

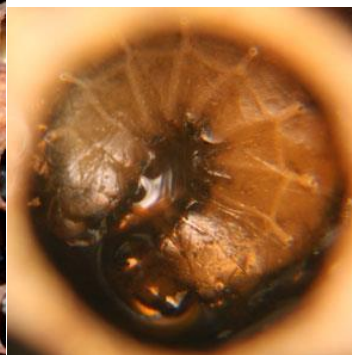
EUROPEAN FOULBROOD (EFB)

Description

European Foulbrood (EFB), *Melissococcus plutonius*, is a bacterial disease that affects honey bee larvae. EFB is introduced and spread by worker bees through drifting, robbing, package bees, swarms, infected comb and re-queening. The bacteria are transmitted when they are mixed with bee bread, nectar and/or diluted honey and then fed to young larvae. After being fed, the bacteria replicate in the midgut, killing the larvae typically within 4-5 days, before the cell is sealed. In more severe cases, infected larvae can expire after the cell is sealed and resemble AFB cells. The EFB scale that results from dead, dried larvae are soft and much easier to remove than that of AFB. Considered to be less virulent than AFB, EFB is still contagious. A severe infection may result in hive death given that the bacteria can remain viable during long periods of desiccation in brood cell walls and larval frass (feces).

Signs and Symptoms

- Imbalance between populations of nurse bees and larvae, spotty brood pattern
- Deficiency of pollen may be seen
- Sour, fish-like, rotten odor may be present
- Uneven and/or spotty brood pattern on brood frames, typically found on outside frames in colony
- Grayish, whitish-yellow to brown colored larvae
- Twisted and/or curled upward larvae with defined tracheal system that have white visible trachea
- Deflated larvae located at the bottom of cells
- May have roping, sticky larval remains at a maximum of 1.5cm in length when drawn out of cell
- Brown to black hardened larvae “scales”, located at the bottom of cells that are easy to remove



Think You May Have EFB?

Contact the MDAR Apiary Program to schedule an [inspection](#). EFB infected colonies can be treated with an antibiotic (oxytetracycline, *Terramycin*), by providing feed (pollen and sugar water), shaking adult bees onto clean foundation and disposing of old comb, and re-queening. Mild infections may clear up on their own with a good nectar flow and providing feed. Antibiotic treatment of EFB requires a Veterinary Client Patient Relationship (VCPR) and prescription from your veterinarian. If treating with antibiotics, follow the label instructions and veterinarian directions. Visit the [Massachusetts Veterinary Medical Association \(MVMA\)](#) website to find a veterinarian in your area.

References

1. Bee Informed Partnership. Pest and Disease Control, European Foulbrood (EFB). December 13, 2013. <https://beeinformed.org/2013/12/13/european-foulbrood-efb/>. Assessed March 1, 2017.
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4. Vidal-Naquet, N. 2015. Honeybee Veterinary Medicine: Apis mellifera L., 1st edition. 5m Publishing, United Kingdom. 260pp.