USE OF APIGUARD

Frequently Asked Questions

1. Q: What is Apiguard?

A: Apiguard is thymol in a slow-release gel used to control varroa mites in honey bee colonies.

2. Q: How do I apply Apiguard?

A: See Vita's leaflet. If you are using Apiguard in trays: peel back the lid of the tray and place, gel side up on top of the brood frames. Make sure to leave enough space for the bees to get into the tray — use a spacer or an empty super on top of the brood chamber. Close the hive. After 2 weeks repeat with a second tray and leave in place for 2 - 4 weeks.

If you are using the 3 kg tub: use the scoop and spatula to apply 50g Apiguard onto the dosing tray provided. Repeat after 2 weeks and leave in place for a further 2-4 weeks.

3. Q: At what time of the year should I use Apiguard?

A: Apiguard is best applied in summer or autumn, outside the period of honeyflow. The external temperature should be above 59°F, which means that the colony is active. Distribution of the Apiguard gel depends on the bees transporting it around the hive during the process of hive cleaning, and this activity increases as the external temperature rises. Application during honeyflows should be avoided in case of tainting the honey.

4. Q: Why can't Apiguard be used in springtime?

A: Apiguard can be used in springtime, if necessary, provided the daily temperature is high enough. However, it is not the best time to apply the product. Thymol, which is the active ingredient in Apiguard, can sometimes make the queen stop egg laying for a short period and that is not what is needed in early spring - the colony needs to be growing. If the mite infestation is high in spring, then it is safer to use Apiguard rather than let the mites reproduce further, but treatment is otherwise best left until the summer.

5. Q: Can I feed my colonies while using Apiguard?

A: Yes and No. The recommendation is not to apply Apiguard while feeding simultaneously in case the bees spend all their time taking the feed and not bothering to clean out the Apiguard gel. This is not a high risk and will vary between different colonies, so if you have to feed and treat at the same time, try it in a few colonies first and see how the bees react.

6. Q: The first dose is supposed to be left on for 2 weeks, but I've noticed that the gel disappears after only a few days; do I need to put on another dose right away?

A: No, the speed at which the gel disappears depends on the temperature and on the behavior of the individual colony. It can take from 2 to 10 days to be removed from the tray/dosing tray. The gel will reduce as vapor is given off and as the bees detect the "foreign material" they try to remove it. At high temperatures the vapors are stronger. The bees will find the gel and try to clean it up quickly. Strong colonies generally work faster than smaller or weaker ones. At lower temperatures, the gel sublimes more slowly. It is not detected as readily by the workers and they do not remove it as quickly.

Even if the gel seems to have disappeared after only a few days, there is no need to apply a second treatment until 2 weeks have passed. The thymol, although not in the tray, is active throughout the colony during this time, having been carried around by the housecleaning bees.

Frequently Asked Questions Cont.

7. Q: It takes longer for the gel in the second dose to disappear; why is this?

A: The second dose usually lasts longer in the trays because the bees have become more accustomed to the odor of thymol in the hive by this time. The cleaning behavior is not as pronounced as for the initial introduction.

8. Q: After 2 weeks there is still some Apiguard left in the tray/on the dosing card. What is happening and what should I do?

A: Sometimes as the gel dries, the bees lose interest in it. Empty and spread the remainder onto a flat surface (wax foundation, cardboard about 10 cm x 10 cm). If there is only a small amount of gel remaining, smear it on the top of the brood frames. This is active Apiguard and will be removed by the bees, which will further help in the control of mites.

9. Q: The first dose has been on for 2 weeks, now the second dose should be put on for 2 to 4 weeks. What if I have a honeyflow in this time?

A: If you expect a honeyflow, do not treat. If it is essential to treat before moving bees to a honey flow, apply one dose of Apiguard and remove any residual material before the moving the bees. The second dose should be applied immediately after the honeyflow. This regime may possibly not be as effective as two successive applications of Apiguard.

10. Q: I used Apiguard in the spring and my colony seems very small, why?

A: It could be that the queen stopped egg laying for a short while. This doesn't often happen, but if it does, it is a temporary effect only. She will resume egg laying when the thymol odor is dissipating, after around 3 weeks, with no damage to the colony or to the queen.

11. Q: What mite control level will I get by treating with Apiguard?

A: Apiguard often gives results as good as those obtained previously with Apistan or Bayvarol, but a lower efficacy should be generally expected, somewhere between 85 - 95% varroa control. The average we have recorded through thousands of hive treatments is 93%. Apiguard works better the warmer it is, up to 100°F.

12. Q: Why should I use Apiguard if it doesn't work as well as Apistan or Bayvarol?

A: Strains of Varroa mite resistant to pyrethroids (active ingredients of Apistan and Bayvarol) exist in many areas. Apistan and Bayvarol may not be effective in those areas, so another type of treatment needs to be used. Apiguard works in a different way than pyrethroids and will kill pyrethroid-resistant mites. Where resistant mites are not already established, it is a good idea to "rotate" treatments between pyrethroids and Apiguard.

13. Q: Can I use Apiguard and Apistan at the same time?

A: Yes, you could, but it would be a waste of money and would have no real advantage. Use one or the other, but not both at the same time.

14. Q: Are varroa mites resistant to thymol?

A: At the moment, no. Pyrethroids and other "traditional" pesticides kill their targets by acting on specific nervous channels in the mite or insect and it is relatively simple for the mite or insect to change its physiology slightly so that it is no longer affected by the nerve agent. Thymol acts in a very different way. As a protein denaturant, it disrupts cell membranes and affects all cellular processes. It is a very general mode of action rather than being highly specific. It should be more difficult for the varroa mite to change all of its body functions to become resistant to thymol. Vita is monitoring mite populations in Europe and we have found no thymol resistance yet. Although it is not impossible, it is less likely that thymol-resistant varroa will arise in the near future.

15. Q: Can I use Apiguard with open mesh floors?

A: Thymol vapors are heavier than air and with an open floor much of the value of the treatment would be lost. Close up open mesh floors during the Apiguard treatment and open them again afterwards.

16. Q: Why is Apiguard a gel? Can't I just use thymol?

A: Thymol is an effective pesticide, but when applied as raw crystals or in dry formulations, it can be difficult and hazardous to use and the mite control levels variable. In cold conditions, the thymol crystals do not sublime quickly enough and mites are not controlled, but in hot conditions thymol crystals will sublime too quickly, shocking the bees into absconding and often killing bee brood. This is why Apiguard was developed in a gel, to give a slow-release system for the thymol, allowing bees to acclimatize to a low thymol concentration before gradually building up to a mite-lethal level. When used as directed, the Apiguard gel is safe for honey bees and brood.

17. Q: Where can I find out more information?

A: For more information about Apiguard, please see our website, at www.vita-europe.com. You can also get in touch with Dadant & Sons, Inc.

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