

Original Research Article

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Economic Analysis of Jamun (*Syzygium cumini* L.) Processing in Gadchiroli District of Vidarbha, India

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ABSTRACT

Keywords

Fixed and Variable costs, BC ratio, Ayurvedic medicines, myrtaceae

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Jamun (*Syzygium cumini* L.) a member of the family myrtaceae is a popular indigenous fruit of India. It has got very valuable place in Ayurvedic medicines. The Jamun is an important indigenous minor fruit of commercial value. Jamun fruits can be processed into excellent quality products such as Juice, Chock let, Jam, Cirup and seed powder etc. The objective of present is to work out cost, returns and profitability of Jamun processing. A list of Jamun processing units in Gadchiroli district were collected from the office of Mavim (Mahila Arthik Vikas Mahamandal, Gadchiroli). From the list five fruit processing units who are running regularly were selected purposively for the present study. In order to fulfil the objective of cost, returns and profitability of Jamun processing, necessary primary data were collected from the sample Jamun processing units by the personal interview method using a structured schedule. The data collected pertains to the agricultural year 2019. For the analysis of processing of Jamun different cost concepts were used i.e. fixed and variable cost. Mainly three products were prepared from Jamun by the selected units i.e. Jamun juice, Jamun chatpata and Jamun seed powder during the year 2019. The study concluded that Jamun processing is highly profitable venture and has high potential for value addition in all the products.

Introduction

Jamun (*Syzygium cumini* L.) a member of the family myrtaceae is a popular indigenous fruit of India. It has got very valuable place in Ayurvedic medicines. It is believed to be a boon for diabetic patients. But in India its organised orcharding is still lacking mainly because of proper information on cultivation practices and non-availability of dwarf and high yielding varieties. The Jamun is an important indigenous minor fruit of commercial

value. It is also known as black plum, Indian black cherry, Ram Jamun etc. in different parts of India. The original home of Jamun is India or the East Indies. It is also found in Thailand, Philippines, Madagascar and some other countries. In India the maximum number of Jamun trees are found scattered throughout the tropical and subtropical regions. It also occurs in the lower range of the Himalayas up to an elevation of 1300 meters and in the kumaon hills up to 1600 meters. It is widely grown in the larger parts of India from the Indo-

Gangetic plains in the north to Tamil Nadu in the south. India ranks 2nd in production of Jamun in the world. In India Maharashtra is major Jamun producer followed by Uttar Pradesh, Tamil Nadu, Gujrat, Assam and others.

Jamun fruits are a good source of iron and are said to be useful in the ailments of heart and liver. The Jamun seed is an effective medicine against diabetes and its powder is used in India to control diabetes. The post-harvest management of the Jamun fruit for long distance market is a difficult proposition as it is a climacteric fruit having fragile physical status. Marketing plays a key role in post-harvest operation of fruits. The existing fruit trade is characterized by high transportation, grading, packing cost and lack of storage facilities etc. The objectionable feature of the marketing system is the existence of long chain of middlemen which reduces the share of Jamun growers in the price paid by consumers. The producers are scattered over the wider areas. There is lack of any collective organisation among the producers, while fruit merchants, commission agents and retailers are well organised. Gadchiroli is one of the tribal District in Maharashtra. The Jamun fruits from Gadchiroli district are sent to different markets namely Chandrapur, Rajangaon, Raipur and Hyderabad. Jamun fruits can be processed into excellent quality products such as Juice, Chock let, Jam, Cirup and seed powder etc. The objective of the present study is to work out cost, returns and profitability in Jamun processing.

Materials and Methods

A list of Jamun processing units in Gadchiroli district were collected from the office of Mavim (Mahila Arthik Vikas Mahamandal, Gadchiroli). From the list five fruit processing units who are running regularly were selected purposively for the present study. In order to fulfil the objective of cost, returns and profitability of Jamun processing, necessary primary data were collected from the sample Jamun processing units by the personal interview method using a structured schedule. The data collected pertains to the agricultural year 2019

and the survey was conducted in the month of August 2019 in the Jamun Mohasav, organised by the KVK, Gadchiroli and in the month of January 2020 using an interview schedule. For the analysis of processing cost of Jamun different cost concepts were used.

Fixed Costs- It includes data on the cost of (1) Machinery (2) Land (3) Building etc.

Variable Costs – It consists of (1) Expenditure on causal labour (2) Cost of raw material (3) Interest on working capital.

Results and Discussion

The data collected on economics of Jamun processing units were tabulated and analysed to accomplish the objective i.e. to work out cost, returns and profitability of Jamun processing.

The average capital investment in Jamun processing units is presented in Table 1. The average capital investment in equipment/machinery observed to Rs.9000 per unit which constituted 5.33 per cent share in total investment. The share of land and building in total capital investment was Rs.1,60,000 which was 94.67 per cent. The total per unit capital investment in Jamun processing unit was observed to Rs.1,69,000.

The average fixed cost per unit per year for Jamun processing unit is presented in Table 2. The average fixed cost per unit per year for Jamun processing unit worked out to Rs.2848 of which 59.34% was of interest on fixed capital followed by 38.03% for depreciation on building and 2.63% for depreciation cost of equipment's/machinery.

Utilization of Jamun in different products

Mainly three products were prepared from Jamun i.e. Jamun juice, Jamun chatpata and Jamun seed powder during the year 2019. On an average 1200 Kg of Jamun processed per unit from that 300 liters of juice, 100 kg of Jamun chatpata and 500 kg of

Jamun seed powder were obtained. The details of utilization of Jamun in these products is presented in Table 3.

Economics of Jamun processed products

The economics of different Jamun processed products are presented in Table 4. It is observed from the Table 4 that the total cost incurred for the preparation of 10 lit juice was Rs.1103.90. The variable cost was Rs.1100.34 and fixed cost was Rs.3.56. The BC ratio on net returns was 1.26.

Jamun Chatpata is the secondary product prepared from Jamun abstract. The variable cost required to prepare the 10 Kg. of Chatpata was Rs 527.63 and fixed cost Rs.3.56. The total cost required was Rs.531.19. The BC ratio on net returns was 8.42.

For Jamun seed powder the total cost incurred for the preparation of 10 Kg was Rs.345.26. The BC ratio on net returns was 22.17 which is much attractive. The study concluded that Jamun processing is highly profitable venture and has high potential for value addition in all the products.

Table.1 Average per unit capital investment in Jamun processing units

Sr. No.	Particulars	Amount
1.	Equipments/Machinery	9,000/- (5.33)
2.	Land and Building	1,60,000 (94.67)
	Total	1,69,000 (100.00)

Table.2 Average fixed cost of Jamun processing unit (Per unit/year)

Sr. No.	Particulars	Amount in Rs.
1.	Depreciation cost of equipment's/machinery @10% per annum	75 (2.63)
2.	Depreciation on building @10% per annum	1083 (38.03)
3	Interest on fixed capital @12% per annum	1690 (59.34)
	Total fixed cost (Rs)	2848 (100.00)

Note: Figure in parentheses indicates the percentage to total.

Table.3 Utilization of Jamun in different products

Sr. No	Quantity of Jamun used (in Kg)	Quantity of finished products obtained (in lit/kg)		
		Jamun juice	Jamun Chatpata	Jamun seed powder
1.	1200	300	100	500

Table.4 Economics of production of Jamun processed product (Per 10 Liters/10 Kg)

Sr. No	Items	Jamun juice		Jamun chatpata		Jamun seed powder	
		Qty. used	Amount in Rs.	Qty. used	Amount in Rs.	Qty. used	Amount in Rs.
A	Variable cost						
1.	Female labour (days)	4.00 hrs	50.00	2.00	25.00	4.00	50.00
2	Raw material						
A	Jamun(Kg)	40.00	960.00	–	–	–	–
B	Preservatives (gms)	5.00	27.00	–	–	–	–
C	Other material	–	–	1.00	250.00	–	–
3	Packing						
A	Glass bottles/plastic container	10.00 no.	50.00	50.00 no.	250.00	5.00 no.	250.00
4	Electricity	–	12.00	–	–	–	40.00
5	Intrest on working capital	–	1.34	–	2.63	–	1.70
6	Total variable cost	–	1100.34	–	527.63	–	341.70
7	Fixed cost	–	3.56	–	3.56	–	3.56
8	Total cost	–	1103.90	–	531.19	–	345.26
9	Returns						
A	Quantity (Lit/Kg)		10 lit		10 kg		10kg
B	Rate (Rs.Lit/kg)		250.00		500.00		800.00
10	Total receipt		2500.00		5000.00		8000.00
11	Net Returns		1396.10		4468.81		7654.74
12	BC ratio		1.26		8.42		22.17

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