

Colorado Master Gardener

Year Round Gardening

BEE FRIENDLY POLLINATOR PLANTS

By Susan Christine Jones, Colorado Master Gardener

Pollination occurs when pollen grains are transferred between male and female flower parts: from the anthers to the stigma. Bees use nectar and pollen gathered from flowers to feed themselves and their offspring. In their search for food, bees assist with pollinating 90% of all flowering plants, and at least 30% of the food crops humans rely on. Honeybees - though not native to North America, are the most important carriers of pollen, crucial to crop production and Colorado's agricultural economy. Native pollinators are equally important to the reproduction of wild plants and more. They include native bees, bats, wasps, flies, birds, ants, moths, beetles, butterflies, and small mammals.

Honeybees originated in Asia and over time spread through Europe and Africa. They are not native to North America, but were brought here from Europe when settlers discovered that many of their favorite Old World food crops would not grow successfully without the pollination of honeybees. In Colorado, early



attempts to establish a melon growing region in the Arkansas Valley were unsuccessful until the introduction of honeybees.

Photo Courtesy of Suzy Jones

The most attractive plants to bees contain both pollen and nectar in abundance. Scent and color attract pollinators to flowers. Essential oils in plants impart fragrance into the air to lure in pollinators. Contrasting color patterns on flower petals are detected by special ultraviolet photoreceptors in bee's eyes. The unique markings create tiny runways that serve as nectar guides, directing bees right to the flower's sweet, nourishing liquid. These mini landing pads, unseen by humans and most other animals, are only visible to insects with vision in the ultraviolet spectrum.

To create a long-lasting source of food for bees in your garden grow flowers with overlapping bloom times. Include at least one plant that flourishes in each growing season to span spring, summer, and fall. Even small spaces such as window boxes, pots, and rooftop spaces can entice bees. If you have more space, consider dedicating a patch of yard to habitat by leaving marginal areas in their undeveloped state. Undisturbed landscape provides natural habitat for pollinators who in turn support wildlife forage plants and beneficial insects. A simple mound of excavated soil left undisturbed along with bare dirt areas provide space for ground nesting bees to build nests and reproduce.

When selecting plant varieties include native plants to provide food for native bee species while contributing to biodiversity that declines due to development and urbanization. Do not collect native plants from the wild. Avoid highly hybridized varieties which contain less pollen. Choose single blossom flowers, not doubles, they have less nectar and are hard for bees to access. The list of recommended plants includes food attractive to both native and non-native bees. Provide a steady supply of fresh water in shallow containers with twigs, leaves, and stones to create safe landing areas so bees can drink without drowning.

When purchasing plants for bees, determine if the seedlings have been raised with neonicotinoid pesticides. Referred to as "neonics" these neurotoxins are controversial and may be toxic to bees. For a bee-friendly garden use the least toxic and most environmentally friendly methods for pest control. Pesticide use can harm pollinators. Explore mechanical solutions to weed and insect control. For safe alternatives to insecticide see fact sheet 5.576 at CSU's website:

<http://extension.colostate.edu/topic-areas/insects/leafcutter-bees-5-576/>

If you wish to do more than provide a few select foraging plants for bees, contemplate creating a habitat garden where in addition to food, the water, cover, and specific shelter required for raising young are close by. For bees and all pollinators, home is where the habitat is.

When you have questions, Colorado State University Extension has research based answers. Get answers to your horticulture questions by keying in ask.extension.org. any time day or night. Monday to Thursday from 9 a.m. – 12 p.m. you can phone 520-7684 or emailing CSUmg2@elpasoco.com .

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AGERATUM	<i>Ageratum houstonianum</i>
ALPINE STRAWBERRIES	<i>Fragaria vesca</i>
APPLE	<i>Malus spp.</i>
ASTERS	<i>Aster alpinus and Symphotrichum spp.</i>
BEE BALM	<i>Monarda spp.</i>
BLACK-EYED SUSAN	<i>Rudbeckia spp.</i>
BORAGE	<i>Borago officinalis</i>
CALENDULA	<i>Calendula officinalis</i>
COSMOS	<i>Cosmos bipinnatus</i>
CORNFLOWER	<i>Centaurea spp.</i>
CROCUS	<i>Colchicum spp.</i>
CUCUMBER	<i>Cucumis sativus</i>
DANDELION	<i>Taraxacum officinale</i>
FOXGLOVE	<i>Digitalis spp.</i>
GLOBE THISTLE	<i>Echinops sphaerocephalus</i>
GRAPE HYACINTH	<i>Muscari spp.</i>
GOLDENROD	<i>Solidago spp.</i>
HOSTA	<i>Hosta spp.</i>
HYACINTH	<i>Hyacinthus spp.</i>
HYSSOP	<i>Agastache foeniculum</i>
JOE-PYE WEEDS	<i>Eutrochium spp.</i>
LAVENDER	<i>Lavendula augustifolia</i>
LEMON BALM	<i>Melissa officinalis</i>
LILAC	<i>Syringa vulgaris</i>
MELON	<i>Cucumis melo</i>
MINT	<i>Mentha spp.</i>
OREGANO	<i>Origanum vulgare</i>
POPPIES	<i>Papaver spp.</i>
POPPY MALLOW	<i>Callirhoe involucrata</i>
PRIMROSE	<i>Primula vulgaris</i>
PURPLE CONEFLOWER	<i>Echinacea purpurea</i>
RED CLOVER	<i>Trifolium pratense</i>
SAGE	<i>Salvia officinalis</i>
SEA THRIFT	<i>Armeria maritima</i>
SEDUM	<i>Hylotelephium spectabile</i>
SNAPDRAGONS	<i>Antirrhinum majus</i>
SQUASH	<i>Cucurbita pepo ssp.</i>
SUNFLOWERS	<i>Helianthus annuus</i>
SWEET WILLIAM	<i>Dianthus barbatus</i>
THYME	<i>Thymus spp.</i>
VERBENA	<i>Verbena officinalis</i>
WITCH HAZEL	<i>Hamamelis spp.</i>
YARROW	<i>Achillea millefolium</i>
ZINNIAS	<i>Zinnia elegans</i>