

Honey Bee

Apis mellifera

<i>Order:</i>	Hymenoptera (bees, ants, and wasps)
<i>Family:</i>	Apidae (bumble bees, honey bees, and orchid bees)
<i>Metamorphosis:</i>	Complete (egg-larva-pupa-adult)
<i>Mouthparts:</i>	Chewing in larvae and sucking in adults



A **HONEY BEE**, *Apis mellifera*, worker, see color print, Fig. 7, on publication B-1013.

The honey bee was introduced in the United States for honey production and is also used to pollinate many crops. It nests in structures that are highly managed for honey production and pollination. The honey bee can also survive in the wild, nesting in hollow trees and other shelters.

Body Form

Eggs: Eggs are elongated oval and concealed in cells within the nest.

Larvae and pupae: These stages are relatively immobile. They are housed in the sheltered cells of the colony and are provisioned with food within the nest.

Adults: There are physical differences between the different castes of the colony. The queen is about twice the size of the workers (sterile females) and drones (males). The bodies of the workers, the most commonly seen of the castes, are dark golden brown with a reddish-brown abdomen. The body is covered with hairs.

Life History

A colony has only one queen, and she is responsible for egg production. Drones frequently fertilize the queen. The workers are the most abundant caste and perform most of the general maintenance of the hive. They feed the queen and place her eggs in the cells of the hive. They tend and provision larvae until adult emergence, and they regulate the temperature of the hive. They also forage for nectar and pollen and defend the hive by stinging intruders. A new colony is formed when a newly emerged queen leaves the old hive with some of the workers and establishes a hive in a new location. New colony establishment occurs in the spring and summer. Honey bees overwinter within their hive.

Plant Benefit

Adult workers feed on nectar and pollen. In the process, they pollinate plants. The efficiency of pollination varies depending on the type of plant and weather conditions.

Management

Given the value of honey bees for honey production and pollination, it is not surprising they are a highly managed insect. Honey bee-related industries include honey production and pollination, the specialized production of queens, the production of colony materials, and the development of hive-protection products. Care must be taken in the establishment and culturing of honey bees to avoid disease and mite introduction into a colony. Queens should be obtained from high-quality sources. In Wyoming, honey bee cultures can be periodically inspected by Wyoming Department of Agriculture personnel to verify their cleanliness.

Sources of further information: The USDA Pollinating Insect Laboratory (Logan, Utah) has additional literature on the pollination of crops. The Wyoming Department of Agriculture has information on honey bee culture and honey production.

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