Relationship between perceived feasibility and extent of adoption of best management practices of cotton by the farmers

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 Received: 27.2.2017/Accepted: 6.5.2017

ABSTRACT

The studies were carried out in Nalgonda district of Telangana with 120 cotton farmers as respondents. Ex post facto research design was followed in the investigations. The respondents were selected at random from four villages of two Mandals of the district. Feasibility of selected best management practices was obtained using perceived feasibility index (PFI) taking into consideration seven attributes such as suitability, profitability, complexity, observability, compatibility, cost and trialability. Extent of adoption of each practice was made according to the three-point continuum. Correlation analysis between the overall level of perceived feasibility and overall extent of adoption of best management practices revealed that correlation was significant at the 0.01 level (2-tailed). Among the nine selected best management practices irrigation, nutrient management, weed management, insect pest management, harvest and post-harvest management showed positively significant relationship with extent of adoption.

Keywords: Feasibility; correlation; best management practices; cotton; adoption

INTRODUCTION

Agriculture is one sector that impacts and in turn gets influenced by most by the environment. Hence sustainability of the human race and world depends a lot on environment-friendly agriculture. During the past fifty years agricultural development policies have been remarkably successful at emphasizing external inputs as the means to increase food production. These external inputs have substituted for natural processes and resources rendering them less powerful and dangerous to the environment. The basic challenge for sustainable agriculture is to make better use of these natural resources. This can be done by minimizing the external input use and by regenerating internal resources more effectively or by combination of both.

Cotton is one of the most important commercial crops playing a key role in the world economy. 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 a standard practice. After few years of introduction of Bt cotton the pesticide use has again increased due to increased incidence of sucking pests. Best management practices (BMPs) are one among the recent concepts under sustainable cotton cultivation. These are agricultural practices which optimize the three pillars of sustainability viz social responsibility, environmental integrity and economic viability.

The present studies were carried out to determine the correlation between level of perceived feasibility and 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. A list of best

management practices in cotton was prepared as per Anon (2013). After consultation with subject matter specialists nine important best management practices were identified pertaining to the study area. Feasibility was operationalised as the degree to which a recommended best management practice could be adopted or practiced by an individual farmer in a given farming system. It was measured in terms of seven perceived attributes such as suitability, profitability, complexity, observability, compatibility, cost and trialability. It was arrived at by using the perceived feasibility index developed by Sihag and Malaviya (1990) with slight modifications. Responses were measured by using three-point continuum for each of the perceived attributes against each practice as high, medium and low and the scores were given as 3, 2 and 1 for the positive attributes and 1, 2 and 3 for the negative attributes respectively. The extent of adoption of selected best management practices was assessed with the help of three-point continuum that is fully adopted, partially adopted and not adopted and the scoring was given as 2, 1 and 0 respectively. In order to study the relationship between level of feasibility and extent of adoption of selected best management practices correlation coefficient (r) was computed. The relationship was tested by relevant empirical and null hypothesis.

RESULTS and DISCUSSION

Table 1 shows that there was significant relationship between level of feasibility and extent of adoption of selected best management practices. Practice-wise analysis was also carried out and the data are presented in Table 2.

Table 1. Relationship between overall perceived feasibility index (PFI) and overall adoption quotient (AQ) of selected best management practices

Overall PFI	Overall AQ
Pearson correlation	.676**
Sig (2-tailed)	.000
n	120

**Correlation significant at the 0.01 level (2-tailed)

The calculated 'r' value of perceived feasibility of spacing and adoption of spacing was less than tabulated 'r' value. This indicates that there was no significant relationship between perceived feasibility of spacing and its adoption. Same was the case with disease management.

With respect to intercropping the 'r' value indicated a negative sign which states a negative non-significant relationship. Analysis from the attributes inferred that perceived complexity and perceived cost showed negative non-significant relationship with extent of adoption.

Results on relationship between perceived feasibility of irrigation, nutrient management, weed management, pest management and harvest and post-harvest management and their adoption showed that the calculated 'r' value was greater than tabulated 'r' value. Hence null hypothesis was rejected and empirical hypothesis was accepted concluding that there was significant relationship between perceived feasibility of these and their adoption. Attributes such

Table 2. Relationship between component-wise perceived feasibility and extent of adoption of selected best management practices

Perceived feasibility index	Correlation value	Adoption quotient
Spacing	0.069^{NS}	Spacing
Intercropping	-0.103^{NS}	Intercropping
Irrigation	0.516**	Irrigation
Nutrient management	0.511**	Nutrient management
Weed management	0.484**	Weed management
Pest management	0.302**	Pest management
Disease management	0.120^{NS}	Disease management
Harvest and post-harvest management	0.356**	Harvest and post-harvest management

**Correlation significant at 0.01 level

as perceived profitability and perceived observability showed positive significant relationship with extent of adoption.

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CONCLUSION

The adoption of a technology by a farmer depends largely on its perceived feasibility. In the present studies feasibility was determined using seven perceived attributes and correlated with extent of adoption. It was observed that among the nine selected best management practices irrigation, nutrient management, weed management, insect pest management and harvest and post-harvest management showed positively significant relationship with extent of adoption. This indicates that a greater extent of adoption of a practice or a technology can be attained if the farmer feels it was feasible. Hence extension personnel can aid the farmers in decision making process, help them realize the positive attributes of a technology and also reduce influence of negative attributes (complexity) for a greater adoption of best management practices.

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