

# Pest Profile



Alfalfa leafcutter bee adult  
Photo credit: Arlo Pelegrin; [bugguide.net](#)



Alfalfa leafcutter bee adult on alfalfa  
Photo credit: [www.ars.usda.gov](#)

**Common Name:** Alfalfa leafcutter bee

**Scientific Name:** *Megachile rotundata*

**Order and Family:** Hymenoptera: Megachilidae

**Size and Appearance:**

	Length (mm)	Appearance
Egg		
Larva		Overwinter as mature larvae with approx. 4 larval instars
Pupa		
Adult	6-9 (Females)	Females are dark gray with light yellow bands across the abdomen and a gray ventral side. The body has special white hairs for carrying pollen (called scopa). Males are much smaller and have cream-colored, white to yellow spots on the abdomen.

**Type of feeder:** Adults feed on and gather pollen and nectar for provision of individual nest cells, but do not feed on vegetation. Female alfalfa leafcutter bees are very effective pollinators of alfalfa, canola, legumes, flowers, berries, and some vegetables and fruits. Adult female leafcutter bees will cut smooth, semicircular pieces from leaves to use in the formation of nests in which eggs will be laid.

**Lifecycle:** This solitary bee, which was introduced from Europe in the late 1930s, has a short life span with females living a few weeks during the summer, and males dying soon after mating. Most leafcutter bees only have a single generation each year. Female alfalfa leafcutter bees will construct tube-like tunnels from leaf material and within each approx. 8-inch long tube may build up to 2 dozen individual nest cells in which the female will lay a single egg. Each nest cell is provisioned with nectar and pollen for the larvae to feed after hatching. The larvae will develop and pupate within the nest cell and will emerge the following Spring.

**Host plants:** Leafcutter bees in North America will cut leaf material from a variety of broadleaf, deciduous plants, though they appear to prefer leaves from rose, green ash, lilac and Virginia creeper. Large numbers of alfalfa leafcutter bees are used in commercial crops and are managed in specially designed bee boards containing many hundreds of nest cavities in which bee emergence is timed with the flowering of the various crops.

**Description of Damage:** Adult females will cut semicircular sections from leaves and flowers from various plants and use the leaf fragments to create nest cells in either reed tubes, the ground, rotted wood or in the stems of pithy plants such as rose. The damage to leaves is generally cosmetic with little impact to the plant's health.

**Management:** Control measures are not warranted as leaf damage is generally cosmetic and the lifecycle of the bee is very short. There are also many natural enemies of leafcutter bees including many parasitic wasps. The parasitic wasp *Ptesomalus venustus* exclusively uses the leafcutter bee larva and prepupa for reproduction. A primary predator of the larvae stage is the checkered flower beetle (*Trichodes ornatus*).

#### References:

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