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Constraints Faced by Tomato Growers at Production and Marketing Level in Haryana

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ABSTRACT

The tomato is the most consumed vegetable in raw or processed form in every house and its demand is throughout the year. The present study was carried out in the Kurukshetra, Karnal, and Yamunanagar Districts of Haryana in 2022-23. The data was collected from a sample of 210 farmers with the help of a well-structured interview schedule with the objective to study the constraints faced at the production and marketing levels. The analysis of data was done with the Garrett ranking technique. The study concluded that the major problem at the production level was climate vagaries (79.01), high labor cost (74.60), high incidence of insect, pest, and disease (70.52), high cost of tomato seed (62.75) and lack of skilled labor during peak time (59.79). At the marketing level, frequent price fluctuation (82.90), lack of cold storage and warehouse facilities (72.38), high transportation cost (68.83), and quality deterioration during transportation (61.07) were found to be major constraints. Extension programs focused on creating awareness among farmers on prevailing schemes, subsidies and hi-tech farming methods such as controlled climate production can be helpful in overcoming the constraints.

INTRODUCTION

India is blessed with the varied resources of production and diversified cropping systems which gives boost to vegetable cultivation. On an average, the vegetable farming gives five to ten times more yield than cereals (Prakash, 2014). Many farmers are diverting their farm resources toward vegetable cultivation by realizing its importance. Tomato (*Solanum lycopersicum*) is one of the most consumed vegetables in world as it forms the basic ingredient in raw, cooked or processed foods. India is the second largest producer of tomato in the world after China. Tomato is very important due to its nutritional value as it is a good source of vitamins, minerals and low amounts of proteins and fats and some carbohydrates (Kumari et al., 2022). The tomato is perishable in nature and faces many uncertainties regarding climatic conditions and input use efficiency. The marketing of tomato crop is very complex and risky due to its perishable nature, seasonal production and bulkiness results into quick selling of crop on prevailing prices (Kumari et al., 2022). The realization of prices is also very unique from producer to consumer due demand and supply transactions among various involved intermediaries at different level of marketing (Dastagiri et al., 2013). The major constraints faced by vegetable growers were input constraints i.e., high price of hybrid seeds, fertilizers and chemicals, followed by unavailability of quality protection chemicals, technical constraints like poor confidence in recommended technology, risky application of plant protection measure due to lack of knowledge, lack of knowledge about balanced use of fertilizers (Kumar et al., 2020). The farmers need information on credit/loan procurement, marketing channels, processing and proper harvesting of tomatoes, weather and health nutrition whereas training need were on safe use of agro-chemicals, storage of seeds and fruits, nursery management techniques, weather and weed management (Adebisi et al., 2020). The processing capacity and the varieties suitable for processing should be developed to improve

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the efficiency of vegetable sector. The focus should be on efficient post-harvest management to reduce wastage of the produce (Kumari et al., 2022). The vegetable cultivation in recent years have shown encouraging signs of changing from traditional food grains farming to diversified farming including vegetables (Akila et al., 2020). In view of this, the present study was conducted with the objective to study the constraints faced by tomato growers at production and marketing level in Haryana.

METHODOLOGY

The present study was conducted purposively in selected three districts i.e., Kurukshetra, Karnal and Yamunanagar of Haryana based on large area under tomato production. The Ladwa block from district Kurukshetra, Indri from Karnal and the block Radaur from Yamunanagar were selected purposively for the present study as these three blocks collectively makes a big pocket area for tomato cultivation. From each block five villages were select randomly and fourteen farmers cultivating tomato were further selected randomly from each village. Therefore, the total sample size for this study was 210. The primary data were collected using well-structured interview schedule to find out the major problems faced by tomato growers at production and marketing level. Garrett's ranking technique was used to identify major constraints at production and marketing level. The scores of individual respondents were summed up and divided by the total number of respondents for each factor and then according to average mean scores the final rank was given to constraints. The constraint with highest average mean score got rank one and so on.

RESULTS AND DISCUSSION

The tomato is perishable in nature due to which tomato farmers have to face problems right from sowing to the marketing of crop to its final consumption and it was observed during data collection that the major problems faced by tomato growers were at production and marketing level. The constraints at production level involves problems faced by the farmers in growing tomato at farm level and the constraints at marketing level involves problems faced by farmers after harvesting of crop i.e., in taking crop to market to sell crop to different customer groups and other activities like transportation and storage. The tomato is mainly disposed through intermediaries i.e., wholesaler-cum-commission agents and the retailers. The constraints faced by these were also analyzed.

Constraints at production level

The major constraints faced by tomato growers at production level are presented in Table 1. The data in table revealed that climate vagaries were the biggest problem faced by tomato growers with mean score of 79.01. High labor cost was the second most faced problem with mean score of 74.60 followed by high incidence of insect, pest and diseases with mean score of 70.52, high cost of tomato seed with mean score 62.75, lack of skilled labor during peak time with mean score 59.79, yield risk, instability in tomato production, use of conventional methods of farming and lack of technical know-how among farmers and so on. Input supply Centre is far away with mean score of 20.48 was found out to be least important constraint faced by tomato growers followed by erratic supply of electricity, etc. The results were backed by the findings of Shende & Meshram (2015) and Roy & Ghosh (2022) who found that high labor cost, changing climate and high losses due to insects and pests were the major constraints faced by farmers at production level. It was suggested from the results that the farmers should adopt protected cultivation and follow recommended farm management practices in order to reduce crop damages from insect, pests and diseases.

Table 1. Constraints at Production and Marketing Level

S.No.	Constraints at Production Level	Haryana Mean Score (Rank)	Constraints at Marketing Level	Haryana Mean Score (Rank)
1	High incidence of insect, pest and diseases	70.52 (3)	Frequent price fluctuation	82.90 (1)
2	Climate vagaries	79.01 (1)	Quality deterioration during storage and transportation	61.07 (4)
3	Lack of skilled labor during peak time	59.79 (5)	Lack of awareness of new technologies	48.39 (8)
4	High labor cost	74.60 (2)	Lack of cold storage and warehouse facilities	72.38 (2)
5	Yield risk	57.68 (6)	Cumbersome process of BBY/ government procurement (NAFED)	59.89 (5)
6	High cost of tomato seed	62.75 (4)	Distant market	37.08 (11)
7	Instability in tomato productivity	49.87 (7)	Collusion among traders/ trade malpractices	41.75 (10)
8	Use of conventional methods of farming and lack of technical know-how among farmers	47.85 (8)	Delay in sale and payment	19.69 (14)
9	Timely unavailability of quality seeds and other recommended inputs like pesticides	40.00 (10)	High transportation cost	68.83 (3)
10	High cost of fertilizers and plant protection chemicals	44.74 (9)	Poor market infrastructure	31.35 (12)
11	Inadequate credit supply by financial institution and high interest rate	39.89 (11)	Lack of information about government schemes and subsidies	49.28 (7)
12	Input supply Centre is far away	20.48 (14)	Poor road network for transportation	23.20 (13)
13	Poor quality and insufficient underground water	29.52 (12)	Lack of availability of market information	59.25 (6)
14	Erratic supply of electricity	21.93 (13)	Labor problems for grading and packing	43.22 (9)

Figures in the parenthesis indicate ranks

Table 2. Constraints at Intermediaries' Level

S.No.	Particulars	Wholesaler-cum-commission agents Mean Score (Rank)	Retailers Mean Score (Rank)
1	Dispersed nature of source of supply	72.00 (2)	59.53 (5)
2	Frequent price fluctuation	69.67 (3)	73.13 (2)
3	Lack of cold storage facilities	64.07 (4)	69.87 (3)
4	Perishable nature of tomato	85.00 (1)	85.00 (1)
5	High transportation cost and lack of vehicles facilitated with cold storage	47.47 (8)	46.80 (8)
6	Competitors in market	58.73 (5)	61.13 (4)
7	Delay in sale and payment	17.00 (14)	24.20 (13)
8	Poor market infrastructure	23.47 (!3)	20.40 (14)
9	Quality deterioration during storage and transportation	54.67 (6)	51.87 (7)
10	High spoilage losses	52.60 (7)	55.93 (6)
11	Lack of grading and packaging facilities	38.80 (10)	35.13 (11)
12	Lack of access to credit and high interest rates	34.60 (12)	40.73 (10)
13	High market fee	45.80 (9)	30.53 (12)
14	Lack of availability of market information	34.87 (11)	45.40 (9)

Figures in the parenthesis indicates ranks

Constraints at marketing level

The major constraints faced by the tomato growers at marketing level were presented in the Table 1. The table revealed that at overall level i.e. when total sample of three districts taken together that frequent price fluctuation was the major problem faced by tomato growers with mean score of 82.90, lack of cold storage and warehouse facilities ranked second with mean score of 72.38, high transportation cost with mean score of 68.83 followed by quality deterioration during storage and transportation with mean score of 61.07, cumbersome process of BBY/ government procurement (NAFED), lack of poor availability of market information, lacking of information about government schemes and subsidies, lack of awareness about new technologies etc. The delay in sale and payment was found to be the least important by the sample farmers with mean score of 19.69 followed by poor road network for transportation with mean score of 20.63 etc. Similar results were found by Bharadwaj et al., (2011) & Prakash (2014) who revealed that lack of cold storage facilities and high transport costs were the major constraints in the cultivation of highly perishable vegetable crops. Further, Mishra *et al*. (2021) too stated that erratic power supply is no longer a major constraint faced by farmers in rural areas. The results emphasize the need for setting up of cold storage and warehouses at village level so that farmers can avoid postharvest losses. Also, the price fixed under BBY scheme should be done by keeping in the actual cost of cultivation of tomato. Kumar & Nain (2012), Gupta et al., (2013); Das et al., (2014); Yadav et al., (2018) & Gireesh et al., (2019) also reported similar nature of constraints in different setting.

Constraints at the intermediaries' level

The constraints at intermediary's level are presented in table 2. The tomato is mainly disposed through wholesaler-cum-commission agents and the retailers. The table revealed that the major problems faced by the wholesaler-cum-commission agents were perishable nature of tomato with mean score of 85.00, dispersed nature of source of supply with mean score of 72.00 followed by frequent price fluctuation with 69.67 mean score, lack of cold storage facilities with mean score of 64.07, competitors in market with mean score of 54.67 and so on whereas the major problems faced by the retailers were found to be perishable nature of tomato ranked one with mean score of 85.00, frequent price fluctuation ranked two with mean score 73.13 followed by the lack of cold storage facilities, competitors in market, dispersed nature of source of supply and high spoilage losses. The problem of delay in sale and payment ranked fourteen and poor market infrastructure ranked thirteen were found to be least important at both wholesaler-cum-commission agents and retailers. The similar results were found by Haruna (2012).

CONCLUSION

The area under vegetable cultivation was increasing due to short life period and adaptability to different climatic conditions and cropping systems. It is recognized that, if progress has to be achieved in tomato growers, they are to be modernized in knowledge, adoption and other personal, social and economic characteristics. The farmers should be trained with scientific tomato farming through different government and other agencies on latest technical know-how. The farmers should made aware about various schemes and subsidies and the provision of cold storage facilities at village level and refrigerated transport facilities for efficient movement of tomato from farms to different consumption points without wastage will help in improving efficiency.

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