Synthesis and Evaluation of Pyrazole Derivatives as Potent Antinemic Agents

G. Kaur[a], D. Utreja[a,*], N. Jain[a], and N. K. Dhillon[b]

[a] *Department of Chemistry, Punjab Agricultural University, Ludhiana, 141027 Punjab, India*

[b] *Department of Plant Pathology, Punjab Agricultural University, Ludhiana, 141027 Punjab, India*

**e-mail: utrejadivya@yahoo.com*

Received June 28, 2019; revised November 11, 2019; accepted November 22, 2019

Abstract—Pyrazole derivatives were synthesized by bromination of pyrazole, followed by N-alkylation of 4-bromopyrazole. The synthesized derivatives were characterized by microanalytical data and IR and ^{1}H and ^{13}C NMR spectra and were evaluated for their nematicidal activity against the root knot nematode *Meloidogyne incognita*. The compounds were screened for their egg hatch inhibition and mortality potential, and they showed significant nematicidal activity as compared to the control. 1*H*-Pyrazol-5(4*H*)-one was found to be most effective in egg hatch inhibition, and 4-bromopyrazole was found to be most effective in juvenile mortality.

Keywords: pyrazole derivatives, nematicidal activity, *Meloidogyne incognita*, egg hatch inhibition, juvenile mortality.

DOI: 10.1134/S1070428020010182