# Using the Trickle Method with Oxalic Acid

## THE TRICKLE METHOD

***FACTORS TO BE CONSIDERED WHEN USING THE "TRICKLE" OXALIC ACID TREATMENT***

The final treatment of the colonies in autumn or early winter is a component of many anti-Varroa treatment regimes. The aim is to reduce the Varroa infestation level to an absolute minimum, so that in the following season there is no problem with Varroa before the late summer.

This procedure has proved itself to be effective in beekeeping practice. It is one method of anti Varroa treatment which does not cause residues in the hive products, oxalic acid is a organic substance. The treatment is carried out after the colony has ceased to rear brood. In this brood free condition one treatment is sufficient to achieve an effectiveness of over 90%.

Many strong colonies with older queens cease to rear brood in October. In nucleus colonies with young queens this is seldom the case. This might possibly be due to their development phase only ending in late summer, while the older stronger colonies have already reached their peak of development by June. Brood rearing in autumn is influenced by apiary location, but more so by the weather. The first night frosts cause the queen to stop egg laying. Three weeks later the colony is brood free. At this time the oxalic acid trickle method is at it's most effectiveness. The removal of the hive roof and crown board to facilitate the treatment has no detrimental effect on the bees.

**DESCRIPTION OF THE TRICKLE METHOD**

The treatment is carried out using a warm sugar syrup solution at an oxalic acid concentration of 3.5% applied using a syringe or some other suitable device. The procedure should be carried out in such a manner that it can be administered in a droplet form.

Warm tap water may be used to make up the solution.

The solution should be stored for immediate use only, in a bottle with a secure top and clearly marked as to the contents. Any calcium in the water will combine with the oxalic acid and precipitates as insoluble calciumoxalate crystals. The effect on concentration of the solution will be negligible. The addition of sugar to the solution will merely result in a more rapid mite fall, it has no effect on the efficiency or bee tolerance and does no harm. During the treatment the weather must be cold, a few degrees above freezing is ideal. Smoke should be used only sparingly, if at all as the colonies are clustered tightly due to low temperature.

The colonies cluster under a deep crown of stores in November/ December. The treatment of

colonies on single brood chambers is relatively easy since the cluster position can be seen. In the case of double brood chambers it is often more difficult, especially if the bees are clustered in the lower box. The use of a torch may expose the position of the cluster or the top box may be tipped up. In this way the treatment can be trickled into and not onto the cluster. It is best to take a little care and time when treating. It is better to do two passes over each frame space. The more bees which are in contact with the solution the better the treatment will be tolerated and the solution will be more readily distributed around the colony. It is a good idea to note the number of seams of bees as soon as the hive is opened and the bees are tight clustered.

As treatment proceeds the cluster tends to break up, and you have more seams of bees than was first noticed. Treat for the number of seams first noticed, but spread the acid over as many bees as possible.

According to the size of the colony the dose varies between 30-50 millilitres. 30 millilitres if the colony is tightly clustered in temperatures under or at 0ºC and only covering 4-5 frames, 50 millilitres when the cluster is on six or seven frames.

***The treatment must only be administered once.***

Repeated applications are not tolerated well by the bees. Large numbers of bees will become over acidified and fly prematurely and not show as mortality on the hive floor. In colonies free of brood a second treatment would be superfluous anyway.

The mite fall resulting from the late treatment should be noted The mite drop continues to increase over a four to five week period, even when most of the poisoned mites (80%) drop during the first week after treatment

**THE TRICKLE METHOD AT A GLANCE**

1. A 3.5% solution of oxalic acid and sugar. (200 g sugar 35g oxalic acid “Accurate measurements please” dissolved in 3/4 litre of warm water, then more warm water added to the solution to make a 1 litre total quantity).
2. 100 mIll syringe.
3. Acid proof gloves (important!)
4. Each colony is dosed with 30 to 50 ml. of solution at a dosage of five to six ml. Per Occupied frame space. (seam)
5. Treatment is in November or December at just above 0°C. Try to administer when there is some weather coming up that will enable them to fly and relieve themselves Administer treatment in as many droplets of solution as possible and drip onto as many bees as possible. (Do not shake or squirt solution onto bees!)
6. Mite fall continues for four to five weeks.
7. Good efficiency only in brood free colonies.
8. Two applications is one too many.