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Knowledge of Farmers about Improved Bt Cotton Production Technology

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ABSTRACT

This study was an attempt to get the response regarding knowledge of farmers about improved Bt cotton production technology. A comprehensive list of all Bt cotton growers was prepared separately for all selected village of identified *tehsil*. Thereafter the farmers were categorized in to three categories *i.e.* large, small and marginal farmers. Following the procedure laid down above a sample of total 15 respondents *i.e.* 5 in each category from every selected village were drawn randomly. Thus the study sample for the present investigation was comprised of 120 respondents. (*i.e.* 60 from each *tehsil*) in all eight villages.

Keywords: Knowledge, Bt cotton Production Technology.

INTRODUCTION

The present study was conducted to understand the Knowledge of farmers about improved Bt cotton production technology. In Rajasthan Bt cotton is mainly grown in Bhilwara, Chittorgarh, Rajasmand, Banswara, Shri Ganganagar, Bikaner and Nagaur district. Bhilwara is major Bt cotton growing district of the state. Bt cotton is grown in 6529 ha area with production of 10400 metric tonnes in Bhilwara district. The climatic conditions of the district are most suitable for cultivation of Bt cotton but the productivity of this crop is far below than desired level. This level can be achieved through timely adoption of recommended Bt cotton cultivation technology by the farmers. Hence, this aspect is a key indicator to assess the knowledge of farmers about improved Bt cotton production technology.

METHODOLOGY

The present study was conducted in Bhilwara district of Rajasthan. There are total twelve tehsils in Bhilwara district of Rajasthan, out of which two tehsil namely Mandalgarh and Asind have been selected on the basis of maximum area under Bt cotton cultivation. Four villages identified from each tehsil were selected on the basis of maximum area under Bt cotton cultivation. For selection of respondents, 120 Bt cotton growers (40 marginal, 40 small and 40 large farmers) were randomly selected from identified villages for data collection. To study the knowledge of farmers about improved Bt cotton production technology, they were put in to three category *viz.* low, medium and high knowledge level, frequency and percentage were calculated. Individual aspect wise knowledge about various aspects of improved Bt cotton production technology was also worked out. To work out the aspect wise knowledge MPS was calculated and rank was assigned accordingly. Thereafter, data were analyzed and results were interpreted.

RESULTS AND DISCUSSION

Knowledge of farmers about improved bt cotton production technology

The data in table 1 reveal that out of 120 respondents, majority of respondents 42.50 per cent fell in medium level knowledge group whereas, 40.00 per cent Bt cotton growers were observed in the high level knowledge group and remaining 17.50 per cent respondents possessed low level of knowledge about improved Bt cotton cultivation technology. Further analysis of data in table 4.2.1 indicates that 50.00 per cent marginal farmers, 50.00 per cent small farmers and 27.50 per cent large farmers had medium level of knowledge about improved Bt cotton cultivation technology. Whereas, 30.00, 40.00 and 50.0 per cent marginal, small and large farmers possessed high level of knowledge about improved Bt cotton cultivation technology respectively.

On the other hand, 20.00 per cent marginal farmers, 10.00 per cent small farmers and 22.50 per cent large

Table 1: Distribution of respondents on the basis of level of knowledge about Bt cotton production technology

n =120

S. No.	Knowledge level	Marginal farmers		Small farmers		Large farmers		Total	
		f	%	f	%	f	%	f	%
1	Low(>63)	8	20.00	4	10.00	9	22.50	21	17.50
2	Medium(63 to 75)	20	50.00	20	50.00	11	27.50	51	42.50
3	High(>75)	12	30.00	16	40.00	20	50.00	48	40.00
	Total	40	100.00	40	100.0	40	100.0	120	100.0

farmers were kept in the low level of knowledge group about improved Bt cotton cultivation technology. On the basis of above data, it could be inferred that majority (50.00 %) of the large farmers possessed high level of knowledge about improved practices of Bt cotton cultivation.

Aspect-wise knowledge of respondents about improved Bt cotton production Technology

The data presented in table 4.2.2 shows that large farmers of the study area possessed 78.42 per cent of knowledge about use of high yielding varieties aspect of Bt cotton production technology whereas, knowledge of marginal and small farmers about this practice was comparatively less with 63.29 per cent and 67.24 per cent. It was observed that majority of the farmers had knowledge about the name of varieties of Bt cotton namely NCS-145, NCS-913, NCS-858, NCS-855 and NCS-138 and they were fully acquainted with duration and average yield of these recommended varieties of Bt cotton in the study area.

The knowledge about soil and field preparation, it was noted that marginal, small and large had knowledge 88.75, 93.75 and 91.25 per cent respectively. Further, analysis of table shows the marginal, small and large farmers had extent of knowledge about soil treatment was 68.33, 58.33 and 55.00 MPS respectively. Majority of the respondents were not aware of chemicals used for the soil treatment for killing termites in their fields in small group of farmers.

Further, analysis of table shows the marginal, small and large farmers had extent of knowledge about seed treatment was 60.83, 73.33 and 77.50 MPS respectively The knowledge about time of sowing, it was found that 85.31, 94.06 and 85.63 per cent knowledge was recorded in marginal, small and large farmers and ranked second by large farmers.

Regarding knowledge about seed rate and recommended spacing, it was noted that marginal, small and large farmers had 76.25, 81.88 and 80.63 per cent extent of knowledge respectively. In case of fertilizers application, marginal, small and large farmers had 75.83, 78.33 and 78.75 per cent knowledge and ranked fifth by small, large and sixth by marginal farmers respectively. Whereas, in case of irrigation management, marginal, small and large farmers had 69.58, 74.17 and 75.00 per cent knowledge and ranked eighth by small and marginal farmers and ninth by large farmers respectively.

Regarding knowledge about weed management practice was placed at seventh rank by marginal farmers, small farmers and sixth rank by large farmers with 72.50, 74.38 and 78.75 MPS respectively.

Regarding knowledge about plant protection measures, it was found that marginal, small and large farmers had knowledge 93.17, 87.17 and 82.83 per cent respectively. Table clearly shows that all the category of farmers had

Table 2: Extent of knowledge of respondents about Bt. Cotton production technology

n=120

S. No.	Aspects	Marginalfarmers		Small farmers		Large farmers		Total	
		MPS	Rank	MPS	Rank	MPS	Rank	MPS	Rank
1.	High yielding varieties	63.29	10	67.24	10	78.42	7	69.65	10
2.	Soil and field preparation	88.75	2	93.75	2	91.25	1	91.25	1
3.	Soil treatment	68.33	9	58.33	11	55.00	11	60.56	11
4.	Seed treatment	60.83	11	73.33	9	77.50	8	70.56	9
5.	Time of sowing	85.31	3	94.06	1	85.63	2	88.33	2
6.	Seed rate and recommended spacing	76.25	5	81.88	4	80.63	4	79.58	4
7.	Fertilizer application	75.83	6	78.33	5	78.75	5	77.64	6
8.	Irrigation management	69.58	8	74.17	8	75.00	9	72.92	5
9.	Weed management	72.50	7	74.38	7	78.75	6	75.21	8
10.	Plant protection measure	93.17	1	87.17	3	82.83	3	87.72	3
11.	Harvesting and storage	80.00	4	75.00	6	71.25	10	75.42	7

high knowledge about plant protection measures and this aspect ranked first by marginal farmers third by small farmers, and large farmers respectively. It means that Bt cotton growers were acquainted with plant protection measures they have fair knowledge about insect-pest of Bt cotton in comparison with chemicals quantity used to control them. At last the knowledge about harvesting, it was found that 80.00, 75.00 and 71.25 per cent was recorded in marginal, small and large farmers respectively. The knowledge about this aspect at sixth ranked by the small, fourth by marginal farmers, tenth rank by large farmers respectively.

CONCLUSION

In overall, it has found that first rank is given to soil and field preparation with MPS 91.25, followed by time of sowing with MPS 88.33, plant protection with MPS 87.72, seed rate and recommended method of sowing with MPS 79.58 and were ranked second, third and fourth respectively. It indicate that Bt cotton growers knew very well about soil and field preparation, time of sowing, plant protection measure and seed rate and recommended spacing. Whereas less knowledge regarding soil treatment with MPS 60.56, use of high yielding varieties with 69.65 and seed treatment with MPS 76.56.It was observed that most of the respondents were not aware about chemical used for seed treatment and soil treatment.

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