

## **Acetic Acid Fumigation of Dead Outs**

Acetic acid is known to be effective as a sterilizing agent against nosema and also helps with the problem of waxmoth. The acid will kill both the eggs and adult waxmoth, but not necessarily the bigger larvae. Acetic acid fumigation is the simplest way for beekeepers to sterilize combs contaminated with nosema spores. It is suggested that beekeepers use acetic acid as a normal routine preventative method to help guard against nosema.

When using the acid, remember:

1. It is corrosive and will attack metal and also concrete.
2. It needs careful handling; use the correct personal protective equipment.
3. It is recommended that beekeepers in Alberta use 80 per cent acetic acid (Shimanuki in *The Hive and Honey Bee* published by Dandant & Sons, Inc., 1992).
4. Store in the original, labeled container.

Acetic acid is used in the following way:

1. Stack five brood/super boxes with combs to be sterilized on a board or a solid hive floor with the entrance blocked off. The fumes of acetic acid are heavier than air and will travel from the top to the bottom of the stack and pour out of the bottom if there is a gap or holes.
2. Place a non-metallic tray (saucer or similar container) on the top of the frames of the top box, and place 600 ml of 80 per cent acetic acid in the tray (120 ml/box). Then, place an empty hive box on the top of the stack.
3. Close off the empty box on the top of the stack with a hive cover. Seal any joints between the boxes with wide adhesive tape to stop fumes escaping.
4. Leave the stack for about one week for the fumigation to proceed. Then, carefully remove the acid trays from the top box.
5. Allow the brood/super boxes to air off thoroughly for at least two days before use.