

**O**ur goal at Mann Lake is to help the beekeeper.

We are on the forefront of research and development in the beekeeping industry; our information is backed up by scientific and field research in real hives just like yours. It can be detrimental to a beekeeper and the hive to use illegal treatments. These treatments have not been thoroughly tested for effectiveness and safety and have not been assigned a proper application rate to prevent resistance to or death from that product. Mann Lake Ltd. only recommends treatments that have been approved by the EPA, for your safety as well as the bees.

## European Foulbrood:

- \* Larvae die in a coiled, twisted, or irregular position in their cells. Cells are usually uncapped.
- \* Larvae color may change from light cream to grayish brown, darkening as the dead larvae dry up.
- \* Sour odor may be present.
- \* Dead larvae are not ropy as in American Foulbrood.

## Recommended treatment:

Treat with Tylosin or Terramycin. Terramycin is available in Terra-Patties<sup>®</sup> or Terra-Pro, treat in spring and fall. Additional information see pages 60-61.

## American Foulbrood:

- \* Brood pattern is irregular rather than compact.
- \* Healthy larvae are glistening white color; diseased ones lose this appearance, and turn from light brown to dark brown and are upright, not twisted in cells.
- \* Larvae long dead develop the consistency of glue and are difficult for bees to remove.
- \* Cappings become concave and some will be punctured by bees attempting to remove the dead brood.
- \* Surface of cappings will be moist or wet rather than dry.
- \* Some dead pupae, shrunken into scales, have their tongues protruding at right angle to their scale or straight up. This may be the only recognizable characteristic.

## Recommended Treatment:

Treat with Tylosin or Terramycin. Terramycin is available in Terra-Patties<sup>®</sup> or Terra-Pro treat in spring and fall. Additional information see pages 60-61.

## Tracheal Mite:

- \* Very hard to detect without dissection. If you notice bees disappearing from your hive, you may want your State Inspector to test your bees for this mite.

## Recommended Treatment:

Is best to treat this on a preventative measure by using Mite-a-Thol<sup>®</sup>. Alternative treatment is Formic Acid Pads. Additional information see pages 57-58.

## Varroa Mites:

- \* Infested capped drone brood.
- \* Disfigured adult bees, deformed legs or wings.
- \* Bees discarding larvae and pupae.
- \* Pale or dark reddish brown spots on otherwise white pupae.
- \* Visible on the outside of bee.
- \* Spotty brood pattern.

## Recommended Treatment:

Treat with either CheckMite+<sup>™</sup>, Apistan<sup>®</sup> strips, Formic Acid Pads or ApiLife VAR. Follow your states label instructions. For additional treatments see pages 55-58.

## Nosema Disease:

- \* Bees unable to fly or able to fly only short distances.
- \* Bees seen trembling and quivering, colony restless.
- \* Feces on combs, bottom boards, and outside walls of hive.
- \* Bees seen crawling aimlessly on bottom board, near entrance, or on ground; some dragging along as if their legs are paralyzed.
- \* Wings positioned at various angles from body – not folded in normal position over abdomen.
- \* Abdomen distended (swollen).
- \* When bee is dissected, midgut is swollen, dull, grayish white color and circular constructions of gut are no longer evident; normal gut color is brownish red or yellowish with many circular constructions.

## Recommended Treatment:

Treat with a mixture of Fumagilin<sup>®</sup>-B and sugar syrup in the spring and fall. Additional information see page 59.

**For more information  
about honeybee pests  
and diseases see our book  
selection on pages 111-115  
and check out our  
website at  
[www.mannlakeltd.com](http://www.mannlakeltd.com)**

## Wax Moths:

- \* Tunnels in combs.
- \* Silk trails, crisscrossing one another over combs.
- \* Small dark objects (excrement of wax moth larvae) in the silk trails in a hive.
- \* Silk cocoons attached to wooden parts.
- \* Destroyed comb, piles of debris on bottom board.
- \* A strong hive usually controls moths without assistance. Remove any unnecessary supers or brood boxes so they have less area to defend.

## Recommended Treatment:

Treat with Para-Moth. Only use in stored supers. Additional information see page 59.

## Chalkbrood:

- \* Mummified bodies of brood can often be seen in cells, on bottom boards, or at the hive entrance.
- \* Very rare.

## Recommended Treatment:

There is no registered control agent for use against chalkbrood disease in Canada or the U.S. Although most reports indicate that chalkbrood does not cause serious economic losses, diseased colonies can have reduced populations and reduced honey production. Since adult bees can remove chalkbrood mummies, the disease often disappears as colonies increase in population and/or nectar flow commences.

## Hive Beetle:

- \* White egg masses deposited by the adult female into crevices within the hive.
- \* Larvae tunnel through the combs, killing brood and ruining newly drawn comb.
- \* Cream-colored larvae feed on pollen and honey for 10-16 days before exiting the hive to pupate in the soil around the hive.
- \* Pupae are light tan to blueish tan in color.
- \* Winged adults emerge from the soil in 2-3 weeks, re-enter the hive to feed and reproduce.
- \* Life span is up to 6 months.

## Recommended Treatment:

Treat with one Checkmite+<sup>™</sup> strip per hive (in approved states only). Also treat with ground drench GardStar<sup>®</sup> to kill larvae that enter the soil. For additional information see pages 55-56.