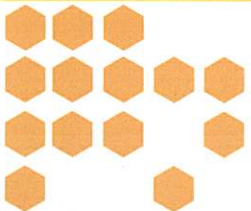
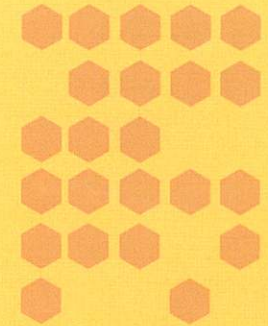
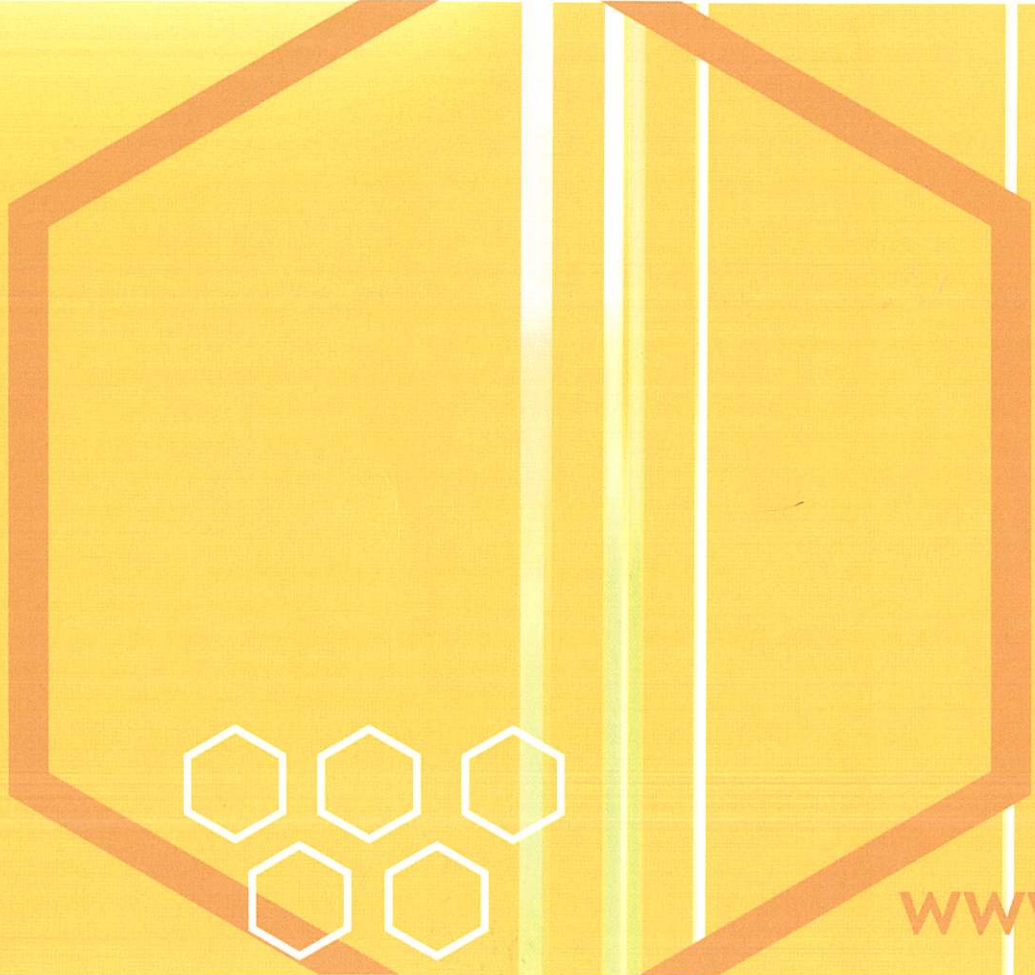




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Field And Laboratory Testing for Amitraz-Tolerant Varroa Populations. How Comparable Are Their Results?

No 212

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Portuguese beekeepers have frequently used amitraz (Apivar, Acadrex) in an attempt to cope with Varroa. As a result of beekeepers' claims of an alarming decrease in amitraz field treatment efficacy, a nation-wide screening project was launched to ascertain the merit of those claims and, eventually, introduce changes in the way state institutions were interacting with beekeeping associations and beekeepers.

Approximately 4.000 colonies were field-tested (following a similar approach to the "British National Bee Unit" fluvalinate field testing methodology) against blank control tests (without amitraz strips). From those colonies, 1579 allowed conclusive testing (i.e. where no less than 4 Varroa per honey bee colony were tested). Out of these colonies 272 were considered to host amitraz-tolerant Varroa populations (using, as border line, 80 % of amitraz induced Varroa mortality). Laboratory testing followed the methodological approach of determining amitraz average lethal times (LT_{50}) for Varroa. Twenty two brood samples, taken from colonies where field testing had resulted positive for amitraz-tolerant Varroa populations, were brought in for laboratory testing. A *probit* analysis showed that the LT_{50} were $34,8 \pm 3,7$ and $28,4 \pm 3,5$ minutes for susceptible (control) and amitraz-tolerant Varroa groups, respectively. Considering both the regression coefficients and slopes of *probit vs. log₁₀* of these two groups, it is manifest a relatively low heterogeneity ($P > 0,05$) between groups of Varroa originating from susceptible vs. amitraz-tolerant populations. We discuss what might have contributed to this somehow unexpected situation.

