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Insecticidal activity of imidacloprid derivatives with an alkoxy group at the C5 position of the pyridine ring

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Abstract:

Six derivatives of imidacloprid with an alkoxy group introduced at the fifth position on the pyridine ring were prepared. Minimal lethal doses in mol (MLDs) were determined in American cockroaches both with and without synergists, piperonyl butoxide and propargyl propyl benzenephosphonate. The log(1/MLD) value without synergists was 7.43 for the methoxy substituted derivative. Values for the higher alkyloxy homologues particularly the *n*-propoxy derivative were lower. Synergists combined enhanced the potency by about one log unit for each compound. The introduction of any alkoxy group does not improve the activity of imidacloprid. © Pesticide Science Society of Japan

Keywords:

neonicotinoid insecticide, imidacloprid, American cockroach, insecticidal activity, alkoxy-substituted pyridine



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