A Study on the Knowledge and Adoption of IPM Practices Among Cotton Growers of Raichur District

D. A. NITHYA SHREE AND JAGADISH G. ANGADI

Department of Home Extension Eduction
Rural Home Science College, UAS, Dharwad- 580 005

Abstract : Cotton is one of the major commercial crops of Karnataka. The major factor affecting the yield level of cotton is pest attack. In order to overcome this problem, "Integrated Pest Management" technique has been evolved. This study was conducted in the year 1998 in Raichur district to know the knowledge level of the cotton growers with respect to IPM practices, their adoption pattern and constraints in their adoption. The results clearly indicate that the knowledge and adoption level of IPM practices is very low among cotton growers though they have scientific orientation, economic motivation, cosmopoliteness and risk orientation.

Introduction

Cotton is one of the major commercial crops of Karnataka. It is largely grown in the northern parts of Karnataka. The major factor affecting the yield level of cotton is attack. The major expenditure of the farmer is on pesticides due to which the profit gained by the farmer decreases. Hence, to reduce the cost on pest management and also to overcome the side effects of pesticides on the environment, the scientists of University of Agricultural Sciences have come out with a new technique called "Integrated Pest Management". "The IPM is a broad ecological approach which aims at keeping pest population below economic threshold level by blending more than one method of pest control such as - cultural, mechanical/ physical, biological, chemical and legislative methods/ measures in a compatible and environmentally sound manner". This method is considered economical, effective, practical, protective and eco-friendly. Hence, it is necessary for the farmers to make use of this technique and reduce their cultivation cost. The State Department of Agriculture as well as University of Agricultural Sciences, Dharwad is doing a lot of extension work to popularise the IPM practices among farmers. The success of IPM largely depends on the proper adoption of IPM practices by farmers. Hence, a study on the knowledge and extent of adoption of IPM practices by farmers is of great use to orient extension activities to take advantage of IPM by farmers in the cultivation of cotton.

In this background, the present study was conducted in the year 1998 in Raichur district of Karnataka State with the following specific objectives :

1. To study the knowledge of cotton growing farmers with respect to IPM practices.

2. To know the adoption pattern of IPM practices among cotton growing farmers.

3. To study the socio-psychological characteristics of cotton growing farmers.

4. To identify the constraints of the adoption of IPM practices.

Material and Methods

Raichur district of Karnataka was particularly selected for the study since cotton is a very important commercial crop of this district. In this district, two major cotton growing talukas viz., Raichur and Manvi were selected for the study. From each of these talukas, 50 cotton growing farmers were randomly selected as respondents for the study.

A teacher made knowledge test was developed to measure the knowledge level of

farmers about recommended IPM practices of the cotton crop. The recommended IPM practices were taken from the package of practices for high yields (Region -I, Zone- I & II) after discussions with the scientists of University of Agricultural Sciences, Dharwad. The test considered of 10 knowledge questions related to IPM practices of cotton crop. The correct answer is given a score of 1 and a wrong answer is given no score or 0. Thus, the maximum score that can be obtained is 20 and minimum 0.

The adoption of individual IPM practices was taken into consideration. Complete adoption of a practice was given a score of 2 whereas partial adoption 1 and non-adoption was awarded with a 0 score. Seven important IPM practices were taken into consideration.

The information was elicited from the respondents with the help of structured schedule. The data were analysed with the help of frequencies and percentages.

Results and Discussion

The results presented in table 1 indicated that 58 per cent of the respondents had low knowledge level of IPM practices of cotton crop while 34 per cent of them had medium knowledge about the IPM practices. The overall mean

knowledge score was found to be 8.5.

Table 1 : Overall knowledge level of cotton growing farmers about IPM practices of cotton crop

Knowledge level	n	%
Low (up to 7 score)	58	58%
Medium (8-14 score)	34	34%
High (15 score and above)	08	8%

Adequate knowledge of any improved practice is a prerequisite for adoption. The knowledge level of the farmers may be low due to the fact that it is a recent introduction and the farmers may take some more time to accept it. Therefore, there is much scope for improvement of the knowledge of the respondents, which was at medium and low level to a great extent.

The adoption pattern of various components of IPM practices by the respondents is represented in table 2.

Only 2 per cent of the farmers adopted this practice completely whereas 14 per cent of the farmers adopted partially and 84 per cent of the farmers did not adopt this practice. Installation of Phermone trap as an IPM practice was adopted completely by about 10 per cent of the farmers

Table 2. Extent of Adoption of various components of IPM practices by cotton growing farmers

Components of IPM practices	Adoption					
	Complete		Partial		Non-adoption	
	No	%	No	%	No	%
Estimation of Economic Threshold of insects	02	2%	14	14%	84	84%
Phermone trap	10	10%	27	27%	63	63%
Trycograma Parasite	04	4%	20	20%	76	76%
Nuclear Polyhedrosis Virus	04	4%	15	15%	81	81%
Seed treatment	08	8%	25	25%	67	67%
Use of Insecticides	30	30%	70	70%	–	–
Use of proper sprayers	20	20%	80	80%	–	–

whereas it was partially adopted by 27 per cent of the farmers. The introduction of Trycograma parasite was done by 4 per cent of the farmers while 20 per cent of the farmers adopted this technique but not in the right proportion. Nuclear Polyhedrosis Virus was prepared and used in the field by 4 per cent of the farmers while 15 per cent of them adopted this technique partially and 81 per cent of the farmers did not adopt this technique. Seed treatment was adopted by only 8 per cent of the farmers completely whereas 25 per cent of the farmers adopted partially and 67 per cent of the farmers did not adopt this technique. All the farmers used insecticides at one time or the other. Only 30 per cent of the farmers used correct dosage of insecticides at right time and, 70 per cent of the farmers used insecticides according to their financial capacity. For the effectiveness of insecticides, it should be sprayed using the right sprayer. Only 20 per cent of the farmers used the recommended sprayers, while 80 percent of the farmers used the sprayers availabe with them.

The socio-psychological characteristics of cotton growing farmers is given in Table - 3.

Table 3. Socio - Psychological characteristics of cotton growing farmers

Category	n	%
1. Age		
Young (up to 35 years)	33	33%
Middle (35 - 50 years)	50	50%
Old (51 years and above)	17	17%
2. Education		
Illiterate	28	28%
Primary and Middle school	30	30%
High school	30	30%
College	12	12%
3. Land Holding		
Marginal (up to 2.5 acres)	36	.36%
Small (2.5 - 5 acreas)	24	24%
Medium (5-10 acreas)	25	25%
Big (Above 10 acres)	15	15%

4. Mass Media Participation

Score	n	%
0 - 2	4	4%
2 - 4	40	40%
4 - 6	32	32%
6 - 8	24	24%

5. Cosmpolitan Scores

0 - 2	6	6%
2 - 4	10	10%
4 - 6	69	69%
6 - 8	15	15%

6. Scientific Orientation

1 - 2	3	3%
3 - 4	10	10%
5 - 6	12	12%
7-8	30	30%
9 - 10	45	45%

7. Economic Motivation Score

0 - 6	2	2%
7 - 12	6	6%
13 - 18	70	70%
19 - 24	22	22%

8. Risk Orientation

0 - 6	11	11%
7 - 12	18	18%
13 - 18	60	60%
19 - 24	11	11%

Majority of the respondents belong to the middle age group (50 per cent). The respondents below 35 years of age were 33 per cent and 17 per cent were old aged. In respect of formal eduction obtained, 28 per cent of the respondents were illiterates. Thirty per cent of the farmers had received high school education, while 30 per cent had primary to middle school education. Only 12 per cent had college education. Among the respondents. 36 per cent were marginal farmers and 15 per cent were big farmers. Around 40 per cent of the respondents had low mass media participation while 32 percent of the respondents had medium mass media participation score and 24 per cent of the

respondents had high mass media participation score. Majority of the respondents had cosmopoliteness score while 4-6 and only 15 per cent of the respondents had high cosmopoliteness score between 10 per cent of the respondents had low cosmopoliteness score. Majority of the respondents had obtained high scientific orientation score with 30 per cent of the respondents coming in the score group 7-8 and 40 per cent of the respondents coming in the score group 9-10 while only 13 per cent of the respondents had low scientific orientation. Economic motivation of the respondents is very high as majority (92%) of the respondents are coming under the last two categories of economic motivation with a score more than 13. The risk orientation of the respondents was also high as majority (71%) of them come under the last two categories.

The respondents indicated various constraints in the adoption of IPM practices. The major constraints indicated in the adoption of IPM practices was lack of proper knowledge by 75 per cent of the respondents. This was followed by lack of proper guidance (70%), non-availability of the required material (62%), lack of training

(60%) and requires lot of skill (40%). The results are given in table 4.

Table 4.Constraints in the Adoption of IPM Practices

Constraints	n	%
Lack of proper knowledge	75	75%
Lack of proper Guidance to adopt	70	70%
Non - availability of the required material	62	62%
Lack of training	60	60%
Requires a lot of skill	40	40%

From the above study, it is clear that the knowledge and adoption level of IPM practices is very low among the cotton growing farmers. As the cotton growing farmers have high scientific orientation, economic motivation, cosmopoliteness and risk orientation, it is easy to convince them and make them to adopt IPM practices. Hence, the University of Agricultural Sciences and State Department of Agriculture should increase their extension activities towards increasing the knowledge level of IPM practices of cotton growers.

Reference

ANONYMOUS, 1994, *Package of Practices for high yields (Region - 1, Zone 1& 2).*

University of Agricultural Sciences, Dharwad and Karnataka State Department of Agriculture, Banglore.