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Constraints as perceived by the small Farmers in adoption of Technology in wheat Production

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Abstract

The present study was conducted in nine villages of Deoria district of Uttar Pradesh with the sample size 180 small farmers cultivating wheat crop. Results indicated that the varieties of constraints were responsible for low adoption of wheat production technology however, few of them were most important such as 'non- availability of HYV seed in time, lack of knowledge of growing HYV wheat, lack of knowledge about seed treatment, high cost of chemicals for soil & seed treatment, lack of soil testing facility, lack of interest by extension personal, non-availability of fertilizer in time, no credit facility, lack of knowledge about fertilizer and plant protection technology, high cost of pesticide and fungicide, non- availability of plant protection equipments, water salinity, use of chemicals weed control is not as effective as hand weeding, lack of irrigation & proper storage facility, lack of knowledge about chemical weed control, costly chemicals for soil treatment, lack of finance for irrigation & purchase of improved farm implement, high cost of improved farm implements, lack of extension personnel, grain is stored for very short period, adulteration of insecticides and hence they were not effective in controlling the pests, lack of convenience about pesticides effectiveness 'unavailability of fumigants easily' untimely availability of fertilizers and lack of awareness about soilanalysis. This trends to imply that more education efforts are required to be undertaken by extension agency for improvement.

Key words: constraints, wheat Production Technology, Adoption, Farmers.

Introduction

Adoption is a process where succession of events in a sequence of time. Wheat is the major cereal crop of India in terms of area as well as production.It is grown almost in all parts of India during Rabi season. It covers 27.80 million haarea with the production of 80.73 million tones and average yield 29.07q/h. The productivity of wheat varies from state to state. In the year 2013-14, Deoria U.P had about 155,842 ha area under wheat, which is mostly under irrigation facility. The production of wheat in Deoria U.P is about 539,113 million tones and the productivity is 34.59 q/ha.

Adoption of agricultural technologies differs from farmers to farmers. Adoption refers to both mental acceptance and also covers the use of new agricultural technologies. In present study adoption in define as the use of recommended agricultural technologies on continuing basis.

The new technology in general has been adopted by big farmers who were innovative and were well off in resource structures and inputs availability, resulted into wide range gap in terms of adoption of wheat production technology by big and small farmers. Keeping this point of view the study was undertaken to see the complete picture of the constraints being faced by the farmers in adoption of wheat production technology in the district with specific objectives to study the constraints faced by the farmers in adoption of wheat production technology in Deoria district of Uttar Pradesh.

Methodology

The present study was conducted in Deoria district of Uttar Pradesh. Out of sixteen Blocksthree Block namely Salempur, Bhatpar Rani and Bhatni were selected for this study. Three villages were selected from each block. These way nine villages were selected randomly. In all 20 small farmers were selected randomly from each village constituting the

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sample of 180 respondents for the purpose of study.The data were collected with the help of specially developed interview schedule duly modified before the final use. The data, thus collected were duly processed and on the basis of which findings have been presented in this paper. The data collected through interview were tabulated and analyzed using simple statistical tools.

Results and discussion

The constraints responsible for low adoption of ten selected practices of wheat cultivation as reported by small farmers were presented in table1.

Seed Availability:

It is evident from table 1Non - availability of HYV seed in time (69.44 %) got rank I, Lack of Knowledge of growing HYV Wheat (61.11%) got rank II, High cost of HYV seed (51.66%) got rank III, and Lack of finance (41.11%) got rank IV were the important constraints responsible for low adoption of wheat technology.

Seed Treatment:

Table 1 reveals thatLack of technology (60.00%) is the main constraints for low adoption of seed treatment practices followed by High cost of chemicals (56.11%) and lack of awareness (51.11%) about seed treatment were ranked second and third respectively. The non-availability of seed dresser (44.44%) and lack of finance (39.44%) were another constraints effecting reverse the adoption process and ranked IV and V respectively. Thus, from the above explanation it may be concluded that the most important constraints affected reversely the adoption of seed treatment technology by the small farmers were lack of knowledge, high cost of chemicals and lack of awareness.

Soil Analysis:

It is apparent from the table 1 that lack of soil testing facility (96.66%) and lack of extension personnel interest (72.77%) were the main constraints in getting the soil analyzed by small farmers. The other constraints which were reported by less than 70.00 percent respondents were lack of awareness (68.33%), Lack of knowledge (51.66%) and lack of convenience about utility (38.88%). Thus from the explanation it could be concluded that lack of soil testing facility, lack of interest by extension personnel and lack of awareness were the main three important constraints responsible for low adoption of soil analysis technology.

Fertilizer:

It is evident from the table 1 that 67.77 percent respondents have explained that the problem of non-availability of fertilizer in time is the most important constraints in adoption of fertilizers. The other important constraints were no credit facility (48.88%), Lack of awareness (42.22%), High cost of fertilizer (37.22%), Lack of finance (30.00%) and lack of irrigation facility (27.22%). Thus, it is concluded that on the basis of rank order the important constraints being experienced by the farmers were non availability of fertilizer in time, No credit facility and lack of knowledge.

Plant Protection:

Table 1 clearly indicates that the important constraints which were responsible for low adoption in case of plant protection technology were lack of knowledge (67.77%), high cost of pesticide and fungicides (53.33%), non availability of plant protection equipments (50.55%), adulterated insecticides (43.33%), none convinced about their effectiveness (36.66%) and lack of technical gap (28.88%) respectively.

Thus, from the foregoing description, it may be concluded that lack of knowledge, high cost of pesticide and fungicide non- availability of plant protection equipments, about treated insecticides and non convenience about their effectiveness were the main constraints observed for the responsible for low adoption of plant protection technology by small farmers.

Soil Treatment:

It is depicts from the table 1 that lack of knowledge (72.77%) is the main constraints responsible for low adoption of seed treatment technology. The other important constraints were high cost of chemicals (66.66%), Lack of awareness (56.66%), Lack of finance (38.88%) and lack of assured irrigation (35.55%) which was responsible for low adoption of soil treatment technology. Thus, from the above explanation it may be concluded that lack ofknowledge, costly chemicals and lack of awareness were the three important constraints experienced by the small farmers in adoption of soil treatment technology.

Irrigation:

Table 1 further reveals that ‘saline water and lack of irrigation facility were the major constraints experienced by the 54.44% and 45.55% respondents respectively. The other constraints which were experienced by less than 40.00 percent respondents were lack of finance (38.88%), Changes of tube well water is so high (33.88%), low flow of water in tube well (27.77%) and non- availability of underground water for irrigation (21.66%).

This, it may be concluded that saline water, lack of irrigation facility and lack of finance were the three important constraints responsible for low adoption of

Table 1: Major constraints as perceived by the small farmers in adoption of technology in wheat production.

S. No. Constraints	Frequency	Percentage	Rank
(A) Seed Availability			
1. Lack of Knowledge of growing HYV Wheat	110	61.11	II
2. Non availability of HYV seed in time	125	69.44	I
3. High cost of HYV seed	93	51.66	III
4. Lack of finance	74	41.11	IV
(B) Seed Treatment			
1. Lack of Knowledge	108	60.00	I
2. No availability of seed dresser	80	44.44	IV
3. Lack of awareness	92	51.11	III
4. High cost of chemicals	101	56.11	II
5. Lack of finance	71	39.44	V
(C) Soil Treatment			
1. Lack of Knowledge	131	72.77	I
2. Lack of awareness	102	56.66	III
3. High cost of chemicals	120	66.66	II
4. Lack of assured irrigation	64	35.55	V
5. Lack of finance	70	38.88	IV
(D) Soil Analysis			
1. Lack of soil testing facility	174	96.66	I
2. Lack of interest by extension personnel	131	72.77	II
3. Lack of knowledge	93	51.66	IV
4. Lack of awareness	123	68.33	III
5. Lack of convenience about utility	70	38.88	V
(E) Fertilizer			
1. Lack of knowledge	76	42.22	III
2. Lack of irrigation facility	49	27.22	VI
3. Non - availability of fertilizer in time	122	67.77	I
4. High cost of fertilizer	67	37.22	IV
5. No credit facility	88	48.88	II
6. Lack of finance	54	30.00	V
(F) Plant Protection			
1. Lack of knowledge	122	67.67	I
2. Non - availability of chemicals	66	36.66	VI
3. High cost of pesticide and fungicide	96	53.33	II
4. Lack of technical help	52	28.88	VII
5. Adulterated insecticides	78	43.33	IV
6. Non convenience about their effectiveness	71	39.44	V
7. Non - availability of plant protection equipments	90	50.00	III
(G) Irrigation			
1. Lack of finance	70	38.88	III
2. Lack of irrigation facility	82	45.55	II
3. Low flow of water in tube well	50	27.77	V
4. Charges of tube well water is so high	61	33.88	IV
5. Non - availability of underground water for irrigation	39	21.66	VI
6. Saline water	98	54.44	I
(H) Weeds Control			
1. Lack of knowledge	169	93.88	I
2. Risky method	73	40.55	VII

3. Manual weeding provides green fodder	92	51.11	V
4. High cost involved	111	61.66	IV
5. Hazardous to crop	82	45.55	VI
6. Lack of awareness	123	68.33	III
7.Chemical weed control is not as effective as hand weeding	134	74.44	II
(I) Improved Farm Implements			
1. Lack of knowledge	69	38.33	IV
2. Small size of land holding	96	53.33	II
3. Lack of experience	52	28.88	V
4. High cost of improved farm implements	101	56.11	I
5. Lack of finance	80	44.44	III
(J) Grain Storage			
1. Using traditional practices of storage	98	54.44	V
2. Lack of knowledge	121	67.22	IV
3. Unavailability of fumigants	130	72.22	III
4. Lack of proper storage facility	155	86.11	I
5. Grain in stored for very short period	142	78.88	III

irrigation technology by the small farmers.

WeedControl:

It is apparent from the table 1 that Lack of Knowledge (93.88%)was the main constraint responsible for low adoption weedscontrol. The second important constraints reported by 74.44 percent of small farmers was 'use of chemicals weed control is not an effective as hand weeding' while, 'lack of awareness'is ranked third (68.33%) as an important constraints.

From above explanation, it may be concluded that prominent constraints responsible for low adoption of chemical control of weeds were 'lack of knowledge' use of chemical control is not as effective as hand weeding and lack of awareness.

Improved Farm Implements:

It is clear from the above table that major constraint was responsible for low adoption of improved implement technology was high cost of improved farm implements (56.11%) and small size of land holding (53.33%) reported by small farmers. However other constraints which were reported by less than forty five percent farmers were 'lack of finance' (44.44%), 'lack of knowledge' (38.33%) and 'lack of experience' (28.88%). which were ranked III, IV and V respectively.

Thus, the conclusion can be drawn that 'high cost of improved farm implements','small size of land holding', and 'lack of finance' were the important constraints responsible for low adoption of improved farm implements.

Grain Storage:

A cursory review of table 1 reveals that 'lack of proper storage facility (86.11%), 'non- availability of fumigants (72.22%), 'lack of knowledge' (67.22%) were the main constraints responsible for low adoption of grain storage practices.

Thus, it may be concluded that 'lack of proper storage facility', 'grain is storage for very short period' and 'unavailability of fumigants' where the three important constraints responsible for low adoption of fumigants practices is storage.

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