A Case Study

Need based trainings and constraints of banana growers in Bhagalpur, Bihar

■ANIL PASWAN, K.K. SINHA, J.N. SRIVASTAVA AND ARUN KUMAR PASWAN

SUMMARY : The present study was undertaken in Bhagalpur district of Bihar to examine needs for training in relation to the knowledge gap of banana growers in various areas of improved banana cultivation technology. The study was conducted by purposively selecting Naugachia block of Bhagalpur district. 95 banana growers were selected from two villages randomly with through use of structured interview schedule. Findings indicate that the perceived training need in the area of plant protection measure was of the first choice. The training community preferred relatively a long duration training through demonstration/field trip method to be organized at the field itself. The main constraints perceived by banana growers were low profit due to high cost of cultivation and susceptibility of plant to diseases like banana with. The study suggests to develop a package of measures to enhance the level of adoption of recommended banana production technology by way of conducting training programmes, demonstration and field day to convince the farmers. The identification of the training needs and assessment of knowledge gap will help the administrators, specialists and extension personnel in making the organization of the training programme on this crop more effective and fruitful for the farmers in Bhagalpur district and in similar other situations in state and in the country.

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BACKGROUND AND OBJECTIVES

Banana (*Musa* species) the "queen of tropical fruit" is considered to be one of the oldest fruits known to mankind. Banana is considered as the most important energy providers' food and is a good source of mineral, salts and vitamins. Banana produced a more balanced diet than many fruits. It has enjoyed universal popularity in this country from times immemorial. It may be one of the reasons why the banana is called "apple of paradise". It is the oldest cultivated tropical fruit in India accounting for 31.07 per cent of total fruit production from 12.44 per cent area under fruit crops. At present India is the largest producer of banana in the world (Kumar, 2008). In the state Bihar, it is also the second most important fruit crop after mango and is mostly grown in two region *viz.*, Vaishali and the north eastern (Koshi) region. In the tract

around the Ganga basin of Bhagalpur district banana cultivation is specialized type of farming giving more remunerative income to the growers in comparison to cereals and other plantation crops. Agro climatic situation of this district is well suited for banana cultivation and possesses abundant scope for extension of area under this fruit. The production and productivity is much lower in the state as compared to other states like Maharashtra, Gujrat and Tamilnadu. The simple reason for the low production and productivity seems to be the lack of scientific knowledge of banana production technology. Sufficient research has been conducted by Rajendra Agricultural University itself through various centers on the basis of which the production technology of banana has been standardized but it seems that the farmers of this state are by and large unaware of latest production technology of this fruit crop.

Author for correspondence :

J.N. SRIVASTAVA
Department of Plant Pathology, Bihar Agricultural University, BHAGALPUR (BIHAR) INDIA

See end of the article for authors' affiliations

RESOURCES AND METHODS

The study was conducted in Bhagalpur district of Bihar. Bhagalpur district was purpositively selected as area of research in view of its importance in terms of area and total production of banana crop. Among 15 blocks, Naugachia block having the highest acreage under banana cultivation was per positively selected as locale of research. Two banana growing villages having the largest area under banana cultivation were selected. For the purpose of selection of the respondents, stratified random sampling procedure was used and 95 respondent farmers from each strata were selected by random sampling procedure (Babanna,2002). Further, the training need index for each respondent was calculated in terms the areas of knowledge gap were considered to be the areas of training need (Sreedaya *et al.*, 2000).

In the present investigation, attempt has also been made to know the perception of the farmer in relation to their need for training in different areas of improved banana cultivation technology. The perception of the farmer regarding training need was measured in the six main area of the improved banana cultivation technology which were selected and used to measure the knowledge gap.

The training needs of farmers in these 6 main areas of improved banana technology were observed. As perceived by them, were measured on 93 point continuums. A three point continuum consisting of Ist choice, 2nd choice and 3rd choice was used and scores of 3, 2 and 1, respectively was given as the value of these levels for quantification (Bheemappa, 2001).

On the basis of response of the respondents, priorities based on the first, second and third choice was tabulated to find out within the group variability in ranking training need. Following this, average choice score (ACS) was worked out by using following formula as suggested by Achuta Raju and Radhakrishanmurthy (2000):

$$ACS = \frac{(CI \times 3) + (C2 \times 2) + (C3 \times 1)}{3}$$

where,

C1 is the first choice
C2 is the second choice
C3 is the third choice

The opinion of the farmers regarding various components of training programmes namely venue, duration, training methods and size of trainees was studied by training suitable questions under each component.

OBSERVATIONS AND ANALYSIS

The discussion in the proceeding section has delineated the gap in the knowledge of each of the main areas as well as

sub-areas of improved banana cultivation technology existed among the banana farmers. These knowledge gaps observed in an area, can be used to judge the relative training needs in that area keeping into consideration the fact that higher is the knowledge gap in an area of the improved banana cultivation technology, greater would be the need of training in that area. For instance the study concludes that the highest knowledge gap exists in the main areas of plant protection measures of the banana cultivation. Therefore, first priority needs to be given in this area of banana cultivation technology while organizing farmers training on this crop (Kubde *et al.*, 2000).

The training needs of the farmers in the six main areas of improved banana cultivation technology as perceived by farmers are presented in Table 1. This table reveals that the perceived training need in the area of plant protection measure of improved banana cultivation technology was first preference in the case of banana farmers as the average choice score was highest in this area. Therefore, this area was ranked first. The training in the area of fertilizer management was perceived by the banana farmers as the second preference, since the average choice score of this area was second after the plant protection measures. Similarly, the area such as post-harvest technology was perceived by them as third preference so far as the need for training in that area was concerned. The fourth preference for training needs was the area of crop management according to the perception of the banana farmers and the areas of irrigation management were perceived by them as the fifth preference. The last choice in terms of training need was expressed by the total farmers in the area of pre planting technique.

Table 1: Area of training needs as perceived by the farmers

Sr. No.	Main areas	Average choice score	Ranking
1.	Pre-planting technique	1.86	VI
2.	Fertilizer management	2.26	II
3.	Crop management	2.16	IV
4.	Irrigation management	2.05	V
5.	Plant protection measures	2.49	I
6.	Post harvest technology	2.21	III

After analyzing the farmers perception about their training need in the improved banana cultivation technology, it was thought essential to know the farmers preference with respect to the venue of training, time of training, duration of training, method of training, want to take training and size of trainees.

Venue of training :

The farmers were asked to mention their liking for the

different venue of training presented in Table 2. Table 2 shows that organization of training camp at the field level was preferred as ideal place by majority of the farmers. The second preference for organizing the training was at the village level as this placed suited for training purpose of the total farmers. The third preference for organizing the training was the block headquarters. The agricultural University level was the last preference for organizing the training camp for all the farmers.

Table 2 : Preference for ideal place for organizing training

Sr. No.	Response categories	Mean score	Ranking
1.	At the field	2.37	I
2.	In the village	2.34	II
3.	At the Block headquarters	1.73	III
4.	At agricultural university level	1.23	IV

Time of training :

The farmers liking for different time of training was also determined. The related data have been presented in Table 3. This Table 3 indicated that the perceived training need at the plant protection management of improved banana cultivation technology was first preference in the case of banana farmers as the mean score was highest. Therefore, this area was ranked first.

Table 3: Preference for time of training

Sr. No.	Response categories	Mean score	Ranking
1.	At the nursery management	2.32	II
2.	At the time of planting	2.15	IV
3.	Raising at plant	1.86	V
4.	At the slack period	1.40	VI
5.	Plant protection management	2.37	I
6.	Post harvest technology	2.23	III

The second preference for time of training was at the nursery management and post harvest technology, time of planting and raising of plant and were perceived by them as the third, fourth and fifth preference, The last choice in terms of training need was expressed by the total farmers at the slack period.

Duration of training :

The farmers liking for different duration of training was also determined. The related data have been presented in Table 4.

Table 4: Preference for duration of training

Sr.No.	Response categories	Mean score	Ranking
1.	One day training	1.57	IV
2.	Two days training	1.89	II
3.	Three days training	1.84	III
4.	Training for one week	2.42	I

Interestingly the table reveals that organizing the training camp for seven days duration was liked most by all the farmers. The two days training was the second liking, three days training the third liking and one day training was the last liking(Resmy *et al.,* 2001).

Method of training :

Data presented in the Table 5 shows that majority of the farmers liked to be trained through demonstration and field trip. Training through demonstration was the second liking, through audio-visual aids the third liking, through tour the fourth liking and trained through training in class-room situation through lecture or discussion was the last liking.

Table 5: Preference for method of training

Sr. No.	Response categories	Mean score	Ranking
1.	Training in class room situation through lecture or discussion	1.86	V
2.	Training through demonstration and field trip	2.49	I
3.	Audio-visual aids	2.33	III
4.	Demonstration	2.41	II
5.	Tour	2.02	IV

Trainers' category :

The farmers opinion for different category of trainers preferred for training programme was determined. The related data and its analysis have been presented in Table 6. Table clearly revealed that organization of training programme by university scientist was given first rank by the farmers. The farmers gave 2nd, 3rd, 4th and 5th rank to district horticulture officer, progressive farmers, VLW's and block level officer, respectively (Singh and Saini, 2004).

Table 6: Preference for trainers

Sr. No.	Response categories	Mean score	Ranking
1.	V.LW's	2.01	IV
2.	Progressive farmers	2.12	III
3.	Block level officer	2.00	V
4.	District horticulture officer	2.18	II
5.	University scientist	2.47	I

Size of trainees :

The farmers' opinion on different size of trainees programme was also determined. The related data and its analysis have been present in Table 7.

Table 7: Preference for size of trainees

Sr. No.	Response categories	Mean score	Ranking
1.	Up to 25 farmers	2.57	I
2.	25 to 50 farmers	2.27	II
3.	Above 50 farmers	2.14	III

Table 7 revealed that the size of trainees up to 25 farmers was given first rank by the farmers. The farmers gave 2nd rank, 3rd rank to 25-50 farmers and above 50 farmers, respectively.

Problem in banana cultivation as perceived by the farmers :

Attempt was also made in the study to know the various problems associated with the cultivation of banana as perceived by the farmers. The data are presented in Table 8.

It is clear from the table the main problems that the banana growers perceived were low profit due to high cost of cultivation (89.47%) and susceptibility of plant to disease like banana wilt (86.13%). However, only 24.21 per cent felt non-availability of suitable improved variety and 26.31 per cent felt as failure in fruit formation due to unfavourable weather conditions. This suggests that intensive programme of training and demonstration should be conducted in the area to up-date and renew knowledge about banana production technology.

Conclusion :

The study reveled that the perception of the farmers concerning their need for training in different areas of improved banana cultivation technology was in relation to the knowledge gaps which were found to exist. They not differed in their perception. The perceived training need in the area of plant protection measure was of first preference in the total respondents whereas the maximum knowledge gap in this area. The second choice of training was perceived by respondents in the area of fertilizer management. The last choice in terms of training need was expensed by the farmers in the area of pre-planting techniques.

Majority of the respondents preferred organizing the farmers training in the field itself as this was the ideal place for training as perceived by them. The farmers did not like the training to be organized at the Agricultural University. The respondents preferred for time of training need the plant protection management of improved banana cultivation technology was first preference.

The farmers preferred long duration training of one week in various areas of the improved banana cultivation technology. The farmers did not prefer training of one or two day duration. Training in the different areas of improved banana cultivation technology was preferred by demonstration /field trip method as this training method was perceived to be the best training method by all the farmers. The farmer's opinion that organization of training programme by university scientist was first choice. Size of trainees up to 25 farmers was first preference of the improved banana cultivation technology by the farmers.

All the farmers perceived the low profit due to high cost of cultivation of banana in time was the most serious problem. Similarly, susceptibility of plant to disease like panama wilt as well as high price of chemicals for plant protection was also perceived as a serious problem. The other problem as perceived by them was lack of contact with agricultural scientist, lack of knowledge about banana production technology etc.

Table 8: Constraints perceived by banana growers

Sr. No.	Constraints	Frequency	Percentage	Rank	Over all rank
	Technological constraints				
i	Susceptibility of plant to disease like panama wilt	82	86.13	I	II
ii	Incidence of insect/pest attack like banana weevil	74	77.89	II	VI
iii	Poor yield due to nutrient deficiency in the soil	41	43.15	III	IX
iv	Non-availability of suitable improved variety	23	24.21	V	XI
v	Failure in fruit formations due to unfavorable weather conditions.	25	26.31	IV	X
	Socio personal				
i	Lack of knowledge about banana production technology	76	80.00	II	V
ii	Lack of contact with Agricultural Scientist, BAO and VLW's	79	83.15	I	IV
iii	Poverty of respondent	71	74.73	III	VIII
	Economic				
i	Low profit due to high cost of cultivation	85	89.47	I	I
ii	High price of chemicals for plant protection	81	85.26	II	III
iii	High price of manure and fertilizers	73	76.84	III	VII

Authors' affiliations :

ANIL PASWAN, Department of Extension Education, Bihar Agricultural University, BHAGALPUR (BIHAR) INDIA

K.K. SINHA AND **ARUN KUMAR PASWAN,** Department of Extension Education, Rajendra Agricultural University, SAMASTIPUR (BIHAR) INDIA

REFERENCES

Achuta, Raju and Radgakrishanmurthy, C.H. (2000). Knowledge level of beetle vine growers. *J.Extn. Edu.*, **12** (4): 3271-3276.

Babanna, T. (2002). Inormation source consultancy and training needs of farmer in arecanut cultivation under Tungabhadra command area in Shimoga District. M.Sc. (Ag.) Thesis, University of Agricultural Sciences. Bengaluru, KARNATAKA (INDIA).

Bheemappa, A. (2001). A comparative analysis of knowledge and technological gap in adoption of paddy and cotton cultivation practices between migrant and non-migrant farmer of TBP command area. Ph. D. Thesis University of Agricultural Sciences. Dharwad, KARNATAKA (INDIA).

Kubde, V.R. Bhole, S.R. and Tekale, V.S. (2000). Knowledge and adoption of cultivation and storage practices of potato. Maharashtra. *J. Extn. Edu.,***19**: 293-298.

Kumar, H.S. (2008). A study on knowledge,adoption and economic performance of banana growers in Bangalore. M.Sc. (Ag.) Thesis, University of Agricultural Sciences. Bengaluru, KARNATAKA (INDIA).

Resmy, C., Shivamurthy, M. and Tapre, Varsha (2001). Constraints in adoption of sustainable practices in coconut and Banana. *Indian J. Extn. Edu.*, **37**: (1&2).

Singh, Kuldeep and Saini, S.K. (2004). Formative evaluation of vocational training courses organized by Krishi Vigyan Kendra in Punjab. *J.Extn. Edu.,***15** (4): 21-24.

Sreedaya, G.S.,Kumari, N.P. and Sushma (2000). Training needs of farmer in vegetable cultivation. *Maharashtra J. Extn.Edu.*, **19**:92-94.

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