

KNOWLEDGE OF FARMERS ABOUT RECOMMENDED INTERVENTION OF WHEAT CROP UNDER RKVY

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ABSTRACT

The present study was conducted in tribal and non-tribal panchayat samities of Udaipur district of Rajasthan. 04 beneficiary villages and 02 non-beneficiary villages were selected from each panchayat samiti and 10 respondents were selected randomly from each selected village for the study. Data were collected through pre-structured interview schedule. It was found that there was a significant difference in level of knowledge between beneficiary and non-beneficiary farmers about recommended wheat interventions. The beneficiary farmers were having more knowledge than non-beneficiary farmers about recommended wheat interventions. It indicates that there was positive impact of RKVY on beneficiary farmers in gain in knowledge about recommended wheat interventions.

Keywords : knowledge, beneficiary and non-beneficiary farmers, RKVY

INTRODUCTION

Agriculture, is in a way, a victim of its own past success—especially the green revolution in India. It has become cereal-centric and as a result an input-intensive revolution. In our country more than 50 % population depends on agriculture and allied sector. So, Indian government initiated many development programme/ scheme for socio-economic development of rural areas. The main objective of these schemes was to eradicate poverty through equitable resource and input distribution among the rural people. India has been targeting a growth rate of more than 4 % in agriculture and allied sector but achievement of actual target has been below. Slow growth in agriculture and allied sector can lead to desperate stress in the economy because more than 50 % population depend on this sector. Concerned by the slow growth in the Agriculture and allied sectors, the National Development Council (NDC), in its meeting held on 29th May, 2007 resolved that a special Additional Central Assistance Scheme (RKVY) be launched (rkvy.ac.in)

The Rastriya Krishi Vikas Yojana (RKVY) is a scheme which aims to incentivize the states of India so as to increase public investment in agriculture and allied sector, to provide elasticity and self-sufficiency to states in the process of planning and execution of agriculture and allied sector schemes and to attain goal of reducing the yield gap in important crops through focus interventions. The effective execution of this programme requires regular evaluation from time to time to analyze whether the programme is

prolific or not and whether its benefit are reaching to the ultimate clientele or not. The present study makes an attempt to find out the extent of the knowledge of beneficiaries and non-beneficiaries farmer about Rastriya Krishi Vikas Yojana (RKVY). The identified interventions of cereal, pulses, and oilseeds are being given to the farmers of the Udaipur district by department of agriculture for quantifiable changes in the production and productivity of important crops.

OBJECTIVE

To study the knowledge of farmers about recommended intervention of wheat crop under RKVY

METHODOLOGY

The present paper presents the data gathered in a randomly selected sample of the beneficiary and non-beneficiary farmers towards recommended interventions of wheat crop introduced under RKVY programme in two tribal (Jhadol and Sarada) and two non-tribal (Bhinder and Mavli) panchayat samities of Udaipur district of Rajasthan. The 160 beneficiary and 80 non-beneficiary farmers were selected for the study.

The final knowledge test had 40 items relating to wheat crop practices. Equal weightage was given to each item. For correct answer '1' score was awarded and '0' for wrong answers. Thus, knowledge test was ready for administering to the actual respondents. The knowledge index was calculated on the basis of following formula:

$$\text{Knowledge index} = \frac{X_1+X_2+X_3+\dots+X_n}{n} \times 100$$

Where,

$X_1, X_2, X_3, \dots, X_n$ = scores of items

n = number of items.

The possible maximum score one could obtain was 54 for wheat and 46 for maize crop. The mean and standard deviation of all the respondents' scores were computed for classifying the knowledge level in different categories. Based on the mean knowledge score and standard deviation three levels of knowledge of farmers were categorized under low,

medium and high. Frequency and percentage of respondents in each category i.e. low, medium and high was calculated. To determine the extent of knowledge of respondents about each major aspect mean per cent score was worked out and ranked accordingly. Besides, to find out the significance of difference in knowledge between different categories of respondents, Z-test was applied and conclusions were drawn accordingly.

RESULTS AND DISCUSSION

The statistical data regarding the knowledge level of beneficiary and non-beneficiary tribal and non-tribal area's farmers are presented in the Table 1.

Table 1: Distribution of respondents according to their knowledge level of wheat crop (n =240)

Sr. No.	Category	Beneficiary						Non-beneficiary						Grand total	
		Tribal Area		Non-Tribal Area		Total		Tribal Area		Non-Tribal Area		Total			
		f	%	f	%	f	%	F	%	f	%	f	%	F	%
1	Low(< 35.06)	17	21.25	12	15.00	29	18.12	19	47.50	20	50.00	39	48.75	68	28.33
2	Medium (35.06 to 49.38)	50	62.50	48	60.00	98	61.25	16	40.00	16	40.00	32	40.00	130	54.17
3	High (> 49.38)	13	16.25	20	25.00	33	20.63	5	12.50	4	10.00	9	11.25	42	17.50
Total		80	100	80	100	160	100	40	100	40	100	80	100	240	100

f = frequency, % = per cent

Table 1 reveals that out of 240 respondents, majority of respondents (54.17%) fell in medium level of knowledge group whereas, 17.50 per cent respondents were observed in high level of knowledge group and remaining 28.33 per cent respondents possessed low level of knowledge about recommended wheat interventions under RKVY.

Further analysis of table clearly indicates that 61.25 per cent beneficiary respondents and 40.00 per cent non-beneficiary respondents had medium level of knowledge about wheat interventions. Whereas, 20.63 per cent beneficiary respondents and 11.25 per cent non-beneficiary respondents possessed high level of knowledge about recommended wheat interventions. On the other hand, 18.12 per cent beneficiary respondents and 48.75 per cent non-beneficiary respondents were kept in the low level knowledge group as this category of respondents had poor knowledge about recommended wheat interventions.

On the basis of above data, it was inferred that majority of the both category possessed medium level of knowledge about recommended wheat interventions. The knowledge level was medium to high in the beneficiary respondents, while in case of non-beneficiary respondents it was medium to low level of knowledge about wheat interventions. It means that the RKVY has positive impact on the beneficiary respondents in the context of their knowledge about recommended wheat interventions. At the same time, considerable knowledge level of non-beneficiary respondents was also noticed, it may be due to indirect influence of the project on them. Naturally, non-beneficiaries come in the contact with the beneficiary respondents, this might have contributed in increased level of non-beneficiaries. Thus, it is clear that project has definite impact not only on beneficiaries but indirectly on non-beneficiary respondents. The findings are similar to the results of Kumar (2012).

Intervention-wise knowledge of the respondents**(a) Knowledge of respondents about seed minikits of wheat crop****Table 2: Knowledge of the respondents regarding seed minikits of wheat crop**

(n =240)

Sr. No.	Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Total		Tribal Area		Non-Tribal Area		Total	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
1	Name of varieties under seed minikits of wheat	95.62	IV	98.12	IV	96.87	V	67.50	VII	70.00	VI	68.75	VI
2	Advantages of seed minikits of Wheat	87.18	X	86.25	XI	86.71	X	70.00	VI	67.10	VII	67.95	VII
3	Sowing time of Raj-4037 variety of Wheat	99.75	I	97.75	V	98.75	I	95.00	I	92.50	II	93.75	II
4	Seed rate of Raj-4037	98.75	II	96.20	VI	97.47	IV	77.50	V	82.50	V	80.00	V
5	Row to Row spacing of Raj-4037	88.75	VII	77.50	XIII	83.12	XII	37.50	XI	40.00	XII	38.75	XI
6	Maturity period of Raj-4037	87.75	IX	76.25	XIV	81.87	XIII	44.00	X	45.00	X	44.50	X
7	Characteristics of Raj-4037	77.75	XIV	84.58	XII	81.04	XIV	30.00	XIII	32.50	XIII	31.25	XIII
8	Yield of Raj-4037	98.70	III	98.75	II	98.73	II	94.00	II	85.00	IV	89.50	III
9	Sowing time of Lok-1 variety of Wheat	95.00	V	100.0	I	97.50	III	93.00	III	97.50	I	95.25	I
10	Row to Row spacing of Lok-1	88.72	VIII	90.20	VIII	89.46	VII	45.00	IX	52.50	IX	48.75	IX
11	Seed rate of Lok-1	86.50	XI	87.50	X	87.00	IX	35.00	XI	42.00	XI	38.50	XII
12	Maturity period of Lok-1	83.00	XII	92.00	VII	87.50	VIII	22.50	XIV	22.50	XIV	22.50	XIV
13	Advantages of Lok-1	81.24	XIII	90.00	IX	85.62	XI	52.50	VIII	55.00	VIII	53.75	VIII
14	Yield of Lok-1 variety of wheat	91.25	VI	98.70	III	95.48	VI	87.50	IV	90.00	III	88.75	IV
Total		89.99		90.99		90.49		60.75		62.44		61.60	

MPS =mean per cent score, R= rank

The data presented in Table 2 indicate that the extent of knowledge about name of varieties under seed minikits of wheat among beneficiary and non-beneficiary respondents was 96.87 and 68.75 MPS respectively. The knowledge of non-beneficiary respondents was comparatively low about name of varieties under seed minikits than beneficiary respondents. This aspect was ranked fifth by beneficiary and sixth by non-beneficiary respondents. It was observed that the beneficiary respondents had good knowledge about the

name of varieties of seed minikits of wheat namely Raj-4037 and Lok-1 as seed of these varieties were supplied to the beneficiary respondents under Rastriya Krishi Vikash Yojana. Regarding knowledge about advantages of seed minikits, 86.71 and 67.95 MPS knowledge was recorded among beneficiary and non-beneficiary respondents respectively. The high knowledge of beneficiary respondents about this aspect may be due to the fact that most of the respondents were well aware about seed minikits of wheat crop.

Further analysis of table shows that among beneficiary and non-beneficiary respondents the extent knowledge about sowing time of seed minikit varieties of Raj-4037 was 98.75 and 93.75 MPS respectively. It was further noted that 97.47 and 80.00 MPS knowledge about seed rate of variety of Raj-4037 was found in beneficiary and non-beneficiary respondents respectively. The non-beneficiary respondent's also possessed good knowledge about sowing time of this variety may be due to the fact that Raj-4037 variety of wheat is common in the study area. The extent of knowledge about Row to Row spacing of Raj-4037 variety was 83.12 and 38.75 MPS among the beneficiary and non-beneficiary respondents respectively. Likewise, the extent of knowledge about crop maturity period of Raj-4037 variety of wheat, it was found that 81.87 and 44.50 MPS in beneficiary and non-beneficiary respondents respectively. The knowledge regarding important characteristics of Raj-4037 variety of wheat, it was found that beneficiary and non-beneficiary respondents possessed 81.40 and 31.25 MPS extent of knowledge respectively. It was also noted that 98.73 and 89.50 MPS of knowledge about yield of wheat variety of Raj-4037 was found in beneficiary and non-beneficiary

respondents respectively.

Analysis of Table 2 further shows that the extent of knowledge about sowing time, row to row spacing, seed rate, maturity period, important characteristics and yield of Lok-1 variety of wheat was 97.50, 89.46, 87.00, 87.50, 85.62 and 95.48 MPS among beneficiary respondents respectively. Whereas, in case of non-beneficiary respondents it was found that 95.25, 48.75, 38.50, 22.50 53.75 and 88.75 MPS in these practices respectively.

It can be concluded that the beneficiary respondents under RKVY in the study area possessed relatively more knowledge about "seed minikits" of wheat crop. Thus, from the above discussion it can be inferred that the extent of knowledge in beneficiary respondents was from 81.04 to 98.75 MPS. Whereas, in case of non-beneficiary respondents the extent knowledge was observed to be from 22.50 to 95.25 MPS in all the aspects about seed minikits of wheat crop. The present findings are supported by the findings of Chandawat *et al.* (2002), Dubey and Srivastava (2007), Kumar (2012) and Bhabhor and Makwana (2021).

(b) Knowledge of respondents about field demonstrations of wheat crop

Table 3: Knowledge of the respondents regarding field demonstrations of wheat crop

(n =240)

Sr. No.	Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Total		Tribal Area		Non-Tribal Area		Total	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
1	Knowledge about field demonstrations	92.50	I	91.25	I	91.87	I	92.50	I	85.00	I	88.75	I
2	Advantages of field demonstration	69.37	IV	80.62	IV	75.00	IV	70.00	II	68.75	II	69.37	II
3	Responsible persons for conducting demonstrations	80.00	II	88.75	II	84.37	II	60.00	III	50.00	II	55.00	III
4	Institution responsible for conducting demonstrations	78.00	III	84.75	III	81.37	III	55.00	IV	47.50	IV	51.25	IV
Total		79.97		86.34		83.16		69.38		62.81		66.10	

MPS =mean per cent score, R = rank

The data presented in Table 3 indicate that the knowledge about wheat demonstrations among beneficiary and non-beneficiary respondents was 91.87 and 88.75 MPS respectively. It was observed that beneficiary respondents possessed complete knowledge about operational definition of wheat demonstration. The knowledge of beneficiary respondents was comparatively high about the knowledge about demonstrations than non-beneficiary respondents. This aspect was ranked first by both the categories respondents. The extent of knowledge about advantages of wheat demonstration, it was noted that beneficiary and

non-beneficiary wheat growers had 75.00 and 69.37 MPS knowledge respectively. It was ranked fourth and second by both beneficiary and non-beneficiary respondents. It was also noted that majority of the beneficiary respondents knew about the demonstration which show the utility and feasibility of recommended practice under village condition and provide the first hand information of package of practices of wheat crop.

Further analysis of table indicates that beneficiary and non-beneficiary respondents possessed extent of knowledge about responsible persons for conducting demonstration

was 84.37 and 55.00 MPS in the study area. The knowledge regarding institution responsible for wheat demonstration, it was found that beneficiary and non-beneficiary respondents had 81.37 and 51.25 MPS extent of knowledge respectively. Majority of the beneficiary respondents were well acquainted with officers and personnel of State Agriculture Department who were responsible for conducting field demonstrations on farmer's field.

(c) Knowledge of respondents about farm mechanization in wheat crop

Table 4: Knowledge of the respondents regarding farm mechanization of wheat crop

(n =240)

Sr. No.	Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Total		Tribal Area		Non-Tribal Area		Total	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
1	Acquaintance about farm mechanization	90.00	II	95.00	II	92.50	II	74.00	I	72.00	I	73.50	I
2	Advantages of farm mechanization	91.25	I	97.50	I	94.37	I	62.60	II	67.50	II	65.05	II
3	Functions of SCFD during operation	80.00	IV	91.25	III	85.62	IV	62.50	III	63.50	III	63.00	III
4	Use of rotavator for field preparation	87.50	III	86.25	IV	86.87	III	60.00	IV	62.50	IV	61.25	IV
5	Advantages of multi-crop thresher	52.50	V	68.75	V	60.62	V	48.75	V	60.00	V	54.37	V
Total		75.62		84.58		80.10		61.55		65.10		63.43	

MPS =mean per cent score, R = rank

The data presented in Table 4 show that the beneficiary respondents possessed 94.37MPS knowledge about advantages of farm mechanization, whereas knowledge of non-beneficiary respondents about this aspect was comparatively less with 65.05 MPS. It was observed that majority of the respondents had knowledge about this aspect may be due to the fact that now a day's respondents are acquainted with many farm implements and machineries and these are using for crop cultivation.

The knowledge about acquaintance about farm mechanization, it was found that 92.50 and 73.50 MPS among beneficiary and non-beneficiary respondents respectively. Majority of respondents were in opinion that farm work efficiency may be increased due to farm mechanization.

Further analysis of table reveals that the knowledge about functions of SCFD, use of rotavator for field preparation and advantages of multi crop thresher was 85.62, 86.87 and 60.62 MPS in beneficiaries, while in non-beneficiaries it was 63.00, 61.25 and 54.37 MPS respectively.

Thus, from above discussion it can be concluded that the extent of knowledge in beneficiary respondents was from 60.62 to 94.37 MPS, whereas, in case of non-

Conclusion can be drawn that the beneficiary respondents under RKVY in the study area possessed relatively less knowledge in the aspect of "advantages of demonstration". Therefore, it is recommended the RKVY functionaries must give more emphasis on beneficiary respondents regarding importance of demonstration. The present findings are in line with the findings of Singh, (1999) and Kumar, (2012).

beneficiary respondents the extent knowledge was observed to be from 54.37 to 73.50 MPS in all the aspects about farm mechanization in wheat cultivation. The similar findings have been supported by the findings of Saharan, *et al.* and Pundhir, (2004) and Kumar, (2012).

(d) Knowledge of respondents about micro-nutrients application in wheat crop

The data presented in Table 5 indicate that the extent of knowledge about use of fertilizer for Zn deficiency among beneficiary and non-beneficiary respondents was 81.25 and 41.25 MPS respectively. This aspect was ranked first by beneficiary and second by non-beneficiary respondents. Majority of the beneficiary respondents knew about the name of fertilizer which is applied for Zn deficiency in wheat crop.

Further analysis of table shows that among beneficiary and non-beneficiary respondents the extent of knowledge about meaning of micro nutrients was 75.00 and 43.00 MPS respectively. It was ranked third by beneficiary non-beneficiary respondents. It was observed that majority of the beneficiary respondents were fully acquainted about the micro-nutrients are applied for correcting the nutrient deficiencies in wheat crop.

It was further noted that 74.50 and 36.25 MPS knowledge about rate of application of ZnSO₄ per hectare in beneficiary and non-beneficiary respondents respectively.

A good number of beneficiary respondents possessed the knowledge about correct dose i. e. 20-40 kg/ha ZnSO₄ for wheat crop.

Table 5: Knowledge of the respondents regarding micro-nutrients application in wheat crop (n =240)

Sr. No.	Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Tribal Area		Non-Tribal Area		Tribal Area		Non-Tribal Area	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
1	Meaning of micro-nutrients	73.75	II	76.25	V	75.00	III	45.00	III	41.00	IV	43.00	III
2	Use of ZnSo4 for Zn deficiency	80.00	I	82.50	III	81.25	I	40.50	IV	42.00	III	41.25	IV
3	Rate of application of ZnSO ₄	65.00	V	84.00	II	74.50	IV	35.00	V	37.50	V	36.25	V
4	Use of gypsum for sulphur deficiency	67.50	III	80.50	IV	74.00	V	52.50	I	60.00	II	56.25	II
5	Rate of Gypsum application per ha.	67.40	IV	86.25	I	76.83	II	50.50	II	65.00	I	57.75	I
Total		70.73		81.90		76.31		44.70		49.10		46.90	

MPS =mean per cent score, R = rank

In case of application of fertilizer for sulphur deficiency, beneficiary and non-beneficiary respondents had 74.00 and 56.25 MPS knowledge and ranked fifth by beneficiary and second by non-beneficiary respondents. The extent of knowledge about rate of application of gypsum, it was noted that beneficiary and non-beneficiary respondents had 76.87 and 57.75 MPS knowledge respectively. It was ranked second by beneficiary and first by non-beneficiary respondents.

Thus, from above discussion it can be concluded that the extent of knowledge in beneficiary respondents was from 74.00 to 81.25 MPS, whereas in case of non-beneficiary respondents the extent of knowledge was observed to be from 36.25 to 57.75 MPS in all the aspects about micro-nutrients application in wheat cultivation. The similar findings have been supported by the findings of Saharan, *et al.* Pundhir, (2004) and Samota, (2011) and Kumar, (2012).

(e) Knowledge of respondents about plant protection equipments in wheat cultivation

Table 6: Knowledge of the respondents regarding plant protection equipments for wheat crop (n =240)

Sr. No.	Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Tribal Area		Non-Tribal Area		Tribal Area		Non-Tribal Area	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
1	Knowledge about plant protection	88.70	VII	90.00	VII	89.35	VII	73.50	II	82.00	I	77.75	I
2	Name of plant protection equipments	77.50	X	81.66	X	79.58	X	70.00	IV	75.66	III	72.83	IV
3	Use of knapsack hand sprayer(KSHS)	91.75	V	92.00	VI	91.87	V	77.50	I	75.00	IV	76.25	II
4	Use of duster for application of chemical	92.40	III	92.60	III	92.55	III	72.50	III	73.50	V	73.00	III
5	Preparation of knapsack handsprayer before operation	69.37	XII	75.00	XII	72.18	XII	53.75	X	53.75	XII	53.75	XII
6	Common soil borne insect pest(termite)	92.50	IV	92.50	IV	92.45	IV	67.50	VI	72.50	VI	70.00	VI

Sr. No.	Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Tribal Area		Non-Tribal Area		Tribal Area		Non-Tribal Area	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
7	Name of chemicals used for controlling termite pest	83.12	IX	84.30	IX	83.71	IX	46.25	XII	76.25	II	61.25	X
8	Recommended doses of chemicals used in termite control	88.75	VI	92.40	V	90.58	VI	69.00	V	71.50	VII	70.25	V
9	Name of common diseases of wheat	84.37	VIII	84.37	VIII	84.37	VIII	58.75	VIII	71.25	VIII	65.00	VIII
10	Name of the chemicals used for controlling the smut disease	75.00	XI	76.25	XI	75.62	XI	52.50	XI	68.75	X	60.62	XI
11	Method for controlling of smut disease	94.75	I	95.00	I	94.88	I	60.00	VII	70.50	IX	65.25	VII
12	Quantity of Vitavax is required for seed treatment	93.75	II	94.00	II	93.88	II	55.00	IX	67.75	XI	61.38	IX
Total		85.99		87.51		86.75		63.02		71.53		67.28	

MPS =mean per cent score, R = rank

The data presented in Table 6 show that the beneficiary respondents possessed 89.35 MPS of knowledge about plant protection, whereas knowledge of non-beneficiary respondents about this aspect was comparatively less with 77.75 MPS. It was also observed that beneficiary and non-beneficiary respondents had knowledge about the name of plant protection equipments were 79.58 and 72.83 MPS respectively. Majority of the respondents knew about the name of plant protection equipments i.e. knapsack hand sprayer, duster and power operated sprayer etc.

The extent of knowledge about use of knapsack hand sprayer, it was noted that beneficiary and non-beneficiary respondents had knowledge 91.87 and 76.50 MPS respectively. It was ranked fifth and second by beneficiary and non-beneficiary respondents respectively. In case of use of duster in wheat crop aspect, the extent of knowledge was 92.55 and 73.00 MPS among beneficiary and non-beneficiary respondents respectively. It was ranked third by beneficiary and non-beneficiary respondents.

Further analysis of Table 6 shows that beneficiary and non-beneficiary respondents possessed extent of knowledge about preparation of knapsack hand sprayer before operation was 72.18 and 53.75 MPS respectively. Regarding knowledge about common soil borne insect pest of wheat crop, it was observed that beneficiary and non-beneficiary respondents had 92.45 and 70.00 MPS respectively. It was ranked fourth and sixth by beneficiary and non-beneficiary respondents respectively. The beneficiary and non-beneficiary

respondents possessed knowledge about name of chemicals used for controlling termite pest was 83.71 and 61.25 MPS respectively. In case of recommended doses of chemicals used in termite control, the extent of knowledge was 90.58 and 70.25 MPS with ranked sixth among beneficiary and fifth among non-beneficiary respondents respectively. It was noted that the beneficiary respondents had more knowledge about chemicals used for termite control comparatively non-beneficiary respondents.

The knowledge about name of common diseases of wheat crop was placed at eighth rank by beneficiary and non-beneficiary respondents with 84.37 and 65.00 MPS respectively. The beneficiary and non-beneficiary respondents possessed knowledge about name of chemicals used for controlling the diseases was 75.62 and 60.62 MPS respectively. It was noted that 94.88 and 65.25 MPS knowledge about method of smut control in beneficiary and non-beneficiary respondents respectively. In case of quantity of vitavax, 93.88 and 61.38 MPS knowledge possessed by beneficiary and non-beneficiary respondents respectively.

Thus, from above discussion it can be concluded that the extent of knowledge in beneficiary respondents was from 72.18 to 94.88 MPS, whereas in case of non-beneficiary respondents the extent of knowledge was observed to be from 53.75 to 77.25 MPS in all the aspects about plant protection equipments in wheat cultivation. The similar findings have been supported by the findings of Saharan and Pundhir, (2004) and Samota, (2011).

(f) Overall knowledge of the respondents regarding wheat crop interventions**Table 7: Overall knowledge of the respondents regarding wheat crop interventions**

(n =240)

Sr. No.	Major Practices	Beneficiary						Non-beneficiary					
		Tribal Area		Non-Tribal Area		Total		Tribal Area		Non-Tribal Area		Total	
		MPS	R	MPS	R	MPS	R	MPS	R	MPS	R	MPS	R
A	Seed Minikits	89.99	I	90.99	I	90.49	I	60.75	IV	62.44	IV	61.60	V
B	Field Demonstrations	79.97	III	86.34	III	83.16	III	69.38	I	62.81	III	66.10	II
C	Micro-nutrients application	70.73	V	81.90	IV	76.31	V	44.70	V	49.10	V	46.90	IV
D	Farm Mechanization	75.62	IV	84.58	V	80.10	IV	61.55	III	65.10	II	63.43	III
E	Plant Protection Equipments	85.99	II	87.51	II	86.75	II	63.02	II	71.53	I	67.28	I
Total		80.46		86.26		83.36		59.88		62.19		61.04	

MPS =mean per cent score, R = rank

The data presented in Table 7 show that the beneficiary respondents possessed 90.49 MPS of knowledge about seed minikits, whereas knowledge of non-beneficiary respondents about this aspect was comparatively less with 61.60 MPS. It was ranked first and fifth by beneficiary and non-beneficiary respondents respectively. The knowledge of non-beneficiary respondents was comparatively low about seed minikits than beneficiary respondents. It was observed that the beneficiary respondents had good knowledge about the seed minikits of wheat crop because the varieties were supplied through seed minikits to the beneficiary respondents under RastriyaKrishiVikashYojana. It was also observed that beneficiary and non-beneficiary respondents had knowledge about the field demonstrations were 83.16 and 66.10 MPS respectively. This aspect was ranked third by beneficiary and second by the non-beneficiary respondents. It was observed that beneficiary farmers possessed almost complete knowledge about operational definition of wheat demonstration. The extent of knowledge about micro nutrients application, it was noted that beneficiary and non-beneficiary respondents had knowledge 76.31 and 46.90 MPS respectively. It was ranked fifth and fourth by beneficiary and non-beneficiary respondents respectively. It was observed that majority of the beneficiary farmers were fully acquainted about the micro-nutrients are applied for correcting the nutrient deficiencies in wheat crop. In case of knowledge about farm mechanization, the extent of knowledge was 80.10 and 63.43 MPS among beneficiary and non-beneficiary respondents respectively. It was ranked fourth by beneficiary and third by non-beneficiary respondents. It was observed that majority of the respondents had knowledge about this aspect may be due to the fact that now a days farmers are

acquainted with many farm implements and machineries and these are using for crop cultivation. Regarding knowledge about plant protection equipments, it was observed that beneficiary and non-beneficiary respondents had 86.75 and 67.28 MPS respectively. Majority of the respondents knew about the name of plant protection equipments i.e. knapsack hand sprayer, duster and power operated sprayer etc.

Thus, from above discussion it can be concluded that the extent of knowledge in beneficiary respondents was from 76.31 to 90.49 MPS, whereas in case of non-beneficiary respondents the extent of knowledge was observed to be from 61.60 to 67.28 MPS in all the aspects about wheat cultivation. The similar findings have been supported by the findings of Saharan, *et al.* and Pundhir, (2004) and Samota, (2011).

(g) Practices wise comparison between beneficiary and non-beneficiary farmers about knowledge of wheat interventions

Table 8 shows that the calculated 'Z' value was found to be greater than its tabulated value at 1 per cent level of significance in all practices viz., seed minikits, field demonstrations, micro-nutrients, farm mechanization and plant protection equipments. Thus, the null hypothesis (NH_{01}) was rejected and alternate hypothesis (RH_1) was accepted. It reveals that there was significant difference in knowledge between beneficiary and non-beneficiary farmers about all recommended wheat interventions. In other words, there is no similarity between the extent of knowledge of beneficiary and non-beneficiary farmers about recommended wheat interventions.

Table 8 : Practice wise comparison of knowledge between beneficiary and non-beneficiary respondents of wheat crop
(n=240)

Sr. No.	Interventions	Beneficiary		Non-Beneficiary		'Z' value
		Mean±	S.D.	Mean±	S.D.	
(A)	Knowledge about seed minikits	12.45	2.07	7.90	2.54	18.45**
(B)	Knowledge about field demonstrations	4.08	1.47	3.33	1.67	3.57**
(C)	Knowledge about micro-nutrients	4.80	1.30	3.42	1.45	8.11**
(D)	Knowledge about farm Mechanization	3.83	1.41	2.56	1.46	7.47**
(E)	Knowledge about Plant Protection Equipments	15.16	2.60	12.41	3.38	11.00**
	Overall	45.74	4.73	35.80	5.90	20.66**

**Significant at 1% level of significance

The mean value further indicates that beneficiary farmers had higher knowledge than non-beneficiary farmers about all recommended wheat interventions. This difference in the level of knowledge of wheat growers might be due to the reason that beneficiary respondents had contacted with functionaries of RastriyaKrishiVikashYojana and beneficiary farmers are selected for five years under this mission. The significant difference between beneficiary and non-beneficiary farmers about knowledge of recommended wheat interventions highlights that there was impact of RKVY on beneficiary farmers with regard to increase in knowledge of recommended wheat interventions in the study area. The present results are in line with the findings of Kumar (2012), Chandawat (2002) and Mahawer (1998).

CONCLUSION

Thus, from the above results, it may be concluded that beneficiary respondents had high knowledge than non-beneficiary respondents about wheat interventions. Findings indicated that there was a significant difference in level of knowledge between beneficiary and non-beneficiary farmers about recommended wheat interventions. The beneficiary farmers had more knowledge than non-beneficiary farmers about recommended wheat interventions. It indicates that there was positive impact of RKVY on beneficiary farmers in gain in knowledge about recommended wheat interventions.

CONFLICT OF INTEREST

The authors of the paper declare no conflict of interest

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