

Apiculture Factsheet

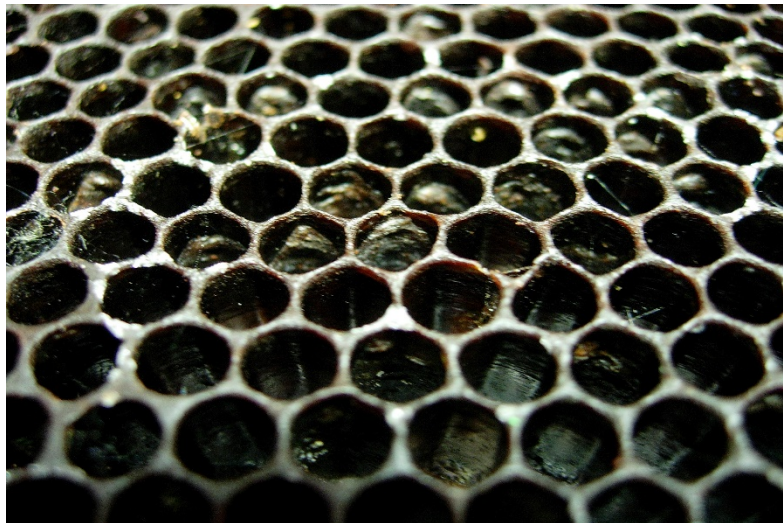
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Factsheet #200

AMERICAN FOULBROOD (AFB)

Field Diagnosis

- AFB is caused by *Paenibacillus larvae*, a spore-forming bacterium.
- Colony is weak and shows less than normal bee flight. Dead bees on the bottom board.
- Capped brood is unevenly distributed (“gunshot appearance”) with puncture holes in the cell cappings.
- Colonies with heavy infestation often display irritable behavior.
- AFB has a distinct “foul” odor.
- Use a toothpick to puncture the cell cap and remove content of brood cell. The larval remains may be light brown and sunk to the bottom side of the cell. If the mass is ROPY while being withdrawn from the cell, it is a strong indication of AFB disease.
- Place toothpick in plastic wrap and mail to the Apiculture Office for laboratory diagnosis.
- Over time, the larval remains will dry and harden into a dark brown leathery scale on the bottom side of the cell. One scale contains millions of spores that remain viable for decades.
- Under normal circumstances, bees will not remove infected brood and scales.
- AFB scales can be readily detected in the field by holding the brood frame at an angle of approximately 15 degrees with light from behind the observer.



View of a brood frame with open brood held at approx. 30 degree angle. Note the dark scales on the sidewall of each cell. Capped brood is unevenly distributed (shotgun appearance) and many cappings have been punctured.

Control Strategy

- Inspect brood and brood frames regularly. Become familiar with the symptoms of AFB and other brood diseases.
- Remove frames with scale or diseased brood and **burn**.
- Take a sample from suspect brood cells and send to the Apiculture Office for analysis.
- Adopt the “Brood Frame Replacement Strategy”: Replace 20% of all brood frames each year so that after a few years, no brood frame is older than 5 years.
- Reduce the exchange of hive equipment between hives and apiaries.
- Don’t leave used hive equipment exposed to foraging bees.
- Use hygienic management practices, including clean clothing, hive tools, and gloves.
- When visiting an apiary, inspect colonies last that are suspected of having disease.

- Using Antibiotics;
 - **In Canada, veterinary antibiotics can only be obtained through a prescription issued by a veterinarian. Please contact your local veterinarian or contact the Apiculture office.**
 - **Antibiotics should only be applied when disease has been diagnosed.** (i.e. no prophylactic use).
 - Antibiotics must be applied according to label instructions.
 - **DO NOT** use extender patties.