Knowledge of Farmers towards Improved Tomato Production Practices in Jalpaiguri District of West Bengal

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ABSTRACT:

India is the second largest producer of tomato in the world after China. West Bengal is seventh largest producer of tomato in India. Present study was conducted in Jalpaiguri district of West Bengal. Present study fully relies on the primary data collected by personal interview method using a pre-tested structured interview schedule. majority of the respondents were middle age group, illiterate, majority of the respondents lived in semi- cemented house and most of the respondents were living in extended family with medium annual income and most of them belongs to SC category, medium level of social participation, scientific orientation, risk orientation, mass media exposure. Majority of the respondents had medium level of knowledge and adoption towards improved tomato production. Socio-economic characteristics like age, education, housing pattern, annual income, family type, social participation, scientific orientation, risk orientation, mass media exposure had positive and significant association with the knowledge at 0.05% of the probability. Caste and extension contacts had negative but significant association with the knowledge at 0.05% level.

Keywords: Knowledge, Adoption, Tomato

INTRODUCTION:

Tomato (*Solanum lycopercicum*) is one of the most popular and widely consumed vegetable crops originated in South America. It grown as commercial crop in India and it has high nutritive value. Its attractive red colour considered as important commodity of international market especially for its natural colour.

Tomato is third most important crop in India after potato and onion. India is second largest producer of tomatoes in the world. Worldwide 177,118,248 tonnes of tomato are produced per year. After China, India comes second with 18,399,000 tonnes yearly production. West Bengal is seventh largest producer of tomato in India. West Bengal occupies an area of 0.57 lakh ha with production of 12.65 lakh tonnes and productivity of 22.01 t/ha respectively. In West Bengal tomato mainly sown in September and transplanted in October. It is recorded from the available data that out of total area under tomato cultivation in Jalpaiguri district with a total production of 132.121 Mt and productivity 27.135 Mt/ha.

To enhance the tomato production constrains should be identified to take appropriated measures. lack of technical knowledge, lack of improved implements, high cost of seed/g, lack of training are the constraints that lower the production potential and income status of tomato growers.

RESEARCH METHODOLOGY:

The present study was conducted in Jalpaiguri District of West Bengal during 2023. 8 random villages were selected in Jalpaiguri block. Total 110 number of respondents were selected from each selected village for the present study and the survey was done by personally interviewing the respondents with the help of pretested structural schedule.

Percentage analysis were done to analyse the data. And ranking was done according to results obtained.

Percentage: The term 'Percentage' means a fraction whose denominator is 100 and the number of the fraction is called percentage.

$$Percentage = \frac{Frequency}{Total\ number\ of\ the\ Respondents} \times 100$$

RESULTS AND DISCUSSION:

The results collected from the respondents regarding the socio-economic are presented in the following table 1,

Table.1. Socio-economic profile of the respondents (n=110)

S. No	Characteristics	Category	Frequency	Percentage
1	Age	Young (18-35)	26	23.63
		Middle (36-55)	56	50.91
		Old (above 55)	28	25.45
2	Education	Illiterate	42	38.18
		Primary, secondary and intermediate	38	34.54
		Graduation and above	30	27.27
3	Caste	General	10	9.09
		OBC	16	14.54
		SC	74	67.27
4	Housing pattern	Hut	27	24.54
		Semi-cemented	53	48.18
		Cemented	30	27.27
5	Land holding	Below 1 bigha	61	55.45
		1-3 bigha	35	31.81
		Above 4bigha	14	12.72
6	Annual Income	Less than 75,000	31	28.18
		75,000- 3,00,000	67	60.91
		More than 3,00,000	12	10.90
7	Family type	Nuclear	20	18.18
		Extended	52	47.27
		Joint	38	34.54
8	Social participation	Low	18	16.36
		Medium	52	47.27
		High	40	36.36
9	Scientific orientation	Low	36	32.72
		Medium	58	52.72
		High	16	14.54
10	Risk orientation	Low	25	22.72
		Medim	63	57.27
		High	22	20.00
11	Extension contacts	High	12	10.90
		Medium	34	30.90

		Low	64	58.18
12	Mass media exposure	High	31	28.18
		Medium	54	49.90
		Low	25	22.72

From table. 1, it can be concluded that Majority of the respondents (50.91%) belonged to middle age group followed by old age group (25.45%) and young age group (23.63%) respectively. Most of the respondents i.e. (40%) were illiterate and (32.72%) had primary, secondary and intermediate level followed by (27.27%) graduation and above. Thus, it is evident that most of the respondents were illiterate. Maximum number of respondents belonged to SC category (67.27%) followed by OBC (14.54%) and General (9.09%). Majority of the respondents (48.18%) were living in semi-cemented followed by (27.27%) in cemented and (24.54%) in huts respectively. Maximum number of respondents (55.45%) had small size land holding i.e., from 1bigha followed by (31.81%) medium size and (12.72%) large size which is below 1-3 bigha and above 4 bigha respectively. Maximum no. of respondents (60.91%) had annual income from 75,000 to 3,00,000 farmers followed by (28.18%) belonging to the group of less than 75,000 and (10.90%) more then 3,00,000. Most of the respondents (47.27%) had extended family followed by (34.54%) joint and (18.18%) nuclear. Majority of the respondents (47.27%) had medium level of social participation followed by (36.36%) high and (16.36%) low level of social participation. Maximum number of respondents (52.72%) had medium level of scientific orientation followed by (32.72%) low and (14.54%) high respectively. Maximum no. of the respondents (57.27%) had medium level of risk orientation followed by (22.72%) with low-risk orientation and (20%) high respectively. maximum number of respondents (58.18%) had low level of extension contacts followed by (30.90%) had medium and (10.90%) high level respectively. Majority of the respondent (49.09%) had medium level of mass media exposure, (28.18%) of the respondents had high and (22.72%) had low level of mass media exposure.

Knowledge level of the respondents was presented in table. 2,

Table 2 Distribution of respondents based on their knowledge level about improved cultivation practices of tomato growers.

S. no.	Over-all Knowledge level	Frequency (f)	Percentage (%)
1	Low	32	29.09
2	Medium	56	50.90
3	High	22	20.00
	Total	**110**	**100**

From table.2, it can be concluded that (50.90%) of the respondents had medium level of knowledge regarding improved tomato production practices, followed by low (29.09%), and high (20%) level of knowledge.

Adoption level of the respondents was presented in table. 3,

Table 3 Distribution of respondents based on their adoption level about improved cultivation practices of tomato growers.

S. no.	Over-all Adoption level	Frequency (f)	Percentage (%)
1	Low	29	26.36
2	Medium	57	51.81
3	High	24	21.81
	Total	**110**	**100**

From table. 3, it can be concluded that (51.81%) of the respondents had medium level of adoption regarding improved tomato production practices, followed by low (26.36%), and high (21.81%) level of knowledge.

The association between socio-economic profile with knowledge of respondents

Table 4 Association between socio-economic profile with knowledge of respondents towards improved tomato production practices

Sl. No.	Variables	Correlation coefficient ®
1.	Age	0.939**
2.	Education	0.462**
3.	Caste	-0.665**
4.	Housing Pattern	0.922**

5.	Land holding	0.226*
6.	Annual income	0.998**
7.	Family type	0.632**
8.	Social participation	0.555**
9.	Scientific Orientation	0.978**
10.	Risk orientation	0.974**
11.	Extension Contacts	-0.369**
12.	Mass Media Exposer	0.995**

*=Correlation is significant at the 0.01 level of probability

**= Correlation is significant at the 0.05 level of probability

 NS= non-significant

From the above findings it can be revealed that the landholding had positive and significant association with knowledge at 0.01% of probability and age, education, housing pattern, annual income, family type, social participation, scientific orientation, risk orientation, mass media exposure had positive and significant association with the knowledge at 0.05% of the probability. While caste and extension contacts were negative but significantly correlated with the knowledge at 0.05% level.

CONCLUSION

From the above study, it is concluded that majority of the respondents were middle age group, illiterate, majority of the respondents lived in semi-cemented house and most of the respondents were living in extended family with medium annual income and most of them belongs to SC category. Whereas, majority of the respondents had medium level of social participation, scientific orientation, risk orientation, mass media exposure. Meanwhile, majority of the respondents had medium level of knowledge, medium level adoption towards improved tomato production. Age, education, housing pattern, annual income, family type, social participation, scientific orientation, risk orientation, mass media exposure had positive and significant association with the knowledge at 0.05 per cent of the probability. While caste and extension contacts had negative but significant association with the knowledge at 0.05

per cent level. Major constraints included inadequate knowledge followed by lack of technical knowledge, lack of improved implements, high cost of seed/g, hence suggested about cost of seed, fertilizer and insecticide should be less, followed by demonstration at the farmers field by agriculture department.

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