

Planting a Bee Garden for Pollinators

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master
GARDENER
A UNIVERSITY OF IDAHO
EXTENSION PROGRAM

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Inviting an array of bees into your own backyard is simple when you plant their favorite flowers. There are over 4,000 native bee species in the United States and over 400 native species in Idaho. The European Honey Bee is not a native species. All species of bees and other pollinator species are vital in our larger ecosystem, or gardens, landscapes, forests and food supplies.

By providing nectar and pollen as food and creating shelters in your garden space, you will create new habitat for bees, which is important, as their natural habitats become less and less abundant. Researchers have found that planting bee-friendly gardens in your community may increase the diversity of bees, even within the concrete-laden urban areas in which many of us reside. That's great news for bee spotters! You will also increase the number of blossoms that get pollinated in your garden and landscapes. That equals more food and more flowers.

There are four elements needed to have a successful pollinator garden:

Choose plants that are best suited for attracting bees in your region, and plant them in 3' groupings.

Limit the use of insecticides that are toxic to bees and other beneficial pollinators.

Provide shelter in your garden from elements such as wind, rain, or cold.

Create habitat for the nest of the pollinator to support the entire life cycle of the pollinator from egg to larva to adult.

Choosing plants that attract bees

Select a variety of flowers that are most attractive to bees and will bloom at different times throughout the year for a steady supply of nectar and pollen. The climate in your region, defined by the USDA plant hardiness zone map, will determine which flowers can survive and the timing of their flowering in your garden. Exotic plants that produce lots of nectar, like butterfly bush, are great for attracting bees and butterflies into your yard, but they often cannot support the entire life cycle of these insects. By opting for native plants, your garden will be attractive to adult bees that are foraging for nectar and pollen, but will also increase native habitat in your area for other wildlife, like caterpillars and birds.

When selecting flowers for your bee garden, it is important to recognize that flowers that employ **melittophily**, or bee pollination, often share particular traits that make them more attractive to bees. The suite of traits that are used by a flower to attract a specific group of animals as pollinators is called a **pollination syndrome**. These traits can include color, flower shape and size, the amount of nectar produced and the way pollen is presented. Plant your selections in 3' groupings versus straight rows. This allows a better foraging site to accomplish pollen and nectar gathering while conserving energy.

Limiting the use of insecticides

Limiting the use of organic and synthetic insecticides in your garden ensures that bees that you have invited into the garden are not accidentally poisoned by pesticides not intended for them. Native bees are attracted to your garden by the nectar and pollen, but they come into contact with any other chemicals that may be present. High doses of insecticides can kill foraging bees outright. Even low doses can have adverse effects. Low doses of organic or synthetic insecticides can disrupt the innate orientation and navigation skills of the foraging bee, causing it to lose its way back to the nest. When the pesticide is brought back to the nest, it will be transferred to nest mates directly or incorporated into the honey, where it can alter the development in larvae into workers and queens, and

thereby affect future generations of the colony. Practicing integrated pest management in your garden is the best way to limit the use of insecticides.





Providing shelter from the elements








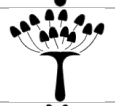




You do not have to uproot your current garden in order to attract more bees. Flowers that attract bees can be planted between existing flowers or potted and placed throughout your yard. Providing shelter for bees in the garden can be as simple as maintaining a garden full of spaces guarded from the elements. Keep in mind that a wide expanse of green grass or concrete does not offer protection from wind, rain and cold for a foraging bee.



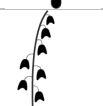
Creating habitat for the nest

At first, you may not like the idea of attracting stinging insects into the garden. Keep in mind that stinging is a defensive behavior used for defending the nest against predators. If you have ever watched a bee when it visits a flower, you may have noticed that it is often too busy to even notice you! Foraging bees are happy and curious, moving from one flower to the next, in search of nectar and pollen. They are not looking for a fight.

While most people are not equipped to raise honeybees in their backyard, creating nesting habitats for native bees is surprisingly simple. That's because many native bees make nests in old pieces of wood, cavities or even in the ground. These nests can be easily replicated with a few supplies and tools. Leave mulch off some areas to allow sites for in ground nests. The addition of nesting sites for native bees to your garden will intensify your bee spotting experience beyond the average gardener. For more information on the construction of nests for wood-nesting, cavity-nesting and ground-nesting bees, check out the fact sheet from the Xerces Society.

Flowers	Bee visitors	Color	Season	Origin	Flower type
Great Blue Lobelia (Campanulaceae)	Bumble bees Anthophoridae Halictidae	blue	late summer into fall	native	
Wild Lupine (Fabaceae)	Bumble bees Anthophoridae Megachilidae Halictidae	blue	mid to late May	native	
Lead Plant (Fabaceae)	Long-tongued bees Short-tongued bees	purple	early summer	native	
White Wild Indigo (Fabaceae)	Bumble bees	white	May to July	native	
Partridge Pea (Fabaceae)	Honey bee, Bumble bees Anthophoridae Megachilidae Halictidae	yellow	summer to fall	native	
Hardy Ageratum (Asteraceae)	Honey bee, Bumble bees Anthophoridae Megachilidae Halictidae	blue	summer to fall	native	
Stiff Goldenrod (Asteraceae)	Honey bee, Bumble bees Anthophoridae Megachilidae Halictidae Colletidae	yellow	August to September	native	

Flowers	Bee visitors	Color	Season	Origin	Flower type
Showy Goldenrod (Asteraceae)	Honey bee, Bumble bees Anthophoridae Megachilidae Halictidae Colletidae Andrenidae	yellow	July to September	native	
Coneflower (Asteraceae)	Honey bee, Bumble bees Anthophoridae Megachilidae Halictidae Andrenidae	purple	June to October	native	
Wild Bergamot (Lamiaceae)	Honey bee, Bumble bees Anthophoridae Megachilidae Halictidae Andrenidae Colletidae	pink	July to September	native	
Columbine (Ranunculaceae)	Bumble bees Halictidae	orange -red	April to May	native	
Horsetail Milkweed (Asclepiadaceae)	Long-tongued bees Short-tongued bees	white	early to late summer	native	
Butterfly-weed (Asclepiadaceae)	Long-tongued bees Short-tongued bees	yellow - orange	June to August	native	
Common Milkweed (Asclepiadaceae)	Long-tongued bees	pink, white	June to August	native	
Prairie Milkweed (Asclepiadaceae)	Long-tongued bees Short-tongued bees	pink	June to July	native	
Joe Pye weed (Asteraceae)	Long-tongued bees Short-tongued bees	mauve pink	July to September	native	
White Snakeroot (Asteraceae)	Long-tongued bees Short-tongued bees	white	September to frost	native	
Yellow Giant Hyssop (Lamiaceae)	Bumble bees Colletidae Halictidae	yellow	July to September	native	
Lesser Calamint (Lamiaceae)	Bumble bees	white	June-October	exotic	

Flower type key			
<u>Clustered flowers</u>		<u>Single flower</u>	
rounded		radial symmetry	
elongated			

Long-tongued bees

Honey bees, Bumble bees, Carpenter bees (Apidae)
 Digger bees (Anthophoridae)
 Leaf-cutting bees and Mason Bees (Megachilidae)

Short-tongued bees

Andrenid bees, Small Miner bees (Andrenidae)
 Plasterer bees, Masked or Yellow-faced bees (Colletidae)
 Sweat bees (Halictidae)

Annuals can be planted to help our pollinators

Buckwheat
 California Poppy
 Coreopsis
 Cosmos
 Golden Bee Plant
 Rocky Mountain Bee Plant
 Sunflower (cultivars that produce pollen)
 Zinnia

Trees and Shrubs for our pollinators

Trees

Chokecherry
 Crab Apple
 Lilac

Shrubs

Bluebeard
 Ninebark
 Oceanspray
 Russian Sage
 Saskatoon Serviceberry
 Woods Rose

Local nurseries to source native plants for our pollinators:

- Cedar Mountain Perennials <http://cedarmountainperennials.com> 7875 E. Hwy 54 Athol, ID. 83801. Also at area Farmer's Markets
- Plants of the Wild <http://www.plantsofthewild.com> 123 State Line Road Tekoa, WA. 99033. Can order online.
- Snake River Seeds <http://snakeriverseeds.com> Boise, ID. Access their online catalog to order locally bred seeds.
- Check with the local nurseries in Coeur d'Alene, Post Falls, Rathdrum and Sandpoint to see if they carry plants listed here and other native plants, or if they can order them for you:

All Seasons Garden and Floral	Northland Nursery
Aspen Nursery	Ponderay Garden Center
The Flower Farm	Vanhoff's Garden Center
New Leaf Nursery	Westwood Garden Center

Further Reading and Resources:

- Homeowner guide to bees. University of Idaho. BUL 854.
- Bee Habitat by Montessa Young, University of Idaho, Extension Educator, Washington County.
- Xerces Society for the Conservation of Invertebrates offers free fact sheets and publications for sale about conserving pollinators.
- Missouri Botanical Garden through the Kemper Center for Home Gardening explains gardening plants from A-Z.
- Bringing Nature Home: How Native plants Sustain Wildlife in Our Gardens. By Douglas Tallamy. 2007. Timber Press. Portland, Oregon.
- Idaho has a new Pollinator Protection Plan:
<http://www.agri.state.id.us/AGRI/Categories/PlantsInsects/Bees/Idaho%20Pollinator%20Protection%20Plan-%201-17.pdf>