Working with Mite-AwayII™ -Treatment Window Identification

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Mite-AwayII™ is to be used as part of an IPM program for varroa and tracheal mites. The label sets out under what conditions treatment can be applied. How does a beekeeper figure out when to apply Mite-AwayII™? Here are the directions from the label and a step-by–step approach to determining treatment windows:

From label: *Outside daytime temperature highs should be between 50 - 79ºF at the time of application. Remove pads from the hives in the event of a heat wave (if daily temperature highs exceed 82ºF) within the first 7 days of treatment.*

Step 1: for the area your bees are in, obtain a copy of the historical daily temperature averages for the year. The local agriculture office should have it, or the library or weather station.

Step 2: block out any time frames where the average highs are less than 50 ºF or greater than 79ºF.

From label: *Do not apply while honey supers are on the hive. Complete treatment of Mite-AwayII™ before adding honey supers on the hive, or, if honey supers are in place, remove them from the hive before starting a treatment. Do not treat during honey flow.*

Step 3: block out any time frame when there would be an expected honey flow of harvestable honey.

The remaining space on the calendar would be the approximate treatment window(s), for a specific area, by temperature and honey flow(s). As always the weather is unpredictable so check forecasts for temperature spikes and drops before application and adjust your plans accordingly.

From label: *Single or double brood-chamber, standard Langstroth equipment honeybee hives, honeybee colony covering 6 - 20 frames.*

Step 4: Once the temperature and honey flow windows are assessed the strength of the colony needs to be taken into consideration. Colony strength varies with the time of year and management technique. The Mite-AwayII™ treatment releases the formic acid vapors into the hive and the colony controls the concentration by ventilation. If the colony is not strong enough it can become overwhelmed by the formic vapors.

Step 5: Integrated Pest Management (IPM) programs have a monitoring plan built in. Treatment decisions need to consider stock of bees being used, next treatment window, ambient temperature spikes/drops, anticipated honey flows, amount of brood present in the colony (when brood is present 70 to 80% of the varroa mites can be under the cap[i]), the starting numbers of phoretic varroa mites, and re-infestation. Another factor in determining treatment thresholds is the future management plan for the colony. In a fall situation under northern climate conditions, if a colony is to stay on site in a northern local, the economic injury level is different than for a colony that is going to be moved into a warmer climate for the winter months, as often happens when beekeepers move colonies to receive income by providing colonies for pollination services: *"(varroa) mite population to increase 12 fold in a colony which has brood present 128 days yearly or 800 fold where brood is present continuously through one year"*[ii]

State Apiarists can be a great help in adopting a sustainable mite treatment program specific to their areas. ALWAYS FOLLOW THE LABEL FOR ANY PESTICIDE.

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[i] *Mites of the Honey Bee,*(2001) various authors, edited by T.C. Webster and K.S. Delaplane, ©Dadant & Sons, Inc., Hamilton, Illinois. Page 202

[ii] *ibid* page 143