Knowledge of Chilli Growers about Various Interventions of Chilli Cultivation under Institution Village Linkage Programme

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ABSTRACT

India is the largest producer, consumer and exporter of chillies in the world. India has immense potential to grow and export different types of chillies required by various markets around the world. Efforts were made through Institution Village Linkage Programme to conduct certain interventions of chilli cultivation to the chilli growers in Ajmer district of Rajasthan and refine them to suit their micro farming system. The knowledge of any technology is a key factor for its adoption. The present study was conducted with a view to study chilli growers' level of knowledge about interventions of chilli cultivation introduced under IVLP. A total of 52 chilli growers were selected by random sampling technique. The results reflected that majority of respondents possessed medium level of knowledge about interventions of chilli cultivation under IVLP, whereas the benefited chilli growers possessed higher knowledge than non-benefited chilli growers. It was evident that there was a significant difference between knowledge level of both categories of chilli growers under IVLP.

Key Words : *Institute Village Linkage Programme (IVLP); Technology Assessment and Refinement (TAR);*

*C*hilli (*Capsicum annum*) is one of the most important culinary spices in several parts of the world. In India, chillies are grown in almost all the states. However, the major producing states are Andhra Pradesh, Karnataka, Orissa, Maharashtra, West Bengal, Tamilnadu and Rajasthan. Andhra Pradesh has the maximum productivity of 22.24qt./ha while in Rajasthan is only 11.74 qt./ha. Chilli is grown in almost all the districts of Rajasthan. The crop occupies maximum area in Ajmer district in Jaipur region. However, the yield per hectare is low in Ajmer district as compared to other district of the Jaipur region. Low yield per unit area can be attributed to the number of yield affecting factors such as low fertility of land, lack of knowledge of technology on the part of chilli growers & ultimately low adoption of recommended cultivation technology.

A project on Technology Assessment & Refinement through IVLP in Ajmer district of Rajasthan was undertaken by KVK Ajmer from 1999-2000 to 2004-05. One of the objectives of this project was to educate the chilli growers about its scientific cultivation right from nursery raising stage.

The implementing agency introduced three interventions for chilli crop in the study area. These were

(i) improved nursery raising of chilli, (ii) balanced use of nutrients to enhance chilli productivity and (iii) management of leaf curl virus in chilli. Therefore, it was felt important to study the gain in knowledge by chilly growers about interventions of chilly cultivation through IVLP.

METHODOLOGY

The IVLP project was operating in two villages namely Saradhana & Myapur at Ajmer district. For selection of beneficiary respondents, a list of benefited chilly growers under IVLP was obtained from the KVK. On the basis of this list, 26 chilli growers out of 266 benefited chilly growers were selected proportionately by random sampling technique. For selection of non-beneficiary respondents, list of chilly growers was obtained from patwari and 26 non-beneficiary farmers were randomly selected from this list. Thus, in all 52 chilly growers were included for the study purpose.

Measurement of knowledge : Three interventions of chilly cultivation implemented by KVK personnel were included in the knowledge test. Each selected practice was further divided into several questions to take care of required knowledge about chilly cultivation. One

score was assigned to each correct answer and zero for wrong answer. Data were collected with the structured schedule by personal interview method. Frequency, percentage, mean percent score, (MPS) and standard normal deviate 't'-test were used to analyze the data.

RESULTS AND DISCUSSION

An attempt was made to study overall and in-depth knowledge of chilli growers about interventions introduced for chilli crop in the study area. For this the respondents were categorized in three groups on the basis of their obtained knowledge scores.

Overall knowledge about chilli cultivation: It is evident from Table 1 that equal number of beneficiaries and non-beneficiaries i.e. 69 per cent had medium knowledge about interventions of chilli crops.

Table 1. Number and percentage of beneficiary and non-beneficiary respondents under different knowledge level for chilli crop

Category	Beneficiaries $N_1 = 26$	Non-beneficiaries $N_2 = 26$	Total $N_3 = 52$
Low (<44)	00 (0.00)	8 (31.00)	8 (15.00)
Medium (44 to 57)	18 (69.00)	18 (69.00)	36 (70.00)
High (>57)	8 (31.00)	00 (0.00)	8 (15.00)

Figures in parentheses are percentages

This is important to note that none of the beneficiary respondents was reported to be with low level of knowledge & 31 per cent beneficiary respondents had high level of knowledge about interventions of chilly cultivations This indicated that IVLP helped in rapid transfer of technology and at the same time in acceptable manner to the beneficiary farmers which resulted in increasing knowledge level of farmers about interventions of chilli crops. While 31 per cent non beneficiary farmers were in low knowledge level about interventions of chilli crops. This finding is in consonance with *Meena et al. (2005)* who found that none of beneficiary farmers had low knowledge about improved guava cultivation practices. However beneficiary respondents found in high and medium knowledge category were 33.33 and 66.67 per cent, respectively.

Knowledge level of chilly growers about improved nursery raising of chilli : The extent of knowledge for different categories of respondents was measured for twelve aspects of improved nursery raising of chilli.

The scores obtained by respondents were converted into mean per cent scores and the data have been presented in Table 2.

Table 2. Knowledge level of chilli growers about improved nursery raising of chilli

S. No.	Practices	Beneficiaries $N_1 = 26$ MPS	Rank	Non-beneficiaries $N_2 = 26$ MPS	Rank
1	Type of soil suitable for chilli crop	81.89	XI	79.15	I
2	Recommended variety of chillies	89.57	VII	47.20	IX
3	Yield of HYV of chillies	79.81	XII	45.00	X
4	From where got seed of chillies	84.71	IX	51.26	VII
5	Type of nursery bed for chillies	91.41	VI	70.11	III
6	Optimum size of chillies nursery bed	95.56	V	57.55	V
7	Time of sowing	98.95	II	49.16	VIII
8	Recommended time of transplanting	97.11	IV	77.19	II
9	Method of sowing	100.00	I	60.91	IV
10	Age of seedling for transplanting	88.73	VIII	56.11	VII
11	Seed rate	83.54	X	34.96	XII
12	Recommended spacing	98.13	III	39.21	XI
	Overall	90.75		55.65	

rs= 0.15 NS

Table 2 exhibits that beneficiary respondents had maximum knowledge about 'recommended method of sowing' with MPS of 100 and was accorded first rank. Optimum sowing time of chilli with MPS 98.95 was ranked second. Appropriate plant to plant spacing in chilli' with MPS 98.13 was ranked third. Subsequently recommended time of transplanting, optimum size of nursery had MPS 97.11 and 95.56 and were accorded fourth and fifth position. The beneficiaries had least knowledge about yield of high yielding varieties (HYV) of chilli with MPS 79.81 and was accorded twelfth rank.The probable reason for high knowledge level of beneficiary farmers about interventions of nursery raising of chilli may be due to the fact that demonstrations and OFTs were conducted only on beneficiary farmers fields so they become more educated about these interventions.

Table further highlighted that in case of non-beneficiaries the respondents had maximum knowledge about 'type of soil suitable for chilly' with MPS 79.15 and ranked first and was followed by the practices like 'Recommended time of transplanting' with MPS 77.19 'type of nursery bed for chilli' with MPS 70.11, 'recommended method of sowing' with MPS 60.91', 'optimum size of nursery bed' having MPS 57.55 and were accorded second, third, fourth and fifth rank, respectively. Non-beneficiaries also had lowest knowledge about 'seed rate of chilli' with MPS 34.96.

The findings are similar to *Deshmuk et al, (1995)* who reported that majority of farmers had better knowledge about important practices like improved variety, sowing time and fertilizer application while knowledge about seed treatment was low.

Table 3. Knowledge level of chilli growers about balanced use of nutrients to enhance chilli productivity

S. No.	Practices	Beneficiaries		Non-beneficiaries	
		N_1= 26 MPS	Rank	N_2=26 MPS	Rank
1	Use of FYM	89.53	IV	56.91	II
2	Quantity of FYM	91.54	III	47.71	IV
3	Chemical fertilizer use in chilli crop	86.81	V	59.981	I
4	Use of nitrogenous fertilizers	92.99	II	33.12	V
5	Use of phosphate fertilizer	65.11	VI	30.12	VI
6	Use of potassic fertilizer	63.21	VII	27.34	VII
7	Weed management	54.13	VIII	31.77	VIII
8	Irrigation management	94.56	I	56.19	III
	Overall	79.74		42.13	

rs= 0.52 NS

Knoweledge level of chilli growers about balanced use of nutrients to enhance chilli productivity: Further, insight into the in depth knowledge of the respondents about various aspects of fertilizer utilization, was obtained by converting the scores obtained by respondents into MPS. The mean per cent score were then ranked to assess the knowledge.

A close examination of Table 3 reveals that beneficiary respondents possessed remarkable knowledge about following aspects namely, 'irrigation management', application of nitrogenous fertilizers,' 'quantity of FYM', 'use of FYM and chemical fertilizer use in chillies. The MPS of these aspects were 94.56, 92.99, 91.54, 89.53 and 86.81, respectively. The result arrived so were due to technological interventions

adopted under IVLP, knowledge and awareness of the beneficiary farmers had increased and they have realized the importance of irrigation and nutrient management in chilli. Further analysis of table showed that non-beneficiary respondents had maximum knowledge about chemical fertilizer use in chilli with MPS 59.91. This was followed by aspects like FYM use in chilli, 'irrigation management, quantity of FYM, and 'application of nitrogenous fertilizer. The per cent score of these aspects are 56.91, 50.19, 47.71 and 33.12, respectively. Both beneficiary and non-beneficiary had least knowledge about method of application of potassic fertilizers and quantity and weed management with seventh and eighth rank. The above findings are in conformity with the finding of *Singh (2005)* and *kumar et.al. (2007)*.

*Knoweledge level of chilli growers about management of leaf curl virus in chillie*s : Leaf curl virus in chilli is a serious problem in Ajmer district and because of this inherent problem, farmers have almost given up cultivation of chilli in the area so it was felt necessary to measure the extent of knowledge of targeted respondents for management of leaf curl virus in chilli. The respondents of response was converted into mean per cent score and ranked. It is obvious from Table 4 highlights that beneficiary respondents had highest knowledge about optimum time of harvesting with MPS 93.66 and it was accorded first rank. This was followed by post harvest technology with MPS 90.13, common diseases of chilli with MPS 80.91, common insect pest with MPS 77.54, control measures of disease with 71.59 MPS and were ranked second, third, fourth and fifth, respectively. Beneficiary had least knowledge about quantity of fungicide with MPS 27.96 and was accorded twelfth rank.

The Table further shows that non-beneficiaries possessed maximum knowledge about control measures of disease with MPS 55.99 and ranked first. This was followed by recommended doses of chemical with MPS 46.54, optimum time of harvesting with MPS 42.54, chemical used for soil treatments with MPS 24.17 and were ranked second, third and fourth, respectively. Non-beneficiary respondents also had least knowledge about quantity of fungicide with MPS 9.16 and were ranked twelfth. Beneficiary farmers had higher knowledge about all interventions of management of leaf curl virus in chilly. The result arrived so because of the fact that verification trials and on-farm Trials conducted under IVLP on use of 40 mesh nylon net, Seed and soil treatments with chemicals and use of neem-based insecticides encouraged farmers to know more about management of leaf curl virus in chilly crop.

Table 4. Knowledge level chilli growers about management leaf curl virus in chilli

S. No.	Practices	Beneficiaries (N_1 = 26)		Non- beneficiaries (N_2 =26)	
		MPS	Rank	MPS	Rank
1	Which chemical used for soil treatment	61.00	VII	24.17	V
2	Required quantity of chemical for soil treatment	49.41	IX	22.12	VI
3	Seed treatment of fungicide	41.49	X	19.15	X
4	Name of fungicide	32.00	XI	11.13	XI
5	Quantity of fungicide	27.96	XII	9.16	XII
6	Common insect pest	77.54	IV	22.54	VII
7	Control measure of insect pests	68.71	VI	19.21	IX
8	Recommended does of chemical	55.50	VIII	46.54	II
9	Common disease of chillies	80.91	III	21.63	VIII
10	Control measures of disease	71.59	V	55.99	I
11	Harvesting	93.66	I	42.54	III
12	Post harvesting technology	90.13	II	40.11	IV
	Overall	62.49		27.86	

* Significant at 5 per cent level of probability   rs=0.59 *

Comparison between knowledge of beneficiaries and non-beneficiaries for chilli crop: A standard normal deviate test ('t') was further applied in order to find the impact of knowledge of chilli growers including both beneficiaries and non-beneficiaries. It was tried to find out whether there is significant difference in knowledge of both the categories or not.

Table 5. Comparison between knowledge of beneficiaries and non-beneficiaries for chilli crop

S. No.	Categories	Mean score	Variance	Calculated value of 't'
1.	Beneficiaries	56.42	15.45	10.54**
2.	Non-beneficiaries	45.34	10.95	

** Significant at 1 per cent level of probability

It can be observed from above table that the computed value of 't' i.e. 10.54 was statistically significant at 1 per cent level of probability which meant that there was a significant difference between knowledge level of both categories and it ultimately

reflects that IVLP had a significant influence in changing knowledge level of beneficiaries.

CONCLUSION

It was observed that majority of chilli growers (69%) both beneficiary and non-beneficiary had medium level of knowledge about interventions of chilli cultivation. While 31 per cent beneficiaries and none of the non beneficiaries were in high level of knowledge about interventions of chilli cultivation. The results further revealed that beneficiary respondents had maximum knowledge about recommended method of sowing, irrigation management and optimum time of harvesting. It could also be concluded from the results that there was a significant difference between knowledge level of both categories. Hence, it confirms that the Institution Village Linkage Programme had a significant influence in changing the knowledge level of beneficiaries of chilli growers.

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