How to Sublimate with Oxalic Acid Di-Hydrate

Oxalic Acid Di-Hydrate is a white odourless dry powder / grain substance which when heated releases highly corrosive gases and vapours (formic acid).

Safety

Oxalic Acid Di-Hydrate is very harmful. It occurs as a white powder or grain substance with no smell, is corrosive and an irritant to skin and respiratory organs and can cause serious eye damage as well as damage to the environment. Please read all safety data and safe use recommendations before use. Always wear recommended Personal Protective Equipment (face mask, goggles, gloves) Store all Oxalic Acid Di-Hydrate products in a secure place to prevent accidental exposure.

Sublimation

Sublimation is the process of transforming a solid substance into gas or vapour without passing through the liquid state. In beekeeping we use a heating device to sublimate a measured amount of Oxalic Acid Di-Hydrate to send vapours around the hive to kill off phoretic varroa mites (mites that are clinging on to the bees) as part of an integrated bee health management plan.

Equipment

PPE – bee suit, mask, goggles and gloves, proprietary sublimation device, Oxalic Acid Di-Hydrate, spoon (½ teaspoon = 2.25gm), timer, sponge strips for sealing hive, hive tool.

Sublimating a Honeybee Colony

Sublimation kills off the vast majority of phoretic mites and any that are free within the hive, it won't kill any that are in sealed brood cells. The process is best carried out during the colder winter months when there is the least amount brood present and consequently the least amount of mites concealed in the cells. In low temperatures there will be few if any bees out flying providing the opportunity to knock down over 97% of phoretic mites.

Close any ventilation on the hive and seal around the entrance where the treatment is going to be being applied. Sublimate the hive with 2.25gm of Oxalic Acid Di-Hydrate for a period of 3 minutes then keep the hive closed up for a further 15 minutes to allow the vapours to do their work. Clean the varroa board for later inspection.

Frequency

Winter – single treatments end Nov, early Jan, end Feb. Alternatively treat at end December on days 1 and 14 to achieve maximum effect*.

** Ref Al Toufailia, H Ratnieks et al Sussex University 2016.*