Keystone Plants (published 2026-04-25)
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Before I completed the Master Gardener program, I didn't know much about bees. Imagine my surprise when the topic of specialist bees came up. What in the world is a bee a specialist of? Well, it's about pollen and nectar. It turns out that a lot of bees are generalists and will go for any flower, other bees are a little pickier and gather pollen or nectar from several types of plants. Then there are the true specialists that must have pollen or nectar from a single family or genus of plant. About 25 to 30% of native bees are specialists. It also happens that the specific plants these bees need are native species to their ecosystems.

Native plants support wildlife and are critical to the survival of bees, butterflies, and birds. It's all about land-based food webs and how they work together for plants, insects and animals to complete their life cycles. Food webs are complex systems of food chains that interconnect and overlap. They show the feeding relationships within an ecosystem community. That brings us to keystone native plants.

Keystone native plants are particularly important by being either hosts for butterfly and moth caterpillars to feed on or they are plants that feed specialist bees as well as generalist bees. They also provide shelter and protection for wildlife.

Keystone plants are rated by how many caterpillars and specialist bees they support. Caterpillars and specialist bees are particularly important to an ecosystem. Caterpillars are an essential food source for birds' broods. Specialist bees are "special" because they need pollen from a very narrow group of plants. Because of the critical need of caterpillars for birds and specialist bees for food production, they are used as the yardstick for measuring the desirability of keystone plants. For example, oak trees support a reported 436 caterpillar species. That is the most of any keystone plants. So, put on your superhero cape and plant some oak trees as one of my associates did recently. Another great tree is the black birch (*Betula lenta*). It supports 284 caterpillars, has an interesting textured bark and its crushed twigs have a wintergreen fragrance.

Native blueberries are also keystone favorites by hosting 217 caterpillars and 14 specialist bees. As a bonus, there are those tasty berries to eat right from the branch or in yummy baked goods. Blueberries are just one of the food-producing plants that bees are needed for pollination. Many crops depend on bee activity.

There are quite a few flowering perennials and annuals to choose from, too. At the top of the list is goldenrod, both stiff leaf (*Solidago rigida*) and Atlantic goldenrod (*S. arguta).* When these are in flower, they are completely covered in bees. Woodland sunflowers, asters, and black-eyed Susans are also champion keystone plants. Many folks are aware that milkweed plants support monarch butterflies. So, adding a variety of keystone native plants increases diversity and supports even more butterflies and moths, not to mention those specialist bees.

These are just a few examples of keystone plants. The resources listed provide more extensive lists of plants to consider. To see a video presentation about keystone plants, *Keystone Species of*

Native Plants, go to https://mgnv.org/mg-virtual-classroom/sl-class-video/keystone-native-plants-2022/

But why is it even necessary to plant keystone plants? Every keystone native plant we nurture helps offset the loss of habitat and helps the food web keep wildlife alive and thriving. Birds in particular can benefit from keystone native plants, especially oak trees. A chickadee needs 5,000 to 9,000 insects to feed one brood. Oaks support over 400 species of caterpillars. Birds rely on caterpillars to feed their babies. And other animals eat the acorns. The math speaks for itself.

Opting for different choices for our gardens can make our landscapes ecosystem oases. We can all be superheroes by choosing wisely.

Resources

"Specialist Bees," https://bpb-us-w2.wpmucdn.com/u.osu.edu/dist/3/120507/files/2023/02/2022-Specialist-Bee-Handout-Final-223.pdf

"Planting for Specialist Bees," https://www.umass.edu/agriculture-food-environment/sites/default/files/media/documents/2025-10/brief_specialistbees_neipm2025-ua-10.6.25.pdf

"food web," https://www.britannica.com/science/food-web

"Keystone Plants – The Key to Healthy Ecosystems," https://arapahoe.extension.colostate.edu/2025/05/05/keystone-plants-the-key-to-healthy-ecosystems/

"Keystone Native Plants - Eastern Temperate Forests - Ecoregion 8," https://www.nwf.org/-/media/Documents/PDFs/Garden-for-Wildlife/Keystone-Plants/NWF-GFW-keystone-plant-list-ecoregion-8-eastern-temperate-forests.ashx?la=en&hash=1E180E2E5F2B06EB9ADF28882353B3BC7B3B247D

"What is the role of native bees in the United States?" https://www.usgs.gov/faqs/what-role-native-bees-united-states

For more information about gardening, visit UTHORT's YouTube site for helpful videos: https://www.youtube.com/channel/UCjS3d1IklH1OZ1Z2qPvhgfQ

How do I ask a question?

If you have questions for the Master Gardeners, submit them to us on our website at www.netmga.net. Click the link at the top of the page, "ASK A MASTER GARDENER" to send in your question. Questions that are not answered in this column will receive a response from a Master Gardener to the contact information you provide.