



Winnebago County Master Gardeners

Newsletter

August 2020

Mission Statement

Our purpose is to provide horticultural education, community service and environmental stewardship for our community in affiliation with the University of Wisconsin Extension Program.

"Remember the bumble bee does something impossible every day."



Huge bumblebee on bee balm in butterfly garden at Miravida. Submitted by Kim Willman

What am I?

By Jane Kuhn

I am a native, herbaceous, perennial wildflower that grows from two to five feet tall in zones 3-8. I am a slender but erect plant with stems that are hairy, square and green or red. My leaves are opposite, toothed and lance-shaped and are up to six inches long and one inch wide. My purplish-blue flowers bloom in mid to late summer in showy, six inch panicles and appear candelabra-like. One and a half months after blooming each bloom gives way to reddish-brown, triangular nutlets. I prefer full sun, and clay, loam or sandy soil that is occasionally wet.

Propagation is with seed or cuttings. My root system is fibrous and rhizomatous, often resulting in small clonal colonies of plants. Habitats include meadows, floodplains, woodlands, marshes, ditches and pastures. Garden uses include borders, meadows, prairies, pollinator gardens, native plant gardens and rain gardens. I attract bees, birds and butterflies and am the larval host for the common buckeye.

WCMGA Contacts

Check your membership guide for contact information.

Co-Presidents: Ed Dombrowski & Bob Kneepkens

Vice President: Britton Dake

Secretary: Susan Raasch

Treasurer: Deby Voyles

Advisor: Kimberly Miller

Newsletter Compilation: Anne Murphy



We would love your help! If you are interested in contributing in a future newsletter by writing an article or submitting a photo, please let me know by the 15th of each month by emailing pakster0605@yahoo.com. Thank you!

Letter from your Presidents: Ed Dombrowski & Bob Kneepkens

"In August, the large masses of berries, which, when in flower, had attracted many wild bees, gradually assumed their bright velvet crimson hue, and by their weight again bent down and broke their tender limbs." - Henry David Thoreau

The above quote was taken from the Letter from your presidents published in the August 2019 Newsletter. That letter described activities such as a bus trip to the EPIC gardens, Olbrich Garden and Centennial Garden, garden walks through other members gardens and the progress being made in the projects. Reading that letter really struck home how very different 2020 has affected our personal lives and our lives as Master Gardeners. It is a lesson in appreciation for what was.

This year continues to challenge us to seek new and different ways of being a Master Gardener.

If you have a garden and a library, you have everything you need. - Cicero

For a look ahead:

Board meetings will occur in August, thanks to **Kimberly Miller** and Zoom, and will continue as usually scheduled through the fall. The Business Meeting and continuing education is planned to occur via Zoom for the fall. The educational presentations, prior to the Business Meeting include the following:

September: **Brian Hudelson** will discuss plant diseases

October: **Mike Maddox** will discuss the Master Gardener Volunteer Program

November: **Anne Pearce**, Wisconsin First Detector Network Coordinator, will discuss invasive plants

Information about accessing the Business Meeting and continuing education will be sent to you via email.

Please stay safe and healthy.

Ed Dombrowski

Bob Kneepkens

Self-Sufficiency Through Seed Saving

By Lawanda Jungwirth

Since the advent of COVID-19, I've written a few articles about stocking up and self-sufficiency through gardening. Yet another way to ensure that in the future you will have food, or at least the potential for food, is through saving seeds from this year's garden. As a bonus, you'll also avoid the cost of buying new seed.

Some seeds are easy to save. You just wait for them to dry on the plant and collect them. These easy-savers include peas, beans, edamame, and many herbs and flowers.

Other seeds take a little more effort to save. Plants like tomato, squash, cucumber and eggplant, whose seeds are surrounded by moist flesh, germinate better and are more resistant to seed diseases if they ferment for a few days after they are collected but before they are dried. Scrape the flesh and seeds into a pint jar or other glass container, add about half the volume of water and swirl it a bit. Cover the container and let it sit for three or four days. When mold begins to grow on the mixture, remove the seeds that have sunk to the bottom of the container to save and discard the rest. Rinse the good seeds and spread them to dry on a paper plate.

All dried seeds should be stored over winter in a cool, dry place. The refrigerator is ideal.

When collecting seed, choose from the biggest, best, healthiest vegetables. If you have more than one plant, take seeds from several. In the case of tomatoes and squash, you'll probably end up with many more seeds than you'll need next spring, so choose the largest, healthiest looking seeds to plant.

Some seeds don't even need to be collected if you don't mind where the plants grow the following year. Radishes, arugula, bok choy, borage, cilantro, dill, lettuce and tomatoes are some that reliably self-seed.

Some vegetables are biennial plants and do not go to seed until their second year so you need to leave them in the garden over winter. Beets, brussels sprouts, cabbage, carrots, cauliflower, celery, kale, leeks, onions, parsley and parsnips fall into this category.

There are a couple caveats to seed saving. First, seeds from hybrid plants do not come true to their parents and shouldn't be saved. For example, you wouldn't save seeds from the Big Beef Hybrid tomato or the Giant Marconi Hybrid pepper, but you could save seeds from the Mortgage Lifter tomato and the Beaver Dam pepper, both of which are open-pollinated. Hybrid plants usually have the word "hybrid" or "F1" in their names.

The second caution is that seeds of the same species, but of different varieties, need to be separated when they are planted so that they don't cross pollinate. Different plant species require various separation distances. For example, tomatoes need be only 10' apart while beans require 150' and squash a whopping 500'.

Plant Natives to Help Pollinators; Learn to Hand-Pollinate

By Lawanda Jungwirth

It's no secret that the world is suffering from a lack of pollinators. One out of every three bites of food we eat is provided through the work of animal and insect pollinators and our food supply is at risk if pollinators continue to disappear at the rate they have been.

Here are some ways we can help protect pollinators in the long run and circumvent the problem in the short run.

Planting a variety of native plants in your yard will support pollinators throughout their entire lifecycle much more effectively than will introduced plants. As a reminder, native plants are those that were here prior to European settlement.

A little planning and attention to bloom season will provide your yard with beauty and food for insects from early spring to late fall. Plant a diversity of plants to provide food for different pollinators. Vary colors, fragrances and heights to attract different pollinator species. If you must use pesticides - which are extremely toxic to pollinators - use great caution, use as little as possible, and make sure you are using the proper pesticide for the problem you have. A good place to learn about native plants is

www.foxvalleyarea.wildones.org.

But what about the plants in this year's vegetable garden that need pollinating? Planting a full range of native plants will set you up for years to come, but if your pumpkins, zucchini, cucumbers, and squash are lacking pollinators, they need help now. How can you tell? If there are plenty of blooms on the plants, but no vegetables are forming or if they are shriveling and dying instead of growing and ripening, then pollinators aren't visiting the plants.

You can assist by hand pollinating. Tomatoes, peppers and eggplant are the easiest to help out. Since they have both male and female parts on the same blossom, all they need is a gentle shake for pollination to occur. Gently jiggle a sturdy part of the stems every few days. Choose a time of day when it's not too humid. Mid-day is best.

Hand pollinating melons, cucumbers, zucchini, pumpkins and squash takes a little more finesse but isn't difficult. First, you have to determine which flowers are male - the pollen producers, and which are female - the pollen recipients. Male flowers have straight stems, while female flowers will have a slight swelling below the blossom that resembles the vegetable it hopes to become.

Use a cotton swab, small soft paintbrush, or even your finger to gently brush against the pollen covered anthers inside a male flower. Then brush the pollen onto the sticky center of the female flower. That's it!

You'll need to do this in the morning or afternoon because the blossoms of some of these plants close by evening. Try hand pollinating every few days until you see vegetables beginning to form. If you don't have success after a week or so, there may be another problem, such as lack of light or extreme temperatures. (Editor's Note: See YouTube <https://www.youtube.com/watch?v=fYEckgRRtjw> and others for more detail)

Park View News

by Jane Kuhn

The Park View project recently started up for the 2020 season after receiving approval from the WCMGA Board as well as from the state. This year is one of transition as new sidewalks were installed in spring. Since sidewalks are about 8 inches above the previous garden beds, Master Gardeners are in the process of removing hundreds of plants temporarily so that the areas adjacent to the sidewalks can be filled with soil. Then plants can be replaced in the beds. It does provide an opportunity to redesign and freshen up the beds as well as to add a new butterfly garden area. The county workers have been very helpful with the filling of areas with soil. Residents will not be coming out while we are there but we look forward to seeing them next year.

What you do when the flowers are spent! Taken from a garden on my morning walk! Or are they a new cultivar?? - Submitted by Linda Loker



Butterfly Garden at Miravida Living

By Jane Kuhn

Master Gardeners were glad to recently return to the Butterfly Garden for the first time since last fall. We were pleasantly surprised at the many flowers that were in bloom and in what good condition we found the garden beds. The two new beds planted last fall at the entrance that replaced shrubs that were removed looked particularly healthy and pretty. Cleaning out the beds and updating the display case were done by us. We also observed monarch butterflies and a swallowtail visiting while we were there. Although we won't have visitors while we are working, residents have been coming to the garden with their family members. We are pleased to provide such a beautiful setting for them. Can you identify some of the flowers that were blooming including: swamp milkweed, bee balm (2), yarrow (2), veronica, lily, pale purple coneflower, butterfly weed?



Answer to What am I?

By Jane Kuhn

I am swamp verbena. Order: Lamiales. Family: Verbenaceae – Verbena family. Genus: Verbena L. – vervain. Species: Verbena hastata L. – swamp verbena. Other names: blue verbena, blue vervain, simpler's joy, swamp vervain, American blue vervain. The genus name comes from a Latin name used for some plants in religious ceremonies and also in medicine. The specific epithet means spear shaped. This plant has been used throughout history as food and medicine. Seeds are edible when roasted and leaves can be made into tea or tossed into salads and soups. This plant has been used medicinally for treating depression, headaches, jaundice, cramps, coughs and fevers. It can, however, interfere with blood pressure medicine and hormone therapy. I can be found in the rain garden adjacent to the Coughlin Center.



References: USDA Plants Database and associated links.



From the Tool Bucket

a monthly review of various tools, suggestions for using them and how to care for them, compiled and written by Valerie Stabenow. Any opinion expressed in this review is that of the reviewer with no opinion of the WCMG or UW Extension inferred or implied.

So, here it is August and I hope we have made it through the heat of July. The heat doesn't bother me and I always look forward to a shower at the end of the day, but for the most part, it's work in the shady areas.

One of the projects this summer was to reduce the ajuga that we had put in the channel garden. That area is very fragile and is easily degraded by wake action from passing boats. We were fortunate to partner with Winnebago County Land and Water to install 200 ft of riprap to protect the soil from further erosion. The ajuga plants helped hold the soil that was part of the renovation and installation for that project. However, no one told the ajuga that they were overplaying their role. Tiny, plug-size plants easily and quickly grew to plants that

were a foot and a half in diameter. It's a beautiful variety, the Bronze, which has purple flowers, but it had to go as it was crowding out the natives that we preferred to have there.



This is a true mattock, note the wide blade on the right.



This is a pickaxe, the blade is narrower.



This photo is of a pickaxe blade, without the handle.



This tool has the axe blade at the top and the adze, the wide horizontal blade on the bottom.

The tool that worked to take out the ajuga is a mattock. Before researching for this article, I would have referred to this as a grub hoe. Some refer to the tool as a pickaxe. Today, the terms 'pickaxe' and 'mattock' are often used to mean the same thing; they are however different tools. A mattock has a broad adze (horizontal blade) usually with a pick or axe on the other end of the head. A pickaxe has a pointed pick at one end of the head and a narrow chisel at the other.

This tool is also not something to be trifled with. When used like an axe, it uses its own weight to do the work. Wear protective eye gear, as well as appropriate footwear. The swinging and striking action is easy, but needs careful control. Here is a link to a YouTube video by a professional landscaper. <https://www.youtube.com/watch?v=HfJAT5AOecI>

To remove the ajuga clumps, I just swung the adze side (horizontal blade) in a motion similar to a golf swing, with the blade parallel to the soil, chopping out the plants. Again, as with most tools, a recently sharpened blade makes a lot of difference and that is the case here. For clumps that did not want to come out.. changing the handhold and using the adze blade in a chopping motion did the trick.

My mattock is indispensable for the kind of yard and garden work we do on our property. The first summer we were here, we zeroed in on the buckthorn shrub forest that was along the channel, where our rock garden and flower and vegetable gardens are now. There were probably 15 or more buckthorn shrubs. The main part was cut off with a chainsaw and the remaining trunk stub and roots were attacked with the mattock. The technique that worked well was to start about 8 inches out from the center and chop at each one of 4 points, like 12, 3, 6 and 9 on a clock. Then chops in between those points. With the blade in under the root section, you can then pry up to check where the roots are still holding and then go after those. I didn't get them all out in a day, but the mattock made a big difference.

When you want to plant a tree and you dig down and hit some old root and there are no trees around that it could possibly belong to, it's time for the mattock to chop that out. We cut out so many undesirable trees and shrubs during our trail renovation that the remnants of trunks and roots are often pushed up after winter. A few chops with the mattock and the stubs are easily pulled out. If you need to put in a trench, the mattock is the tool for that job.

Mattock, pickaxe, grubhoe, grubaxe... whatever you choose to call it... just a valuable and helpful tool.

Next month (September already???) I will discuss a pole trimmer. Good to trim out dead stuff now, but cutting live material is best left to January/February when the sap isn't flowing.

Japanese beetles in yards and gardens

By: Jeff Hahn, Extension entomologist and Julie Weisenhorn, Extension educator, University of Minnesota Extension

Quick facts

Japanese beetles are an **invasive species**.

- Japanese beetles feed on the leaves, flowers or fruit of more than 300 species of plants.
- Japanese beetle grubs are pests of turfgrass. They chew grass roots, causing the turf to brown and die. Grub-damaged turf pulls up easily from the soil, like a loose carpet.
- Japanese beetle infestations in Minnesota are mostly found in the Twin Cities metropolitan area and southeast region of the state.
- There are both nonchemical and insecticide options for managing Japanese beetle adults and grubs.

Japanese beetles (*Popillia japonica*) were first found in the United States in 1916, after being accidentally introduced into New Jersey. Until that time, this insect was restricted to Japan where it is not a major pest. This pest is considered to be an invasive species. It is now found throughout the eastern U.S., except for Florida, and continues to move westward.

Japanese beetles were first discovered in Minnesota in 1968. At first, only a few beetles were found. By 2001, they occurred in much higher numbers. In one year the Minnesota Department of Agriculture (MDA) trapped more than one million beetles. Since then, Japanese beetle numbers have fluctuated from year to year.

How to identify Japanese beetles

Adult

- Approximately 1/3 to 1/2 inch long.
- Metallic green head and thorax (the area behind the head) with copper-brown wing covers.
- Sides of abdomen have five white patches of hairs, and tip of abdomen has two patches of white hair.



Larva (white grubs)

- C-shaped, white to cream-colored grubs with a distinct tan-colored head.
- Legs are easy to see.
- From 1/8 inch up to about one inch long.



- Japanese beetle grubs look like other white grubs and can only be positively distinguished by examining the pattern of spines and **hairs on the underside of the tip of the abdomen.**

Life cycle

- Japanese beetle grubs spend the winter underground in the soil of lawns, pastures, and other grassy areas.
- In spring, grubs move up near the soil surface to finish feeding and pupate into adult beetles.
- Adult beetles start to emerge from the ground in late June or early July. They can fly up to several miles to feed.
- Adults feed primarily in July and August, although some may be active into September.
- Beetle-damaged leaves emit feeding-induced odors that attract other beetles (like sharks to blood).
- This often results in large clusters of beetles feeding and mating on particular plants while neighboring, equally attractive plants are only lightly infested.
- Virgin females produce a sex pheromone for mating that is highly attractive to males.
- After mating, females tunnel underground in the soil one to three inches to lay eggs.
- Females will lay eggs several different times during July and August, totaling as many as 60 eggs.
- Dry soil conditions can reduce egg survival, resulting in fewer adult beetles the following year.
- The eggs hatch in about two weeks and the grubs feed mainly on the roots of lawn grasses.
- Grubs go through three different growth stages (instars) during the summer becoming progressively larger with each stage.
- As the soil starts to cool in the fall, the nearly mature, full-sized (third instar) grubs dig deeper in the soil, where they spend the winter.

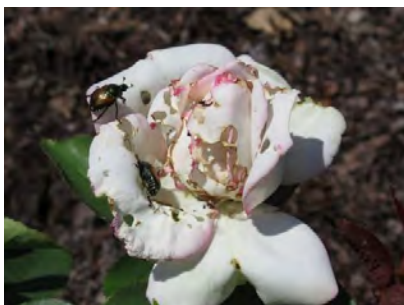
Japanese beetles are crawling on some of the leaves of a plant with many eaten leaves.

Damage caused by Japanese beetles

Japanese beetles are a serious pest of flowers, trees and shrubs, fruits and vegetables, field crops and turf. Adults feed on more than 300 plant species, whereas the grubs feed mainly on the roots of grasses.

Adult Japanese beetle damage

Adult Japanese beetles feed on the leaves, flowers and fruits of many different plants. Preferred plants include rose, grape, linden, apple, crabapple, cherry, plum and related trees, birch, elm, raspberry, currant, basil, Virginia creeper, hollyhock, marigold, corn silks and soybean.



They skeletonize leaves by feeding on tissue between the major veins giving them a lace-like appearance. Damaged leaves turn brown and may fall off.

Adult Japanese beetle damage usually affects only the appearance of plants.

- Healthy, mature trees and shrubs can tolerate a lot of feeding without significant, long-term injury.
- Young or unhealthy plants may be stunted, injured or even killed from severe, persistent feeding.
- Healthy flowering plants such as roses can survive Japanese beetle feeding. But the blossoms are often ruined by the insects.
- Fruits, vegetables and herbs can tolerate limited leaf feeding, but severe damage may affect plant growth and reduce yield.
- Regular harvesting during July and August can decrease feeding on edible parts of the plant.

Many Japanese beetles crawling on a red raspberry plant in a garden

Japanese beetle grub damage

Grubs chew grass roots and reduce the ability of grass to take up enough water and nutrients to remain healthy. When grub feeding is severe, dead patches of grass develop.

These dead patches can be rolled back like a carpet due to the lack of roots. If grubs are not found, examine still living turf at the edges of damaged areas for their presence.

Healthy turf grass can typically tolerate up to 10 grubs per square foot. [Follow recommended lawn care practices to promote a healthy lawn.](#)

Moles, skunks, crows and other insect-feeding animals may dig up grubs, further damaging the turf.

White grub damage on lawns



Lawn with brown patches. Lawn with large area of exposed dirt and dead grass. Area of lawn rolled up to expose dirt beneath with white grubs crawling through it

Managing adult Japanese beetles

- Japanese beetles can be very abundant in some years and less in others.
- Japanese beetles are not the end of the world. There are many ways to deal with them.
- In most cases, Japanese beetle damage is cosmetic only and will not kill plants.

When to manage: Start early!

Look for beetles in your yard and garden starting in late June and early July. Start management when they first appear. Damaged leaves attract more beetles so minimizing beetles on plants should mean fewer beetles will be attracted to them.

Japanese beetles feed for six to eight weeks so it is important to continue management until their numbers decrease. Once they are present in large numbers, managing them becomes more difficult.

Most feeding is finished by mid to late August.

Non-chemical management options

Physical removal

Physically removing adults can be a good non-chemical option. Physically removing beetles can be a practical and effective management practice for smaller landscapes or a few plants, especially when only small numbers of Japanese beetles are present. Handpick or knock the beetles into a bucket of soapy water to kill them.



Check your plants daily and remove any beetles that you find to minimize feeding damage. Remember beetle-damaged leaves emit air-borne chemicals that attract more beetles. By physically removing them, you'll reduce the number of new beetles attracted to your plants.

The best time to remove Japanese beetles is in the evening or in the morning when beetles on the plants are still cool and sluggish. However anytime that it can be done is still useful.

Physical barriers

In some cases, it is possible to protect plants with fine netting to prevent beetle damage. However, do not cover plants in bloom that require pollination (i.e. fruits) as this will prevent pollinators from reaching them. Instead, handpick beetles until the plant is done blooming and starting to set fruit, then cover it.



Traps

Don't use Japanese beetle traps. Hanging a trap in a home garden is not an effective way to protect plants. And they may attract more insects to your yard.

The traps attract beetles using synthetic female sex pheromone and a blend of chemicals with a strong floral odor. They were developed by researchers to monitor for the presence of

Japanese beetles so that management strategies could be implemented.

While these traps can collect an impressive number of beetles, research at the University of Kentucky has demonstrated that more beetles fly toward the traps than are caught. This usually results in more damage to nearby gardens and landscape plants than would have happened if no traps were present.

Using less preferred plants

Although Japanese beetles feed on many different kinds of plants, there are some that they seldom damage. When choosing new plants for your landscape, consider using a less preferred plant.

Plants usually not damaged by Japanese beetles include boxwood, clematis, chrysanthemum, conifers (e.g. arborvitae, spruce, fir, pine), daylily, geranium, ginkgo, Japanese tree lilac, forsythia, common lilac, magnolia, red and silver maple, oak, white poplar, redbud, rhododendron and yew.

Biological control

Two natural enemies of Japanese beetles have been released in Minnesota. The fly *Istocheta aldrichi* lays eggs on adult Japanese beetles in summer, whereas the wasp *Tiphia vernalis* parasitizes grubs in the spring. Although both natural enemies became established here, neither is very abundant and they have little impact on Japanese beetle populations.

Using pesticides

If physical removal and barriers are not practical or you wish to supplement non-chemical management, you may choose to use an insecticide to protect valued plants. Remember that insecticides can pose significant risks to beneficial insects, including pollinators, as well as birds, fish and mammals.

Consider using a professional pesticide applicator, especially for trees.

Use low risk insecticides when they are effective for protecting your plants.

Low risk insecticides

Products containing pyrethrins (e.g. Pyola®) are somewhat effective contact insecticides provided they are sprayed directly on the insect. Repeat applications are necessary. Avoid spraying bees and beneficial insects as these products are toxic to these non-pests as well.



Neem oil is effective for several days but repeat applications are necessary. Neem oil helps deter Japanese beetles but is less effective when large numbers are present. This product is low risk to bees and other beneficial insects.

Bacillus thuringiensis galleriae (e.g. BeetleGone, BeetleJus), derived from soil bacteria, is moderately effective against Japanese beetle adults, giving one to two week's protection. This product is not toxic to bees and other beneficial insects. Bacillus thuringiensis galleriae is only available from online sources.

Residual insecticides

Several effective, longer lasting insecticides are available for treating Japanese beetles. Chlorantraniliprole (Acelepryn®) provides two to four weeks protection, and is low risk to bees. Pyrethroids, including bifenthrin, cyfluthrin, lambda cyhalothrin, and permethrin, last about two to three weeks. Carbaryl or acephate will provide one to two weeks' protection

Caution: pyrethroids, carbaryl, and acephate are toxic to bees and other pollinators.

Systemic insecticides

A systemic insecticide is absorbed by the plant and moved through its tissues and is applied as a soil drench or injection, a trunk spray or a trunk injection. This can be useful to avoid pesticide drift, especially when treating large trees.

Trunk injections should be done by a certified tree care professional.

Imidacloprid and dinotefuran, both neonicotinoids, are available to residents. They are applied to the soil and only one application is needed per year. Do not apply to soil within 4-5 feet of pollinator attractive plants.

Caution: Imidacloprid and dinotefuran are very toxic to pollinators. Either avoid applying these insecticides to bee attractive plants or wait until the plants have finished blooming before treating them.

Professional pesticide applicators have access to chlorantraniliprole (Acelepryn®). This product is long lasting and is a low risk to bees. Professional pesticide applicators can also apply acephate (Lepitech) systemically as a soil drench. Acephate is toxic to bees so applications should not be made near bee attractive plants until after bloom.

CAUTION: Mention of a pesticide or use of a pesticide label is for educational purposes only. Always follow the pesticide label directions attached to the pesticide container you are using. Remember, the label is the law. When treating fruits or vegetables, make sure the plant you wish to treat is listed on the label of the pesticide you intend to use. Observe the number of days between pesticide application and when you can harvest your crop.

Managing white grubs

Controlling Japanese beetle grubs is unlikely to reduce numbers of adults on landscape plants because beetles emerging from non-treated grass areas can fly considerable distance to preferred adult food plants. Only treat white grubs to protect lawns from damage.

CAUTION: Mention of a pesticide or use of a pesticide label is for educational purposes only. Always follow the pesticide label directions attached to the pesticide container you are using. Remember, the label is the law.

When to treat

If your lawn has a recent history of grub damage, you may wish to treat with a preventive insecticide in June or early July (see below) to help ensure that the lawn is not damaged again.

If you adopt a "wait and see" approach, and discover in summer that your lawn has become infested, a curative insecticide can be applied in late July to mid-September when the grubs are still relatively small (1/2 inch or less). Yellowing or browning grass in August is an early symptom of white grub damage. There are other possible causes for discolored turf so check under the grass to make sure it is due to white grubs.

Once white grubs are nearly full-sized (about 1 inch long), and the turf has begun dying in patches that pull easily from the soil, you can still apply a "rescue" treatment with a fast-acting curative insecticide in September, but expect only partial control. Once the grubs have stopped feeding and started to move downward in late fall, insecticides are not effective against them.

Do not treat in spring because the large grubs are hard to kill, they feed for a relatively brief time and rarely cause damage in the spring. Treating in spring is no guarantee that the lawn will not be re-infested again in mid-summer.

Biological insecticides

Parasitic nematodes, such as *Heterorhabditis bacteriophora*, are available. They generally do not affect beneficial insects. They need to be applied after the eggs have hatched and the grubs are present. If using nematodes, apply them during cool, overcast days or in the evening and water before and after application as they are susceptible to drying out. While they can be effective, results have been inconsistent.

Milky spore bacteria, *Paenibacillus popilliae* (formerly known as *Bacillus popilliae*) infect only Japanese beetle grubs and have no effect on beneficial organisms. Although these bacteria occur naturally in the soil and may infect a small percentage of the grub population, applying commercial milky spore products has not been shown to provide any benefit in modern university research trials.

Bacillus thuringiensis galleriae (Btg) is a bacterial strain that produces a toxin that affects beetle adults and larvae. Products containing Btg (grubGONE!®, grubHALT!®) have provided inconsistent (i.e., variable) levels of grub control in recent university trials.

Preventive insecticides

Preventive insecticides are applied as insurance against grub damage. Preventive treatment may be warranted if a lawn has a recent history of grub infestation, or if the adult beetle flight is particularly high in a given summer.

The best timing is during the month or so before the adult beetles first emerge and start laying eggs (mid-June to mid-July in Minnesota). Chlorantraniliprole (such as Scott's Grub-Ex®) is an effective, preventative insecticide that is also low risk for bees.

Products containing imidacloprid or clothianidin are also effective if applied preventively, but they can pose a hazard to bees foraging on flowering weeds or nesting in treated lawns.

To minimize their hazard to pollinators

- Mow any flowering weeds, like clover and dandelions, just before or right after the pesticide application.
- Avoid areas being used by ground-nesting bees.

Homeowner products for preventive grub control usually have the words "season-long" grub control on the packaging.

Curative insecticides

Curative means treating white grubs when they are feeding and damage is noticed. If turf damage has been sporadic the last few years, it may be worth waiting to see if they are a problem. Watch closely for symptoms of turf damage.

Effective curative insecticides are trichlorfon, clothianidin, and carbaryl. **All three are toxic to bees.** Clothianidin, in particular, is systemic; i.e., it can be taken up by the roots and move into the nectar and pollen of flowering lawn weeds.

To minimize the hazard of curative grub insecticides to pollinators, mow any flowering weeds just before or right after the pesticide application. Avoid areas being used by ground-nesting bees. Homeowner products for curative grub control usually have the words "24-hour" grub control on the packaging.

Member Business Meeting Minutes - No July Meeting

Upcoming Events - See Calendar for August Events

Oct. 19: Flower Arranging, Park View Great Room



Daylilies after rain in the butterfly gardens at Miravida. *Submitted by Kim Willman*



White phlox in butterfly gardens at Miravida. *Submitted by Kim Willman*



Double Trouble hydrangea in my garden.
Submitted by Kim Willman



Butterfly on bee balm in butterfly garden at Mirvida. *Submitted by Kim Willman*

WCMGA Projects

Check your Member Guide for contact information.

Project	Project Lead(s)
Algoma Town Hall	Petey Clark
Butterfly Garden Miravida Living Oshkosh	Jane Kuhn
Carter Memorial Library, Omro	Pat Behm/Linda Petek
Octagon House, Neenah	Jerry Robak
Invasive Species	Sue Egner/Valerie Stabenow/Audrey Ruedinger
Morgan House	Kathy Schultz
Neenah Public Library	Tamara Erickson
Oshkosh Area Humane Society	Julie Miller/Matt Miller
Paine Gardens & Arboretum	Virginia Slattery
Park View Cutting Garden	Donna Kudlas/Jane Kuhn
Park View Prairie Garden	Eric Kropp
Park View Flower Arranging	Lil Hansche
Park View Vegetable Garden	Tom Weber
Farmer's Market	Dorothy Gayhart-Kunz/Janet Priebe/ Synda Jones/Patty Schmitz
Plant Health Advisors	Patty Schmitz/Mary Shepard
Shattuck Park, Neenah	Diane Iott
Sullivan's Woods	Linda Loker

Project Leads: If you'd like your meetings listed on the calendar, please email information to Anne Murphy pakster0605@yahoo.com.

August 2020						
Sun	Monday	Tuesday	Wednesday	Thursday	Friday	Sat
						1
2	3	4 Board Mtg.	5	6	7	8
9	10	11	12	13	14	15
16	17	18	19	20	21	22
23	24	25	26	27	28	29

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