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Impact of cotton farmers field school on knowledge of farmers

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ABSTRACT

The study was carried out to know the impact of FFS on knowledge of respondents and its relation with their profile. It is found that majority of the respondents had medium level of knowledge followed by high level of knowledge of cotton production technology. All of them had knowledge about selection of land for cultivation of cotton, importantance of soil testing before sowing and use of improved variety of cotton. Regarding relational analysis variables like education, rural socio-economic status, mass media exposure, extension contact, scientific orientation of risk preference were having positive and significant relationship with knowledge of cotton production technology. From regression analysis, it was found that education, size of land holding, rural socio-economic status extension contact and risk preference had sufficient contribution to knowledge of cotton production technology. Statistical tools like frequency, percentage, correlation coefficient and multiple regression were used for analysis.

Key words : Knowledge, Cotton technology, Farmers field school

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INTRODUCTION

The farmer field school (FFS) has become an innovative, participatory and interactive model approach for farmers education. The aim of FFS is to build farmers capacity to analyze their production systems, identify problems, test possible situations and eventually adapt the practices most suitable to their farming system. The knowledge acquired during the learning process enables farmers to adapt their existing technologies to be more productive, profitable and responsive to changing conditions or to test and adapt new technologies.

Broadly speaking, the FFS approach can be viewed as a capacity building investment in the sector education, information and training. Where the FFS fits in the spectrum of services and development support in this sector can be examined through two "window" one focuses on the FFS in relation to farmer-centered learning based approach. While training means to bring about continuous improvement in the quality of work performed by individual and is nothing but the educational process with difference only with degree of specificity. Therefore, the present investigation on impact of cotton farmers field school on knowledge of farmers was carried out with the following objectives. To study knowledge of farmers regarding cotton technology and to explore the relationship of selected characteristics with knowledge of cotton technology by farmers attending farmers field school.

METHODOLOGY

Parbhani district was purposively selected for the present investigation because it has more area under cotton cultivation. Twelve villages were selected based on maximum area under cotton crop. From each village 10 respondents were selected randomly who were growing cotton crop. Thus, 120 respondents growing cotton crop constituted the sample for study. A list of farmers who participated in training programme under farmers field school and practicing the same was obtained from concerned authority and a total of 120 respondents were selected randomly as the sample for study. The information relevant to the decided objectives was collected from 120 respondents from 12 villages. The data pertaining to the objectives were collected with the help of specially structured interview schedule. In order to facilitate the analysis and interpretation of the data, statistical tools like frequency, percentage, correlation coefficient and multiple regression were used.

RESULTS AND DISCUSSION

The results obtained from the present investigation are presented below:

Overall knowledge of farmers regarding cotton technology:

From Table 1, it is observed that majority

Table 1 : Distribution of the respondents according to their overall knowledge level of cotton technology

Sr. No.	Category	Frequency	Percentage
1.	Low	21	17.50
2.	Medium	85	70.84
3.	High	14	11.66
	Total	120	100.00

(70.84%) of the respondents had possessed medium level of knowledge followed by 17.50 per cent had low and 11.66 per cent had high level of knowledge about cotton production technology, respectively. Thus in general the farmers possessed medium level of knowledge of cotton technology.

This finding was supported by Thete (1995), More (1997), Chote (1999), Kubde *et al*. (1999) and Obalah *et al*. (2004).

Knowledge of farmers regarding cotton technology:

Table 2 revealed that all of the respondents (100.00 per cent) had knowledge about selection of land for cultivation of cotton, importantance of soil testing before sowing, use of improved variety of cotton, seed rate requirement for cotton sowing, about pest (bollworm, etc.) attack on cotton crop, control of insect pheromone trap used and leaf sucking pest and time of harvesting.

While 98.33 respondents had knowledge about requirement of cart loads of compost/ha, having knowledge about depth of application of chemical fertilizers in soil, knowledge about proper time of cotton sowing, 5.00 per cent neemark for biological pest control and practices of 2-3 sprayings of neemark for biological pest control and knowledge about meaning of LAMIT. It was further observed that majority (94.17 %) of the respondents had knowledge about per ha NPK requirement and 94.16 per cent of respondents had knowledge about insect infestation on cotton and only 5.84 per cent were not having this knowledge.

It was also observed from Table 2 that majority (85.83%) of respondents had knowledge about behind leaf of tree trichoderma cards are placed. While 78.33 per cent of respondents had knowledge about distance

Table 2 : Distribution of respondents according to their knowledge about cotton technology (N=120)

Sr. No.	Items	Knowledge		No knowledge	
		Frequency	Per cent	Frequency	Per cent
1.	Selection of land for cotton	120	100	-	-
2.	Before sowing of cotton soil testing is important	120	100	-	-
3.	Cart load requirement of compost/ha	118	98.33	2	1.67
4.	Improved variety of cotton	120	100	-	-
5.	Seed treatment	40	33.33	80	66.67
6.	Per hectare seed rate requirement	120	100	-	-
7.	Proper time of cotton sowing	114	95	6	5
8.	Distance between two rows while sowing	94	78.33	26	21.67
9.	Recommended dose of fertilizer at the time of sowing of cotton	74	61.66	46	38.34
10.	Depth of application of chemical fertilizers in soil	118	98.33	2	1.67
11.	Per hectare NPK requirement	113	94.17	7	5.83
12.	Neemark per cent for biological pest control	118	98.33	2	1.67
13.	Sprayings of Neemark for biological pest control	118	98.33	2	1.67
14.	Per hectare total requirement of water	90	75	30	25
15.	Water management	44	36.67	76	63.33
16.	Pest attack on cotton crop	120	100	-	-
17.	Meaning of LAMIT	118	98.33	2	1.67
18.	Use of insect pheromen traps	120	100	-	-
19.	Behind leaf of tree Trichoderma card is placed	103	85.83	17	14.17
20.	Leaf sucking pest	120	100	-	-
21.	Use of Rogar for control of sacking pest	68	56.67	52	43.33
22.	Insect infestation on cotton	113	94.16	7	5.84
23.	Fertilizer doses for control of pest	95	79.16	25	20.84
24.	For control of bollworm, Crysopa is used	44	36.66	76	63.34
25.	Ten thousand predators for the biological pest control	58	48.33	62	51.67
26.	Time of harvesting	120	100	-	-
27.	Per hectare production of cotton	75	62.5	45	37.5

between two rows while sowing and 66.67 per cent of respondents had no knowledge about seed treatment and 33.33 per cent of respondents had knowledge about seed treatment.

Relationship of selected characteristics with knowledge of cotton technology by farmers attending farmers field school:

Correlation coefficient:

From Table 3 it was observed that out of eight independent variables, education, rural socio-economic status, mass-media exposure, extension contact, scientific orientation and risk preference had positive and significant relationship with impact of cotton farmer field school on knowledge of cotton technology among trained farmers at 0.01 level of probability. Whereas age had negative but non-significant relationship and size of land holding had positive but non-significant relationship with impact of cotton farmer field school on knowledge of cotton technology among the trained farmers.

Table 3 : Correlation coefficient and multiple regression analysis of independent variables with knowledge of cotton technology by farmer attending FFS

Sr. No.	Independent variables	Correlation coefficient 'r'	Partial regression coefficient	SE (bi)	't' value
1.	Age	-0.077	0.016	0.0224	0.717
2.	Education	0.544**	0.303	0.109	2.781**
3.	Size of land holding	0.112	0.184	0.0646	2.857**
4.	Rural socio-economic status	0.554**	0.0419	0.0094	4.442**
5.	Mass media exposure	0.380**	0.0586	0.0952	0.616
6.	Extension contact	0.523**	0.207	0.0583	3.549**
7.	Scientific orientation	0.434**	-0.0739	0.076	-0.971
8.	Risk preference	0.481**	0.188	0.0839	2.24*

** indicates significant of value at P=0.01 $R^2 = 0.588$ F = 19.8337

Multiple regression analysis:

From the data in Table 3 it is revealed that the selected independent variable have explained variation in cotton technology of respondents to the extent of 58.8 per cent, the coefficient of determination was 0.588. The unexplained variation may be attributed to the variables not included in the study.

From the regression analysis, it is seen that out of eight independent variables, only education, size of land holding, rural socio-economic status, extension contact and risk preference had significant contribution for the knowledge of cotton production practices. The calculated 't' value of these variables was positively significant at 0.05 level of probability.

Conclusion:

From the study it is concluded that majority of the respondents had medium level of knowledge following high level of knowledge of cotton, production technology. Regarding knowledge about technologies of cotton all of them had knowledge about selection of land for cultivation of cotton, important of soil testing before sowing, use of improved variety of cotton, seed rate requirement for cotton sowing, about pest (bollworm, etc) attack on cotton crop, control of insect pheromone trap are used and leaf sucking pest and time of harvesting.

Variables like education, rural socio-economic status, mass media exposure, extension contact, scientific orientation of risk preference were having positive and significant relationship with knowledge of cotton production technology. From regression analysis, it was found that education, size of land holding, rural socio-economic status extension contact and risk preference had sufficient contribution to knowledge of cotton production technology.

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