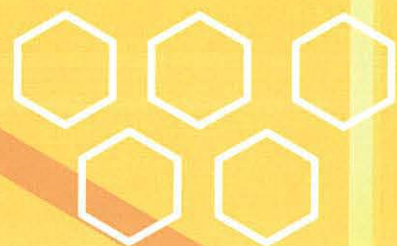
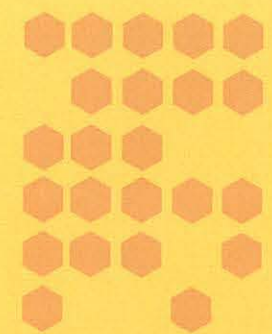
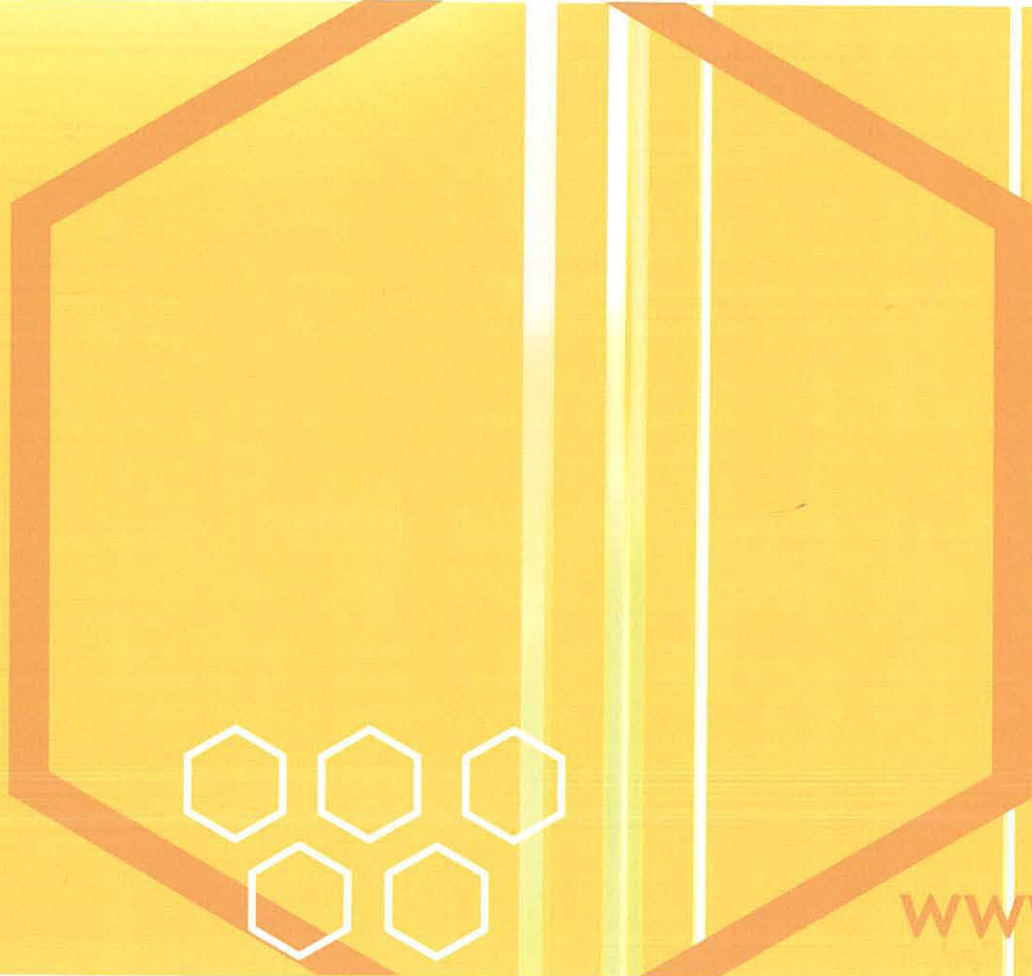




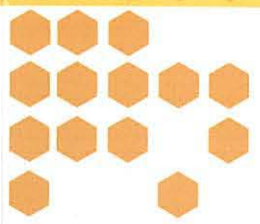
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## Field And Laboratory Screening For Fluvalinate-Tolerant Varroa Populations In Portugal

No 229

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Following widespread claims of rapidly decreasing Apistan field efficacy, a large-scale screening project was put into practice towards trying to identify Portuguese Varroa populations highly tolerant to fluvalinate.

Approximately 12 thousand field-tests were carried out, for the most part based upon the "British National Bee Unit" field-testing methodology (with an extra blank control test added).

From all studied colonies, 1536 allowed for conclusive field-testing (i.e. 3 or more Varroa were submitted to fluvalinate in a given test and no abnormal Varroa mortality was found in the respective control test). Using a 60 % fluvalinate-induced Varroa mortality border line, 878 of those colonies were considered to host fluvalinate-tolerant Varroa populations. On average, 18 mites were studied per colony that tested positive for fluvalinate-tolerant Varroa populations. The overall fluvalinate therapeutic efficacy, as regards Varroa populations hosted in those colonies, was only 26.4 +- 0.6 % (mean +- s.e.m.). Capped brood samples from honey bee colonies that had field-tested positive for fluvalinate-tolerant Varroa populations were later collected to provide Varroa for laboratory reassessment of fluvalinate-tolerance (basically, following Milani's methodology). Even though we had to discard results obtained from approximately half of the collected brood samples (adding to a total of 172 samples, as a result of the insufficient numbers of mature Varroa they hosted), in many instances field-test outcomes could be later confirmed by laboratory tests.