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### Major constraints during adaption of integrated pest management practices

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#### Abstract

This study was conducted in purposely selected district Banda due to more sugarcane area in this district and communication with respondents easily possible, transportation are easily available here. Two communities block i.e. Baberu and Bisanda were purposely selected. Five villages were selected under the jurisdiction area of each block. Twelve respondents from each village were selected at random sampling basis, thus making a total sample size of 120 respondents for the present investigation. The respondents were directly interview regarding their socioeconomic background, knowledge and adoption level of Integrated Pest Management practices and problem faced by the respondents regarding Integrated Pest Management with help of per structured interview schedule.

**Keywords:** Constraints, farmer sugarcane, integrated pest management

#### Introduction

Sugarcane is important cash grown all over the world. It belongs to the grass family poaceae. Sugarcane is the world largest crop. In 2010, FAO estimate it was cultivated on about 23.8 million hectare land, in more than 90 countries, with a worldwide harvest of 1.69 billion tones. To sustain a huge agro-industry a wide research infrastructure has been created in the country. At present the country has three national institute and 53 state research stations and four sugar factory sponsored research stations. At the national level all research activities are coordinated by an all India coordinated Research Project which operates under the control of Indian Council of Agricultural Research (ICAR). Integrated Pest Management (IPM) is a broad ecological approach for pest Management which employs all available skills, technique and methods include applications of chemical pesticide as a last resort in a harmonious and compatible manner with a view to suppress pest population below the economic injury level, on regular crop pest surveillance and monitoring. The Integrated Pest Management is a dynamic approach and process varies from region to region, time to time, crop to crop and pest to pest etc. and at minimizing crop losses with due consideration to human health besides safety to environment live and let live is the philosophy behind Integrated Pest Management. Integrated Pest Management approach has been global accepted for achieving sustainability in agriculture. The philosophy of Integrated Pest Management did not percolate down to the farmers for quite a long time after its presentations and prescription for solving pest problems in modern agriculture. It was also suggested that the illiterate farmers of developing countries were unable to grasp the concept of Integrated Pest Management and therefore could not implemented it. However, the pessimists have been proven wrong and the same farmers have now demonstration that they are quite capable of understanding the intricacies of Integrated Pest Management.

#### Result and discussion-

- (1) **Summer deep ploughing:** In above table shown that maximum respondent were fully aware about the summer deep ploughing. Among total sample size 5.0 percent respondents were reported to be not aware and 15.00 percent respondents were reported to be partially aware, only 80% respondents were fully aware about summer deep ploughing.
- (2) **Proper spacing:** It is presented from table that most of respondents are partially aware about the proper spacing.

Among the total sample size 33.33 percent respondents reported to be fully aware. Only 12.50 percent respondents were reported to be not aware and remaining 54.17 percent respondents were reported to be partially aware about the proper spacing in sugarcane crop.

- (3) **Recommend seed rate:** Given table shown that 25.00 percent respondents fully aware, 66.67 percent respondents were partially aware and only 8.33 percent respondents were not aware about the recommended seed rate of sugarcane.
- (4) **Removal of previous crop residue:** Given table represent that 16.67 percent respondents were fully aware, 66.67 percent respondents were partially aware, and 16.66 percent respondents were not aware about of

removal of the previous crop residues. Maximum respondents were partially aware.

- (5) **Crop rotation:** Given table shown that 25 percent respondents were fully aware, 45.83 percent respondents were partially aware and only 29.17 percent respondents were not aware about the crop rotation in sugarcane crop. Table indicate that maximum farmers partially aware about the crop rotation.
- (6) **Mixed cropping:** Given table shown 21.67 percent respondents were fully aware, 57.50 percent respondents were partially aware and only 20.83 percent respondents not aware about the mixed cropping. Table result is that most of the respondents were partially aware.

**Table 1:** Knowledge level of sugarcane grower regarding Integrated Pest Management (IPM) practice

S. No.	Statement	Fully known		Partially known		Not known	
		F	P	F	P	F	P
1.	Respondent knowledge about summer deep ploughing	90	80.00	18	15.00	0.6	5.00
2.	Respondent knowledge about the proper spacing	40	33.33	65	54.17	15	12.50
3.	Respondent knowledge about the recommendation seed rate	30	25.00	80	66.67	20	16.66
4.	Respondents knowledge about the removal of previous crop residues?	20	16.67	80	66.66	20	16.66
5.	Respondent's knowledge about the crop rotation?	30	25.00	55	45.83	35	29.17
6.	Respondents knowledge about the mixed cropping	26	21.67	69	57.50	25	20.83

F=Frequency, P=Percent

Constraints refer to the problem faced by sugarcane growers in adaption of suggestion Integrated pest management practices related to sugarcane production. It is listed in given table that following constraints /problem were faced by sugarcane grower in the adaption of Integrated Pest Management practices.

It is shown above table that major constraints of sugarcane growers were found that the quality of IPM material are not available in public sale Centre was the major problem of sugarcane grower in rural areas. In general respondents were not get IPM materials at proper time and more often respondents had to depend on the extension /private agencies. Among the farmers lack of storage facility for storage of IPM material were the second most serious facility for storage of

IPM material were the second most serious problem of the respondents in adaption of IPM practices in sugarcane cultivation Along with these sugarcane grower about 90% respondents were faced problem that advance payment demanded by labour and 87.50% respondents were found problem that the short life of bio agent in rural areas 86.66 % respondents said that there is no supply of improved IPM tools for efficient application of IPM practices.

An overall picture of the given table that the IPM practices were not communicated in an understandable form appeared top most constraints and lack of knowledge about the improved IPM practices of sugarcane growers was the least, important constraints as explained by the respondents.

**Table 2:** To find out the major constraints faced by the sugarcane growers regarding to adaption of Integrated Pest Management practices.

S.N.	Constraints	Frequency	percent	Rank
1.	Luck of storage facility for Integrated Pest Management in rural areas.	112	93.33	II
2.	Lack of confidence to accept new technology	75	62.50	XI
3.	More risk involved in Integrated pest management	96	80.00	VIII
4.	Lack of information about improved practices	48	40.00	XIII
5.	Lack of information about Bio-agent, bio-fertilizers, Bio -Pesticides etc.	72	60.00	XII
6.	Short shelf -life bio agent etc.	105	87.50	IV
7.	High production cost Integrated pest management	99	82.50	VII
8.	Quality Integrated Pest management	113	94.16	I
9.	Improved intergraded pest management	104	86.66	V
10.	Less number information Centers.	102	85.00	VI
11.	Advanced payment demanded by labour	108	90.00	III
12.	Poor economic status of farmers	78	65.00	X
13.	Requirement of more labour	90	75.00	IX

### Recommendations and Suggestion

- The awareness should be created about the improved Integrated Pest Management practices in rural areas through training, meeting and demonstration etc.
- The educational facility should be increased in the rural areas to improve the educational status of farming community.
- Quality Integrated Pest Management material should be provided like bio-pesticides, bio-agents, bio- fertilizers

and different type traps in government sale Centre.

- Majority of the respondents were requested that training and demonstration should be organized at large scale.

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