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SYNTHESIS AND BIOLOGICAL TESTING FOR PESTICIDAL ACTIVITY OF 9-ARYL-N-ARYL, ALKYL-SUBSTITUTED 1,2,3,4,5,6,7,8,9,10-DECAHYDROACRIDINE-1,8-DIONE DERIVATIVES

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The purpose of this work is the synthesis and pesticidal activity testing of 9-aryl-N-aryl, alkyl-substituted 1,2,3,4,5,6,7,8,9,10-decahydroacridine-1,8-dione derivatives which could become the basis of plant protection products. The substances investigated were obtained by three-component heterocyclization of primary amines with aromatic aldehydes and dimedone. The synthesized compounds were tested for certain types of insecticide (against toxoptera graminum, musca domestica, meloidogyne incognita, heliothis virescens, diabrotica undecimpunctata howardi, caenorhabditis elegans), fungicidal (against drechslera, erysiphe, puccinia, peronospora) and herbicidal (against amaranthus retroflexus, brassica rapa, abutilon theophrasti, alopecurus myosuroides , avena fatua, echinochloa crus galli) activities. All synthesized compounds have shown promising insecticidal activities against toxoptera graminum. 9-(4-methoxyphenyl)-, N-2-phenylethyl-substituted, 9-(3,4-methoxyphenyl)-, N-2-carboxyethyl-substituted and 9-(2-hydroxyphenyl)-N-octyl-substituted derivatives have shown significant herbicidal activities against amaranthus retroflexus. 9-phenyl-N-methyl-substituted derivative was active against amaranthus retroflexus, brassica rapa, and abutilon theophrasti. Only this compound showed antifungal activity against drechslera.
Keywords: decahydroacridinedione derivatives, synthesis, pesticidal activity

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