

## A Garden for Butterflies: Creating a Butterfly Garden in the Northeast

A butterfly garden is a magical place. By creating an inviting habitat for butterflies, you will also be creating a place to encourage a sense of wonder and a connection with the natural world. A butterfly garden provides a colorful array of nectar-producing flowers to support adult butterflies, hummingbirds, bees, and other pollinators. It also provides the plant nursery where caterpillars that grow into adult butterflies will flourish. With a little bit of hard work, you can transform a small part of your yard into a butterfly oasis where you can learn all about the life cycle of a butterfly, explore the intricate relationships of plants and animals, and provide a place where both you and wildlife will flourish.

### The Importance of Native Plants

Native plants are extremely important and help us create a diverse community of wildlife right in our yards! Wildlife that live around you are adapted to, and dependent on, the naturally occurring plants that belong in your area, which is why everyone should have native plants in their gardens! Non-natives might be used as nectar plants, but the anatomy of the native pollinators in your area have adapted to native plants. Because native plants have adapted to your area over many years, this also means that they are low maintenance and require little care. They allow you to conserve water needed to keep them alive because they are already adapted to the area.



*A monarch in a butterfly garden*

### Talking Weeds

Believe it or not, pollinator plants grow right in your lawn. Most things that we consider weeds are actually a great source of food for pollinators. A plant is only a weed if it grows in an area where you do not want it, and often times people call the little flowers that grow in their lawns “weeds”, but really, these little flowers are so important to pollinators.

Many times, people use pesticides on their lawns to keep the weeds away, but these chemicals don't discriminate and can lead to the destruction of the biodiverse community we are trying to create. It is very important to avoid pesticides including insecticides, herbicides, larvicides, and fungicides because these chemicals are detrimental to pollinator populations including butterflies, beetles, bees, and flies.



*A black swallowtail using a dandelion*

### Host Plant vs. Nectar Plant

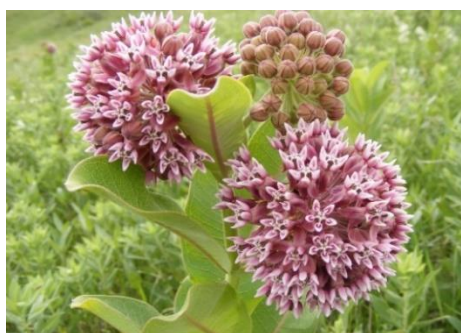
Butterflies utilize two types of plants. The first type is a **host plant**. This is a plant that a species uses to maintain and support itself, including for shelter, protection, egg laying, and caterpillar food. A host plant can be a weed, a native flower, or even a native tree! Oaks, hackberries, tulip poplars, cherries, and magnolias are all examples of trees that butterflies use as host plants. If you have the space, plant some host trees in your yard to house and feed butterflies; this also creates shelter for many other animals.

The second type is a **nectar plant**. This is a plant that a butterfly uses as a food source for nectar. It is important to have both host plants and nectar plants in a butterfly garden so you can provide shelter and food for different caterpillars and butterflies.

Host plants are more specific to each individual butterfly, some species only have a few host plants that their caterpillars can eat. For example, monarch butterflies only lay their eggs on milkweed plants and the caterpillars only feed from milkweed leaves, so if you want to see the full life cycle of a monarch butterfly and provide food and shelter for every stage of its life, you would have to plant milkweed. Butterflies are a little less picky about nectar plants and can use many different shaped, sized, and colored flowers, which allows for a diverse array of food for them and a beautiful garden for you!

### Native Wildflowers as Host Plants

Example: Monarchs use **milkweed** as their host plant. This includes common milkweed, swamp milkweed, and butterfly weed.



Common milkweed



Monarch caterpillar



Monarch butterfly

### Edible Plants as Host Plants

Example: Swallowtails use plants in the **carrot family** as their hosts. These include carrot, parsley, celery, cilantro, and dill.



Parsley



Black swallowtail caterpillar



Black swallowtail butterfly

Example: The cabbage white butterfly uses plants in the (you guessed it) **cabbage family**. This includes cabbage, broccoli, cauliflower, mustards, radish, and turnip.



Broccoli



Cabbage white caterpillar



Cabbage white butterfly

### Activity 1: Use Your Senses!

As seen above, swallowtails use the carrot family and cabbage whites use the cabbage family. Gather some different plants from each family and compare them to each other using your senses.

For example, parsley, celery, cilantro, and dill are all in the carrot family. Get some of each plant, whether from your garden, the supermarket, or a local farm, so you can look, feel, smell, and taste each one and compare and contrast them.

### Lawn “Weeds” as Host Plants

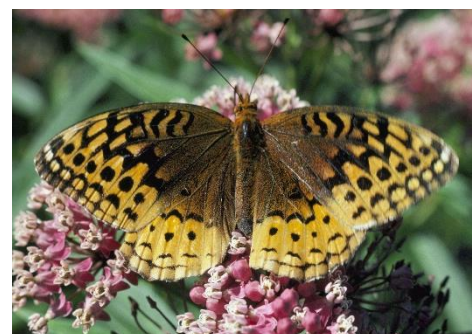
Example: Fritillaries use native **violets** as their host plant. That includes the very important ones that are probably growing in between the blades of grass in your lawn!



Violet



Great spangled fritillary caterpillar



Great spangled fritillary butterfly

Example: One of the buckeye's host plants is **plantain**, which is a common weed that can be found in your lawn. Other hosts plants include blue toadflax, false foxglove, and cudweed.



Broadleaf plantain



Common buckeye caterpillar



Common buckeye butterfly

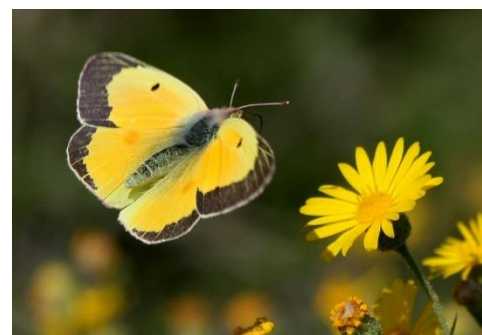
Example: Sulfurs use **clovers** as their host plants which are very commonly found popping up wherever they can!



White clover



Orange sulfur caterpillar



Orange sulfur butterfly

## Activity 2: Lawn Weeds Scavenger Hunt

Take an adventure out to your lawn or a nearby grassy field and count the different kinds of “weeds” you can find growing in between the grass! What colors did you see? Were the flowers all different shapes? Did you see any violets, plantain, or clover? If you did, keep an eye out for fritillaries, buckeyes, and sulfurs.

### Vocabulary

**Host Plant** – A plant that a species uses to maintain and support itself, including for shelter, protection, egg laying, and caterpillar food.

**Nectar Plant** – A plant that a butterfly uses as a food source for nectar.

**Activity 3: True or False**

Identify whether the statement is true or false

A host plant is used for nectar. \_\_\_\_\_

A nectar plant is used for shelter. \_\_\_\_\_

A butterfly can use common weeds as a host plant. \_\_\_\_\_

A butterfly only has one nectar plant. \_\_\_\_\_

Native plants are essential for creating a diverse community of wildlife. \_\_\_\_\_

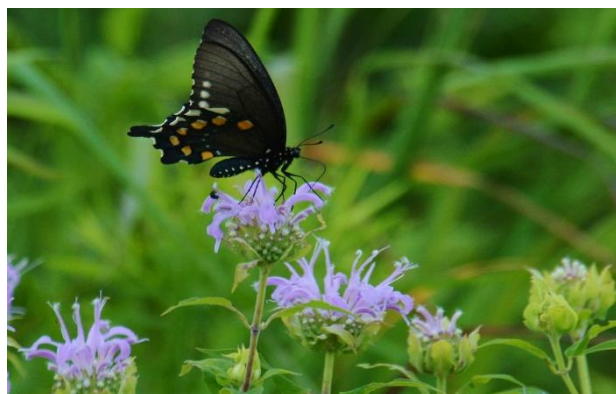
Pesticides and other chemicals can destroy populations of butterflies. \_\_\_\_\_

Some butterflies lay their eggs on trees. \_\_\_\_\_

## Flowers as Nectar Plants



Monarch butterfly using swamp milkweed as a nectar plant



Black swallowtail using bergamot or bee balm as a nectar plant



Cabbage white butterfly using zinnia as a nectar plant



Great spangled fritillary butterfly using echinacea or purple cone flower as a nectar plant



Common buckeye butterfly using goldenrod as a nectar plant



Sulfur butterfly using a black-eyed Susan as a nectar plant

**Activity 4:** Create a Butterfly Garden (for beginners)

Use the following information on how to build a butterfly garden to build one in your yard! Remember to take pictures throughout the process and send them to Duke Farms!

**Objective:** Create a diverse butterfly garden at home

**Location:** Outdoors

**Season:** Plant in May or early June for summer and fall blooms

**Materials for beginner butterfly garden:**

- In-ground tilled garden space or a raised bed (about 4 ft. x 6 ft.) filled with soil and compost
- Trowels or shovels
- Nectar plants for adult butterflies (3 kinds of flowers x 3 each = 9 plants)
- Host plants for caterpillars (3 plants)



**9 Nectar Plants**

**3 Host Plants**

3 purple coneflowers  
*Echinacea*



3 black-eyed Susan  
*Rudbeckia*



3 swamp milkweed



Parsley



Dill



Fennel

## Instructions

1. Begin by finding a garden location that receives at least six to eight hours of sunlight. Ideally, your spot will be near some trees or large shrubs so the butterflies will have sheltering places at night and during bad weather. Start with a small space; 4ft. by 6 ft. is a good size for a garden plot or for a raised bed.
2. Remove all grass, weeds, and rocks from your plot and till the soil. Add composted leaves or bags of compost to the soil so it is fertile and easy to dig. If using a raised bed, fill with garden soil and compost.
3. Select nectar and host plants that grow well in your area. You need to include flowering plants that attract adult butterflies (see example plants above and in the next section) and some leafy host plants that attract egg-laying butterflies and provide food for the caterpillars. (See example plants above)

Any plant in the carrot family like carrots, fennel, dill, parsley, and Queen Anne's lace are host plants for the black swallowtail butterfly. These are easy to purchase and easy to grow. For nectar plants, it is always best to select native plants, but many herbs like mint and lavender also feed butterflies. Peruse a list of appropriate plants here.

4. When selecting plants, if you have a big garden, then choose a variety of species that bloom throughout the growing season. This will help lure the butterflies to your garden for longer periods. A mix of annual flowers like zinnias and perennial flowers like purple coneflower can offer a wide variety of blooms all season long. Start small; the example plants listed above is a good amount for beginners.
5. Plan your garden layout; group 3 of each kind of plant together. Butterflies like to fly from flower to flower when feeding so plant each kind of flower in groups of at least three.
6. Plant each plant in the soil in the bed as you planned; space them 10 to 12 inches apart.
7. If you have a lot of space in your garden then consider adding shrubs to it. Planting native flowering shrubs like buttonbush, oak leaf hydrangea, ninebark, and spicebush will also attract butterflies. Flowering shrubs also offer shelter for the butterflies as well as nectar or caterpillar food. Many butterflies lay their eggs in trees, so unless you have the right trees then some butterflies will never lay eggs in your garden. No worries, those same butterflies will come drink nectar from your flowers.
8. Provide one or two large flat rocks in the plot for the butterflies to bask in the sun and fill a shallow dish with wet sand as a place for them to "puddle" as they cannot drink from open water.
9. Water the plants deeply when you plant them and keep plants watered in between rains. Remove weeds throughout the season.
10. Now that you've built the garden, the pollinators will come. But be patient, in time your garden will be a haven not just for butterflies, but for bumblebees, ladybugs, and hummingbirds as well.

**Important: Never use pesticides! They are deadly to butterflies and other pollinators!**



## More Favorite Nectar Plants

Use these plants if you want to make a bigger garden or swap out some of the nectar plants in the example above for the ones below.



Anise hyssop



Aster



Baptisia



Bee balm



Black-eyed Susan



Cardinal flower



Coneflower



Goldenrod



Helianthus



Ironweed



Swamp milkweed



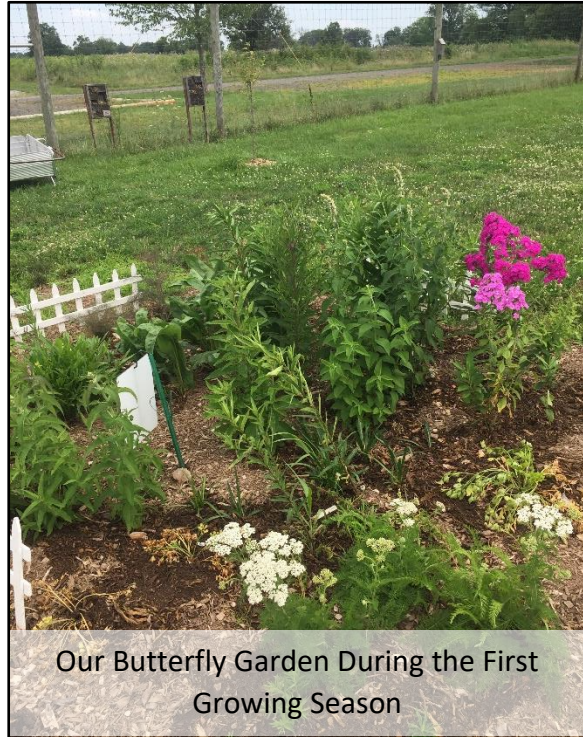
Joe pyeweed

## Creating Butterfly Gardens at Duke Farms

Photos courtesy of Joanne Vogel



Starting a Butterfly Garden Inside the Community Garden at Duke Farms



Our Butterfly Garden During the First Growing Season



Our Butterfly Garden During the Second Growing Season



Another Butterfly Garden at Duke Farms

## Answer Key

### Activity 3: True or False

Identify whether the statement is true or false

A host plant is used for nectar ... False, a nectar plant is used for nectar.

A nectar plant is used for shelter ... False, a host plant is used for shelter.

A butterfly can use common weeds as a host plant ... True.

A butterfly only has one nectar plant ... False, butterflies have a wide variety of plants that they use as nectar plants but are more limited on host plants.

Native plants are essential for creating a diverse community of wildlife ... True.

Pesticides and other chemicals can destroy populations of butterflies ... True.

Some butterflies lay their eggs on trees ... True.

## Additional Resources

There is a ton of advice on the internet on how to plant and grow a butterfly garden. Here are some wonderful resources:

- [Penn State Butterfly gardening Guide](#)
- [Penn State](#)
- [Rutgers Master Gardeners](#)
- [Xerces Society Pollinator Plant Lists](#)
- [Xerces Society Publications](#)
- [National Geographic Butterfly life cycle video](#)

## Where to Buy Butterfly Plants

Most of the plants that attract butterflies are native plants. Although many local nurseries carry butterfly garden plants, they do not always have a large selection of native plants. Here are some resources for native plants:

The [Native Plant Society of New Jersey](#) is a great resource to help you find where to buy native butterfly plants or to get more information.

[Jersey Friendly Yards](#)

[PDF of native nurseries](#)