

Control programs for Varroa destructor based on Formic acid, Thymol, dusts and essential oils

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The effects of formic acid, thymol crystals, essential oils mixture and dusts mixture, and their combination on varroa mites, brood rearing and honey production were investigated. Formic acid resulted in decreases (55.3 to 66.9 %) in mite infestation rate, while the untreated colonies showed increases of 0.8 to 12.5%. Also, thymol crystals reduced mite infestation rate with 43.9 to 49.2%, while the untreated colonies showed increases of 11.2 to 16.8%. Dusts & oils mixtures were the most effective treatments in third phase. The most effective program showed a decrease of 91.5, while control showed an increase of 59.5%. Formic acid treatment had no significant effects on brood rearing and honey production, while thymol crystals treatment had a negative significant effect on brood rearing and a positive significant effect on honey production. Any of treatments of the third phase did not cause a significant effect on the sealed brood area, but dusts & oils! mixtures and oils treatments caused significant increases in honey yield.

