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Efficacy of early post emergence herbicide on weeds, yield and benefit cost ratio of soybean (*Glycine max* L.)

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ABSTRACT : The field experiment was conducted on sandy loam soil during the *Kharif* season 2009-2010 at the Adhartal Farm, Jawaharlal Nehru Krishi Vishwa Vidyalaya, Jabalpur. The field was infested with grassy weeds (51.6%), broad leaf weeds (34.1%) and sedges (13.2%). Density and relative density of monocot weeds were higher than the dicot weeds both at 40 and at harvest also weed menace was the minimum under weed free treatment. Lowest weed biomass was recorded under weed free treatment closely followed by T_5 (Imazethapyr + adj. + ammonium sulphate @ 100g + 750 ml + 1 kg/ha). Weed free treatment significantly provided higher pods per plant, straw yield and seed yield closely followed by T_5 (Imazethapyr + adj. + ammonium sulphate @ 100g + 750 ml + 1 kg/ha) was found significantly superior over all the rates of imazethapyr (75 and 100g/ha) with or without adjuvant as early post-emergence. Application of imazethapyr + adj. + AS @ 100g + 750 ml + 1 kg/ha (T_5) recorded significantly higher net return (39109.18 Rs/ha) and B : C ratio (3.20) followed by hand weeding (T_8) and imazethapyr + adj. @ 100g + 750 ml/ha (T_4) as early post-emergence to soybean.

Key Words : Soybean, Post emergence herbicide, Weed, Yield, Imazethapyr

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