

Antibiotics for Control of Bee Brood Diseases

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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.

Dosage	5 milliliters (= 1 teaspoon) per treatment per colony. Do not feed more or less than recommended.
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.
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)

Dosage	200 mg per colony per treatment.
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 <u>at least 4 weeks</u> before start of honey flow.
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).

Dosage	5 ml (= 1 teaspoon) per treatment per colony.
Timing	One treatment in fall and one treatment in spring only when Nosema disease has been diagnosed.
Do not apply fumagillin prophylactically because of increased risk of developing resistance.	
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.