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Bioefficacy Of Post-Emergence Herbicides For Control Of Grassy Weed In Soyabean (*Glycine Max L. Merrill)*

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INTRODUCTION

Soybean is an important kharif crop of Madhya Pradesh. Congenial soil moisture condition coupled with favourable temperature and better nutrient availability during rainy season provide an unique opportunity to weeds for appearing in association with crop plants and compete for nutrients, light, moisture and space. The grassy weeds causes greater loss in yield than broad leaved (Agrawal,1990) which is estimated to the extent of 35-55 per cent (Tiwari *et.al*.1996). Weed management through hand weeding is not possible in black soils particularly, under high rainfall areas due to unavailability of labourers during peak period. However, the numbers of pre-emergence application herbicides have been studied for controlling the weeds in soybean. where as, post-emergence herbicides have not been tested thoroughly. Hence, keeping in view, this study was under taken to evaluate the efficacy of post-emergence herbicides against weeds in soybean.

MATERIALS AND METHODS

A field experiment was conducted at Live Stock Research Farm, JNKVV, Jabalpur, M.P. during kharif 2001. The soil of the experimental field was neutral in reaction, low in available nitrogen (220 kg.ha^{-1}) and phosphorus (13.5 kg.ha^{-1}) while medium (308 kg.ha^{-1}) in available potassium. Twelve-treatment combinations consisted of four herbicides and their doses, haloxyfop (25,50,75,100&125g.ai ha^{-1}) quizalofop (37.5,50&62.5g.ai ha^{-1}) alachlor (2500g.ai ha^{-1}) and imazethapyr (75g.ai ha^{-1}) along with two hand weeding at 20&40 DAS, tested against weedy plots. These treatments were arranged in a randomized block design with four replication. The crop was sown on June 28th 2001 using the variety JS-90-41 in rows at 30 cm apart. The pre-dominant weed flora of the

Table 1 : Influence of herbicides on weed biomass, weed control efficiency, Crop biomass and yield of Soybean.

Treatments	Dose (g.ai ha^{-1})	Time of applications (DAS)	Weed biomass (Kg ha^{-1})	WCE (%)	Crop biomass (q ha^{-1})	Seed yield (q ha^{-1})
Haloxyfop– EE	25	14	388.79	89.25	41.5	7.58
Haloxyfop – EE	50	14	385.47	90.10	44.7	8.65
Haloxyfop – EE	75	14	392.50	89.10	42.9	8.25
Haloxyfop – EE	100	14	394.17	89.93	41.0	7.82
Haloxyfop – EE	125	14	396.25	89.83	39.7	7.70
Alachlor	2500	PPI	2041.25	47.83	34.5	4.55
Imazethapyr	75	21	1829.17	52.92	29.5	5.04
Quizalofop -P-ethyl	37.5	14	395.85	89.87	40.5	7.40
Quizalofop -P-ethyl	50	14	395.22	89.87	41.1	7.92
Quizalofop -P-ethyl	62.5	14	390.80	90.00	41.2	7.95
2-Hand weeding	-	20 & 40	113.07	97.09	41.6	8.75
weedy check	-	-	4313.20	-	21.0	2.71
CD (P=0.05)			5.51	6.82	1022	94

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