Research Paper

Marketing of Baby Corn (*Zea mays* L.) in Sonipat, Haryana: An Economic Analysis

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ABSTRACT

Sonipat district of Haryana state contributed significantly to the area and production of baby corn in the state. The study was carried out to estimate marketing cost, market margins, marketing efficiency and price spread of baby corn growers. Primary data was collected from 60 farmers from two villages, namely Rajpura and Aterna and ten market intermediaries from Azadpur market, New Delhi. The results indicated two main marketing channels for baby corn as: channel-I (Producer → Processing mill) and channel-II (Producer → Wholesaler → Retailer → Consumer). The marketing channel-I observed to be more efficient due to absence of market intermediaries and net price received by the farmer was comparatively higher.

HIGHLIGHTS

◎ Two marketing channels were found in marketing of baby corn, one without any intermediaries, where marketing efficiency was higher.

◎ Net price received by the farmer was comparatively lower in second channel, as the marketing expenses incurred in the channel was higher.

Keywords: Baby corn, Marketing channels, Marketing cost, Market intermediaries, Price spread

Baby corn also known as mini corn or candle corn is the ear of maize (*Zea mays L.)* plant harvested, when the silks have either not emerged or just emerged and no fertilization has taken place (Rani *et al.* 2017). After rice and wheat, maize is the third most important cereal crop in India, and occupy an important place in consumer food baskets worldwide (Geetha & Srivastava, 2019**).** Based on the size and composition of endosperm, several hybrid varieties of maize exist, viz. dent corn, flint corn, sweet corn, popcorn, baby corn, etc. (Kaul *et al.* 2018).

Baby corn is one of the most essential, dual-purpose crops grown round the year in India (Singh *et al.* 2015). Baby corn is young finger-like unfertilized cobs of maize (*Zea mays L.*) with one to three-centimeter emerged silk preferably harvested within 1-3 days of silk emergence (Yadav *et al.* 2014). The de-husked young ear of baby corn can be eaten as vegetable, whose delicate sweet flavor and crispiness are much in demand (Bairagi *et al.* 2015). In India, recently baby corn has gained popularity as valuable vegetable in Delhi, Uttar Pradesh, Haryana, Maharashtra, Karnataka, Andhra Pradesh, Rajasthan and Meghalaya states (Govt. of India, 2011).

Inspite of high importance in local as well as national market, information on marketing expenses, marketing channels and their efficiencies are not available at regional or national level. Study on marketing patterns will suggest the right place, time, and agency of sale for profitable and efficient marketing. It is essential to know the various

channels, through which the baby corn passed from producers to the ultimate consumer. Price spread helps to see the number of market intermediaries, length of the market channel and the nature, extent and the genuineness of various marketing margins and cost. The knowledge of marketing costs &margins, and the price spread of baby corn may help in judging and improving the operational efficiency in baby corn markets of the Sonipat district and the state as a whole. Thus, this study was conceived to explore such fact for developing an appropriate price policy of baby corn that can provide incentive prices to the producers and assures them of a fair share in the consumer's rupee.

MATERIALS AND METHODS

Sample and data

The study was conducted in the Sonipat district of Haryana, as it has vast area under this crop and having potential for marketing being near to larger markets at Delhi. In Sonipat district, two major baby corn growing blocks were selected based on maximum area coverage and from each block, one village was chosen based on the predominance of baby corn production. One major market i.e., Azadpur market, New Delhi, was selected as it is the major marketing destination for farmers of the area under study. Primary data was collected from a total of 60 farmers, five wholesalers and five retailers. The secondary information required for the study was collected from various published and unpublished sources. Primary data was collected based on a pre-tested schedule by personal interview from the selected households and the market intermediaries for finding out the marketing costs, marketing margins, marketing efficiency and the price spread.

Descriptive tools

The marketing costs, marketing margins, marketing efficiency, and price spread, were calculated by conventional analysis using averages and percentages.

Marketing cost

The total costs incurred by the farmers on marketing include transportation cost, storage cost, market fees, packaging, etc. The marketing cost incurred at various stages were calculated and finally computed in the form of totals and percentage.

$$C = C_F + C_{M1} + C_{M2} + C_{M3} .... C_{Mn}$$

where,

C = Total cost of marketing

C_F = Cost incurred by the producer from the farm-gate till it is being sold.

C_{M_i} = Cost incurred by the ith middle-men at each stage of marketing; i = 1, 2, 3…,n

Marketing Margins

Marketing margin is calculated as the difference between the total payments (marketing costs + purchase price) and receipts (sale price) of the middlemen. The general expression for estimating the margin for intermediaries is:

Intermediaries Margin = Sale Price – (Price paid + Cost of marketing + Loss in the value)

Marketing efficiency (ME)

Marketing efficiency is the ratio of market output (satisfaction) to marketing input (cost of resources). An increase in this ratio represents improved efficiency and a decrease denotes reduced efficiency. Marketing efficiency worked out by employing the modified formula given by Acharya (2003):

$$ME = NPF/(MC + MM)$$

where,

NPF = Net price received by farmers.

MC = Total marketing cost.

MM = Total marketing margin

Price spread

Price spread is the difference between the price paid by the consumer and the price received by the producer. To find out the producer's share in the price paid by the consumer, information regarding marketing aspects of baby corn, was collected from the producers, wholesalers, and processors. The main channels in the marketing of Baby corn were studied to work out the price spread (Sain *et al.* 2013). The price spread analysis carried out using the expression:

Price spread = [Consumer price – Producer price] or [MC+MM]

Producer's share in consumer rupee = (Producer's price/Consumer's price) × 100

RESULTS AND DISCUSSION

Marketing pattern of baby Corn

The marketing pattern of baby corn depends upon the time, place, and quantity produced. It differs from farmers to farmers as they dispose of their produce at different places and to different agencies. Farmer's decision concerning to the place of sale, time of sale, and agencies through which they sell their produce is influenced by various factors, such as proximity of the market, marketing facilities, availability of transportation, storage facility, nature of commodity and economic conditions of the farmer, etc. The study of sale pattern revealed that few farmers sold their produce directly within the village and nearby town. The other farmers sold their commodities in the market through a commission agent in place of wholesalers, i.e., the commission agent negotiates the price on behalf of farmers and has charged six percent of the value of produce as commission (against rate approved by the market committee) in baby born market (Azadpur market, New Delhi where major proportion of produce of the study area is being sold). The number of marketing channels identified for baby corn in the district were:

1. Channel-I: Producer → Mill
2. Channel-II: Producer → Wholesaler → Retailer → Consumer

Price spread of baby corn

The price for the product received by the producer and paid by the consumer depends upon the price spread of the commodity. It involves the costs and margins of various market functionaries involved in it. The marketing costs, which is the difference between the price paid by the ultimate consumer and price received by the producer includes all the cost of performing various marketing functions like assembling, transportation, grading, packing, selling, etc. and also the profit margins of various market functionaries. The marketing margins and the cost influence the returns to the producer on the one hand and the cost to the consumer on the other hand. The producer is interested in getting the highest share in the consumer's rupee, while the consumer is interested in paying the lowest possible price. Price spread helps to see the number of the market intermediaries, length of market channel and the nature, extent, and genuineness of various marketing margins and costs. Thus, such study, can be utilized to develop an appropriate price policy of baby corn that aims to provide incentive prices to the producers and assures them of a fair share in the consumer's rupee. The knowledge of marketing costs and margins and price spread of baby corn in Azadpur market may help in judging and improving the operational efficiency, in the marketing of baby corn produced in the Sonipat district because Azadpur is nearest largest market for baby corn farmers of the study area where largest proportion of produce is being marketed by farmers. Before studying the marketing costs and marketing margins in baby corn trade, it is also essential to know the various marketing channels through which the baby corn passed from producers to the ultimate consumer.

Marketing costs, margins and Price spread of baby corn through different marketing channels

Marketing costs, margins, and Price spread of baby corn through different marketing channels in the Sonipat district are presented in Table 1. Among the two marketing channels, the net price per quintal received by the producer was higher in channel-I (₹ 6750), followed by channel-II (₹ 6567). Farmers received the better price in the 1st channel, because of the non-existence of middleman, as the farmers sold their produce directly in the processing mills. This channel is chosen by the farmers who usually sold the produce through this channel in the beginning and at the end of the picking period, when the quantity of the produce was significantly less. In channel-I, marketing expenses incurred by the producer, transportation cost and loading charges, which are ₹ 100 and ₹ 150, respectively, which is 2.3% of the selling price of the millers. In channel-II, the producers sold the baby corn to the wholesalers and the expenses incurred by the producer was ₹ 1013 per quintal of produce that included transportation costs, loading charges,

Table 1: Price spread of baby corn through marketing channel-I (₹/quintal)

Sl. No.	Particular	Value (₹)	Percentage (%)
A	Net price received by the producer	6750	62.50
B	Expenses incurred by the producer	250	2.31
	(i) transportation	100	0.93
	(ii) loading charges	150	1.39
C	Purchase price of miller	7000	64.81
D	Expenses incurred by the miller	4600	42.59
	(i) electricity, labour charges, cleaning, and other processing charges	2000	18.52
	(ii) canning boxes	2600	24.07
E	Margin of miller	200	1.85
F	The selling price of miller	11800	100

Note: Figures in parentheses are the percentage to the selling price of millers.

Table 2: Price spread of baby corn through marketing channel-II (₹/quintal)

Sl. No.	Particulars	Value (₹)	Percentage
A	Net price received by the producer	6567	52.54
B	Expenses incurred by the producer	1013	8.10
	(i) transportation	110	0.88
	(ii) loading and unloading charges	148	1.18
	(iii) packing charges	300	2.40
	(iv) commission @6 per ₹ 100	455	3.64
C	Purchase price of wholesaler	7580	60.64
D	Expenses incurred by the wholesaler	76	0.61
	(i) market fee@1 per ₹ 100	76	0.61
E	Commission from the retailer@2 per ₹ 1 ₹ 00	152	1.22
F	Total Commission received by wholesaler	531	4.25
G	Purchase price of the retailer	8560	68.48
H	Expenses incurred by the retailer	3012	24.10
	(i) Transportation cost	360	2.88
	(ii) Commission to the retailer @2 per ₹ 100	152	1.22
	(iii) Packing	2500	20.00
I	Margin of retailer	928	7.42
J	Purchase price of consumer	12500	100.00

Note: Figures in parentheses are the percentage to the purchase price of consumer.

packing charges and commissions, which is 8.10% of the purchase price of the consumers. Likewise, market fees that are incurred by the wholesalers also and the total commission of wholesaler was ₹ 531 and the total cost incurred by the wholesaler was ₹ 72, which forms 4.25% and 0.61% of consumers price, respectively.

From Table 1 and 2 it is clear that channel-I (62.50%) was more efficient with a high percentage of the price received by producer in miller's price than channel-II, where farmers received only 52% of the consumer's rupee. However, both channels are utilized by farmers based on the market prices.

Marketing efficiency of baby corn in different marketing channels

The movement of commodities from producers to consumers at the lowest possible cost and consistent with the provision of the services desired by the consumer may be termed as efficient marketing. An efficient marketing system is an effective agent of change and an important means, for raising

Table 3: Marketing efficiency of baby corn in different marketing channels (₹/quintal)

Sl. No.	Channel	Marketing cost (MC)	Marketing margin (MM)	MC+MM	Net price received by the farmer (NPF)	Marketing efficiency (ME)
1	I	4850	200	5050	6750	1.33
2	II	4101	1459	5560	6567	1.18

the income levels of the farmers and the levels of satisfaction of the consumers. It can be harnessed to improve the quality of life of the masses. The marketing efficiency of baby corn in different marketing channels presented in Table 3. As far as marketing of baby corn by farmers of the Sonipat was concerned, the marketing channel-I was found efficient than channel-II. In channel-I, the efficiency ratio was 1.33, followed by channel-II, where it is1.18. Hence, channel-I was more efficient, that can be attributed to the absence of any intermediaries involved. The above analysis showed the marketing efficiency inversely related to the number of market intermediaries.

CONCLUSION

Baby corn is a highly remunerative crop, and it helps in increasing the farm income. Study on marketing pattern revealed that most of the baby corn growers in Sonipat district prefer to sell their produce in the village rather than the markets. There are two marketing channels identified for baby corn in the district, the channel-I found to be more efficient due to absence of market intermediaries. The analysis also showed that the marketing efficiency inversely related to the number of market intermediaries. The net price received by the farmer was found to be higher (₹ 6750) in channel-I than channel-II. However, the quantity of produce sold into the channel-II was far greater than channel-I despite being a more efficient as well as having greater share of farmers in consumer rupee. This was because of low quantity demanded by the millers as they are small in number and are having lower capacity to process. Thus, there is a dire need of policy intervention by government in order to increase the number of baby corn processors and millers so that the collective demand by channel-I could match the supply from the area. This will not only increase the competitiveness in market (leading to better price realization by farmers) but will also attract new farmers to come forward to grow baby corn.

REFERENCES

Bairagi, S., Pandit, M.K., Sidhya, P., Adhikary, S. and Koundinya, A. V. V. 2015. Impacts of date of planting and crop geometry on growth and yield of baby corn (*Zea mays var. rugosa*). *J. Crop and Weed*, **11**(2): 127-131.

Geetha, R.S. and Srivastava, S.K. 2019. Performance and determinants of maize production in India. *Int. J. of Curr. Res. Biosci. Plantbiol.*, **6**(6): 17-25.

Kaul, J., Kumar, R., Nara, U., Jain, K., Olakh, D., Tiwari, T., Yadav, O.P. and Dass, S. 2018. An overview of registration of maize genetic resources in India. *Int. J. of Cur. Microb. and Appl. Sc.*, **7**(2): 933-950.

Rani, R., Sheoran, R.K., Soni, P.G., Kaith, S. and Sharma, A. 2017. Baby corn: a wonderful vegetable. *Int. J. of Sci., Env. and Tec.*, **6**(2): 1407-1412.

Veer, S., Luhach, V.P., Luhach, V.J. and Mehla, M.S. 2014. Marketing of guava in Fatehabad district of Haryana state. *Annals of Agri Bio Res.*, **19**(2): 343-347.

Yadav, V.K., Jat, S.L. and Singh, K.P. 2014. Success story of baby corn cultivation in Haryana. *Popular Kheti*, **2**(4): 26-28.

Navadkar, D.S., Amale, A.J., Gulave, C.M. and Nannaware, V.M. 2012. Economics of production and marketing of kharif maize in Ahmednagar district of Maharashtra State. *Agric. Situation in India*, **69**(6): 309-316.

Kumar, R. and Chahal, S.S. 2011. An Economic Analysis of Maize Marketing in Punjab. *Int. Res. J. of Agric. Eco. & Statis.*, **2**(1): 79-86.

Changule, R.B. and Gaikwad, G.P. 2013. Marketed surplus and Price Spread in different channels of Maize marketing. *Int. J. of Comm.& Busi. Mgmt.*, **6**(1): 76-79.

Sharma, S.M. and Dahiy, R.H. 2013. Economics of tomato cultivation in Jaipur district of Rajasthan. *Annals of Horticulture*, **6**(1): 1-11.

Dwibedy, S.K. 2013. Estimation of Price Spread And Marketing Efficiency of Brinjal in Different Marketing Channels: A Case Study. *Indian J. of Mktg.*, **43**(2): 50-56.

Tegar, A. 2019. Economics of production and marketing of okra in Bilaspur district of Chhattisgarh state of India. *Plant Archives*, **19**(1): 1017-1022.

Wankhade, S.D., Kakde, S.J. and Jahagirdar, S.W. 2019. Marketing and price spread of brinjal in Western Vidarbha region of Maharashtra. *Int. Res. J. of Agric. Eco. & Statis.*, **10**(1): 47-50.