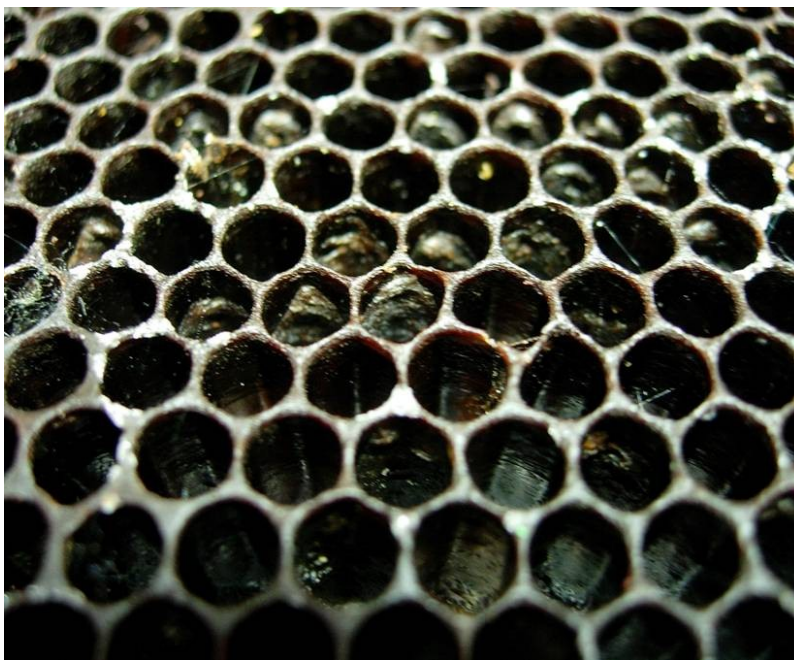


Factsheet #200

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 with puncture holes in the cell cappings.
- Colonies with heavy infestation often display irritable behaviour.
- AFB has a distinct “foul” odour.
- With a toothpick or Q-tip, puncture 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 If the mass is **ropy** while being withdrawn from the cell, it is a strong indication of AFB disease.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 or Q-tip in plastic wrap and mail to Apiculture office for laboratory confirmation.
- 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 coming from behind the observer.



View of a brood frame with open brood held at approx. 15–20 degree angle. Note the dark scale in each cell. Capped brood of infected frame would be unevenly distributed (shotgun appearance) and cappings punctured by adult bees.

Control Strategy

- Inspect brood and brood frames regularly. Learn to recognize 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 in any colony 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 suspected with disease last.
- Consider creating an isolated 'hospital yard' for infected colonies.
- Using antibiotics:
 - **Only use antibiotics approved and registered for use in beehives in Canada**
 - **Only apply antibiotics when disease has been found** (i.e. no longer apply antibiotics for preventative reasons)
 - Apply **CORRECT** dosage according to label instructions
 - **DO NOT** use extender patties
 - Refer to **Factsheet #204 – Antibiotics for Bee Disease Control**

02/06