Adoption Gap in Scientific Cultivation of Tomato

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ABSTRACT

South Gujarat is well known for growing up of vegetable crops. Tomato is an important vegetable crop which gives regular income to all categories of farmers. Considering the importance of this crop, Navsari Agricultural University has established a separate research unit of vegetables at Navsari for increasing production and productivity and availing maximum net return. Keeping this fact in view, this study was conducted in ten villages of Navsari district of South Gujarat. Twelve tomato growers were randomly selected from each village and thus the total sample size was 120 for this study. Respondents were personally interviewed with pre structured interview schedule. The statistical tools like percentage, mean, standard deviation and other required tools were used for analyzing the collected data. The study revealed that more than half of the respondents were having medium level of knowledge and medium level of adoption. Majority of them were found having the medium level of adoption gap. Practice wise adoption gap "sets treatment in tomato crop" was found in first rank. A great majority of farmers showed "price fluctuation" as the major constraint for adoption of tomato crop".

Key words : Adoption gap, Scientific cultivation

INTRODUCTION

The ever decreasing average farm holding and the exhaustive use of the natural resources lead to rapid degradation of the available natural resources. With the rapid growth in population, demand for food is multiplying many folds. In this context, there is an urgent need to address the issue of food supply to the common rural Indian. The Globalization affects the transfer of technology very tremendously. The agriculture is now converted in business. Tomato as a vegetable crop has its own importance in economy due to fluctuation in price according to season. In South Gujarat, among different vegetables, Tomato is grown as major vegetable crop in Navsari district and occupies about 14 per cent of cultivable land of the district. Considering the importance of the crop in region, The Government of Gujarat and Navsari Agricultural University, Navsari established a Research Unit on vegetable at Navsari. This Unit carried out the location specific technologies of Tomato for South Gujarat. The yield data showed that the yield has increased from 30 tones to 45 tones/ha. Still there is a gap between the average yield and potential yield of the district. To fill up this gap, many new tomato production technologies generated by the Regional Horticultural Research Station, Navsari have been disseminated to the farming community by organizing various extension programmes with assumption that these technologies might be adopted by the farmers. With this view, the study was planned to measure the gap in adoption of tomato Production Technology in Navsari district of South Gujarat.

METHODOLOGY

The present study was conducted in 10 villages of Navsari district. There are five talukas in Navsari district; hence two villages from each taluka were selected by using simple random sampling technique. Twelve tomato growers were randomly selected from each village and thus total sample size was 120 for this study. Out of 120 farmers, 40 farmers each from Coastal belt, Green belt and Tribal belt were purposively selected to maintain the rational representation of the district. To measure the knowledge level of the respondents, the scale developed by Jha and Singh was used with due modification. To measure the adoption level, the scale developed by Sengupta was used with due modification. The information on various aspects was collected with the help of structured interview schedule developed in consultation with concern vegetable scientists and extension experts of the University. For analyzing the

data, the statistical tools like percentage, mean, standard deviation and other required tools were used.

RESULTS AND DISCUSSION

Socio-economic status of the respondents

The that majority (63.30 per cent) of the respondents were found in middle age group i.e. 31-50 years, whereas only 12.50 per cent of them having age up to 30 years. Majority (36.70 per cent) of them were found having secondary level education. More than half (55.80 per cent) of the respondents possessed singular type family and 48.30 of them had up to 5 members in their family. Majority of the respondents (36.70 per cent) were found having Land holding up to 1 ha., whereas meager (4.20 per cent) had Land Above 6 ha. Nearly three-fourth (75.80 per cent) of the respondents had a membership in one social organization, while Office 2.50 of them were Office holder. Majority (66.70 per cent) of the respondents had farming as a main occupation. Nearly half (48.30 per cent) of the respondents had annual income Rs. 50000 to 80000 followed by slightly more than two-fifth (42.5 per cent) had annual income above Rs. 80,000 and 9.20 per cent had annual income up to 50,000.

Knowledge gap pertaining to tomato cultivation technologies

Table-1 : Distribution of the respondents according to their knowledge gap pertaining to tomato cultivation technologies. n= 120

Sr. No.	Knowledge gap	No of respondents	Percent
1	Low	13	10.80
2	Medium	59	49.20
3	High	48	40.00

The data in Table-1 revealed that nearly half (49.20 per cent) of the respondents had medium level of knowledge gap followed by 40.00 per cent of respondents in high level of knowledge gap. It can be inferred from this data that only 10.80 per cent respondents were having knowledge of tomato production technology, while majority (89.20 per cent) of them had low to medium level of knowledge in respect of scientific tomato cultivation.

Adoption gap pertaining to tomato cultivation technologies

Table 2 : Distribution of the respondents according to their adoption gap pertaining to tomato cultivation technologies n=120

| Adoption gap	Number	Percent
Low	12	10.00
Medium	79	65.80
High	29	24.20

It is clearly indicated in the Table-3 that majority (65.80 per cent) of the respondents had medium level of adoption gap followed by 24.20 per cent having high level of adoption gap gap. It can be inferred from this table that only 10.00 per cent respondents had fully adopted tomato production technology, while majority (90.00 per cent) of them had medium to low adoption of scientific tomato cultivation.

Practice wise knowledge and adoption gap in tomato crop

Table 3 : Practice wise knowledge and adoption gap for tomato crop n-120

Sr. No.	Practices	Existing Knowledge		Existing Adoption		Gap in Adoption Per cent	Rank
		Score	Per cent	Score	Per cent		
1	Variety	60	100.00	31	100.00	26.00	VII
2	Seed treatment	24	40.00	13	22.00	88.00	I
3	Use of fertilizer	54	90.00	39	65.00	35.00	VI
4	Pest control	41	68.00	31	52.00	48.00	IV
5	Disease control	47	78.00	27	45.00	55.00	III
6	Chemical weed control	26	43.00	14	23.00	77.00	II
7	Irrigation	54	90.00	32	53.00	47.00	V

Figure : Practice wise adoption gap in tomato crop %)
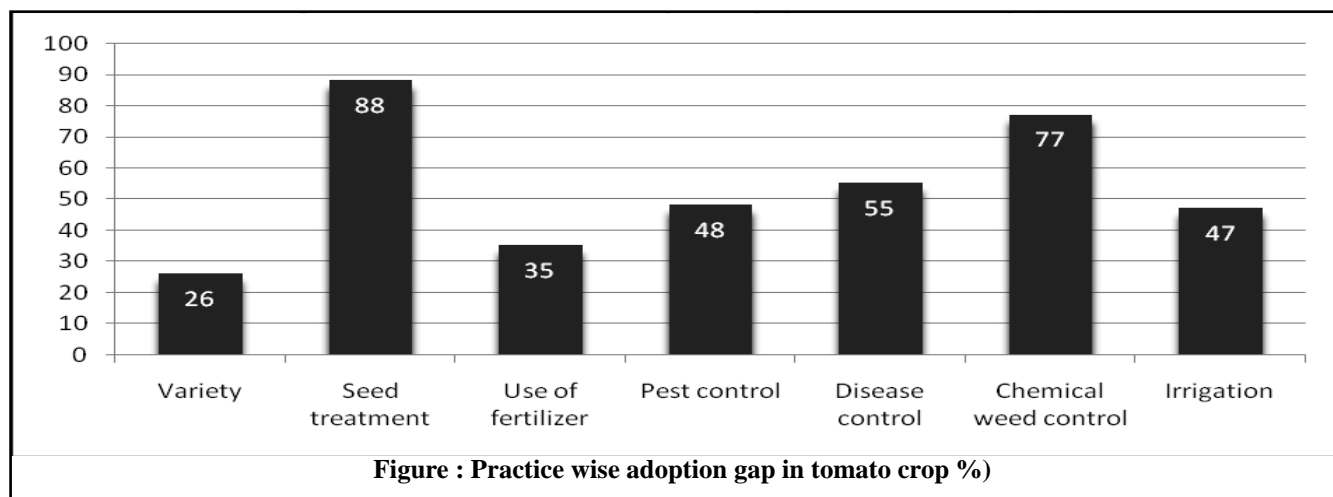
It can be seen from the Table-3 and Figure-1 that practice wise gap in adoption of seed treatment in tomato crop was found at first rank (88.00 percent), followed by chemical weed control (77.00 percent) and disease control (55.00 percent) at II and III rank, respectively. Adoption gap found in practice 'Variety' was at the least rank. It can be inferred from this data that all the farmers under present study had adopted the improved varieties of tomato; while practices 'Seed treatment' and 'Disease control' in tomato crop were least adopted. Trainings and method demonstrations could help to motivate the farmers for adopting such least adopted practices.

Constraints faced by the farmers in adoption of tomato production technology

Table 5 : Constraints faced by the farmers in adoption of tomato production technology   n=120

Sr. No.	Constraints	No of respondents	Percent	Rank
1	Lack of awareness about improved variety	61	50.80	V
2	Price fluctuation	89	74.20	I
3	Hard pan development	58	48.30	IV
4	Lack of drainage	63	52.50	III
5	Less use of organic manures	73	60.80	II

A great majority (74.20 per cent) of the respondents faced 'price fluctuation' as a major constraint (first rank) in adoption of tomato cultivation followed by 60.80 and 52.50 faced "Less use of organic manures' at second rank and 'lack of drainage' at third rank, respectively.

CONCLUSION

In view of the above findings, it may be inferred that exclusive use of modern mass media is highly necessitated for increasing the knowledge of farmers and thereby increasing their level of adoption of tomato production technology. Farmers can be motivated through organization of extension programmes like; trainings, method demonstrations, result demonstrations and farm trials on their fields for comparing and exposing the input-output relationship of new and old practices of tomato cultivation.

REFERENCES

Kalla, P.N., Mathur, P. and Panjabi, N. K. (2001). Knowledge of farmer about chemical fertilizer. *Rural India*, July-August pp: 46-47.

Kothikhane, R.R. (2003). Use of mass media for effective dissemination and adoption of agricultural technology. *Maha. J. Extn. Edu.,* 22(2) : 5-9.

Mewara, R.C. and Pandya, R.D. (2007). Knowledge and adoption level of tomato growers regarding value added techniques in Navsari. *Rural India,* 70 (9):169-171.

Naruka, P.S. and Singh, S. (2005). Constraints faced by the farmers about recommended soyabean production technology. *Rural India,* 68 (1-12): 190-194.

Shinde, V.G.; Sangle, G. K. and Dikle, R.N. (1998). Factors associated with adoption of dairy practices by farmers, *Mah. J. Extn. Edn.,* 17 : 108-117.