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Research Article

Adoption of dryland cotton production technology by the farmers in Parbhani district

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SUMMARY : The present study was conducted in Parbhani and Selu talukas from Parbhani district and four villages from each Taluka were selected randomly and from each village fifteen cotton growers were selected. Thus, a sample of 120 respondents was made. Majority of the respondents (58.34 per cent) had medium adoption level regarding dryland cotton production technology. The personal and socio-economic characteristics such as education, land holding, annual income, sources of information and economic motivation had positive and significant relationship with adoption of dryland cotton production technology. The major constraints in adoption of dryland cotton production technology were regarding higher costs of fertilizers, labour, insecticides and pesticides.

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BACKGROUND AND OBJECTIVES

Cotton (*Gossypium* spp.) is one of the important cash crops which is grown under dryland condition especially in Marathwada region. In Marathwada region, near about 97 per cent of cotton is grown under dryland condition. The farmers grow cotton as cash crop in this region, however, the productivity of this crop is too low because of lack of knowledge and use of moisture conservation techniques. To increase the productivity of this crop, suitable technologies are being generated in the various research centres in India. Many of these technologies are not intricate, but simple. There are certain other factors, lack of skill in operating the technologies and poor economic conditions of the farmers which hinder the process of their adoption. Therefore, the present study was undertaken to know the extent of adoption level and constraints, which are responsible for non adoption of recommended dryland cotton production technology. The specific objectives of the study are given below:

- To study the adoption of dryland cotton production technology by the cotton growers,
- To find out the relationship of personal and socio-economic characteristics with adoption of dryland cotton production technology.
- To identify the constraints faced by the respondents in adoption of dryland cotton production technology.

RESOURCES AND METHODS

The present study was conducted in Parbhani and Selu Taluka of Parbhani district of Marathwada region.

Parbhani district was purposively selected for the present investigation because it is one of the largest cotton growing districts under dryland condition in Marathwada region. Two Talukas were selected based on maximum area under cotton crop. Form each Taluka, 4 villages were selected randomly. From each village 15 respondents were selected randomly who were growing dryland cotton. Thus, 120 respondents growing dryland cotton constituted the sample for study. The data

were collected by specially designed interview schedule. In order to facilitate the analysis and interpretation of data, statistical tools like mean, frequency, percentage, standard deviation and correlation coefficient were used. For apprising the level of adoption, three point scale was used *i.e.* fully adopted, partially adopted and not adopted practice. Score two was for assigned for fully adopted practice, score one was assigned for partially adopted practice and score zero was assigned for no adoption of practice. On the basis of total score obtained, the respondents were further categorized into three categories *i.e.* low (score upto 30), medium score (31 to 35) and high (score 36 and above).

OBSERVATIONS AND ANALYSIS

The results obtained from the present investigation has been discussed below:

Adoption level of dryland cotton production technology:

It could be observed form Table 1 that majority of the respondents (58.34 per cent) had medium level of adoption, 23.33 per cent of the respondents had low level of adoption and 18.33 per cent of the respondents had high level of adoption regarding dryland cotton production technology by the cotton growers.

Table 1: Distribution of the respondents according to level of overall adoption of recommended dryland cotton production technology

Sr. No.	Level of knowledge	Frequency	Percentage
1.	Low (Upto 30)	28	23.33
2.	Medium (31 to 35)	70	58.34
3.	High (36 and above)	22	18.33
	Total	120	100.00

Relationship of personal characteristics of cotton growers with adoption of recommended dryland cotton production technology:

It is seen from Table 2 that, education, land holding, annual income, sources of information and economic motivation had shown positive and significant relationship with adoption of recommended dryland cotton production technology of cotton growers. Whereas, farm experience, social participation and risk preference had shown non-significant relationship with adoption of recommended dryland cotton production technology. This shows that if education, l and holding, annual income, sources of information and economic motivation are increased adoption will also increase.

The reason behind it might be that the low level educated persons can not understand the technologies quickly and easily. The big land holders can cultivate different crops in their different pieces of land in such cases, the risk of failure of one crop can be covered by the another one.

Table 2: Relationship of adoption about dryland cotton production technology with personal characteristics of cotton growers

Sr. No.	Independent variables	Correlation coefficient 'r'
1.	Farm experience	-0.148
2.	Education	0.362**
3.	Land holding	0.312**
4.	Annual income	0.312**
5.	Social participation	0.107
6.	Sources of information	0.471**
7.	Economic motivation	0.453**
8.	Risk preference	0.003

* and ** indicate significance of values at P=0.05 and 0.01, respectively

With an increase in the annual income of the respondents farmers, adoption of the recommended dryland cotton production technology increases and *vice versa*.

The reason behind it might be that the rich farmers are always prepared to take risk to invest in a new practice. Persons using more sources of information in more extent can make their information and knowledge rich which results in more adoption of recommended dryland cotton production technology. Respondents are becoming more aware and trying to maximize their profit by motivating to earn more and increase their income by adopting modern technology on their farms.

Constraints in adoption of recommended dry land cotton production technology:

Table 3 indicates the constraints faced by the farmers in adoption of dryland cotton production technology. Cent per cent of the respondents expressed the constraints such as high cost of fertilizers, which fertilizers are not available at the village level and in time in the market, non-availability of the labour at proper time and high cost of wages of labour and the insecticides and pesticides are also too costly.

Further, higher seed cost (89.16 per cent), compost purchasing very costly affair (81.66 per cent), scientific method of compost making not known (77.50 per cent), lack of knowledge of correct preparation of insecticide solution (57.52 per cent), non-availability of seeds at proper time (31.66 per cent), non-availability of bullocks and plough for preparatory tillage (30.83 per cent) and non-availability of plant protection appliances were some of constraints facedby the cotton growers. Desai and Girase (2000), Bhagwat (2003) and Athwale (2008) have also made some contributions on knowledge and adoption of cotton cultivation technology by the farmers in Maharastra state.

Conclusion:

From the above findings it could be concluded that

majority of the farmers had medium adoption level of dryland cotton production technology. Most of the respondents had medium adoption level with regard to dryland cotton production technology. Hence, more number of training programmes should be arranged with demonstrations and frequent field visits by the concerned extension experts to enhance the level of adoption of dryland cotton production technology practices by the farmers. The respondents expressed the constraints such as high cost of fertilizers which are also not available at the village level, higher prices of insecticides and pesticides and seed of Bt cotton. Therefore, to overcome all these constraints, it is suggested that these inputs be made available on subsidized rate and at proper time and at local places to the farmers.

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REFERENCES

Athwale, V.S. (2008). Impact of cotton farmer field school (FFS) on knowledge and adoption of cotton technology among trained farmers. M.Sc. (Ag.) Thesis, Marathwada Agricultural University, PARBHANI, M.S. (India).

Bhagwat, M.R. (2003). Adoption of dryland cotton cultivation technology by the farmers. M.Sc. (Ag.) Dr. Panjabrao Deshmukh Krishi Vidhyapeeth, AKOLA, M.S. (India).

Desai, B.R. and Girase, K.A. (2000). Adoption of recommended technology for rainfed cotton NHH 44. *Maharashtra J. Extn. Edu*., **14**:48-52.

Sawant, D.R. (2006). Knowledge and adoption of biological pest control in cotton. M.Sc. (Ag.) Thesis, Marathwada Agricultural University, PARBHANI, M.S. (India).