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## Constraints in production, marketing and processing of tomato (*Solanum lycopersicum* L.) in Nuh district of Haryana

**Raj Kumar, Ekta, Ajay Kumar, Sonal Vishnoi and Nirmal Kumar**

### Abstract

The cultivated tomato, *Solanum lycopersicum* L., is the world's most highly consumed vegetable due to its status as a basic ingredient in a large variety of raw, cooked or processed foods. It belongs to the family Solanaceae, which includes several other commercially important species. Tomato is grown worldwide for local use or as an export crop. The present investigation was carried out to study the constraints faced by farmers in production, marketing and processing of tomato. For study purpose Nuh district of Haryana state having the highest production under tomato cultivation, were purposively selected. Further the Tauru block was selected for sampling and a total of thirty tomato farmers from various villages in this block were selected randomly. The primary data for the agriculture year 2017-18 were collected by personal interviews of the selected farmers with the help of specially designed schedule. The results of the study were indicated that 90.00 percent of the respondents were claiming high cost of seed, difficulty in identifying the pests and diseases (86.67%), inadequate of appropriate credit facilities (80.00%), existence of large number of intermediaries in marketing process (76.67%), higher rate of charges power and fuels (86.67%), problems in the arrangement of finance (83.33%), fluctuation in raw material and procurement (80.00%).

**Keywords:** Tomato, production, marketing, processing and constraints

### Introduction

The cultivated tomato, *Solanum lycopersicum* L., is the world's most highly consumed vegetable due to its status as a basic ingredient in a large variety of raw, cooked or processed foods. It belongs to the family Solanaceae, which includes several other commercially important species. Tomato is grown worldwide for local use or as an export crop. India is one of the world largest producers of fresh fruit and vegetables. As per National Horticulture Database published by National Horticulture Board, during 2016-17, India produced 92.84 million metric tonnes of fruits and 175.00 million metric tonnes of vegetables. The area under cultivation of fruits stood at 6.30 million hectares while vegetables were cultivated on 10.23 million hectares. India is the largest producer of ginger and okra amongst vegetables and ranks second in production of potatoes, onions, cauliflowers, brinjal, cabbages. In Haryana, area under vegetable crops in 2016-17 was 411.05 thousand hectares and production was 6180.43 thousand metric tonnes with productivity of 15.04 MT/ha. The major vegetable crops grown in Haryana are cauliflower, onion, potato, tomato, carrot, okra, chillies, cabbage, brinjal, radish.. In Haryana, area under fruits and vegetables increasing continuously with time it is because of location of state falls under/near National Capital Region which enhance the demand and scope of marketing too. The fruits and vegetables growers are confronted with a number of problems in their marketing. The important ones are higher cost of marketing, greater fluctuations in the prices and high percentage of wastage in handling and transportation. Most of the rural markets do not have the basic necessary facilities such as auction platforms, warehouse, cold storages etc. for orderly marketing of perishable crops. All these problems result in low producer's share to vegetable growers and lower income levels from the farm enterprise. Efforts have been made in the state/country from time to time to improve the marketing system in order to increase the producer's share in the consumer's price.

### Materials and Methods

The present study was conducted in Nuh district of Haryana on the basis of highest production of tomato in this district. Further block named Tauru was selected randomly a total of thirty

tomato farmers from various villages in this block were selected for the study. The primary data for the agriculture year 2017-18 were collected by personal interviews of the selected farmers with the help of specially designed schedule. The information about the problems faced by the tomato growers were ascertained from the selected respondents as well as from selected intermediaries on various aspects of tomato marketing. The information regarding problem faced by the producer in production and processing of tomato were also collected from the selected respondents. For the analysis of data the descriptive statistics was used *i.e.* percentage.

## Results and Discussion:

### Production problems expressed by tomato growers

The major problems faced by the farmers in the production of

tomato are presented in Table 1 which indicates that 90.00 percent of the respondents were claiming high cost of seed, difficulty in identifying the pests and diseases (86.67%), high cost of pesticide (86.67%), high cost of fertilizer (80.00%), lack of the knowledge about improved varieties, their seed/planting materials (76.67%), lack of knowledge of recommended fertilizer doses (76.67%), water shortage in summer (70.00%), lack of knowledge about the control measures for various pests and diseases (70.00%), labour problem during harvesting (70.00%), lack of knowledge about seed/seedling treatment (60.00%) and inadequate irrigation facilities (56.67%). Similar constraints were also found by Kumar *et al.* (2016) [8], Dutta *et al.* (2016) [4], Dileep *et al.* (2002) [3], Jayanthi and Vaideke (2014) [6] and Kumar *et al.* (2017) [10].

**Table 1:** Production problems expressed by tomato growers

Sr. No.	Constraints	Respondents (N=30)	
		Frequency	Percentage
1.	High cost of seed	27	90.00
3.	Difficulty in identifying the pests and diseases	26	86.67
4.	High cost of pesticides	26	86.67
5.	High cost of fertilizer	24	80.00
6.	Lack of the knowledge about improved varieties, their seed/planting materials	23	76.67
7.	Lack of knowledge of recommended fertilizer doses	23	76.67
8.	Water shortage in summer	21	70.00
9.	Lack of knowledge about the control measures for various pests and diseases	21	70.00
10.	Labour problem during harvesting	21	70.00
12.	Lack of knowledge about seed/seedling treatment	18	60.00
13.	Inadequate irrigation facilities	17	56.67
14.	Manual weeding is time consuming and labour intensive	16	53.33
15.	Poor quality of seed	12	40.00
16.	Labour problem for weeding	12	40.00
17.	Lack of knowledge about improved method of harvesting	11	36.67
18.	Lack of knowledge about grading	7	23.33
19.	Non availability of seed and planting materials in time	6	20.00
20.	Non availability of fertilizer in time	5	16.67

### Marketing problems expressed by tomato growers

Table 2 revealed that 86.67 percent of the respondents experienced lengthy procedure for getting credit from government institutions for marketing purpose, high cost of transportation (80.00%), too much fluctuation in prices (80.00%), absence of minimum support prices (80.00%), inadequate of appropriate credit facilities (80.00%), existence

of large number of intermediaries in marketing process (76.67%), lack of market information (63.33%), unorganized marketing system (46.67%) and long distance from the production point to market (46.67%) as major problems in marketing of tomato. Similar constraints were also found by Kumar *et al.* (2020) [9], Kumari *et al.* (2017) [11] and Kumar *et al.* (2019) [7].

**Table 2:** Marketing problems expressed by tomato growers

Sr. No.	Problems	Respondents (N=30)	
		Frequency	Percentage
2.	Lengthy procedure for getting credit from government institutions for marketing purpose	26	86.67
3.	High cost of transportation	24	80.00
4.	Too much fluctuation in prices	24	80.00
5.	Absence of minimum support prices	24	80.00
6.	Inadequate of appropriate credit facilities	24	80.00
7.	Existence of large number of intermediaries in marketing Process	23	76.67
9.	Lack of market information	19	63.33
10.	Unorganized marketing system	14	46.67
11.	Commission agents not maintaining the proper records of sale and rate	14	46.67
12.	Long distance from the production point to market	14	46.67
13.	Open auction sale fetches low price for produce	13	43.33
14.	Lack of infrastructure facility	13	43.33
15.	Heavy losses in the market	12	40.00
16.	Lack of suitable packaging material	6	20.00

### Processing problems expressed by tomato growers

The processing related problems expressed by tomato growers are shown in Table 3. It was inferred that 90.00 percent of the respondents faced the problem of technical manpower, higher rate of charges power and fuels (86.67%), problems in the arrangement of finance (83.33%), fluctuation in raw material and procurement (80.00%), lack of good quality packaging

material (80.00%) shortage of electricity power for processing (73.33%), constraints in marketing of processed product (70.00%), lack of processing unit (66.67%) and constraints regarding location of site (66.67%) which were the major constraints that limit the processing of tomato. Similar constraints were also found by Khunt *et al.* (2008), Engindeniz (2006) [5] and Arah *et al.* (2015) [2].

**Table 3:** Processing problems expressed by tomato growers

Sr. No.	Problems	Respondents (N=30)	
		Frequency	Percentage
1.	Lack of technical manpower	27	90.00
2.	Higher rate of charges power and fuels	26	86.67
3.	Problems in the arrangement of finance	25	83.33
4.	Fluctuation in raw material and procurement	24	80.00
5.	Lack of good quality packaging material	24	80.00
6.	Shortage of electricity power for processing	22	73.33
7.	Constraints in marketing of processed product	21	70.00
8.	Lack of processing unit	20	66.67
9.	Constraints regarding location of site	20	66.67
10.	Problems in repair and maintenance of processing Machinery	14	46.67
11.	Lack of suitable variety for processing	14	46.67

### Conclusions

The cultivated tomato, *Solanum lycopersicum* L., is the world's most highly consumed vegetable due to its status as a basic ingredient in a large variety of raw, cooked or processed foods. It belongs to the family Solanaceae, which includes several other commercially important species. Tomato is grown worldwide for local use or as an export crop. India is one of the world largest producers of fresh fruit and vegetables. The major problems faced by the farmers in the production of tomato were claiming high cost of seed, high cost of pesticide, lack of knowledge of recommended fertilizer doses, high cost of fertilizer, difficulty in identifying the pests and diseases, lack of knowledge about seed/seedling treatment, weeding is time consuming and labour intensive and water shortage in summer. The major problems faced by the farmers in the marketing of tomato that high cost of transportation, too much fluctuation in prices, lengthy procedure for getting credit from government institutions for marketing purpose, existence of large number of intermediaries in marketing process, absence of minimum support prices and lack of market information. The major problems inferred that of the respondents faced the problem of technical manpower, higher rate of charges power and fuels, problems in the arrangement of finance, fluctuation in raw material and procurement, lack of good quality packaging material.

### Suggestions and Policy Implications

Keeping in view the findings of the present study it is suggested that tomato growers, policy makers and researchers to make profitable enterprise by taking these steps.

- The marketing infrastructure should be developed to increase the producer's share in consumer's rupee in a way to emerge either direct sale or co-operative sale by the producers to the consumers.
- Processing agro-industries units should be established to reduce the distress sale and glut in the market in the peak harvesting period.
- There should be timely payment of farmers produce especially by the commission agents.

- Adequate and timely credit facilities should be provided to the growers at lower interest rate.
- The government should make adequate arrangement for timely supply of necessary inputs at reasonable prices to the growers so as to increase per hectare productivity as well as net returns.

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