

Synthesis and evaluation of some novel 2-[4-(1-acyl-5-aryl-4,5-dihydro-1*H*-pyrazol-3-yl)phenoxy]acetic acid hydrazide and amide derivatives as potential pesticides

Heetika Malik, Puspinder Kaur, Anjula Dahiya & Naresh K Sangwan*[#]

Department of Chemistry, CCS Haryana Agricultural University, Hisar 125 004, India

E-mail: nksangwan@gmail.com

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3-Aryl-1-(4-hydroxyphenyl)prop-2-en-1-ones **9–15**, prepared by base catalyzed condensation of 4-hydroxyacetophenone (I) with araldehydes **2–8**, are refluxed with hydrazine hydrate in alcanoic acids to give 1-acyl-5-aryl-4,5-dihydro-3-(4-hydroxyphenyl)-1*H*-pyrazoles **16–32**. Alkylation of **16–32** with ethyl chloroacetate gives the corresponding substituted phenoxyacetates **33–49**. The esters **33–49** are subjected to nucleophilic displacement reactions with hydrazine hydrate, isopropylamine, morpholine and piperidine to yield the title compounds, 2-[4-(1-acyl-5-aryl-4,5-dihydro-1*H*-pyrazol-3-yl)phenoxy]acetic acid hydrazide **50–66** and amide derivatives **67–104**. The compounds are identified with the help of their IR and ¹H NMR spectra and elemental analysis. All the compounds are tested for their activity against five phytopathogenic fungi, (*Sclerotinia sclerotiorum*, *Rhizoctonia bataticola*, *Rhizoctonia solani*, *Alternaria brassicae* and *Fusarium solani*), two saprophytic fungi (*Aspergillus niger* and *Penicillium digitatum*) and one phytopathogenic bacterium (*Xanthomonas campestris* pv. *Citrii*). Many compounds inhibit the growth of *S. sclerotiorum* at a concentration of 200 mg litre⁻¹. The compounds **53**, **54** and **78** show non-specific activity against several fungi tested.

Keywords: 4,5-Dihydropyrazoles, Phenoxyacetic acid hydrazides, Phenoxyacetamides, Antifungal activity, Antibacterial activity