Thymol and Tea Tree String Treatment

Recipe

- 10g of thymol crystals
- 10 drops of tea tree oil
- Olive oil, say 25 ml
- Sunflower oil, say 50 ml
- One or two pieces of bees wax (walnut sized)
- Two or three teaspoons of fine sugar (icing sugar)
- Thirty 50mm (2 inch) lengths undyed garden string (eg. hemp)

The only things I measure accurately are the *thymol* and *tea tree*.

Method

Gently warm the oil and beeswax until the beeswax just dissolves and then add the thymol crystals. Stir to dissolve these. (They smell strongly, so do not touch them with your hands.) Cool and add the tea tree (it will evaporate if the mix is too hot). Then add the sugar and stir. The mix will turn lumpy and sticky at this stage. The consistency should be that of soft butter. Place the pieces of string in the mix and coat them thoroughly. Use enough string to soak up all the mix.

This makes about enough to treat 3 hives once each with 10 strings apiece. Make up a fresh recipe for each treatment as I suspect that the thymol breaks down over time. The treatment is most effective when the bees are active and the weather warm. The dosage rate is about 1/4 that of commercially available thymol treatments and much more effective in my experience.

To apply, move the top bars apart enough to push a piece of string down between each leaving a short length of the string just proud of the bar. When the bars are closed up, these little tails will be visible so you will know which bars are 'stringed' and which not. The string, being sticky, will catch on the face of the comb. That's fine. Do this for each of the brood bars .

Over time the bees will chew at the string and throw bits out of the hive entrance or push chewed pieces through the mesh floor. Such research as I have seen suggests that thymol does not persist in the combs but, to be sure, I do not apply the treatment when a honey flow is in progress if I intend to harvest the honey and I remove any remaining

strings.

Mite Counts

Sticky boards can be cut from the sides of plastic milk containers or similar and smeared with vaseline. They do not have to cover the whole hive floor, just a good portion of the brood area. Leave the boards on for 2 or 3 days and then count the mites.

Calculate the daily drop. The monitoring regime that I use is to count at intervals through the season. For example count for a 7 day period in mid March, then again for 7 days in mid April. This will give a baseline idea of the mite load following the winter. Then count for two or three days once a month thereafter through to October or November.

Calculating problem drop rates

Daily mite fall will gradually increase through the season, from 2 or 3 a day in March and April, peaking in September or October at maybe 10 a day, before falling away sharply in October or November. As a rule of thumb, the daily natural fall will be roughly the same as the number of the month in the year - so March 3, April 4 etc. What you are looking for is a sudden and dramatic increase in natural mite fall. What I typically see is daily fall in single figures for quite a while followed by a count that is in the high teens, or 20's or 30's or even higher. (My record so far is 4 a day followed by 80 a day 3 weeks later!). It's that spike that says the mites are reproducing faster than the bees can control their numbers. That is the time to apply the treatment! If no spike occurs, the bees are coping.

During treatment the mite fall can reach a daily figure into the low 100's, which then falls off and should return to something approaching single figures, although this is not always the case. For example, the level may stabilise somewhere in the teens. That's fine as long as the count remains at that level and does not start to spike again. If the numbers do not fall, or seem to be spiking again, I apply a second string treatment. Typically I find a round of treatment in the spring holds things under control until somewhere after the honey flow when a second round of treatment is sometimes needed. Bees that have originated from feral stock are likely to show a better tolerance of varroa mites than those from hives that have been routinely treated. The aim of the regime described here is not to eradicate the mites, or even to reduce their numbers to very low levels. It is to help the bees when things gets beyond them but, otherwise, to leave them to manage things in their own way.