Journal of Pharmacognosy and Phytochemistry

Available online at www.phytojournal.com

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Correlates of profile of the Bt. cotton growers with involvement in feedback management

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Abstract
Study entitled "Involvement of Farmers in Feedback Management with Reference to Bt cotton" was undertaken in Umarkhed Panchayat samiti in Yavatmal district of Vidarbha region of Maharashtra state. Ex-post facto research design was used for the same. The farmers growing Bt cotton since last three years consecutively were identified and from each selected village 12 Bt cotton growers as respondents were selected randomly to constitute sample size of 120 respondents. The data from Bt cotton growers were collected by personal interview method. In case of relational analysis of involvement of farmers in feedback management education, land holding, annual income, mass media exposure, scientific orientation and knowledge were found to be highly and positively significant relationship with the involvement of respondents in feedback management at 0.01 level of probability. While occupation found to be positively correlated with the involvement of respondents in feedback management as 0.05 per cent level of significant relationship of probability. The positive and significant relationship of education, occupation, land holding, annual income, mass media exposure, scientific orientation and knowledge, shows that the increase of these variables, involvement of farmers in feedback management increases. Whereas, variables such as age, area under Bt cotton, availability of input, perception of feedback, and risk orientation, showed non-significantly relationship with the involvement of farmer in feedback management.

Keywords: Correlates, Bt. cotton growers and feedback management

Introduction
Cotton is also known as 'white gold' is one of the most important fiber and cash crop of India and plays dominant role in the industrial and agricultural economy of the country. Pink bollworm is the serious pest in Cotton and the control of that pest is very tedious job because he completed his larval stage in Cotton bolls. In some cases during spraying Cotton growers suffered from poisoning.

Cotton cultivation in India covers an area of approximately 12.4 million ha. The average yield of Cotton, 505 kg/ha still far below the world average of 775 kg/ha. India ranks first in the world in respect of area and third in total production of Cotton 32.5 million bales. (FAOSTAT, 2018). In India, Maharashtra, Gujarat, Madhya Pradesh, Andhra Pradesh, Karnataka, Tamil Nadu, Rajasthan, Punjab and Haryana are the major growing states.

Maharashtra ranks first in acreage with 4.2 million ha and second in production yielding 8.5 million bales. With average productivity of 343 kg/ha which is low as compared to the national average (505 kg/ha), low productivity is mainly due to maximum area 85-90 percent under rainfed condition. In Vidarbha region, Yavatmal, Amravati, Buldhana, Wardha, Washim, Nagpur and Akola area the prominent district of Cotton cultivation. (Indiaagristat.com, 2018). In Yavatmal district area under Cotton is 4.20 lakh ha and productivity of Cotton 444 kg/ha and production 1.97 million tonnes.

Improved technologies are transferred to the farmers through various agencies like State Agricultural Universities, State Department of Agriculture Panchayat Raj Institutions, NGOs and So on. However, it is not enough merely to deliver the message or transfer the technology but it is of paramount importance to see the resultant effect of transference of the messages or technologies. It is possible only through management of feedback. Feedback helps the extension personnel to find out the effect of the message or technology. It is proved that effective transfer of technology mostly depends on the extent of feedback provided.

According to Berlo 1960, Action-reaction interdependence in communication is referred to as feedback. He has given a model of communication consisting of source, message, channel, receiver and effect. Berlo's model is as follows:

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Leagans (1961) has also given a communication model by showing the feedback where the last factor audience response is meant as feedback. Leagans model is as follows:

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COMMUNICATOR ⟹ MESSAGE ⟹ CHANNEL ⟹ TREATMENT ⟹ AUDINCENCE RESPONSE
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He referred feedback as audience response when the communication is meant for changing the behavior of the people.

An effective feedback management helps in timely rectification of farmer problems. However, unless farmers or extension worker identifies, significant and relevant constraints in adoption of technology, feedback has practically no value. Therefore, it is true that management of feedback on the part of all concerned is necessary as it determines the effectiveness of transfer of technology. Hence the research topic Involvement of Farmers in Feedback Management with reference to Bt. Cotton was conducted with the objective as to study the relational analysis with witj profile of the respondents with involvement of Farmers in Feedback Management

Methodology
The study was confined to the Umarkhed Panchayat Samiti in Yavatmal district in Vidarbha region of Maharashtra State. For the present study, ex-post facto design of social research was thought to be appropriate, as the study emphasized on ascertaining involvement of farmers in feedback management with reference to Bt cotton. The sampling plan adopted for this research has been described under subhead. Out of 16 tahsil of Yavatmal district, Umarkhed tahsil was purposively selected on the basis of maximum area under Bt cotton cultivation amongst all the tahsils. As per discussion with Taluka Agriculture Officer, Umarkhed, about Bt cotton production in this tahsil, it was noticed that, mostly farmers were growing Bt cotton in Umarkhed tahsil followed by Soybean. On this basis, list of Bt cotton growing villages in Umarkhed panchayat samiti was obtained from Taluka Agriculture Officer amongst which 10 villages were selected purposively on the basis of larger area under Bt cotton cultivation during the year 2017-18. The selected villages were Bhawani (J), Brahmangaon, Dhanki, Dhighdi, Kharus(B), Lohara (Kh), Pimpri-Devet, Soit (GH), Taroda and Unchwadad. The list of farmers growing Bt cotton since last three years consecutively in the selected villages was obtained from Taluka Agriculture officer, Umarkhed and from each selected village, 12 Bt cotton growers as respondents were selected randomly by using simple random sampling method to constitute sample size of 120 respondents

Results and Discussion

Table 1: Correlates of adoption of packages of practices by Bt cotton growers

Sl.no.	Characteristics	Correlation coefficient with adoption
1	Age	-0.0159
2	Education	0.269**
3	Occupation	0.182NS
4	Land holding	0.349**
5	Annual income	0.204*
6	Area under Bt cotton	0.278**
7	Availability of Input	0.269**
8	Mass media exposure	0.303**
9	Scientific orientation	0.297**
10	Risk orientation	0.213*
11	Perception of feedback	-0.037
12	Knowledge	0.461**

* Significant at 0.05 level of probability
** Significant at 0.01 level of probability
NS= Non-significant

From Table 1, it is indicated that, that variables namely, education (r=0.269), land holding (r=0.349), area under Bt cotton (r=0.278), availability of input (r=0.269), mass media exposure (r=0.303), scientific orientation (r=0.297), and knowledge (r=0.461), were showed positive and highly significant at 0.01 level relationship with adoption whereas, annual income (r=0.204), risk orientation (r=0.213), established positive significant relationship with adoption at 0.05 level of probability. However, the occupation is non-significant relationship showed with the adoption at 0.05 level of probability. However the age, perception of feedback also found to have significant correlation but it was negative. Finding thus, clearly indicated that the respondents with younger age, with higher education, larger land holding, and farming coupled with service occupation, higher annual income and high perception level had sought the greater adoption of recommended package of practices of Bt cotton crop. Obviously these factors provide a strong base in adoption of package of practices Bt cotton.

These findings are in line with the findings of Shambharkar (2009) [3], Girhe (2011) [1] and Roy (2017) [2] to some extent they reported that area under Bt cotton, land holding, annual income, availability of inputs, mass media exposure, scientific orientation, and knowledge are significantly related with practices in Bt cotton production technology and adoption of recommended package practices of Bt cotton respectively. The findings of area under Bt cotton and land holding are in line with findings of Girhe (2011) [1] who reported that both these characteristics are significantly related with improved practices of Bt cotton.

Table 2: Correlates of involvement of farmers in feedback management with Bt cotton growers

Sl. No.	Characteristics	Correlation coefficient with involvement of farmers in feedback management
1	Age	0.095NS
2	Education	0.384**
3	Occupation	0.195*
4	Land holding	0.253**
5	Annual income	0.248**
6	Area under Bt cotton	0.141NS
7	Availability of input	0.162NS
8	Mass media exposure	0.254**
9	Scientific orientation	0.336**
10	Risk orientation	0.158NS
11	Perception of feedback	0.087NS
12	Knowledge	0.884**

* Significant at 0.05 level of probability
** Significant at 0.01 level of probability
NS= Non-significant

It is revealed from Table 2 that education (r=0.384), land holding (r=0.253), annual income (r=0.248), media exposure (r=0.254), scientific orientation (r=0.336), knowledge (r=0.884), were found to be highly positively significantly relationship with the involvement of respondents in feedback management at 0.01 level of probability. While mass occupation (r=0.195), were found to be positively significant relationship with the involvement of respondents in feedback management. Age, area under Bt cotton, availability of input, perception of feedback, not showed significantly related with the involvement of respondent in feedback management at 0.05 level of probability. The positive and significant relationship of education, occupation, land holding, annual income, mass media exposure, scientific orientation, perception of feedback, knowledge shows that with the increase in the involvement of respondents in feedback management.

These findings go to corroborate with the finding of Shambharkar (2009) [3] who found that education and annual income, positive and significant relationship with involvement of farmers in feedback management whereas age was found to be non-significant. These finding are also consistent with the finding of Girhe (2011) [1] who found that education and annual income, mass media exposure, scientific orientation was positively and significantly correlated with positively and significantly correlated with management practices by Bt cotton growers.

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