

*Full Length Research Paper*

## Perceptions of in-service personnel on Integrated Pest Management (IPM) training

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Ajmer district is famous for vegetable cultivation and vegetable crops suffer heavy losses due to serious pests during its crop period. Integrated Pest Management (IPM) practices play a vital role in managing these pests. One of the important mandate of the Krishi Vigyan Kendra (KVK) is to organise training programme for "In-service personnel" to update them with latest available technologies in the field of Agriculture. Therefore, the present investigation was carried out at KVK, Ajmer with a view to evaluate the effectiveness of in-service training conducted on IPM practices for major crops for the extension personnel. Forty four extension personnel of the Department of Agriculture, Government of Rajasthan have attended this training course in two batches. The data were collected with the help of semi-structured schedule. The schedule was developed with the help of Entomologist of KVK Ajmer and Pathologist of National Research Centre on Seed Spices, (NRCSS) Ajmer. Result revealed that, there was a significant gain in knowledge on IPM by the extension personnel at the end of the training programme as their mean percent score increased from 39.65 to 68.69 with the gain of 29.04 mean percent score. It was also concluded that, the most of the trainees rated the training components excellent. However, some participants have expressed that, the training components viz., participants' involvement, lodging facilities and level of discussion needed more emphasis. The main suggestion made by the respondents was that the training must be of 5 to 7 days duration. This may be attributed to the fact that, the training programme was need based and conducted in effective manner.

**Key words:** Integrated Pest Management (IPM), extension personnel, pests, Krishi Vigyan Kendra (KVK).

### INTRODUCTION

A large number of extension functionaries are working in the Department of Agriculture, Government of Rajasthan. Since agricultural production is entirely in the hands of farmers, the extension functionaries have the central role in informing, motivating and educating the farmers about the available technological, managerial and market opportunities. This extension enables farmers to improve their productivity and income. For information to empower farmers, it is essential to keep up-to-date to extension personnel. Training is considered important man-monetary

inputs in aspects of developmental programmes. It helps people to become qualified and proficient in doing some jobs (Dahama, 1979). Increased productivity is often said to be the most important reason for trainees but this is only one of many benefits. These include motivation of workers by informing how important their job areas are and giving them all the information they need to perform those jobs (Anonymous, 1998). Without the right training, employees can be the organizations biggest liability. However trained effectively, they can become the

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organizations biggest assets (Bartram and Gibson, 2000).

In general terms, Integrated Pest Management (IPM) is defined as a sustainable approach to managing pests by combining biological, cultural, physical and chemical tools in a way that minimizes economic, health and environmental risks (National coalition on integrated pest management, 1994). In other words, IPM is a management approach that encourages natural control of pest populations by anticipating pest problems and preventing pests from reaching economically damaging levels. The training of extension functionaries on IPM was specifically aimed to improving the training capability and facilitating skills of the participants to become more able to facilitate IPM technology and process to the farmers. The technologies are moving so fast that they become obsolete even in a very short time. Hence, the scientist of Krishi Vigyan Kendra (KVK) must impart intensive training programmes on IPM to in service personnel to keep them updated on IPM. It would assist farmers in developing the ability to be critical so that, they could render crop production system more productive, profitable and sustainable.

Knowledge is a body of understood information possessed by an individual and it is considered as a pre-requisite for adoption of technology. Samiee et al. (2009) attributed that, knowledge plays a crucial role in adoption of IPM practices. Lack of knowledge, is the key obstacle to the widespread use of IPM and therefore extension programs are needed to increase the knowledge level of farmers about IPM techniques. The KVK Ajmer is engaged in training of in service personnel in various aspects of IPM techniques. As part of this training there is a system for regular evaluation and impact assessment in terms of knowledge gain and adoption of these technologies in farmers' fields. Evaluation of such training programme will enable the KVK to further improve these programmes based on the feed-back. The aim of present investigation was to evaluate the effectiveness of in service training conducted on IPM practices for major crops for the extension personnel of state agriculture department. The present study was carried out with the following objectives:

- (i) To find out the gain in knowledge by the trainees as a result of the training.
- (ii) To assess the perceptions of the trainees about the quality of training.
- (iii) To seek the suggestions of the trainees to improve the training programme.

## METHODOLOGY

The present investigation was carried out at Krishi Vigyan Kendra, Ajmer where 24 participants attended the first training and 28 participants attended a second training course. For the purpose of the study, 44 extension personnel who participated in these training programmes were included. Knowledge is a body of understood information possessed by an individual and it is considered as a

pre-requisite for adoption of technology. In the present study knowledge denotes understood information possessed by the participants about IPM practices. The data were collected with the help of semi-structured schedule. The schedule was developed with the help of Entomologist of KVK Ajmer and Pathologist of National Research Centre on Seed Spices, (NRCSS) Ajmer. Questionnaire technique was used for collection of required information before and after their exposure to the training programme. The maximum possible score was 40 for the knowledge test. Quality of the training was measured by taking into account the impression of the trainees about various aspects of training. The scale used by Dangi and Veer (2001) was used for the study purpose. The excellence of each item as expressed by the participants was recorded on 4-point ordinal scale.

## RESULTS AND DISCUSSION

There was a significant ( $t = 22.54$ ,  $P < 0.01$ ) gain in knowledge of IPM by the extension personnel at the end of the training programme, mean percent score increased from 39.65 to 68.69 with the gain of 29.04 mean percent score. This finding was in line with the studies conducted by Sharma and Kushwah (2004) who concluded that, knowledge index of extension personnel after training programme was higher than their knowledge index before the training.

### Perceived quality of training

Perception of extension personnel about the quality of training though looks minor but can lead to adverse results, if not managed properly. The frequency distribution of the trainees in relation of different alternatives was computed and percentage accordingly was presented in the Table 1. The table revealed that 93.18 percent respondents were of the view that the usefulness of the course content in field conditions was excellent. The reason may be due to the fact that, mostly, farmers asked extension officers only when the crop is infested with disease or insects.

Regarding the use of Audio Visual (AV) aids viz., Posters, LCD presentation etc. 90.90 percent respondents perceived that the use of AV aids was excellent while only 9.09 percent reported it was good. This may have been because all trainers presented their lectures with LCD. The majority of participants (81.81%) reported that, the instructional team was excellent (Table 1). This may be the guest lecturers specialists invited from National Research Centre on Seed Spices and Adaptive Trial Centre Ajmer for covering the disease and insect management aspects.

The course content was locally relevant with, 63.66% respondents perceived the course content was excellent while 36.66% respondents reported that, it was good as it covered all major pest and disease problems of Ajmer district. This content was delivered at the right level for the participants; with 56.81% trainees expressed that, organization of content and language of expression was

**Table 1.** Quality of training as perceived by the trainees (N = 44).

Particular	Degree of excellence			
	Excellent	Good	Fair	Poor
Course content	28 (63.66)	16 (36.36)	-	-
Organization of content	25 (56.81)	19 (43.18)	-	-
Level of discussion	20 (45.45)	15 (34.09)	07 (15.90)	02 (4.54)
Relevance of contents	20 (45.45)	18 (40.90)	06 (13.63)	-
Use of AV aids viz., posters, LCD presentation etc.	40 (90.90)	04 (9.09)	-	-
Language of expression	25 (56.81)	15 (34.09)	04 (9.09)	-
Class room facilities	30 (68.18)	14 (31.81)	-	-
Participant involvement	15(34.09)	15 (34.09)	10 (22.72)	04 (9.09)
Reading material	24 (54.5)	20 (45.45)	-	-
Group activities	14 (31.81)	15 (34.09)	15 (34.09)	-
Instructional team	36 (81.81)	08 (18.18)	-	-
Boarding and lodging	10 (22.72)	10 (22.72)	15 (34.09)	09 (20.45)
Usefulness of course content in field	41 (93.18)	03 (6.81)	-	-

**Table 2.** Suggestions given by the trainees for improving the training.

Suggestion	Percent	Rank
Training programme must follow field visit	90.00	II
Training must be of 5 to 7 days long duration on this type of subject	98.00	I
Trainers must use live samples of disease and insect infested crops, specimen of insects during the training programme to make the training session interesting and effective	20.00	V
During training programme, practical session should be incorporated	50.00	IV
Sufficient funds should be made available for lodging facility in KVK	70.00	III

excellent during the training. At the same time, 45.45% of the respondents opined that level of discussion and relevance of content was excellent during entire training programme.

The literature distributed during the training programme was not only relevant to subject but also covers cultivation practices of major crops and vegetables of Ajmer district with 54.55% trainees expressed that, reading material distributed during training programme was excellent while 45.45% reported that, it was good. These literatures distributed were namely IPM in vegetable crops, IPM in cotton, improved cultivation of major kharif and rabi crops etc. These extension bulletins covered all the major insect, pests and diseases of crops, their nature of damage, marks of identification, life cycle, various control measures and IPM techniques with photographs.

The training hall of KVK Ajmer is well-equipped with LCD, TV, VCR, marker display board, intercom, and public address system and seating, with 68.18% respondents reported that, the class room facility was excellent (Table 1). 20% trainees also expressed that, boarding and lodging facilities during training programme

was not to their satisfaction and therefore they recorded it as poor. Although boarding was good at KVK but the meal was of substandard. This may be viewed in the perspective that, there was a low budgetary provision for lodging during on campus training organized by KVK. Such feedback by farmers has also been reported by Dangi and Veer (2001) and Sharma and Kushwaha (2004).

### Suggestions of trainees

It was also a responsibility of extension scientist of KVK to ask suggestions from the trainees for improving the effectiveness of training programmes (Table 2) that, the most important factor identified by participants was that training must be of 5 to 7 days duration regarding the subject content during this programme (Table 2). Other important measures suggestions were that, the training programme must be followed by field visits.

Sufficient funds should be made available for lodging facility in KVK, during training programme, practical session should be incorporated and trainers must use live

samples of disease and insect infested crops, specimen of insects during the training programme to make the training session interesting and effective were ranked III, IV and V, respectively (Table 2).

### Conclusion

Training was effective in improving the knowledge level of extension functionaries in IPM. Most of the trainees rated the training components excellent. However, some participants have opined that, the training components viz., participants' involvement and lodging facilities were poor; hence these areas could be improved for future training programmes. The involvement of participants was not considered complete and satisfactory because the group activity assigned to them such as making of charts regarding life cycle of insect pests and their possible damage at different stages was not done in assigned time. This could be circumvented by increasing the duration of the training programme and sensitization by experts in group activities. The main suggestion made by the respondents was that, the training must be of 5 to 7 days duration. This may be attributed to the fact that, the training programme is needed and it should be based and conducted in interesting and benefitting manner.

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