INFORMATION SEEKING BEHAVIOR OF BT. COTTON GROWERS ABOUT IPM TECHNOLOGY

N. B. Jadav[1], S. V. Undhad[2] and V.S. Prajapati[3]

1 Senior Scientist & Head, Krishi Vigyan Kendra, JAU, Pipalia - 360410
2 Scientist, Plant protection, Krishi Vigyan Kendra, JAU, Pipalia - 360410
3 Scientist, Animal Husbandry, Krishi Vigyan Kendra, JAU, Pipalia - 360410
Email: dr_nbjadav@jau.in

ABSTRACT

The study was carried out in Rajkot district of Gujarat state with one-fifty Bt.cotton growers to seek the information behavior about integrated pest management. Excessive and indiscriminate use of chemical pesticides has leads to several complications such as resistance development, resurgence, secondary pest outbreak, toxicity to beneficial organism, residue in food, feed, fodder. Besides other inputs in the process of agricultural development, various modes of communications at the hands of extension agency contribute a great deal to facilitate technology transfer, technology acceptance and technology utilization. It is necessary to know that from where the Bt.cotton growers get his needed information about integrated pest management pratices. The study revealed that majority of the respondents got needed information from input dealer (WM=3.25), friends/relative (WM=3.23), Neighbors (WM=3.09) and SAU Scientists/KVK (WM=2.62). Least of respondents got needed information form i-khedut portal and internet, it means that still cotton growers were not too much familiar with modern communication technology. For effective transfer of technology, programme will be set up with active participation of input dealer and familiar with modern communication technology.

Keywords : *Bt. cotton, source of information, knowledge, IPM, behavior*

INTRODUCTION

India is the largest cotton producer, consumer and exporter of cotton in the world. Cotton production in India has increased more than two times in a span of a decade and reached a peak of 359.02 lakh bales during 2013-14 as compared to 164.29 lakh bales in 2004-05. The area under cotton cultivation during the last five years has increased from 101.32 lakh hectares in 2009-10 to 119.60 lakh hectares in 2013-14. Cotton productivity in the country has increased significantly from 403 kg per hectare in 2009-10 to 510 kg per hectare in 2013-14. (Anonymous, 2015).

Gujarat is the second largest cotton producing state of India. In Gujarat state Saurashtra region is also has major area under cotton crop. However, it is interesting to note that cotton, which occupies only five per cent of the total cultivable land consume more than 55 per cent of the pesticides used in India. Excessive and indiscriminate use of chemical pesticides has lead to several complications such as resistance development, resurgence, secondary pest outbreak, toxicity to beneficial organism, residue in food, feed, fodder etc. and above all environmental pollution. The approach to overcome these ill effects of pesticides to a certain extent is Integrated Pest Management practices.

It is well recognized that agricultural development is the process of accepting new ideas and practices that influence the attitudes and lifestyle of farmers to enable them to live better life. Besides other inputs in the process of agricultural development, various modes of communications at the hands of extension agency contribute a great deal to facilitate technology transfer, technology acceptance and technology utilization. Previous findings have suggested that Extension may be an important source for farmers seeking information about precision farming technologies. Specifically, Extension effectively communicates information to producers about these technologies and their benefits (Watcharaanantapong et al., 2014 and Chauhan et al. 2016). private information sources, such as farm equipment dealers, are the most used precision farming information sources among row crop producers (McBride & Daberkow, 2003; Velandia et al., 2010), most use more than one source when gathering information about these technologies (Velandia et al., 2010). Realizing the significance and power of information sources in communicating the latest agricultural technology to ultimate users, an attempt was made to conduct the present investigation to understand which source of information could be used in a most effective by Bt. Cotton growers about IPM practices.

OBJECTIVES

(1) To describe the personal and socioeconomic characteristics of the Bt.cotton growers

(2) To assess the source of information by Bt.cotton growers about IPM practices

METHODOLOGY

Selection of respondents

The study was conducted in Krishi Vigyan Kendra, Junagadh Agricultural University, Pipalia (Rajkot-2) operational area of Saurashtra region. Out of seven operational

RESULTS AND DISCUSSION

Characteristics of respondents

talukas viz. Dhoraji, Upleta and Jam kandorana were selected purposively for the study and five villages were selected from each of taluka. Thus, total 15 villages selected from three talukas and 10 respondents were selected randomly from each village, total 150 respondents were selected for the study.

For measuring the source of information about integrated pest management, a set of fifteen different source of information were prepared by referring related review of literature and in consultation with field experts. The different sources were assessment based on a four point Likert-type rating scale of most often coded 4, often coded 3, sometimes coded 2 and never coded 1, mean scores was calculated. A unit score was calculated and total score obtained by individual respondents for all the statement was calculated.

Table : 1 Distribution of respondents according to their personal, socio-ecomic characteristics n=150

Sr. No.	Characteristics	Frequency	Percentage
A	**Age**		
1	Young age (up to 35 years)	24	16.00
2	Middle age (36 to 55 years)	92	61.33
3	Old age (above 55 years)	34	22.67
B	**Education**		
1	Illiterate	8	5.33
2	Primary (up to 8th std.)	56	37.33
3	Secondary (9 to 10th std.)	43	28.67
4	Higher Secondary (11th to 12th std.)	20	13.33
5	Graduate (above 12th std.)	23	15.33
C	**Size of land holding**		
1	Small size (up to 1ha)	28	18.67
2	Medium size (1to 2 ha)	76	50.67
3	Big size (above 2 ha)	46	30.67
D	**Annual income**		
1	Low (up to Rs. 50,000)	15	10.00
2	Medium (Rs. 50,001 to 1,00,000)	91	60.67
3	High (above Rs. 1,00,000)	44	29.33
E	**Cotton yield index**		
1	Low cotton yield index (below 62.72)	21	14.00
2	Medium cotton yield index(between 62.72 to 92.72)	97	64.67
3	Low cotton yield index (more than 92.72)	32	21.33
F	**Training received**		
1	Untrained (0 score)	26	17.33
2	Less trained (> mean)	108	72.00
3	More trained (< mean)	16	10.67
G	**Extension Participation**		
1	Low extension participation (below 5.48)	19	12.67
2	Medium extension participation (between 5.48 to 10.82)	109	72.67
3	High extension participation (more than 10.82)	22	14.67
H	**Scientific orientation**		
1	Low scientific orientation (below 19.21)	27	18.00
2	Medium scientific orientation (between 19.21 to 30.52)	94	62.67
3	High scientific orientation (above 30.52)	29	19.33

(a) age

The data presented in Table 1 indicated that majority (61.33 per cent) of the respondents were from the middle age group followed by 22.67 and 16.00 per cent of the respondents were from old and young age group respectively. This might be due to that young age farmers moved towards urban area for other business and especially male elder were the respected members and they possess decision making power about all family matters and farming. This finding was in conformity with the findings of Chaudhari (2009) and Netravathi et al. (2017).

(b) Education

Majority 37.33 per cent of the respondent were educated up to primary level whereas, 28.67 per cent of the respondents were educated up to secondary level, 13.33 per cent of the respondents were educated up to higher secondary, 15.35 per cent respondents were graduate and 5.33 per cent respondents were illiterate.

(c) Size of land holding

The data presented in Table 1 revealed that about 50.67 per cent of respondents were from medium size of land holding whereas, 30.67 and 18.67 per cent respondent's possessed large and small size of land holding respectively.

(d) Annual income

The data in Table 1 represented about annual income, indicated that 60.67 per cent of cotton grower were from medium annual income group while 29.33 per cent and 10.0 per cent of the cotton growers were from the high and low annual income group, respectively. This finding was in agreement with the findings of Christian (2001). This might be due to that cotton is a cash, irrigated crops and farmers are getting assured good yield. Therefore, majority respondents viz, 60.67 and 29.33 percent fall in the category of medium annual income group followed by high income groups.

(e) Cotton yield index

The data regarding cotton yield index represented in Table 1 on the basis of data it is clear that 64.67 per cent respondent were from medium cotton yield index followed by 21.33 and 14.0 per cent respondents were from high and low cotton yield index respectively. The reason behind this might be that in study area, respondents were progressive farmers as compare to other area.

(f) Training received

The data in Table 1 inferred that majority 72.0 per cent of the respondents belong to received less training while 10.67 per cent respondents had received more training followed by 117.33 per cent respondents had untrained about on IPM strategies in Bt. Cotton.

(g) Extension participation

The results in Table 1 indicate that majority (72.67 per cent) of the cotton growers had medium extension participation; followed by 14.67 and 12.67 per cent respondents had high and low extension participation, respectively. This might be due to that the programmes related to agriculture are not regularly attended by the farmers.

(h) Scientific orientation

The data in Table 1 revealed that the majority 62.67 per cent respondents had medium scientific orientation whereas 19.33 and 18.0 per cent respondents had high and low scientific orientation respectively.

Source of information about IPM practices

The extent of use of information sources was measured by taking into account the different 15 sources were listed in the schedule. Each respondent was asked as how often they got needed information from each of the listed source. In table 2 revealed that the respondents received information about IPM was rated "agro input dealer" with weightage mean score (WMS) 3.25 ranked first, "Friends/relatives" (WMS 3.23) ranked second, "Neighbors" (WMS 3.09) ranked third, "SAU Scientists/KVK" (WMS 2.62) ranked fourth, ''State dept./Agricultural officer" (WMS 2.59) ranked fifth, "Magazine" (WMS 2.52) ranked sixth, "Newspaper" (WMS 2.51) ranked seventh, "Television" (WMS 2.31) ranked eighth, "Family members" (WMS 2.23) ranked ninth, "Gram sevak" (WMS 2.17) ranked tenth, "Kisan call center" (WMS 2.04) ranked eleventh, "Radio" (WMS 1.88)" ranked twelfth, "*I-khedut* portal" (WMS 1.64) ranked thirteenth, "WhatsApp" (WMS 1.49) ranked fourteenth and "Internet" (WMS 1.37) ranked fifteenth. Farmers most often got needed information about integrated pest management from agro input dealer, friends/relatives, neighbors, SAU Scientists/KVK, State dept./Agricultural office and from magazine". The reason behind that Bt.cotton growers frequently visited input dealer for seed, fertilizer and pesticides also Saurashtra region Bt.cotton growers were from high social bonding because of that farmers get information most often from input dealer and friends /relative. While farmers least use of ICT tools as a source of information because of that internet, whats app, *i-khedut* and kisan call center sources were below agreed mean. Over all source of information of Bt.cotton growers was not favorable (pooled source of information less than agreed mean i.e.2.33).

Table 2 : Distribution of respondents according to source of information   n=150

Sr. No.	Sources	Frequency of getting information				Weightage mean score	Rank
		Most often	Often	Sometimes	Never		
1	Family members	22	28	62	38	2.23	IX
2	Neighbors	55	62	25	8	3.09*	III
3	Friends/relatives	64	65	12	9	3.23*	II
4	Gram Sevak	17	45	35	53	2.17	X
5	SAU Scientists /KVK	35	47	44	24	2.62*	IV
6	State dept /Agricultural officer	28	57	40	25	2.59*	V
7	Agro input dealer	69	58	15	8	3.25*	I
8	News paper	24	55	44	27	2.51*	VII
9	Radio	15	24	39	72	1.88	XII
10	Television	24	28	68	30	2.31	VIII
11	Magazine	24	55	46	25	2.52*	VI
12	Internet	2	14	21	113	1.37	XV
13	WhatsApp	5	7	44	94	1.49	XIV
14	*i- Khedut* Portal	5	8	65	72	1.64	XIII
15	Kisan call center	17	24	57	52	2.04	XI
*Agreed mean>2.50 Pooled source of information						2.33	

CONCLUSION

In the recent decades, the value of information has increased considerably as the agricultural systems in developing countries become knowledge-intensive. Access and use of current information is critical for not only financial success of farmers, but to support sustainable agricultural systems. It can be concluded that majority of cotton growers belong to middle age, educated up to primary level, medium size of land holding and had medium annual income. Most of cotton growers in study area had medium yield index, medium extension participation and medium scientific orientation with less trained category. Cotton growers received their needed information about IPM practices most often from agro input dealer, friends/relative, neighbour and from SAU/KVK scientist. It is necessary to educate agro input dealer and impart farmers training about use of information technology for accessing needed information.

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