



Calumet County Master Gardener Calendar of Events

Friday, July 31 – Saturday, August 1, 2015

WI Master Gardener Annual Conference – “Life is Gardening,” LaCrosse, WI

Saturday, August 1, 2015

NE WI Herb Fest
Planhigion Herbal Learning Center – Jackie Johnson,
N6935 Hwy 55, Seymour, WI

Thursday, August 13, 2015

Day trip to Waupaca Area: plan to visit Silver Mist Garden Center, Graziano Gardens, a stop for lunch and maybe Cottage Gardens if enough interest and time allows. Sign up by July 15. More details to follow.

Wednesday, August 19, 2015

Master Gardener Meeting

Wednesday, September 16, 2015

Master Gardener Meeting, Courthouse

Wednesday, October 21, 2015

Master Gardener Annual Banquet
(additional details to be announced later)

For other events around the State – Please check the WI Master Gardener Web Page for events, dates & times.

Plant Sale Wrap Up

A big thank you to everyone who assisted with our annual Plant Sale on Saturday, May 16. As usual, we had a very good sale, selling most of the annuals and perennials. Hanging baskets were again a great seller this year.

Next year's Plant Sale will be on Saturday, May 21.

Everyone enjoyed our get-together and cookout potluck in May. A great evening of socialization, good food, and great company.

Calumet County Fair Dates

Friday, July 31

Fair Entry Deadline

Don't forget to enter. Information is available at <http://calumetcountyfair.com>, (Exhibitors Tab)

Volunteers are needed to help at the Calumet County Fair. Contact Byron Hacker or Pat Lisowe for more information or to volunteer.

Thursday, September 3, 2:00-8:00 pm

Open Class Entry Day

Vegetables, Crops, Flowers, Houseplants, Foods & Nutrition, Cultural Arts, Photography, Senior Citizens, etc.

Thursday, September 3, 4:00-8:00 pm

4-H Face to Face Judging

Vegetables, Crops, Flowers, Houseplants

Friday, September 4, 11:00 am

Open Class Judging

Vegetables, Crops, Flowers, Houseplants, Foods & Nutrition, Cultural Arts, Photography

Saturday, September 5, 9:00 am

Antique Judging

Saturday, September 5, 10:00 am

Beer and Wine Judging

Courthouse and Chilton Flower Beds

The marigolds are looking good in each of the beds: Chilton City and the Courthouse. Thanks to the crews for the hard work in getting them planted.

As usual, each of the beds has lots of weeds that need to be kept under control, or they take over. If you have a spare hour or even a half hour, stop and weed. It all counts for your volunteer hours.

Providing Resources a Good Way to Protect Pollinators Simple Steps Can Support Bee Populations

By Ray Mueller

To counter the continuing losses in bee populations, farmers, gardeners, and property owners and managers can do their part in changing the trend by recognizing, protecting, and enhancing the resources that European honeybees and native North American bees depend on for their survival and reproduction.

That was the underlying message this spring from Carrie Caselton Lowe to attendees at a program titled "Bring Back the Pollinators Resources" sponsored by the Friends of Kettle Moraine and held at the Ice Age Visitors Center near Dundee. Lowe is a southern Illinois native who is a teacher and ecologist and who is affiliated with the Restoration Farms, Red Twig Farm, and the NOURISH program in Sheboygan County.

Value of Pollinators

Plant pollinators are "amazing and complex" beings whose value as an "ecological keystone" is often not recognized, Lowe remarked. About 85 percent of the 240,000 plant species which produce flowers depend on bees, butterflies, flies, beetles, other insects, birds, and even chipmunks or bears for pollination so they can produce seeds, she explained.

Their natural process contributions are not only part of the larger animal web of interdependence but they are also necessary for providing about one of every three bites of food that humans consume, Lowe pointed out. The production of fruits, berries, nuts, legumes, coffee, and chocolate depends on pollinators, she noted.

Bees are attracted to the plant flowers in order to obtain the nectar (sugar and nitrogen) for their individual survival or for their hive colony in the case of honeybees, which early American settlers imported from Spain and Italy in the 1500s, Lowe indicated.

While going from flower to flower or plant to plant, the hairs on the pollinators catch some of the pollen on the male flowers and transfer it to the female flowers, thereby causing pollination (the setting of fruit or seeds), Lowe stated. "Bees are the most important pollinators because they also use the pollen to feed their young."

Bee Population Declines

Reliance on a single bee species (the imported European honeybee) for a major portion of plant pollination is not a healthy situation, Lowe remarked. "Diversity is important."

Since about 1950, there has been a 50 percent decline in the number of managed bee hives in the United States – a rate that has accelerated in the last 10 years, Lowe reported. "It's sad because we're very tied to the bees."

The most recent information is that Wisconsin, Illinois, and Iowa were among the states which lost 60 percent of their

honeybee hives since April of 2014. The national average loss of bee hives in the past year was 42 percent.

What is not as well documented is the loss among the approximately 4,000 species of bees which once lived on the North American continent, Lowe observed. A special value of the native bees, including bumblebees, is that various species among them are active earlier or later in the day or at differing times during the growing season, she pointed out.

In some parts of China, the absence of bees to pollinate trees in orchards has led to having humans hand pollinate apples with the use of cigarette butts, Lowe reported.

Differences Among Bees

While European honeybees and native bumblebees are easily the most familiar species, they also happen to be the only bees with a social structure while all the others are solitary, Lowe observed. Honeybees are the only species which make honey that can be extracted, she added.

Because they are active during low light and low temperatures, it takes only 250 to 750 of the native blue orchard bees to be as efficient in pollination as about 100,000 honeybees, which usually have 60,000 to 70,000 bees per hive, Lowe pointed out.

Lowe also cited the distinctive "buzz vibration" sound that bumblebees and some solitary bee species make while pollinating tomatoes and noted that pollinators serve to triple the yield of Sungold cherry tomatoes.

Bumblebees, which are the largest of the thousands of native bees, "are a special species," Lowe commented. She noted how they are well suited for pollinating blueberries and clovers and for being active in cool and wet weather.

Nesting Preferences

What might be surprising is that 70 percent of the native bee species nest in the ground at depths to three feet, Lowe commented. The places where they enter the ground might resemble ant hills and might unknowingly be destroyed by humans, she observed.

The ground nesting species, which include bumblebees, prefer sandy or loam soils, Lowe stated. To help the bees, she advised property owners to leave some spots of bare soil and to not disturb it.

Most of the other native species nest in the cavities of plant stems, Lowe continued. Dead trees also become alive again in the form of being a habitat for many species, including bees, she added.

Contributing to the overall lack of knowledge about bees is the fact that only five persons in the United States have the skill of identifying a particular bee by its species (family identification is easier), Lowe pointed out. To promote education, she encourages taking pictures of bees, particularly bumblebees, and sharing them with entomologists in order to identify them.

In the bumblebee family, there's a special concern about the apparent major losses in the rusty patched and yellow banded species, Lowe announced. She noted that both species are native to the northeast part of the United States along with states such as Wisconsin, Michigan, Minnesota, and Illinois.

Population Loss Reasons

While the reasons for the bee population losses continue to be studied and discussed, Lowe suggested that they most likely include mites, other pests, disease, climate change, and the application of pesticides on plants by farmers, gardeners, and lawn and other property owners and managers.

Of particular concern is the use of neonicotinoid insecticide sprays or granules which are systemic chemicals that are disbursed in all plant tissues, including the nectar and pollen, Lowe explained. Among the five active ingredients with that trait, the one at the top of the list is imidacloprid, which is contained in many products that are applied to fruits, vegetables, flowers, shrubs, trees, and turf, she indicated.

Examine the product labels, avoid those with neonicotinoid active ingredients or certainly don't apply them on sunny warm days, and, preferably, use insecticide soap or oil products instead, Lowe advised. Trade names of products to avoid are available on the www.xerces.org/pesticides website.

To limit the need to apply insecticides, take steps to keep plants healthy, use floating row covers on vegetables, rotate vegetable crop locations, and dispose of diseased plants, Lowe said. She also noted that some of the inert ingredients in insecticides can be toxic to bees and other beneficial insects.

Helping the Bees

What persons who do not own bees can do to help sustain and boost the population is to replace at least of a portion of one's grass turf with native flowering plants, preferably at least three different species for every part of the growing season, Lowe pointed out. A suggested list of forbs and shrubs is available on the www.bringbackthepollinators.org and www.xerces.org websites.

For bumblebees, whose early season population consists of queens, letting dandelions bloom instead of mowing or spraying them is a way to support the bees, Lowe indicated. She also noted that early season flowering plants such as tulips, daffodils, forsythia, and grape hyacinth are valuable for bees, as is having a source of water handy.

With those or other appropriate native species flowering plants, establish them in clumps because bees prefer to go to one species at a time, Lowe explained. She noted that bumblebees will fly for up to one mile while smaller species don't often travel more than 500 feet.

"Do something and inspire other people too," Lowe asked. She advised checking with the Natural Resource Conservation Service office in one's county to learn about the availability of grant money for establishing pollinator habitat.

It is helpful to have that dedicated habitat close to vegetables and native shrubs and trees, Lowe stated. When obtaining plants, check with the supplying nurseries on whether they are native species and if the plants have been treated with any of the neonicotinoid products, she added.

Butterfly Supporting

Just as with bees, there are opportunities to support the populations of butterflies, Lowe stated. She advised planting milkweeds or at least not destroying those already on the landscape in order to enable the reproduction of Monarch butterflies and noted that other good plant choices are the butterfly flower and butterfly weed.

Plant them around schools and workplaces and along roadsides, Lowe suggested. She commended owners of power lines in central Wisconsin for planting lupines along the right of way in order to support the endangered blue karnar butterfly.

Lowe listed other information sources such as <http://pollinator.org>, <http://monarchwatch.org>, and <http://energy.wisc.edu/bee-guide>. She can be contacted by e-mail to carriecaseltonlowe@gmail.com.

June Meeting Wrap Up

On June 17 we held our monthly meeting at the Holy Resurrection Monastery in St. Nazianz.

Abbot Nichols explained the differences of the Eastern and Western Catholic churches to the group and explained how they were drawn to St. Nazianz. He explained the mission of their group and also how they hope to succeed and make this their permanent home.

After, we took a tour of their facility, yard, and gardens. Father Moses has been experimenting with straw bale gardening, and like others, is finding success and failures. They have a huge vineyard that is very overgrown and has not been tended to for many years. They also have apple trees that are overgrown and some varieties that have come from Europe and Russia.

We were treated to some of Father Moses cookies and goodies at the end. We truly thank them for their evening with us and for sharing their story with all of us.

Stop the Mowers: Turn Lawns into Food Production

By Ray Mueller

Earlier this year, my wife's purchase of a house in downtown Chilton created the opportunity to turn a solid grass lawn into a space for growing some vegetables. It's probable that this large back yard was a lawn for many decades.

Part of the task was renting a heavy duty garden tiller to tear 7 strips or about 50 feet each through the grass and the creeping charlie. This required about five trips along each strip – contrary to what the rental outlet people said should have been done with a sod removal unit.

But the stubborn me persisted. Part of the job was removing the sod clods. That was done with the intention of letting everything dry long enough so the roots were no longer viable. Then we could put the soil and plant debris back on the strips between the growing plants.

Early Observations

By late June, things were working out fairly well. There was excellent emergence of the potatoes, green beans, and peas that were planted. A large number of pepper plants along with a few melons had been set out in early June.

We also put in six elderberry plant seedlings. But the quality of them received from the county land and water department tree and shrub sale was so poor that only one plant is alive.

With rabbits appearing next to the lot regularly, one concern we had to address was their likely nibbling on the peas and beans. So, we put up a four-foot wire fence that'll be in place until those crops are ready for harvest.

Too Much Lawn

In a wider perspective, far too much attention is devoted to cutting lawn grass when the space could well be used for growing vegetables, fruits, flowers, and perennial plants – with the latter two being friendly to bees and butterflies.

There was recent online item titled “why Americans should opt out of lawns for growing foods.” It referred to an organization called Food Not Lawns that was formed in 1999 – hurray for them and their efforts.

The article cited some statistics which I found to be faulty either in the basic information or in calculations. One study which was cited stated that some 40.5 million acres in the

United States are covered by lawns – not a surprising number but rather a frightening one.

It was wrongly claimed that lawns occupy four times more acreage than on which corn is grown. The fact is that corn is grown on nearly 90 million acres annually in this country. Similarly, soybeans are grown on about 85 million acres this year.

The article also claimed that turf grass covers more land in the United States than corn, alfalfa, soybeans, orchards, cotton, pastures, wheat, hay, and vineyards combined. After some research, I learned that the Food Not Lawns article was referring instead to the acreages of those crops which were being IRRIGATED in the United States – not to the total acres.

Wasting of Resources

Despite that discrepancy in the on-line posting by Food Not Lawns, which has some 50 chapters around the world, the organization makes some excellent points. Just think of all the water that is wasted by irrigating lawns, of the pesticides that are applied, and of the gasoline – not to mention time – that is wasted by cutting the grass far too often every year and having too much of it to cut.

It's also very scary that the popularity of what's considered to be “green space” often consists of landscape on private, public, and commercial properties that is virtually inert biologically – a fact that Extension Service specialists and private sector agronomists realize but have so far been unable to do much about.

My observations are that lawns are also being extended by many property owners who run their mowers great distances along roadsides to devour the vegetation which was growing there. Is there a contest in neighborhoods to see who can run the mower on the most space and who can get the closest to posts, culverts, and fences?

I know my ranting suggestions won't go anywhere but my thought is that the folks who consider it necessary to run the mower every time the grass has grown a few inches should think about putting in artificial turf instead. That would spare them the time and cost of running the mower and not make that portion of the landscape much more biologically inert than it already is in too many cases.

This is Late Blight Season: Know the Symptoms and Get Disease Confirmation

By: Ken Schroeder, Agricultural Agent
UW-Extension, Portage County, <http://portage.uwex.edu/>

Late Blight *Phytophthora infestans*, has been confirmed on potatoes and tomatoes in Wisconsin every year since 2009. As I write this, July 9th late blight has been reported in 3 central Wisconsin counties.

Late blight caused the Irish potato famine of the 1850's. It is often referred to as a 'community disease' because it is extremely destructive and easily spread by wind. Left unmanaged, a small outbreak can lead to an epidemic, devastating gardens and commercial vegetable fields.

This disease has the potential to completely defoliate fields within 3 weeks of the first visible infections. Spores are easily spread by wind, rain, machinery, workers, and wildlife. Because the fungus produces so many spores that can travel long distances through the air it is very important that **everyone**, farmers and gardeners alike, who grow potatoes and tomatoes are able to identify late blight.

Know the Symptoms: Leaf symptoms appear as pale green, water-soaked spots that often begin at the leaf edges or tips where water from rain and dew accumulates. Spots can be circular or irregular and bordered by pale yellow to green blending into healthy tissue. They enlarge rapidly (expanding ¼ to ½ inch per day) turning brown to black over time. When relative humidity is in excess of 90% leaf lesions are often surrounded by cottony white mold on the lower leaf surface. This white, cottony growth distinguishes late blight from several other foliar diseases of potatoes and tomatoes. Infected stems and petioles turn brown to black and may also be covered with white masses of sporangia. Stem lesions frequently appear first at the junction between the stem and leaf, or at the cluster of leaves at the top of the stem. Entire vines may be killed very rapidly. A characteristic odor similar to that produced by green tissue after a severe frost can often be detected. Visit the University of Wisconsin Vegetable Pathology website <http://www.plantpath.wisc.edu/wivegdis/index.htm> and the UW-Extension Horticulture website <http://hort.uwex.edu/articles/late-blight/> for additional late blight photos and links to other late blight information including options for gardeners and organic producers.



Get Disease Confirmation: Twice weekly check potatoes and tomatoes closely for symptoms of late blight. If you suspect late blight on your crop contact your local University of Wisconsin Extension office <http://counties.uwex.edu/> and have a sample sent to the University of Wisconsin plant disease diagnostic lab for confirmation. If confirmed, destroy infected plants by burying or putting in plastic bags for disposal. **Don't compost!!!**

Late Blight Look-Alikes: *Early Blight* – appears as brown to black lesions with concentric rings on the leaves. Typically, lesions are produced on older, lower leaves and progresses upward. Significant yellowing may accompany the lesions. Moderate temperatures (75 to 85 °F), high humidity, and prolonged leaf wetness are conducive to development of early blight. Alternating periods of wet and dry weather tend to increase progression of this disease. See UW-Extension Early



Blight fact sheet

http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Early_Blight.pdf.

Botrytis/Gray Mold - Gray mold appears late in the season on the foliage, and may be mistaken for late blight. A grayish-green, wedge-shaped, spreading lesion with concentric rings appears on the leaves, often near an injury or a dried blossom. Lesions begin on the margins or tips of leaves. With severe infections, leaves are blighted and a soft gray rot attacks the stems and exhibits a fuzzy gray fungal growth. When vines are disturbed, spores billow from them like a cloud of dust. Cool temperatures and high humidity promote disease development. Gray mold is often found in fields where a lot of fertilizer is used. Typically, gray mold is not of

economic importance in Wisconsin. See Gray Mold fact sheet

http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Gray_Mold_Botrytis_Blight.pdf.

Septoria Leaf Spot – A very common leaf disease of tomato, however, not necessarily a look-alike. Symptoms begin on the foliage closest to the ground and then move on up the plant. Leaf spots tend to be small and circular with dark borders and gray or tan centers. Eventually, multiple spots on a single leaf will merge. Warm, wet, humid weather increases the severity of the disease that can progress to the point where all the foliage is killed and falls from the plant. This disease does not advance nearly as rapid as late blight. See UW-Extension Septoria Leaf Spot fact sheet http://labs.russell.wisc.edu/pddc/files/Fact_Sheets/FC_PDF/Septoria_Leaf_Spot.pdf.

Radish Blossoms a Haven for Bees

By Ray Mueller

Sometimes just letting things grow can lead to unpredictable and very wonderful results.

I'm referring to my experience with cross-pollinated radish that began about seven years ago. I, along with the honeybees, have been enjoying the results ever since.

It all started when I left several varieties of radish grow to bloom stage and cross-pollinate – perhaps even courtesy of some bees in that first season. The radish included red and white varieties typically grown in the early season and the late season Spanish winter radish (the black-skinned bulbs that grow up to grapefruit size).

After a couple of years, there was lots of cross-pollination but some of the radish plants were still close to their original trait of having a red, white, or black-skinned bulb. The best ones – both in color and taste – have a mix of purple and white skin (somewhat resembling a rutabaga).

My cross-pollinated radishes have two distinct growing seasons. They start fairly early in the spring, seldom develop bulbs, and then break into bloom by the latter half of June and much of July.

And what's so wonderful is how those flowers attract the honeybees. There will be more of them on those flowers than on anything else they have to choose from at the time. Hearing the humming of the bees as I walk near the blooming radish is a wonderful summer sound.

The next step is to wait until early August for the seeds to be ripe. On their own, the seed pods will fall to the ground and grow.

But allowing that to happen could easily result in crowding. Instead, take the pods and rub/shake the seeds out on the soil surface. You could rake too to help with seed to soil contact for good germination.

The resulting late summer and early autumn growth provides nice bulbs for the most part. They're ready for harvest by late September and into November.

Whatever seed didn't germinate then or that stayed secure in later ripening pods grows on its own the next spring. An alternative is to store some pods over the winter and then spread the seeds on the soil in the early spring.

If there's anyone interested in trying this, just ask me for seed. Pick a spot where you don't plan to be growing anything else. You can start growing yet this year or next spring. Just don't expect many edible radish from the spring growth.

If nothing else, do it for the sake of the bees. I continue to be fascinated by what I've observed.

You are also the first to read about this. I sent the information to Mother Earth magazine a couple of years ago but never received a response.



Provide Milkweed for Butterflies

By Ray Mueller

If you don't have any common milkweed plants on your property to support the reproduction of the endangered Monarch butterflies, think about getting some plants.

The best way we have found is to transplant young milkweed plants. Like most other weed species, they're pretty hardy and are likely to survive the transplant.

We did that a couple of years ago, putting them at the edge of a flowerbed and a patch of raspberries. Today, we have very healthy milkweeds that are almost four feet tall.

In addition to being essential for the Monarch butterflies, the milkweed attract several other beneficial insects. Beyond that, the flowers are lovely and their fragrance is great.

I've tried establishing milkweeds with seeds handed out at Master Gardener conferences. So far, I haven't had any luck doing that.

Many Invasive Species Have Merits Humans Numbered as Invasive Species

By Ray Mueller

Potatoes, honeybees, dandelions, barberry, kudzu, garlic mustard, common buckthorn, Eurasian honeysuckle, and Japanese knotweed – what do they have in common?

As a group, they are all invasive species on the American continent and as such have acquired a bad reputation – some of it justified and some not, according to Bernadette “Bernie” Williams, a Wisconsin Department of Natural Resources (DNR) forestry health specialist who spoke at the 19th annual “Toward Harmony with Nature” conference sponsored by the Fox Valley chapter of Wild Ones.

But above all the other concerns about invasive species, Williams said that “humans are the world’s worst invasive species. And each generation brings and faces something different.”

“I’m passionate about environments,” Williams declared. “Both humans and worms affect the soil, of which there are about 10,000 types in the world. Change can happen very fast.”

“We are all in this together,” Williams said of the ecological changes to the soil, air, water, plants, and animals that have been caused by humans and by the intended or accidental introduction of species to places where they are not native.

Williams noted that more than 100 species native to Europe have been introduced in the United States with 21 of them known to be in Wisconsin. In her professional role, Williams is most concerned about the dire effects that some of those species are already having in the state’s forests.

Benefits of Invasive Species

No one should argue that honeybees, introduced to the United States from Europe, are not a beneficial invasive species, Williams remarked. She noted that the bees, which the American Indians referred to as “the white man’s fly,” deserve credit for about one-third of the food grown in North America.

Potatoes, which originated in the Andes Mountains in Peru in South America, are another invasive species as far as the geography of the United States is concerned, Williams observed. But today they are a staple food in much of the world, she noted.

Although many people detest dandelions and try to destroy them, “I love dandelions,” Williams declared. “I eat them.” She pointed out that dandelions are very nutritious and contain only 25 calories per cup, that birds and some mammals love and depend on them, and that they help to avoid monoculture in lawns.

Mesmerizing Kudzu

Despite how much of the landscape it has overrun in America’s South, “even kudzu is mesmerizing,” Williams

quipped. She explained that kudzu is loaded with sugar, carbohydrates, and starch, making it a potential candidate for production of biofuel at per acre rates of up to 270 to 300 gallons compared to about 210 gallons of the ethanol being made from corn grown on one acre.

“You don’t have to plant kudzu, which is called ‘the plant that ate the South,’” Williams stated. She noted that the growing range of plant, which grows its vines rapidly from tubers, is now approaching southern Illinois.

Similarly, the Asia native Japanese knotweed which grows along roadways and other generally undisturbed sites and is a plant “you cannot kill” once it is established offers a lot of potential, Williams suggested. She said it has been found to be a cure for Lyme disease and can be eaten like rhubarb, as a sweet, and in savory dishes.

The Japanese eat the knotweed stems like asparagus, Williams noted. In Great Britain, bees are able to make large amounts of honey from the knotweed’s nectar, she reported.

But Williams sees no value in the hogweed, which has a sap that creates serious burns to the skin. “It was a mistake” to introduce it, she remarked. The same holds for garlic mustard, which is edible but for which the DNR is still seeking a bio-control, she reported.

Beautiful Burner

Common buckthorn, which is another invasive plant, provides beautiful wood for carving, wood for burning, and berries for birds – not to mention a laxative for humans, Williams indicated. Glossy buckthorn supplies a fine charcoal used by artists, she added.

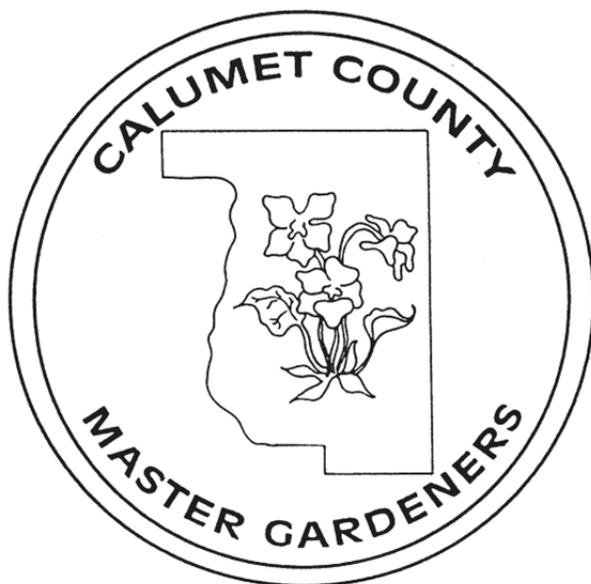
The Eurasian honeysuckle exudes a wonderful smell, attracts birds and bees, and is the source of material for cat toys made in China, Williams pointed out. It also contains an alkaloid similar to that in catnip, she noted.

One problem with buckthorn and garlic mustard is that they attract earthworms, Williams stated. Since those species tend to grow near trees, the earthworm populations dine on the decaying leaves which are essential to the natural recycling of nutrients for the trees, she explained.

Among the approximately 500 varieties of barberry sold in the United States, 29 are now prohibited in Wisconsin, Williams indicated. Prohibitions aside, the barberry fruit is high in vitamin C, has agents that combat cancer, tumors, and bacteria, can be used as a dye, and is an anti histamine, she pointed out.

Williams’ overall take on invasive species is that all of them “are living creatures” which play a role in ecological changes.

Calumet County Master Gardeners
UW-Extension Office
206 Court Street
Chilton, WI 53014-1127



Summer 2015 Newsletter