

C625255 : MAJOR ZOOLOGY
KEY WORD:

MENTHOL / THYMOL / NEEM OIL / *Tropilaelaps clareae* / *Apis Mellifera*

PIYARAT NAKAWIROAT : TOXICITY OF MENTHOL, THYMOL AND NEEM OIL ON A BEE MITE, *Tropilaelaps clareae*, AND THEIR RESIDUES IN HONEY. THESIS ADVISOR : PROF. SIRIWAT WONGSIRI, Ph.D. THESIS CO-ADVISOR : SURAPHON VISETSON, Ph.D. 91 pp. ISBN 974-636-817-6.

Toxicity of menthol, thymol and neem oil on a bee mite (*Tropilaelaps clareae*) were investigated by using inhalation method in laboratory. The LC_{50} values were evaluated and analysed by probit programme. The LC_{50} (24 hours) of menthol, thymol, and neem oil were 4.72, 1.23 and 1.37 ppm respectively.

The efficiency of menthol, thymol and neem oil for control of the bee mite (*Tropilaelaps clareae*) were examined in *Apis mellifera* hives. Experiments were comprised of 5 treatments : menthol 50 grams (inhalation); thymol 15 grams (inhalation); neem oil 20% (spraying each frame); emulsifier and water (spraying each frame); and a control group (no treatment). The percentage of larvae and pupae mortality by the bee mite were 29.0%, 23.8% and 18.1% respectively. This result shows that menthol is less effective to *Tropilaelaps clareae* than thymol and neem oil show significant difference from the control group ($P < 0.05$).

Menthol, thymol, and Azadirachtin (in neem oil) residues in honey were 7.56, 5.72, and 0.16 ppm respectively.

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