



Adoption of Improved Cotton Cultivation Practices among the Farmers in Sriganganagar District of Rajasthan, India

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Authors' contributions

This work was carried out in collaboration among all authors. All authors read and approved the final manuscript.

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ABSTRACT

The study was conducted during the year 2022 in Padampur and Suratgarh blocks of Sriganganagar district of Rajasthan to study the extent of adoption of cotton growers on improved cotton cultivation practices. A sample size of 120 respondents was selected based on proportionate random sampling procedure. Personal interviews with the help of a structured schedule were taken for data collection. The study revealed that majority of the respondents (58.34%) had medium level

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of adoption of improved cotton cultivation practices followed by 30% high and 11.66% low level of adoption of Cotton cultivation practices by the respondents. The study analyzed that high adoption found in time of sowing cotton with 89.30 MPS, and respondents had less adoption of seed treatment in cotton crop with 61.66 MPS.

Keywords: Adoption level; cotton growers; cotton cultivation; practices.

1. INTRODUCTION

Cotton is one of the most important fiber and cash crop of India and plays a dominant role in the industrial and agricultural economy. It is only agriculture commodity that provides both fiber and food. Cotton is a natural fiber that comes from the fluffy fibers surrounding the seeds of the cotton plant, belonging to the genus *Gossypium*. It has a long and rich history, dating back thousands of years. Cotton cultivation in India has a long and significant history, as the country has been one of the largest producers and exporters of cotton for many years. India's cotton industry plays a crucial role in the country's economy and agricultural sector. The major cotton-producing states in India are Gujarat, Maharashtra, Andhra Pradesh, Telangana, Punjab, Haryana, Rajasthan, and Madhya Pradesh, Karnataka and Tamil Nadu.

The present study was conducted in Sriganganagar district of Rajasthan to understand the Knowledge of farmers about improved cotton production technology. In Rajasthan cotton is mainly grown in Sriganganagar, Hanumangarh, Bhilwara, Chittorgarh, Rajasmand, Banswara, Bikaner and Nagaur district. Sriganganagar is major cotton growing district of the state.

The climatic conditions of the district are most suitable for cultivation of cotton but the productivity of this crop is far below than desired level. This level can be achieved through timely adoption of improved cotton cultivation technology by the farmers.

Keeping the above facts in view the present study was undertaken with the following specific objective:

Objective:

- To study the extent of adoption of recommended cotton cultivation practices among the farmers in Sriganganagar district of Rajasthan.

2. METHODOLOGY

The present study was purposively conducted in Sriganganagar district of Rajasthan state on the basis of maximum production. Sriganganagar district has nine block namely sriganganagar, Padampur, Karanpur, Raisinghnagar, Suratgarh, Anupgarh, Vijaynagar, Sadulshahar and Gharsana out of these two block namely Padampur and Suratgarh have been selected for the study. Five villages from each identify block was selected randomly. Thus total ten villages was selected randomly for the study. Selection of respondents done by random sampling method and 12 respondents was selected from each identify village to make a total sample size of 120 respondents.

Adoption of variable on improved agricultural technology for cotton crop cultivation was examined using the "Adoption Intensity Index." The protocol was followed, with yes being one (1) point and No being zero(0) points for adoption Extent.

Individual respondents calculated the extent to which they have adopted improved cotton growing practices for all practices. On the basis of the "Adoption Intensity Index," this technique was applied to all 120 respondents to determine their individual adoption extent. The classes were divided by using mean standard deviation and the data was analysed by calculating frequency distributions and percentage.

3. RESULTS AND DISCUSSION

3.1 Extent of Adoption of Improved Cotton Cultivation Practices among the Farmers

To get an overall view of adoption level, the respondents was divided into three groups viz., (i) low adoption (below 10), (ii) medium adoption group (10 to 16) and (iii) high adoption group (above 16). The group was based on the calculated mean and standard deviation of the adoption scores obtained by the respondents. The results of the same are presented in Table 1.

Table 1. Distribution of respondents on the basis of their level of adoption of improved cotton cultivation practices n = 120

S. No.	Adoption level	frequency	percentage
1.	Low(below 10)	14	11.66
2.	Medium(10 to16)	70	58.34
3.	High(above 16)	36	30.00
Total		120	100.00

Mean = 12.63, S.D. = 3.40

Table 2. Distribution of respondents on the basis of their practice wise adoption extent of cotton production technology

S. No.	Cultivation Practices	MPS	Rank
1.	Fieldpreparation	82.45	III
2.	Time of sowing cotton	89.30	I
3.	Climate condition	71.58	XII
4.	Seed rate/hectare	82.08	IV
5.	Varieties of cotton crop	74.91	X
6.	Seed treatments	61.66	XV
7.	Sowing equipment	81.25	V
8.	Method of sowing	88.33	II
9.	Trap crop practices	69.41	XIII
10.	Water management	76.50	IX
11.	Plant protection	78.50	VIII
12.	Intercropping in cotton	67.08	XIV
13.	Fertilizerapplication	79.83	VII
14.	Weed management	80.75	VI
15.	Harvesting/Picking	74.83	XI

MPS=Mean per cent score

Table 1 is indicated that majority of respondents 58.34 per cent was found in medium adoption level, followed by high adoption level (30.00 per cent) and low adoption level (11.66 per cent) about improved cotton cultivation technology. It concluded that maximum respondents have medium adoption level about improved cotton cultivation. Similar results was reported by Patel V.M. et al [1], Vakaliya M.A. et al. [2], Barkade A.T. et al. [3], Shinde V. et al. (2020), R. Shyam Sunder et al. [4].

It is obvious from the Table 2 that among all 15 agricultural practices of crop production, It reveals that, time of sowing ranked first with MPS 89.30, followed by methods of sowing with MPS 88.33, field preparation with MPS 82.45, seed rate per hectare with MPS 82.08, sowing equipments with MPS 81.25, weed management with MPS 80.75, fertilizer management with MPS 79.83, plant protection with MPS 78.50, water management with MPS 76.50, Varieties with MPS 74.91, harvesting/picking with MPS 74.83, climatic condition with MPS 71.58, trap crop practices with MPS 69.41, Intercropping with MPS 67.08, and Seed treatments with MPS

61.66 was ranked II, III, IV, V, VI, VII, VIII, IX, X, XI, XII, XIII, XIV, and XV respectively [5,6].

A considerable high adoption was found in sowing time, method of sowing, field preparation, using recommended seed rate and using sowing equipments etc because of these practices do not require much specialized skill by the farmers and may be due to the fact that these practices needs to be done before and after sowing the crop. As of this result maximum number of respondents has followed these practices in their field. It can be calculated that the adoption of agriculture production technology seems to be satisfactory [7,8].

4. CONCLUSION

Farmers are working tirelessly to accommodate their needs. Cotton is important cash crop in more than 80 countries. India is one of the major cotton producers in the world. The study revealed that majority of respondents were found in medium adoption level, followed by high adoption level. A considerable high adoption were found in sowing time, method of sowing,

field preparation, using recommended seed rate and using sowing equipments etc because of these practices do not require much specialized skill by the farmers and may be due to the fact that these practices needs to be done before and after sowing the crop.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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