

Food protective effect of biological components isolated from anise seeds against the stored food mite

Bo-Kyung Sung, Hoi-Seon Lee

Faculty of Biotechnology and Research Center for Industrial Development of Biofood Materials,
College of Agriculture & Life Science, Chonbuk National University, Chonju 561-756, Korea
TEL: +82-63-270-2544, FAX: +82-63-270-2550

The acaricidal activity of anise seed-isolated anisaldehyde and commercially available components of anise seed was examined against *Tyrophagus putrescentiae* adults and compared with those of synthetic acaricides, benzyl benzoate, dibutyl phthalate, and *N,N*-diethyl-*m*-toluamide.¹⁻⁴⁾ On the basis of LD₅₀ (50% lethal dose) values, the compound most toxic to *T. putrescentiae* adults was anisaldehyde (LD₅₀, 0.96 mg/cm²), followed by benzyl benzoate (LD₅₀, 11.3 mg/cm²), anethole (LD₅₀, 12.3 mg/cm²), dibutyl phthalate (LD₅₀, 13.3 mg/cm²), DEET (LD₅₀, 13.5 mg/cm²), estragole (LD₅₀, 17.4 mg/cm²), and myrcene (LD₅₀, 56.2 mg/cm²). Anisaldehyde was about 11.8 and 14 times more toxic than benzyl benzoate and DEET against *T. putrescentiae* adults, respectively. The results suggested that anisaldehyde, anethole, estragole, and myrcene derived from anise seeds are useful as a lead compound to development new agents for selective control of the stored food mite.⁵⁻⁷⁾

References

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