

Original Research Article

<https://doi.org/10.20546/ijcmas.2020.912.066>

Economics of Ginger Production in Aurangabad District of Maharashtra

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ABSTRACT

Keywords

Production of ginger, Cost return, Profitability of ginger

Article Info

Accepted:

07 November 2020

Available Online:

10 December 2020

The present study entitled, 'Economics of production of Ginger in Aurangabad district of Maharashtra' is based on a sample of 90 Ginger growers drawn from Sillod and Kannad tahsils of Aurangabad district. The study was based on both primary and secondary data. Primary data were collected through personal interview method from farmers, with the help of well-structured and pretested questionnaire exclusively designed for the study. The data collected from ginger growers by personal interview method with the help of pretested interview schedule and pertaining for the year 2019-2020. The production was 132.21 quintal per hectare. Total gross returns from ginger cultivation was obtained 652044.44 quintal per hectares. Total cost of cultivation was Rs. 299806.14. The share of cost-A and cost-B in cost-C was Rs. 182399.89 and Rs. 291830.68 respectively in ginger cultivation. Farm business income Rs.469644.55, Family labour income Rs.360213.76 net profit Rs. 352238.3, the benefit-cost ratio was 2.1. Per quintal cost of production was Rs. 2267.65. Net return in ginger production was high, hence the pre assigned hypothesis viz. Ginger is profitable crop.

Introduction

Among all the spice crops ginger is one of the principal spice crops not only in India but in the entire world which gives valuable foreign exchange for the country. India is the larger producer and exporter to more than 50 countries.

The scientific name of ginger is *Zingiber officinale*. It belongs to Zingiberaceae family. Native from south eastern Asia. The plant also known as shringavera.

Use of ginger

The aroma of ginger is pleasant and spicy and the flavour penetrating, pungent, slightly biting due to antiseptic or pungent compounds present in it. These properties make it indispensable in the manufacture of a number of food products like ginger bread, confectionery, gingerale, curry powders, certain curried meats, table sauces, in the pickling and in the manufacture of certain soft drinks like cordials, ginger cocktail, carbonated drinks, bitters, etc. Ginger is also used for the manufacture of ginger oil, oleoresin, essence, tinctures etc. Ginger

preserved and ginger candy prepared from green or fresh ginger are quite a favourite of many and in great demand.

Materials and Methods

The sampling technique followed was purposive Multistage sampling procedure was adopted for selection of district, tehsils, villages and the Ginger growers. The sampling procedure adopted for the study is given below. At first stage Aurangabad district was selected purposively selected. In second stage two tehsils viz. Kannad and Sillod was selected. In Third stage from each tehsil three villages was selected. List of farmer Ginger growers was collected from revenue record of each village and from each village 15 cultivator's growing Ginger will be selected constituting a total sample size 90.

The study was based on both primary and secondary data. Primary data were collected through personal interview method from farmers, with the help of well-structured and pretested questionnaire exclusively designed for the study. The data collected from ginger growers by personal interview method with the help of pretested interview schedule and pertaining for the year 2019-2020.

Analytical tools

Estimation of costs and returns

Cost A: Includes the costs on account of hired human labour, bullock labour, machinery charges, value of manures, value of fertilizers, value of seedling, irrigation charges, plant protection charges, land revenue, depreciation and repairs, interest on working capital etc.

Cost-B: $\text{Cost-B} = \text{Cost 'A'} + \text{rental value of land} + \text{interest on fixed capital.}$

Cost-C: $\text{Cost-C} = \text{Cost 'B'} + \text{imputed value of family labour.}$

Results and Discussion

Per hectare physical input and output of ginger farm

Per hectare utilization of physical input and output in ginger cultivation is presented in Table 1 revealed that, 37.36 and 15.22 man-days of hired male and family male labour was utilized on ginger farm. Similarly 40.85 man days and 12.66 man days hired and family female labour was utilized. Average 3.3 pairs of bullock is used to perform various operation of ginger and average 11.03 hours machine labours was use on ginger farm for one hectare of ginger field.

The utilization of seed rhizome was 16.16 quintals for one hectares of ginger farm. Regarding the manures 3.18 tons of farm yard manure was used in ginger production process. Ginger also utilized Biofertilizers, water soluble fertilizers and Chemical fertilizers i.e. 91.24, 79.38 and 680.16 kg were applied to ginger crop for one hectare of ginger farm. The use of plant protection chemicals such as insecticides was 2.82 lit, fungicides 2.88 lit and 3.39 lit of herbicides for per hectares of ginger. The combined effect of above inputs was reflected in output and it is observed that per hectare 132.21 quintals total fresh ginger rhizomes has harvested.

Cost of cultivation of ginger farm

The information on various items of cost of cultivation of Ginger is presented in Table 2. The data revealed that, per hectare total cost of cultivation is worked out that cost-C was Rs.299806.14 for Ginger cultivation, in which the contribution of cost-A and cost-B was 60.83 per cent and 97.33 per cent respectively.

In different items of the expenditure, Rental value of land worked out Rs.108640.70 constituting (36.23) per cent of the total cost which is, predominant because higher yield and prices of ginger. Among the material cost contribution of rhizome material cost is prominent one i.e. Rs. 54620.55 in production which is (18.21) per cent because cost of rhizome is very high.

Expenditure on Fertilizers was Rs.32424.87 which constituted (10.81) per cent, because to increase the yield selected farmers use more fertilizers. In different items in working capital manure cost Rs. 21944.31 constituting (7.31) per cent, Plant Protection Rs. 18732.45

constituting (6.24) per cent, Interest on working capital Rs. 20827.46 constituting (6.54) per cent, irrigation charge Rs. 7499.11 constituting (2.50) per cent, depreciation on capital assets Rs. 1250.79 constituting (0.41) per cent and land revenue Rs. 200.23 constituting (0.06) per cent of the total cost.

Expenditure on labour cost, hired human labour cost Rs. 21599.44, Family labour cost Rs. 7759.99 machine labour cost Rs. 2235.55 and bullock labour cost Rs. 1155 were the cost collectively contributed (7.19) per cent, (2.57) per cent, (0.74) per cent, and (0.38) per cent of the total cost respectively.

Table.1 Per hectare physical input and output of ginger farm (Unit/ha)

Sr. No.	Particulars	Unit	Average
	INPUT		
1.	Hired human labour	man days	
	Male		37.36
	Female		40.85
2.	Family human labour	man days	
	Male		15.22
	Female		12.66
3.	Bullock labour	pair days	3.3
4.	Machine labour	hours	11.03
5.	Rhizomes	qtl	16.16
6.	Manures	ton	3.18
7.	Fertilizer		
	Bio fertilizer	kg	91.24
	Water soluble	kg	79.38
	Chemical Fertilizer	kg	680.16
8.	Plant Protection		
	Insecticides	lit	2.82
	Fungicides	lit	2.88
	Herbicides	lit	3.39
9.	OUT PUT		132.21

Table.2 Per hectare cost of cultivation of Ginger crop (Rs/ha)

Sr. No.	Particular	Amount	Per cent
1.	Hired human labour		
	Male	11530	3.84
	Female	10069.44	3.35
2.	Machine labour	2235.55	0.74
3.	Bullock labour	1155	0.38
4.	Rhizome	54620.55	18.21
5.	Manure	21944.31	7.31
6.	Fertilizer		
	Biofertilizer	7635.7	2.54
	Water soluble	10463.22	3.48
	Chemical fertilizer	14325.95	4.77
	Sub total	32424.87	10.81
7.	Plant protection		
	Insecticides	7952.82	2.65
	Fungicides	5074.71	1.69
	Herbicides	5704.92	1.90
	Sub total	18732.45	6.24
8.	Irrigation	7499.11	2.50
9.	Working capital	160211..27	53.43
10.	Interest on working capital @ 13%	20827.46	6.94
11.	Land revenue	200.23	0.06
12.	Depreciation @ 10 %	1250.79	0.41
13.	Cost-A (Σ 1 to12)	182399.89	60.83
14.	Rental value of land	108640.70	36.23
15.	Interest on fixed capital @ 10%	790.09	0.26
16.	Cost-B (Σ 13 to16)	291830.68	97.33
17.	Family labour		
	Male	4586.66	1.52
	Female	3173.33	1.05
18.	Cost-C (Σ 16 to18)	299806.14	100

Table.3 Per hectares profitability in Ginger production (Rs/ ha)

Sr. no.	Particular	Amount
1.	Gross return	652044.44
2.	Cost-A	182399.89
3.	Cost-B	291830.68
4.	Cost-C	299806.14
5.	Farm business income (Gross return minus Cost-A)	469644.55
6.	Family labour income (Gross return minus Cost –B)	360213.76
7.	Net Profit (Gross return minus Cost-C)	352238.3
8.	Benefit- Cost ratio (Gross return divided by Cost-C)	2.1
9.	Per quintal cost of production (Cost-C divided total harvested fingers)	2267.65

Profitability of ginger production

Per hectare profitability of ginger crop was analyzed and present Table 3. It is revealed that per hectares total gross returns from ginger cultivation was obtained 652044.44 quintal per hectares. While, total cost of cultivation was Rs 299806.14. The share of cost-A and cost-B in cost-C was Rs. 182399.89 and Rs. 291830.68 respectively in ginger cultivation.

The various measures of income were worked out at particular cost level and are also presented in Table 3. Farm business income viz. gross return minus cost-A on the farm was Rs.469644.55. The farm business income is more because of high cost of family human labour. Family labour income i.e. gross return-minus cost-B was estimated to Rs.360213.76 on ginger. The net profit i.e. gross return minus cost-C was arrived at Rs. 352238.3 in ginger. The benefit-cost ratio indicates the return from each rupee investment in Ginger cultivation. The results revealed that the B: C ratio viz. gross return divided by cost- C obtained was 2.1 for ginger cultivation i.e. Spending Rs. 1, they got back

Rs. 2.1 in ginger cultivation. Per quintal cost of hence the pre assigned hypothesis viz. Ginger is profitable crop.

In conclusion the different items of the expenditure, Rental value of land worked out (36.23) per cent of the total cost which is, predominant because higher yield and prices of ginger. Among the material cost contribution of rhizome material cost is prominent one in production which is (18.21) per cent because cost of rhizome is very high.

Per hectare total cost of cultivation found that cost-C was Rs.299806.14 for Ginger cultivation, in which the share of cost-A and cost-B was 60.83 per cent and 97.33 per cent respectively. The contribution of cost-A and cost-B in cost-C was Rs. 182399.89 and Rs. 291830.68 respectively in ginger cultivation. Farm business income Rs.469644.55, Family labour income Rs.360213.76 net profit Rs. 352238.3, the benefit-cost ratio was 2.1. Per quintal cost of production was Rs. 2267.65. Net return in ginger production was high, hence the pre assigned hypothesis viz. Ginger is profitable crop enterprise.

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How to cite this article:

Shinde, S. E., R. D. Shelke and Bodakhe, G. M. 2020. Economics of Ginger Production in Aurangabad District of Maharashtra. *Int.J.Curr.Microbiol.App.Sci.* 9(12): 549-554.
doi: <https://doi.org/10.20546/ijcmas.2020.912.066>