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Extension Circular

How to Create a Pollinator Garden

By G.M. Desrochers

What is a Pollinator?

A pollinator is an animal that moves pollen from flower to flower. These animals are mostly insects but can also include small mammals and reptiles. Pollinators are necessary to create a large amount of our food and are necessary for sustaining ecosystems. Insect pollinators include beetles, bees, wasps, flies, butterflies, and moths. Many insect species have coevolved with plants, which has resulted in the need for each other for survival.

What is Pollination and Why is it Important?

Pollination is the act of moving a pollen grain from the male part of the flower (anther) to the female part (stigma). This is the first step of the reproductive process of plants, where they eventually produce seeds, fruit, and more plants. Pollination is important because it allows plants to reproduce, creating food and habitat needed for ecosystems.

What Habitat Do Pollinators Like?

Pollinators like habitats rich in food (nectar), with a wide variety of plant flower types to sustain the different species of pollinators. These habitats must also have a variety of other plants as well for nesting and protection, such as grasses, trees, and evergreens. Ensure there are flowers blooming all throughout the flowering seasons (spring-fall) to ensure the pollinators are getting food. There should also be deadwood and leaf litter left on the ground for nesting and burrowing and a source of water.

How Do I Create Pollinator Habitat?

First you must scope out the area you want to plant in. What is the soil quality? How wet does the soil get? What are the sunlight conditions? Airflow? All these factors are important to understand to ensure your plants thrive in their new home. You can create a pollinator habitat by planting lots of native plants in areas that have little plant diversity. Use mostly native plants, including a mix of perennials, shrubs, trees, grasses (not lawn grasses!) and evergreen plants. Trees give shade and cover to the garden and are also a huge habitat and food source for insects. One way of doing this is cutting out a part of your lawn and creating a garden bed. You can even create mini gardens by using raised beds or planters. Leave the leaves in these gardens too! Many insects overwinter in leaf litter, so leaving leaves allows them to survive in a safe place until they are ready to emerge. The location of your pollinator garden is also incredibly important. Insects are cold-blooded, which means that they use the temperature around them to warm their bodies. This means that most pollinating insects prefer sunny areas. Ensure that your gardens are more on the full side than patchy side, as it allows insects to stay in one area longer, therefore decreasing the amount of energy they would have to use. Refrain from using any pesticides as well. Many of the commonly used insecticides are not species-specific, which would kill off a lot of beneficial insects too.

Plants to Plant in Eastern Nebraska

The following plants vary in the numerous ecosystems in Eastern Nebraska so consider the zone number of where you are planting your pollinator habitat.

April-May Blooming Flowers

Plant Name	Bloom information
American Plum (<i>Prunus americana</i>)	Small, understory tree with lots of white blooms
American Vetch (<i>Vicia americana</i>)	Vining legume that has purple blooms. Nitrifying plant.
Arkansas Rose (<i>Rosa arkansana</i>)	Shrub with bright pink flowers
Blanketflower (<i>Gaillardia sp.</i>)	Bright blooms that can 'blanket' an area
Clasping Coneflower (<i>Dracopis amplexicaulis</i>)	Annual coneflower with bright yellow and black heads
Common Chokecherry (<i>Prunus virginiana</i>)	Large shrub that has large, dense clusters of white flowers followed by fruit ripening in the summer-fall
Daisy Fleabane (<i>Erigeron annuus</i>)	Annual with small pink-white flowers
Foxglove Beardtongue (<i>Penstemon digitalis</i>)	Tubular, white flowers that are loved by many bee and hummingbird species
Golden Currant (<i>Ribes aureum</i>)	Shrub with bright, yellow flowers
Ohio Spiderwort (<i>Tradescantia obiensis</i>)	Perennial with purple-blue flowers
Sandcherry (<i>Prunus pumila</i>)	Shrub with white-pink blooms
Scarlet Gaura (<i>Oenothera suffrutescens</i>)	Pink-white flowering perennial

June-July Blooming Flowers

Plant Name	Bloom Information
Black-eyed Susan (<i>Rudbeckia sp.</i>)	Bright yellow blooms that reseed easily
Butterfly Milkweed (<i>Asclepias tuberosa</i>)	Bright orange blooms, popular plant for butterflies
Candle Anemone (<i>Anemone cylindrica</i>)	Greenish-white flowers resembling a thimble
Entire-leaved Rosinweed (<i>Silphium integrifolium</i>)	Large, bright yellow blooms
Purple Coneflower (<i>Echinacea sp.</i>)	Purple blooms are a popular plant for a wide variety of pollinators.
Rocky Mountain Bee Plant (<i>Cleome serrulate</i>)	Annual that has an unpleasant odor but is loved by many pollinators
Showy Milkweed (<i>Asclepias speciosa</i>)	Common wildflower with bright pink blooms. Loved by many butterfly species
Western Ironweed (<i>Vernonia baldwinii</i>)	Magenta colored flowers, blooms last until frost
Whorled Milkweed (<i>Asclepias verticillata</i>)	White blooms that are loved by butterflies
Wild Bergamot (<i>Monarda fistulosa</i>)	Pink flowers that are incredibly fragrant
Hoary Vervain (<i>Verbena stricta</i>)	Pink-purple flower
Blue Vervain (<i>Verbena hastata</i>)	Purple flower that resembles a candelabra shape
Smooth Milkweed (<i>Asclepias sullivantii</i>)	Bright pink blooms that are loved by butterflies

August-October Blooming Flowers

Plant Name	Bloom Information
Aromatic Aster (<i>Symphotrichum oblongifolium</i>)	Beautiful purple blooms with a yellow center. Loved by native bees
Boneset (<i>Eupatorium perfoliatum</i>)	White flowers that are loved by all pollinator species
Cup Plant (<i>Silphium perfoliatum</i>)	Bright, yellow flowers that are loved by butterflies and bees
Hairy Golden Aster (<i>Heterotheca villosa</i>)	Mounding plant with yellow flowers
New England Aster (<i>Aster novae-angliae</i>)	Intense purple blooms that brighten the passing landscape
Roundhead Lespedeza (<i>Lespedeza capitata</i>)	Flowers resembling those in the pea family. White with a magenta center.
Stiff Goldenrod (<i>Solidago rigida</i>)	Bright yellow and large clumps of flowers that are loved by all pollinators
Upland White Aster (<i>Solidago ptarmicoides</i>)	Daisy-like flowers that carpet whole areas
Ashy Sunflower (<i>Helianthus mollis</i>)	Sunflower-like blooms with ashy-colored foliage
Compass Plant (<i>Silphium laciniatum</i>)	Sunflower-like blooms with their primary pollinator being long-tongued bees

Native Plants & Their Visitors

spring

Large Beardtongue & Eastern Carpenter Bee

Penstemon grandiflorus & *Xylocopa virginica*



A shiny, mostly black body distinguishes this bee from its cousin, the bumble bee.

Eastern Columbine & Dark Sweat Bees

Aquilegia canadensis & *Lasioglossum* sp.



This type of tiny sweat bee is able to collect pollen from these trumpet-like flowers.

Wild Cherries, Plums & Ichneumonids

Prunus sp. & *Lissonota* sp.



This beneficial wasp, which generally can't sting, visits *Prunus* flowers for nectar.

Currants, Gooseberries & Bumble Bees

Ribes sp. & *Bombus* sp.



The nectar and pollen of *Ribes* flowers attract emerging bumble bee queens.

summer

Leadplant & Small Carpenter Bees

Amorpha canescens & *Ceratina* sp.



Ceratina visit *Amorpha* for pollen as well as nectar, gleaned both protein and carbohydrates.

New Jersey Tea & Syrphid Fly

Ceanothus americanus & *Allograpta obliqua*



The second most effective pollinators on the prairie are flies, like this syrphid fly.

Bergamot Beebalm & Bee Fly

Monarda fistulosa & *Systoechus vulgaris*



Bee flies collect nectar from *Monarda* with their proboscis while hovering over the flower.

Buttonbush & Sunflower Bee

Cephalanthus occidentalis & *Svastra obliqua*



Although known for visiting sunflowers, this bee visits buttonbush for nectar.

autumn

Aromatic Aster & Blue-Green Sweat Bees

Symphoricarum oblongifolium & *Augochlorella* sp.



Asters provide valuable, late-season nectar for sweat bees.

Wichita Mountains Goldenrod & Soldier Beetle

Solidago 'Wichita Mountains' & *Podabrus flavicollis*



Beetles like this one are important pollinators, and are commonly found on goldenrod.

Dotted Blazing Star & Monarch Butterfly

Liatris punctata & *Danaus plexippus*



Monarchs only feed on nectar, but from a variety of sources including *Liatris*.

Blue Pitcher Sage & Silver Spotted Skipper

Salvia azurea & *Epagyreus clarus*



A long proboscis allows silver spotted skippers to visit this *Salvia* for nectar.

Nebraska plants & pollinators, PDF.

Websites For More Information and Plant Options:

The Wildflower Project: <https://www.wildflower.org/project/ecological-roadsides>

The Xerces Society: <https://xerces.org/>

The National Wildlife Fund: <https://www.nwf.org/NativePlantFinder/>

Works Cited

Nebraska Pheasants Forever, Pollinator Habitat Guide, PDF

Nebraska Statewide Arboretum, Nebraska plants & pollinators, PDF.

Plant database. Lady Bird Johnson Wildflower Center - The University of Texas at Austin.
(n.d.). Retrieved April 30, 2023, from
https://www.wildflower.org/plants/result.php?id_plant=RIAU