



Apiculture Factsheet

<https://www2.gov.bc.ca/gov/content/industry/agriculture-seafood/animals-and-crops/animal-production/bees>

Factsheet #204

ANTIBIOTICS FOR BEE DISEASE CONTROL

NOTE: Antibiotics (~veterinary antimicrobials) are only available with a veterinary prescription in Canada and the USA. In order to obtain a prescription, AFB or EFB must first be confirmed. Contact your local veterinarian or the Apiculture Office for more information.

While Fumagillin is an antibiotic, it does not require a veterinary prescription and is available at the bee supplier.

OXYTETRACYCLINE

*The development of antibiotic-resistant American Foulbrood (r-AFB) demands that the drug should **only** be applied when brood disease has been confirmed or detected nearby. Prophylactic use is no longer recommended. Dependency on antibiotics can be sharply reduced through hygienic management practices, abundance of pollen, and reduction of stress (refer to **Factsheet #200**).*

- Oxytetracycline is effective against American Foulbrood (AFB) and European Foulbrood disease (EFB).
 - Marketed under various trade names including Oxytet, Oxysol, Terramycin, etc.
 - Animal formula is water soluble, with antibiotic concentration of 55 milligrams (mg) in 1 gram of product. This is the same as 25 grams of antibiotic per pound of product.
1. **Dosage:** 5 milliliters (= 1 teaspoon) per treatment per colony. Do not feed more or less than recommended.
 2. **Timing:** When disease has been detected and antibiotic treatment is needed, 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 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.

TYLOSIN

- Effective against European Foulbrood (EFB) and American Foulbrood (AFB).
 - It is also effective to control AFB resistant to oxytetracycline (r-AFB).
 - Tylosin is persistent and may leave residues in honey, pollen and wax. Only apply Tylosin in the fall. If spring application is essential, stop application at least 4 weeks before the start of the honey flow.
 - Trade name: Tylan (active ingredient, tylosin tartrate)
1. **Dosage:** 200 mg per colony per treatment.
 2. **Timing:** When AFB has been confirmed, apply three treatments one week apart. Tylosin should only be applied in the fall to avoid residues which may occur with spring applications. If spring application is essential, stop application at least 4 weeks before start of honey flow.
 3. **Application method:** Mix 200 mg Tylosin in 20g confectioners/powdered sugar. Apply immediately by dusting over the top bars.

FUMAGILLIN

- Product is effective against Nosema disease only (*Nosema apis* and *Nosema ceranae*).
 - Trade name: Fumagillin-B, Fumadil B (active ingredient, fumagillin).
1. **Dosage:** 5 ml (= 1 teaspoon) per treatment per colony.
 2. **Timing:** One treatment in fall and one in spring **only** when Nosema disease has been diagnosed.
 3. **Usage:** Fumagillin should not be applied prophylactically because of increased risk of developing drug resistance. However, in case of previous infection in your colonies or prevalence of Nosema in your area, prophylactic use may be needed in early spring before the start of bee flight and foraging.
 4. **Application Method:** Applied in syrup only, 5 ml dissolved in 4.5 liters of syrup for each colony. Fumagillin does not dissolve readily in water. To prepare, first make a paste by gradually adding small amounts of warm water (not HOT) to the fumagillin. Shortly before use, add antibiotic solution to syrup. Keep medicated syrup away from sunlight. Use medicated syrup within 24 hours.

NOTE:

- **Fumagillin and oxytetracycline can be mixed and applied together.**
- **Check expiry date on any antibiotic product. Do not use out-of-date antibiotics.**
- **Store unused product in cool, dry and dark place.**