

RELATIVE CONTRIBUTION OF NON-MONETARY INPUTS IN RAINFED URDBEAN

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ABSTRACT

Studies on the relative contribution of non-monetary inputs viz., variety, method of sowing, time of sowing, time of weed removal, in urdbean were conducted during *khariif* seasons of 1992 to 1994 to identify the priority component. Pooled data of three years revealed that improved weed management practice (weeding on 3rd week after sowing) was the important non-monetary input which resulted in increased yield. Next in the order was variety, method of sowing and time of sowing.

KEY WORDS : Non-monetary inputs, urdbean

Urdbean is a major rainfed crop in the alfisols of Tamil Nadu. Its productivity is however, quite low due to poor management. The average productivity of urdbean in India is only 436 kg/ha. It is due to the fact that pulses are predominantly grown in rainfed areas with little input management. Recent studies conducted elsewhere have clearly shown that, with improved agronomic management, coupled with high yielding varieties, the present level of production could be doubled (Ali, 1986). With an objective to findout the best non-monetary input, this trial was laid out.

MATERIALS AND METHODS

Field studies were conducted during *khariif* 1992, 1993, and 1994 at the National Pulses Research Centre, Vamban under the All India Co-ordinated Pulses Improvement Project. The soil of the experimental site was of red lateritic type with acidic reaction (pH of 5.2), having low available N (153 kg/ha), low available P (9.2 kg/ha) and medium in available K (322 kg/ha). The experiment was laid out in a factorial randomised block design with three replications. The treatments comprised of four factors viz., variety(V), method of sowing (M), time of sowing (P), and time of weed removal (W), each at two levels (improved and local). The different combinations were as follows;

T1-vmpw	T6-VMpw	T11-PWmv
T2-Vmpw	T7-VPmw	T12-VMpw
T3-Mvpw	T8-VWmp	T13-VMWp
T4-Pvmw	T9-MPvw	T14-VPWm

T5-Wvmp	T10-MWvp	T15-MPWv
		T16-VMPW

(small letters indicate local practice, while capital letters indicate improved practice)

The local and improved practice followed were :

Inputs	Improved	Local
Variety	V (Vamban-1)	v (local)
Method of sowing	M (Line sowing at 30 x 10 cm) (33 hills / m ²)	m (broadcast) (25 hills / m ²)
Time of sowing	P (At onset of monsoon)	p (3 weeks after onset)
Time of weed removal	W (3 weeks after sowing)	w (6 weeks after sowing)

A uniform dose of 12.5 : 25 kg NP/ha was applied as basal for all the treatments. The rainfall received during the cropping period were 127, 223 and 148 mm received in 12, 19 and 13 rainy days during 1992, 1993, and 1994 respectively. The per cent contribution of each factor was worked out by comparing the single improved practices (T2, T3, T4 and T5) with that of control (T1).

RESULTS AND DISCUSSION

The pooled data of three years (Table 1) revealed that there was significant effect of non-monetary inputs on the growth and yield of rainfed urdbean. Improves practices outyielded local practices and proved their superiority

Table 1. Effect of non-monetary inputs on growth and yield of blackgram

Treatment	Duration (Days)	Branches/plant	Pods/plant	DMP (g/plant)	Grain yield (kg/ha)	CBR
T1-vmpw	122	2.5	19.0	22.4	475	1.65
T2-Vmpw	102	2.8	22.0	32.1	573	2.32
T3-Mvpw	125	2.8	21.0	25.0	545	2.15
T4-Pvmw	118	2.8	21.2	26.2	501	2.00
T5-Wvmp	125	2.8	22.0	38.0	602	2.40
T6-VMpw	98	3.0	25.0	32.1	655	2.52
T7-VPmv	95	3.0	25.0	31.2	645	2.50
T8-VWmp	105	3.2	28.7	37.2	696	2.65
T9-MPvw	115	3.0	24.5	28.1	640	2.50
T10-MWvp	123	3.2	29.1	37.0	700	2.66
T11-PWmv	126	3.3	30.1	36.0	705	2.68
T12-VMpw	98	3.4	30.2	30.2	705	2.69
T13-VMWp	100	4.0	38.0	35.2	803	2.92
T14-VPWm	104	3.7	36.0	36.8	774	2.83
T15-MPWv	124	3.7	33.2	36.2	735	2.75
T16-VMPW	105	5.1	42.1	42.5	845	3.10
CD(5%)	5.6	0.4	2.9	2.5	56	-

V-variety, M-method of sowing, P-time of sowing, W-time of weed removal.

(small letters indicate local practices, while capital letters indicates improved practice)

regarding all the characters. Among the different treatments T16 (all improved practices) produced significantly superior growth, yield attributes and grain yield. There was 78 per cent increased yield over control (full local practice). With regard to the percent contribution of different non-monetary inputs, improved weed management contributed for 26.7 per cent increased yield while improved variety, method of planting, time of sowing contributed for 20.6, 14.7 and 5.5 per cent respectively. The contribution made by improved weed management was the highest which is evident from the yield increase where improved weed management was included in the treatment. Similar findings were reported by Sony and Harbans Singh (1990).

Variation between treatments, regarding field duration also existed. Treatments with improved variety Vamban-I matured early as compared to local variety. Sowing at onset of monsoon matured lately with long vegetative phase, while delayed sowing matured earlier because of short length of growing season. The dry matter production also

varied significantly between treatments. Full improved practices produced higher dry matter. Among the different factors improved weed control practices produced significantly higher dry matter followed by improved variety.

The economic analysis revealed a higher cost benefit ratio (3.10) for full improved practice. Also, a higher cost benefit ratio was realised where improved weed management was practices. From the study it may be concluded that the improved non-monetary inputs increases the grain yield of urdbean. Among the different non-monetary inputs weed management takes the major contribution in urdbean production.

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