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What's the Buzz?

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Outstanding Pollinator Gardens

By Linda and Rich Silverman, Penn State Master Gardeners

Our 9th 'Garden of Merit' is awarded to Jossel and Richard Fears of Red Lion, PA. Overwhelmingly beautiful are words we would use to describe her property.

Describe in detail your garden/garden—size and type?
We live on twelve acres and garden about 8 acres. Eighty percent of our plants are native. Some areas are sunny and dry, others are sunny and moist. There is a little section of wetland. We love the native garden which is situated parallel to a creek that gives a natural source of water.

How old is your garden and how long have you been at this site? What was it like before?
We moved onto the property eight years ago and started gardening the same year. It was dominated by invasives, the ground was in benign neglect, the soil structure was highly disturbed from farming and tilling and the whole property was wide open.

How many species of plants do you have?
Approximately 300, which is a modest estimation.

What kind of pollinators do you attract and what have you done to increase pollinator diversity?

The garden attracts all kinds of pollinators such as bees, wasps, flies, beetles, etc. We also have a large population of lepidoptera (butterflies) due to several species of native host plants for larva. By providing more plant diversity, choosing straight species, planting plants that have higher wildlife value, and avoiding the use of chemicals, we have succeeded in increasing pollinators.

How did you get into gardening? How did you get into natives?
I like to believe that I was born to garden. I have been digging in the ground as far as I can remember. I prefer to grow natives because I always preferred gardening with a purpose, either growing food or growing plants to feed animals or planting to prevent soil erosion. Now I am passionate about sustainability, being aware of some of the many issues our environment is facing—in particular, conservation through native gardening. I feel I am contributing something to help build a healthy soil environment to support the food web. Being a part of our ecosystem is how I show my gratitude to nature and where I find my inspiration.

What are your future plans to increase pollinators in the garden?
Every year there has been an increase in the number of pollinators, especially bees and beneficial insects. In fact, my neighbors also notice the growing population and are always telling us that "growing natives works well".

Any suggestions for those who are interested in helping pollinators?
We are going to keep planting more native plants, adding diversity and continue to practice organic gardening. Always choose natives. You can put them in your garden or plant them in containers. As gardeners, we can contribute towards sustainability and a healthy environment.

Jossel and Richard also showed us their organic vegetable garden. Outstanding, with pollinators everywhere. Rich and I were lucky enough to take home some samples of interesting fruits and vegetables. No wonder Jossel was awarded the 9th 'Garden of Merit'.

OUTSTANDING POLLINATOR PLANTS

Eryngium yuccifolium (rattlesnake master)

Family: Asteraceae

By Eudora Roseman, Penn State Master Gardener, Lancaster County

Eryngium yuccifolium—rattlesnake master

Eryngium yuccifolium is not your usual looking native pollinator plant. Looking a bit like something that belongs in one of the western desert regions, rattlesnake master is naturally found in a tall grass prairie setting in states east of the Mississippi River. Although considered native in some of Pennsylvania's neighbors like New Jersey, Maryland and Ohio it is not naturally found in Pennsylvania nor in New England, but is found in almost every other Eastern and Central U.S. state.

Botanically named *Eryngium yuccifolium,* it is easy to see why it received such genus and species names. The *Eryngium* genus name comes from the Greek and refers to the plant's spiny nature. The *yuccifolium* species name refers to its yucca-like leaves which give it its desert plant look. The common name rattlesnake master reflects on the plant's relationship with its North American Indian neighbors. Some Indian groups were known to make a brew by boiling the plant's roots as an antidote to rattlesnake venom. Some tribes would also use the dried flower stalks as ceremonial rattles. Other common names in use are button eryngo, button snakeroot, yucca-leaf eryngo, rattlesnake flag, and rattlesnake weed.

Pollinators visiting *Eryngium yuccifolium* blossom

Rattlesnake master is a perennial herb in the parsley/carrot Apiaceae Family. The plant is formed with alternate, long and narrow, up to 3 foot long, blue-green leaves with a sharp tip. Along the leaf margins there are widely scattered stiff spines. The color appearance of the flower balls is greenish white with a honey-like fragrance. In the wild the plants generally do not flower until the third growing season. In cultivation they more often begin blooming in the second season. Bloom time generally runs between May and August.

Eryngium yuccifolium –rattlesnake master (cont)

The thick, tall, flower branch holding the flower balls can generally support itself. Growing in a prairie environment in nature, it would be growing in combination with other similarly tall plants to offer additional support. In a cultivated garden it would be good to plant an array of these plants together to help create the support of a natural setting. It is especially important, too, that the garden be in full sun and the soil not be overly fertilized. Not enough sun and too fertile soil contribute to aggressive growth not strong enough to support the stalk and possible collapse.

Eryngium yuccifolium is an easy plant to grow. Propagation is most commonly accomplished by seed. Its seed production rating is often as high as 90 %. Saved seed should be cold stratified at 40 degrees for two months before planting in the spring. Mature plants can be divided and replanted in late Spring or Fall.

Eryngium yuccifolium is not too fussy about soil types. It is tolerant of clay soils, dry soil, even shallow rocky soil. It will grow in moist to dry conditions, but good drainage helps. Its water use is medium but it can also withstand drought conditions. Full sun and low fertility are musts. Its tough leaves are prepared to fend off most leaf diseases and herbivores avoid them for meals. It is the larval host for the rattlesnake master borer moth (*Papaipema eryngii).*

Lastly some thoughts about its pollinator rating. We have had this plant in our Bees, Bugs and Blooms Trial Garden at SEARC from the very beginning. In our first years when we monitored all the plants it ranked 3rd in our Top 10 Plants for Total Pollinator Visits List. Insects visit it for both pollen and nectar. It is a very valuable plant for bees (short and long tonged varieties), wasps, flies, butterflies, skippers, moths, beetles and other plant insects. Although we have not continued to monitor this specific plant in some of our more recent trials we always notice major activity there when blooming.

So, if you have not yet begun to grow this plant in your pollinator garden, give it a try!

Eyrngium yuccifolium in the formal garden at Mt. Cuba

MOVING?

If you have a certified Pollinator friendly garden and are moving, please take your sign with you and send a note to PAPollinatorCert@psu.edu to let us know you have moved. The new owner of your property will need to recertify. When the gardens at your new address are ready, send us a new application and mention that you that you have moved. We can certify your new garden and waive the application fee.

PROTECTING POLLINATORS:
Avoiding Invasives

Japanese knotweed

(Fallopia japonica, syn. Polygonum cuspidatum)

Hikers who frequent trails on any streams in Pennsylvania will find this plant an unwelcome sight. Originally from Asia, Japanese knotweed was introduced to North America in the 1880's as an ornamental. Today, it has escaped and has proliferated in natural areas in much of the United States and Canada. It is most troublesome along streams where it forms tall, dense thickets and crowds out most native vegetation. Since little grows under Japanese knotweed, the ground becomes subject to erosion. Anyone in central Pennsylvania who uses the Susquehanna River trail has seen first handwhat this plant can do to biodiversity.

You can easily identify Japanese knotweed by the large heart-shaped leaves, bamboo-like stems and the purple splotches along the stem. It is sometimes known as fleecevine, named for the small whitish flowers that cover the stems in late summer.

Japanese knotweed spreads through its root system. Underground, horizontal roots, called rhizomes are easily disturbed. If they are split, each piece is capable of producing a fully functional plant. So knotweed can quickly makes its way through a landscape, as you can see in this picture.

If you have this plant on your land, please take steps to remove it. You can find management information on the Penn State Extension website: https://extension.psu.edu/japanese-knotweed

Pollinator Friendly Garden Certification: Frequently asked questions

I know that you need a diversity of plants in a pollinator garden. But how many plants of each type should I plant?

Pollinators need many blossoms of the same species of plant and are more likely to be attracted to gardens that provide large drifts of different kinds of plants. Bees also often show a preference to visit flowers of just one species during a foraging trip. This floral constancy is beneficial to the plants they visit because it assures pollination.
If you only have one plant of each kind, pollinators may skip your yard in favor of one with multiple blooms.

Pollinator friendly plants at Mt Cuba arranged in large groups or drifts attract many pollinators

Some resources suggest planting a minimum of 5 of each species. If you have limited space, plant at least 3 of each species to assure that pollinators have an adequate food source. Plant these in groups to create that large splash of color.

When planting, don't be afraid to place perennial flowers close together. Placing most plants 10 to 12 inches apart will allow the plants to grow together and prevent weeds from invading.

Liatris spicata planted 10 inches apart

Planted close together, these *Liatris spicata* are attractive to visiting pollinators