It’s nice to hear good news at the beginning of a new year. I like it even better when I hear it from an entomologist who is battling one of our worst bugs. Cornell researcher Dr. Mark Whitmore, who seems to do a good job staying positive even while surveying the devastation of such tremendous pests as the emerald ash borer, is upbeat about the chances of reining in hemlock woolly adelgid, yet another bad actor in the forest.

Hemlock woolly adelgid only attacks hemlocks, so other needled evergreens—the pines, spruces and firs—are safe. The telltale sign is a white blob of fluff the size of a cotton ear swab tip made by the adults to hide the eggs. These white puffs, attached to the hemlock’s delicate twigs, are easily seen without a magnifying glass. Eggs become feeding nymphs and then adults, which attach to the tree’s twigs and reproduce. Gradually, needles and branches die, and the tree becomes denuded. It is difficult to imagine that this tiny thug, which makes a living sucking sap, can bring down huge, stately specimens, but it has been doing so since shortly after arriving in Virginia from Japan in the 1950s. Fanning out north and south, it is currently lurking from northern Georgia to southern Maine. We’re finding increasing evidence of it here in the Capital District, and it has spread out into central New York and the Finger Lakes. Yet there is no need to surrender just yet, as most of our hemlocks are still pest free, and a little guy named Lari is on the way.
Formally known as *Laricobius nigrinus*, “Lari” is a small, rather non-descript black beetle. Most in this genus feed on fungi, giving them the common name “tooth-necked fungus beetles,” but our Lari has a passion for adelgids. Most of the time predators are native to where their prey comes from, but Lari is from the Pacific Northwest. Female adult Laris (should we call them Larettes?) lay eggs in the spring, and their new larvae feed on adelgid eggs. When mature, the larvae drop to the ground and pupate in the soil, then emerge as adults in autumn. These adults come out hungry, and feed on adelgid nymphs until the following spring. It’s a nice system, since both larvae and adults attack the pest.

Scientists have been studying Lari for decades to learn the basics about its biology. When it was determined that Lari could be a helpful adelgid-aid and not a public nuisance, the first releases of laboratory reared beetles were made in 2003, with many more sent forth since. Success has been reported in North Carolina, but in Kentucky this spring researchers found no Laris alive, blaming the polar vortex. Mark Whitmore first released Laris at six sites in the Finger Lakes in 2009, and reports that third-generation beetles have been recovered in two places. He warns that it takes years for insect predators to establish, so I’m staying upbeat and pulling for Lari.
What Your Employees Really Need

Chuck Schmitt, Senior Resource Educator
Capital Area Ag. & Horticulture Program

Throughout history, many books have been written on great leaders. What makes a person a great leader? What qualities do they possess that draw people to them? Many of these people have been studied but little attention has been given to those that follow them. Perhaps the best way to analyse what makes a good leader is to study why people follow. After all Warren Buffet stated, “A leader is someone who can get things done through other people.”

If we look at the results of a study conducted by Gallup scientist poll of 10,000 average citizens who follow others we can begin to understand the true qualities great leader possess. This study was conducted around the world for a 3-year period (2005-2008) and does not include CEO’s, experts, celebrities or politicians. This allowed the researchers to examine all types of leaders: church leaders, school leaders, social network leaders and family leaders. This study did an excellent job in allowing followers to express their opinions in their own words. They were not guided by categories such as “vision”, “goal” or “purpose”.

This study then concentrated on the 25 most common occurring words in the followers narrative. Some of the words we often ascribe to leaders were conspicuously absent. Words such as purpose, humor, humility, and wisdom did not make the list! As the distinct ideas began to emerge patterns soon became evident. It is amazing considering there are more than 170,000 words in the English language, over 1,000 people has listed the exact same words without any categorization or options to choose from. It became obvious that the followers had a very clear vision of what they expect from a great leader. These four words are what followers need in their leader: trust, compassion, stability and hope.

TRUST

Trust is vital to a relationship, be it at work, a friendship or even in a marriage. Followers will not tolerate dishonesty from any level within an organization. The latest Gallup research showed that people who work in an organization
What Your Employees Really Need continued…..

where they do not trust the leadership have only a 1 in 12 chance of being engaged at that job; whereas a six fold increase in chances are achieved (1 in 2) when the followers trust their leaders. Work efficiency is also greatly impacted by trust; when collaboration on a project is needed the get-to-know-you period slows progress. Once the familiarity and trust are in place between co-workers, projects are finished in a fraction of the time. The key to building trust is being authentic. Individuals who can be candid and allow their flaws to be seen are viewed as more trustworthy; this is the only way to build genuine trust. The outcome of a strong relationship built on trust is respect, integrity and honesty.

COMPASSION

Compassion is one of the hardest things for individuals to show. Some leaders feel that this is a sign of weakness; studies show that nothing could be farther from the truth. Gallup has a large body of evidence showing that a manager who shows he cares about his employees has employees who stay with the organization longer, are substantially more productive, have more engaged customers and produce more profit for the organization. Initiating programs that help employees improve their individual health and well-being and encouraging people to put their families first helps the long-term success of the organization. People who feel cared for will go that extra mile and do so with a smile. Happy workers are good workers.

STABILITY

Job stability is of vital importance to followers. People need to feel confident in the financial stability of their organization and confident that they have a job. While there are never any guarantees, confidence that a job will exist is possible to convey. Without such stability resistance will creep in at every turn, resistance to change brought on by fear and uncertainty. With a sense of stability, employees are nine times more likely to be engaged at work. Followers also need to know their leaders core values are stable and not a moving target. Organizational transparency, as much as practical, and pointing out how individuals can impact the financial success of an organization can provide constant support and reassure followers.
Followers often respond differently when they realize how much their actions impact the overall success of the business.

**HOPE**

Hope is characterized as a high level need, not just a basic need. Helping people be enthusiastic about the future is not easy. Many leaders and managers spend their days reacting to the immediate needs of the job rather than planning for future needs. Who has the time to plan for the future? The other issue is the immediate gratification and acknowledgment tends to follow those that do what needs to be done: praise for success in the here and now. Our challenge as leaders is to learn to spend time thinking about what could be done rather than what needs to be done. If we as leaders are not providing the hope and the direction for the organization’s future, who is? History has show the only thing constant is change. If we are not constantly changing and improving our way of doing things (systems, leading the people we employ) we are sure to left behind. Start this year off right by giving your employees what they really need.

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Have you ever thought about this, or had a customer ask you? Basically it is the difference between broadleaved evergreens and conifers and deciduous trees and shrubs. There are several structural differences between these two broad groups that make this possible. I will try to provide some insight without getting into all the botany and evolutionary information about gymnosperms and angiosperms.

In a nutshell, conifer leaves are generally smaller, tougher, and more slender. Our local cedars grow leaves that are scale-like; our junipers are awl-like; and the pines, spruce and firs are needles. These modified “leaves” are long lived and are able to store carbohydrates which act like an antifreeze. Conifers protect their leaves with a heavier waxy cuticle than most deciduous trees do. Their leaves must be able to withstand cold drying winter winds without desiccation. This leaf adaptation minimizes the surface area from which moisture can be lost. The internal vascular system of conifers is also modified. Their vascular tissue is buried below layers of photosynthetic cells protecting the movement of moisture within the plant. Speaking of moisture, another major difference conifers enjoy is where the water moves with the plant. In conifers it is in specialized cells called tracheid’s; deciduous trees also use tracheid’s but also move water in more efficient cells called vessels.

Deciduous trees grow best where moisture is readily available. They must catch as much sun and make sugars while the growing season favors their survivability. Areas with adequate summer precipitation allow them to maximize their growth by using available water rather than trying to conserve it. Deciduous trees produce more leaves and these leaves are considered fragile by comparison. Throughout the growing season these larger leaves are under attack by insects, fungi, bacteria, as well wind and hail; so shedding these at the end of the season makes good sense.

Send your seasonally-appropriate question to spl67@cornell.edu
Cleaning and Disinfecting the Greenhouse

Tina Smith, Extension Educator
Greenhouse Crops and Floriculture Program
University of Massachusetts, Amherst

First Steps to a Clean Greenhouse

If you have had re-occurring problems with diseases such as *Pythium* root rot or insects such as fungus gnats, perhaps your greenhouse and potting areas need a good cleaning. Over the course of growing a crop, infectious microbes accumulate and algae flourish on moist surfaces harboring fungus gnats and shore flies.

Attention to greenhouse sanitation and disinfecting are steps that growers can do between crop cycles. Some growers wait until the week before opening a greenhouse before cleaning debris from the previous growing season. It is better to clean as early as possible to eliminate over-wintering sites for pests to reduce their populations prior to the spring growing season. Pests are much easier to prevent than to cure.

Although disinfecting should be done routinely, timing does not always permit this extra effort. Take the opportunity to thoroughly clean greenhouses between crop cycles when greenhouses are totally empty.

Cleaning

Cleaning involves physically removing weeds, debris and soil and is the first step prior to disinfecting a greenhouse and equipment. Some growers use a “Shop Vac” on concrete and covered floors to remove debris. Soil and organic residues from plants and growing media reduce the effectiveness of disinfectants. There are some cleaners specifically developed for greenhouse use, for example Strip-It, that is a combination of cleaning and wetting agents formulated to remove algae, dirt and hard water deposits. High pressure power washing with soap and water is also an option. Soap is especially useful in removing greasy deposits however, thorough rinsing is needed because soap residues can inactivate certain disinfectants such as the Q-salts.
Cleaning the Greenhouse continued...

Begin at the top and work your way down. Sweep down walls and internal structures and clean the floor of soil, organic matter and weeds. Disease causing organisms can be lodged on rafters, window ledges, tops of overhead piping and folds in plastic. Extra care is needed to clean these areas and also textured surfaces such as concrete and wood which can hide many kinds of organisms.

Install physical weed mat barriers if floors are bare dirt or gravel and repair existing mats. Weed barriers prevent weeds and make it easier to manage algae. Avoid using stone on top of the weed mat that will trap soil and moisture, creating an ideal environment for weeds, diseases, insects and algae.

Benefits to Disinfecting the Greenhouse

Many pathogens can be managed to some degree, by the use of disinfectants. For example, dust particles from fallen growing medium or pots can contain bacteria or fungi such as *Rhizoctonia* or *Pythium*. Disinfectants will help control these pathogens. In addition to plant pathogens, some disinfectants are also labeled for managing algae which is a breeding ground for fungus gnats and shore flies.

Managing Algae

Algae are a diverse grouping of plants that occur in a wide range of environments. Algae growth on walks, water pipes, equipment, greenhouse coverings, on or under benches and in pots is an ongoing problem for growers. Algae form an impermeable layer on the media surface that prevents wetting of the media and can clog irrigation and misting lines, and emitters. It is a food source for insect pests like shore flies, and causes slippery walkways that can be a liability risk for workers and customers. Recent studies have shown that algae are brought into the greenhouse through water supplies and from peat in the growing media. Once in a warm, moist environment with fertilizer, the algae flourish.

Proper water management and fertilizing can help to slow algae growth. Avoid over-watering slow-growing plants and especially crops early in the production cycle. Allow the sur

References for Cleaning and Disinfecting the Greenhouse
(active links in blue)

Furguson G. Reminders for Cleanup. Ontario Ministry of Agriculture, Food and Rural Affairs

Organic Materials Review Institute


Cleaning the Greenhouse continued….

face of the media to dry out between watering.

Avoid excessive fertilizer runoff and puddling water on floors, benches, and greenhouse surfaces. The greenhouse floor should be level and drain properly to prevent the pooling of water prior to installing a physical weed mat barrier.

Algae management involves an integrated approach involving sanitation, environmental modification and frequent use of disinfectants.

Irrigation water can also be a source for pathogens and algae. For information on water treatment technologies for control of algae see the Water Education Alliance for Horticulture.

Greenhouse Benches and Work Tables

If possible, use benches made of wire that can be easily disinfected. Wood benches can be a source for root rot diseases and insect infestations. Algae tend to grow on the surface of the wood creating an ideal environment for fungus gnats and shore flies, and plant pathogens can grow within the wood. Plants rooting through containers into the wood

References for Cleaning and Disinfecting the Greenhouse
(active links in blue)


Cleaning the Greenhouse continued…. will develop root rot if conditions are favorable for pathogen activity. Disinfect benches between crop cycles with one of the labeled products listed below. Keep in mind that disinfectants are not protectants. They may eradicate certain pathogens, but will have little residual activity.

Bench tops and work tables should be made of a non-porous surface such as a laminate that can be easily disinfected. Avoid using bare wood for these tasks.

Cleaning Containers

Plant pathogens such as *Pythium*, *Rhizoctonia* and *Thielaviopsis* can survive in root debris or soil particles on greenhouse surfaces. If a crop had a disease problem, then avoid re-using containers. It is also a good idea to avoid planting crops that are prone to *Thielaviopsis* problems, such as pansies, in containers that have been previously used. Research has shown that *Thielaviopsis* spores are capable of surviving on recycled plug trays and infecting new crops.

Containers to be reused should be washed thoroughly to remove soil particles and plant debris before being treated with a disinfectant, even if there is no evidence of disease in the crop. Debris and organic matter can protect pathogens from coming in contact with the disinfectant solution.

Disinfectants for Greenhouses

There are several different types of disinfectants that are currently used in the greenhouse for plant pathogen and algae control. They are quaternary ammonium compounds (*Green-Shield*®, *Physan 20*®, and *KleenGrow™*), hydrogen dioxide (*ZeroTol® 2.0*, *Oxidate® 2.0*), hydrogen peroxide & peroxyacetic acid (*Sanidate®*), hydrogen peroxide, peroxyacetic acid and octanoic acid (*X™-3*), sodium carbonate peroxyhydrate (*GreenClean Pro Granular Algicide*) and chlorine bleach. Alcohol, although not used as a general disinfectant is mentioned here because it is used by grow-

References for Cleaning and Disinfecting the Greenhouse (active links in blue)

*Warfield, C. and K. Konczal. Survival of Thielaviopsis Spores on Re-used Plug Trays and Efficacy of Disinfectants on Spore Viability. 2004, SNA Research Conference pp 545-547*

*Water Education Alliance for Horticulture*
Cleaning the Greenhouse continued….  

-ers to disinfect propagation tools. All these products have different properties. If possible, disinfectants should be used on a routine basis both as part of a pre-crop clean-up program and during the cropping cycle.

**Quaternary ammonium chloride salts** (*Green-Shield®, Physan 20®, KleenGrow™*). Q-salt products, commonly used by growers are quite stable and work well when used according to label instructions. Q-salts are labeled for fungal, bacterial and viral plant pathogens, and algae. They can be applied to floors, walls, benches, tools, pots and flats as disinfectants. Physan 20® is also labeled for use on seeds, cut flowers and plants. Carefully read and follow label instructions. Recommendations may vary according to the intended use of the product. For example, the Green-Shield® label recommends that objects to be sanitized should be soaked for 10 minutes, and walkways for an hour or more. Instructions recommend that surfaces be air-dried after treatment except for cutting tools. The label recommends soaking cutting tools for 10 minutes before use, then using the wet tool on plants. One way to do this is by having two cutting tools, one pair to use while the other is soaking. KleenGrow™ has higher organic tolerances and longer residual activity on hard surfaces.

Q-salts are not protectants. They may eradicate certain pathogens, but will have little residual activity. Contact with any type of organic matter will inactivate them. Therefore, pre-clean objects to dislodge organic matter prior to application. Because it is difficult to tell when they become inactive, prepare fresh solutions frequently (twice a day if in constant use). The products tend to foam a bit when they are active. When foaming stops, it is a sign they are no longer effective. No rinsing with water is needed.

**Hydrogen Dioxide and Pyeroxyacetic Acid** (*ZeroTol® 2.0, OxiDate® 2.0, SaniDate®12.0*) Hydrogen dioxide kills bacteria, fungus, algae and their spores immediately on contact. It is labeled as a disinfectant for use on greenhouse surfaces, equipment, benches, pots, trays and tools, and for use on plants. Label recommendations state that all surfaces should be wetted thoroughly before treatment. Several
Cleaning the Greenhouse continued…..

precautions are noted. Hydrogen dioxide has a strong oxidizing action and should not be mixed with any other pesticides or fertilizers. When applied directly to plants phytotoxicity may occur for some crops, especially if applied above labeled rates or if plants are under stress. Hydrogen dioxide can be applied through an irrigation system. As a concentrate it is corrosive and causes eye and skin damage or irritation. Carefully read and follow label precautions. Note that OxiDate® and SaniDate® are organic products.

Hydrogen Peroxide, Peroxyacetic Acid and Octanoic Acid (X™-3) is a strong oxidizing agent used as an algicide on greenhouse structures and floor and is labeled for use in chemigation. Follow label rates and precautions.

Sodium Carbonate Peroxyhydrate (GreenClean Pro Granular Algaecide®) is a granular and activated with water. Upon activation, sodium carbonate peroxhydrate breaks down into sodium carbonate and hydrogen peroxide. GreenClean® is labeled for managing algae in any non-food water or surfaces. Non-target plants suffer contact burn if undiluted granules are accidentally spilled on them.

Chlorine bleach. There are more stable products than bleach to use for disinfecting greenhouse surfaces. Chlorine bleach may be used for pots or flats, but is not recommended for application to walls, benches or flooring. When used properly, chlorine is an effective disinfectant and has been used for many years by growers. A solution of chlorine bleach and water is short-lived and the half-life (time required for 50 percent reduction in strength) of a chlorine solution is only two hours. After two hours, only one-half as much chlorine is present as was present at first. After four hours, only one-fourth is there, and so on. To ensure the effectiveness of chlorine solutions, it should be prepared fresh just before each use. The concentration normally used is one part of household bleach (5.25 percent sodium hypochlorite) to nine parts of water, giving a final strength of 0.5 percent. Chlorine is corrosive. Repeated use of chlorine solutions may be harmful to plastics or metals. Objects to be sanitized with chlorine require 30 minutes of soaking and then should be rinsed with water. Some would say that rinsing is not necessary. Bleach should be used in a well-ventilated area. It should also be noted that bleach is phytotoxic to some plants, such as poinsettias.

Alcohol (70 percent) is a very effective sanitizer that acts almost immediately upon contact. It is not practical as a soaking material because of its flammability. However, it can be used as a dip or swipe treatment on knives or cutting tools. No rinsing with water is needed.

Disinfectants should be used on a routine basis both as part of a pre-crop clean up program and during the cropping cycle.
Cleaning the Greenhouse continued…..

Organic Disinfectants that are listed by the Organic Material Review Institute include OxiDate® 2.0, SaniDate® 12.0 and PERpose Plus™. Ethyl or isopropyl alcohol is used to disinfect tools. Organic growers should always check with their certifying organization before using any material new in their growing practices. For list of products see: Organic Material Review Institutes (OMRI).

This information is supplied with the understanding that no discrimination is intended and no endorsement implied. Due to constantly changing regulations, we assume no liability for suggestions. If any information in this article is inconsistent with the label, follow the label.

Steps to Prevent Disease Contamination

- Disinfect benches, preferably made of wire. Pots, flats and trays should be new or disinfected. Wood benches can be a source for root rot diseases and insect infestations. Algae growing on wood surfaces create an ideal environment for fungus gnats and shore flies. Plant pathogens such as *Pythium* can grow within the wood and plants rooting into the wood can become infected.
- Disinfect potting tables preferably made of a non-porous surface such as a laminate.
- Set up washing stations for hand washing and foot baths at the entrances of each greenhouse, especially propagation houses.
- Keeping hands and fingernails clean can help reduce the spread of diseases. If wearing latex or other protective gloves, clean as you would your hands and change periodically. Change the disinfectant daily in foot baths and wash floor mats weekly.
- Keep pets off of benches and potting areas.
- Provide supports throughout the greenhouse to hang hose nozzles. Keep all containers and hose nozzles off the floor to prevent contamination with pathogens.
- Keep growing media in a clean area and covered.
- Avoid carrying over plant material.
- Avoid accumulating dirty pots, old growing media or plant debris in the media mixing area.
- Make sure trash bins in the greenhouses are covered so that disease spores do not spread to the crop.
- Use horticultural oil on vegetation/weeds outside, around the greenhouse perimeter to smother over-wintering pests.

This article was prepared by: Tina Smith, Extension Educator, Greenhouse Crops and Floriculture Program, University of Massachusetts, Amherst. Updated 2012, Revised 2014. Please find the article online by clicking here.
EDUCATIONAL OPPORTUNITIES:

January 27, 2015
2015 Bedding Plant and Nurserymen’s Education Day
Time: 8:30 am - 4:30 pm
The Century House, 997 New Loudon Road, (Route 9), Latham, NY 12110
Learn about innovations in greenhouse production, New York State DOT rules and regulations, growing media, pest management, fertilization and other trends. NYSDEC recertification pesticide credits applied for. Course fee is $49.00. Registration required. For more information contact Chuck Schmitt at cds34@cornell.edu and 518-765-3513, or David Chinery at dhc3@cornell.edu and 518-272-4210.

January 30, 2015
2015 Columbia County Insect and Disease Update (snow date Feb. 2)
Time: 12:30 pm - 3:30 pm
Cornell Cooperative Extension Columbia County, 479 Route 66, Hudson, NY 12534
This course will provide lawn, landscape and greenhouse managers with information about identifying and controlling insect and diseases on managed properties and in the greenhouse setting. Basic issues such as aphids, mites, grubs, chinch bugs, needlecasts and lawn diseases will be addressed. Course fee is $40. NYSDEC credits will be available pending approval. Registration is required. For more information contact David Chinery at dhc3@cornell.edu and 518-272-4210 or Chuck Schmitt at cds34@cornell.edu or at 518-765-3513.

February 10-12 & 17-19, 2015
30-Hour Pesticide Class for Categories 3a & 25
Time: 9:00 am - 3:00 pm
Cornell Cooperative Extension Rensselaer County, 61 State Street, Troy, NY 12180
Cornell Cooperative Extension horticulture staff of the Capital District will present a six day class to become a certified pesticide applicator. Successful completion of the thirty-hour training course and exams will allow participants to be certified by the NYSDEC as Commercial Pesticide Technician. Registration is required. Program Cost $360.00. For more information contact David Chinery at dhc3@cornell.edu and 518-272-4210 or Chuck Schmitt at cds34@cornell.edu and 518-765-3513.

February 25, 2015
(snow date February 26)
2015 Rensselaer County Insect and Disease Update
Time: 12:30 pm - 3:30 pm
Cornell Cooperative Extension Rensselaer County, 61 State Street, Troy, NY 12180
This course will provide lawn, landscape and greenhouse managers with information about identifying and controlling insect and diseases on managed properties and in the greenhouse setting. Basic issues such as aphids, mites, grubs, chinch bugs, needlecasts and lawn diseases will be addressed. Course fee is $40. NYSDEC credits will be available pending approval. Registration is required. For more information contact David Chinery at dhc3@cornell.edu and 518-272-4210 or Chuck Schmitt at cds34@cornell.edu or at 518-765-3513.

March 3-5, 13, 2015
2015 Certified Nursery Landscape Professional (CNLP) Review Session
Time: 9:00 am - 3:30 pm
Cornell Cooperative Extension Albany County
24 Martin Road, Voorheesville, NY 12186
A 3-day review session and plus exam. Topics include botany, soils, turfgrass, pesticide safety, organic land care management, and plant identification. This review session will help prepare students for the CNLP exam. The manual has expanded to include new chapters. Registration is required. For more information about the
training and the CNLP program, contact Chuck Schmitt at cds34@cornell.edu and 518-765-3513. Or visit the NYSNLA website at www.nysnla.com and click on the Education tab.

March 10, 2015
2015 Turfgrass 101
Time: 9:00 - 12:15 pm
Cornell Cooperative Extension Rensselaer County, 61 State Street, Troy, NY 12180
This program will provide an introduction to the major insect and disease pests impacting turfgrass. A special focus on selecting turfgrass species and varieties that are resistant to these problems, as well as the use of chemical pesticides, will be given. NYSDEC and BeGreen recertification pesticide credits will be available pending approval. Course fee is $40 Registration is required. For more information contact David Chinery at dhc3@cornell.edu and 518-272-4210 or Chuck Schmitt at cds34@cornell.edu and 518-765-3513.

March 19, 2015
2015 Pesticide Recertification Day
Time: 7:30 am - 4:00 pm
The Century House, 997 New Loudon Road (Route 9), Latham, NY 12110
Learn the latest on pesticide use, safety, and pest management for the upcoming season. This program features up to 6 NYSDEC recertification credits and 6 CNLP credits pending approval. The morning session will offer core credits and afternoon sessions offer category specific credits for 3a, 1a,7a and private categories as well. Half day registration cost $85 and full day registration is $100, lunch is included with both. Registration required. For more information contact Chuck Schmitt at cds34@cornell.edu and 518-765-3513.

March 24, 2015
2015 Washington County Insect and Disease Update (snow date Mar. 25)
Time: 12:30 pm - 3:30 pm
Cornell Cooperative Extension Washington County, 415 Lower Main Street
Hudson Falls, NY 12839
This course will provide lawn, landscape and greenhouse managers with information about identifying and controlling insect and diseases on managed properties and in the greenhouse setting. Basic issues such as aphids, mites, grubs, chinch bugs, needlecasts and lawn diseases will be addressed. Course fee is $40. NYSDEC credits will be available pending approval. Registration is required. For more information contact Chuck Schmitt at cds34@cornell.edu or at 518-765-3513 David Chinery at dhc3@cornell.edu and 518-272-4210.

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.
Have an idea for this newsletter or need additional information? Please contact the contributors below:

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Sincerely,

Chuck Schmitt
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2015 Pest Management Guidelines
Available upon request
Guidelines for Commercial Turfgrass
Guidelines for the Integrated Management of Greenhouse Floral Crops
Guidelines for Commercial Production and Maintenance of Trees and Shrubs
Guidelines for Production and Maintenance of Herbaceous Perennials
Guide for:
Berry Crops
Grapes
Vegetables
Tree Fruit
Field Crops
Contact your local Cornell Cooperative Extension office for availability.

Growing Degree Day Update
Albany, NY...
2854 GDD’s base
50°F as of 12/31/14

This publication contains pesticide recommendations. Changes in pesticide regulations or human errors are still possible. Some materials may no longer be available, and some may no longer be legal. These recommendations are provided only as a guide. All pesticides distributed, sold, or applied in New York State must be registered with the Department of Environmental Conservation (DEC). Questions concerning the legality and/or pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension office or regional DEC office. Read the label before applying any pesticide. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention or listing of commercial products or services in this publication does not imply endorsement by Cornell Cooperative Extension Service nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage and examine a current product label before applying any chemical.