PennState Extension

The Buzz

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Outstanding Pollinator Gardens

By Linda and Rich Silverman, Penn State Master Gardeners

Our fifth 'Garden of Merit' is awarded to the gardens of Eli Glick who lives in Montgomery County on a little over one and a quarter acres. In the past twenty years, he has converted more and more turf grass into gardening space. The property has a bit of everything except moist wet soils. He has some large mature trees with plenty of shade and open areas with lots of sun. The house was built in 1996 and Eli has been gardening ever since. "Things are always changing". He grew up in rural southern New Jersey and always enjoyed his duties taking care of the exterior of the house.

Eli answered the following questions about his gardens:

1. *How many species of plants do you have?*
I have many species of plants including trees, shrubs, and perennials. Eighty-five percent of my garden is native with the rest being specimen trees and nonaggressive non-native plants that bloom
or provide cover for wildlife.

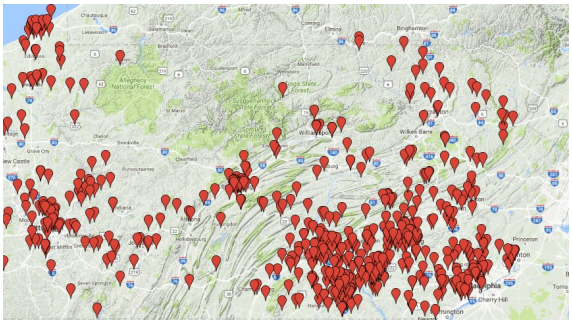
2. *What kind of pollinators do you attract and what have you done to increase your pollinator diversity?*
We see all kinds of pollinators here from bees to butterflies, moths, birds, and bats. I also raise honeybees. I keep planting things and provide cover for all to thrive.

Gardens of Merit (continued)

3. *How did you get into natives?*
I guess I got into natives by first starting with getting rid of some of the more aggressive invasive plants on my property. In the first year, I removed all the Norway Maples and then started to replant with mostly native trees.

4. *What are your future plans to increase pollinators in your garden?*
I still have some turf grass left so there is always room for more. I am also going to plant a small grove of persimmon trees which are a pollinator favorite. My garden has continued to thrive and attract many insects and birds.

After visiting Eli's gardens, you can see why he was given the 5th 'Gardens of Merit' award for helping to increase our declining pollinator population.



Did you know? As of November 1, 2017 there are currently 733 Penn State Master Gardener Certified Pollinator Friendly Gardens in 57 counties in Pennsylvania.
Check out the pollinator map at http://ento.psu.edu/pollinators/public-outreach/cert

MOVING?

If you have a certified Pollinator friendly garden and are moving, please take your sign with you and send a note to PAPollinator@gmail.com 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 you and waive the application fee.

Join the Million Pollinator Challenge

We encourage everyone who has a Penn State Master Gardener Certified Pollinator Friendly Garden to take a minute and register your garden with the Million Pollinator Challenge sponsored by the National Pollinator Garden Network.
Learn more at http://millionpollinatorgardens.org/

News from the Center for Pollinator Research

Agriculture Department, Penn State Researchers Seek Public Input on State Pollinator Protection Plan

Public comment period ends December 15, 2017

Harrisburg, PA – Farmers, gardeners and other Pennsylvanians concerned about the health of pollinators given their critically important role growing and producing food now have the chance to comment on a draft of the state's proposed Pollinator Protection Plan. The plan, developed by the Pennsylvania Department of Agriculture and Center for Pollinator Research at Penn State University is designed to protect bees and other insects that pollinate nearly 75 percent of the commonwealth's food crops.

"The Pennsylvania Pollinator Protection Plan is a living document that will change over time as researchers and interested citizens share personal experience and best practices when it comes to protecting and expanding pollinator populations," said state Agriculture Secretary Russell Redding. "Pennsylvania is blessed with rich soils and a favorable climate that allow us to produce a variety of agricultural products, but we need bees, flies and butterflies to pollinate three quarters of our food crops."

The department and the Center for Pollinator Research developed the protection plan after the U.S. Environmental Protection Agency directed state agencies to develop pollinator protection plans to mitigate risk to honey bees and other pollinators. Pollinator populations have been on the decline in recent years due to a number of threats. According to Penn State, beekeepers reported a 52 percent loss in their colonies during the winter of 2016-2017. Additionally, 51 species of butterflies, 111 species of moths, and 3 species of bumble bees are considered to be at risk.

Each state is required to submit its own plan to EPA that provides technical advice to homeowners, beekeepers, farmers, non-agricultural landowners, businesses, organizations, government agencies, and the general public on how to improve and increase areas where bees and other pollinators can live safely, eat well, and thrive. Agriculture relies on pollinators for human health and economic stability. Researchers at the University of Pittsburgh and Penn State determined that Pennsylvania growers gain more than $250 million in fruit and vegetable production due to increased yield as a result of pollination from insects, and an additional $9 million in value from crops where pollination produces seeds.

"Pennsylvania is the nation's fourth largest producer of apples, thanks in part to the work of about 235 species of bees found in our fruit orchards. It's easy to see the value of preserving and protecting the diversity of our pollinators," Redding continued. "Our apple harvest averages more than $124 million annually, so this plan is an integral part of maintaining our agricultural and economic viability in this and other fruit, vegetables and seed industries."

"Many of our favorite foods depend on bees, flies and others to transfer pollen between plants. They are critical to the success of our food supply," said Dr. Christina M. Grozinger, director of Penn State's Center for Pollinator Research. "If you enjoy strawberries, raspberries, cherries, plums, peaches or pears, you can thank these pollinators."

Grozinger encourages Pennsylvanians to review the first four chapters of the plan: "Introduction," "Best Practices for Forage and Habitat," "Best Practices for Pesticide Use," and "Best Practices for Beekeepers." The plan is available for review online at ento.psu.edu/pollinators.

After the comment period ends on December 15, 2017, the Pennsylvania Pollinator Plan's task force and advisory board will compile the public comments to create the fifth chapter, "Recommendations for Research, Education and Policy."

The plan was developed with input from 36 individuals representing 28 state and national organizations and stakeholder groups.

"I am very pleased with the final plan, which provides an outstanding framework for pollinator conservation and health in Pennsylvania and beyond," Grozinger added. "Members of the task force and advisory board have forged valuable partnerships, and our communities and our ability to feed a hungry world will be stronger for their efforts."

Learn more about the Pennsylvania Department of Agriculture's work to support the agriculture Industry at agriculture.pa.gov.

PROTECTING POLLINATORS: Avoiding Invasives

By Connie Schmotzer, Penn State Extension, York

Autumn Olive ***Elaeganus umbellata***

Russian Olive ***Elaeganus angustifolia***

Both Autumn and Russian olive are a fairly common site throughout much of Pennsylvania. Originally from Eurasia, they were introduced as ornamentals in the early 1800's. In the 1900's conservation organizations encouraged their use in soil erosion projects and wildlife plantings. Drought tolerant and able to survive in a wide variety of soil conditions, they quickly displaced native plants in fields and open woodlands.

Once established autumn and Russian olive create dense shade and interfere with natural plant succession. Their ability to fix nitrogen changes the soils they grow in and often makes it unsuitable for native plants that depend on infertile soils.

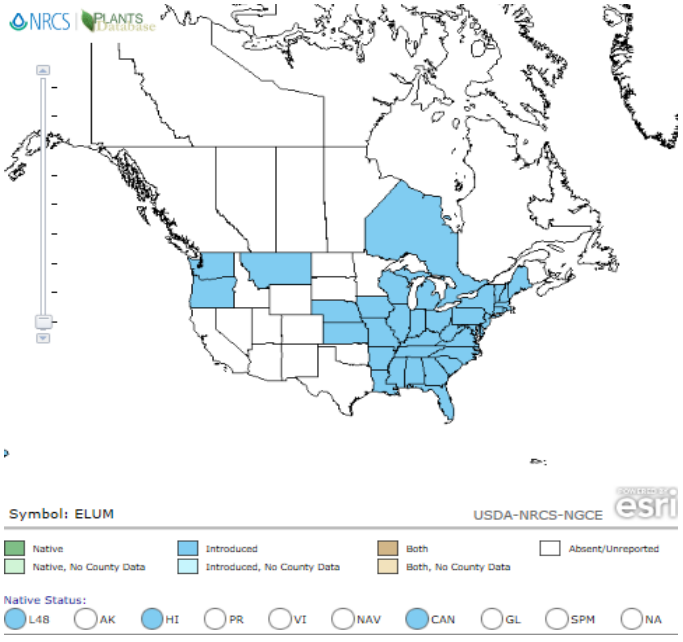
These plants are spread mostly by birds that readily eat the plentiful berries (each plant can produce up to 200,000 berries). The fruits, however, are very low in nutrients and don't provide migrating birds with the fat they need for their long journey.

Identification of "the olives" is pretty simple. Their stems, buds and leaves have a dense covering of silvery scales. Flowers appear in June and July and fruits are produced in August through October. They can grow to a height of about 20 ft.

Gardeners should avoid planting autumn and Russian olive. If they are already present on your property, small seedlings can be pulled by hand or with a weed wrench. To remove larger plants you may need the help of an herbicide. A good technique is cutting the stems and immediately painting the open cut with herbicide. It may be necessary to do this several times during the season.

Autumn olive invading Bald Eagle State Park

There are many outstanding plants to consider instead of Russian or autumn olive. If berries for migrating birds is your objective, try our native shrub dogwoods, silky (*Cornus amomum*), gray, (*Cornus racemosa),* or red twig (*Cornus sericea).* Winterberry holly (*Ilex verticillata)* is a great shrub to brighten up our yards in mid-winter while providing food for our resident birds.



USDA Map showing states where autumn olive is invasive

OUTSTANDING POLLINATOR PLANTS

From Bees, Bugs and Blooms

Each issue we will highlight plants from our trial at the Southeast Research and Extension Center — Bees, Bugs, & Blooms. From 2012 to 2014, 84 plants and some of their cultivars were monitored for their attractiveness to a wide variety of pollinators. The results are on our Pollinator Friendly Garden Certification website. Go to http://ento.psu.edu/pollinators/public-outreach/cert and click on Step 1 – Provide Food. On that page you will find a list of links. The first one, Bees, Bugs Blooms, contains our results. Check it out!

Asters—Feeding pollinators in the fall

We generally think of fall as a time to close up gardens and head inside for the winter. But many pollinators, both bees and butterflies, are still actively foraging for nectar at this time, sometimes even into December. While many plants have completed their bloom by this time, asters are just getting started, ready to provide nutrition for pollinators. Along with goldenrods, asters provide food for pollinators at a time when most other plants have shut down.

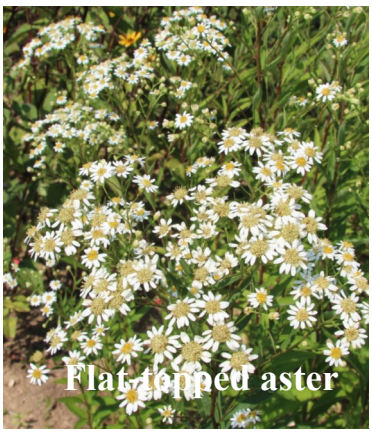
We had many asters in our Bees, Bugs and Blooms trial and just about all of them proved attractive to pollinators. Here are several that were particularly outstanding:

Smooth aster 'Bluebird' (*Symphyotrichum laeve* 'Bluebird')
This introduction from Mt. Cuba is a beautiful addition to any garden. In our trial it was among the top performers for attracting a diversity of insects. It was also in the top ten for attracting the most bee and syrphid visitors (a total of 22 different bees and syrphids visited the plots). A heavy bloomer, it provides pollinators with lots of pollen and nectar.

Flat-topped aster *(Doellingeria umbellata)*
Ranking among the best plants for attracting a diversity of pollinators, this aster is also the host plant for the Pearl Crescent and Silvery Checkerspot butterflies. This aster bloomed earlier than others, starting in early July and ending early August.

Aromatic aster 'October Skies' *(Symphyotrichum oblongifolium* 'October Skies')
This compact aster has a bush-like form and adds structure to the perennial garden. It outperformed the straight species and 'Raydon's Favorite' in attracting a diversity of insects. Blooming later than most asters, it is usually covered with bumblebees and variety of small butterflies.

New England aster *(Symphyotrichum novae-angliae)*
An old favorite with gardeners, we found that it is also a favorite with pollinators.
Its cultivar, 'Purple Dome', however, was not a favorite and was passed by for the straight species, which attracted over 5 times as many pollinators.


Flat-topped aster


Smooth Aster 'Bluebird'


Aster 'October Skies'