CONSTRAINTS IN ADOPTION OF IMPROVED TOMATO PRODUCTION TECHNOLOGY

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Abstract: Adoption of any production technology depends on the availability of the essential resources. The present investigation was carried out in the six purposively selected villages of Pathalogon Block of Jashpur district. Seventy two respondents were selected randomly and personally interviewed with the help of the structured interview schedule. The study revealed that the all the seventy two tomato growing farmers (100 %) reported that they were not getting desired price for their produce and 86.11 per cent respondent highlighted the lack of transportation facilities. The same percentage of the respondents (86.11 %) also encountered with the problem of non-availability and unreliable cost of fertilizers. 77.77 and 52.77 per cent respondents reported the problems like non-availability of information related to improved tomato production technology at the right andd non-availability of insecticides & fungicides respectively. Whereas only 27 tomato growing farmers were (37.5 %) reported lack of capital as constraints.

Keywords: Tomato Cultivation, Adoption, Constraints and improved production practices

INTRODUCTION

Vegetables not only provide maximum output but also give more income per unit area of land. Vegetable cultivation among small land holders has always been source of supplementary income and provides gainful employment through intensive cultivation and thus vegetable growers are normally more prosperous than those who grow cereals, because of higher return. The Jashpur district in Chhattisgarh State is famous for tomato production, in spite of having totally rainfed area. The tomato crop covers an area of 2577 hectare and production is 51560 tones as recorded by the Horticulture department of Raigarh (1996-1997). In order to increase the production of tomato crop, several improved varieties have been released during the recent years. Concentrated work has been undertaken by the govt. officials / extension personnel to promote adoption of improved cultivation practices of tomato crop. Scientist / Researcher advocate the use of package of tomato production technology with which the farmers have to be convinced, so that they can adopt the improved technologies in their farming system. If scientific methods are followed it gives almost 300-q/ha yield in open pollinated varieties and upto 880 qui/ha in case of hybrids (www.cgagridept.in).

MATERIAL AND METHOD

Location of the study

The study was conducted in the Jaspur district of the Chhattisgarh state. The Chhattisgarh state consists of 27 districts, out of which Jaspur district was selected because the maximum area of tomato cultivation quite high among all the districts of Chhattisgarh state. Out of 8 blocks of Jashpur district, only Pathalgaon block was selected purposively for the study because it has the largest area under tomato cultivation in comparison to other blocks in the district. The Pathalgaon block has a total number of 110 villages, out of which thirty villages having highest area and production under tomato crop. Out of these villages, six villages namely Bildegi, Bandhanpur, Birindega, Ludig, Mudapara, Saraitola selected using SRSWOR (Simple Random Sampling without Replacement) technique for the study.

Method of data collection

A list of the tomato growers of the selected villages was prepared. The name of the tomato growers were arranged alphabetically and twelve tomato growers from each selected village were selected on random basis. Thus, seventy-two respondents were finally selected for the purpose of conducting this study. The data were collected with the help of well structured and pre-tested and well structured interview schedule.

RESULT AND DISCUSSION

Constraints faced by the respondents during the adoption of recommended tomato production technology

During the course of interview the respondents were asked about the constraints as they felt in adoption of recommended tomato production technology. As per the responses given by the respondents shown in table 4.4.1 reveal that all the seventy two tomato growing farmers (100 %) reported that they were not getting desired price for their produce and 86.11 per cent respondent highlighted the lack of transportation facilities. The same percentage of the respondents

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(86.11 %) also encountered with the problem of non-availability and unreliable cost of fertilizers. 77.77 and 52.77 per cent respondents reported the problems like non-availability of information related to improved tomato production technology at the right time and non-availability of insecticides & fungicides respectively. Whereas only 27 tomato growing farmers (37.5 %) reported that lack of capital as a constraints. Aswathaiah (1972), Kushwaha (1996) also noted almost similar findings.

Table 1. Distribution of the respondents according to their constraints as faced by them during the adoption of tomato production technology

Problem expressed by the farmers	Frequency	Percentage	Rank
Not getting appropriate price of produce	72	100	I
Non availability of information related to improved tomato production technology at the right time	56	77.77	III
Lack of transportation facilities	62	86.11	III
Lack of capital	27	37.5	IV
Non- availability of insecticide and fungicides	38	52.77	IV
Non availability and unreliable cost of fertilizers	62	86.11	III
Lack of soil testing facility	49	68.05	II

*Data are based on the multiple responses

Suggestions as given by the respondents regarding tomato production technology

The respondents were asked to submit their cognitive suggestions that can overcome their constraints in the adoption of recommended tomato production technology and shown in table 2. The table shows that proper marketing facilities scored the highest value i.e. 95.83 per cent followed by 94.44 per cent respondents suggested that organizing training camp at village level on the tomato production technology will help them in increasing their knowledge as well as skill related to the tomato production. 87.50 % respondents suggested the installation of value addition processing unit at block level by government, 79.17 per cent respondents said that transportation facilities, 70.83 per cent respondents viewed that availability of modern agriculture information and 65.27 per cent respondents suggested that efforts should be made to provide fertilizer on appropriate rate also will help them to overcome the constraints. While 59.72 per cent respondents suggested that credit facility should be made available at proper time with low interest rate, 58.33 per cent respondents suggested soil testing facilities at block level and 48.61 per cent respondents was of view that availability of plant protection chemicals also would be useful remedial measure to overcome the constraints faced by them during the adoption of recommended tomato production technology.

Table 2. Distribution of the respondents according to their suggestions as given by the respondents for improving the adoption level of tomato production technology

Suggestions	Frequency	Percentage	Rank
Proper marketing facilities should be available	69	95.83	I
Efforts should be made for establishing value addition processing unit at least at the block level by the government	63	87.50	III
Modern agricultural information should be easily available	51	70.83	V
Training camp at village level should be organized on tomato production technology	68	94.44	II
Proper transportation facilities should be created	57	79.17	IV
Credit facilities should be provided at proper time with low interest rate	43	59.72	VIII
Provision should be made for easy availability of plant protection chemicals	35	48.61	IX
Efforts should be made for providing fertilizers on appropriate rate	47	65.27	VI
Soil testing facility should be made available at block level	42	58.33	VII

Factors associated with adoption of improved tomato production technology

To determine the relationship between independent variables and extent of adoption of the farmers, the correlation analysis was done and results are presented in Table3.

Table 3. Correlation and multiple regression analysis of independent variables with the extent of knowledge about tomato production technology

Variables	Coefficient of correlation "r" value	Partial regression coefficient	
		"b" value	"t" value
XI Age	0.7897**	0.186	0.978
X2 Education	0.1578	0.603	1.454
X3 Caste	-0.0523	-1.088*	2.150
X4 Size of family	0.3005**	-0.176	0.896
X5 Land holding	0.0716	-0.062	0.777
X6 Experience of farmers	0.7421**	0.468	1.862
X7 Annual income	0.0493	0.000	0.176
X8 Economic motivation	0.6991**	0.289	0.363
X9 extension contact	0.1120	-0.457	2.259*
XI0 Source of information	0.7120**	0.280	0.682

* Significant at 0.05 level of probability multiple $R^2 = 0.6336$

** Significant at 0.01 level of probability F-Value = 9.43 (with 10 and 60 d.f.)

To determine the relationship between independent variables and extent of adoption of the farmers, the correlation analysis was done and results are presented in Table3. Out of ten independent variables, only five variables like age, size of family, experience of farmer, economic motivation and sources of information were found to be positive and highly significant as they were correlated at 0.01 per cent level of probability with the adoption of tomato production technology. Remaining five variables did not indicate any significant relationship with adoption of tomato production technology. Multiple regression analysis was also applied to determine the prediction ability and contribution of independent variables in extent of adoption of the farmers about tomato production technology. Out of selected ten independent variables in the analysis, only extension contact showed the significant effect on adoption of tomato production technology. Corresponding F-value (11.86) for the model was found significant at 0.05 level of probability. Therefore it is suggested that for increasing the adoption of tomato production technology, efforts should be taken for timely personal contact with the tomato growing farmers. Almost similar result was also reported by Kushwaha (1996), Shrivastava (2001) and Rajgopal (1975) also found similar findings.

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