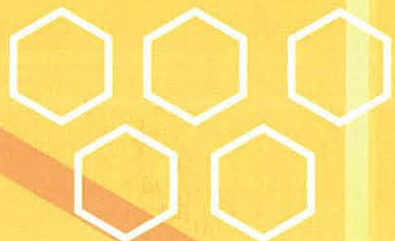
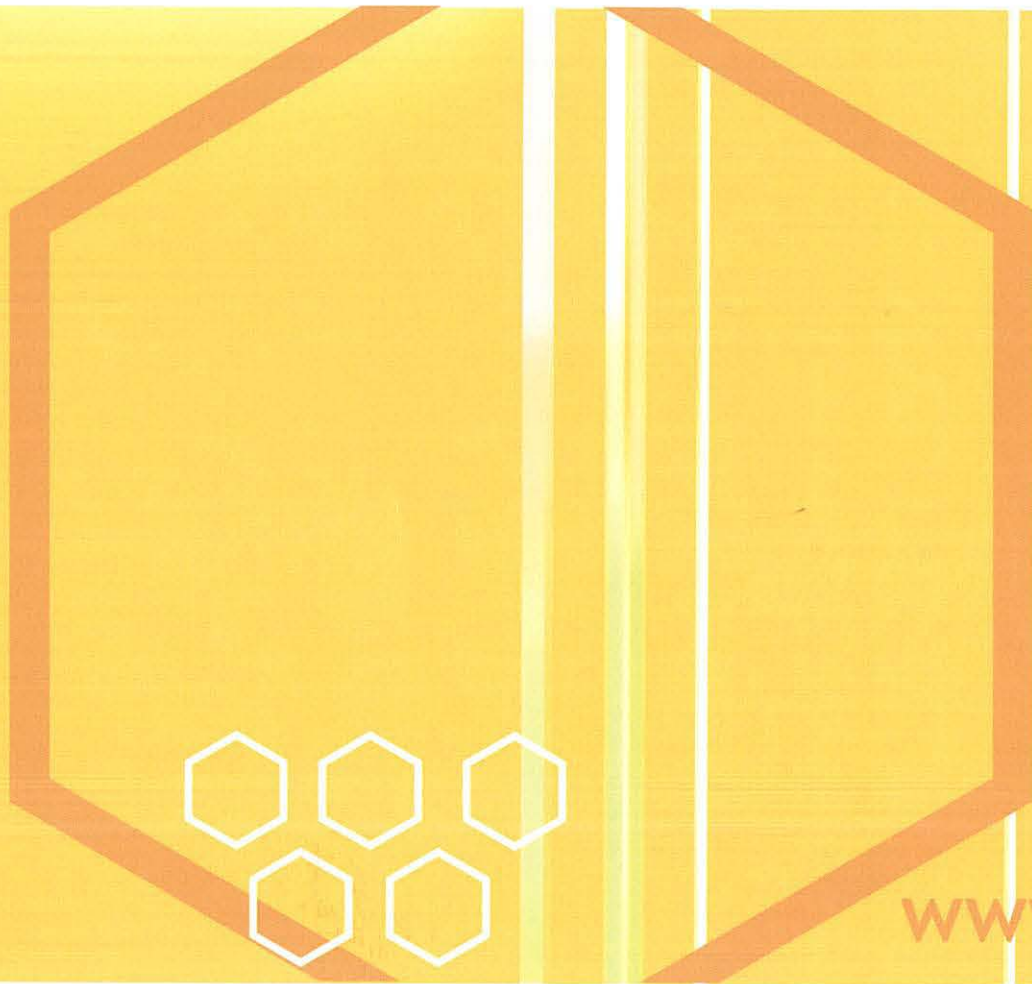




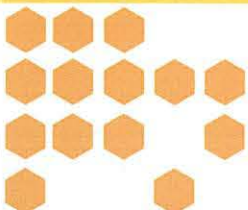
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## Fluvalinate-Tolerant Varroa Populations Rapidly Lose Their Lead Against Apistan

No 210

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Since the early nineties, many Portuguese beekeepers have intensively used various ways of applying fluvalinate into their honey bee colonies. This behaviour has imposed a strong selection pressure towards fluvalinate-tolerant Varroa populations, some of which were recently identified in a nationwide study (via field and laboratory testing). Being able to locate such populations opened up the possibility to challenge them against rightly applied Apistan field treatments, as well as to estimate how promptly those populations move back to normal levels of susceptibility to this acaricide.

Fluvalinate-tolerant Varroa populations were brought into practically Varroa-free experimental colonies in worker brood samples. During the following 4 months, those colonies were treated twice (with Apistan and Apivar) and periodically monitored for apparent Varroa infestation levels (in worker brood and adult bees), as well as daily rates of Varroa mortality. At the end of the experiment, one thymol (Apiguard) treatment was applied to all experimental colonies, before sampling bees and brood, to control for Varroa that could eventually have managed to survive previous acaricide applications.

The results we obtained clearly suggest that Varroa populations that were previously pin-pointed as being highly tolerant to fluvalinate, quickly go back to a position of high susceptibility to an appropriately applied Apistan field treatment (overall mean efficacy of 86 %) if kept apart, for a few months only, from close contact with fluvalinate