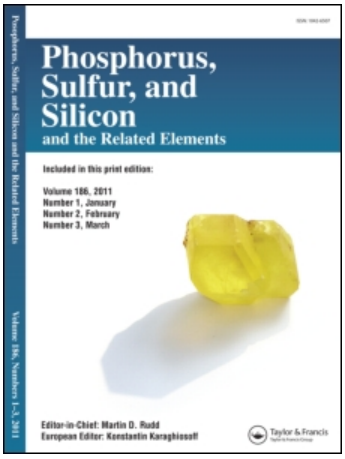

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Phosphorylated Acid Anilides as New Insecticides

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Phosphorylated Acid Anilides as New Insecticides

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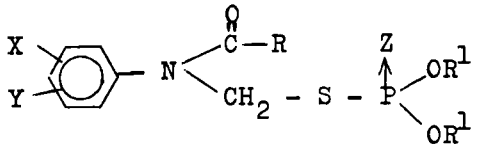
Some new phosphorodithioates containing acid anilide-group have been synthesized and the relationship between insecticidal activity and the structure of the compounds has been studied.



We have found the insecticide activity depends on the character of the substituents and their position in aromatic ring. According to experimental data the ortho position is favoured. The relative order of ortho substituents is the following:

$$H < F < OCH_3 < CH_3 < C_2H_5 < CF < Cl$$

The influence of R-group is less than that of the ortho-substitued aromatic ring. The insecticidal activity is optimal when R is alkyl or substituted alkyl group with two or three carbon atoms. A highly electron-attracting substituent on this carbon chain generally reduced the activity. Of the compounds studied S-[N-/2-chlorophenyl/-butyramido]-metil-O,O-dimethyl-phosphorodithioate was found most active against housefly /Musca domestica/, vetch aphid /Megura viciae/, mustard beetle /Phaedon cochlerariae F/, diamond back moth /Plutella maculipennis C/ and two spotted spider mite /Tetranychus articae/.