or [cgs34@cornell.edu](mailto:cgs34@cornell.edu)

## Websites of Interest:

Cornell Cooperative Extension Albany County:  
<http://ccealbany.com/>

Cornell Cooperative Extension Rensselaer County:  
[http://counties.cce.cornell.edu/rensselaer/general/main\\_page.htm](http://counties.cce.cornell.edu/rensselaer/general/main_page.htm)

Cornell Cooperative Extension Schenectady County:

<http://counties.cce.cornell.edu/schenectady/>

Cornell University Department of Horticulture:

<http://hort.cals.cornell.edu/>

Pesticide Management Education Program:

<http://pmep.cce.cornell.edu/>

Sports Turf Managers of New York:

<http://www.stmony.org/>

NY Tree Farm:

<http://www.nytreefarm.org/>

NYS Department of Environmental Conservation:

<http://www.dec.ny.gov/>

NY Forest Owners Association:

<http://nyfoa.org>

NYS Department of Agriculture & Markets:

<http://www.agmkt.state.ny.us/>

NYS Urban and Community Forestry Council:

<http://nysurbanforestrycouncil.com/>

NYS Agricultural Statistics Service:

[www.nass.usda.gov/ny/](http://www.nass.usda.gov/ny/)

USDA Agricultural Marketing Service:

[marketnews.usda.gov](http://marketnews.usda.gov)

New York State Integrated Pest Management:

[www.nysipm.cornell.edu](http://www.nysipm.cornell.edu)

Managing Turfgrass Diseases:

<http://turfgrassmanagement.psu.edu/>

Northeastern New York Nursery and Landscape Association:

[www.nenynla.org](http://www.nenynla.org)

New York State Nursery Landscape Association:

[www.nysnla.org](http://www.nysnla.org)

NYS DEC Emerald Ash Borer Information:

[www.dec.ny.gov/animals/7253.html](http://www.dec.ny.gov/animals/7253.html)

NYS DEC Firewood and invasive insects information:

[www.dec.ny.gov/animals/28722.html](http://www.dec.ny.gov/animals/28722.html)

Emerald Ash Borer Information:

[www.emeraldashborer.info](http://www.emeraldashborer.info)

New York Invasive Species:

[www.nyis.info/Insects/EmeraldAshBorer.aspx](http://www.nyis.info/Insects/EmeraldAshBorer.aspx)

**If you have ideas for this newsletter or need additional information call one of the contributors:**

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**David Chinery**, Extension Resource Educator, Rensselaer County, 272-4210 [dhc3@cornell.edu](mailto:dhc3@cornell.edu) (Turfgrass)

**Chris Logue**, Executive Director, Schenectady County, 372-1622 ext. 265 or [cal20@cornell.edu](mailto:cal20@cornell.edu) (Commercial Greenhouse)

Sincerely,



Chuck Schmitt  
Extension Resource Educator