

Preparation of 5-chloro-6-fluoroimidacloprid analogs and comparison of their insecticidal activity in a laboratory test with a 6-chloro-5fluoro analog

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Abstract:

Five new neonicotinoid compounds bearing a 5-chloro-6-fluoronicotinyl group were prepared and their insecticidal activity against brown rice planthopper, green peach aphid and common cutworm under laboratory conditions was compared with 1-(6-chloro-5-fluoronicotinyl)-2-nitroiminoimidazolidine. 5-Fluoroimidacloprid controlled the two hemipteras at 0.2 ppm at the same dose level of imidacloprid, while the positional isomers showed far lower activity. None of the tested compounds controlled the lepidoptera at 200 ppm.

Keywords:

imidacloprid, neonicotinoid, fluorinated pyridine, aphid, planthopper



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