



Cornell University
Cooperative Extension

Hudson Valley Horticulture
Cornell University Cooperative Extension of the Hudson Valley
~~~Commercial Horticulture Electronic Newsletter~~~

Volume 12, Issue 11

November 2012

Participating Counties: Orange \* Dutchess \* Putnam \* Rockland \* Sullivan \* Ulster \*  
Westchester \*

Editors: Jennifer Stengle & Rosemarie S. Baglia

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

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**November/December/January Programs**

**NYSTA Turf & Grounds Expo**

**When:** November 13<sup>th</sup>-15<sup>th</sup>, 2012

**Where:** Rochester Riverside Convention Center

**Program:** [http://www.nysta.org/turfshow2012/attn\\_home.html](http://www.nysta.org/turfshow2012/attn_home.html)

**Registration:** Online <https://www.surveymonkey.com/s/NW5FCNR>

and hotel registration: <http://www.nysta.org/turfshow2012/hotel.pdf>

If you are interested in exhibiting, please call Jill Cyr at (800) 873-8873

And review exhibitors information: [http://www.nysta.org/turfshow2012/ts\\_home.html](http://www.nysta.org/turfshow2012/ts_home.html)

## **Long Island Poinsettia Open House**

**When:** Tuesday November 13<sup>th</sup>, 9:00am-4:00pm (Open House)

**Where:** CJ VanBourgondien, Inc.

39395 Main Road, Peconic, NY 11958

**Program:** This year C.J. VanBourgondien, Inc. is cooperating with Cornell Cooperative Extension of Suffolk County for the Long Island Poinsettia Trial.

Come to see over 65 cultivars, including 24 new or trial cultivars, from Dummen, Ecke, Selecta, and Syngenta. A demonstration of the branching pgr Augeo will also be on display.

**Registration:** For more information, contact Nora Catlin:

631-727-7850 x214 or [nora.catlin@cornell.edu](mailto:nora.catlin@cornell.edu).

## **Working Trees in Agricultural Landscapes: An Introduction to Agroforestry,**

**When:** November 16, 2012, 9:30am,

**Where:** USDA NRCS Big Flats Plant Materials Center, Big Flats, New York.

**Program:**

-An Overview of Five Agroforestry Systems for the Northeast: Alley Cropping, Forest Riparian Buffers, Windbreaks, Silvopasturing and Forest Farming

-The Ecological and Economical Benefits of Agroforestry Ray Archuleta, USDA-NRCS National Technology Center-East, Conservation Agronomist.

-Field Tour: Examples of windbreaks, living snow fence, willows for soil bioengineering, hybrid willows for bioenergy, shrub willow time of cutting and planting study. Establishment method demonstration: nursery stock options, site preparation methods, post-planting vegetation and pest control, native willow evaluation, species and cultivars of interest.

**Registration:**

<http://events.constantcontact.com/register/event?llr=7ex5qzeab&oeidk=a07e6emi5wyf4cd0caa>

For additional information contact Brett Chedzoy at [bjc226@cornell.edu](mailto:bjc226@cornell.edu) (607-535-7161) or [paul.salon@ny.usda.gov](mailto:paul.salon@ny.usda.gov) (607-562- 8404). There will be an afternoon field tour, so please dress warm and let us know if you have any special needs. Please bring \$12.00 to cover the cost of lunch (exact change would be appreciated)

## **Greenhouse Vegetable Short Course at Cornell University**

**When:** December 5 & 6, 2012

**Where:** Kenneth Post Laboratory Greenhouse, Cornell University, Ithaca, NY

**Program:**

**Day 1:** Beginning at 11 am with a welcome and introduction, the workshop starts with the Advantages of Greenhouse Vegetable Production, and moves on to Nutrient Delivery in Hydroponic Crops, Lighting Considerations, Water Quality: pH, Alkalinity, and Acidification, and ends with Crop Selection for Hydroponic Vegetable Production.

**Day 2:** Begins at 9 am with Risk Management for Greenhouse Vegetables, followed by Pest management: Beyond Pesticides. Updates from NYSERDA Research Projects are next, with Case Studies: Implementing a Bio-control Program in Low Temperature settings to finish off the morning sessions. After lunch, the presentation on **Developing a Sustainable Specialty Crop Greenhouse Industry** in the Northeast will precede a discussion on Real Life Experiences, followed by Air Movement in Hydroponic Vegetables, before departing at 2:45 pm for the Finger Lakes Fresh Tour.

**Registration:** Fee is \$100 per person, if paid by November 16, 2012. For more information or to register, please call 845-344-1234 or email [cah94@cornell.edu](mailto:cah94@cornell.edu).

## UMass Green School

**When:** October 31<sup>st</sup>- December 12th

**Where:** Holiday Inn, Marlborough, MA

**Program:** <http://extension.umass.edu/landscape/education/umass-extensions-green-school>

**Registration:** Deadline October 24<sup>th</sup>

Printable form:

[http://extension.umass.edu/landscape/sites/landscape/files/pdf/events/reg\\_form\\_GS\\_2012.pdf](http://extension.umass.edu/landscape/sites/landscape/files/pdf/events/reg_form_GS_2012.pdf)

Online form: <http://www.regonline.com/Register/Checkin.aspx?EventID=1088649>

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## Articles:

### Storm Damage Resources

#### Storm Preparedness and the Urban Forest

The USDA Forest Service has excellent resources for storm preparedness and disaster response. It is a good resource for both the commercial horticulture industry and communities.

<http://www.na.fs.fed.us/spfo/pubs/uf/sotuf/sotuf.htm>

*Written by Stephanie D. Radin, [Cornell Cooperative Extension Dutchess County](#)*

### Managing Severe Weather and Storm Damage in Landscapes and Nurseries

As severe storms, winds and floods roll over our landscapes and nursery crops, and we gear up for winter ice and snow, here's a catch-all site with information on managing weather related woes in landscapes and nurseries. Compiled by University of Tennessee, Sustainable Nursery Crop and Landscape Management Program, this website is intended to act as a gateway resource for professional land care managers and nursery owners. It includes links to "Managing Storm Damaged Trees" and "Pesticides in Flooding Situations" and much more!

[http://plantsciences.utk.edu/pdf/managing\\_storm\\_disaster\\_damage\\_in\\_landscapes\\_nurseries.pdf](http://plantsciences.utk.edu/pdf/managing_storm_disaster_damage_in_landscapes_nurseries.pdf)

Submitted by Betsy Lamb, [NYS IPM Program](#)

### Soils: Minimizing Mining Damage with Manure

By [Ann Perry](#), October 26, 2012

[U.S. Department of Agriculture](#) (USDA) research confirms that the time-tested practice of amending crop soils with manure also can help restore soils on damaged post-mining landscapes.

Thousands of acres of land with little or no vegetation, once mined for lead and zinc, remain throughout an area of southwestern Missouri, southeastern Kansas, and northeastern Oklahoma. The mining activities also left behind a legacy of lead-contaminated acidic soils, toxic smelter sites, and large quantities of mine tailings called "chat."

Soil scientist [Paul White](#) at the [Agricultural Research Service](#) (ARS) [Sugarcane Research Unit](#) in Houma, La., was part of a team that studied whether adding beef manure compost to soil at post-mining sites would provide the carbon needed to support a healthy plant cover. The scientists also wanted to determine if the compost could reduce levels of lead and zinc that could contaminate runoff during heavy rain. ARS is USDA's chief intramural scientific research agency.

The team amended soils in experimental plots from the mine sites with 20 or 120 tons of beef manure compost per acre, and established a cover crop of switchgrass on all the plots. Then they took soil samples from the sites five times during the two-year study.

Two years after the study began, soils in the high-compost plots had significant increases in pH, plant-available phosphorus, total nitrogen, carbon and available water. High-compost amendments also increased microbial biomass, enzyme activity and nitrification potential, all of which create and support favorable conditions for plant establishment and growth.

To read the complete article, please see: <http://www.ars.usda.gov/News/docs.htm?docid=1261>

Submitted by Gerald G. Giordano, [Cornell Cooperative Extension of Westchester County](#)

## **Urban Forestry: Latest upgrades make US Forest Service tree-value software mobile, more global.**

WASHINGTON, Oct. 3, 2012 – U.S. Forest Service Chief Tom Tidwell announced today the release of new mobile software that helps urban planners, homeowners and students quantify the value of their urban forests.

Earlier versions of the award-winning [i-Tree software suite](#) made forest management easy and accessible for millions of Americans. Now, with i-Tree version 5.0, the Forest Service and its partners have increased not only the suite of tools available, but the range of devices that can use it, including smartphones and tablets. The software is completely free for download.

i-Tree allows users to easily and accurately find the dollar value of the benefits provided by urban forests, including energy cost savings, storm-water capture and city pollution absorption.

Since i-Tree was first released in 2006, communities, non-profit organizations, consultants, volunteers and students have used the software application to analyze individual trees, parcels, neighborhoods, cities and entire states. In cities across the country, findings from i-Tree have helped spur greater investments in municipal trees and green spaces.

The new release is the first since 2011 and features a new data collection web form that allows any device – such as smart phones or tablets – with a modern internet browser to be used to collect and enter field data. A new function within i-Tree design forecasts the growth and benefits of trees through time, based on species and location-specific growth models.

To read the complete article, please see:

<http://www.fs.fed.us/news/2012/releases/10/valuesoft.shtml>

Submitted by Gerald G. Giordano, [Cornell Cooperative Extension of Westchester County](#)

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## **Urban Forestry U.S. Forest Service report shows fewer trees dying in nation's forests Bark beetle damage in West slowing down; eastern pest-related deaths remain low.**

WASHINGTON, Sept. 10, 2012 –The number of dead trees on 750 million acres of public and private forests across America is on the decline for the second straight year, with most of the reductions seen in western states where bark beetles have infested millions of trees, according to a report released today by the [U.S. Forest Service](#).

The report, [Major Forest Insect and Disease Conditions in the United States: 2011](#), shows that damage caused by the mountain pine beetle is on the decline largely because the insect is running out of its favorite food source: lodgepole pine. Acres of forests with dead trees due to the mountain pine beetle declined from 6.8 million acres in 2010 to 3.8 million acres in 2011 in western states.

"Native insects and diseases run in cycles, and right now we are grateful the trend is downward," said [U.S. Forest Service Chief Tom Tidwell](#). "While the news is good, we are certain to continue to face challenges, such as the effects of climate change and the introduction of invasive species. We must manage our lands across all boundaries to ensure the vitality and health of our natural resources."

In the East, tree mortality due to insects and disease continue to remain low, with southern pine beetle-caused mortality at historically low levels. The southern pine beetle outbreak in New Jersey declined from 14,000 acres in 2010 to about 6,700 acres in 2011. However, that lower number of acres is still considered very high for New Jersey. Invasive forest diseases and insects, such as the emerald ash borer and the Asian long-horned beetle remain a big threat to eastern forests.

For the complete article, see: <http://www.ars.usda.gov/News/docs.htm?docid=1261>

*Submitted by Gerald G. Giordano, [Cornell Cooperative Extension of Westchester County](#)*

## **Vegetables: Researchers Create Potatoes with Higher Levels of Carotenoids**

By [Sharon Durham](#), October 24, 2012

Scientists with USDA's [Agricultural Research Service](#) (ARS) bred yellow potatoes with carotenoid levels that are two to three times higher than those of the popular Yukon Gold yellow-fleshed potato variety. (Several carotenoids are involved, including neoxanthin, antheraxanthin, violaxanthin, lutein and zeaxanthin. Among these, lutein and zeaxanthin, are of keen interest for eye health; they appear to protect against age-related macular degeneration and perhaps against cataract formation.)

ARS plant geneticist [Kathy Haynes](#) and nutritionist [Beverly Clevidence](#) did the research at the agency's [Henry A. Wallace Beltsville Agricultural Research Center](#) in Beltsville, Md. Haynes works in the [Genetic Improvement for Fruits and Vegetables Laboratory](#) (GIFVL) at the Beltsville center, and Clevidence works in the center's [Food Components and Health Laboratory](#). They published their findings in the [Journal of the American Society for Horticultural Science](#).

Haynes found wild potatoes with intense yellow flesh that have about 23 times more carotenoids than white-flesh potatoes. By crossing these wild potatoes with cultivated types, Haynes and her colleagues developed the high-carotenoid potatoes.

In 2007, Haynes and her colleagues introduced a new potato named Peter Wilcox that they developed. The potato, which has purple skin and yellow flesh, has become popular in niche roadside markets. The overall carotenoid levels in this potato are more than 15 percent higher than those in Yukon Gold, according to Haynes.

Read the complete article at: <http://www.ars.usda.gov/is/pr/2012/121024.htm>

*Submitted by Jen Stengle, [Cornell Cooperative Extension Putnam County](#)*

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## **EAB webinars from the Emerald Ash Borer University**

To see the entire list of webinars available click here:

[http://www.emeraldashborer.info/eab\\_university\\_ondemand.cfm](http://www.emeraldashborer.info/eab_university_ondemand.cfm)

**EAB pesticides for professionals** webinar gives a good overview of pesticides available and the efficacy studies of various methods of application and timing of application conducted by Deb McCullough and others at Michigan State University. This information may be useful to have on hand in answering questions from either private homeowners, larger landowners or city/county planners  
[http://www.emeraldashborer.info/eab\\_university\\_ondemand.cfm](http://www.emeraldashborer.info/eab_university_ondemand.cfm)

**EAB for Homeowners** Good basic information for what to consider as a homeowner. This may be a good source of information to pass along to the public. 15 miles is the magic number referred to, if there is EAB within 15 miles of you, you should be planning what to do with your ash trees.  
[http://www.emeraldashborer.info/eab\\_university\\_ondemand.cfm](http://www.emeraldashborer.info/eab_university_ondemand.cfm)

**Emerald Ash Borer Cost Calculator** (from the Purdue University Extension). Use this calculator to compare the annual and cumulative cost and the size of forest remaining for various EAB management strategies. This is designed for planners and officials who have large ash stocks to consider, however it can also be useful to homeowners and other interested individuals.  
<http://extension.entm.purdue.edu/treecomputer/index.php>

*Submitted by Rose Baglia, [Cornell Cooperative Extension, Orange County](#)*

**Major change in labeling for Esteem 0.86 EC Insect Growth Regulator (EPA Reg. No. 59639-95) and Knack Insect Growth Regulator (EPA Reg. No. 59639-95)** both products containing the active ingredient pyriproxyfen. This label change adds use on strawberries, grapes, dry bulb onions, root and tuber vegetables, legume vegetables, artichoke, asparagus, and leafy vegetables.

Copies of the approved labels for these products will be available on PIMS (<http://pims.psur.cornell.edu>) shortly.

As with any pesticide product, always read and follow label directions.  
Mike Helms, Extension Support Specialist/Managing Editor - Cornell Guidelines Pesticide Management Education Program (PMEP)  
*Cornell Guidelines Website:* <http://ipmguidelines.org>  
*PMEP Website:* <http://pmep.cce.cornell.edu>

*Submitted by Jen Stengle, [Cornell Cooperative Extension Putnam County](#)*

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## **Regional Updates**

### **Westchester County-November 2012**

Landscape and turf professionals who were worried that they did not get their grass seed planted in time to mature before early freezes are now facing landscape cleanup and the removal of thousands of fallen trees in the wake of devastation caused by the recent storm hitting our region that the media has named "Superstorm Sandy". Weather experts reported that Hurricane Sandy began strengthening on its journey to the Southern New Jersey coast and had lost tropical characteristics just before making landfall. As scientists continue to study the complexity of this storm, a general

consensus by many is that the storm morphed into something akin to a mega Nor'easter that generated "90-mile-per-hour-plus" wind gusts even in far flung locations North/Northeast of its center.

Many street trees in Southern Westchester bore the brunt of this storms' gusts as they then toppled on to municipal and private properties and many things contained in those locations. Anyone taking little more than a cursory glance at the underside root portions of many of these fallen trees got a birds' eye view of what tree experts have been telling us (especially) during the last decade: That the roots of the trees that surround us here in the Northeast usually grow much wider than deep.

One upturned sycamore of approximately 45 feet in height growing on a residential street in southern Westchester that was a victim of "Superstorm Sandy", showed virtually no visual evidence of roots below one foot of soil depth. In fact, in this instance, the largest roots visible on the underside of the upturned tree were extending outward under the adjacent sidewalk and likely into the residential lawn beyond. This is where the tree had fallen. The turf growing around this tree became vertical as the tree fell and somewhat resembled a carefully cut slice of layer cake extending several feet to the right and left of the stem. This would seem to be evidence that the roots of this sycamore had filled the tree lawn to a shallow depth and had likely grown into the adjacent lawn but had largely stopped at the curb where cultural conditions not favorable to tree root growth were created by the expanse of impermeable roadway pavement.

The tree scenario described above has likely been repeated in countless locations on streets all over Westchester and in other locations in the Hudson Valley. There will always be powerful storms that knock down even the healthiest and most appropriately planted of trees and tree experts may be the best commentators on the implications of living among large street trees planted in what are often compacted clay soils without adequate rooting space. However we should all be mindful as to the steps we might take regarding site specific tree choices, placement and growing medium considerations in order to minimize tree hazards to whatever extent practicable. Resources on street tree selection, planting and placement are widely available through your local Cornell Cooperative Extension and at Cornell University websites such as the following: <http://www.hort.cornell.edu/uhi/>

Also, look for upcoming details in this newsletter on the 2013 New York State Turf and Landscape Conference at Empire City where Cornell University urban tree expert Dr. Nina Bassuk and other tree, turf, insect, disease and DEC regulation authorities will present talks on topics vital to you as a Green Industry professional.

Written by Gerald G. Giordano, [Cornell Cooperative Extension of Westchester County](#)

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## **Putnam County- November 2012**

It was with some irony that CCE Putnam had to cancel a Climate Change symposium on Wednesday the 31<sup>st</sup> of October after Sandy swept ashore. No matter which way you lean in the climate change debate--the how's and why's still being argued-- we all see that it is happening. Not sure yourself? See what other Americans are thinking <http://pewresearch.org/pubs/2388/global-warming-climate-change-solid-evidence-human-activity-earth-warmer> Or better yet, see what insurance companies are thinking. From [Munich RE](#), the world's largest insurer: *"Nowhere in the world is the rising number of natural catastrophes more evident than in North America. The study shows a nearly quintupled number of weather-related loss events in North America for the past three decades, compared with an increase factor of 4 in Asia, 2.5 in Africa, 2 in Europe and 1.5 in South America. Anthropogenic climate change is believed to contribute to this trend, though it influences various perils in different ways. Climate change particularly affects formation of heat-waves, droughts, intense precipitation events, and in the long run most probably also tropical cyclone intensity."* To quote Bette Davis, in *All*

*About Eve*, "Fasten your seat belts; it's going to be a bumpy night." One need only look at the front page of a newspaper this week to know that urban forestry plays a big part in the impact of these storms.

Tree species are also being visibly affected; bud break and flowering times are consistently creeping earlier into the spring months. Studies such as [Project Bud Break](#) and the [Lilac Phenology Network](#) are tracking the changes in phenological indicators, such as emergence times of leaves and flowers.

The Climate Change Atlas, created and managed by the US Forest Service, tracks the projected effects of climate change on many indicator species. Here's a link to the tree pages: [www.nrs.fs.fed.us/atlas/tree/](http://www.nrs.fs.fed.us/atlas/tree/) where the impacts of climate change have been projected for a number of tree species (note that they do disclose the relative reliability of the figures they have come up with). If you choose Sugar maple for example, a species with high reliability in several models, [http://www.nrs.fs.fed.us/atlas/tree/Rftreemod\\_318.html](http://www.nrs.fs.fed.us/atlas/tree/Rftreemod_318.html), you get a number of distribution maps to look at: current vs. projected ranges under several possible scenarios. These maps show a native range for sugar maple that is receding northward no matter what projected climate change scenario you take into account [http://www.nrs.fs.fed.us/atlas/tree/summ6pp\\_318.html](http://www.nrs.fs.fed.us/atlas/tree/summ6pp_318.html) or another way to look at it [http://www.nrs.fs.fed.us/atlas/tree/future\\_iv\\_318.html#](http://www.nrs.fs.fed.us/atlas/tree/future_iv_318.html#) What effect will this have on small communities where maple sugar products are an important additional income source?

Written by Jen Stengle, [Cornell Cooperative Extension Putnam County](#)

## **Other Professional Horticulture Programs of Interest**

### **Certified Landscape Technician Training**

Contact: NYSTLA at 914-993-9455 or visit [www.nystla.com](http://www.nystla.com)

An optional national testing program to recognize proficiency of qualified landscape professionals.

### **Certified Nursery Professional Training**

Contact: In Dutchess, Putnam & Westchester: Scott Olivieri 914-682-4224;

In Orange, Rockland & Ulster: Contact: Mark Maseo 845-658-9148

By passing this exam you can earn the title Certified Nursery Professional (CNP). Contact your [New York State Nursery and Landscape Association](#), listed above, for more details.

*This program will offer continuing education credits for applicable certifications. Contact educators listed on specific programs you are interested in for details. Program flyers will be available with details on each program within the month prior to the event.*

## About Pesticide Certification

If you apply pesticides, including weed-killers, weed and feed products, insecticides, fungicides, or tick control products to customer's properties for hire, you or someone in your company must be a New York State Certified Pesticide Applicator through the New York State Department of Environmental Conservation and have your business registered. There are now three levels of commercial certification: applicator, technician, and apprentice.

### For Commercial Applicators

To be eligible to take the exams to become certified, you must meet one of the following requirements:

-3 out of the past 5 years of verifiable experience as an apprentice working in the category applicant is seeking certification in; or 3 out of the past 5 years as a certified private applicator in a corresponding private category; or Certification in another State with which New York has reciprocity; or if seeking certification in the Sales Category, at least 3 years experience in the sale of pesticides, or can demonstrate, through applicable training certifications or education degrees, that one possesses appropriate technical background.

### Certified Pesticide Technician

- be at least 17 years of age; 2 years of verifiable experience as an apprentice; or completion of a **30-hr. training course**, approved by the Department or a baccalaureate or associate degree from an accredited college or university in the area seeking certification. These are offered at the following:

- Pest Management Training Center (B. H. Stangel, Inc.): (845) 357-7734, [barrypmtc@optonline.net](mailto:barrypmtc@optonline.net), or visit [www.pestmanagementtraining.com/s/](http://www.pestmanagementtraining.com/s/).
- Paul Roland, Ph.D., 914-907-1797, [professor@pesticideteaching.ws](mailto:professor@pesticideteaching.ws)
- Advanced Technical Consultants (ATC): (845) 657-4271 or [www.pested.com](http://www.pested.com)
- For a more detailed list of current 30 hour certification courses, search the calendar database at Cornell University's Pesticide Management and Education program: <http://coursecalendar.psur.cornell.edu/>

### Pesticide Apprentice

- Must be at least 16 years of age. Must receive 40 hours of pesticide use experience under supervision of a certified applicator and a minimum of 8 hours of instruction on topics outlined in Section 325.18 of Part 325 Rules & Regulations relating to the application of pesticides, before being able to apply general use pesticides under the off-site direct supervision of a certified applicator. Documentation of the above must be maintained by the certified applicator, and include: name & address of apprentice; date(s) of instruction or observation; content of training and certification category; instructor's name and certification identification number; and an evaluation of the competency of the apprentice.

### For Private Applicators:

- Must be at least 17 years old, have at least one year of full-time experience within the last five years in the use of pesticides in the category in which certification is requested -OR- have completed a 30-hr. training course, or have received an associate's or higher level college degree in the area of which certification is requested.

- For further information on eligibility rules and regulations, and fees, contact the NYSDEC Region 3 Pesticide Staff at (845) 256-3097. Eligible candidates for certification must attend a training session, and pass two examinations, administered by the NYSDEC and held in conjunction with Cornell University Cooperative Extension. Once you determine you are eligible for certification, contact your

county's Cornell University Cooperative Extension office for information on registering for the training class and exams. Contact your local CCE educator to find out training and exam dates for your county in the Hudson Valley.

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### **Cornell University Cooperative Extension County Commercial Horticulture Educators**

*Dutchess:* Stephanie Radin, sdm10@cornell.edu, 845-677-8223 x 104

*Orange:* Rosemarie Baglia, rsb22@cornell.edu, 845-344-1234

*Putnam:* Jennifer Stengle, jjs95@cornell.edu, 845-278-6738

*Rockland:* Paul Trader, pwt2@cornell.edu, 845-429-7085

*Ulster:* Teresa Rusinek, tr28@cornell.edu, 845-340-3990

*Westchester:* Jerry Giordano, ggg3@cornell.edu, 914-946-3005

*Mention of trade names and commercial products is for educational purposes; no discrimination is intended and no endorsement by Cornell University Cooperative Extension or Cornell University is implied.*

*Pesticide recommendations are for informational purposes only and manufacturers' recommendations change. Read the manufacturers' instructions carefully before use. Cornell University Cooperative Extension and Cornell University assume no responsibility for the use of any pesticide or chemicals.*

*Some of the links provided are not maintained by Cornell University Cooperative Extension and Cornell University. Cornell University Cooperative Extension and Cornell University are not responsible for information on these websites. They are included for information purposes only and no endorsement by Cornell University Cooperative Extension or Cornell University is implied.*

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