

4-8. Adulticidal Activity of Pulegone Identified in Pennyroyal Oil against *Culex pipiens pallens* and *Blattella germanica*

Eun Hae Lee, Young Cheol Yang¹ and Young Joon Ahn

School of Agricultural Biotechnology, Seoul National University, Suwon, Korea,

¹Department of Advanced Organic Materials Engineering, Chonbuk National University, Chonju, Korea

The insecticidal activity of materials derived from the essential oil from pennyroyal, *Mentha pulegium* L., against adult females of *Culex pipiens pallens* (Coquillett) and *Blattella germanica* (L.) was examined using direct contact application and fumigation methods. The biologically active constituent of the essential oil was characterized as the monoterpene pulegone by spectroscopic analysis. In a test with *B. germanica* females, pulegone gave 100% mortality at 1.14 mg/cm², whereas the adulticidal activity was significantly decreased at 0.57 mg/cm². Against *C. pipiens pallens* females, this compound exhibited 100% mortality at 0.28 mg/cm². Pulegone caused knock-type death against adults of both insect species. In a fumigation test, pulegone was much more effective in closed containers than in open ones, indicating that the adulticidal activity of the compound was largely attributable to fumigant action. This naturally occurring *Mentha* oil-derived compound merits further study as a potential medical insect-control agent or as a lead compound.

