Original Research Article

CONSTRAINTS FACED BY THE FARMERS AND THEIR REMEDIES IN TECHNOLOGICAL ADOPTION OF POTATO PRODUCTION IN FARRUKHBAD DISTRICT (UTTAR PRADESH)

Abstract

Potato (Solanum tuberosum L.) is one of the major vegetable crops of the world. It is an important crop grown in winter season in plains of India its productivity varies considerably between the regions. Among the food crops, it ranks fourth in important next only to rice, wheat and corn covering about 21.34 million hectare and fifth in production yielding about 438 million tones after sugarcane, rice and maize. In adoption of potato production technology, the social constraints like lack of contact with extension personnels' had got ranked I and in case of economic constraints, 'low profit had got ranked I. Most of the suggestion being made in view of the expressed opinion of the respondents, observation of the investigator, it may be said protection of crop should be ensured from animals and farmers training programme for commercial farming should be organized and emphasis must be given to popularize and make more awareness about value added product of potato.

Key words: Potato growers, constraints and suggestion.

Potato (Solanum tuberosum L.) is one of the major vegetable crops of the world. It is an important crop grown in winter season in plains of India its productivity varies considerably between the regions, between the area within a region and with the cultured practices even at high fertility level. Among the food crops, it ranks fourth in important next only to rice, wheat and corn covering about 21.22 million hectare and fifth in production yielding about 309.5 million tones after sugarcane, rice and maize. The original home of Potato is Andean plateau of South America.

Potato is a most useful and important member of the family solanaceace and it belong to genus Solanum, consist of seven cultivated and about 154 wild species but the commercially valuable potato has only two species i.e. *Solanum andignum* and *solanum tuberosum.* It has special value as food apart from starch which is rich source; it also provides essential body building substance such as vitamins, minerals and protein. Thus potato is one of the richest sources of calories needed to maintain day to day output of human energy per 200 gm. of edible portion of potato contain 22.6 gm. carbohydrate, 1.6 gm. Protein, 10 gm. calcium, 20 gm. magnesium, 247 gm. potassium, 17 gm. vitamin and 1.2 gm. nicotinic acid. It provides 87 gm. calories to human body.

In India potato is cultivated in about 1.3 million hectare with the total production of 24.7 million tones. It is cultivated on a large scale in Uttar Pradesh, West Bengal, Bihar and Punjab. Uttar Pradesh alone produces nearly 41 per cent of total potato produced in the country.

44 **MATERIAL AND METHODS**
45
46   This study was conducted in Farrukhbad district during the year 2013-14. Farrukhbad
47 district comprise of 7 blocks in which one blocks namely Kayamganj were purposively selected.
48 At first the list of villages in the blocks were obtained from blocks headquarter. There after five
49 villages were selected randomly from the list. Then a sample of 100 respondents from all five
50 villages was selected by random sampling technique. The personal interview schedule was
51 prepared in the light of decided objectives and variables undertaken. Constraints were measured
52 by open-ended responses of the respondents with the help of a pre - tested schedule developed for
53 the purpose. The data were collected personally by the author through the personal interview with
54 the respondents.The study is justified because of its appropriate approach to trace out the
55 constraints in technological adoption of potato practices. The data were analyzed and find out the
56 percentage and rank order.
57
58 **RESULTS AND DISCUSSION**
59
60 **Table 1: Constraints in Adoption of Potato Production Technology**

S. No.	Constraints	Mean score value	Rank order
1.	Lack of contact with extension personnels	3.78	I
2.	It is more difficult to watch the crop and safe guard against the animal.	3.58	II
3.	Lack of proper guidance and supervision for modernized cultivation	3.50	III
4.	Lack of interaction with Scientist and progressive farmers	3.39	IV
5.	More risk involved in potato production	3.29	V
6.	Lack of scientific knowledge about potato cultivation	3.24	VI
7.	Risk orientation lack in farming community	3.00	VII
8.	Progressive farmers leadership lack in their village	2.95	VIII
9.	Scientific orientation lack in farming community	2.62	IX

61

62 **Technology Constraints**

63 The (Table-1) indicates, that the rank order of social constraints viz.,'lack of contact with
64 extension personnels' was ranked I st (3.15) followed by 'it is more difficult to watch the crop
65 and safeguard against the animals' ranked II (2.98), 'lack of proper guidance and supervision for
66 modernized cultivation; ranked II (2.91), 'lack of interaction with scientist and progressive

farmers' ranked IV (2.42), 'more risk involvement in potato production ranked V (2.74), 'lack of scientific knowledge about potato cultivation' ranked VI (2.70), 'risk orientation lack in farming community' ranked VIII (2.45) and 'scientific orientation lack in farming community' ranked IX (2.93). The score value for each constraint indicates that the seriousness of constraints caused low adoption of technology.

Table –2 Degree of serious of economic constraints.

S. No.	Economic constraints	Mean Score value	Rank order
1.	Low profit	3.80	I
2.	Farmers purchasing power is poor	3.74	II
3.	Corruption prevailing in financial institution i.e. Banking, Cooperative etc.	3.65	III
4.	Irrigation expanses are high due to costly diesel and electric charges	3.60	IV
5.	No subsidiary on inputs purchase for potato cultivation	3.55	V
6.	More involvement of intermediaries in potato marketing	3.48	VI
7.	Economic motivation lacks among farm families	3.39	VII
8.	Lbours are hardly available for agricultural operations	3.36	VIII
9.	Lack of money	3.25	IX
10.	Lack of credit facilities	3.19	X

Economic constraints

The (Table- 2) shows that the rank order of economic economic constrains viz. 'low profit was ranked I(2.16), followed by 'farmers purchasing power was poor' ranked II (3.11), 'corruption prevailing in financial institution i.e. banking, cooperative etc.' ranked III (3.04), 'irrigation expanses area high due to costly diesel and electric charge' ranked IV (3.00), 'no subsidy on input purchase for potato cultivation' ranked V (2.95), 'more involvement of intermediaries in potato marketing' ranked VI (2.30), 'economic motivation lack among farm families' ranked VII (2.82), 'labours are hardly available for agriculture operation' ranked VIII (2.80), 'lack of money' ranked IX (2.70) and 'lack of credit facilities' ranked X (2.65) respectively. The score value for each constraint indicates the seriousness that caused low adoption.

91 **Table-3 Remedial measures for better potato production**.
92

S. No.	Suggestive measures	Percentage	Rank order
1.	Suitable approach for the safeguard of the crop against the animal.	73.33	I
2.	A permanent source of information should be among the farmers related to crop production.	71.67	II
3.	Flexible sources of credit must be there.	62.50	III
4.	Production procurement arrangement be made by government as in case of wheat and rice.	57.50	IV
5.	Government irrigation facilities should be there.	55.00	V
6.	Reliable seed fertilizers and pesticide supply should be ensured.	46.67	VI
7.	Potato processing unit should be established	45.83	VII
8.	Demonstrations of different culture methods should be organized.	40.00	VIII

93

94 **Remedial measures:**

95 The (Table-3) envisages on remedial measures for better potato production, the majority of the
96 respondents suggested the the points viz., 'Suitable approach for the safeguard of the crop against
97 the animal (blue calf)' (73.33%) followed by 'A permanent source of information should be
98 among the farmers related to crop production' (71.67%), 'Flexible source of credit must be there'
99 (62.50%), 'Production procurement arrangement be made by government as in case of wheat and
100 rice' (57.50%), 'Governmental irrigation facilities should be there' (55.0%), 'Reliable seed
101 fertilizers and pesticide supply should be ensured' (46.67%), 'Potato processing unit should be
102 established' (45.83%) and 'demonstrations of different cultural methods should be organized'
103 (40.0%) ranked I, II, III, IV, V, VI, VII and VIII respectively.

104
105 **CONCLUSION**
106
107 It is concluded from above study that most of the Potato growers were Faced Lack of contact with
108 extension personnels, It is more difficult to watch the crop and safe guard against the animal,
109 Lack of proper guidance and supervision for modernized cultivation, Lack of interaction with
110 Scientist and progressive farmers, Low profit, Farmers purchasing power is poor, Corruption
111 prevailing in financial institution i.e. Banking, Cooperative etc were the major constraints of the
112 potato growers. The investigators refer to Suitable approach for the safeguard of the crop against
113 the animal and a permanent source of information should be among the farmers related to crop
114 production. Most of the suggestion protection of crop should be ensured from animals and
115 farmers training programme for commercial farming should be organized and emphasis must be
116 given to popularize and make more awareness about value added product of potato.

117
118

REFERENCES

Divis, J. and Zlatohlavkova, S. (2004). A positive effect of applied ecological farming methods on solanin content has not been proved. The vitamin C content was affected more by variety and years then by farming methods. *Journal of Crop and Weed,* **8**(9):145-149.

Singh, P. Agnihotri, R. K. Bhadauria, S.and Rashmi Vamil Sharma, R. (2012). Comparative study of potato cultivation through micropropagation and conventional farming methods. *African Journal of Biotechnology*, **11**(48):10882-10887

Zekri, S.; Al-Rawahy, S. A. and Naifer, A. (2010). Socio-economic considerations of salinity: descriptive statistics of the Batinah. *Journal of Research and Applications in Agricultural Engineering,* **52**(4):5-9.

Nowacki, W. (2007). Marketable yield and storage losses of table potatoes grown using organic and integrated farming systems. *International Journal of Biosciences ,* **5**(17):59-66.

Wiboonpongse, A. Sriboonchitta, S. and Khuntonthong, P. (2008). An alternative deal for potato growers in a contract farming system. *Acta Horticulturae,* **794***:335-340.*