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Metabolism of Imidacloprid in Houseflies

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Abstract:

Metabolism of imidacloprid in the housefly *Musca domestica* was investigated. After the injection of ¹⁴C-labeled imidacloprid, radioactivity decreased to approximately 20% of the initial level within 24 hr. Most of the ¹⁴C in the excreta as well as that in the insect body was accounted for by an olefin derivative of imidacloprid. The pre-application of piperonyl butoxide or propargyl propyl phenylphosphonate as a synergist suppressed the degradation of imidacloprid and delayed the excretion of insecticidal components from houseflies. These results suggested that the insecticidal activity of imidacloprid was affected by oxidative metabolic processes.

Keywords:

imidacloprid, neonicotinoids, metabolism, housefly, synergists



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