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研究论文

刘维屏,邵颖,王琪全.新农药环境化学行为研究 (Ⅶ)除草剂哌草丹(Dimepiperate)在土壤、水环境中的滞留、转化[J].环境科学学报,1998,(3):290-295

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ENVIRONMENTAL BEHAVIOR OF PESTICIDE (Ⅶ) PERSISTENCE AND TRANSFORMATION OF HERBICIDE DIMEPIPERATE IN SOIL-WATER ENVIRONMENT

关键词： 哌草丹 土壤吸附 脱附 水解 光解

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摘要： 研究了除草剂哌草丹在土壤、水环境中的吸附、脱附、水解及光解过程。结果指出：哌草丹在土壤上的吸附主要受土壤有机质的影响,粘土矿也有一定作用。

Abstract： Adsorption, desorption, hydrolysis and photolysis of demepiperate, S (α, α dimethybenxyl)—1 piperidinecarbothioate, in three soils and aqueous solution were studied. The adsorption isotherms were conformed to be Frundlich type. The K_f values increased with increasing organic carbon content of the soils. The desorption isotherms were also conformed to be Freundlich type. The K_{des}values were higher than those for adsorption and increased with increases in concentration of initially adsorbed dimepiperate. On Fe^{3+}clay, this interaction leads to hydrolysis of the thioester bond and the formation of the thiol and carbamic acid derivatives of the thioester bond, and the formation of the thiol and carbamic acid derivatives. A photolysis mechanism which accounts for the formation of the photoproducts was proposed.

Key words： dimepiperate adsorption-desorption hydrolysis photolysis

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