

## Factsheet #204

### ANTIBIOTICS FOR BEE DISEASE CONTROL

As of December 01, 2018 Oxytetracycline and Tylosin are only available in Canada through veterinarian prescription. A veterinarian prescription will only be issued when American or European Foulbrood has been confirmed. For further information, please contact your local veterinarian or the Ministry of Agriculture. (*Please note; Fumagillin is solely used for the control of Nosema disease and is exempt from veterinarian prescription and oversight*).

#### **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. 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 (refer to **Factsheet #200**). Do not use antibiotic extender patties.*

- Oxytetracycline is effective against American Foulbrood (AFB) and European Foulbrood disease (EFB).
  - Marketed 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 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 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.

#### **TYLOSIN**

- Effective against European Foulbrood and American Foulbrood (AFB and r-AFB).
  - 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: Fumagilin-B (active ingredient, fumagillin).
1. **Dosage:** 5 ml (= 1 teaspoon) per treatment per colony.
  2. **Timing:** One treatment in fall and one treatment in spring **only** when Nosema disease has been

diagnosed.

3. Do not apply fumagillin prophylactically because of increased risk of developing resistance.
4. **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, 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.**