

Smart Gardening



Vol. 3, No. 3

PRESS

Gardening for pollinators: Choosing smart plants to support pollinators

A diverse selection of plants, reduction of pesticide use and observant gardeners can help preserve bees and other pollinators in landscapes and gardens.

Rebecca Finneran, Michigan State University Extension

Pollinators, including birds, mammals, bees, flies, beetles, butterflies and moths, are essential to the environment and our food supply. Pollinating more than 85 percent of the world's flowering plants, they contribute globally to "life as we know it." More than two-thirds of the world's crop species are dependent on pollination, with an annual estimated value of \$18 to \$27 billion in the United States alone. Pollinators are also necessary in most terrestrial ecosystems since their activities are ultimately responsible for the seeds and fruits that feed everything from songbirds to black bears.

Recent concerns about losses of pollinating insects have caused gardeners to wonder how to make positive contributions towards their conservation. Understanding habitat needs and food sources while adjusting our garden maintenance routine is a step forward in pollinator conservation.

One often thinks first of the honey bee as a pollinator, but over 400 species of native bees also live right here in Michigan. Native bees come in many shapes and sizes, but pound for pound, they do a lot of work!



All photos in article: Rebecca Finneran, MSUE

Native Echinacea and its cultivars, such as 'Purple Emperor,' are attractive in the garden and valuable for pollinators.

These creatures are often uniquely linked with native trees, shrubs and herbaceous plants, but will also work a widely diverse garden plant palette.

Beneficial insects also make up the world's hardest working workforce by keeping detrimental insects in the garden in check. A diverse selection of plants, both native and non-native, judicious reduction of pesticide use and observant gardeners come together to create a strategy for preserving bees and other

"good bugs" in our landscapes and gardens.

"Bee" intentional about plant selection

Pollinators are looking for two things when they forage in your garden. The nectar and pollen found in blooming plants provides them with carbohydrates and protein they need to thrive and produce their offspring.

Think about "staging" the menu of blooms in your garden from early spring through fall by planting a wide range of flowering plants. Plants that bloom very early or late in the season are often the most important food sources for pollinators – since there are not many other resources available during this time.

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Many annuals and perennials can be encouraged to re-bloom with pruning and routine dead-heading, while other garden favorites have been bred for a more continuous bloom. Dense, double-petaled selections may not accommodate a pollinator since the nectar glands and pollen laden stamens are more difficult to locate. A plant bred to be sterile or contain no nectar will not benefit a pollinator at all. Also, plants that have been selected for their visual attractiveness to us such as roses and azaleas may also not be used by pollinators.

Choose woody and herbaceous plants that bloom during different times of the year and at different heights. Thoughtful selection and placement of herbs, bulbs and annuals will enrich the available sources of food for these insects throughout the season, not to mention enhance your enjoyment as well. Bees will forage on many types of flowering plants, but they especially love flowers that are purple, blue, white, yellow, mauve or violet. Using ultraviolet (UV) light, bees also see things in flowers that our eyes cannot which include patterns, colors and markings that enable the insect to pilot directly to a “landing pad” leading to the pollen source.

Providing a wide range of bloom sizes and shapes will also encourage these insects regardless of their size. Tubular-shaped flowers with an extended petal such as foxglove or *Salvia* allow bees to alight and then enter the bloom. Open flowers like our native iron weed will provide resources to many kinds of beneficial insects.

Early show

The earliest spring-blooming plants such as *Pachysandra*, rock cress and bugleweed buzz to life with insect activity when windy spring weather makes it difficult to navigate the canopy higher up. Also low to the ground, minor bulbs like Siberian squill,



The blue-purple bugleweed bloom is shaped just right for this hungry bumble bee.



Hover flies work many of the same plants as bees, like this perennial geranium.



Consider adding herbs to your flower borders including borage, a bee magnet.

Punchkinia and *Chinodoxa* attract the tiniest of bee species. Perennial favorites such as bleeding heart, foxglove and *Allium* ‘Purple Sensation’ bring in the late-spring show audience and larger bees are often seen feeding on these beauties. Herbs like chives also will be very attractive to pollinators.

Prime time

By the time spring unfolds with crabapples bursting into bloom, garden favorites, including single peonies, reveal their pollen-laden anthers and start receiving attention by bees. Many types of coral bells are attractive to bees and with new hybrids available, will have fresh bloom spikes emerging every couple of weeks. The dark-leaved *Heuchera* ‘Bella Notta’ was specifically bred for these continual blooming traits and it is not uncommon to see plants setting new blooms well into September.

Mid-season, traditional perennial border plants including sneezeweed, blazing star, *Inula* and globe thistle offer unlimited opportunities for many types of pollinators to forage. Coneflower is also visited prolifically by bees. Dead-heading sneezeweed, *Rudbeckia* and many other perennials will encourage new blooms to form, so even the mid-season bloomers may make a second appearance later in autumn.

Summer bulbs such as *Allium christophii* and *Allium* ‘Millenium’ add to the palette and stretch the season as well. Butterflies will be attracted to a wide variety of lilies in the garden.

Colorful annuals and herbs can really pack a punch with colors to please the human eye while providing a long season of bloom. Herbs such as borage are irresistible for many species of bees and hover flies. By choosing sunflowers that are branched and range in days-to-harvest by a week or so, you can provide

fresh blooms of these bee magnets for a longer period of time. A tall, late-summer annual known as *Tithonia* starts blooming in early August and continues until frost. Butterflies, bees and hover flies covet these flaming-orange blooms. Several zinnia cultivars are rarely visited by bees, however some of the more open types and *Zinnia* 'Benary Giant' are top contenders in the annual garden. Other annuals such as tall salvia (Victoria blue or white), lantana and pentas add color and provide nectar and pollen for many bee species.

Trees and flowering shrubs, both native and non-native, play a huge role in supporting pollinators. Half-way through summer the American linden and Little Leaf Linden burst into bloom with sweetly scented panicles of yellow blooms tucked beneath their foliage. Button bush, a favorite for moist soil or at the edge of a wetland, and panicle hydrangeas, with their stately towers of blooms, have sterile and fertile blooms on the stalk. Many types of bees visit the blooms and are supported by these plants.

Late show

Sedum has to be one of the most diverse plant groups in the garden or landscape. From low-growing, colorful ground covers to the upright, stately 'Autumn Joy' sedum, their blossoms are intoxicating for many bees and flies. These late-season bloomers



Plants like *Helianthus* (sneezeweed) when dead-headed will re-bloom and continue providing nectar and pollen right through the late season.

help extend the available pollen and nectar along with garden favorites including Japanese anemone and *Rudbeckia* 'Autumn Sun.'

Putting it all together

Beyond planting the right plants, gardeners should be thinking more about judicious use of insecticides – that is, either not using them or finding “green” products, always following label directions and always making sure never to spray on open blooms. While dead-heading plants like sneezeweed encourages additional blooms, early dead-heading of *Hosta* blooms may rob the pollinators of a great lunch. Blooming coleus may be thought of as unsightly, but not to a bee. A member of the mint family, these small blooms are very attractive to bees. Perhaps it is more about the way we think of “tidiness” in the garden and we let some things go.



Hosta blooms, usually dead-headed for aesthetics, can be left a little longer so pollinators can access them.

Lastly, for every gardener who loves their mulch, it is greatly beneficial to have patches of open ground in the garden for nesting. These can be tucked out of the way, and bees will find them.

For more information about protecting pollinators, view the [Buzz About Pollinators webinar](#) from [Michigan State University Extension](#), or visit the [Pollination](#) page on [MSU's Native Plants and Ecosystem Services](#) website.

Bring plants indoors now, but leave the pests behind

September is the month to bring tropical and subtropical plants indoors, but make sure you inspect them properly first before bringing in unwanted pests.

Gretchen Voyle, Michigan State University Extension

Many gardeners decide to give their indoor plants a summer vacation outside for the summer. Smart gardeners situate plants out of direct sun so they don't get fried into crispy critters. When temperatures

are mild and rainfall is good, indoor plants enjoy their escape from captivity. However, the month of September looms with its first chances for light to heavy frosts. Tropical and subtropical indoor cuties

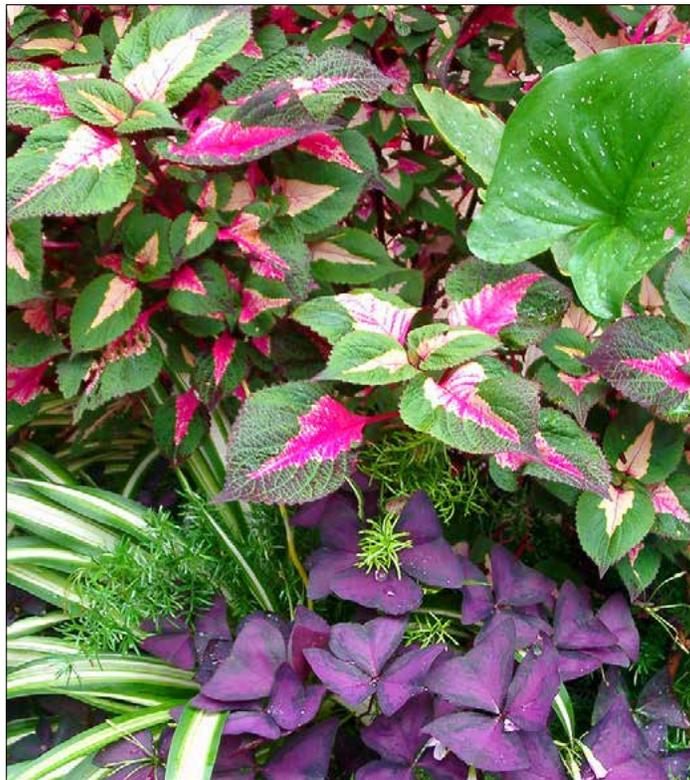
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cannot tolerate that nonsense and need to be back in their winter homes. Before any of the plants cross the threshold, they need to be checked for unwanted hitchhikers. This list can include flying, walking and scale insects, cocoons from moths, slugs, snails and the occasional “party favor” hidden inside the drain hole of the pot. Being an exotic plant on a Michigan deck does not give the plant any immunity from local insects. Insects like spider mites, scale and aphids have no problem widening their menu options to include your summer plant vacationers.

If only a cursory inspection is done, many things including insect eggs can get missed. Those things may be kept in check while they are outside by natural controls, but can be a major annoyance indoors. A quick and incomplete inspection and putting the pot into a bucket of water to float out any critters minimizes a number of problems. Your deck or patio is the perfect place to do plant tune ups before they are brought in. Get a bag of soilless potting medium, water and some clean pots and do it right. The time spent now will be just a fraction of what it will take to conquer an insect problem that migrates onto other plants or to track down an elusive tree frog indoors.

Before beginning your inspection, [Michigan State University Extension](#) recommends watering the plant thoroughly. Slide the plant out of the container and check the soil, especially at the bottom of the container. Often, there will be ants that have spent their summer vacation digging out the potting medium and carrying it away. Or there could be assorted sowbugs and pill bugs enjoying the organic matter. When a cavity has been created by the

missing potting medium, small frogs can move into the space. Later, when the plant comes indoors, Froggy will exit and housecat hysteria will ensue. This is the perfect opportunity to pick off some of the old soil and use the new soil to repot the plant. However, if the roots are crowded, it's time to pot up to a bigger container. Water the newly repotted plant well and let it drain well before moving the plant indoors. If



Coleus, arrow leaf, shamrocks, spider plant and asparagus fern.

Rebecca Fineran, MSUE

the plants are on a deck that has spaces between the boards, your drop-in insects will just squeeze between the boards and move in from the bottom.

Inspect the leaves and stems for insects or eggs especially on the bottoms of leaves. Commercially prepared insecticidal soap is a good product to use if there are spider mites or aphids. For the unseen insect eggs lurking below the foliage, you can apply a systemic insecticide drench while your plants are still outside. The insecticide will move up into the canopy of foliage just in time for hatching eggs. The juvenile insects will not be able to become

established on a treated plant. If the indoor plants were put into the soil in the garden, when digging them up look carefully for and remove earthworms. Outside, earthworms are valuable, but when confined to a pot, they can cause damage as they churn around in the restricted area of the pot.

In most places in Michigan, the date you want to have your plants inspected and moved back indoors is Sept. 15. Most years, this will be before it's too cold, but if you don't do the work of inspecting and repotting and leaving the critters outdoors, insects, slugs and tree frogs will just recolonize your plant hotel.

Remember to mulch leaves into turf

During fall, elevate your mower deck to the highest setting and cross over the leaves once or twice. Mulching mowers can handle up to 6 inches of leaves at a time in one pass, but a traditional mower might take several trips. Depending on how many leaves fall each week, you may do this process twice in one week. There will be obvious “leaf residue” on the surface of the lawn that only lasts for a few days. The tiny pieces will eventually sift down through the turf, providing a certain amount of weed control while recycling essential nutrients that can save you money and time. Next spring, you won’t even notice the tiny leaf particles that have tucked themselves neatly around the crown of the grass plants.



Photos: Rebecca Finerman, MSUE

Check out this smart gardening tip sheet for additional information, [“Mulch leaves into turf for a smart lawn,”](#) or watch a YouTube [video on leaf mulching](#) to help get you started!

Smart winter protection for trees and shrubs

Protect your landscape plants from Old Man Winter by following these tips.

Diane Brown, Michigan State University Extension

After recent devastating winters, you may be wondering what you should do to protect landscape plants this winter. Here are some points to consider.

Keep soil evenly moist throughout the growing season

Moist soils will hold more heat than dry soils and are less subject to frost penetration than dry soils. Keeping plants sufficiently watered throughout the growing season will result in better root growth and healthier plants going into winter. Even if plants are well-established, be sure to give them a good drink of water in late fall before the ground freezes and maintain a 3-inch layer of organic mulch around the trees or shrubs. Additional mulch through the winter (another 1-3 inches) for recently planted trees and shrubs can help encourage root growth in fall and reduce root injury from frost penetration into the ground. Avoid placing mulch directly against the trunk, and remove the extra mulch layer in spring when growth resumes.

Location, location, location

Plant marginally hardy plants in protected locations in your landscape. Avoid planting in areas that receive heavy loads of deicing salts. When shoveling salty



All photos in article: Rebecca Finerman, MSUE

Broadleaf evergreens such as Rhododendron may “burn” during winter. Providing the plant with adequate moisture in fall then some type of shade such as a burlap screen will help keep leaves hydrated.

snow, avoid piling it around landscape plants where it will accumulate and be absorbed by roots. A well-constructed burlap screen (see next page) can help protect plants subject to salt spray from passing traffic. Fix downspouts that leak and clean gutters of leaves before winter sets in. Plants beneath these areas can be damaged by heavy deposits of ice.

Winter desiccation

Winter sun and wind causes the foliage of evergreen foliage to lose moisture that is not replaced while the roots are frozen. Some plants are more susceptible than others including evergreens with short needles, such as Alberta and Serbian spruce, hemlock, yew and arborvitae, and broadleaf evergreens, such as boxwood and rhododendrons. The sides of plants exposed to wind, along with the sides most exposed to sun (typically the south and southwest) are most subject to winter injury of this type. See [directions for building a sturdy windscreen](#).

A summary of directions for creating a windscreen follows: Use posts designed for temporary electric fencing of livestock to form the supports for the screen. Install the posts in October before the ground freezes and far enough away from the plant that they do not touch. The best choice of stakes is the slender posts used for temporary electric fencing for livestock. At least four posts per plant are needed. Surround the posts with a cylinder of chicken wire, hardware screening, welded or woven wire farm fencing. Overlap slightly and wire the ends together. Pick a calm day in November or December to add the layer of burlap. It should also overlap. Secure the burlap to the fence with wire bag ties or wire twist ties. Place them high, low and in between. Make sure the top is open and the bottom burlap is snuggled into the mulch for more stability.

The windscreen can remain in place until early to mid-March. Posts can remain until the ground thaws. This windscreen also helps prevent animal damage, especially if the wire is hardware screening. When this wire is pushed into the ground, it deters entry by voles and rabbits. If deer are a problem, crisscross wire or heavy string over the top of the cylinder so deer can't lean in and chew the tops of plants.



Simple burlap screens may shade the plant during winter. This can be done as a wrap or simply attaching burlap to surrounding stakes to keep the plant protected. Some even get creative with winter protection.

Injury to thin-barked trees

Sunscald and frost crack can occur on cold, sunny, winter days. Bark heats up to the point that cambial activity resumes, then the temperature of the bark drops rapidly when the sun is blocked by a cloud, or when it drops behind a barrier such as a hill. The quick drop in temperature kills the active tissue. To prevent sunscald, wrap the trunk with a commercial tree wrap, plastic tree guards, or use white latex paint to reflect the sun and keep the bark at a more constant temperature. If using tree wrap, put it on in the fall and remove it in the spring after the last frost.



Trees with thin bark such as cherry may "frost crack" during a severely cold winter. Bark wraps will help shade the trunk from the sun.

Leaving tree wrap on year-round is not recommended as it provides a good location for certain trunk boring insects to hide and cause damage. Newly planted trees should be wrapped for at least two winters and thin-barked species up to five winters or more. Areas of the trunk damaged by sun scald or frost crack should be carefully trimmed back to live tissue with a sharp knife, following the general shape of the wound, rounding off any sharp corners to facilitate callusing of the wound.

While it can be worth the time and effort to protect a few specimen plants in the landscape, it's better to have mostly plantings that can survive without extra pampering. Take the time to make sure that plants in your landscape have been installed in the right location, and you will have fewer worries about winter protection. If the same plants prove troublesome year after year, it might be worthwhile to either find them a new home in your landscape where less protection will be required, or replace them all together.

Fall insect pest invaders found in homes

The most wanted on the overwintering pests list; their pictures aren't just in the post office.

Gretchen Voyle, Michigan State University Extension

Many insects spend the winter as an egg or larva or pupa, but a certain group of insects overwinter as adults. They must find a location to sleep the winter away that stays comfortably between 40-50 degrees Fahrenheit. If this can happen, they are alive in the spring to go back to dancing on the leaves and flowers and to scamper around and reproduce. That magic location for overwintering is often the wall void of a home, which is the space between the outside and inside walls. Once they are in, the only decision to make is on which side of the insulation to hibernate. Smart ones choose the side between the insulation and indoor wall. Dumb ones end up as a pile of formerly living things on the sill plate.

When any of these insects are indoors, they do not eat or cause damage. The damage occurs when the human that finds them crushes, smashes or creams them into the upholstery or lamp shades. These are stains that do not come out in most cases. The moral of this story is to pay attention to what the insect is sitting on before eliminating it with extreme prejudice.

Here are six possibilities of who may be knocking on your door or wandering aimlessly on your rug. The insects listed below are in order by how common they are based on several decades of phone calls from distressed people to [MSU Extension](#) experts.

Meet 'em

Boxelder bug (*Leptocoris trivittatus*). In an area that has boxelder trees, these guys would be a very common fall find. The young boxelder bugs are smaller and red in color and cannot survive the winter.

Western conifer seed bug (*Leptoglossus occidentalis*). They will be associated with evergreens large enough to have cones. Their shape resembles a squash bug or stink bug. People often mistake them for brown marmorated stink bug.

Multi-colored Asian lady beetle (*Harmonia axyridis*). This imported lady beetle produces an unpleasant smell when stressed. It may give skin a little pinch when it is handled, but it cannot break the skin.



Boxelder bugs.



Western conifer seed bug.



Multi-colored Asian lady beetles.

Come see MSU Extension at your local show or conference

- Northern Climates Conference, Houghton
- West Michigan Home and Garden Show, Grand Rapids
- Escanaba Noon Kiwanis Home and Garden Show, Escanaba
- Cottage and Lakefront Living Show, Novi
- Lansing Home and Garden Show, East Lansing

Watch the [Gardening in Michigan](#) website for dates to these shows.

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Cluster fly (*Pollena rudis*). In some areas, this large fly is a problem. Usually, they are seen in the winter when the sun warms the south or west side and they emerge from a wall void and slowly shuffle around.

Brown marmorated stink bug (*Halyomorpha halys*). Depending on your location in Michigan, you may see this insect or not. When smashed, this insect lives up to the last part of its name. Brown marmorated stink bug is relatively new to Michigan.

Elm leaf beetle (*Pyrrhalta luteola*). Periodically, areas that have a number of elm trees with leaves eaten or skeletonized during the summer may meet this beetle. It's more likely the beetles will go to an attic area instead of the living area to doze away the winter.

Defeat 'em

The key to not having unwanted guests is to do some late summer home inspection right about now. You are looking for cracks and crevices that an insect could slip through. That crack does not have to be any wider than the thickness of a credit card. If time is limited, start with the two sides of the house that are the warmest: the south and west sides where many insects hang out. Caulk cracks around windows and doors. Check around anything that is cut into the exterior of the house like a dryer vent, gas line or light fixtures that do not have a bead of caulk surrounding them. Check or repair door sweeps. Vinyl and aluminum siding offer many places for insects to slip under and this is not easy to fix. Pesticides are often not very effective, so try the home tweaking first.



Whitney Cranshaw, Col. St. Univ., Bugwood.org

Cluster fly.



Susan Ellis, Bugwood.org

Brown marmorated stink bug.



William M. Ciesla, Forest Health Mgmt. Intl., Bugwood.org

Elm leaf beetle.

Looking for more?

For more information on a wide variety of **smart gardening** topics, or to find out about smart gardening classes and events, visit www.migarden.msu.edu.

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