

TREATMENT VARIATIONS IN HOT-DRY OR HUMID CLIMATES

Effects of External Conditions on the Temperature and Humidity Inside the Hive

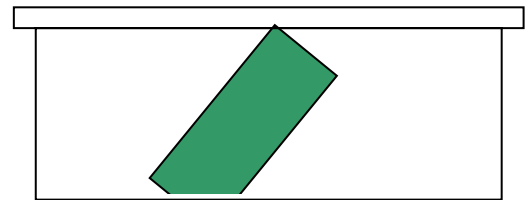
Do not worry about the TREATMENT, external temperature, cold, and humidity until the cold forces bees to cluster or temperature reaches 86°F/30°C and at the same time the humidity is 65% or more. The bees and laws of physics will take care of it.

(See “Handbook Principle 1” for a complete explanation.)

When adverse external conditions will exceed the bees’ ability to maintain ideal conditions inside hive HIGH OR LOW temperature and humidity will result in a lesser or higher rate of evaporation requiring adjustments to the length and or size of the evaporating cut.

IN HOT, DRY, “CALIFORNIA-LIKE” SUMMER CLIMATES:

At 100 °F outside temperature and 20% humidity the bees will evaporate and ventilate acid and water to cool the hive down. The evaporation rate per full cut may be 25 grams in a 24 hour period. It is important to reduce the evaporating surface area and thus reduce the evaporating rate. To do this, cut off one corner of the pad - enough to expose a 2-3” surface. Then fasten the pad on an angle to the frame – cut surface down - so that the new cut angled surface is parallel with the bottom bar. A 3” cut slows the evaporation to achieve the required 18 grams of acid evaporating per day for standard 2-story colonies or 2” for colonies in one box. One whole pad will last 14 days and refilling with acid will be required. At these high temperatures make sure entrances are large enough so hives can ventilate properly.



IN HOT HUMID CLIMATES:

- From 45%-65% internal humidity the evaporation rate is 6 grams and does not require adjustment.
- At 85% internal humidity the evaporation rate will drop to 3 grams a day. Cut pads in thirds or quarters to have more evaporating surfaces to deliver the required amount of acid (See “Other Uses and Cuttings of Pads”).
- COLD forcing bees to CLUSTER or 90% INTERNAL HUMIDITY will cease EVAPORATION. That happens only if the outside conditions surpass 86° F/30° C, and 90% humidity. The bees do not have a way of reducing humidity.
- **So what happens when evaporation stops?** The answer is that nothing happens. The acid does not evaporate nor does it get lost, and mites do not get killed. Treatment is simply on hold. **When conditions improve, acid will evaporate at a constant rate and mites will drop down into pool of heavy acid concentration and die.** In reality a half pad treatment can last a month or longer and a full pad treatment can last 60 or more days.