

CONSTRAINTS FACED BY TOMATO GROWERS IN USE OF IMPROVED TOMATO PRODUCTION TECHNOLOGY

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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. Among these 3-gram panchayats from Bassi tehsil and 4-gram panchayats from Amber tehsil were. 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 farmers possessed followed by most important, important and least important of constraints. The aspects viz. input constraints, financial constraints, technical constraints, educational constraints, marketing constraints. Results are discussed in terms of their implication for enhance the constraints as faced by the tomato growers in use of improved tomato production technology.

INTRODUCTION

Tomato is one of the most important "Protective food" both because of its special nutritive value and also because of its wide spread production. 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. 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 Statistics 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. 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

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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 identify constraints. The constraints faced by the respondents were categorized into five categories namely, input constraints, financial constraints, technical constraints, educational constraints, marketing constraints. For measuring these constraints, a schedule was developed by the investigator and further discussed with subject matter specialists of Swami Keshwanand Rajasthan Agricultural University as well as the Agriculture Department of State Government. The responses obtained from respondents were recorded on a three point continuum scale viz., most important, important and least important and were assigned 3, 2 and 1 score respectively. Statistical procedures like frequency & percentages, mean were employed to analyze and interpret the data. The total scores of a constraint were summed up and then divided by total number of respondents to obtain the mean score. The constraints were then ranked in descending order on the basis of these mean scores. For getting the constraint score of a particular farmer, the scores of all the constraints, which that particular farmers faced were summed up.

RESULTS AND DISCUSSION

In this part an attempt was made to identify and analyse the constraints responsible for the non-adoption of improved tomato production technology of tomato cultivation under the agro-climatic conditions where the tomato growers were living. For this purpose, a schedule was prepared by the investigator and suggestions were gathered from the experts on three point continuum response categories namely most important, important and least important. The scores awarded on three point continuum scale and responses were 3, 2 and 1 respectively. The mean scores of individual constraints were computed and ranked in descending order. The constraints encountered by the respondents were categorised into five categories namely, input constraints, financial constraints, technical constraints, educational constraints and marketing constraints. The findings regarding these constraints have been presented in Table 1 & 2.

Among the overall constraints it is evident from the Table 10 that the constraint "high cost of high yielding varieties" (2.63MS) was the most perceived constraint among all the constraints faced by the tomato growers which was responsible for the non-adoption of improved tomato production technology. The second most perceived constraint faced by the tomato growers was "high cost of fertilizers and chemicals" and "lack of knowledge of disease resistant varieties" (2.58 MS) followed by "lack of knowledge of proper application methods of chemical fertilizers" (2.56 MS).

Supported finding of the study are conformity with the finding of Yadav (1997), Meena (2002), Singh (2002), Kumawat (2005) and Samantaray et. al. (2009).

1. Input constraints and Discussion

Table 1 indicated finding of input constraints explained that on the whole "unavailability of fertilizers in the local market at the time of sowing" (2.50 MS) was as most perceived constraint and hence it was ranked first. The second most perceived constraint was "unavailability of improved seed at the time of sowing" (2.34 MS) followed by "lack of irrigation water" (2.24 MS) and "subsidy is not given on different agricultural inputs" (2.17 MS) were perceived as third and fourth most perceived constraints, respectively. The constraints "unavailability of recommended chemicals for seed treatment" (2.16 MS), "unavailability of labour" (2.10 MS) and "non-availability of recommended weedicides" (2.04 MS) were perceived as fifth, sixth and seventh most perceived constraints.

The important constraints reported above by majority of tomato growers might be due to fact that the co-operative societies in the study area were all most defunct resultantly the respondents could not receive/ obtain the required inputs and equipments as per their needs.

2. Financial constraints and Discussion

Table 1 incorporates the findings of financial constraints explained that "high cost of high yielding varieties", "high cost of fertilizers and chemicals" were reported with 2.63 MS and 2.58 MS and as such these were ranked at first and second places, respectively. The other constraints

like "minimum support price is not fixed by the government", "high cost of irrigation", high cost of improved implements" and "higher electricity charges" were reported with 2.48 MS, 2.39 MS, 2.33 MS and 2.27 MS as such these were ranked at 3rd, 4th, 5th and 6th places, respectively. From the above results, it may be concluded that "high cost of high yielding varieties" was perceived by the tomato growers as important financial constraints.

The important constraints reported above by majority of tomato growers might be due to fact that continuous increase in the cost of plant protection chemicals, fertilizers and improved variety seeds in the study area were all most defunct resultantly the respondents could not receive/obtain the required chemicals, fertilizers and seeds as per their needs.

3. Technical constraints and Discussion

Table 1 also shows findings of technical constraints explained that "lack of knowledge of disease resistant varieties" (2.58 MS) was as most perceived constraint and hence it was ranked first. The second most perceived constraint was "lack of knowledge of seed treatment" (2.40 MS) followed by "lack of proper knowledge about plant protection measures" (2.38 MS), "unavailability of technical advice" (2.34 MS), "lack of knowledge of seed rate and spacing" (2.26 MS), and "lack of knowledge about post harvest technology" (2.23 MS) were perceived as third, fourth, fifth and sixth most perceived constraints, respectively.

The important constraints reported by majority of the tomato growers might be due to the fact that the number of VEWs for vegetable crops were still less. The jurisdictional area of a VEW was large. Therefore, it was impossible to cover the entire farm families in their constraints were reported.

4. Educational constraints and Discussion

Table 1 also depicts the findings of educational constraints explained that "lack of knowledge about proper application methods of chemical fertilizers" and "lack of knowledge and skills about proper method of tomato production" were reported with (2.56 MS) and (2.39 MS) and as such these were ranked at first and second places, respectively. The other constraints like "lack of confidence for using

the HYVs on the farmer's field" and "lack of knowledge and skills about use of implements and equipments such as sprayers and dusters" were reported with (2.30 MS) and (2.19 MS) and as such these were ranked at 3rd and 4th places, respectively.

The important constraints reported by majority of the tomato growers might be due to the reasons that education plays an important role to eradicate the social prejudices and beliefs hampering the acceptability of the technology. Tomato growers were not in touch of exact scientific knowledge or the officer some time did not cooperate the tomato growers due to less professional education.

5. Marketing constraints and Discussion

Table 1 depicts the findings of marketing constraints explained that on the whole "lower price at harvesting time" and "lack of storage facility" were reported with (2.53 MS) and (2.37 MS) and as such these were ranked at first and second places, respectively. The other constraints like "lack of transport facility", "absence of assured marketing at remunerative price and insurance facility", "problems of marketing in remote areas" and "manipulation by merchants" were reported with (2.26 MS), (2.20 MS), (2.18 MS) and (2.15 MS) and as such these were ranked at 3rd, 4th, 5th and 6th places, respectively.

The important constraints reported by majority of the tomato growers might be due to lack of unawareness of tomato growers and no proper contact of Tomato growers with govt. agencies, institutions for preservation and storage facility, less knowledge of Tomato growers about preservation and storage facility.

Relative position of different constraints in training needs of improved tomato production technology by the tomato growers.

Table 2 the relative position of the five categories of constraints responsible for non-adoption of improved tomato production technology.

A critical examination of the data presented in table revealed that financial constraints possessed the first position as perceived with (2.45 MS) by the respondents.

Table 1. Constraints faced by the tomato growers in use of improved tomato production technology

n= 130 (Multiple response)						
S.No.	Constraints	Most IMP	Important	Least IMP	Mean Score	Rank
1.	Input constraints					
1	Unavailability of improved seed at the time of sowing	74 (56.92)	27 (20.77)	29 (22.31)	2.34	II
2	Unavailability of recommended chemicals for seed treatment	54 (41.54)	43 (33.08)	33 (25.38)	2.16	V
3	Lack of irrigation water	68 (52.31)	26 (20)	36 (27.69)	2.24	III
4	Unavailability of labour	51 (39.23)	41 (31.54)	38 (29.23)	2.10	VI
5	Unavailability of fertilizer in the local market at the time of sowing.	80 (61.54)	36 (27.69)	14 (10.77)	2.50	I
6	Non availability of recommended weedicides	48 (36.92)	40 (30.77)	42 (32.31)	2.04	VII
7	Subsidy is not given on different agricultural inputs	64 (49.23)	25 (19.23)	41 (31.54)	2.17	IV
2.	Financial constraints					
1	High cost of high yielding varieties	92 (70.77)	29 (22.31)	9 (6.92)	2.63	I
2	High cost of fertilizers and chemicals	87 (66.92)	32 (24.62)	11 (8.46)	2.58	II
3	Minimum support price is not fixed by the government	78 (60)	37 (28.46)	15 (11.54)	2.48	III
4	High cost of improved implements	66 (50.77)	41 (31.54)	23 (17.69)	2.33	V
5	High cost of irrigation	73 (56.13)	35 (26.92)	22 (16.92)	2.39	IV
6	Higher electricity charges	63 (48.46)	40 (30.77)	27 (20.77)	2.27	VI
3.	Technical constraints					
1	Lack of knowledge of seed treatment	79 (60.77)	25 (19.23)	26 (20)	2.40	II
2	Lack of proper knowledge about plant protection measures	76 (58.46)	28 (21.54)	26 (20)	2.38	III
3	Unavailability of technical advice	73 (56.13)	29 (22.31)	28 (21.54)	2.34	IV
4	Lack of knowledge of seed rate and spacing	69 (53.08)	27 (20.77)	34 (26.15)	2.26	V
5	Lack of knowledge of disease resistant varieties	86 (66.15)	34 (26.15)	10 (7.70)	2.58	I
6	Lack of knowledge about post harvest technologies	65 (50)	31 (23.85)	34 (26.15)	2.23	VI
4.	Educational constraints					
1	Lack of confidence for using the HYVs on the farmers field	64 (49.23)	42 (32.31)	24 (18.46)	2.30	III
2	Lack of knowledge and skills about proper method of tomato production.	79 (60.77)	23 (17.69)	28 (21.54)	2.39	II
3	Lack of knowledge about proper application methods of chemical fertilizers.	84 (64.62)	35 (26.92)	11 (8.46)	2.56	I
4	Lack of knowledge and skills about operation of implements and equipment such as sprayers, dusters etc.	61 (46.92)	33 (25.39)	36 (27.69)	2.19	IV

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S.No.	Constraints	Most IMP	Important	Least IMP	Mean Score	Rank
5.	Marketing constraints					
1	Lack of storage facility.	77 (59.23)	25 (19.23)	28 (21.54)	2.37	II
2.	Lack of transport facility.	63 (48.46)	38 (29.33)	29 (22.31)	2.26	III
3.	Manipulation by merchant.	55 (42.31)	40 (30.77)	35 (26.92)	2.15	VI
4.	Problems of marketing in remote areas.	62 (47.69)	30 (23.08)	38 (29.23)	2.18	V
5.	Lower price at harvesting time	82 (63.08)	36 (27.69)	12 (9.23)	2.53	I
6.	Absence of assured marketing at remunerative price and insurance facility.	60 (46.15)	37 (28.46)	33 (25.39)	2.20	IV

Table 2. Relative position of different categories of constraints as perceived by the tomato growers of tomato cultivation

S. No.	Categories of constraints	MS	Rank
1	Input constraints	2.24	V
2	Financial constraints	2.45	I
3	Technical constraints	2.36	II
4	Educational constraints	2.35	III
5	Marketing constraints	2.28	IV

Similarly, technical constraints got second position (2.36 MS) and third position and fourth position awarded to educational constraints (2.35 MS), marketing constraints (2.28 MS), respectively. Input constraints (2.24 MS) were perceived at last position.

CONCLUSION

The major constraints in improved tomato production technology as perceived by the tomato growers were "high cost of high yielding varieties", "high cost of fertilizers and chemicals", "lack of knowledge of disease resistant varieties", "lack of knowledge about proper application methods of chemical fertilizers", "lower price at harvesting time", "unavailability of fertilizers in the local market at the time of sowing", "minimum support price is not fixed by the government", "lack of knowledge of seed treatment" and "lack of knowledge and skills about proper method of tomato production". The "financial constraints" were most perceived by the tomato growers followed by "technical constraints"

and "educational constraints". Whereas the "marketing constraints" and "input constraints" were perceived least by the tomato growers.

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