

Effect of Pre- and Post-emergence Herbicides on the Control of *Vicia sativa* in Rice-Fallow Blackgram (*Vigna mungo* L. Hepper)*

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ABSTRACT

A field experiment was conducted during *rabi* 2009-10 at the Agricultural College Farm, Naira of Acharya N. G. Ranga Agricultural University to study the effect of different pre- and post-emergence herbicides on *Vicia sativa* control in rice-fallow blackgram. Density and dry weight of *Vicia sativa* as well as other broad leaf weeds were significantly reduced by hand weeding compared to other treatments and was on par with imazethapyr @ 200 g a.i ha⁻¹ followed by @ 150 g a.i ha⁻¹ and pendimethalin @ 1.0 kg a.i ha⁻¹. All other herbicides except, quizalofop-p-ethyl @ 50 and 75 g a.i ha⁻¹ significantly reduced the density and dry weight of *Vicia sativa* and other broad leaf weeds compared to unweeded check. The maximum weed control efficiency was recorded with hand weeding, which was however, on par with imazethapyr @ 200 g a.i ha⁻¹. Imazethapyr at both the doses showed phytotoxicity on blackgram. At lower dose the crop recovered quickly while, at higher dose no such recovery was noticed. Hand weeding was significantly superior to other treatments in respect of yield. However, on considering economics, pendimethalin @ 1.0 kg a.i ha⁻¹ was found to be a cost effective method.

Key words : Pre- and Post-emergence herbicides, Rice-fallow blackgram, *Vicia sativa*.