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Acta Medica Iranica

2009;47(4) : 63-67

Comparison of Permethrin and Fipronil Toxicity against German Cockroach (Dictyoptera: Blattellidae) Strains

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Abstract:

Control of insect pests of agriculture, economic, and medical importance usually focuses on the use of insecticides. The susceptibility levels of eleven strains of German cockroaches, *Blattella germanica* (L.), were compared with a standard susceptible strain against permethrin and fipronil. The strains were collected from nine infested students' dormitories and two infested hospitals in Tehran, capital of Iran. The susceptible strain showed LD50 of 0.43 µg and 0.96 ng for permethrin and fipronil respectively. Comparison of the resistance ratio of collected strain with susceptible strain showed resistance ratios of 8.6 to 17.7-folds for permethrin and 1.5 to 2.6-folds for fipronil, respectively. The result of this investigation indicated that the all strains were resistant to permethrin. Resistance spectrum of fipronil to permethrin showed different pattern of susceptibility to fipronil, indicating that there was no relationship between resistance to permethrin and fipronil.

Keywords:

Fipronil

TUMS ID: 2163

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