

# AMERICAN FOULBROOD

## Prevention & Control

**A**merican Foulbrood (AFB) is the most common and devastating of bee brood diseases. The condition is caused by a bacteria that produces spores, which infect honey bee 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 for antibiotics. Although treatment can be prophylactic, medicines may be masking symptoms of an already infected colony; the hive will become symptomatic once 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.

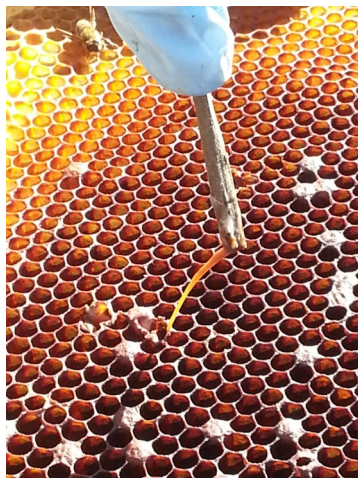
## Know the Symptoms

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



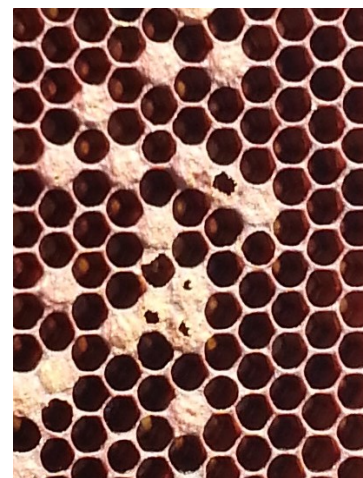
**Fig. 1: Prepupae form dark “scales” in their cells, which the bees cannot remove.**

Photo by Clint Burfitt, 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 numerous, small perforations appear in the capping.**

Photo by Jack Wilkins, UDAF

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.
- 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.
- 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.
- For more information contact the UDAF: [udaf-apiary@utah.gov](mailto:udaf-apiary@utah.gov)

