



## **Training Needs of Cotton Growers of Madurai District of Tamil Nadu**

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### **ABSTRACT**

Training is the systematic development of knowledge, skills and attitudes required by an individual to perform adequately for a particular task. With a view to measure the cotton farmers' training needs on cotton production technology and to understand the relationship between selected characteristics of cotton farmers, the study was conducted in Madurai district of Tamil Nadu state. From the study it was found that majority of the respondents had medium training need in the recommended package of practices of cotton. The correlation analysis revealed that independent variables namely age, education, contact with extension agency, mass media exposure, scientific orientation, risk preference, economic motivation, management orientation, achievement motivation and innovativeness had positive and significant relationship with training needs of respondents.

**Key words :** Correlation coefficient, Cotton Growers, Training needs.

India ranks third in global cotton production after USA and China. India accounts for approximately 25 per cent of world's total cotton area and 16 per cent of global cotton production.. Cotton, in a way, is a gift to the Indian sub-continent to human civilization. It enjoys a pride place and unique position in our economy and continues to remain the backbone of the rural economy. It is an employment oriented industry. It has had a tremendous impact on the economy of the country since early times, despite the recent setbacks; cotton continues to remain as the backbone of the rural economy, particularly in the dry land areas. The per hectare yield of cotton in India is lowest with 300 kg per hectare against world average of 580 kg per hectare.

The profitability of cotton cultivation to a very great extent depends upon control of pest and diseases and adoption of latest recommended practices. The deteriorated crop environment and failure of management techniques leading to total crop failure, farmers are running in to losses in cotton cultivation. However efficient, the production technology would be of no use unless, it is communicated effectively to the farmers. In view of non adoption of recommended package of practices, lack of trainings in cotton cultivation has been widely recognized as the only panacea for the all evils. By identifying the training needs of cotton growers and their knowledge about recommended package of

practices, it is possible to get higher yields. Looking to these facts, the present study was carried out with the following objectives,

1. To find out the farmers' training needs on cotton production technology.
2. To find out the relationship of socio-psychological characteristics of cotton farmers with their level of training needs.

### **MATERIAL AND METHODS**

The present study was conducted in Madurai district of Tamil Nadu. Out of seven taluks of Madurai district, two taluks and from each taluk, two blocks were selected purposively for the study as those had large area under cotton cultivation. Three villages from each block were selected by following random sampling method, thus making a total of six villages. List of cotton farmers from the selected villages was prepared and out of which 20 cotton farmers from each village were selected by simple random method of sampling, thus making a total of 120 respondents. An interview schedule was prepared in view of the objectives of the study and data were collected by personal interview from the selected cotton farmers.

### **RESULTS AND DISCUSSIONS**

#### **Distribution of respondents based on their profile characteristics**

Majority of the cotton farmers were middle aged (35.00%) with primary school education

Table 1. Distribution of respondents according to their training.

(n=120)			
S.No	Training needs	Frequency	Percentage
1.	Low	39	32.50
2.	Medium	50	41.67
3.	High	31	25.83
	<b>Total</b>	<b>120</b>	<b>100.00</b>

**Mean: 29.59 S.D.:5.8**

Table 2. Distribution of subject matter area based on training needs.

S.No	Subject matter areas	Degree of training			Total scores	Rank
		Very essential	Essential	Not essential		
1.	Improved varieties	58	38	24	274	4
2.	Preparatory cultivation	1	2	117	124	18
3.	Seed treatment	39	50	31	248	5
4.	Techniques of sowing	15	46	59	196	6
5.	Manures	4	19	97	147	13
6.	Fertilizers	67	31	22	285	3
7.	Micronutrients	1	15	104	137	15
8.	Growth regulators	8	23	89	159	10
9.	Irrigation	17	33	70	187	7
10.	Intercultural operations	0	14	106	134	17
11.	Weed management	3	18	99	144	14
12.	Pest management	117	3	0	357	1
13.	Disease management	78	38	4	314	2
14.	Preparing spray solution	10	34	76	174	9
15.	Harvesting	4	28	88	156	12
16.	Grading	10	45	65	185	8
17.	Storage	4	8	108	136	16
18.	Marketing	8	22	90	158	11

(25.84%), medium experience (35.00%), farming as main occupation (47.50%), small farm size (53.33%), medium contact with extension agency (47.50%), medium mass media exposure (38.34%), high scientific orientation (40.83%), high risk preference (51.67%), high economic motivation (39.17%), medium management orientation (39.17%), high achievement motivation (38.34%), medium innovativeness (47.50%) and low training undergone (54.16%) respectively.

Information regarding training needs of the cotton growers were collected and then the

respondents were distributed into three groups according to their training need. The data in this regards is presented in Table 1.

It is evident from the Table–1 that 41.67 per cent of the cotton farmers had medium training needs followed by low (32.50 %) and high (25.83 %) training needs respectively. The inference in the study is in near match with the findings of Rajashekhar (2006) and Rajput *et al.*, (2007) who have concluded in their study that the majority of the Bt cotton farmers have high training needs.

It is evident from Table 2 that pest management and disease management got first and

second ranks with regard to the training need. Since pest attack is a major problem in cotton and also known fact that, heavy losses occur to cotton growers due to pest attack, the cotton farmers realized the importance of training in this area, hence they preferred it first over all other training need areas. They were not having technical skills in identifying the diseases and control methods, so they have given second preference for training in this area. They are also required a training on fertilizer management, cotton varieties available in the market Seed treatment, sowing techniques application of manures, harvesting and marketing and various other cultivation practices.

The finding is in line with the observations made by Pampiglione (2000) who revealed in his study that many of the problems farmers encountered could be remedied with good training which addresses such points as: basic knowledge of the life cycle and behaviour of each cotton insect pest, recognition of crop damage caused by specific insect pests, identification of beneficial insects and accurate insect pest scouting procedures. Muhammad Iftikhar et al., (2007) indicated in their study that about 60% of the farmers had no knowledge of fungicides like Benlate, Vitavax etc. and they narrated that 65% farmers had no knowledge of variety discrimination, 95% farmers said that due to unstable market they suffer, 50% farmers provided information that they could not use full doses of inputs due to high price. They have concluded from the study that cotton farmers needed training in proper selection of variety, gap filling, plant protection measures, irrigation techniques, and picking practices.

There was a positive and significant relationship between training needs and age, education, contact with extension agency, mass media exposure, scientific orientation, risk preference, economic motivation, management orientation, achievement motivation and innovativeness. It is in line with the findings of Rajput et al., (2007). They have depicted in their study that six characteristics namely, scientific orientation, farming experience, land holding, social participation, education and age found to have positively and significantly correlation with training needs at 0.01 level of probability.

There was a negative and significant relationship with farming experience and training undergone. Occupation and farm size were not significantly correlated with the training needs of the respondents.

From the Table 4 it is evident that all the selected 14 independent variables put together

explained about 58.2 per cent variation in the training needs of the respondents as it is indicated by  $R^2$  value, which was significant. Thus, it could be concluded that the variables selected to a large extent explained the variation in training needs of cotton farmers. In other words, the variables selected for the study were relevant to the problem selected.

When partial regression coefficients were tested, it was observed that age, economic motivation and management orientation were found positively significant as evident from their significant 't' values. It indicated that age, economic motivation and management orientation had positively and significantly contributed to most of the variation in training needs of the cotton farmers about the recommended package of practices of cotton cultivation.

Age is an important attribute. As the farmers passing from young age to middle age are actively involved in farming activities and perceive training as important component for doing farming. Hence the above result was noticed.

Economic motivation makes a farmer to achieve more yields in order to get more income. Generally farmers with high economic motivation are likely to have keen interest to expose themselves to trainings conducted by extension agencies for acquiring more knowledge about latest technologies of cotton cultivation. This might be the possible reason for positive and significant contribution to the training need of the farmers in cotton cultivation. Hence the above trend was noticed.

High management orientation is a crucial variable as a result the farmers seek changes in farming techniques which makes them to acquire training from scientists and extension agencies for adoption of recommended practices in cotton cultivation for getting higher yields. Hence the above trend was noticed.

The assessment of training needs of cotton growers revealed that majority of cotton growers had medium level of training needs in the recommended package of practices of cotton and wanted training in the areas of pest and disease management. Because these are the major problems faced by the respondents in cotton cultivation and they were not having sufficient technical skills to tackle these problems. The analysis of correlation of selected characteristics like age, education, contact with extension agency, mass media exposure, scientific orientation, risk preference, economic motivation, management orientation, achievement motivation and innovativeness were found positively and significantly towards their training needs. It is also

Table 3. Relationship between selected independent variables and training needs of cotton farmers about recommended practices.

S.No	Variable	Independent variables	Correlation coefficients ('r' value)
1.	X <sub>1</sub>	Age	0.700**
2.	X <sub>2</sub>	Education	0.357**
3.	X <sub>3</sub>	Farming experience	-0.563**
4.	X <sub>4</sub>	Occupation	-0.089NS
5.	X <sub>5</sub>	Farm size	0.124NS
6.	X <sub>6</sub>	Extension agency contact	0.309**
7.	X <sub>7</sub>	Mass media exposure	0.204*
8.	X <sub>8</sub>	Scientific orientation	0.200*
9.	X <sub>9</sub>	Risk preference	0.242**
10.	X <sub>10</sub>	Economic motivation	0.339**
11.	X <sub>11</sub>	Management orientation	0.300**
12.	X <sub>12</sub>	Achievement motivation	0.337**
13.	X <sub>13</sub>	Innovativeness	0.254**
14.	X <sub>14</sub>	Training undergone	-0.261**

\* : Significant at 0.05 level of probability

\*\* : Significant at 0.01 level of probability

NS: Non-significant

Table 4. MLR Analysis of the selected independent variables with the training needs of respondents.

S.No	Independent variables	'b' values	't' values
1.	Age	0.971	6.367**
2.	Education	-0.060	0.952
3.	Farming experience	-0.213	-1.473
4.	Occupation	0.535	0.594
5.	Farm size	0.093	1.124
6.	Contact with extension agency	-0.197	-1.864
7.	Mass media exposure	0.144	1.377
8.	Scientific orientation	0.004	0.056
9.	Risk preference	0.102	0.759
10.	Economic motivation	0.297	2.479*
11.	Management orientation	0.430	2.634**
12.	Achievement motivation	-0.220	-1.226
13.	Innovativeness	0.098	1.257
14.	Training undergone	-0.001	-0.006

R<sup>2</sup>=0.582

\* : Significant at 0.05 level of probability

\*\* : Significant at 0.01 level of probability

concluded that majority of cotton farmers gave highest emphasis of training needs on pest and disease management. So while preparing farmers training programmes for the area of training required by the Bt cotton farmers should be given due importance to support them to take decision regarding adoption of Bt cotton technology. Agricultural extension officials shall keep the results of this study in view while taking decisions as regards to what contents of the technological information and on which areas they should concentrate regarding cotton production technology.

#### LITERATURE CITED

- Pampiglione G 2000** Indian cotton farming – Study identifies training needs. Pesticides News. 45:12-14.
- Rajashekhhar 2006** Training needs of cotton farmers in Warangal district of Andhra Pradesh. M.Sc. Thesis submitted to Yashwantrao Chavan Maharashtra Open University, Nasik.
- Rajput H D, S V Supe and U R Chinchmalatpure 2007** Farmers Training Needs on BT Cotton Technology. Indian Research Journal of Extension Education 7 (1): 14-16.

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