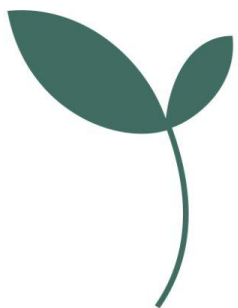


Gardening for Pollinators and Beneficial Insects

Resources for the Home Gardener



THE UNIVERSITY OF VERMONT
EXTENSION
MASTER GARDENER

Table of Contents

Click on section name

[What is a pollinator?](#)

[Meet your native Vermont pollinators](#)

[What is causing pollinator decline?](#)

[What can you do to help?](#)

[What is a beneficial insect?](#)

[Bring in the right plants](#)

[Why choose native plants?](#)

[Make your garden inviting](#)

[Working with what you have](#)

[Where to buy native Vermont plants](#)

[Helpful resources](#)

[More information](#)



What is a pollinator?

Pollinators are animals that fertilize plants by carrying pollen from one plant to another. Insects (bees, butterflies, flies, hoverflies, moths, wasps) as well as some birds and bats are pollinators.

Pollinators and other insects are crucial to the interdependent food web. We— and so many other species— literally cannot live without them.

Beyond providing food for larger animals, pollinators are integral in agriculture. One out of every three bites you eat is thanks to the efforts of pollinators. However, our native pollinators are in grave danger.



Source: Donna Thomas and Cindy Heath, Master Gardeners, "[Prestigious Pollinators](#)."

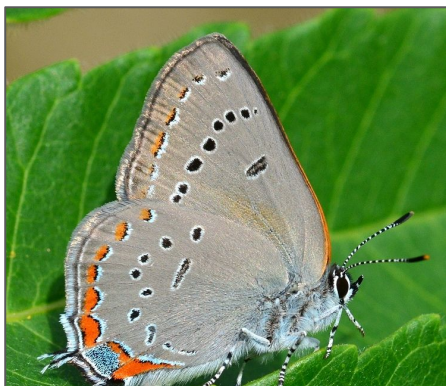
Cat Buxton, Master Composter and Margaret D Solon and Susan Still, Master Gardeners, "[Growing a Pollinator Garden](#)"

Meet your native Vermont pollinators

Hoverflies, butterflies and moths—
meet some native Vermont pollinators.



Syrphid fly



Acadian hairstreak



Hummingbird clearwing moth

The majority of pollinators in Vermont are bees. **Did you know that the honeybee is not native to the United States?** While honeybees are indeed struggling, they're not in danger of extinction. **But many of our native bees are.** Let's pay some attention to our native pollinators.



Common Eastern bumblebee



Silky striped sweat bee



Carlin's mining bee

Want more bees? [Check out this guide.](#)

Sources: Cat Buxton, Master Composter and Margaret D Solon and Susan Still, Master Gardeners, "[Growing a Pollinator Garden](#)"

Vermont Center for Ecological Studies, [Vermont Wild Bee Guide](#)

University of Minnesota Bee Lab, "[Managed Bees Impact on Native Populations](#)"

What is causing pollinator decline?

There are many factors.

Climate change: Bees are emerging from hibernation earlier, but the flowers they need haven't caught up.

Pesticides in agriculture and home gardening: Many pesticides kill everything, including pollinators.

Invasive plants: The spread of invasive plants chokes out native plants which have coevolved with pollinators.

Landscape fragmentation: Pollinator habitat is shrinking.

Light Pollution: Artificial lights can disorient moths and hinder pollination.

Parasites: On top of all of this, parasites are threatening native bees.

But you can help!

Source: Donna Thomas and Cindy Heath, Master Gardeners, "[Prestigious Pollinators](#)."

Cat Buxton, Master Composter and Margaret D Solon and Susan Still, Master Gardeners, "[Growing a Pollinator Garden](#)"



What can you do to help?

Pollinator decline feels so overwhelming, but there are some solutions that are within your control.

The best thing you can do is encourage beneficial insects and garden for pollinators!

Gardening for pollinators is an easy win for:
Your garden
The food web
Anyone who eats!



What is a beneficial insect?

Beneficial insects are insects that prey upon several garden pests such as thrips, aphids and small caterpillars.

Skip the bottle. Go for natural pest control!

Meet the Insects

The Lady Beetle

You may know this as a ladybug



The Soldier Beetle

Attract them with yellow flowers



The Syrphid Fly

The larvae consumes pests and the adult pollinates flowers



Bring in the right plants



Support a wide variety of pollinators!

- ✦ Choose a minimum of 10 native plants and plant them in clumps. This way pollinators won't have to travel far for their favorites.
- ✦ Plant for a range of bloom times— early, mid and late season. Aim for at least three types of plant per growing season.
- ✦ Have a wide variety of flower colors and shapes. Pollinators have their favorite colors, too!
- ✦ Don't forget native bunching grasses. Insects love the habitat they provide.
- ✦ [Check out this pollinator palette.](#) It's great for helping you pick your plants!

Source: Jane Sorensen, Instructor, "[Homestead Pollinator Habitat Enhancement Planning](#)"

Why choose native plants?



Go native!

Pollinators need more than nectar (food) to flourish. Host plants that provide nesting sites and protection are also key for each stage of the insect's life.

Since native plants have coevolved with native pollinators, they provide the best support and are the most attractive throughout the life cycle of pollinators.

For example, the endangered Karner Blue Butterfly caterpillar can *only* eat native wild lupines. And the much beloved butterfly bush? It only provides nutrition for adult butterflies— and nothing for caterpillars.

Plus, native plants are suited to our environment. Once established, they often need little care.

Source: Madeline Chamberlain, Master Gardener intern, "Native Plants for Native Pollinators"

Make your garden inviting

Now that you've chosen some good, nectar-rich plants, you'll need some other features to create a comfortable spot for pollinators.

✿ Pithy or hollow-stemmed plants such as raspberry, sumac or elderberries make good nesting sites.

✿ Make sure there's a nearby water source; insects get thirsty. [Consider making a mini wildlife pond out of a stylish container.](#)

✿ Some pollinators are ground nesters. If you have sandy areas, leave them clear.

✿ Don't be too tidy! Keep natural cover for insects. Let your grass grow longer, leave piles of leaves, twigs and dead stalks out to shelter pollinating insects over the winter.

✿ Remember— insect damage is a good thing!

Source: Jane Sorensen, Instructor, "[Homestead Pollinator Habitat Enhancement Planning](#)"



Working with what you have

You don't need a large pollinator garden to be a good host for insects!

✦ Watch bee boxes & bug hotels for predators

Check bee boxes & bug hotels frequently to see if the box is still doing its job. Add hardware cloth to prevent invasion by birds.

✦ Plant tall grasses

These provide excellent cover for insects.

✦ Tuck in native plants where you can

Every native plant helps.

✦ Avoid pesticides

Many kill good bugs, too.

✦ Plant a pollinator strip in your vegetable beds

Interplant vegetables with plants to support pollinators.

[Chicago Botanical Garden: Pollinator Strips](#)

✦ Plant a bee lawn

Overseed your grass with nectar-rich clover. Plus, clover is actually great for your lawn's health! And those dandelions? Bees *love* them.



Where to buy native Vermont plants

Miller Hill Farm

Sudbury

Trees, shrubs and perennials.

[Miller Hill Farm](#)

The Farm Between

Sterling College, Jeffersonville

Native offerings are mostly trees and shrubs

[The Farm Between](#)

Northeast Pollinator Plants

Buy [online here](#) (NEPP only ships to New England and New York)

Or buy in person at [River Berry Farm](#) in Fairfax

Native Plant Trust

Nasami Farm, Whately, Mass
(Also in Framingham, Mass)

[Native Plant Trust](#)

Turtle Hill Native Plants

Montpelier

Native perennial flowers and grasses.

[Turtle Hill Native Plants](#)

Vermont Wildflower Farm

Native seeds and plants, shipping from Vermont. They offer regional seed mixes.

[Vermont Wildflower Farm](#)

Prairie Moon Nursery

Extensive, open pollinated offerings, shipping from Minnesota

[Prairie Moon](#)



Helpful Resources

Information on native Vermont plants

[Pollinator Plant Palette Chart](#)

[Lady Bird Johnson Wildflower Center Native Plant Database](#)

[Native Plant Trust Plant Finder](#)

Information on pollinator friendly garden planning

[Homestead Pollinator Habitat Guidelines](#)

[Growing a Pollinator Garden](#), a presentation by UVM Master Gardeners

[Mt. Cuba Trial Garden](#)

[Encouraging Pollinators in Vegetable Gardens](#)

[Improving Pollinator Habitat in HOAs](#)

[How to Build a Mini Pond to Support Insects](#)

[Pollinator Syndrome Chart](#) (i.e. which types of plants attract which pollinators)

Information on pollinators and beneficial insects

[Vermont Wild Bee Survey](#)

[How to Attract and Identify Pollinators](#)

[Attracting Beneficial Insects to Reduce Pests Naturally](#)

[Xerces Society](#)

[Pollinator Partnership](#)

[Pollinator Pathway](#)

Courses on supporting pollinators

[UVM Community Horticulture courses](#), including the self-paced course called “Creating Pollinator Friendly Landscapes in Vermont” by Jane Sorensen

Certify your backyard as a Wildlife Habitat

[Vermont Natural Resources Council](#)

More Information

About the UVM Extension Master Gardener Program

The UVM Extension Master Gardener Program trains volunteers and uses research-based gardening information to help all Vermonters improve their gardening, leadership, and environmental stewardship skills.

Our vision is to cultivate resilient and healthy communities and be the most trusted resource for home gardeners.

[Click here for more information](#)

Contributors to this E-Book

Karen Burke, Master Gardener
Cat Buxton, Master Composter
Madeline Chamberlain, Master Gardener Intern
Nicole Conte, Master Gardener
Frank Guyer-Geier, Master Gardener
Cindy Heath, UVM Extension Staff
Becky Manning, Master Gardener
Julie Parker-Dickerson, Master Gardener
Margaret Solon, Master Gardener
Daniel Steinbauer, Master Gardener
Susan Still, Master Gardener

Photo Credits

Madeline Bergstrom: Pages 3, 10, 12
Peter Bergstrom: Pages 2, 6
Madeline Chamberlain: Page 8
Bob Little Tree: Page 11
Julie Parker-Dickerson: Front cover, pages 3, 5, 9, 11 and back cover
Insect photos on page 4: University of Maine Home and Garden IPM From Cooperative Extension: J F Dill. Butterfliesandmoths.org: Danny Bales, David L. Kinney. Vermont Center for Ecostudies, Vermont Atlas of Life: Roy Pilcher, Margarita Miklasevskaja, Michael Veit
Insect photos on page 7: University of Minnesota Extension: Eric Burkness, Jeff Hahn.
US Forest Service: Steven Falk



THE UNIVERSITY OF VERMONT
EXTENSION
MASTER GARDENER

2021