

August 2013

Volume 7, Number 7



Root Concerns

Notes from the underground

Scale: Insects or C.I.A. Operatives?

Text by Chuck Schmitt



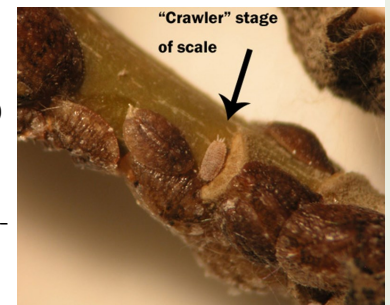
Magnolia scale. Photo from University of Delaware Cooperative Extension.

With all the news about unmanned drones, bugs, leaks, expatriates, I don't know what to believe anymore. Is scale an insect or a government bugging device? I mean, the adult has no visible legs, antenna, eyes, mouthparts or body segments we generally associate with insects. A fair question I think. And, if you have ever had scale insects in your landscape, you are well aware of how tough they are to control. There are many different species of scale, all with very similar characteristics we need to understand for proper management.

Adult females are wingless, often legless and unable to move. The adult males have a single pair of wings, no mouthparts and do not feed. They are often mistaken for small gnats or parasitic wasps. Adult females produce a protective covering and are firmly attached to the host plant while feeding. Eggs are deposited under the scale and emerge as the season warms in the spring. The young that emerge are called "crawlers:" this is the motile stage of the insect. This stage, also known as the first instar stage, is important to recognize for treatment. Timing of treatment is critical as this is the most vulnerable stage of these highly specialized insects. Double sided sticky tape applied to twigs infested with scale can be used to detect and monitor crawler activity. The value of finding crawlers early is that horticultural oil or insecticidal soap can be a very effective treatment eliminating the need to resort to stronger pesticides.

Armored scales are probably the most economically important group to ornamentals. There are over 1,700 species of this group worldwide. These scales do not produce honeydew as they are not sap feeders. Examples of common members in this family include euonymus scale, juniper scale, oystershell scale and pine needle scale.

Soft scales do produce honeydew causing black sooty mold growth on this sugar-rich substrate, attracting other sweet feeding insects. Over 1,000 species of soft scale are found worldwide. Lady beetles, lacewings, chalcidoid wasps, lepidopteran larvae, birds and others are natural enemies to this pest. Ex-



Crawler stage of Lecanium scale. Photo by Utah State University Cooperative Extension.

- Cornell Cooperative Extension provides equal program and employment opportunities. Please contact Cornell Cooperative Extension if you have special needs. No endorsement of products is implied.



Cornell University
Cooperative Extension

amples of common soft scale species include the magnolia scale, Fletcher scale, calico scale and European fruit lecanium scale.

Gall-like scales mostly feed on oaks. Mature adults are globular, hard shelled and sap feeders producing large quantities of honeydew. An example of this family is the northern red oak kermes scale.

For many species there is a spring and summer/fall “window” of time to eliminate the crawlers and gain control of this difficult pest. How will you know when this “window “opens? There are a couple of ways. The first is to look up the current growing degree-days accumulated for the growing season. Growing degree days are accumulated heat units that correspond to specific plant and insect development times. GDD’s for the season can be found at the following website:

http://www.nrcc.cornell.edu/dyn_images/grass/grassWeb_dd.html.

As of July 29 1,696 GDDs (base 50 degrees Farenheit) had accumulated in Albany, NY, since March 15th.

You can then look up the crawler stage and control options for the scale insect you are battling at this website:

<http://ipmguidelines.org/treesandshrubs>.

For example, the timing for hemlock crawler susceptibility is 1,388 to 2,145 GDDs, tuliptree scale is susceptible between 2,032 and 2,629 GDDs, magnolia scale is susceptible between 2,155 and 2,800 GDDs and Fletcher scale, which occurs on arborvitae and yews, is susceptible between 2,515 to 2,800 GDDs. So look for hemlock scale crawlers to be out soon.

Another way to know when to treat for scale crawlers is by observing the blooming activity of indicator” plants, also called plant phenological indicators (PPIs). These are plants that bloom when the scale crawlers are active. Some examples of GGDs and PPIs are found in the table below. For more information on GDDs and PPIs, see the website

<http://www.entomology.umn.edu/cues/Web/049DegreeDays.pdf>



Pine tortoise scale. Photo from http://www.plantpath.cornell.edu/Trees/photo2/ptsp_h12a.JPG

Pest	Host	GDD	PPI
Cottony maple scale	Maple, linden, ash, hackberry, and more	Crawlers active at 802 to 1,265 GDD	Mockorange and little-leaf linden
European elm scale	Elm	Crawlers active at 1,029 to 1,388 GDD	Goldenchain tree
Fletcher scale	Yew and arborvitae	Overwintered nymphs active at 28 to 148 GDD. Crawlers active at 1,029 to 1,388 GGD. Second generation of crawlers active at 2,515 to 2,800 GDD	
Pine needle scale	2 and 3 needled pines	Dormant treatment in April. First generation crawlers active at 298 to 448 GDD and second generation crawlers active from 1,290 to 1,917 GDD.	Pussy will and redbud for first generation; butterfly bush for second generation

Those Darn Ditch Lilies

Text and photos by
David Chinery



If you want to get Americans talking, just throw out one of the hot-button issues of the day. The same holds true for gardeners. While normally a placid lot, a group of gardeners are almost guaranteed to line up against Japanese beetles, late blight or squash bugs. But what if the subject in the crosshairs might be portrayed as both a plus and a minus? Case in point: the orange daylily.

Top and middle: *Hemerocallis fulva*

Bottom: *Hemerocallis* 'Krakatoa Lava'



Although it is everywhere, *Hemerocallis fulva* is not native to our neck of the woods. Sources say it hails from the Caucasus Mountains through the Himalayas to China, Japan, and Korea, but with such a good spreader, who knows where it all started? In the case of this aggressor, it's vibrant root system has taken it places, since the orange daylily is a sterile triploid and therefore cannot reproduce via seeds. Another key to its success is an ability to inhabit many habitats, from dry shade to damp, low spots to hot, dry sun. An essential toughness of character, elusive to modern horticultural science, also lets *H. fulva* remain on a site long after gardens, gardeners and buildings all crumble. The orange daylily doesn't need us to thrive.

So should we celebrate or denigrate the orange daylily? Visually, it seems an essential part of summer in the Hudson Valley. In July I saw an impressive stand on the steep hillside along Stimpson Avenue in Castleton, spotted more in a foundation planting, and gazed at it along the Moordenerkill – all within less than a mile. It will hold a bank better than most other plants, is more attractive than many other weeds, doesn't need to be pruned, isn't poisonous and can be had for free. A patch of orange daylilies doesn't shout neglect like a swath of nettles or garlic mustard, so it is mildly social acceptable to have them around the periphery, if not in the garden itself. All this makes them useful to gardeners who are stretched for time, money and energy. No need to fret over orange daylilies when so many other things need attention.

On the reverse, we should dislike *H. fulva* because, just like Wal-Mart, it wants to take over the world. It pushes out native plants and isn't a correct source of pollen or food for our insects and animals. Invited inside, it may take over your garden. It can be dug out, but if a small piece remains, it rebounds. Herbicides bounce off the waxy leaves, and a low crown helps it resist mowing. The American Hemerocallis Society, in a special release, identifies it as invasive, while noting that clump-forming daylilies are a breed apart and not to be confused with the orange interloper. Nurseries rarely sell *H. fulva* because they can't make a dime on something as common as air (although that doesn't explain the mystery of bottled water).

Personally, I employ *H. fulva* along the driveway, but my favorite orange daylily is the clumping 'Krakatoa Lava.' I'm happy sitting on the fence.



Red Alert For Roses!

Attention blights, fungi and insects from Asia! Move over to make room for the latest threat to our backyard gardens—a viral disease that is spread by mites that attacks all types of roses. Rose rosette disease (RRD) is not new, but it is new to our area and it seems to be making its mark rather quickly, so let's try to understand why.

This disease was first identified in the 1940's but the causal agent was not pinpointed until 2011. As is often the case, many factors are at play, but the main culprit is a tiny eriophyid mite that also causes rose leaf curl. The microscopic mites travel on the wind or on birds or insects in search of rose plants. As the mites feed on the rose leaves, they spread a virus that causes bizarre symptoms such as rapid elongated growth that is reddish in color with many thorns, malformed buds and an excessive number of new shoots, also called a "witches broom." Close observation will reveal the disease—it is easy to spot. The virus is also spread by pruning tools, so careful disinfection of pruners between plants is important. Grafted rootstock can also harbor the virus so inspect all potential rose purchases carefully. Management is total removal of the plant as soon as the virus is detected. Since this is not a soil borne pathogen, roses can be planted in the same area.



One of the main contributing factors to the spread of RRD is the invasive multiflora rose (*Rosa multiflora*). A native of Asia, it was introduced in the 1800's as an ornamental and used as rootstock to gain hardiness for more tender roses. In the 1930's its use spread to conservation and erosion control and for reclaiming land used for strip mining. Time has revealed that these very qualities also make it a horrible weed that proliferates everywhere. This rose is very susceptible to RRD and considerable numbers are being killed by the virus. It takes about two years for the virus to kill a plant, so during that time the mites multiply and so the multiflora roses become a source of inoculum for the virus.



The Mid-West and Southern regions of the country are experiencing a surge in RRD due to the fact that "Knockout" roses have become a huge part of commercial and home landscaping. A monoculture of roses has emerged as a result of the popularity of the new Knockouts and similar types, and this plus the proliferation of the multifloras has created a perfect storm for RRD. Last year, workers at Schenectady's Central Park Rose Garden found the virus in a few plants and a recent article in the Schenectady Gazette (July 2, 2013) stated that it has been found again this year in that garden and that it is suspected in the Yaddo Gardens in Saratoga.

There are no chemical controls for this disease or effective miticides available to homeowners so be vigilant and keep a close eye on your roses. A good offence is the best defensive against this disease so maintain the health of your roses, disinfect tools religiously, and water plants at the base, keeping the foliage dry, during dry spells to discourage disease and mites. Removal of all invasive multiflora roses within 300 feet of your garden is also recommended. A prayer or two won't hurt either!

Sources:

www.post-gazette.com/stories/life/garden/rose-rosette-disease

www.midatlanticgardening.com/pests-and-diseases-rose-rosette-disease

www.times-georgian.com/farm_garden/article_d279970e-e2

For advice on how and how not to disinfect your pruning tools, see:

<http://puyallup.wsu.edu/~linda%20chalker-scott/FactSheets/Pruning.pdf>

And

http://puyallup.wsu.edu/~linda%20chalker-scott/horticultural%20myths_files/Myths/Pruning%20tools.pdf

Appreciating Our Elders

Text by David Chinery



<http://www.hort.cornell.edu/4hplants/Fruits/images/Elderberry3.jpg>

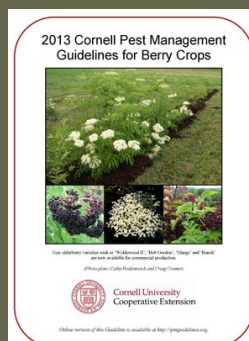
I have mixed feelings about the elderberry, but perhaps it is the name rather than the plant. A cashier last week asked me if I would like the AARP discount, which threw me into a fit of fumbling for my eyeglasses, pondering the distance to the restroom and forgetting why I was there. I finally mumbled, “I’m six months away from qualifying, thank you very much,” but the experience was devastating. I’ll be elder when only a little older, so please excuse my touchiness.

An elder without the berries is a rather pedestrian looking creature. Having compound leaves with five to nine leaflets, it blends in with the crowd and could easily be mistaken for an ash tree seedling. But an elderberry shrub in full fruit is a display of earth’s bounty similar to an autumn cornucopia. The white, flat-topped flowers of spring morph into small, dark purple berries, each about the size of a lead sinker. I traveled down to my roadside hedgerow this week for an inspection of the two elderberry clumps I planted there. Their fecundity is bowing down the branches, causing what is normally a nine foot shrub to droop down to about six feet. One’s normal reaction (I’ll call myself normal for a moment) is to wonder what can be done with such abundance, and to take a taste.

I can’t say that I wasn’t disappointed. Tiny, tart and seedy are the words that came to mind, and I quickly put away plans to run up to the house for a bucket and start picking. Why had I planted these things? Something nostalgic about elderberry wine sticks in my head, although that might just be the “B” side song on my copy of Elton John’s “Crocodile Rock.” Given what was happening in the world in 1972, making elderberry wine back then would have been a pretty innocent pastime, although maybe not for my eight year old self.

My mistake was forgetting that elderberries need processing to become edible; then they become a super-fruit. In much of Europe, elderberries are used in making beverages, both alcoholic and non, the most famous of which might be the Italian Sambuca, the name of which points directly to the plant’s botanical moniker, *Sambucus nigra*. Pie fillings, fruit relishes, syrups, marmalades and jellies can also be concocted. The flowers can be batter-dipped and fried, a-la squash blossoms, but this of course cuts down on the subsequent berry harvest.

What we don’t see about elderberries is also interesting. Some sources claim that elderberries are higher in health-giving antioxidants than even the highly touted cranberry and blueberry. Elderberry extract has been used to treat colds and flu, and as a wound dressing. Some authorities go as far as assigning anti-viral and anti-cancer properties to elderberry. The limelight, in fact, may just be starting. This past June, the “First International Symposium on Elderberry” was held in Missouri. I’m too late for that, but if they offer the AARP discount, I’ll consider attending the next.



Got berries? If your berries have bugs, diseases or weeds, you might want to check out Cornell’s Guidelines. For details, see <http://blogs.cornell.edu/fruit/2012/12/10/2013-cornell-pest-management-guidelines-for-berry-crops-now-available/>

It's Not Easy Being Green:

Lyme Disease Strikes Home

By Rensselaer County Master Gardener Don Maurer

I don't think I've ever been this sick in my life. It began with a tick about the size of the period at the end of this sentence. I don't know when it invaded my calf.but within days I was in the doctor's office complaining of fever, confusion, weakness, headache--too many symptoms to recall. I was examined, blood was drawn for testing, then I heard the initial diagnosis: either Ehrlichiosis or Lyme disease. Only time and test results would tell. So I was sent home with a prescription for antibiotics and instructions to rest. I spent the next 30 hours sleeping.

My doctor called me with the test results. I had Lyme disease, one of the 17 cases he's treated so far this year. Since we caught it early, the road to recovery was 2 doses a day of antibiotics for thirty days.

I had heard of Lyme disease.but only half listened. Now I had it. I had to know more about this miniscule pest and the disease it had injected into my body. So I turned on the computer and sought out the information gathered by the Departments of Health for Rensselaer County and New York State.

The carrier:

Deer ticks are the carriers and can transmit several diseases, including Lyme Disease, Ehrlichiosis, Babesiosis, Anaplasmosis and Rocky Mountain Spotted fever.

The ticks are spreading Lyme disease over 13 states. The reason for the spread has been traced to changes in the migratory patterns of birds, an increase in wildlife habitat and rising deer herd populations.

They have a two year life cycle and need to feed on three separate hosts in their life which include birds, mice and deer. That's where the young tick picks up the disease. Then as an adult they cling to vegetation, leaf litter, high grass, weeds and bushes waiting to ambush a passing animal or human.

The disease:

Lyme disease was first discovered in 1975 and named after a town in Connecticut.

The NYS Department of Health received its first reportable case in 1986. From then until March in 2003 over 95,000 cases have been reported and the number continues to grow. According to local news reports in 2010 Rensselaer County reported 323 cases; in 2011 the number reached 656.

The disease has spread across 13 states from Wisconsin to Maine.

It takes one to two days for a tick to transmit the disease to a human.

The early signs of infection are usually a donut shaped skin rash at the site of the tick bite that develops three days to one month after the bite. However, 40 % of those infected DO NOT have the early skin rash and the symptoms may appear as the disease develops. The later stage symptoms often include complication in joints, the nervous system and the heart.



The Blacklegged Tick, *Ixodes scapularis*. From left to right: female, nymph, male.. Photo from: <http://entomology.cornell.edu/extension/medent/tickbiofs.cfm>

The treatment in the early stages involves antibiotics such as amoxicillin or doxycycline. In the later stages, high doses of intravenous penicillin or ceftriaxone are often effective.

What you can do:

When going into an area that could be tick infested you should:

Wear a long sleeved shirt.

Wear long pants and high socks and tuck your pants into the socks.

Wear light colored clothing which makes the ticks easier to see.

Use a repellent containing low levels of DEET (N,N-diethyltoluamide) on your clothing and exposed skin. Make sure you wash the skin and clothing when returning indoors.

Conduct regular “tick checks.” After being outside. Ticks are most often found on the thigh, groin, arms, underarms and legs. Look closely. Remember, ticks are small so look for new “freckles”...they might be a tick.

What to do if you find one:

If you find one embedded in your skin, the mouthparts will be under the tissue with the body exposed. Using tweezers firmly grip the tick’s central mouthpart and slowly wiggle it back and forth while pulling it gently away.

Do not squeeze the tick’s body. That could force the infective fluid into the wound. After removal, wash the bite area and apply antiseptic. **Save the tick.** Either place it in alcohol or put in a jar and place it in the freezer. Then, if symptoms appear, you can give the tick to the doctor to help in diagnosis.

So, what did I learn? It’s obvious that the disease is here and the cases are increasing. There are simple steps we can take to protect ourselves when going outdoors. Any tick bite should be taken seriously and watched closely. But most importantly, you do not develop immunity to the disease. It’s a bacterial infection. And it is treatable and the sooner you seek medical help the better. Believe me, it’s an experience I don’t want to repeat.

***Update:** Another deadly tick disease was reported in our region in late July. See <http://www.news10.com/story/22960347/new-potentially-fatal-tick-borne-illness-found-in-local-areas> for more information.



Yikes! Who is this?

This photo comes to us from Rensselaer County Master Gardener Irv Stephens. Irv writes, “It shows a tobacco horn worm immobilized and rendered harmless by the parasitic wasp, *Hyposoter exiguae*. I discovered 3 horn worms on one of the tomato plants, and the wasps had dispatched all three. I’ve left the caterpillar husks on the plant so that the next generation of wasps will hatch and continue their good work.”

Green Shots: The Gardening World in Pictures

This issue's photo montage comes from Rensselaer County

Master Gardener Pat Thorne



Z is for Zinnia. They are one of nature's dazzlers. Zinnias are one of the best top ten cutting flowers in any region. They have big blooms with head turning bold colors and fantastic names like "Butterfly Zinnia Cha-Cha-Cha", "Orange Zinger", "Purple Prince" and "Peppermint Stick". You can make the most of their brilliance by planting them in drifts by color then picking an armload in closely related hues to make stunning bouquets. Butterflies and humming birds are attracted to their vibrant colors. Zinnias come in dwarf and giant varieties and cutting encourages repeat blooming for a long harvest.



What to do in August?



Vacations are winding down, the Track is heating up and the “back to school” buying frenzies are a week or two off.

But, when you have a spare moment, here are some gardening “to-dos:”

* Keep picking your veggies and herbs. You’ll increase production and they will last longer. And, while you’re there how about planting the fall crop of lettuces, spinach, peas and radishes.

* It’s time to trim: Cut back your berry canes when they stop fruiting. Does your shaggy dog evergreen hedge need a shearing? And keep on deadheading and pruning the summer flowers as soon as they fade.

* Weed strawberries then mulch them with compost.

* Take a peek beneath the leaves of azaleas, laurel and rhododendron leaves for signs of insects.

* It’s time to split up your Oriental poppies, daylilies and bearded iris.

* You can seed your lawn now.

* Have you fed your hanging baskets recently?

* How’s your mulch? Time to add more?

* DO NOT fertilize roses or broad-leafed evergreens.

* Have you taken enough photos of this year’s garden and containers for planning and plotting next year’s edition?

* Now, take a break and “rest test” your hammock.



A Plantswoman's Holiday

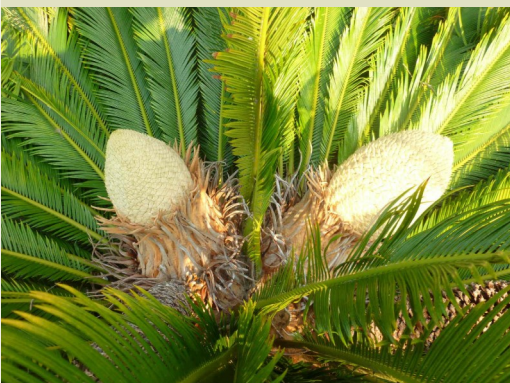
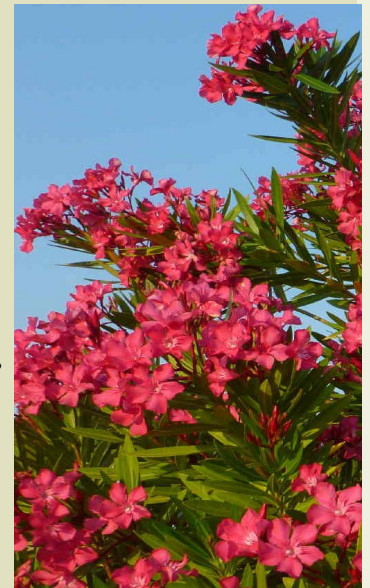
Text and photos by Sue Pezzolla



Wherever I travel, I am looking at the plants. Not so surprising, after all that's what us horticultural types do. Vacation this year was in very early June and I was fortunate to be at the beach in North Carolina, specifically, the last beach before South Carolina, known as Sunset. I had been to Sunset Beach several times before but never this early in the season and the landscape was delightfully colorful. Our rental house had large masses of oleander in bloom, a real treat for us northerners as oleander is a tropical that we grow as a houseplant. This shrub flowers in many shades of pink and rose as well as white and is as common in the South as crape myrtle.

In early June only the white forms of crape myrtle were beginning to show color so the oleanders had the main stage.

Like pink powder puffs ethereal masses cover the graceful branches of the mimosa tree, *Albizia julibrissin*. This small tree is native to China and Persia and is often called the Persian silk tree. In the 18th century mimosa was spread to Europe, Japan, and America by plant explorers. In Japan it is called the sleeping tree or the night sleeper as the leaves close at night or when it is cloudy. Its presence near the ocean seemed fairy tale like and a bit out of place but a little research gave me the answer and the perspective. This Dr. Seuss-like plant has invasive tendencies and has spread north as far as southern New York, New Jersey, and Connecticut. Indeed I saw it along the roadside on the drive home. Mimosa is in the legume family, the leaves are alternately arranged and bipinnately compound, and flowering is from May through July. Apparently a wolf in sheep's clothing, mimosa may have a commercial future if the hybridizers can develop a sterile cultivar that retains all the charm.



Palms of all sorts are common near southern beaches and I saw a variation in a nearby landscape, a sago palm. Despite its name the sago is not a true palm but rather a cycad, an ancient member of the plant family. Throughout the South these stately plants are familiar anchors in the landscape. Small sizes are popular as houseplants but be warned as all parts of this plant are very toxic, especially to cats and dogs.

Another popular houseplant that achieves great size in the landscape is the agave, or century plant. Giant grey-green varieties were commonplace and provided a contrast in color and texture. Large prickly pear cactus was plentiful and especially happy off the paths leading to the beach. In early June they were awash in yellow flowers which the children found fascinating. Gaillardia grew randomly among the sedges along the paths and closest to the beach were the grasses and sedges that hold the dunes that back the beaches. A very different landscape than upstate New York!

*“Art is the unceasing effort
to compete with the beauty of flow-
ers and never succeeding.”*

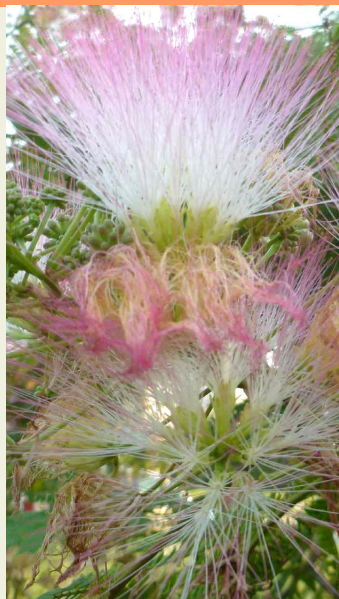
Marc Chagall



Gardening Questions?

Call The Master Gardeners!

http://upload.wikimedia.org/wikipedia/commons/thumb/b/b5/Chagall_France_1921.jpg/220px-Chagall_France_1921.jpg



In Albany County: Call 765-3514 weekdays from 9:00 AM to 3:00 PM and ask to speak to a Master Gardener. You can also email your questions by visiting their website at www.ccealbany.com

In Schenectady County: Call 372-1622 weekdays from 9:00 AM to Noon, follow the prompt to speak to a Master Gardener and press #1. You can also email your questions by visiting their website at <http://counties.cce.cornell.edu/schenectady/>

In Rensselaer County: Call 272-4210 weekdays from 9:00 AM to Noon and ask to speak to a Master Gardener. You can also email your questions to Dhc3@cornell.edu

Staff Contributors

Cornell Cooperative Extension of Rensselaer County

David Chinery (dhc3@cornell.edu and (518) 272-4210). *Newsletter editor, designer and layout technician*

Cornell Cooperative Extension of Albany County

Sue Pezzolla (sep37@cornell.edu and (518) 765-3516) and Chuck Schmitt (cds34@cornell.edu and (518) 765-3500)

Cornell Cooperative Extension of Schenectady County

Chris Logue (cal20@cornell.edu and (518) 372-1622)

“Root Concerns: Notes from the underground” is a shared publication of Cornell Cooperative Extension of Rensselaer, Albany and Schenectady Counties. It is published by Cornell Cooperative Extension of Rensselaer County.



Cornell University
Cooperative Extension

Introduction to Healing Plants

September 28, 2013

10 am - 12 noon

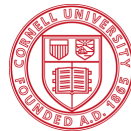
CCE 24 Martin Road

Voorheesville, NY 12186

Healing plants are all around us! They are in our gardens as cultivated plants, in our lawns as weeds, or in the woods as mosses on trees. In this introduction you will learn about local plants and some of their stories in folklore, ways to cultivate them and ways to integrate them into your kitchen and medicine chest. The workshop, taught by herbalist Casey Burger, will have class time, time out in the garden, a snack of herbal homemade tea and lavender cookies, and a class project to make your own herbal lip balm.

Class fee is \$30 and it includes all materials plus

Rosemary Gladstar's Medicinal Herbs: A Beginner's Guide



Cornell University
Cooperative Extension
Albany County

Class size will be limited to 25—
registration/payment due by September 18th
CCE Albany County, Community Horticulture

Attention Sue Pezzolla

24 Martin Road

Voorheesville, NY 12186

Questions:

Sue Pezzolla 518-765-3516 or email sep37@cornell.edu

P.O. Box 497, 24 Martin Road • Voorheesville, NY 12186 • 518-765-3500 • FAX 518-765-2490

www.ccealbany.com

Cornell Cooperative Extension Albany County provides equal program and employment opportunities.

**ALBANY COUNTY SOIL & WATER
CONSERVATION DISTRICT
Rain Barrel Program**

The Albany County Soil and Water Conservation District has 53 gallon rain barrels for **ONLY** \$80.00. Please note that you do not have to be an Albany County resident to purchase.

**Save Some
Rain For A
Sunny Day**



For More Information Please Contact the
SWCD

24 Martin Road, Voorheesville Room #2
(518) 765-7923 or ACSWCD@gmail.com