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## Economics of production of raisins in Sangli district of Maharashtra

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#### Abstract

The study is based on economics of production of raisins in Sangli district of Maharashtra. The primary data related to cost and returns of raisin processing was collected from 90 raisin producers of six villages of Tasgaon and Kavathe % Mahankal Tahsils of Sangli district using two stage Random Sampling technique. The objective of the study was to compare the costs and returns in three groups of raisin producer classified as per the source of raw material used for raisin production. The results revealed that at overall level, the total cost incurred for raisins preparation was ₹. 10008.15, in which, the total fixed cost was ₹. 992.32 (9.91 percent) and that of total variable cost was ₹.9015.83 (90.09 percent). Average per quintal net return derived was ₹. 4560.37. The benefit: cost ratio of 1.45 underlined the fact that the raisin production is profitable.

**Keywords:** Raisin production, fixed cost, variable cost, profitability, benefit-cost ratio

#### Introduction

Maharashtra ranked first in grape production, producing 62.7% of the total production of grape in the country (FAOSTAT- 2018-19). In Maharashtra mostly Sangli, Nashik, Pune and Ahmednagar are grape growing districts out of which Sangli and Nashik are leading districts. Especially the grapes growers of Sangli district not only dispose off the grapes as fresh fruit to distant markets of state, country and abroad, but also divert some portion of their produce for raisin making depending upon market price situation. Large number of people is working in the raisin making unit. Raisin making units provides the job opportunity to many peoples and an is important agro-based industry in the Tasgaon and Kavathe- Mahankal tahsils. There are two types of raisins Viz; Bedana/ Kishmish which is made by drying seedless grapes and Manuka/Munnakka which is made by drying seeded grapes.

In Maharashtra 1,90,000 Tons of raisins were produced out of that 1,20,000 Tons produced in Sangli district in 2018 (Agrowon, 5 Nov 2019). Near about 50000 farmers are associated with raisin making in Sangli district. Tasgaon and Kavathe- Mahankal are leading raisin making tahsils from sangli. The processing of grapes may be the profitable preposition to the grape growers who opt for raisin making, therefore the attempt was made to estimate costs, returns and profitability in raisins production.

#### Methodology

The Sangli district; a major grape growing and raisins producing area in Maharashtra was selected purposively. From the selected district, higher raisins producing tahsils viz., Tasgaon and Kavathe-Mahankal were selected for present investigation. The two stage random sampling with sample village as a primary unit and sample farmers having higher raisins production as a secondary and ultimate unit of sampling was adopted for the investigation. The raisins producers were selected randomly and were categorised in three groups based on source of raw material used for raisins making.

Group-I: Raisins production from grapes of own grapes garden.

Group-II: Raisins production from purchased grapes.

Group-III: Raisins production from own and purchased grapes.

From every village, 15 raisins producers, of which five raisins producers from each group were selected randomly. Thus total sample size of 90 producers comprised of 30 raisins producers from each group spread over six villages viz; Siddhewadi, Savlaj, Dahiwadi from Tasgaon tehsil and Agalgaon, Karewadi and Chorochi from Kavathe-Mahankal tahsil of the study area was used for data collection.

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A cross sectional comparison of costs and returns of the activity was done separately in order to find out the extent of profitability of the raisins producing units. The cost concepts used are as below

1. Total Variable cost: Total Variable cost includes the cost of raw materials i.e. the grapes used for raisins preparation, cost of chemicals, labour cost involved in processing, electricity charges and interest on working capital etc.
2. Total Fixed cost: Total Fixed cost includes depreciation on shed equipments and buildings like fumigation chamber, interest on fixed capital etc.
3. Total cost: Total cost is the addition of total variable cost

and total fixed cost required for raisins production.

**Income/Return analysis**

1. Gross returns/Kg: Total returns / total quantity of raisins produced in Kg.
2. Net returns: Gross returns -total cost.
3. Benefit: Cost Ratio: gross returns/ Total costs.

**Result and Discussion**

**Production and disposal pattern of grapes and raisins:**

The detail information about production and disposal pattern of grapes and raisins is provided in Table 2

**Table 2:** Production and disposal pattern of grapes and raisins (Quantity in qtls.)

Sr. Nos.	Particulars	Groups			Overall
		I	II	III	
1	Production of grapes	87.16	-	100.20 (58.65)	62.45 (25.32)
2	Purchased Grapes	0	481.94 (100.00)	70.64 (41.35)	184.19 (74.68)
	Total quantity of grapes	87.16 (100.00)	481.94 (100.00)	170.84 (100.00)	246.64 (100.00)
3	Total consumption of grapes	0.76 (0.87)	0.48 (0.10)	1.02 (0.60)	0.75 (0.30)
4	Grapes Used For Raisins processing.	86.40 (99.13)	481.46 (99.90)	169.82 (99.40)	245.89 (99.70)
5	Total quantity of Raisins Produced	20.25 (100.00)	104.88 (100.00)	38.08 (100.00)	54.40 (100.00)
6	Total consumption of Raisins	0.09 (0.44)	0.07 (0.07)	0.10 (0.26)	0.08 (0.15)
7	Sale of raisin	20.16 (99.56)	104.81 (99.93)	37.98 (99.74)	54.32 (99.85)

At overall level, 62.45 qtls (25.32 percent) grapes were produced on own farm and 184.19 qtls (74.68 percent) purchased grapes were used for raisin production. The home consumption of fresh grapes was 0.75 qtls and 245.89 qtls grapes were actually used for raisins processing. On an average, from 245.89 quintal of fresh grapes the recovery of raisin was 54.40 qtls. About 0.08 qtls. raisins were used for all type of consumption. On an average, 54.32 qtls raisins were sold in market. Intra group comparison showed that amongst the three groups, Group-II produced higher quantity of raisins

(104.88 qtls) than Group-I (20.25 qtls) and Group-III (38.08 qtls.).

**Per quintal cost of raisins production**

Per quintal cost of raisins production is given in the Table 4. From above Table 4, it is seen that at overall level the total cost incurred for raisins preparation was ₹. 10008.15, in which, the total fixed cost was ₹. 992.32 (9.91 percent) and that of total variable cost was ₹. 9015.83 (90.09 percent).

**Table 4:** Per quintal cost of raisin production (Values in ₹.)

Sr. Nos.	Particulars	Groups			Overall
		I	II	III	
<b>Variable Cost</b>					
1	Raw material cost of grapes used (qtls)	6287.76 (63.83)	6990.57 (70.51)	7111.10 (68.22)	6788.24 (67.83)
2	Labour cost (Man days)	931.66 (9.46)	583.99 (5.89)	718.45 (6.89)	744.70 (7.44)
3	Transportation cost (Hr.)	97.06 (0.98)	149.99 (1.51)	139.35 (1.34)	128.80 (1.29)
4	Chemical cost	368.27 (3.74)	397.93 (4.01)	398.14 (3.82)	388.11 (3.88)
5	Total working capital	7684.75 (78.01)	8122.48 (81.93)	8367.04 (80.27)	8049.85 (80.43)
6	Interest on working capital @ 12%	922.17 (9.36)	974.70 (9.83)	1004.04 (9.63)	965.98 (9.65)
7	Total variable cost	8606.92 (87.37)	9097.18 (91.76)	9371.08 (89.90)	9015.83 (90.09)
<b>Fixed Cost</b>					
8	Depreciation on equipment and shed	517.74 (5.26)	334.70 (3.37)	398.11 (3.82)	416.85 (4.16)

9	Interest on fixed capital @ 12%	726.00 (7.37)	482.59 (4.87)	654.55 (6.28)	575.47 (5.75)
10	Total fixed cost	1243.74 (12.63)	817.29 (8.24)	1052.66 (10.10)	992.32 (9.91)
11	Total cost of raisin production	9850.66 (100.00)	9914.47 (100.00)	10423.74 (100.00)	10008.15 (100.00)

(Figures in parentheses indicate percentage to the total cost of raisin production)

The results are in accordance with the results of Babar *et al.* (2004) [3], who worked out per quintal cost of raisin production in Solapur district and found that the proportion of variable cost was the highest (89.30 percent) and that of fixed cost was (10.70) percent of total cost of raisin production, The major cost contributing item in total cost was raw material cost which was ₹. 6788.24 and contributed 67.83 percent in total cost. Higher cost incurred on the Raw material (₹. 6788.24) was followed by labour cost (₹.744.70), chemical cost (₹.388.11) and machine cost (₹.128.80) respectively. The Total cost of raisin production was ₹.9850.66, ₹.9914.47 and ₹.10423.74 in Group I, Group II and Group III, respectively. From the Table 4, it was revealed that Group I and Group II were more cost remunerative as compared to group III. This

was due to the low cost of raw material / grapes as the processor was the producer of grapes in group I and economies of scale in group II who were processing larger quantity of grapes in comparison to Group I and Group III.

#### Per quintal returns from raisins production

From the Table 5, it was observed that on an average the per quintal loss while performing the marketing operation was 1.79 kg. The net quantity of raisin sold in market was 98.21 kg. The per quintal value received from the sale of raisin was ₹. 14568.52. On an average per quintal cost incurred for raisin production was ₹. 10008.15. Average per quintal net return derived was ₹. 4560.37. The benefit: cost ratio was 1.45, underlined the fact that the raisin production is profitable.

**Table 5:** Per quintal returns from raisins production (Values in ₹.)

Sr. Nos.	Particulars	Groups			Overall
		I	II	III	
1	Quantity of Raisins available for sale (Kg)	100	100	100	100
2	Market losses (Kg)	1.24	2.18	1.96	1.79
3	Net Quantity of raisins sold (Kg)	98.76	97.82	98.04	98.21
4	Value of raisins	15011.52	14086.08	14607.96	14568.52
5	Cost of processing of raisins	9850.66	9914.47	10423.74	10008.15
6	Net Profit	5160.86	4171.61	4184.22	4560.37
7	B:C Ratio	1.52	1.42	1.40	1.45

Across the group, the net returns were highest in Group- I ₹. 5160.86, while the net returns of Group II and III were at par. It indicates that the results were similar to the results of Koli (2013) [5], who performed Economics analysis of production and marketing of raisins in Western Maharashtra and found that net profit per quintal was the highest for group I. The benefit cost ratio at overall level was 1.45 and that across the group was 1.52, 1.42 and 1.40 in Group I, Group II and Group III respectively. The more than unity B:C ratio concluded that the resin production was viable and profitable activity and the grape growers can process the part of their fresh grapes into raisin.

#### Conclusion

The Total cost of raisin production was ₹.9850.66, ₹.9914.47 and ₹.10423.74 in Group I, Group II and Group III, respectively, while the net returns across the group were ₹.5160.86, ₹. 4171.61 and ₹. 4184.22. The benefit cost ratio was 1.52, 1.42 and 1.40 in Group I, Group II and Group III respectively. Hence, the resin production from is a viable and profitable activity, had been proved.

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