



ENTFACT-608

## VARROA MITES INFESTING HONEY BEE COLONIES

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Varroa mites were first reported in Kentucky in the Bluegrass region of the Commonwealth in 1991. They have spread to and become a major pest of honey bees in many states since their introduction into Florida in the mid 1980's. Varroa mites are external honeybee parasites that attack both the adults and the brood, with a distinct preference for drone brood. They suck the blood from both the adults and the developing brood, weakening and shortening the life span of the ones on which they feed. Emerging brood may be deformed with missing legs or wings. Untreated infestations of varroa mites that are allowed to increase will kill honeybee colonies. Losses due to these parasitic mites are often confused with causes such as winter mortality and queenlessness if the colonies are not examined for mites.

The adult female mites are reddish-brown in color, flattened, oval, and measure about 1 to 1.5 mm across. They have eight legs. They are large enough to be seen with the unaided eye on the thorax, most commonly, and on the bee's abdomen. Their flattened shape allows them to hide between the bee's abdominal segments. This mite is often confused with the bee louse, but the bee louse has only six legs, is more circular in shape, and is slightly larger.

Mites develop on the bee brood. A female mite will enter the brood cell about one day before capping and be sealed in with the larva. Eggs are laid and mite feed and develop on the maturing bee larva. By the time the adult bee emerges from the cell, several of the mites will have reached adulthood, mated, and are ready to begin searching for other bees or larvae to parasitize. There is a preference for drone brood. Inspection of the drone brood in their capped cells will often indicate whether or not a colony is infested. The dark mites are easily seen on the white pupae when the comb is broken or the pupae are pulled from their cells.

Mites spread from colony to colony by drifting workers and drones within an apiary. Honey bees can also acquire these mites when robbing smaller colonies. It is best to isolate captured swarms, package bees, and other new colonies from other colonies and examine them for mites before placing them in an apiary.

**Early detection of low levels of mite infestations is key to its successful management.** While they can be spotted during colony inspection if present in high numbers, this tends to

only identify larger infestations. There is a product available, Apistan, that will kill the mites and cause the mites to drop from the bees. Two strips should be hung in the brood nest area of the colony for approximately 4 weeks. This is to be used with sticky paper and a fine-mesh screen on the bottom board of a colony to capture any mites that may have been present. A considerable amount of cell cappings and other debris will also collect on the sticky paper, so it is best to inspect the sticky paper carefully for mites after removal. This method is able to detect low level infestations. Apistan strips are available from most of the large beekeeping suppliers and can be used both for detection and treatment of varroa infestations.

If a colony is found to be infested, all colonies at the site should be treated for mites with Apistan strips or in the same manner. These strips contain the miticide fluvalinate and **are not to be used during honey flow, or when there is surplus honey present in the colony that may be removed for human consumption at a later date.** Therefore, late fall, after removal of surplus honey, or early spring, prior to honey flow, are the best times to treat for varroa mites.

Always carefully follow all label instructions with regard to the storage, use and disposal of pesticides.

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