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Renuka Shedge
Department of Agricultural
Economics, College of
Agriculture Sonai, Newasa,
Ahmednagar, Maharashtra,
India

Savita Jagtap
Department of Agricultural
Economics, College of
Agriculture Sonai, Newasa,
Ahmednagar, Maharashtra,
India

Sujata Perne
Department of Agricultural
Economics, College of
Agriculture Sonai, Newasa,
Ahmednagar, Maharashtra,
India

Corresponding Author
Renuka Shedge
Department of Agricultural
Economics, College of
Agriculture Sonai, Newasa,
Ahmednagar, Maharashtra,
India

Cost and returns of brinjal

Renuka Shedge, Savita Jagtap and Sujata Perne

Abstract

Brinjal is one of the most important fruit vegetable crop. It contribute good in income of brinjal growing farmers and also in states/ countries economy. Along with economic value it also have good medicinal and nutritional properties. India is having second rank in brinjal production followed by China. Ahmednagar district of Maharashtra is one of the leading district in brinjal production. The study was conducted in six villages of Rahuri and Sangamner tehsils of Ahmednagar district with an objective to study the cost of cultivation and returns realized from the Brinjal cultivation. The study was based on the primary data of 90 brinjal growers for the year 2016-17. The average per hectare cost of cultivation of brinjal was estimated to ₹ 260854.26. The cost A and cost B were ₹ 1,55,525.92 and ₹ 34,975.73, respectively. The gross returns obtained were ₹ 4,71,477.94 at the overall level with 1.81 B:C ratio and profit at cost C being ₹ 2,10,623.68. It is proved that the brinjal cultivation was profitable at all costs viz., cost A, B and C. Among the items of total cost, the rental value of land, human and bullock labour, seedlings, manure etc., were the major items of cost.

Keywords: cost of cultivation, returns, profitability, cost A, cost B, cost C

Introduction

The production and consumption of vegetables has expanded dramatically in recent years, with the global growth in the production of more than 50% in the last decade. The rate of increasing is much higher than for other plant commodities. Vegetables constitute important part of varied and healthy diet and provides significant amount of vitamin, antioxidants and other substances that prevent diseases and contribute to an improvement in the quality of life. As a consequence, it is expected that in the coming years, vegetable crop production will continue its expansion. Brinjal is also have nutritive value and medicinal properties. This fruit (unripe) is primarily consumed as cooked vegetable in various ways and dried shoots are used as fuel in rural areas. It is low in calories and fats, contains mostly water, some protein, fibre and carbohydrates. It is a good source of minerals and vitamins and is rich in total water soluble sugars, free reducing sugars, amide proteins among other nutrients.

India ranks second in the world in case of brinjal production after China. India's share in world's brinjal production was about 27 per cent and area, production and productivity were 6.690 lakh ha, 124.010 lakh tones and 18.5 tonnes per ha respectively during year 2016-17. Ahmednagar is one of the important district producing brinjal crop. Rahuri and Sangmner are leading tehsils in brinjal production in Ahmednagar district. Hence these tehsils were purposively selected for the study. The present work was carried out to study cost and returns of brinjal.

Objective: To estimate the cost of cultivation of brinjal.

Methodology

For carrying out this research, the district, tehsils and villages were selected on the basis of having maximum area under brinjal crop. Three villages from each selected tehsil means total six were selected. From each selected village 15 Brinjal growers were selected randomly for an interview. The study was based on primary data. Required data was collected through an personal interviews of total 90 brinjal growers by using specially prepared interview schedule.

Results and Discussion

Cost of cultivation of brinjal: Cost of cultivation is an important measure used while taking decision about whether to produce particular crop or not. Any rational farmer wants to earn profit when he produces any crop.

To realize profit price of output produced must be greater than its cost.

Table 1 depicts that, per hectare cost of cultivation of brinjal i.e. Cost 'C' was ₹ 2,60,854.26. Amongst the different items of cost, rental value of land was the major item of cost which accounted for 27.95 per cent of cost C, but as it is not an item of direct cost, it does not affect in total profit. While estimating profits, farmer always considers only direct paid out costs. Among all these direct paid out costs hired human labour cost accounts maximum share in total cost C i.e. 21.22 per cent constitutes 5.90 per cent of male and 15.32 per cent of female labour. Manures is the cost item having highest share of 11.51 per cent in total cost, next to hired human labour. Other items of cost were family human labour, seedlings, plant protection, machine power, chemical fertilizers and irrigation charges having share of 9.92 per cent, 6.45 per cent, 5.44 per cent, 5.15 per cent, 2.93 per cent and 1.36 per cent respectively in total cost C.

From table 1, it is observed that per hectare cost (cost C) of brinjal cultivation was ₹ 260854.3. Share of cost A was 59.62 per cent (₹ 155525.9) in total cost C while share of cost B was 90.09 (₹ 234975.7). Observed per quintal cost of brinjal cultivation was ₹ 553.38.

Table 1: Item wise cost of cultivation of brinjal

Sr. No.	Particulars	Qty	Value	%
I	Cost items			
1	Hired Human labour (Man days)			
	a) Male	73.47	15382.78	5.9
	b) Female	200.32	39972.09	15.32
2	Bullock labour (pair days)	2.6	1509.84	0.58
3	Machine charges (hrs.)	74.56	13421.05	5.15
4	seedling (No)	21030.83	16824.67	6.45
5	Manures (q)	55.88	30019.8	11.51
6	Fertilizers (Kgs)			
	N	172.76	4125.91	1.58
	P	82.25	2114.46	0.81
	K	100.64	1551.93	0.59
7	Irrigation Charges (₹)		3535.19	1.36
8	Plant protection charges (₹)		14192.85	5.44
9	Incidental charges (₹)		954.97	0.37
11	Repairs (₹)		949.04	0.36
	Working capital (₹)		144554.6	55.42
12	Int. on Working Capital @ 6%		8368.26	3.21
13	Depre. on farm implements		2523.25	0.97
14	Land revenue and taxes		79.82	0.03
	Cost 'A' (₹)		155525.9	59.62
15	Rental value of land		72917.64	27.95
16	Int. on fixed capital @ 10 % (₹)	2.33	6532.17	2.51
	Cost 'B'		234975.7	90.09
17	Family labour			
	a. Male	65.91	17914.67	6.87
	b. Female	40.07	7963.85	3.05
	Cost 'C' (₹)		260854.3	100
II	Output (qs.)			
	a. Main produce	471.48	471477.94	
III	Cost 'C' net of bye produce		260854.3	
IV	Per quintal cost (₹)		553.38	

Cost, returns and B:C ratio of brinjal: It is observed from table 2 that, per hectare gross income was ₹ 4,71,477.94 with production of 471.48 quintals of brinjal per hectare. While per hectare cost (cost C) of cultivation was ₹ 2,60,854.26. Total

profits received at Cost A, B and C were ₹ 3,15,952.02, ₹ 2,36,502.21 and ₹ 2,10,623.68 respectively. Another important measure of economic analysis was B:C ratio. It's values were 3.03, 2.01 and 1.81 respectively at cost A, B and C. The cultivation of brinjal is economically viable as the benefit cost ratio at all the levels of cost.

Table 2: Costs, returns, gross income and B:C ratio

Sr. No.	Particulars	Overall (₹ / ha.)
1	Total cost (₹)	
	i) Cost 'A'	1,55,525.92
	ii) Cost 'B'	2,34,975.73
	iii) Cost 'C'	2,10,623.68
2	Profit at (₹)	
	i) Cost 'A'	3,15,952.02
	ii) Cost 'B'	2,36,502.21
	iii) Cost 'C'	2,10,623.68
3	Production (q)	471.48
4	Gross income (₹)	4,71,477.94
5	B:C ratio	
	i) Cost 'A'	3.03
	ii) Cost 'B'	2.01
	iii) Cost 'C'	1.81

Profitability of brinjal production: Three different measures are there which shows profitability of farm business viz., farm business income, family labour income and net income or profit. Farm business income is the profit at cost A, while family labour income is the profit at cost B and net income is expressed in the form of profit at cost C.

From above Table 2, it is observed that profit was earned at all costs of cost A, B and C and it's values of ₹ 3,15,952.02, ₹ 2,36,502.21 and ₹ 2,10,623.68 indicates farm business income, Family labour income and net income respectively.

Conclusion

The present investigation was intended to study the economics of brinjal crop in Ahmednagar district as it is important profit earning crop in study area. Following conclusions are drawn from the study on various aspects of production and economics of brinjal crop.

Per hectare total cost of cultivation of brinjal production was less than a per hectare gross income i.e., ₹ 2,10,623.68 where gross income was ₹ 4,71,477.94. It indicates per hectare profit of ₹ 2,10,623.68 from brinjal production.

Hence, hypothesis made i.e. brinjal production is profitable is proved after analysis.

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