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Weed management in blond psyllium (*Plantage ovata*)

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Blond psyllium (*Plantage ovata* Forskal) is cultivated on light-textured soils with dry sowing followed by light irrigation. This results in germination of weed seeds before the germination of crop seed .Besides, initial growth of blond psyllium is very slow. These 2 reasons attribute to suppression of the crop growth. Weeds cause heavy loss to pysllium crop in terms of yield. The present study was, therefore, conducted with the objective to find out suitable weed-control practice in blond psyllium.

The field experiment was conducted during the rainy seasons of 1989–90 and 1990–91 at Sumerpur. The soil was sandy loam containing low available nitrogen (155.3 kg/ha), medium phosphorus (32 kg/ha) and high potash (301 kg/ha), with pH 7.9. The experiment was laid out in randomized block design, having 10 weed-control treatments (Table 1) with 3 replications. 'GI 2' psyllium was sown on 10 and 12 November in 1989 and 1990 respectively, keeping inter-row spacing of 30 cm using 4.5 kg seed/ha. Before sowing the seeds were treated with Bavistin @ 2 g/ha seed. In all, the crop was given 6 irrigations to meet this water requirement. The weed flora in the experimental field consisted mostly *Chenopodium album* L., *C. murale* L., *Melilotus alba* Desr., *M. indica* All., *Convolvulus anvensis* L., *Cynodon dectylon* (L.) Pers. and *Asphodelus tenuifolius* L. The weed index was worked out as :

$$\text{Weed index} = \frac{\text{Seed yield of treated plot} - \text{Seed yield of control plot}}{\text{Seed yield of treated plot}} \times 100$$

Seed yield along with all the yield attributes significantly increased due to application of 0.50 or 0.75 kg isoproturon as pre-emergence compared with the control (Table 1). It was mainly due to application of isoproturon which reduced the weed population and resulted in higher weed index. Thus, there was less weed-crop competition in the isoproturon-treated plots. In our study, neither hand-weeding (physical weed control) alone nor application of isoproturon (chemical weed control) alone was sufficient to achieve potential yield level of blond psyllium. Purushotham and Hosamani (1990) suggested that if weeds prevails at later stage, 1 hand-weeding has to be supplemented with the use of herbicide to obtain higher grain yield from rice crop.

REFERENCE

Purushotham, S. and Hosamani, M. M. 1990. Weed management in transplanted rice. *Indian Journal of Agronomy* **35** (3) : 305–306.

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Table 1. Effect of weed-management practice on yield attributes and yield of blond psyllium, weed index and weed count

Treatment	Spikes/ Plant		Spike length (cm)		Seeds/ spike		1,000-seed weight (g)		Seed yield (q/ha)		Weed index (%)		Weed count/ m^2	
	A	B	A	B	A	B	A	B	A	B	A	B	A	B
T_1	18.0	24.9	2.98	2.70	40.3	45.1	1.40	1.35	3.11	4.23			32.3	26.3
T_2	27.2	32.1	3.89	3.61	65.3	70.2	1.55	1.50	6.46	6.63	51.8	36.1	5.9	6.1
T_3	29.2	33.7	3.81	3.72	48.2	50.3	1.45	1.42	5.46	4.98	43.0	15.0	15.1	15.3
T_4	25.5	29.8	3.74	3.10	43.2	50.3	1.43	1.45	5.41	5.12	42.5	17.3	11.2	10.3
T_5	32.9	35.3	3.78	3.78	58.3	60.3	1.57	1.60	7.89	5.32	60.5	20.4	7.9	8.2
T_6	34.1	31.5	4.13	3.50	62.1	63.3	1.63	1.59	6.45	6.12	51.7	30.8	5.3	6.2
T_7	30.0	33.4	3.74	3.72	62.3	65.3	1.50	1.51	8.14	7.89	61.7	46.3	7.1	8.2
T_8	31.3	36.7	4.04	3.89	65.3	61.7	1.56	1.53	8.68	9.23	64.1	54.1	6.5	7.1
T_9	38.1	39.6	4.61	4.21	68.3	77.8	1.65	1.75	11.61	10.42	73.2	59.4	3.2	2.2
T_{10}	35.9	38.9	4.51	4.10	75.9	80.4	1.68	1.70	10.58	10.89	70.6	61.1	4.1	3.2
CD (P = 0.05)	5.90	5.29	0.68	0.55	3.49	3.10	0.06	0.12	1.33	1.58				

A, 1989–90; B, 1990–91; DAS, days after sowing

Days after sowing

T_1, Control; T_2, hand-weeding 15 DAS; T_3, isoproturon (pre-plant) 0.50 kg ai/ha; T_4, isoproturon (pre-plant) 0.75 kg ai/ha; T_5, isoproturon (pre-emergence) 0.50 kg ai/ha; T_6, isoproturon (pre-emergence) 0.75 kg ai/ha; T_7, isoproturon (post-emergence) 0.50 kg ai/ha 25 DAS; T_8, isoproturon (post-emergence) 0.75 kg ai/ha 25 DAS; T_9, isoproturon (pre-emergence) 0.50 kg ai/ha + hand-weeding; T_{10}, isoproturon (pre-emergence) 0.75 kg ai/ha + 1 hand-weeding