

Factsheet #204

ANTIBIOTICS FOR BEE DISEASE CONTROL

Read the label of any product before use, and follow the directions and measurements closely.

OXYTETRACYCLINE

*The development of antibiotic-resistant American Foulbrood (r-AFB) demands careful use of antibiotics. Oxytetracycline should be applied **only** when brood disease has been confirmed or detected nearby. It is no longer recommended for disease **prevention**. Dependency on antibiotics can be sharply reduced through hygienic management practices, abundance of pollen, and reduction of stress factors (refer to **Factsheet #200**). Do not use antibiotic extender patties.*

- Oxytetracycline is effective against American Foulbrood and European Foulbrood disease.
 - Available in several concentrations and sold under the trade name Oxytet.
 - Animal formula is water soluble, with antibiotic concentration of 55 milligrams (mg) in 1 gram of product. This is the same as 25 grams antibiotic per pound of product.
1. **Dosage:** 5 millilitres (= 1 teaspoon) per treatment per colony. Do not feed more or less than recommended.
 2. **Timing:** Feed every two weeks between late winter and middle of spring. Stop feeding at least six to eight weeks before honey removal and extraction.
 3. **Application method:** The antibiotic is added to prepared sugar syrup. For every colony, use 5 ml of product in 4.5 litres of syrup. Prepare syrup when hot and let cool. Shortly before use, add antibiotic. Keep medicated syrup away from sunlight.

FUMAGILLIN

- Product effective against Nosema disease (*Nosema apis* and *Nosema ceranae*) only.
 - Trade name: Fumagilin-B.
1. **Dosage:** 5 millilitres (= 1 teaspoon) per treatment per colony.
 2. **Timing:** One treatment in fall and one treatment in spring.
 3. **Application Method:** Applied in syrup only, 5 ml dissolved in 4.5 litres of syrup for each colony. Fumagillin does not dissolve readily in water. To prepare, gradually add small amounts of warm water (not HOT) to the fumagillin, while stirring, in order to prevent clumping. Shortly before use, add antibiotic solution to syrup. Keep medicated syrup away from sunlight.

NOTE: Check expiry date on package, and store in refrigerator. Fumagillin and oxytetracycline can be mixed and applied together.

TYLOSIN AND LYNCOMYCIN

The development of resistant AFB in western Canada since the late 1990s has caused some beekeepers to look for alternative antibiotics, including Tylosin and Lyncomycin. Both veterinary drugs are registered in Canada for various animal production systems but NOT for beekeeping. Tylosin is available for use in beehives in Alberta by veterinary prescription only. The product is not available in British Columbia. Concerns about persistence may prevent these drugs to be registered for use in bee hives.