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Constraints in production, marketing and processing of potato (*Solanum tuberosum* L.) in Kurukshetra district of Haryana

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Abstract

Potato (*Solanum tuberosum* L.) is the most important food crop of the world which has always been the poor mans' crop. The present study was conducted in Kurukshetra district of Haryana on the basis of highest production of potato in this district. Further block Shahabad was taken randomly and a total of thirty potato growers were interviewed by the personal interview method on specially designed well-structured schedule. The results of the study revealed that the major problems faced by the farmers in the production of potato 90.00 percent of the respondents were observed claiming high cost of pesticides, high cost of seed (86.67%), costly storage facilities (86.67%), and difficulty in identifying the pests and diseases (83.33%), labour problem during harvesting (80.00%), absence of minimum support prices (86.67%), lengthy procedure for getting credit from government institutions for marketing purpose (83.33%), high cost of transportation (73.33%), problems in the arrangement of finance (80.00%), shortage of electricity power for processing (76.67%), lack of good quality packaging material (76.67%), fluctuation in raw material and procurement (73.33%).

Keywords: Constraints, production, marketing, potato and processing

Introduction

The balanced diet contain adequate energy source, nutrients and vitamins, minerals, carbohydrates, fats, protein etc. Vegetable are the reliable source for many dietary factors. As vegetable contain many of the dietary factors like vitamins, minerals and amino acids they are considered as protective supplementary food. They produce taste, increase appetite and produce fair amount of fibers. They maintain good health and protect against degenerative diseases. They can neutralize the acids produced during digestion of proteins and fats. Nutrients which are present in vegetables vary from crop to crop. Potato (*Solanum tuberosum* L.) is the most important food crop of the world. Potato is a crop which has always been the poor mans' crop. Potato is being cultivated in the country for the last more than 300 years. For vegetable purposes it has become one of the most popular crops in the country. Potato is a wholesome food which is rich in carbohydrates, proteins, minerals and vitamins. It is a rich source of potassium and very good for patients suffering from heart ailments. It contains 22.6 percent carbohydrates, 1.6 percent protein, 0.1 percent fat, 0.4 percent crude fibre and 97 (kcal) calories (National Horticulture Board, 2018). Potato is used for several industrial purposes such as for the production of starch and alcohol etc. Potato starch (farina) is used in laundries and for sizing yarn in textile mills. Potato is also used for the production of dextrin and glucose. As a food product itself, potato is converted into dried products such as 'potato chips', 'sliced' or 'shredded potato'. Thus, potato

provides more nutrition than cereals and vegetables. Keeping in view the shrinking cultivable land and burgeoning population in India, potato is a better alternative to deal with the rising food demand (Kumar, *et al.*, 2020)^[7]. The area, production and productivity of potato in Haryana were 29.54 thousand hectare, 781.50 thousand tonnes and 26.45 tonnes per hectare respectively during the year 2021-22. In Haryana, potato has got a prominent place and holds the first position among the other vegetable crops with respect to area and production under different vegetables. In Haryana, it is grown mainly in the districts like Kurukshetra, Yamunanagar, Karnal, Sonapat, Ambala, Panchkula, Nuh, Panipat, Rohtak, Jind and Sirsa (Horticulture Department, Government of Haryana, 2021-22).

Materials and Methods

The present study was conducted in Kurukshetra district of Haryana on the basis of highest production of potato in this district. Further block Shahabad was taken randomly and a total of thirty potato growers were interviewed by the personal interview method on well-structured schedule. 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 potato growers were ascertained from the selected respondents as well as from selected intermediaries on various aspects of potato marketing. The information regarding problem faced by the producer in production and processing of potato were also collected from the selected respondents.

Results and Discussion

Production problems expressed by potato growers

The major problems faced by the farmers in the production of potato are presented in Table 1 and it was indicated that 90.00 percent of the respondents were claiming high cost of pesticides, high cost of seed (86.67%), costly storage facilities (86.67%), difficulty in identifying the pests and diseases (83.33%), labour problem during harvesting (80.00%), high cost of fertilizer (76.67%), lack of knowledge about the control measures for various pests and diseases (76.67%), lack of knowledge of recommended

fertilizer doses (73.33%), lack of the knowledge about improved varieties, their seed/planting materials (63.33%), lack of knowledge about improved storage structure (63.33%), manual weeding is time consuming and labour intensive (56.67%), lack of knowledge about seed/seedling treatment (53.33%) and labour problem for weeding (43.33%). These results coincide with the study of Malik *et al.* (2019) ^[12], Kumar *et al.* (2016) ^[6], Kumar *et al.* (2017) ^[11], Kumar *et al.* (2020) ^[7] reported in their respective studies.

Table 1: Production constraints expressed by potato growers

Sr. No.	Constraints	Respondents (N=30)	
		Frequency	Percentage
1.	High cost of pesticides	27	90.00
2.	High cost of seed	26	86.67
3.	Costly storage facilities	26	86.67
4.	Difficulty in identifying the pests and diseases	25	83.33
5.	Labour problem during harvesting	24	80.00
6.	High cost of fertilizer	23	76.67
7.	Lack of knowledge about the control measures for various pests and diseases	23	76.67
8.	Lack of knowledge of recommended fertilizer doses	22	73.33
9.	Lack of the knowledge about improved varieties, their seed/planting materials	19	63.33
10.	Lack of knowledge about improved storage structure	19	63.33
11.	Manual weeding is time consuming and labour intensive	17	56.67
12.	Lack of knowledge about seed/seedling treatment	16	53.33
13.	Labour problem for weeding	13	43.33
14.	Poor quality of seed	11	36.67
15.	Inadequate irrigation facilities	8	26.67
16.	Lack of knowledge about improved method of harvesting	8	26.67
17.	Water shortage in summer	7	23.33
18.	Non availability of seed and planting materials in time	6	20.00
19.	Lack of knowledge about grading	5	16.67
20.	Non availability of fertilizer in time	4	13.33

Marketing problems expressed by potato growers

Table 2 shows that 90.00 percent of the respondents experienced lack of cold-chain facilities (refrigerated transportation and cold storage), too much fluctuation in prices (86.67%), absence of minimum support prices (86.67%), lengthy procedure for getting credit from government institutions for marketing purpose (83.33%), high cost of transportation (73.33%), existence of large number of intermediaries in marketing process (70.00%),

inadequate of appropriate credit facilities (70.00%), lack of market information (63.33%), unorganized marketing system (56.67%), long distance from the production point to market (53.33%), lack of infrastructure facility (46.67%), commission agents not maintaining the proper records of sale and rate (40.00%) and open auction sale fetches low price for produce (36.67%) as major problems in marketing of potato. Similar constraints were also found by Kumar *et al.* (2023) ^[8], Keith (1997) ^[5] in their respective studies.

Table 2: Marketing problems expressed by potato growers

Sr. No.	Problems	Respondents (N=30)	
		Frequency	Percentage
1.	Lack of cold-chain facilities (refrigerated transportation and cold storage)	27	90.00
2.	Too much fluctuation in prices	26	86.67
3.	Absence of minimum support prices	26	86.67
4.	Lengthy procedure for getting credit from government institutions for marketing purpose	25	83.33
5.	High cost of transportation	22	73.33
6.	Existence of large number of intermediaries in marketing process	21	70.00
7.	Inadequate of appropriate credit facilities	21	70.00
8.	Lack of market information	19	63.33
9.	Unorganized marketing system	17	56.67
10.	Long distance from the production point to market	16	53.33
11.	Lack of infrastructure facility	14	46.67
12.	Commission agents not maintaining the proper records of sale and rate	12	40.00
13.	Open auction sale fetches low price for produce	11	36.67
14.	Heavy losses in the market	10	33.33
15.	Lack of suitable cold storage facilities	7	23.33
16.	Lack of suitable packaging material	4	13.33

Processing problems expressed by potato growers

The processing related problems conveyed by potato growers are shown in Table 3. It is revealed that 90.00 percent of the respondents faced the problem of higher rate of charges power and fuels, lack of technical manpower (86.67%), problems in the arrangement of finance (80.00%), shortage of electricity power for processing (76.67%), lack of good quality packaging material (76.67%), fluctuation in

raw material and procurement (73.33%), constraints regarding location of site (73.33%), lack of processing unit (63.33%), and constraints in marketing of processed product (63.33%) which were the major constraints that limit the processing of potato. Similar constraints were also found by Jayanthi (2014) ^[4] and Dutta (2016) ^[3] in their respective studies.

Table 3: Processing problems expressed by potato growers

Sr. No.	Problems	Respondents (N=30)	
		Frequency	Percentage
1.	Higher rate of charges power and fuels	27	90.00
2.	Lack of technical manpower	26	86.67
3.	Problems in the arrangement of finance	24	80.00
4.	Shortage of electricity power for processing	23	76.67
5.	Lack of good quality packaging material	23	76.67
6.	Fluctuation in raw material and procurement	22	73.33
7.	Constraints regarding location of site	22	73.33
8.	Lack of processing unit	19	63.33
9.	Constraints in marketing of processed product	19	63.33
10.	Problems in repair and maintenance of processing machinery	13	43.33
11.	Lack of suitable variety for processing	12	40.00

Conclusion

Potato (*Solanum tuberosum* L.) is the most important food crop of the world. Potato is a crop which has always been the poor mans' crop. Potato is being cultivated in the country for the last more than 300 years. The major problems faced by the farmers high cost of pesticides, high cost of seed, costly storage facilities, and difficulty in identifying the pests and diseases, labour problem during harvesting, too much fluctuation in prices, absence of minimum support prices, lengthy procedure for getting credit from government institutions for marketing purpose, high cost of transportation, higher rate of charges power and fuels, lack of technical manpower, problems in the arrangement of finance, shortage of electricity power for processing, lack of good quality packaging material, fluctuation in raw material and procurement.

Suggestions

- Adequate scientific storage facilities should be provided to the producer so as to spread the sale throughout the year with minimum quantitative and qualitative losses.
- Producers should be provided credit facilities against the produce stored to meet their immediate financial commitments.
- Co-operatives need to be encouraged to play an important role in the marketing of potato especially for the small farmers who have poor retention capacity and should be provide adequate finance to construct storage.
- Evolution of new varieties suitable for different growing periods with longer keeping quality. This will reduce the seasonality characteristics of arrivals and prices.
- The government should make adequate arrangements for timely supply of quality seeds and other inputs at reasonable prices to the potato growers so as to increase productivity of potato crop.
- The government should fix the procurement price for the potato in advance so that producers can get

reasonable price.

- Time to time trainings on improved storage techniques may be provided to potato growers.

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References

1. Anonymous. Ministry of agriculture and farmer's welfare Government of India; c2018 [cited 2024 Aug 19]. Available from: <https://www.indiastat.com>
2. Anonymous. Indian horticulture database. National horticulture board, Ministry of agriculture and farmer's welfare Government of India, Gurugram; c2021 [cited 2024 Aug 19]. Available from: <http://www.nhb.gov.in>
3. Dutta A, Sengupta S. A case study of Pepsi-Co. contract farming for potatoes. IOSR J Bus Manag; c2016. p. 75-85.
4. Jayanthi M, Vaideke A. A study on farmer's problems in production and marketing of onion in Suler taluka, Coimbatore district. Glob J Res Anal. 2014;3(7):37-39.
5. Keith V, Khatana VS, Ilgantileke SG, Kumar D. Economics of potato storage in northern India. Working paper. Int Potato Cent. 1997;5:1-23.
6. Kumar R, Bishnoi DK, Rathi A, Prakash S. Marketing and price behaviors of onion in Haryana. Indian J Econ Dev. 2016;12(1a):7-11.
7. Kumar R, Bishnoi DK, Sumit, Singh A. Constraints in production, marketing and processing of onion (*Allium cepa* L.) in Nuh district of Haryana. Econ Aff. 2020;65(4):653-657.
8. Kumar R, Ekta, Kumar A, Vishnoi S, Kumar N. Constraints in production, marketing and processing of tomato (*Solanum lycopersicum* L.) in Nuh district of Haryana. Pharm Innov J. 2023;12(3):4309-4012.

9. Kumar R, Ekta, Kumar A, Vishnoi S, Kumar N. Constraints in production, marketing and processing of cauliflower (*Brassica oleracea*) in Sonapat district of Haryana. Pharm Innov J. 2023;12(3):3945-3948.
10. Kumar R, Kumar N, Bishnoi DK, Malik AK, Kumar P. A study of production and marketing of potato in Kurukshetra district of Haryana. Indian J Econ Dev. 2020;16(2):307-312.
11. Kumar R, Rathee AK, Dalip DK, Sumit. Trends and constraints in onion production in Haryana. Indian J Econ Dev. 2017;13(2a):309-313.
12. Malik DP, Kumar DK, Kumar N, Sumit. A study on economics of vegetable cultivation in Haryana. Indian J Econ Dev. 2019;15(2):317-321.