



Agronomic Spotlight

The Benefits of Flowering Cover Crops

- Pollinators transfer pollen from plant to plant, helping to increase potential yields and ultimately helping to improve the bottom line of farms.
- Flowering cover crops can benefit soils and crop productivity and also create a habitat for pollinators.
- There are approximately 4,000 species of native bees in North America, hundreds of which contribute to the pollination of farm crops.²

Pollinators

It can be very beneficial to create or improve habitats for pollinators on a farm. Pollinators transfer pollen from plant to plant, helping to improve the increasing potential yields and ultimately helping to improve the bottom line of farms.

Some plants can be pollinated by water or wind. However, the majority of all plant species need the help of animals for this task. There are approximately 200,000 different species of animals around the world that act as pollinators. Of these, about 1,000 are vertebrates, such as birds, bats, and small mammals, and the rest are invertebrates, including flies, beetles, butterflies, moths, and bees (Figure 1).²



Figure 1. There are approximately 4,000 species of native bees in North America, hundreds of which contribute to the pollination of farm crops.²

The knowledge of which pollinators are present on and around a farm can allow for improvements to their existing habitat. Additionally, farmers can introduce new habitat that can attract more pollinators that may benefit your crops.

Flowering Cover Crops

Cover crops provide seasonal vegetative cover and soil conservation. They can reduce soil erosion, weed competition, and improve soil organic matter content and soil tilth. Flowering cover crops can also attract pollinators that can potentially benefit crop productivity. Growing the appropriate flowering cover crops during fallow periods in your crop rotation is a great way to add an additional habitat to your farm.

To incorporate flowering cover crops into a farm, start by taking into consideration the fallow periods of crops in the rotation. Then research which species will best fit your time frame, e.g., fall to spring. Also, keep in mind that differences in flower shape, size, and color can influence what pollinators are attracted to a particular cover crop. Open petals allow

the pollen and nectar resources to be available to all shapes and sizes of pollinators. Petals that tend to be closed can make it more difficult for some types of pollinators to reach the pollen and nectar, thus limiting to larger bodied or very tiny pollinators due to their ability to push aside or crawl through the petal tunnel.

Table 1. Seasonal Cover Crop Plants

Common Name	Scientific Name	Flower Color	Beneficial Insect Visitors
Conventional Alfalfa	Medicago sativa	Purple	Bees, assassin bugs, lady bug beetles, pirate bugs, parasitic wasps
Bell beans	Vicia faba	White	Bees
Buckwheat	Eriogonum fasciculatum	Yellow	Bees, hover flies, pirate bugs
Clover, Crimson	Trifolium incarnatum	Red	Bees
Clover, Red	Trifolium pratense	Pink	Bees
Phacelia	Phacelia tanaecitifolia	Purple	Bees, syrphid flies
Vetch	Vicia species	White/Purple	Bees

Sources

¹ Ellis, K. 2014. Bees and cover crops: using flowering cover crops for native pollinator conservation. Penn State University Extension. <http://ento.psu.edu>. ² Marks, R. 2005. Native pollinators. Fish and Wildlife Habitat Management Leaflet Number 34. ³ Vaughan, M., Shepherd, M., Kremen, C., and Black, S.H. 2007. Farming for bees. The Xerces Society for Invertebrate Conservation. <http://www.xerces.org>. Web Sources Verified 10/31/2014. 140822102104

For additional agronomic information, please contact your local seed representative. Developed in partnership with Technology Development & Agronomy by Monsanto. **Individual results may vary**, and performance may vary from location to location and from year to year. This result may not be an indicator of results you may obtain as local growing, soil and weather conditions may vary. Growers should evaluate data from multiple locations and years whenever possible. ©2016 Monsanto Company. 140822102104 103114KY