

Adoption of Recommended wheat Production Practices in Faizabad District of Uttar Pradesh

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ABSTRACT

Wheat occupies a pivotal place in Indian agriculture. Sustainability of scientific wheat cultivation practices must be ensured to attain the goal of agricultural sustainability. The study was conducted to determine the adoption of wheat production practices in Faizabad District of Uttar Pradesh, One hundred twenty respondents were selected randomly and descriptive research design was used. Findings of the study inferred that there 50.00 per cent wheat growers were having medium level socio-economic status whereas 41.66 per cent respondents were having low socio-economic status while 08.33 per cent respondents were having high socio-economic status. It was also revealed of the study 27.05 per cent respondents had low level adoption of improved wheat practices followed by 58.30 per cent wheat growers had medium level adoption of improved wheat practices, whereas 14.65 per cent wheat growers had high level of adoption of improved wheat practices. The sizeable numbers of farmers were having medium knowledge of wheat production technology perhaps due high extension contact and appropriate land holding. The findings were passed on to scientists and extension officials of the district for taking necessary steps to bridge the gap in adoption of wheat production technology. Government should take proper steps and appropriate extension strategies to be followed for improved wheat production technology, and storage for wheat production.

HIGHLIGHTS

- Adoption of improved practices of will provide a scope of untapped farmer's income capacity.
- Growth rate of wheat will gives a way to reallocate production to more productive uses.
- Relationship shows that the factors responsible for greater adoption of improved wheat practices.

Keywords: Adoption, factors, influencing, wheat, production, technology

Agriculture is backbone of India, plays the most crucial role in the socio-economic sphere of the country. Indian agriculture is a diverse and extensive sector involving a large number of actors. India's agricultural research system has contributed in a large way to increasing agriculture production and productivity. Development of high yielding and disease resistant varieties has been its major hall mark.

In worldwide wheat considered one of the important staple foods which contain 13% protein as well as several multiple nutrients and also have dietary fiber. The main species which grown all over India in common

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wheat (*T. aestivum*), which contain vegetable protein but relatively have low in protein quality for supplying essential amino acids.

The wheat plant has long slender leaves and stems that are hollow in most varieties. The inflorescences are composed of varying numbers of minute flowers, ranging from 20 to 100. The flowers are borne in groups of two to six in structures known as spikelet's, which later serve to house the subsequent two or three grains produced by the flowers. Though grown under a wide range of climates and soils, wheat is best adapted to temperate regions with rainfall between 30 and 90 cm (12 and 36 inches). Winter and spring wheat are the two major types of the crop, with the severity of the winter determining whether a winter or spring type is cultivated. Winter wheat is always sown in the fall; spring wheat is generally sown in the spring but can be sown in the fall where winters are mild.

The nutritional value of the wheat grain varies somewhat with differences in climate and soil. On an average, the kernel contains 12 per cent water, 70 per cent carbohydrates, 12 per cent protein, 02 per cent fat, 1.08 per cent minerals, and 2.2 per cent crude fibers. Thiamin, riboflavin, niacin and small amounts of vitamin A are present.

RESEARCH METHODOLOGY

The study was conducted in Faizabad district of Uttar Pradesh. The state comprised 75 districts, out of which Faizabad was selected purposively for the study. There are 11 blocks; from the Masaudha and Sohawal was selected purposively for the study. There are 97 villages in Masaudha block and 86 villages in Sohawal block out of these 5, 5 villages were selected randomly of both blocks. For the purpose of the study adoption pattern of the wheat production practices. A total of 120 respondents were selected randomly and pre-tested interview schedule was used for the collection of data. Appropriate statistical tools were used to interpret the data. The independent variables were measured by using suitable scale and procedure adopted by various researcher in past with due modification. The individual practices adoption was measured in three point scale

full adoption, partial adoption and not adoption.

RESULTS AND DISCUSSION

Socio-economic characteristics of the respondents: It is an economic and sociological combined total measure of a person's work experience and of an individual's or family's socio-economic position in relation to others, based on Age, education, occupation, type of family, annual income, land holding, Agricultural Implements and communication medium.

Table 1: Distribution of respondents according to their socio-economic profile (N = 120)

Sl. No.	Category	Respondents	
		Frequency	Percentage
1	Age interval (in year)		
	Young (18-35)	43	35.83
	Middle (36-50)	53	44.17
	Above 50	24	20.00
2	Education		
	Illiterate	65	54.16
	Primary School	26	21.66
	Junior High School	15	12.15
	Higher Secondary'	08	6.67
	Graduate and above	06	5.36
3	Occupation		
	Main (Agriculture)	66	55.00
	Subsidiary		
	Ag.+ Caste Occupation	36	30.00
	Ag.+ Business	10	8.33
	Ag.+ Service	8	6.67
4	Land Holding		
	below 1 hac.	43	35.83
	below 1-2 hac.	50	41.66
	Large above 2 hac.	27	22.15
5	Annual Income		
	₹ 50001-100000	50	41.66
	₹ 100001-150000	45	37.05
	Above ₹ 150000	25	20.84
6	Level of Innovativeness		
	Low (0-3 score)	35	29.17
	Medium (4 – 6 score)	65	54.16
	High (above 7 score)	20	16.67

7	Extension Contact	Extent of participation					
		Regular		Occasional		Never	
		Frequency	Percent	Frequency	Percent	Frequency	Percent
	Village Development Officer	23	19.16	50	41.66	47	39.16
	Additional Development Officer	15	12.5	33	39.06	72	60.00
	Block Development Officer	16	13.33	35	29.16	69	57.05
	Subject Matter Specialists	28	23.33	53	44.16	39	32.05
	District Agriculture Officer	18	15.00	35	29.16	67	55.83

It was evident from the table 1 shows that 35.83 per cent respondents were between the young age group of 18-35 years. Similarly 44.17 per cent respondents were between the middle age groups of 36-50 years. In age of above 50 years there were 20.00 per cent respondents. And there were majority of the respondents 54.16 per cent respondents illiterate, similarly 21.66 per cent respondents were educated up to primary school whereas educated up to junior high school 12.15 per cent respondents and in higher secondary 6.67 per cent respondents were educated and 5.36 per cent respondents were educated up to graduate and above. It is apparent from table that Majority of the respondents 55.00 per cent respondents having their main occupation as agriculture and about 30.00 per cent respondents having subsidiary occupation as Ag + Caste Occupation, followed by 8.33 percent respondents having agriculture + Business and 6.67 per cent respondents having agriculture + Service. Similar findings are also reported by Pandhareet and Bhosle (2012).

It is clear from the Table 1 shows that 41.66 per cent respondents having their main land holding as below 1-2 ha. Whereas 35.83 per cent respondents having land holding as below 1 ha., followed by 22.15 per cent respondents having above 2 ha. land holding. From the above table shows regarding income 41.66 per cent respondents were in ₹ 50001-100000. Similarly 37.05 per

cent respondents were in ₹ 100001-150000, while 20.84 per cent respondents were in the Above ₹ 150000. smiliar findings are also reported by Singh and Pandey (2013).

Above table 1 indicated that 29.16 per cent respondents were in low innovativeness category where as 54.16 per cent respondents were in medium innovativeness category while 16.66 per cent were in high innovativeness category and it is evident from the table 1 that 19.16 per cent respondents were regularly meeting with Village Development Officer in the study area whereas 41.66 per cent respondents meeting with VLW often while 39.16 per cent never meet with Village Development Officer of the village. It was also found that in the study area, 12.5 per cent respondents were regularly meeting with Additional Development Officer while 39.06 per cent meet him often and 60.00 per cent never meet with Additional Development Officer of their village. 13.33 per cent respondents were meeting with Block Development Officer regularly while 29.16 per cent met with him on often basis whereas 57.05 per cent never met with Block Development Officer of their block. In case of Subject Matter Specialists, 23.33 per cent respondents met with them regularly, 44.16 per cent met him on often basis while 32.05 per cent never met with them. 15.00 per cent respondents met with District Agriculture Officer of their district regularly, 29.16 per cent met him often basis whereas 55.83 never met with him.

Table 2: Over all distribution of respondents according to their socio-economic status

Sl. No.	Socio-economic status	Frequency	Percentage
1	Low (Up to 22).	45	37.15
2	Medium (Between 23-28)	66	55.15
3	High (Above 29).	9	7.05
	Total	120	100.00

It is clear from the above table 2 that 37.15 per cent respondents were having Low in their socio-economic status and 55.15 per cent respondents were having Medium in their socio-economic while 07.05 per cent respondents were having high in the socio-economic status.

The similar findings are in support of Kumar and Bose, (2013).

Table 3: Extent of adoption of recommended wheat production practices by the respondents.

Sl. No.	Recommended package of practices	Responses					
		FA		PA		NA	
		F	%	F	%	F	%
1	High yielding varieties of wheat crop	30	25.00	80	66.67	10	8.33
2	Seed treatment	10	8.33	30	25.00	80	66.67
3	High yielding variety of wheat according to their sowing time	46	38.33	34	28.33	40	33.33
4	Seed rate according to scientific recommendation	34	28.33	32	26.67	54	45.00
5	Right time of sowing	86	71.67	30	25.00	4	3.33
6	intercropping ratio 9:1 of wheat crop	52	43.3	34	28.33	34	28.33
7	Used the organic	52	43.33	52	43.33	16	26.67
8	Following chemical fertilizer						
	(a) Nitrogen	52	43.3	36	30.00	60	50.00
	(b) Phosphorus						
	(c) Potash						
9	Time of irrigation	72	60.00	44	36.67	4	3.33
10	Control weeds in what crops	60	50.00	24	20.00	36	30.00
11	Plant protection measures	38	31.67	36	30.00	46	38.33
12	The moisture content percentage at the time of harvesting	60	50.00	24	20.00	36	30.00

It is clear from table 3 that 25.00 per cent respondents have fully adopted the high yielding varieties of wheat crop, and 66.67 per cent respondents have partially adopted high yielding varieties of wheat crop, while 8.33 per cent respondents have not adopted high yielding varieties of wheat crop. It was also found that 8.33 per cent respondents have fully adopted the Seed treatment, whereas 25.00 per cent respondents have partially adopted the Seed treatment, and 66.67 per cent respondents have not adopted the Seed treatment. It was also found that 28.33 per cent respondents have fully adopted the seed rate according to scientific

recommendation, whereas 26.07 per cent respondents have partially adopted according to scientific recommendation, and 45.00 per cent respondents were not adopted the according to scientific recommendation. Whereas 71.7 per cent respondents have fully adopted the right time of sowing wheat crop, whereas 25.00 per cent respondents have partially adopted the right time of sowing wheat crop, and 3.33 per cent respondents have not adopted the nursery preparation right time of sowing wheat crop. It was also found that 43.33 percent respondents have fully adopted the intercropping ratio 9:1 of wheat crop, and 28.33 per cent respondents have partially adopted intercropping ratio 9:1 of wheat crop, while 28.33 per cent respondents have not adopted the intercropping ratio 9: 1 of wheat crop. Whereas 43.33 per cent respondents were fully adopted used the organic manure, whereas 30.00 per cent respondents have partially adopted and majority 83.33 per cent respondents have not adopted used the organic manure. It was also found that 43.33 per cent respondents have fully adopted the chemical fertilizer, whereas 30.00 per cent respondents have partially adopted the chemical fertilizer, while 26.77 per cent respondents were not adopted the chemical fertilizer. It was also found that 60.00 per cent respondents have fully adopted the time of irrigation, whereas 36.7 per cent respondents have partially adopted the time of irrigation, while 3.33 per cent respondents were not adopted the time of irrigation. It was also found that 50.00 per cent respondents have fully adopted the control weeds in wheat crop, and 20.00 per cent respondents have partially adopted the control weeds in wheat crop, and 30.00 per cent respondents have not adopted the control weeds in wheat crop, whereas 31.7 per cent respondents have fully adopted the plant protection measures, and 30.00 per cent respondents have partially adopted the plant protection measures, while 38.03 per cent respondents have not adopted the plant protection measures. It was also found that 50.00 per cent respondents have fully adopted moisture content percentage at the time of harvesting and 20.00 per cent respondents have partially copied the moisture content percentage at the time of harvesting while 30.00 per cent respondents have not adopted the moisture content percentage at the time of

harvesting. Similar findings also reported by Ram, *et al.* (2017).

Table 4: Overall adoption of respondents about production technology package.

Sl. No.	Level of Adoption	Respondents	
		Frequency	Percentage
1	Low (10-18)	33	27.05
2	Medium (19-26)	70	58.30
3	High (Above 34)	17	14.66
Total		120	100.00

The data show that 27.05 per cent wheat growers had low level adoption of improved wheat practices followed by 58.30 per cent respondents having medium level adoption. While remaining 14.66 per cent respondents had high level of adoption of improved Wheat practices. The similar findings also reported by Bose (2019).

Table 5: Relationship between selected socio-economic Characteristics and adoption level of respondents

Sl. No.	Variables	Respondents	
		r ratio	Result
1	Age	-0.391	NS
2	Education	0.351*	S
3	Occupation	0.135	NS
4	Land holding	0.242*	S
5	Farming Experience	0.038	NS
6	Annual Income	0.238*	S
7	Mass Media Exposure	0.381*	S
8	Extension Contact	0.369*	S

* = Significant at the 0.01 level; ** = Significant at 0.05% level.

The study revealed that the independent variables like education, land holding, annual income, mass media and extension contact was positively and significantly relationship with the level of adoption of respondents. Whereas age, and farming experience was no significant relationship with the level of adoption of respondents. Similar findings are also reported by Mukhtarzai (2020).

CONCLUSION

It was concluded that majority of the respondents belong

to medium level of socio economic status. Majority of the respondents were illiterate and belongs the nuclear family, whereas majority of the wheat growers having their main occupation as agriculture, and maximum number of respondents were in medium innovativeness, and majority of the respondents were never met officers, whereas the adoption level of respondents was medium. And independents variables, education, land holding, annual income, mass media and extension contact was positively and significantly relationship with the level of adoption of respondents.

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