

COMPARATIVE ECONOMICS OF SEED PRODUCTION VIS-À-VIS COMMERCIAL GRAIN PRODUCTION IN CLUSTERBEAN IN HARYANA

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(Received : 30 November 2017; Accepted : 15 January 2018)

SUMMARY

The present analysis on cost of production for seed and grain production in clusterbean was worked out on per acre basis separately during 2016. The survey for grain production was conducted on 125 farmers of major clusterbean growing districts of Haryana viz., Hisar, Bhiwani, Fatehabad, Mahendergarh and Gurgaon. For estimation of economics of seed production the survey was conducted on 125 registered seed growers of various public and private seed producing organizations of state. It was analyzed from the study that total cost of seed production was Rs. 17125/- which was estimated 11 % higher than grain production and gross return from the seed production was Rs. 28950/- which was 52.4 % higher than grain production. Net return estimated from seed production of clusterbean was Rs.11825/- while in case of grain production it was Rs.-1444/- per acre. The benefit cost ratio for seed production was calculated 1:1.69. So it is concluded that seed production is more beneficial than crop production for the farmers to enhance his income by adopting the seed production instead of his traditional grain production.

Key words : Clusterbean, quality seed, economics, grain production

Clusterbean (*Cyamopsis tetragonoloba* (L.) Taub) is an important pulse crop of irrigated as well as rainfed areas of the world. The quality seed not only offers the highest economic & social returns among all the inputs but also ensures the optimum utilization of all other inputs viz. fertilizers, irrigation, pesticide etc. Merely by using good quality seed, other practices remaining the same, the production can be increased by 20 to 25 per cent (Radha and Chowdry, 2005). The Indian farmer has now realized the benefits of quality seed in enhancing agricultural production and therefore is ready to pay a price for timely and adequate supply of quality seed to meet out the growing demand of food grains, it is essential to enhance the productivity of various crops. The basic development goal of any agricultural programme, aimed at the attainment of breakthrough in agriculture of a country especially in an agricultural economy, is increased production per unit of area and per unit time. Therefore, economics of seed production *vis-à-vis* grain production has been calculated and compared. Indian govt. has set the target to double the income of farmers by 2022. Stagnation in yield has been recorded since last few years and due to some problems farmers are not ready to adopt the

diversification. So an effort has been made to find out the alternate to enhance farmers' income in same crop. Keeping in view, the present study was undertaken to analyze the economics of seed production *vis-a-vis* commercial grain production.

The survey for grain production was conducted on 125 farmers of major clusterbean growing districts of Haryana viz., Hisar, Bhiwani, Fatehabad, Mahendergarh and Gurgaon. For estimation of economics of seed production the survey was conducted on 125 registered seed growers of various public and private seed producing organizations of state. Primary data were collected by personnel interview with the respondents using a well structured and pre-tested interview schedule. Data on socio-economic parameters, various inputs used in the grain and seed production of clusterbean and their costs and returns were collected during kharif 2016. The present analysis on cost of production for seed and grain production was worked out on per acre basis. For obtaining estimates of costs of production of different crops, the opportunity cost of owned inputs and actual prices paid by farmers for purchased inputs were taken into account. Cost for irrigation, seed, chemicals, fertilizers labour, machinery

and rental value of land were considered at the prevailing market rates in the study area. Interest on working capital was computed @ 9 per cent per annum for the period the crop maintained in the field. The total cost of production for each crop includes the expenses incurred on inputs and various operations performed. In addition, rental value of land, management charges, risk premium and transportation cost are also included in total cost. Transportation cost includes the cost of transport of inputs to fields and produce to threshing floor, farm house and finally to the market. Management charges and risk allowance have been calculated @ 10 per cent of the variable cost. BC ratio was calculated by formula-

$$B : C = \frac{\text{Gross Return}}{\text{Total Cost}}$$

Post harvest prices of farm produce is considered to work out the returns because major part of the produce is sold during this period. Cost of production per quintal is calculated without by-product by dividing the total cost with the main product. However, to compute per quintal cost of production with by-product the proportion of contribution by by-product to the gross return was subtracted from the total cost. The reduced total cost so received was divided by main product to get cost of production with by-product of a crop.

In any economic study, total costs have to be discussed under two heads viz., variable costs and fixed costs. In general, variable costs alone have to be taken as the cost of cultivation by the farmers, ignoring the overhead costs. The gains or losses too have to be worked out accordingly. But in the economic analysis of production of any enterprise, the fixed costs are also taken into consideration to compute total costs and farm income. Variable costs also known as operational costs include expenses incurred on material inputs viz., seed, FYM, fertilizers, plant protection chemicals, irrigation, harvesting and threshing charge etc. The fixed costs are rental value of land, land revenue, depreciation and interest on fixed capital.

The item-wise cost of production per acre for seed and grain production of clusterbean is presented in Table 1. The total cost of production worked out to be 15235 and 17125 per acre for seed and grain production respectively. The cost of seed production was observed higher as compared to commercial grain production as it involves some specific operations like roguing, processing, foundation seed cost etc. The net returns were estimated to be Rs. 5552 and Rs. 19138

per acre for seed and grain production respectively. The net return was more in seed production as compared to grain production, this was due to the huge difference in value of main product *i.e.* grain and seed.

It was also estimated that harvesting and threshing occupied the major share (16.43%) of total cost of Rs. 17125 per acre in seed production and occupied the major share (18.49%) of total cost of Rs. 15235 per acre in grain production of clusterbean. The other items involved in clusterbean seed production were roguing (5.25% of total cost), processing charges (2.92%) and foundation seed cost (2.80%). The variable cost was comparatively higher in seed production (Rs.9812 per acre) over grain production (Rs. 8238 per acre). The total cost of production in clusterbean seed production was around 11% higher than grain production. Net return estimated from seed production of clusterbean was Rs.11825/- per acre while in case of grain production it was Rs.-1444/- (Table-1). Lal (1975) studied the economics of seed vis-à-vis, commercial grain production and observed that estimated per acre costs and returns of seed production of Wheat RR-21 was higher than the same for their commercial crop production. But in the case of Paddy, the net returns per acre from commercial crop were higher than the same from seed crop of Paddy. Pathak *et al.* (1973) made an attempt to estimate the costs and returns of wheat for seed production (Kalyana Sona variety) and observed that major cost items of seed production were land preparation, sowing, and cost of seed, fertilizers and chemicals which together comprise about 60 per cent of the total cost of production. The study indicated that human labour, fertilizer and machinery, all have impact on seed production of wheat as a seed crop. Wagan *et al.* (2015) collected the data on hybrid rice production and conventional rice production and concluded that cost of hybrid rice production was more due to higher seed prices and slightly higher land management costs. There was 14.14% increase in hybrid rice yield as compared to conventional rice production which gives additional income to farmers on same cost.

CONCLUSION

The analysis showed that the total cost of cultivation in clusterbean seed production was around 11 % higher than grain production. Further, the gross return was about 52.4% higher in seed production than grain production. Net return estimated from seed production of clusterbean was Rs.11825/- per acre while in case of grain production it was Rs.-1444/-. The net return from clusterbean seed production was found encouraging; therefore the area under seed

TABLE 1
The item-wise cost of production per acre for seed and grain production of clusterbean

Particulars/ Inputs	Grain Production			Seed Production		
	No/Qty (Acre)	Value (Rs./ Acre)	(%)	No/Qty (Acre)	Value(Rs.) Acre)	(%)
Preparatory tillage	2.4	1018	6.68	2.4	1018	5.94
Pre-sowing irrigation		356	2.33		356	2.07
Sowing		413	2.71		413	2.41
Ridging		28	0.18		28	0.16
Seed (kg)	4.3	306	2.01	4	480	2.80
Seed treatment		27	0.18		27	0.16
FYM	10.0	301	1.97	10.0	301	1.76
Fertilizer cost						
(a) UREA [Kg/Acre]	10.3	128	0.84	10.3	128	0.75
(b) DAP [Kg/Acre]	9.9	447	2.93	9.9	447	2.78
(c) MOP [Kg/Acre]		0	0		0	0
(d) ZnSO ₄ [Kg/Acre]	1.1	27	0.18	1.1	27	0.16
Total fertilizer cost		602	3.95		602	3.51
Fertilizer Application cost		49	0.32		49	0.29
Irrigation	1.7	644	4.22	1.7	644	3.76
Hoeing/Weeding		633	4.15		633	3.69
Herbicide application cost		306	2.01		306	1.79
Plant protection		288	1.89		288	1.68
Roguing		-	-		900	5.25
Harvesting		1815	11.92		1815	10.59
Threshing		1001	6.57		1001	5.84
Processing charges		-	-		500	2.92
Miscellaneous/management charges		98	0.64		100	0.58
Interest on working capital		355	2.33		365	2.13
Variable cost		8238	54.07		9812	57.29
Management charges		824	5.41		981	5.73
Risk factors		824	5.41		981	5.73
Transportation Charges		248	1.63		250	1.46
Rental Value of land		5101	33.48		5101	29.79
Total cost		15235	100.00		17125	100.00
Main Product	3.8	12108		3	27000	
By-product		1682			1950	
Gross return		13790			28950	
Return over Variable cost		5552			19138	
Net return		-1445			11825	
B : C Ratio		1: 0.91			1:1.69	

*Certification charges are not included in seed production cost as seed certification is volunteer, so cost of truthfully labeled seed is estimated here.

production may be increased for higher profitability and timely supply of quality seed to the farmers.

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