

Acaricidal Activity of Plant Essential Oils against *Dermanyssus gallinae* (Acari: Dermanyssidae) Adults

Soon-Il Kim, Jee-Hwan Yi, Joon-Hyung Tak and Young-Joon Ahn

School of Agricultural Biotechnology, Seoul National University

The acaricidal activity of 57 plant essential oils against poultry house-collected adult *Dermanyssus gallinae* De Geer was examined using direct contact and fumigation methods. In a filter paper contact bioassay, 100% mortality at 0.07 mg/cm² was observed in bay, cade, cinnamon, clove bud, coriander, horseradish, lime dis 5F, mustard, pennyroyal, pimento berry, spearmint, thyme red, and thyme white oils, whereas the mortality of these oils was significantly decreased at 0.02 mg/cm². In fumigation tests with adult *D. gallinae* at 0.28 mg/cm², cade, clove bud, coriander, horseradish, and mustard oils were more effective in closed containers than in open ones, indicating that the effect of these essential oils was largely due to action in the vapour phase. Plant essential oils described herein merit further study as potential *D. gallinae* control agents.