

American Foulbrood (AFB)

Symptoms

- Affects only capped brood
- Spotty brood pattern
- Larvae die in the upright position
- Larvae turn from white to brown to black
- Sunken, punctured cappings
- Cappings may appear wet (Fig. 1)
- Dead larvae exhibit “ropiness” (Fig. 2)
- “Pupal tongue” sometimes present
- Dead larvae form black scales in the bottom of cells and are difficult to remove
- Sulfur-like smell

Parasitic Mite Syndrome (PMS)

Symptoms

- Affects ALL stages of larvae, prepupae, and pupae
- Spotty brood pattern
- Larvae appear “melted down” (Fig. 4)
- Chewed down brood (Fig. 3)
- Lack of eggs and developing larvae
- Varroa mites seen on bees and comb
- Rapid decline of the adult bee population
- Supersedure cell often present
- May acquire an odor and become discolored when secondary bacteria set in

European Foulbrood (EFB)

Symptoms

- Affects predominately uncapped brood
- Spotty brood pattern
- Larvae are twisted and contorted in cell – in the “stomach ache position” (Fig. 5)
- Larvae turn from white to yellow to brown
- Tracheal system visible (Fig. 6)
- Royal jelly will appear yellow-brown
- Dead larvae form a rubbery brown scale that is easy to remove and often crescent shaped

What To Do

- *Does this seem to affect only capped brood?*
- *Does the dead larvae “rope” out from a match or twig when it is inserted into an infected larvae and then removed? (Fig. 2)*
- *Are scales present and difficult to remove?*

If you suspect a colony of having AFB, contact the Texas Apiary Inspection Service to set up an inspection.

What To Do

- *Do you have a high Varroa mite load?*
- *Does it appear to affect all stages of larvae?*
- *Are you seeing adults with deformed wing virus?*
- *Are you seeing mites on bees and comb?*
- *Are you seeing chewed down brood and prematurely aborted larvae? (Fig. 3)*

Implement an IPM strategy for reducing mite loads immediately. For more information on controlling for Varroa mites, visit honeybeehealthcoalition.org.

What To Do

- *Does this seem to affect predominately uncapped brood?*
- *Are the larvae curled or twisted? (Fig. 5)*
- *Are their tracheal systems visible? (Fig. 6)*
- *Are scales present and easy to remove?*
- *Consider using an EFB test kit to confirm your diagnosis.*

EFB will often clear up on its own. If a case persists, feed, requeen the colony, or contact your vet to discuss using an antibiotic.

American Foulbrood (AFB)



Figure 1. Sunken, punctured, moist cappings of AFB.



Figure 2. Example of the "ropiness" of AFB infected larvae.

Parasitic Mite Syndrome (PMS)



Figure 3. Chewed down and prematurely uncapped brood.



Figure 4. Melted, snotty brood. Varroa mites present in cells.

European Foulbrood (EFB)



Figure 5. EFB infected larvae twisted in the "stomach ache" position.



Figure 6. Tracheal system visible in EFB infected larvae. Scale beginning to form.

For more information about honey bee pests and diseases, please visit:

txbeeinspection.tamu.edu

For more information regarding monitoring and controlling for Varroa mites, please visit:

<http://honeybeehealthcoalition.org/Varroa/>

To schedule an inspection or for more information regarding the Texas Apiary Inspection Service, please contact our office at :

(979) 845-9713

tais@tamu.edu



**Texas Apiary
Inspection Service**

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Identifying Brood Diseases

A Comparison of American Foulbrood, European Foulbrood, and Parasitic Mite Syndrome