

AMERICAN FOULBROOD

Prevention & Control

American foulbrood (AFB) is the most devastating of bee brood diseases. The condition is caused by a bacteria that produces spores, which infect honeybee larvae up to 3 days old. While the bacterium can be killed, the millions of spores it produces can remain viable in honey and beekeeping equipment for over 40 years.

Spread of the Disease

The disease is transmitted in various ways:

- Bees inadvertently spread the spores throughout the hive when they attempt to remove spore-laden dead larvae.
- Robber bees may take the pathogen back to their hives when they forage honey from a colony that is infected with the disease.
- Humans can transmit the disease by exposing a healthy colony to contaminated bees or equipment such as frames, boxes, or tools.

Prevention

Preventing a hive from becoming infected is the easiest and best method for managing the disease:

- When purchasing a bee colony, find out if it was treated with antibiotics. Although treatment can be prophylactic, medicines may be masking symptoms of an already infected colony; the hive will become symptomatic if treatment ends.
- Don't purchase or accept used beekeeping equipment that has not been inspected and certified by the county bee inspector.
- Never switch frames, boxes, or other equipment from an infected hive to a hive that is healthy.
- Sterilize tools and Personal Protective Equipment before and after working in a hive you suspect is infected.
- Burn and bury frames and boxes that are infected with the disease.
- Put unused beekeeping equipment in a bee-proof location.

Know the Symptoms

In order to make a proper diagnosis, be familiar with signs of the disease:



Photo by Clint Burfitt, UDAF

Fig. 1: Prepupae form dark “scales” in their cells, which the bees cannot remove.

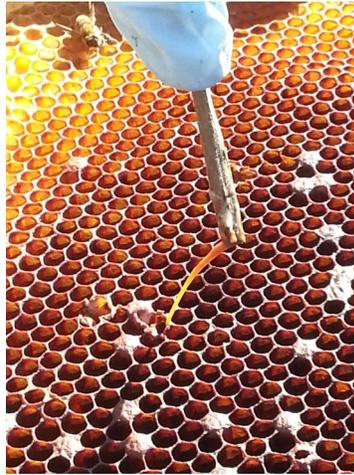


Photo by Jack Wilkins, UDAF

Fig. 2: Cell caps may appear sunken and dark in color and “ropy” when penetrated.

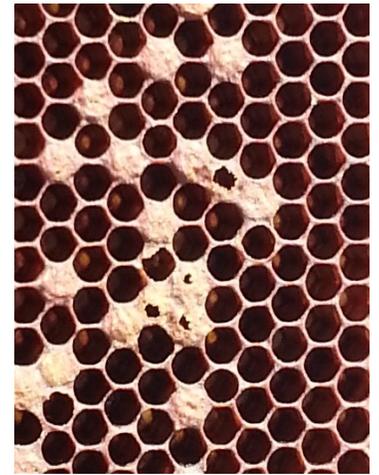


Photo by Jack Wilkins, UDAF

Fig. 3: Spotty brood pattern with small perforations appear in the capping.

Other symptoms include dead brood which turn from tan to dark brown, pupae found with extruded tongues, and a distinct, foul odor resembling animal glue.

Management

Treatments are available for AFB, however there is no cure. Medicines will only suppress symptoms; if treatment ceases, symptoms will reemerge and the hive will be infectious once again.

- Terramycin is an antibiotic that is approved for the treatment of AFB. It is effective in killing the bacteria, but not the spores. Treatment must continue permanently.
- Tylosin (Tylan) is another effective drug approved for AFB. Like Terramycin it only treats symptoms and must be continuously applied for the life of the equipment.
- Some strains of AFB have become resistant to antibiotics.
- Since antibiotics only mask symptoms, in many instances it is preferable to properly destroy the colony and associated hive equipment.

Other Information

- Report all suspected cases of AFB to the UDAF.
- When using antibiotics strictly follow label instructions.
- To request a free health inspection call: (801) 538-4912
- For more information contact the UDAF: udaf-apiary@utah.gov

