

Preliminary Evaluation of Synthetic Miticides and Natural Compounds to Control *Varroa destructor* Anderson & Trueman

**Myeong-Lyeol Lee, Man-Young Lee, Young-Soo Kim, Sung-Hee Nam
and Seung-Jong Chang**

Dept. of Sericulture and Apiculture,
National Institute of Agricultural Science & Technology, Suwon 441-100

Varroa destructor (2000) has brought severe economic damages on beekeeping industry in Korea. For the national control program the government have provided each apiary with commercial miticides. The miticides, essential oils, and organic acid were pre-evaluated on their immediate efficacies against *Varroa* mites in two commercial apiaries. *Varroa* mites from the apiary in Suwon and Chungju were assumed to be resistant or susceptible (efficacy 83.2% in 24 hrs), respectively to fluvalinate. Thymol and formic acid reduced number of mites on the 8th day after treatment. Thymol treatment attracted many robbing bees. The formic acid was effective to reduce the population of mites, efficacy 100% in 8 days and 71.8% 24 hours after treatment. The bromopropylate fumigant was moderate (66.5%). The other treatments did not to decrease the population of bee mites or killed mites below 40%. Formic acid could be recommended for expecting immediate reduction of *Varroa* mites at apiary condition in Korea. The absorbent materials, range of temperature, and any negative effects on brood for the application of formic acid would be investigated in the next phase.