RESEARCH ARTICLE

HERBICIDAL WEED CONTROL IN INDIAN MUSTARD (*BRASSICA JUNCEA* L.)

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Abstract: Field investigations were carried out at Institute of Agricultural Sciences, Banaras Hindu University, Varanasi (U.P.) during the winter (*rabi*) seasons of 2010-11, 2011-12 and 2012-13 to assess the effect of different herbicidal weed control practices on yield and economics of Indian mustard (*Brassica juncea* L.).The treatments comprised pre-emergence applications of pendimethalin 1.0 kg/ha, oxadiargyl 0.09 kg/ha, oxyfluorfen 0.15 kg/ha and isoproturon 1.0 kg/ha, quizalofop 0.06 kg/ha, clodinafop 0.06 kg/ha and isoproturon 1.0 kg/ha 30 days after sowing (DAS), weedy check and weed free. Broadleaved weeds like *Chenopodium album* L., *Anagallis arvensis* L., *Melilotus indica* (L.) All., *Vicia sativa* L. and *Rumex acetosella* L. were more predominant than grass and sedge weeds, accounting for 57.9% of total weed flora.Based on the three years studies, weeds in mustard annually caused 23-42% loss in yield. Among all herbicidal treatments, oxadiargyl 0.09 kg/ha was found to be the most effective in reducing the population of broadleaved weeds, grasses and sedges as compared to other herbicidal treatments. Pre-emergence application of oxadiargyl at 0.09 kg/ha recorded minimum weed population and dry weight of weeds which was found to be the most effective and gave maximum seed yield of mustard. Herbicide, oxadiargyl 0.09 kg/ha gave higher net return due to weed control over other treatments and also resulted in highest net return per rupee invested (1.69) on weed control.

Keywords*:* Herbicidal weed control, Mustard, Yield, Economics

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