

Extent of adoption of best management practices of cotton by farmers in Nalgonda district of Telangana

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ABSTRACT

The present investigation was carried out in Nalgonda district of Telangana on 120 cotton farmers as respondents. Ex post facto research design was followed in the investigation. The respondents were selected at random from four villages of two Mandals of the district. The findings revealed that the extent of adoption of best management practices by majority of the respondents was medium. The ranking mean score analysis revealed that among the nine selected practices, adoption of correct type of soils ranked first followed by appropriate spacing, harvest and post-harvest management practices, nutrient management practices, weed management practices, irrigation at critical stages, pest management practices, intercropping and disease management practices in the order of priority.

Keywords: Cotton; farmers; practices; adoption; ranking

INTRODUCTION

Cotton is the oldest among all fibres and one of the most important commercial crops playing a key role in the world economy. It is one of the most important fibre and cash crops of India and plays a dominant role in the industrial and agricultural economy of the country. Being a cash crop cotton is known for its intensive cultivation. The focus on high yield production without taking agriculture and environmental sustainability into account has become standard practice. After few years of introduction of Bt cotton the pesticide use has again increased due to increased incidence of sucking pests.

Addressing to the various issues many concepts have been developed under sustainable cotton cultivation. Best management practices (BMPs) are one among such concepts. BMPs are agricultural practices which optimize the three pillars of sustainability. These include social responsibility, environmental integrity and economic viability by binding together the financial requirements for agriculture such as high

yield with environmental and social concerns such as water and pesticide use. Technically speaking these practices focus on right quantity, right time and right method of application of inorganic inputs supplemented by organic resources. The present study was conducted with an objective to determine extent of adoption of best management practices in cotton.

METHODOLOGY

The study was conducted in Nalgonda district of Telangana with a sample of 120 cotton farmers. Ex post facto research design was followed. The respondents were selected from four villages of two Mandals of the district at random. The extent of adoption of best management practices was assessed with the help of a structured interview schedule. The answers from the respondents were measured with the help of three-point continuum viz fully adopted, partially adopted and not adopted and the scores were given as 2, 1 and 0 respectively. The collected data from the respondents were analysed using appropriate statistical tools and inferences were drawn.

RESULTS and DISCUSSION

From Table 1 it is evident that majority (62.5%) of the respondents were under medium category of extent of adoption of management practices followed by low (21.67%) and high (15.83%) categories. The above results are in accordance with the findings of Neethi and Sailaja (2013), Sarada and Suneel Kumar (2013).

Table 1. Distribution of respondents based on their extent of adoption of selected management practices (n= 120)

Category	Frequency	Percentage
Low (33.3-47.5)	26	21.67
Medium (47.5-61.7)	75	62.5
High (61.7-75.9)	19	15.83

The data given in Table 2 show that among the selected management practices adoption of correct type of soils for cotton cultivation ranked first. This could be due to the experience of the respondents in cotton cultivation. The second most adopted practice was appropriate spacing. This could be due to the information given by the extension functionaries or by seeing and following the spacing adopted by the fellow farmers. The third most adopted practice was harvest and post-harvest. This could be due to the reason that cent per cent of the respondents did not water seed cotton before weighment and they had collected the seed cotton during cooler times of the day.

Application of fertilizers at recommended dosage ranked first among nutrient management practices. But during the interaction respondents opined that the recommended dosage was not sufficient for getting higher yield hence they applied more doses of fertilizers.

Under the weed management adoption of pre-emergence weedicides followed by inter-cultivation, manual weeding and post-emergence weedicides were ranked in the order of priority. This could be because of high perceived feasibility of pre-emergence weedicides by the farmers in the study area.

Application of recommended insecticides ranked first among components of pest management.

Table 2. Distribution of respondents based on ranking mean scores of adoption of selected best management practices (n= 120)

Recommended practice	Adopted		Partially adopted		No adoption		Total score	Mean score	Rank
	F	%	F	%	F	%			
Soils	120	100	0	0	0	0	240	2	I
Spacing	91	75.83	29	24.17	0	0	211	1.75	II
Intercropping	0	0	49	40.84	71	59.16	49	0.50	VIII
Irrigation at critical stages	18	15	102	85	0	0	138	1.15	VI
Nutrient management									
Application of fertilizers (NPK)	70	58.33	50	41.66	0	0	190	1.58	
Split application of N and K	70	58.33	41	34.16	9	7.5	181	1.50	
Farm yard manure/organic fertilizers	37	30.83	56	46.66	27	22.5	130	1.08	
Foliar application	28	23.33	58	48.33	34	28.33	114	0.95	
Correction of micronutrient deficiencies	60	50	42	35	18	15	162	1.35	
Average		44.17		41.17		14.66		1.29	IV
Weed management									
Manual weeding	18	15	102	85	0	0	138	1.08	
Inter-cultivation	56	46.66	45	37.5	19	15.83	157	1.30	

Pre-emergence weedicides	68	56.66	36	30	16	13.33	172	1.43
Post-emergence weedicides	40	33.33	44	36.66	36	30	124	1.03
Average		37.91		47.29		14.80		1.21
Pest management								V
Stem application	14	11.66	40	33.33	66	55	68	0.56
Yellow sticky traps	48	40	34	28.33	38	31.66	130	1.08
Barrier crops/trap crops	0	0	0	0	120	100	0	0
Neem seed kernel extract	62	51.66	25	20.83	33	27.5	149	1.24
ETL based application of insecticides	95*	79.16	25*	20.83	0	0	215*	1.79
Average		36.49		20.67		42.84		0.93
Disease management								VII
Seed treatment	6	5	14	11.66	100	83.33	26	0.21
Soil application	6	5	0	0	114	95	12	0.1
Soil drenching	0	0	0	0	120	100	0	0
Average		3.34		3.89		92.77		0.10
Harvest and post-harvest management								IX
Collection of bolls during cooler times of the day, grading and storing	120	100	0	0	0	0	240	2
Avoiding watering of seed cotton before weighing	120	100	0	0	0	0	240	2
Proper packing	65	54.16	0	0	55	45.83	130	1.08
Average		84.73		0		15.27		1.69
								III

But during interaction with respondents it was realized that application of insecticides was not in accordance with the ETL of insects. Instead respondents used more doses of insecticides than recommended as sucking pests population was found to be increasing.

Farmers opined that intercrops were not remunerative. The least adopted practices were disease management. The reason for very meagre adoption of disease management practices was lack of ability of the farmers to diagnose the disease in their fields and even if diagnosed they were unaware of the management methods like seed treatment, soil application and soil drenching.

CONCLUSION

All the stakeholders should make concerted efforts to remove the operational difficulties involved in the adoption of best management practices by the cotton growers. It was found that majority of the respondents were under the category of medium adoption of selected best management practices. Hence to improve the adoption level training programmes, demonstrations and field visits need to be organised by the KVKs, state departments and NGOs at village level on aspects like balanced use of fertilizers, ETL-based application of insecticides, disease management practices etc.

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