

Flowering Plants to Support Beneficial Insects

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Flowering plants have the potential to provide a number of resources to beneficial insects including pollinators, predators and parasitoids. Habitats near crop fields can be managed specifically to include flowering plants in order to promote these beneficial insects.

Why Flowers?

Flowering plants provide several resources for beneficial insects. Flowers can be important food sources, producing pollen and nectar that insects can feed on. These habitats can also offer shelter from disturbances in crop fields (such as tillage, spraying, and harvest) and provide places for insects to overwinter in standing vegetation or leaf litter.

Choosing Flowering Plants

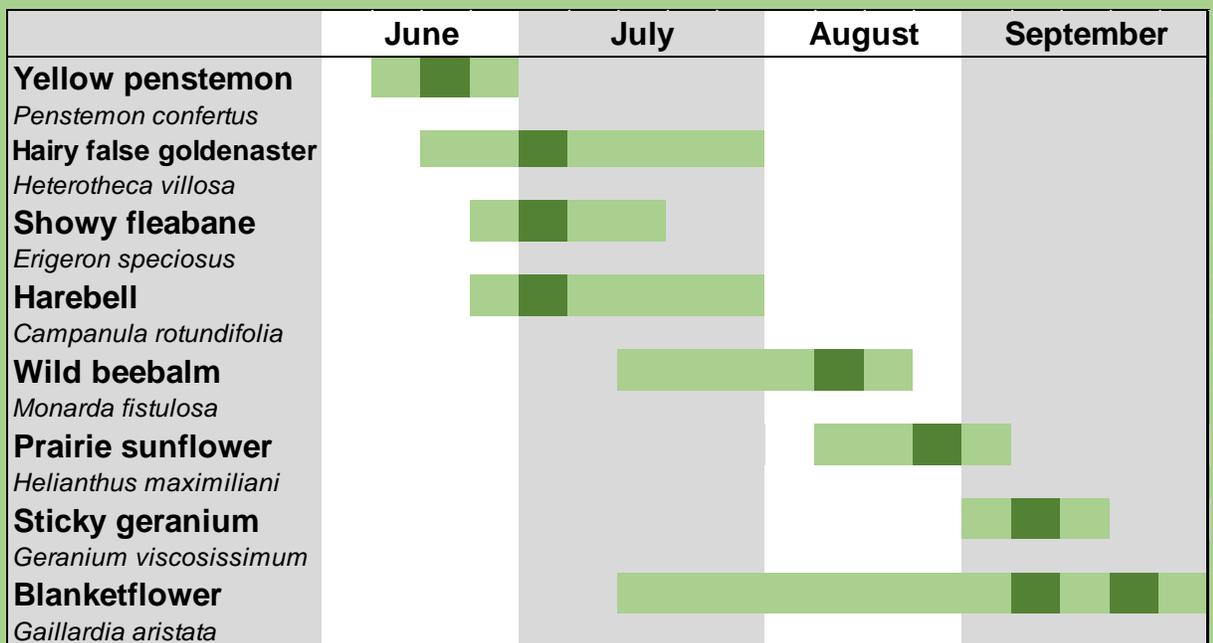
There are a number of considerations in deciding what species of flowers to plant for supporting beneficial insects. These include deciding whether to use a mixture of species, whether to use annuals or perennials, and if the species should be native.

Providing Diversity Mixtures of flowering plants can support a greater diversity of insects. Because insects find certain features of flowers

attractive, choosing flowers with a variety of sizes, colors, and structures will be attractive to a variety of insects. Flowering plants should be chosen so that their bloom periods collectively span the growing season to support insects all season long. An example is shown in the bloom calendar below.

Annuals vs. Perennials Choosing between annuals and perennials will depend largely on management preferences. Perennial species are best

Bloom Calendar for a mixture of perennial flowers native to Wyoming. Light green bars show the length of the blooming period for each flower species and dark green bars indicate peak bloom, with the greatest number of open blooms. The species listed here are pictured left to right along the top of each page.





Beneficial Insects

Many types of insects are helpful in crop production and are broadly called beneficial insects. Two of the ways that insects in this group can benefit crops are through pollination services and killing pest insects.

Pollinators Many of our crops require pollination and often times pollinators like honey bees and leafcutter bees will be brought to crop fields for that purpose. There are however, many other insects inhabiting our crop fields that can also pollinate crops. These include other types of bees, butterflies, and some flies and beetles.



Natural Enemies These beneficial insects kill pest insects. Natural enemies are a diverse group. Some are predators, who prey on and eat insects. Other natural enemies are parasitoids, which are parasites who kill their host through the process of parasitism. Natural enemies can be generalists, attacking a variety of pests, or they can be specialists, attacking only one type of pest. There are many different insects (and some non-insects, like spiders) that are natural enemies including certain beetles, wasps, flies and true bugs.



Examples of beneficial insects pictured clockwise: sweat bee, lady beetle, big eyed bug, damsel bug, braconid wasp

Image Sources

Yellow Penstemon, Casey Delphia

Hairy False Goldenaster, Casey Delphia

Showy Fleabane, Casey Delphia

Sweat Bee, David Cappaert, Michigan State University, Bugwood.org

Big Eyed Bug, Russ Ottens, University of Georgia, Bugwood.org

Damsel Bug, Graham Montgomery, Bugguide.net

Braconid Wasp Attacking Lygus Bug Nymphs, Scott Bauer, USDA Agricultural Research Service, Bugwood.org

suiting for long term plantings. Perennials may not bloom the first year they are planted, but will come back year after year. Annual species complete their lifecycle in one year, however many species will self-sow, regenerating plantings each year from seed. In general, annuals would be better suited for more ephemeral plantings. Mixtures of annual and perennials can also be used.

Native Plants These plants have coevolved with native insects and may be better suited than exotic varieties to support them. Native species are also adapted to Wyoming's drier climate and higher altitudes. See below for a list of seed companies that produce regionally-adapted flower seed.

Regional Seed Sources

Alplains

Kiowa, CO

www.alplains.com

Applewood Seed Company

Arvada, CO

www.applewoodseed.com

Beauty Beyond Belief Seed

Boulder, CO

www.bbbseed.com

Buffalo Brand Seed

Greeley, CO

www.buffalobrandseed.com

Wind River Seed

Manderson, WY

www.windriverseed.com

