



OXALIC ACID TREATMENT PROTOCOL TRICKLE METHOD

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) or on an overcast/rainy day to ensure that all of the bees are in the hive to receive the treatment. Using a syringe or an oral drench gun (both available at farm supply stores), apply **50 ml** of the solution topically onto the bees by trickling the solution between each frame that contains bees. When treating doubles, crack open the space between the boxes and treat the bees in both boxes (first in the bottom box and then in the top box). Ensure to distribute the treatment so that all bees are exposed to it.

Trickle Solution Preparation:

1. Prepare 50% sugar syrup. The amount you will need is dependent on how many colonies you will be treating. 1L will treat 20 colonies. 50% sugar syrup is mixed as a 1:1 ratio. (For example: 1 kg of white table sugar in 1 L of water **HOWEVER** this will make more than 1L of sugar syrup!).
2. Add 35 g of oxalic acid dehydrate (min. 99.6% purity) crystals **FOR EVERY LITRE** of sugar syrup needed. (For example: 50 colonies will require 2.5L of sugar syrup mixed with 87.5g of oxalic acid crystals).
3. Agitate the solution by stirring vigorously or shaking. A paint stirring attachment to a drill works great. The crystals dissolve best if the sugar solution is warm (not boiling). All of the crystals must be dissolved.

Prepare the solution within days of treating the colonies and keep refrigerated until use.

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 mixed 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.