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Training strategy for enhancing farmer's knowledge about wheat production technology

AK Paswan and MN Ansari

Abstract

The study was carried out over 180 farmers in the lower and higher wheat productivity block in Madhubani district of Bihar with the specific objective to examine the training strategy for enhancing the farmer's knowledge about wheat production technology. The findings indicated that majority of the highest productivity block respondent preferred organizing training programme in the village level whereas the same was preferred at the field in the case of lowest productivity block respondent. The farmers preferred two day's training in various areas of the improved wheat production technology. Most of the farmers did not prefer one day or, long duration training of one week. Training in different areas of improved wheat production technology was preferred by demonstration and field trips method, as this training method was perceived to be the best training method by the respondent of both the blocks.

Keywords: Training strategies, knowledge, wheat, production technology

Introduction

Wheat (*Triticum aestivum* L.) the king of cereal is of special significance in Indian agriculture for triggering green revolution. It is second most important grain crop after rice in India. It plays a vital role in stabilizing national food supply and ensuring food cum nutritional security. Presently India is the second largest wheat producing country in the world next to China. Wheat crop is grown under adverse agro- climatic conditions in India and occupies about 30 million hectare areas, with the production 108.75 million tones, having national average productivity of 3424 Kg/ha. (2020-21). The major wheat growing states of India are Uttar Pradesh, Punjab, Haryana, Rajasthan Madhya Pradesh and Bihar. Bihar accounts for 2.3 million hectare of wheat area, but share only 5.58 million tones production, with productivity level 2800 Kg/ha, which is much lower as compared to the national average. However, there is ample potentiality for increasing wheat yield in the state which has been proved from results of national demonstration conducted on farmer's field. With the shrinking land resources in present scenario it become more essential to raise up the vertical productivity, because there is very little scope for increasing horizontal productivity.

In Bihar, land vacated by late sown paddy early potato, or other late maturing kharif crops are increasingly being put to wheat cultivation. A sizeable chunk of area also remains waterlogged or, wet till early or, mid-December, where wheat is sown when the water recedes. Cumulatively about 40 per cent of wheat area in the state is covered under late or, very late sown wheat with low level of productivity. The expansion of crop cultivation in unfavorable area leads to decline in productivity. Wheat is also the second most important cereal crop after rice (59.6%) in the Madhubani district of Bihar. This district is predominantly an agriculture district of the state. It represents basically a rural economy of the state. As this district stand at third lowest position in terms of productivity of wheat in the state, it needs a support with technological back stopping for increasing its productivity. This district occupies 26.05 per cent area of wheat followed by pulses (7.34%) and oil seed crop (4.25%). But in spite of vast area and immense potential for boosting wheat production, Madhubani still remains one of the deficit districts, due to its low productivity this low production and productivity can be enhanced if the farmers are provided information related to latest wheat production technology including the new varieties. Keeping in view in mind the study was carried out to explore training strategy for increasing the knowledge of farmers about wheat production technology.

Materials and Methods

The study was conducted in Madhubani district of Bihar. Two blocks namely Rajnagar and Kaluahi were selected on the basis of productivity figure.

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One block with highest productivity and other with the lowest productivity figure was selected as locale of research. Further, the two villages from each block were chosen one having the highest productivity and other with lowest productivity figure. In each selected village, the list of wheat growing farmers were prepared and divided into three categories i.e., small, medium and large in terms of land holding possessed by them. Out of this three categories of farmers in each village fifteen farmers from each category were chosen following the random sample techniques. In this way the respondent sample was consist of forty five farmers from each selected village consisting 15 small, 15 medium, and 15 large farmers making a total of 180 farmers in four selected villages.

Results and Discussion

Preference for various components of training programme for enhancing the knowledge of farmers about Wheat production technology

After analysis farmer's perception about their training need in

the wheat production technology, it was thought essential to know the farmers preference with respect to the venue of training, time of training, duration of training, size of training, method of training, trainers categories and follow-up stage of training programme. The data obtained were analyzed and findings are presented below:

Venue of training

The farmers were asked to mention their linking for the different venues of training. The pattern of their responses is given in Table 1.

The Table 1 shows that, organizing of training camp at the village level was preferred ideal place by majority of the farmers in the case of total farmers. Organization of training camp at the field level and at the demonstration plot was ranked second and third preference respectively. The organization of training camp at the block office and at agricultural university was the fourth and fifth preference by the farmers respectively.

Table 1: Preference for ideal place for organizing training

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
At the field	2.35	II nd	2.37	I st	4.72	II nd
In the village	2.44	I st	2.50	II nd	4.94	I st
At the block office	1.28	V th	1.85	IV th	3.13	IV th
At Agril. university	1.44	IV th	1.41	V th	2.85	V th
Demonstration plot	1.78	III rd	2.27	III rd	4.05	III rd

Time of training

Time of training is one of the important components for the success of any training programme. The farmers linking

different time of training were also determined. The selected data have been presented in Table 2.

Table 2: Preference for time of training

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
Before commencement of crop season	2.36	I st	2.50	I st	4.86	I st
At the time of sowing	2.17	II nd	2.28	II nd	4.45	II nd
At standing crop period	2.15	III rd	2.15	III rd	4.30	III rd
During the slack season	1.52	IV th	1.42	IV th	2.94	IV th

The table 2 indicated that in all the cases the perceived need for organizing training programme is similar trends. Before commencement of crop season of wheat production technology was first preference, as the average choice score was highest in all the cases. Therefore, this area was ranked first. Similarly, the second, third and fourth preference was given at the time of sowing, at the standing crop period and

during the slack season respectively, in all the three cases of farmers.

Duration of training

The farmers linking for different duration of training was also determined. The related data have been presented in Table 3.

Table 3: Preference for duration of training

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
One day training	1.94	II nd	1.81	IV th	3.75	III rd
Two days training	2.50	I st	1.88	II nd	4.38	I st
Three days training	1.88	III rd	1.83	III rd	3.71	IV th
Training for one week	1.70	IV th	2.47	I st	4.17	II nd

The Table 3 revealed that, organizing training programme of two day's duration was to given first rank by the total farmers. The farmers give second, third and fourth rank was organizing training programme for one week duration, one day training, and three day's training respectively. The table further revealed that, in case of highest productivity block, majority of farmer's opinion regarding organizing the training camp for two days duration was ranked first. The farmers gave

second, third and fourth ranked was one day training, three day's training and training for one week duration respectively. While in the case of lowest productivity block farmers gave first preference regarding organization of training programme was training for one week duration. The farmers gave second, third, and fourth preference was two days training, three days training and one day training duration respectively.

Size of trainees

The farmer's opinion for different size of trainees of training

programme was also determined. The results of findings presented in given below table:

Table 4: Preference for size of trainees

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
Upto 25 farmers	2.12	III rd	2.61	I st	4.73	II nd
26 to 50 farmers	2.58	I st	2.26	II nd	4.84	I st
Above 50 farmers	2.31	II nd	2.14	III rd	4.45	III rd

The Table 4 revealed that the size of trainees 26 to 50 farmers was gave first rank by the total farmers. The farmers gave second and third rank to up to 25 farmers and above 50 farmers respectively. Whereas in case highest productivity block, farmers gave also first rank to the 26 to 50 farmers. The farmers gave second and third preference to above 50 farmers and up to 25 farmers respectively. While in case of lowest productivity block, farmers gave first rank to the up to

25 farmers. The preference for 26 to 50 farmers and above 50 farmers occupied second and third place respectively.

Method of training

The farmer's linking for different methods by which they would like to be trained was also ascertained. The pattern of their linking has been shown in table 5.

Table 5: Preference for methods of training

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
Lecture method	2.22	III rd	2.33	II nd	4.55	II nd
Question-answer method	1.91	V th	1.87	V th	3.78	V th
Practice by trainees	1.63	VI th	1.61	VI th	3.24	VII th
Demonstration & field trips	2.47	I st	2.34	I st	4.81	I st
Audio-visual aid	2.43	II nd	2.05	III rd	4.48	III rd
Tour	2.13	IV th	2.04	IV th	4.17	IV th
Published material	1.83	VI th	1.56	VII th	3.39	VI th

The results presented in the table 5 indicated that majority of highest productivity block farmers linked to be trained through demonstration & field trips. Training through audio-visual aid was second rank, and training through lecture methods, tour, question-answer method, published material and practice by trainees was the second, third, fourth, fifth, sixth and seventh linking of training respectively. Whereas in case of lowest productivity block, majority of farmers also linked to be trained through demonstration and field trips and their linking is different to the highest productivity block farmers. Trained through lecture method, audio-visual aid, tour, question-answer method, practice by trainees and published material was the second, third, fourth, fifth, sixth and seventh linking of training respectively.

Table further revealed that in case of total farmers, majority of farmers linked to be trained through demonstration and field trips as like in case of highest productivity block farmers. The farmers preference regarding receiving training through lecture method, audio-visual aid, tour, question-answer method, published material and practice by trainees was the second, third, fourth, fifth, sixth and seventh linking of training respectively.

Trainer's category

The farmer's opinion for different trainer's category for training programme was determined. The related data and its analysis have been presented in Table 6.

Table 6: Preference for trainer's category

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
Wheat Scientist Specially	2.60	I st	2.55	I st	5.15	I st
SMS/AEO (Agril. Deptt.)	2.22	III rd	2.26	II nd	4.48	III rd
Agril. Officer of Voluntary Organization	2.30	II nd	2.25	III rd	4.55	II nd

The results presented in table 6 indicated that in case of total farmers, organization of training programme by wheat scientists has given first rank by the farmers. The farmers gave second and third rank to Agriculture Officer of Voluntary Organization and Subject Matter Specialist/Agriculture Extension Officer of Agriculture department respectively. Further table reveals that, respondent belonging to highest and lowest productivity block preferred organization of training programme by wheat scientist

specially was given first rank by farmers. Further, table shows that in case of highest productivity block farmers gave second and third rank same to the total farmers. While in case of lowest productivity block farmers gave, second and third rank to Subject Matter Specialist/Agriculture Extension Officer of agriculture department and Agriculture officer of voluntary organization respectively.

Follow-up stages of training programme

Table 7: Preference for follow-up stage of training programme

Response categories	Highest productivity block (N = 90)		Lowest Productivity block (N = 90)		Total (N = 180)	
	ACS	Ranking	ACS	Ranking	ACS	Ranking
By conducting demonstration in the farmers field	2.41	I st	2.58	I st	4.99	I st
Supply of relevant literature at regular intervals	2.16	IV th	2.54	II nd	4.70	III rd
Broadcasting talk through radio and television	2.15	V th	2.25	V th	4.40	V th
Interaction with trained farmers with scientist/ extension officer at regular interval	2.32	II nd	2.42	III rd	4.74	II nd
Maintaining mailing list of trained farmers for periodical correspondence	2.24	III rd	2.35	IV th	4.59	IV th

Table 7 revealed that, in order to provide follow-up strategies pertaining to the effective training programmes for boosting the wheat production, several suggestions were sought from the selected sample respondent. By conducting demonstration in the farmer's field has been recorded as the first and top most priority area in all the three cases of farmers, for smooth follow-up programme related with effective training. The farmers given second, third and fourth rank was interaction with trained farmers with scientist/extension officer at regular interval, supply of relevant literature at regular intervals and maintaining mailing list of trained farmers for periodical correspondence respectively.

Conclusion

The study concluded that in case of total respondents majority of them preferred their organizing training programme in the village level, before commencement of crop season, two days duration of training, 26-to 50 farmers is the best size, demonstration and field trip methods of training, provide training by wheat scientist specially, and conducting demonstration in the farmers field has given first rank by the wheat growing farmers. Therefore, all the essential extension activities and services like training, demonstration, educational tours, farmer fairs etc. should be organized frequently for the wheat growers so that their knowledge about wheat production technology may be enhance.

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