Int.J.Curr.Microbiol.App.Sci (2018) Special Issue-7: 2773-2777

International Journal of Current Microbiology and Applied Sciences
ISSN: 2319-7706 **Special Issue-7 pp. 2773-2777**
Journal homepage: http://www.ijcmas.com

Original Research Article

Lively Hood Promotion through Level of Knowledge about SWI of Adopters and Non Adopters Farmers

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A B S T R A C T

System of Wheat Intensification (SWI) is a synergistic management technique involving a few components of wheat farming such as planting, irrigation, weeding, nutrient management and seed treatment. The analysis revealed that among the adopters, nearly 50 per cent of them belong to young age group, while among non-adopters 40 per cent belongs to old age group. Results of the study that nearly 40 percent of adopters were from BC category, whereas 36.67 non-adopters per cent were from BC category. 63.34 per cent of adopters were farming as occupation but among non-adopters 73.33 per cent were farming as occupation. Majority of the adopters, 65 per cent were found to have studied beyond high school and graduation, while 50 per cent non-adopters were educated beyond high school and graduation. Among adopters, nearly 70 per cent were small and marginal farmers, and among non-adopters 70 per cent were marginal and medium farmers. In case of adopters, nearly 60 per cent had income ranging from 1.5 to 2 lakh rupees i.e. medium to high whereas 80 per cent non-adopters had very low to low income. Among the adopters, 30 per cent were not a member of any organization and 50 per cent were member of one organization whereas 60 per cent respondents of non-adopters were not a member of any organization and 33 per cent were member of one organization with respect to knowledge of various components of SWI technology found that 50-80 per cent respondents of adopters had medium to high level knowledge. But in case of non-adopters 40 per cent respondents had medium to high level knowledge.

Keywords

Knowledge, technology, System of Wheat Intensification

Introduction

Wheat is one of the leading food crops of the world farming and occupies significant position among the cultivated cereals. Cultivation of wheat has been the symbolic of green revolution that played pivotal role in making the nation a food surplus nation. Wheat (*Triticum aestivum* L.) is a member of the graminae family with chromosome number 42 and a self-pollinated crop. Presently wheat is grown in about 29.25 million hectare area with a production and productivity of 96.76 million tonnes and 3.1tonnes per hectare, respectively and it contributes nearly 35 per cent to the national food basket.

Materials and Methods

The state of Bihar is having 38 districts. Out of these districts Samastipur district was selected purposively. All together there are 20 Blocks in Samastipur district. Out of which Pusa and morwa block has been selected for study purpose based on

assumption that the block has the largest number of adopters of SWI technology. There are 13 Panchayats in Pusa block. Out of which two Panchayats were selected viz., Thahara and Morsand for the study purpose. Two villages were selected Thahara and Morsand. There are 18 Panchayats in Morwa block. Out of which two Panchayats were selected viz., Indarwara and Sarangpur selected for the study purpose. Two villages were selected Indarwara and Sarangpur. Therefore 30 beneficiaries and 30 non-beneficiaries respondents were selected. The total number of beneficiaries and non-beneficiaries were selected for the study and thus constituted 60 respondents.

For the present study an operational measure for knowledge was developed by formulating a teacher made knowledge test. The knowledge was formulated based on packages and practices require for Wheat cultivation by signed with Scientists and advisory committee. The question and answers pertaining to knowledge test were carefully by giving one score to correct answer and zero score to incorrect one. The total knowledge score for individual respondent was calculated by summing up the number of items correctly answered. After computing the knowledge score, the percentage of knowledge score was obtained using formula given below:

Knowledge index = $\frac{\text{obtained knowledge score}}{\text{highest obtainable score}} \times 100$

The score thus obtained were put into the mean ± SD procedure to obtain low, medium and high categories of level of knowledge as given below.

Sl. No.	Knowledge level	Score
1.	Low	Less than (Mean - SD)
2.	Medium	In between (Mean ± SD)
3.	High	More than (Mean + SD)

Results and Discussion

It is clear from the table that in case of adopters, 50 per cent had medium level of knowledge and 36.67 per cent adopters had high level of knowledge. There were only 13.33 per cent of adopters who had low level of knowledge. While in case of non-adopters 30 per cent had medium level of knowledge and 60 per cent had low level of knowledge. The non-adopters having high level of knowledge were only 10 per cent. Thus the above table indicates that majority of adopters were having medium level of knowledge followed by high level of knowledge. While in case of non-adopters majority of them had low level of knowledge followed by medium level of knowledge.

Table.1 Frequency and Percentage distribution of adopters and non-adopters with respect to their level of knowledge

Sl. No.	Category	Adopters (n=30)		Non-adopters (n=30)	
		Frequency	Percentage	Frequency	Percentage
1.	Low	4	13.33	18	60
2.	Medium	15	50	9	30
3.	High	11	36.67	3	10
	Total	30	100	30	100

Table.2 Frequency and percentage distribution of various components of knowledge on SWI technology of the Adopters

Sl. No.	Components of knowledge of SWI technology	Adopters (n=30)	
		Frequency	Percentage
A.	**Pre sowing technology**		
1	Type of land required for wheat crop production	24	80
2	No. of ploughing required for wheat production	25	83.33
3	Manuring required for wheat cultivation	21	70
4	Requirement of zero tillage	26	86.66
B	**Seed and seed treatment**.		
5	Selection of seed variety	23	76.66
6	What is optimum time for sowing.	25	83.33
7	Seed rate in kg/hectare	21	70
C.	**Irrigation management**		
8	Optimum no. of irrigation required for wheat production.	23	76.66
9	Days of interval required for irrigation	24	80
10	Stage of critical in which irrigation required.	18	60
D.	**Pant Protection Measures**		
11	Please, mention name of disease and doses of chemical use for disease control	20	66.66
12	Harvesting time of early mid and late variety of wheat	22	73.33
13	Seed treatment with fungicide	19	63.33
E.	**Fertilizer management**		
14	Application of fertilizer in wheat production	24	80
F.	**Crop management**		
15	Row to Row space required for wheat production through SWI.	22	73.33
16	Inter- cultural operation	21	70
17	Weedicide used in wheat crop	19	63.33
18	Use of chemical and other materials during storage of wheat grains for preventing of pest infestation	24	80
19	Name of chemical for fumigation	18	60
	Overall %Knowledge		**73.51**

Table.3 Frequency and percentage distribution of various components of knowledge on SWI technology of the non-adopters

Sl. No.	Components of knowledge of SWI technology	Non- adopters (n=30)	
		Frequency	Percentage
A.	**Pre sowing technology**		
1	Type of land required for wheat crop production	15	50
2	No. of ploughing required for wheat production	12	40
3	Manuring required for wheat cultivation	9	30
4	Requirement of zero tillage	10	33.33
B	**Seed and seed treatment**.		
5	Selection of seed variety	17	56.66
6	What is optimum time for sowing.	13	43.33
7	Seed rate in kg/hectare	15	50
C.	**Irrigation management**	11	36.66
8	Optimum no. of irrigation required for wheat production.	18	60
9	Days of interval required for irrigation	13	43.33
10	Stage of critical in which irrigation required.	12	40
D.	**Pant Protection Measures**		
11	Please, mention name of disease and doses of chemical use for disease control	9	30
12	Harvesting time of early mid and late variety of wheat	12	40
13	Seed treatment with fungicide	11	36.66
E.	**Fertilizer management**		
14	Application of fertilizer in wheat production	14	46.66
F.	**Crop management**		
15	Row to Row space required for wheat production through SWI.	12	40
16	Inter- cultural operation	7	23.33
17	Weedicide used in wheat crop	8	26.66
18	Use of chemical and other materials during storage of wheat grains for preventing of pest infestation	5	16.66
19	Name of chemical for fumigation	7	23.33
	Overall %Knowledge		**38.42**

Knowledge of various components of SWI technology of respondents

Level of knowledge was measured using a knowledge test consisting of 19 questions. An attempt was made here to compute frequencies of correct answers among adopters and non-adopters. The results are given in the table.

Above table revealed that the questions that were correctly answered by 73.51 per cent of adopters, while the ranges varies from as low as 60 per cent to as high as 86.66 per cent with respect to general information and technical knowhow on knowledge about SWI technology 60 to 86.66 per cent adopters were well aware. with respect to SWI technology and majority of respondents were well aware with technology.

The above table revealed that the questions that were correctly answered by 38.42 per cent of non-non adopters, while they ranged from as low as 16.66 per cent to as high as 60 per cent. With respect to SWI technology 16.66 to 60 per cent of non-adopters were aware. Majority of them were aware about the general information about SWI technology.

With respect to knowledge of various components of SWI technology found that 50-80 per cent respondents of adopters had medium to high level knowledge. But in case of non-adopters 40 per cent respondents had medium to high level knowledge.

Suggestions: Suggestion for future research

1. Identifying suitable varieties and location for adoption of SWI.
2. Promotion of community based nurseries. Organizing training programmers for the trainers, farmers and farm laborers.
3. Give financial support to research on improving management practices, tools and economic evaluation at farm level.
4. Promote direct seeding with a drum seeder and machine planting (with suitable modifications) where labour scarcity limits SWI adoption.

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