

July 2018

Volume 13, Number 6



Root Concerns

Notes from the underground

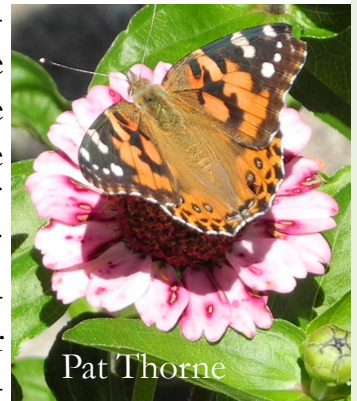
Solar Pollinator Gardens



During this legislative session, the NYS Assembly and Senate unanimously approved *The Pollinator-Friendly Solar Bill*, which will establish a voluntary minimum standard that solar developers must fulfill if they want their projects to be designated “pollinator-friendly” and beneficial to pollinators. The legislation advocates the practice of adding attractive, pollinator friendly, native plantings under and around ground-mounted solar arrays. At the time of this writing, the bill still needs Governor Cuomo’s approval to become law. However,

the planting of solar pollinator gardens can begin now!

Native plants will provide a significant visual improvement to solar arrays and partially compensate for the removal of trees and other vegetation where the panels are installed. With their deep roots, the plants will also be more efficient at reducing runoff and erosion than the typical gravel, concrete or turf grass normally found under the panels. This will result in better protection for nearby bodies of water and provide much needed biodiversity for our ecosystem. Pollinator friendly plantings will also reduce the threat of pollinator extinction and support local agriculture and farmers.



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Initiated in the UK, the program was pioneered in Minnesota by the nonprofit Fresh Energy who worked with

Text by Angie Tompkins

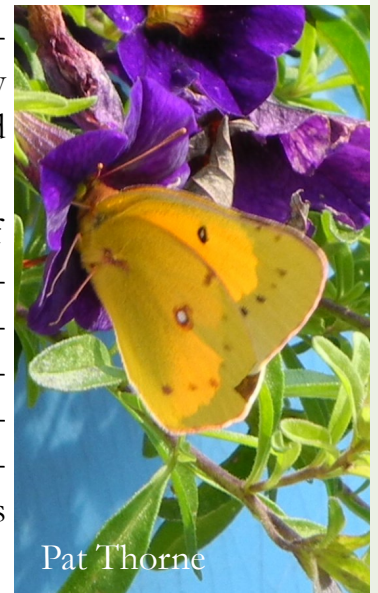
Prairie Restorations for an appropriate seed mix for the Minnesota prairies. To date they have established over 2,300 acres of Pollinator Friendly Solar in the state. Similar bills have also passed in Illinois, Maryland and Vermont.

Following approval of the bill by Governor Cuomo, the Department of Agriculture and Markets, the Department of Environmental Conservation, and the Department of Parks and Recreation will develop a scorecard to provide standards for best practices that will include site preparation (ridding the site of current vegetation and invasive plants), appropriate seed mix (a diverse combination of perennial flowers and grasses native to the local environment), and ongoing management practices (maintain the plantings and keep out invasive plants).

There is only an upside to this idea of planting pollinator friendly solar gardens. Their beauty alone will be much appreciated by the public, reducing opposition to solar projects. Besides providing habitat and a food source for pollinators, these gardens will reduce the operating and maintenance costs to the solar developer. This effort will enhance the local economy by the increased construction of solar arrays, increased demand for native plants, and the creation of a native seed collection industry.

A movement is developing in New York State, spearheaded *Bedford 2020*, to establish solar pollinator gardens throughout New York State. Beginning with a variety of demonstration sites, the current goal is to build on initial experiences and develop “Best Management Practices” as a reference for future site development.

With an interest in sites in New York, the development of locally specific seed mixes is an important step. The task force is looking for help in this area. They want to work with restoration landscapers and organic farmers in the Hudson Valley with large amounts of acreage available to begin plant trials and develop a native seed resource for use at various solar sites around the state.



Pat Thorne

Bye Bye, Boxwood

When the metaphorical grapevine tells me of a new plant disease, I'm on the lookout for my first find. In recent years the “ah ha!” of discovering viburnum leaf beetles in a garden center and emerald ash borers in a municipal tree was quickly replaced with a mournful “oh no.” Gardeners find it sad to see beloved plants develop problems and then fall off the list of beautiful things we can grow in this part of the world. And so it goes for boxwood.

A most useful evergreen shrub, boxwood (*Buxus* species and hybrids) have been garden favorites for centuries. This far north, however, their lack of hardiness limited their use until newer types entered the market in the past twenty years or so. I have two examples of ‘Winter Gem,’ a particularly winter tolerant and attractive cultivar, in my front yard, and they look fantastic every day of the year. Unfortunately, this week I've confirmed that a devastating fungal pathogen called boxwood blight is now in our neighborhood.

Text by David Chinery

Boxwood blight (caused by a pathogen called *Cylindrocladium*) has been identified in at least 24 of our United States. No one knows its exact origin, but boxwood starting dying of it in the United Kingdom in the 1990's, and it showed up on our shores in 2011. Host plants include boxwood, the popular groundcover pachysandra, and an obscure shrub called sarcococca. The first symptoms that occur in boxwood are light to dark brown, circular leaf spots with dark borders. Infected stems have dark brown to black, elongated cankers. Rapid defoliation occurs, especially in the lower canopy of the shrub.

Disease transmission primarily happens through movement of infected plant material, contaminated landscape and garden tools, and rain/irrigation splashes. Fungal spores are spread by wind, rain or sprinklers. Because spores are sticky, they can potentially be spread by contaminated clothing and animals, including birds. Spores on infected leaves that have dropped can survive five years. Warm and humid conditions cause the fungus to spread quickly. There is no known cure. Fungicides intended to prevent the spread of the disease must be applied to both sides of every leaf and all of the stems on an extremely rigorous schedule, which makes their use an impractical management method.

So how can you protect your existing boxwood and prevent further transmission of this disease? Water your boxwood via drip irrigation, and never with overhead sprinklers. Don't prune, examine or otherwise work with wet boxwood. Clean your tools and replace your gloves before going from one plant to the next. If you think you have an infected plant, remove it, bag it in plastic and place it away from any other boxwood. Bring a sample to your local Cornell Cooperative Extension office for confirmation, since there are several treatable problems that share symptoms with boxwood blight. Think twice about planting new boxwood if you already have some. If you are replanting an area where diseased boxwood were found and removed, plant something which is not known to get the blight.

Boxwood Blight Identification Guide

INITIAL SYMPTOMS



Dark leaf spots (left) and spores of the boxwood blight fungus (*Calonectria pseudonaviculata*) on lower leaf surfaces (right).

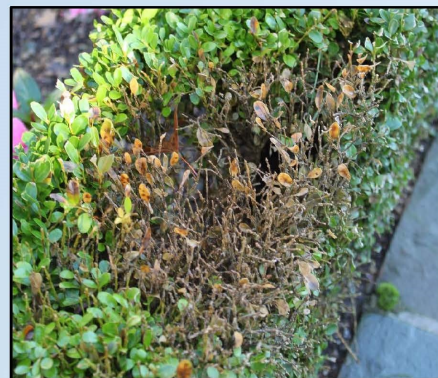


Zonate leaf lesions.

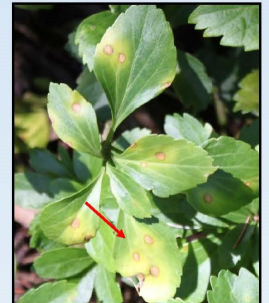
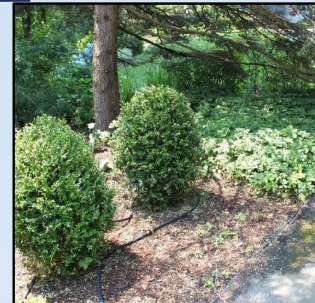


Black stem lesions.

LANDSCAPE AND NURSERY SYMPTOMS



Foliar and stem symptoms result in severe defoliation leading to decline and death of boxwood plants. Boxwood blight affects all species of boxwood, pachysandra, and sarcococca.



Infected boxwood and pachysandra in the landscape (left) and leaf spots on pachysandra (right).



Stem lesions on pachysandra (left) and fungal spores on lower surface of pachysandra leaves (right).

For more information:
www.ct.gov/caes/boxwoodblight
www.boxwoodblight.org

Insect Dip



Biologists have designed all sorts of fancy animal traps, but all they really need is a swimming pool. Peering into the skimmer these days reveals toads, salamanders, and ants aplenty. They've recently been joined by an assortment of beetles. I'm convinced that it is just as effective and more fun to monitor for garden pests while paddling coolly than poking around in a drought-stricken landscape.

Asiatic garden beetles (Photo 1) are relatively small creatures which could easily be described as brown and boring by the uninitiated. Reclusive during the day (unless they are swimming), expect them to congregate on July evenings to mix, mingle and mate, often around outdoor lights. They may also enter the ears of humans, which are apparently just the right size and shape to hold great interest to an Asiatic garden beetle. This indignity is most often imposed on people slumbering on the ground in sleeping bags, and results in a trip to the Emergency Room. One entomological study found that invasions happen most often between 11:00 PM and 1:30 AM. Whatever the time, I imagine it is worse than a bee in the bonnet or ants in the pants.

Reclusive doesn't mean lazy, as this is a beetle on the move. Native to China and Japan, they were first found in New Jersey in the 1920's, and have since spread throughout New England, New York and perhaps as far south as North Carolina. They feed on at least 100 different species of ornamental plants, including butterfly bush, barberries and viburnums. As a grub, they feed deeper than other species but generally cause less damage to lawns than the more well-known Japanese beetles.



A second destructive force flying and floating these days is the Oriental beetle (Photo 2). First found in a Connecticut nursery in 1920, it is now known to live from southern New England to Ohio and south to North Carolina. It is less bothersome to plants than other species as an adult, but it can be very destructive to lawns and woody plants as a grub, when it devours roots. Interestingly, Oriental beetle was introduced accidentally into Hawaii where it severely damaged the sugar cane crop until a beneficial wasp was released to bring it under control. This same wasp was tried in the Philadelphia area but was, unfortunately, not winter (nor cheesesteak) hardy.

Adult Oriental beetles are about 3/8 inch-long can vary greatly in their coloration, ranging from straw colored to black, and any spotted variation in between. They often lay their eggs where Japanese beetles do, so although we might overlook them, they are part of our altered ecology.

Two specimens of one of my favorites, tilehorned prionus beetle, also surfaced. As grubs, they feed on the roots of shade trees. They may work on their tunnels, which are a full 1/2 inch wide, for three to five years before morphing into 2 inch-long, hulking dark-brown adults. Trees may die limb by limb as the roots are severed. I'm glad to have my pool-trap.

Text by David Chinery

What to do in July

Deadhead flowers to keep and extend bloom.

Water during dry periods; avoid wetting leaves to discourage leaf diseases. Aim to water in early morning.

Sharpen lawn mower blades, since dull blades can damage grass. Set your mower to mow at 3 inches high to encourage the development of a deep root system.

Have a garden party!



Order bulbs for fall planting.

Change the water in your birdbath frequently.

Take photos of your garden.

There is still time to plant beans, cucumbers, summer squash, beets, radishes, lettuce, and peas.

Many annuals and perennials (such as snapdragons, lupine, dianthus, and delphinium) may flower again after a severe cutting back.

Weed and mulch your garden with organic materials such as 4 to 5 layers of newspaper, herbicide free grass clippings, and chopped leaves to hold in moisture

Harvest garlic when half of the lower leaves are yellow or dry and allow to dry for 2 to 3 weeks.

Check out garden centers for bargain perennials.

Pick Japanese beetles off your plants. (Drop them in a bucket of soapy water.)

Clean hummingbird feeders filled with nectar solution regularly to ward off mold and bacteria.



A Summer Bouquet

I eat breakfast with my sister and brother-in-law every Sunday. One July morning, my sister had collected a lovely bouquet of daisies, clover, chicory, Queen Anne's lace and a few other wildflowers. What was missing (and not yet in season.) was purple loosestrife.

I love a bouquet of purple loosestrife and Queen Anne's lace. Purple loosestrife is a much maligned and detested weed in the U.S. and Canada. Let me tell you a little something about this plant. First of all, there are four main groups of flowering plants: the umbellifers, the mints, the composites and the alliums. The umbelliferous flowers have an umbrella-shaped flower head (e.g. Queen Anne's lace), the mints have a square stem (e.g. purple loosestrife), the composites have "petals" that are, in fact, individual florets (e.g. daisies) and the alliums are all monocots that can resemble onions as well as amaryllises.

Purple loosestrife, *Lythrum salicaria*, was introduced into America in the nineteenth century, probably from Europe and Asia. It grows in wet locations such as marshes, shallow ponds, roadside ditches; in short, wherever you find a wet or damp environment. On the plus side, when it blooms from July until September, this beautiful plant provides nectar to bees, butterflies and other insects. Its critics fault it for spreading so rapidly that it quickly replaces native wetland plants such as cattails. (A thought occurs to me here: it seems as though Phragmites is spreading even more quickly than purple loosestrife.) Most purple loosestrife is spread by its numerous and easily transported seeds, however it can be spread by a small piece of root or a section of stem. One purple loosestrife plant usually produces more than two million seeds per year, so that each year about a half a million acres of formerly loosestrife-free land is converted to land densely populated with loosestrife. As more and more land is converted to produce only loosestrife, farmers and homeowners alike are seeking ways to halt or at least slow the ever-spreading march of loosestrife across the U.S. Twenty-four states have enacted laws that make it illegal to import or distribute purple loosestrife. Entomologists have been enlisted to find insects that will eat purple loosestrife while leaving other plants alone. To date four beetles and several weevils have been identified as destroyers of purple loosestrife. Currently, the beetle that has wiped out whole stands of purple loosestrife is the black-margined loosestrife beetle, *Galerucella californiensis*.

The other plant in my "ideal" bouquet is Queen Anne's lace or *Daucus carota*. As most of you know, Queen Anne's lace is the wild carrot. It has a tap root, just like a regular carrot and the root can be eaten, just like the garden variety carrot (but not as tasty). Queen Anne's lace is a biennial, so it will take two years after planting the seed to get the attractive white flowers. For me personally, I love these two flowers together and for the purple loosestrife haters in this world, let them be consoled in knowing that I am preventing at least two million loosestrife seeds from spreading whenever I put a single flower in a bouquet.



Text by Rensselaer Master Gardener Inge Eley

Green Shots: The Gardening World in Pictures



Our photos this month come from Rensselaer County Master Gardener Pat Thorne. Pat writes, “What is a butterfly? They are a member of the Insecta class. This constitutes the order of Lepidoptera. Derived from the Greek word for scale (lepid) and wings (Ptera). Butterflies are grouped by specific characteristics. There are 11 butterfly families and some are divided into subfamilies. Butterflies make up the second largest order in the insect Lepidoptera family. One hundred and fifty different types of butterflies call New York State home. Butterflies are brightly colored and fly during the day to seek nectar from the flowers in our gardens. Because butterflies use sunlight to regulate their body's temperature and need to bask in sunlight to warm up enough to be able to fly, early morning (10am or after) is a good time to photograph these fascinating and delightful flying jewels.



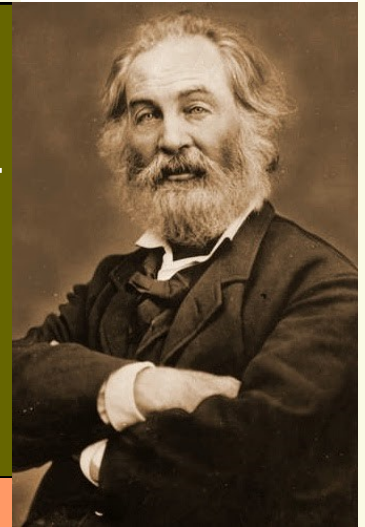
Kudos To One Of Our Own

Bette DiNovo, Master Gardener with Cornell Cooperative Extension of Rensselaer County, was honored for her volunteer work and leadership by the Troy City Council on July 12. The proclamation Bette is holding in the photo below reads, in part: “Whereas Master Gardener Elizabeth DiNovo has devoted countless hours to developing and maintaining the gardens surrounding the 9-11 Memorial at 112th Street and 1st Avenue, the Troy City Council hereby thanks you for lending your time and expertise to the commemoration of 9-11 and the beautification of the City of Troy.” Words well written. Bette leads a group of highly dedicated Master Gardeners and community members who have created a beautiful urban oasis. Congratulations to Bette!



“You must not know too much, or be too precise or scientific about birds and trees and flowers and watercraft; a certain free margin, and even vagueness — perhaps ignorance, credulity — helps your enjoyment of these things.”

Walt Whitman (1819-1892, American poet)



Gardening Questions?

Call The Master Gardeners!



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

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

(518) 765-3516

Cornell Cooperative Extension of Schenectady County

Angie Tompkins (amj22@cornell.edu and (518) 372-1622)

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of Rensselaer County's

Summer Gardening Programs

Admission to all programs is

FREE!

Rain or inclement weather at the start of
the program may cancel it



Held at:

*The Demonstration Garden
at The Robert C. Parker School*

4254 Route 43, Wynantskill (North Greenbush) 12198

“What’s Happening In The Pollinator Garden?” *Thursday, June 21 from*

7 to 8 PM. Join us to learn how you can influence the populations of pollinators through plant choices. Master Gardeners will lead you through our Pollinator Garden explaining the specific plants for specific pollinators such as: bees, hummingbirds, butterflies, bats and even people. This program is in conjunction with National Pollinator Week. Be prepared to walk and stand, or bring an easily portable chair.

“Making Fermented Veggies” *Thursday, July 19 from 7 to 8 PM.* Fermentation is an ancient form of preserving food. In the process of fermentation, beneficial microbes act on food, adding nutritional value, and are themselves a wonderful source of probiotics. We’ll discuss how to make fermented vegetables. It’s simple to do, and a great way to make a delicious addition to your diet. Presented by Master Gardeners Janet Poole and Linda Ford.

“What’s Happening In The Vegetable Variety Trial Garden?” *Tuesday, July 24 from 7 to 8 PM.* Master Gardeners are growing a variety of crops in the raised bed trial garden, including garlic, arugula, tomatoes and herbs. We’ll discuss what’s thriving, what’s not, and why, as well as do a little harvesting. Bring your own vegetable questions for discussion, too! Be prepared to walk and stand, or bring an easily portable chair.

“Managing Your Wild Weeds” *Thursday, August 2 from 7 to 8 PM.* Weeds are one of the gardener’s biggest challenges and there are several strategies to keep them at bay. We’ll look at various options, including both organic and non-organic herbicides, for weeds in garden beds as well as in lawns. Presented by David Chinery, CCE of Rensselaer County Educator.

“Cooking In The Garden” *Tuesday, August 14 from 7 to 8 PM.* Back by popular demand! What can you do with summer’s gorgeous produce? Using vegetables grown on-site Master Gardeners will prepare a variety of fresh and healthy dishes to share with the audience. Join us to learn new recipes and enjoy sampling some delicious summer foods! Master Gardener leaders will be Nancy Scott and Barbara Nuffer.

For more information, call Cornell Cooperative Extension’s Horticulture Program at (518) 272-4210 or e-mail dhc3@cornell.edu **Directions: From Interstate(I-90) Exit 8; east onto Rte 43; pass through Rte 4 intersection toward West Sand Lake; (approximately 2.1 miles); Left at Robert C. Parker School.**

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