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MANHATTAN PLANT MATERIALS CENTER
Manhattan, Kansas

Plants for the Heartland

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Switch grass in winter

Pollinator Conservation

Pollinators are an integral part of our environment and are critically important in 35 percent of global crop production. World wide, there are an estimated 20,000 bee species, with approximately 4,000 species native to the United States (U. S.). The non-native European honey bee is currently the most important crop pollinator in the U. S. However, with the number of honey bee colonies in decline because of Colony Collapse Disorder (CCD) and other problems, the role of native pollinators is even more important to the future success of agriculture. Native bees provide free pollination services that contribute an estimated $3 billion worth of crop pollination annually to the U.S. economy. With these kinds of monetary savings provided by native pollinators, it behooves us to do what we can to protect and encourage this valuable natural resource.

Protecting, enhancing, or providing habitat is the best way to conserve native pollinators. Habitat enhancement with native plants provides multiple on-farm benefits. In addition to supporting pollinators, native plant habitat will also attract beneficial predatory insects that may lessen the need for insecticide use. Pollinator habitat will also provide habitat for other wildlife and birds, serve as windbreaks and buffers, help stabilize the soil, and ultimately improve water quality. In other words, many of the core factors that the Natural Resources Conservation Service (NRCS) provides to farmers on a daily basis.

Yellow banded bumble bee, *Bombus terricola*
***Photo by* Jodi DeLong, The Xerces Society**

Pollinators have two basic habitat needs: I) a diversity of flowering plants across the spring, summer, and fall seasons and 2) egg-laying or nesting sites. Many producers may already have an abundance of habitat for native pollinators. Marginal lands such as field borders, hedge rows, sub-irrigated areas, and drainage ditches offer both nesting and foraging sites. Wood lots, conservation easements, farm roads, and other untilled areas can also provide habitat. Many times poor quality soils, unfit for crop production, may be useful as pollinator habitat. To assess pollen and nectar resources, it is important to look at all potential plant resources on the producer's property and note which plants are heavily visited by bees and other pollinators. For pollinators to be most effective, nectar and pollen resources are needed all season. Evaluation of the existing plant communities on the margins of crop land should include and conserve early-season and late-season blooming plants. Early spring-flowering plants provide an important food source for bees emerging from winter hibernation, and late fall-flowering plants help bees build up their energy reserves before entering winter dormancy.

Bees need nesting and overwintering sites. In fact, for supporting native bee populations, protecting or providing nesting sites is as important as providing flowers. Native bees often nest in inconspicuous locations. Most of North America's native bee species (70%) are ground nesters. These bees need direct access to the soil's surface to excavate and access their nests. The majority of ground-nesting bees are solitary, though some will share nest entrances or cooperate to excavate and supply the nest. Still other species will nest independently, but in large aggregations with thousands of bees excavating nests in

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SEEKING VEGETATIVE SOLUTIONS TO CONSERVATION PROBLEMS

The mission of the Plant Materials Program is to develop and transfer state-of-the-art plant science technology to meet customer and resource needs. The primary products produced by the program include the production of improved varieties of plants for commercial use and the development of plant science technology for incorporation into the electronic Field Office Technical Guide (eFOTG).

We're on the Web!
www.plant-materials.nrcs.usda.gov

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the same area. Approximately 30 percent of bees in North America are exclusively solitary wood nesters. These bees nest in abandoned beetle tunnels in logs, stumps, and snags. Thus, dead limbs, logs, and snags should be preserved as pollinator nesting areas wherever possible. A few bees can chew out the centers of woody plant stems and twigs to make nests there.

Solitary ground nesting bees are harmless if unmolested. *Photo by* Matthew Shepherd, The Xerces Society

The Xerces Society for Invertebrate Conservation has been working closely with NRCS to increase the agency's capacity to implement pollinator conservation projects across the U. S. The society will help state and regional technical support teams to develop tools necessary for implementing high-quality habitat. This collaboration is particularly valuable in light of the pollinator provisions in the 2008 Farm Bill. For more information about The Xerces Society and pollinator habitat conservation, go to its Web site at www.xerces.org.