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TRAINING NEEDS AND KNOWLEDGE LEVEL OF TOMATO GROWERS IN JAIPUR DISTRICT OF RAJASTHAN

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ABSTRACT

Tomato is one of the most important vegetable crops cultivated for its fleshy fruit. Tomato is considered as important commercial and dietary vegetable crop. Tomato is protective supplementary food. The purpose of this study is to find out the training needs of tomato growers on different aspects. The present study was carried out in Jaipur district of Rajasthan. The Jaipur district consists of 13 tehsils. Out of which two tehsils namely Bassi and Amber were selected by simple random sampling technique. Among these, 3-gram panchayats from Bassi tehsil and 4-gram panchayats from Amber tehsil were selected by simple random sampling technique. Fourteen villages were selected from the selected gram panchayats by using simple random sampling technique and a sample of 130 respondents was selected from these villages by using simple random sampling with proportion to the size of sample in the selected villages. Majority of the correlation between training needs and knowledge level of tomato growers. The aspects viz. preparation of soil and soil testing, seed rate and seed treatment, sowing of high yielding varieties, transplanting, application of manures and fertilizers, irrigation management, plant protection measures, harvesting /storage and processing. Results are discussed in terms of their implication for enhance the training needs of tomato growers about improved tomato production technology.

INTRODUCTION

Tomato is one of the major vegetable crops. It plays a very important role in daily diet. Tomato in India has become almost an essential article of diet of both rich and poor people. Tomato is rich sources of vitamins A, B and C. It helps in increasing the appetite and removes constipation. As it is a short duration crop and gives high yield, it is important from economic point of view and hence area under its cultivation is increasing day by day. Tomato is used in products like ketchup, sauce, chutney, soup, paste, puree etc. Rajasthan ranks first in geographical area and 8th in population among all the states. The total geographical area of Rajasthan is 342 lakh hectares and the population is 5.64 crore. Out of which 171 lakh hectare area is cultivable –as per the year 2008-2009 (Source:- Indian Economic Survey 2009-2010). Area under vegetable crops is 125.57 thousand hectares and production is about 736.70 thousand metric tonnes. The area under tomato crop was 12.62 thousand hectares and production was 45.51 thousand metric tonnes in Rajasthan. Jaipur district stands first in area and production of tomato cultivation in Rajasthan. The total production of tomato in Jaipur district in the year 2008-09 was about 17.50 thousand metric tonnes and area was 5.76 thousand hectares (Source: -Directorate of Economics and Statistical Department, Pant Krishi Bhawan, Jaipur, 2008-2009).

RESEARCH METHODOLOGY

The present study was carried out in Jaipur district of Rajasthan. The Jaipur district consists of 13 tehsils. Out of which two tehsils namely Bassi and Amber were selected. Among these, 3-gram panchayats from Bassi tehsil and 4-gram panchayats from Amber tehsil were selected by simple random sampling technique. Fourteen villages were selected from the selected gram panchayats by using simple random sampling technique and a sample of 130 tomato growers was selected from these villages by using simple random sampling with proportion to the size of sample in the selected villages. An interview schedule was developed consisting of measuring devices of the correlation between training needs

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and knowledge level. The aspects viz., preparation of soil and soil testing, seed rate and seed treatment, sowing of high yielding varieties, transplanting, application of manures and fertilizers, irrigation management, plant protection measures, harvesting /storage and processing. The respondents were interviewed personally and data were collected in the schedule by the tomato growers. Statistical procedures like Spearman's rank correlation (r_s) to analyze and interpret the data.

$$r_s = 1 - \frac{6 \text{Ó}di^2}{n(n^2-1)}$$

Where,

Di = Difference between the two ranks

N = Number of items/ observations

$$r_s = 1 - \frac{[6(\text{Ó}di^2) + \frac{1}{12}(t^3-t) + \frac{1}{12}(t^3-t)]}{n(n^2-1)}$$

Where,

t = Number an individual items is repeated

The significance of Spearman's rank correlation coefficient was tested by calculating the t-test as follows by using following formula:

$$t = \frac{r\sqrt{n-2}}{\sqrt{(1-r^2)}}$$

RESULTS AND DISCUSSION

Table 1 revealed that 90.83 per cent respondents had knowledge about irrigation management ranked first. The second highest per cent of respondents 85 per cent were having knowledge about harvesting /storage which were given second rank followed by 80 per cent respondents had knowledge about processing rank third, the 79.17 per cent respondents had knowledge about preparation of soil and soil testing ranked fourth, while 78.33 per cent respondents had knowledge about sowing and high yielding

varieties ranked fifth, 76.67 percent respondents transplanting ranked sixth, 75.83 per cent respondents were having knowledge about seed rate and seed treatment ranked seventh, 67.50 per cent respondents were also having knowledge about the application of manures and fertilizers ranked eighth and 56.67 per cent respondents having knowledge about the Plant protection measures ranked ninth.

Supported finding of the study are in conformity with the finding of Waman *et. al.* (1996), Meena (2002) and Yadav (2004).

The association between knowledge level

Table 1: Knowledge aspects of recommended cultivation practices of tomato

S. No.	Knowledge aspects of recommended cultivation practices of tomato	No. of respondents	Percent of respondents	Rank
1	Preparation of soil and soil testing	95	79.17	IV
2	Seed rate and seed treatment	91	75.83	VII
3	Sowing and high yielding varieties	94	78.33	V
4	Transplanting	92	76.67	VI
5	Application of manures and fertilizers	81	67.50	VIII
6	Irrigation management	109	90.83	I
7	Plant protection measures	68	56.67	IX
8	Harvesting /storage	102	85	II
9	Processing	96	80	III

namely preparation of soil and soil testing, seed rate and seed treatment, sowing and high yielding varieties, transplanting, application of manures and fertilizers, irrigation management, plant protection measures, harvesting /storage and processing by the tomato growers were measured by computing "rank correlation coefficients and results depicted in table2.

Table 2: Association between training needs and knowledge level of tomato **n = 130**

S.No.	Knowledge level of practices	Rank correlation (r)	't' value
1	Preparation of soil and soil testing	0.4665	5.964*
2	Seed rate and seed treatment	0.3979	4.904*
3	Sowing and high yielding varieties	0.3266	3.909*
4	Transplanting	0.1727	1.983
5	Application of manures and fertilizers	0.5817	8.086*
6	Irrigation management	0.1378	1.573
7	Plant protection measures	0.5154	6.802*
8	Harvesting /storage	0.2960	3.505*
9	Processing	0.2694	3.163*

* Significant at the 0.05 level of probability

't' 0.05, 128 =2.02

A critical examination of the data presented in Table 9 reveals that tomato growers, application of manures and fertilizers, plant protection measures, preparation of soil and soil testing, seed rate and seed treatment, sowing and high yielding varieties, harvesting /storage, processing were positively and significantly correlated with the training needs of tomato growers about improved tomato production technology at 5 per cent level of significance. Whereas, the correlation of transplanting and irrigation management with their training needs of tomato growers about improved tomato production technology was non significant at 5 per cent level of significance.

Rejects the hypotheses $Ho_{1.1,}$ $Ho_{1.2}$, $Ho_{1.3}$, $Ho_{1.5}$, $Ho_{1.7}$, $Ho_{1.8}$ and $Ho_{1.9}$ *i.e.* "There is no association between training needs of tomato growers about improved tomato production technology and their knowledge of preparation of soil and soil testing, seed rate and seed treatment, sowing and high yielding varieties, application of manures and fertilizers, plant protection measures, harvesting /storage, and processing. It means that these aspects exerted highly significant effect on the training needs of tomato growers about improved tomato production technology. Whereas, the hypotheses $Ho_{1.4}$ and $Ho_{1.6}$ *i.e.,* "There is no association between the training needs of tomato growers about improved tomato production technology and their transplanting and irrigation management were accepted. It means these variables did not exert significant effect on the training needs of tomato growers about improved tomato production technology.

The data presented in Table 2 show that preparation of soil and soil testing, seed rate and seed treatment, sowing and high yielding varieties, application of manures and fertilizers, plant protection measures, harvesting/ storage and processing were positively and significantly associated with the training needs of tomato growers about improved tomato production technology. Hence the hypothesis $Ho_{1.1,}$ $Ho_{1.2,}$ $Ho_{1.3,}$ $Ho_{1.5,}$ $Ho_{1.7,}$ $Ho_{1.8}$ and $Ho_{1.9}$ *i.e.* "There is no association between preparation of soil and soil testing, seed rate and seed treatment, sowing and high yielding varieties, application of manures and fertilizers, plant protection measures, harvesting/ storage and processing and training needs of tomato growers about improved tomato production technology were, rejected. It could be inferred that participation in training programmes by tomato cultivators had significant association with their level of knowledge. This might be due to the fact that those who had received more number and type of training from various institutions got more exposure

and opportunities; this helped them to increasing their level of knowledge. This finding is supported with the findings of Kumawat (2005) and Jaitawat (2006).

The data presented in Table 2 show that transplanting and irrigation management were non- significantly associated with the training needs of tomato growers about improved tomato production technology. Hence the hypothesis $Ho_{1.4}$ and $Ho_{1.6}$ *i.e.,* "There is no association between transplanting and irrigation management and training needs of tomato growers about improved tomato production technology" were, accepted. It means that the transplanting irrigation management did not exert significant influence on the training needs of tomato growers about improved tomato production technology. This might be due to the fact that transplanting and irrigation management didn't play a significant role in formulation training needs of tomato growers with regards to improved tomato production technology. The findings of the study are in conformity with the findings of Geengar (2006).

CONCLUSION

Positive and significant association was observed between training needs of tomato growers about improved tomato production technology with their knowledge of preparation of soil and soil testing, seed rate and seed treatment, sowing of high yielding varieties, application of manures and fertilizers, plant protection measures, harvesting /storage and processing, while their transplanting and irrigation management were found non-significant association.

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