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Treatment with Oxalic Acid

Oxalic acid is a short-lived treatment that only kills mites that are living on the bees (i.e. those in a phoretic state). It does not kill mites that are in the brood. When there is brood present in a hive, only about 15% of the mite population are normally on the bees (ie. the rest, 85% are in the brood). It follows, therefore, that oxalic acid works best on colonies that are broodless at the time of treatment. This is the **ONLY CONDITION** (broodless) in which oxalic acid should be used. It can of course be used on swarms (both natural or artificial) if they suspected of carrying a heavy load of mites (normally they carry very few mites).

Treatment should be delayed until colonies are in a broodless state. In our area, this does not usually occur until mid-December or even January. After the Thymol treatment (in August-September), it is recommended that the catch tray should be removed, the insulation taken out of the cover board and some top ventilation re-instated. This will make the hive much cooler (I know this will horrify some people) and ensure the cessation of brood-rearing as the weather gets colder. Discretion should be exercised with weak colonies.

This sweet solution is poisonous and should be stored securely out of the reach of children!

Procedure for treatment with Oxalic Acid by the Dribble Method

Fill the 50 ml syringe with treatment solution (oxalic acid).
Remove the roof.
Remove the top box (shallow or deep) with cover board in place and rest it on the upturned roof.
Treat the lower box with about 5 ml solution/occupied seam of bees.
Replace upper box.

Remove cover board and treat any seams of bees as for the lower box (the upper box will often have no bees, especially if the weather is cold).

Replace the cover board and roof.

This procedure usually takes less than a minute/hive. It is safe to carry out the treatment in cold conditions with the temperature down to 0°C. If the weather is cold and the bees are well clustered, they will usually not even have got moving until the deed is accomplished. However, it definitely does pay to ensure you have the correct bee space between boxes so that they come apart readily without disturbing the bees.

With a kill efficiency of about 90%, the oxalic acid treatment will not only mop-up mites that escaped the Thymol treatment 3-4 months previously, but it will also kill any mites that have been bred in that time or have been recruited from external sources.

After the oxalic treatment has been completed, the top insulation should be re-instated and any top ventilation closed-off. Mites will continue to fall for about a fortnight after which the catch tray can be removed.

Beekeeper Protection

It cannot be stressed too strongly that oxalic acid is an aggressive substance and needs to be treated with respect. Acid resistant gloves and goggles should be worn and an apron of the type used by mortuary attendants, along with wellington boots that have the tops covered by gaiters so that any falling liquid cannot fall into the boot. A respirator that has specialised organic acid filtering will be required in cases where the acid is sprayed or vapourised. Oxalic acid is also poisonous to humans by ingestion

Please note that Oxalic Acid in solution will become toxic to bees if it is kept at a high temperature. Each solution is supplied with a use by date. If the solution becomes brown in colour then discard it immediately in a safe manner.