



Connecting people, science, and nature for a healthy Delaware River and Bay

Perennial Pages

Gardens for Clean Water: A Seasonal
Newsletter for Habitat Owners and Caretakers



*Pickerelweed (Pontederia cordata) with a bumblebee, Croydon, Pennsylvania
(Photo: Sarah Bouboulis)*

Summer Blooms

Now that summer is upon us, hopefully your gardens have begun to fill in and you are beginning to enjoy the fruits of your labor, along with the insects and other critters that may enjoy it as much as you. Watching bees fly from flower to flower, or hummingbirds sipping nectar brings a smile to almost anyone's face, but perhaps the biggest smile belongs to those who planted those plants in the first place! Please enjoy this issue of Perennial Pages. This issue features a special section on cultivars, what they are, and how to use them in your garden.



Black Swallowtail Caterpillar (Papilio polyxenes) feeding on Golden Alexander (Zizia aurea), Newark, Delaware. (Photo: Sarah Bouboulis)

Time for Action: Summer 2022

Summer can be so hot (and buggy) sometimes that no one wants to be outside to take care of the garden. However, if you've kept up with things in spring, you may be able to take a summer break. If you do find yourself outside, here are few things to keep any eye on and some tips for making the most of your time in the garden this summer.

- **Don't** water established plantings. Native plants are able to thrive under our normal climatic conditions. If your plants look like they need a drink, go ahead and water them, but for the most part, even a severe drought is unlikely to kill established native plants.
- **Do** water anything you recently planted in the spring or summer. It's best to baby any new plants to help them get established.
- **Do** most of your garden work in the early morning or evening hours. Working at "off" hours can also be a treat, and maybe you'll even notice some things you've never seen before, like night time pollinators.
- **Do** your weeding after it rains. The rain loosens the soil, making it easier to pull weeds.
- **Do** take some time to enjoy all your hard work. Smell the flowers, watch for fireflies, and get some fresh air!



CULTIVAR TRAITS THAT **DO** IMPACT INSECT USE

FLOWERS

Cultivars that create **larger flowers** or **double flowers** usually reduce or remove nectar or pollen.

This can destroy the relationship between specialized bees and their particular flower*.



CULTIVAR TRAITS THAT **DON'T** IMPACT INSECT USE

1. Variagation*
2. Making plants more compact
3. Introducing disease resistance
4. Enhancing fall color
5. Increasing berry size

*Variagation reduces nutritional value, which may affect insect health...more study needs to be done.



CULTIVAR TRAITS THAT **DO** IMPACT INSECT USE

LEAVES

Cultivars that take a **green leaf** and make it **red or purple** discourage insect use.



Black Swallowtail Caterpillar (Papilio polyxenes) feeding on Golden Alexander (Zizia aurea). Newark, Delaware . (Photo: Sarah Bouboulis)

Using Cultivars in your Home Garden

Cultivars are plants with specific characteristics that have been selected and propagated by humans for sale within the nursery industry. The characteristics are usually desirable for a garden setting. They can be selected for anything from leaf color, to disease resistance, to flower structure.

So, how do we get these modified plants? Every plant species has a scientific name, for example, in the photo above, we have "Coral Honeysuckle, *Lonicera sempervirens*", which is considered a "straight species" as it was likely grown from seed and not bred for any specific characteristics. There is a popular cultivar of this plant, which you may find for sale and will be labelled as "Coral Honeysuckle, *Lonicera sempervirens*, Major Wheeler."

The additional name, "Major Wheeler" after the scientific name, indicates the plant is a cultivar. There are other cultivars of this particular plant as well. In this instance, the Major Wheeler cultivar was found naturally growing in North Carolina, and was brought into the nursery trade to be propagated due to its resistance to powdery mildew and its abundant bright red blooms.

Some other plant cultivars may have been specifically bred via selective breeding, or sometimes via hybridization with related species. It is often difficult to research the origins of many cultivars.

So, should you care about using cultivars in your ecological garden? Currently, research on cultivars and their impact on wildlife is limited. But so far, what we do know is that flower structure and leaf color may have negative impacts on the insects and other wildlife that usually benefit from the resources of that plant. For example, by creating a purple leaf instead of green, insects may no longer feed on that plant and in an ecological garden, we want to provide food! Many "double bloom" or other flower structure cultivars may limit access to the nectar or seed for insects and birds. See the infographic above from [Homegrown National Parks](#) for more information on the pros & cons of various cultivar selections. Delaware's Mt. Cuba Center has been studying cultivars for both overall plant health and pollinator use. They put out great [reports that you can find on their website](#).

Another potential downfall of cultivars is that they are exact clones of each other. So if you are planting many of a single cultivar your garden plant population may be more vulnerable to certain diseases and environmental stressors, like excessive heat or rain. This also limits genetic variation to nearby wild populations. Genetic variation is what helps plant populations adapt to things like climate change. Even though many cultivars are naturally occurring, they are generally not ubiquitous throughout a population, they are, in fact, rather rare.

So what can you do to best support the local ecology with your plantings?

- Ask for the **straight species** of plants. If you don't see any at the nursery, ask for them. The more people that ask, the more likely they will start to carry them.
- If your only options are cultivars, choose those that are not known to impact wildlife. **Avoid changes to leaf color and flower structure.** Changes in size and disease resistance can be less problematic for pollinators.
- Plant several different cultivars (along with straight species when you can find it) to boost your **genetic variability** and ensure your garden thrives.
- Try **local plant exchanges** (rather than nurseries) to get more variety in your plants. It can be a surprise every time!

A little education and research can go a long way when it comes to cultivars. We can only do our best with the information we have. Happy planting!



Cardinal flower (*Lobelia cardinalis*), Newark, Delaware (Photo: Sarah Bouboulis)



Japanese Knotweed, (*Fallopia japonica*), (Photo: Zachary Simek).

What's "Up"?

Seasonal Plant Identification

Although it can be a little tricky to keep around, Cardinal flower (*Lobelia cardinalis*) can be a lovely addition to many gardens. It prefers moist soils and can be found in wetlands in nature, but will often tolerate moist soils in a more typical garden situation. The bright red blooms attract hummingbirds and other pollinators as well. They grow from a basal rosette and the flower spikes can reach 6ft tall. It is called cardinal flower because its red color matches that of the Catholic cardinals and the common song bird. This is a great addition to any rain garden! The late summer color can really add an impact to your garden, and wildlife value is superb.

Space Invaders

Invasive Species Spotlight

Japanese knotweed or Itadori (*Fallopia japonica*) is an invasive perennial that grows very quickly and is found in 36 of the US states. Originally introduced as an ornamental plant, it has since taken over many natural areas and home gardens. It can grow from very small sections/cuttings. It prefers streambanks and wet areas, and can quickly take them over. Along with that growth, it quickly outcompetes nearly everything else, including native species. It is EXTREMELY difficult to get rid of due to its ability to grow from such small pieces of plant. Best course of action is to avoid planting all together! Rhizomes (roots) must be dug up year after year to avoid recolonization. Some research is being done into biological controls.

PDE News



Save the Date

The Delaware River Festival, is back again Sept. 24 at Penn's Landing in Philadelphia and Wiggins Park in Camden, New Jersey. Prepare to have a great time on the water!

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