



**Ontario Beekeepers' Association
Technology-Transfer Program**

Orchard Park Office Centre, Suite B47, 5420 Highway 6 North, Guelph, Ontario, Canada, N1H 6J2
519-836-3609 obatechtransfer@rogers.com

OXALIC ACID TREATMENT PROTOCOL TRICKLE METHOD

Preparation:

- Prepare 50% sugar syrup (eg. 1 kg of sugar in 1 L of water).
- Measure out 1 L of syrup and add 35 g of **oxalic acid dihydrate (min. 99.6% purity)** crystals.
- Agitate the solution by stirring vigorously or shaking.
- The crystals dissolve best if the sugar solution is warm. All of the crystals must be dissolved.
- Prepare the solution within days of treating the colonies and keep refrigerated until use.
- 1L of the oxalic acid solution will treat 20 colonies.

Trickle Application:

Oxalic acid should be applied late in the fall after brood rearing has ceased. Treat when the temperatures are cooler (in the morning or evening) to ensure that the bees are in the hive to receive the treatment. Using a 60 ml syringe or an oral drench gun (both available at farm supply stores), apply **50 ml** of the solution directly onto the bees in the cluster. Trickle the solution between each frame containing bees. When treating doubles, split the boxes and treat the bees in both boxes (25 ml in the bottom box and 25 ml in the top box). After application, the colony may be wrapped for the winter the same day.

Safety:

When handling the oxalic acid crystals, always wear **gloves** and a **dust mask**. **Gloves** and **protective clothing** should be worn when treating colonies using the trickle method. If oxalic acid crystals or the treatment solution contact your skin, wash affected area with water.

Storage:

In all forms, oxalic acid is odorless. The crystalline powder should be stored at room temperature in an airtight container. This will prevent absorption of moisture, which causes the loose powder to solidify. Do not store leftover oxalic acid treatment solution. The oxalic acid changes in composition and becomes toxic to the bees.

VAPORIZATION METHOD

There are different vaporizers available for use in the hive. Instructions for use are specific to the vaporizer purchased. **Goggles, gloves** and a **respirator** should be used when vaporizing oxalic acid crystals.