Knowledge of Bt. cotton growers about management practices for control of pink bollworm

■ **S.B. Khodake, A.N. Deshmukh, V.B. Khodake and S.A. Deshmukh**

SUMMARY : The present study on knowledge of Bt. cotton growers about management practices for control of pink bollworm was undertaken in Daryapur and Achalpur taluka of Amravati district. With sample size of the 80 respondents. The data were collected on personal, socio-economic, communicational and psychological characteristics of the Bt. cotton growers, knowledge about management practices for control of pink bollworm with the help of pre structured interview schedule. Finding reveled that majority 65.00 per cent of the respondents belonged to middle age group, high propotion of respondents 31.25 per cent were studied upto high school level, majority of respondent 37.50 per cent had small land holding (1.01 to 02.00 ha), majority 58.75 per cent respondents were having medium level farming experience, more than half of the respondents 77.50 per cent having annual income between Rs. 70,0001 to Rs. 2,90,000, majority of 60.00 per cent had occupied medium level of social participation, majority of 71.25 per cent of the respondents have medium level of extension contact, majority of the respondent 62.50 per cent had medium level of source of information, majority of the respondent 61.25 per cent of the respondents had medium level of achievement motivation, majority of the 66.25 per cent of the respondents had medium level of training received, majority of the 56.25 per cent found to be in the medium level of risk orientation. In case of knowledge of management practices for control of pink bollworm 67.50 per cent having medium level of knowledge. The variables education, farming experience, sources of information, training received and risk orientation are positively and highly significant with knowledge at 0.01 level of probability and the annual income, extension contact and achievement motivation are positively significant and age, land holding, social participation, were non-significantly correlated with knowledge of management practices for control of pink bollworm at 0.05 level of probability.

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BACKGROUND AND OBJECTIVES

Cotton is one of the most important fibre crop playing key role in economic as well as social affairs of the world. It is the oldest among the commercial crops of the world.

The area of cotton in India is 105.00 lakh hectares whereas production is 351 lakh bales and productivity is 568 kg/ha. Cotton is grown chiefly for its fibre which is used in the manufacture of cloth for the mankind. It is

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also used for several other purposes like, making threads, for mixing in other fibres and extraction of oil from the cotton seed. In the world cotton crop grown as an annual crop in both tropical and warm temperate regions. The crop is attacked by 1326 species of insect pests throughout the world, of which about 130 different species of insects and mites found to devour cotton at different stages of crop growth in India. Crop is affected by bollworms *viz.,* spotted bollworm, American bollworm and pink bollworm etc., which causes yield reduction in almost all cotton growing area. Among it the pink bollworm assumed major pest status in recent past. Worldwide, pink bollworm has become economically the most destructive pest of cotton.

Specific objectives of the study:

- To study the knowledge of Bt. cotton growers about management practices for control of pink bollworm

- To study the relationship between selected characteristics of Bt. cotton growers and their knowledge of management practices for control of pink bollworm.

RESOURCES AND METHODS

Daryapur and Achalpur talukas of Amravati district was selected for study. The Bt. cotton growers were interviewed with the help of structured interview schedule personally. Total 80 respondents were selected for research purpose. The interview schedule was constructed by relevant questions in accordance with the objective of study. The data were analysed by using mean, S.D. and co-efficient of correlation methods were used for analysis of the data.

OBSERVATIONS AND ANALYSIS

The findings of the study as well as revelent discussion have been summarized under the following heads:

It is observed that Table 1 revealed that 100.00 per cent of the respondents had knowledge about deep ploughing for destroying pupa of pink bollworm. Also 100.00 per cent of the respondents having knowledge about pheromone trap used for monitoring the moth activity and avoid of non Bt. around Bt. cotton increase

Table 1 : Knowledge of Bt. cotton growers about management practices for control of pink bollworm

Sr. No.	Statement	Knowledge	
		Freq.	Percentage
1.	Do you know deep ploughing done for expose pupa of pink boll worm to birds/ sun rays	80	100.00
2.	Do you aware about sowing is done in Jun-July for control of pink bollworm	73	91.25
3.	Do you know long duration more than 180 days variety provide favourable environment to pink bollworm	68	85.00
4.	Do you know pink bollworm infestation more on American variety	46	57.50
5.	Do you know ratoon crop provide continous food to pink bollworm	74	92.50
6.	Do you know avoid of non *Bt.* around *Bt.* cotton increase resistant power against Bt. Protein	80	100.00
7.	Do you identify pink boll worm larvae, moth	78	97.50
8.	Do you know pheromone trap install for monitoring activity of pink bollworm	80	100.00
9.	Do you know eight to ten male moth in pheromone trap is ETL level of pink bollworm	54	67.50
10.	Do you know destruction of plant debris is important for control of pink bollworm	48	60.00
11.	Do you know trichocards installed for destroy the pink bollworm larvae in egg stage	46	57.50
12.	Do you know crop rotation is important to control of pink bollworm	42	52.50
13.	Do you know more application of Nitrogen fertilizer increase pink bollworm infestation	49	61.25
14.	Do you know okra, marigold, caster use for trap crop	44	55.00
15.	Do you know sowing of different variety increase pink bollworm infestation	47	58.75
16.	Do you know bird perches install for birds to sit and pray on caterpillers	48	60.00
17.	Do you know two to three times of spraying of monocrotophos for sucking pest increase pink bollworm infestation	44	55.00
18.	Do you know mixing of insecticide increase pink bollworm infestation	36	45.00
19.	Do you know crop rotation is important for trouble in life cycle of pink bollworm	58	72.50
20.	Do you know grazing the crop by cattle to destroy pest affected plant debris	74	92.50

resistace against Bt. protein, 97.50 per cent of respondent had knowledge about identification of pink bollworm, 92.50 per cent respondents have knowledge about grazing by cattle destroy pest affected plant debris and ratoon crop provide continous food to pink bollworm. 91.25 per cent respondents have knowledge about sowing done in June-July for control of pink bollworm, 85.00 per cent of the respondents had knowledge about sowing of long duration variety more than 180 days provide favourable environment to pink bollworm, 57.50 per cent each respondents possesed knowledge about pink bollworm more infestation occure on American variety. 67.50 per cent respondents had knowledge about ETL level of pink bollworm. 60.00 per cent of respondents had knowledge about destruction of plant debris like flower are important for control of pink bollworm. 57.50 per cent had knowledge about trichocards, 52.50 per cent had knowledge about crop rotation for control of pink bollworm. 61.25 per cent respondents knowledge about proper dose of nitrogen fertilizer. 55.00 per cent had knowledge about trap crops. 58.75 per cent respondent had knowledge about sowing of different variety increase

pink bollworm infestation. 60.00 per cent had knowledge about bird perches. 55.00 per cent had knowledge about two to three times of spraying of monocrotophos for sucking pest increase pink bollworm infestation. 45.00 per cent had knowledge about mixing of insecticide increase pink bollworm infestation.

Relational analysis:
Relationship of selected profile of respondents with knowledge :

Data presented in Table 3, revealed that among selected characteristics of respondents annual income, extension contact and achievement motivation was found to be positively and significantly correlated with knowledge about management practices for control of pink bollworm at 0.05 level of probability. Whereas, characteristics of respondents education, farming experience, sources of information, training received, risk orientation was positively significant with knowledge at 0.01 level of probability. Whereas, age of respondents, land holding, social participation were non-significantly correlated with knowledge about management practices

Table 2: Distribution of respondents according to their knowledge level about management practices for control of pink bollworm by Bt. cotton grower

Sr. No.	Knowledge level	Respondents (n=80)	
		Number	Percentage
1.	Low (Upto 58)	11	13.75
2.	Medium (59 to 89)	54	67.50
3.	High (Above 89)	15	18.75
	Total	80	100.00

Table 3: Co-efficient of correlation between selected characteristics of the respondents with their knowledge about management practices for control of pink bollworm

Sr. No.	Variables	Knowledge ('r' value)
1.	Age	0.1512 NS
2.	Education	0.3366 **
3.	Land holding	0.2007 NS
4.	Farming experience	0.3517**
5.	Annual income	0.2515*
6.	Social participation	0.1973 NS
7.	Extension contact	0.2200*
8.	Source of information	0.3992**
9.	Achievement motivation	0.2317*
10.	Training received	0.3425**
11.	Risk orientation	0.3160**

* and ** indicate significance of values at P=0.05 and 0.01, respectively   NS= Non-significant

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for control of pink bollworm at 0.05 level of probability (Jakkawad *et al.*, 2019; Katke and Deshmukh, 2012; Patel and Sanwal, 2015 and Shambharkar *et al.,* 2018).

Conclusion:

Majority of the respondents 67.50 per cent had edium level of knowledge about management practices for control of pink bollworm where as 13.75 per cent and 18.25 per cent of the respondent farmers were having low and high level of knowledge about management practices for control of pink bollworm. Thus, study concluded that majority of the respondent had medium level of knowledge about management practices for control of pink bollworm.

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