

ADOPTION OF MODERN PRACTICES OF COTTON CULTIVATION BY THE FARMERS IN BHAL AREA

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ABSTRACT

The present study was undertaken with the objective to find out practicewise adoption of cotton growers about modern practices of cotton cultivation in the villages of Dholka and Dhandhuka talukas located in southern part of Ahmedabad district of Gujarat. It was evident that nearly three-fourth of the cotton growers had low to medium level of adoption of modern practices of cotton cultivation. The majority of the cotton growers adopted modern practices viz. preparatory tillage, depth of sowing, crop variety, time of sowing and method of sowing as per recommendations. In the opposition, no adoption was found for practices viz. seed treatment, gap filling, plant protection measures and supplementary irrigation by the majority of the cotton growers.

INTRODUCTION

Cotton is one of the most important commercial fibre crops of India. Besides food and housing, clothing is one of the prime needs of human beings. Although the country has recorded remarkable increase in cotton production, the productivity is admittedly low with 313 kg/ha of lint as against world's average of 580 kg/ha. This is due to nearly 70.00 per cent of the area is being grown under rainfed condition, seasonal incidence of insect-pests and diseases leading to instability in yield/unit area (Satishkumar, 2002).

Gujarat is one of the major cotton producing states in the country. Cotton is widely grown, particularly in all districts of the state and it is divided into four well-defined cotton zones. Among these zones, *wagad* cotton zone faces the complex problems like drought, occasional frost, soil salinity and shallow soil depth. At present, the average productivity of the zone is very low. It affects the productivity of the state. Adoption of modern practices of cotton cultivation by farmers is very vital to increase the productivity.

METHODOLOGY

the present study was undertaken in the villages of Dholka and Dhandhuka talukas located in southern part of Ahmedabad district of Gujarat state. From selected eleven villages, a random sample of 110 cotton growers was selected for this study.

The information regarding the extent of adoption of each of the selected practices and potentiality of its adoption was collected. The adoption quotient developed by Chattopadhyay (1974) was used with slight modification as per local situation. The adoption quotient of each respondent for each of the selected practices was worked out.

In the case of overall adoption, the total score obtained by each individual was worked out and totaled up and mean of the score was calculated. The respondents were grouped into three categories viz., low (below mean – 0.5 SD), medium (mean + 0.5 SD) and high (above mean + 0.5 SD) level of adoption.

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FINDINGS AND DISCUSSION

1 Practice wise adoption

The findings regarding adoption of modern practices of cotton cultivation are presented in Table-1. It was observed that great majority of the farmers adopted the practices such as preparatory tillage (92.72 per cent), depth of sowing (89.09), crop variety (99.09 per cent), time of sowing (99.09 per cent) and method of sowing (99.09 per cent) as per recommendation.

Above findings may be due to fact that all recommended varieties have been observed suitable for cultivation in the area. Moreover, as the cotton growing is dependent on rain in this area, most of them might have prepared land to sow seed at proper time and used proper method as well as depth of sowing for better germination of the crop.

The adoption above the recommendations was found with more than four-fifth of the farmers for practices viz., spacing (85.45 per cent), interculturing (99.09), weeding (96.36 per cent) and harvesting (83.64 per cent). The probable reason for wider spacing might be the use of traditional implements for sowing which are not adjustable as per the recommended distance.

Adoption less than recommendation was found with more than 70 per cent of farmers for practices like seed rate (73.64 per cent) and application of FYM (97.27 per cent). The probable reason for less application of farmyard manure by the farmers might be non-availability of FYM in required quantity. Further, no adoption at all was found in modern practices viz., seed treatment (100 per cent), gap filling (70.91 per cent), plant protection measures (71.82 per cent) and supplementary irrigation (99.09 per cent).

Table 1: Distribution of respondents according to adoption level of different modern practices of cotton cultivation n=110

Sr. No.	Package of Practices	Adoption Level							
		Not adopted		Less than recommendation		As per recommendation		Above recommendation	
		No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
1	Preparatory tillage	-	-	4	3.64	102	92.72	4	3.64
2	Crop variety	-	-	1	0.91	109	99.09	-	-
3	Seed rate	-	-	81	73.64	23	20.91	6	5.45
4	Seed treatment	110	100	-	-	-	-	-	-
5	Time of sowing	-	-	1	0.91	109	99.09	-	-
6	Method of sowing	-	-	-	-	109	99.09	1	0.91
7	Depth of sowing	-	-	1	0.91	98	89.09	11	10
8	Spacing	-	-	2	1.82	14	12.73	94	85.45
9	Application of FYM	2	1.82	107	97.27	1	0.91	-	-
10	Application of chemical fertilizer as a basal dose	75	68.18	1	0.91	-	-	34	30.91
11	Application of chemical fertilizer as a top dressing	13	11.82	74	67.27	18	16.36	5	4.55
12	Gap filling	78	70.91	-	-	19	17.27	13	11.82
13	Interculturing	-	-	-	-	1	0.91	109	99.09
14	Weeding	-	-	-	-	4	3.64	106	96.36

Sr. No.	Package of Practices	Adoption Level							
		Not adopted		Less than recommendation		As per recommendation		Above recommendation	
		No.	Per cent	No.	Per cent	No.	Per cent	No.	Per cent
15	Plant protection measures	79	71.82	29	26.36	2	1.82	-	-
16	Supplementary irrigation	109	99.09	-	-	1	0.91	-	-
17	Harvesting/ Picking	-	-	-	-	18	16.36	92	83.64

2 Overall adoption

The data presented in Table-2 indicate that nearly three-fourth of the cotton growers had low to medium level of adoption of modern practices of cotton cultivation. The reason for such finding may

be due to problematic geographical condition, limited extension contact, low to medium level of economic motivation, lack of knowledge and less use of mass media. This finding is in line with the findings of Mundhwa and Patel (2000), Patel et al. (2000) and Verma and Munshi, (2000).

Table 2 : Overall extent of adoption of modern practices of cotton cultivation by the cotton growers

n=110

Sr. No.	Level of adoption	Frequency	Per cent
1	Low adoption level	31	28.18
2	Medium adoption level	50	45.46
3	High adoption level	29	26.36

Mean : 60.06

S.D. : 4.18

CONCLUSIONS

The adoption data presented in this study indicates that the majority of the cotton growers adopted modern practices viz., preparatory tillage, depth of sowing, crop variety, time of sowing and method of sowing as per recommendations, while in case of spacing, interculturing, weeding and harvesting; adoption level was above the recommendations. For practice like seed rate, application of FYM and application of chemical fertilizers, adoption was less than recommendation in majority cases, while no adoption at all was found to a greater extent in case of seed treatment, gap filling, plant protection measures and supplementary irrigation. Overall adoption was found to be medium to low with about three-fourth of the farmers.

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