



Effect of Variety and Method of Sowing Adopted by Farmers on Wheat Yield in District Kapurthala

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ABSTRACT

A survey was conducted on different wheat varieties and method of sowing adopted by the farmers in the district and its effect on wheat yield obtained. The results revealed area under wheat variety HD 2967 was reduced by 23 per cent and increased by 20 per cent under HD 3086. Regarding age and education of the farmers, fertilizer application decreased with the increase of literacy level of the farmers, while yield levels remained static. Data regarding different methods of sowing followed by the farmers revealed that area under wheat sown with seed cum fertilizer drill reduced during 2015-16 and increased under zero till seed drill, broadcasting, use of rotavator and happy seeder as compared to the year 2014-15.

Key Words: Cultivars, DAP, Urea, Kapurthala, Method of sowing, Wheat, Yield.

INTRODUCTION

Wheat was cultivated in Punjab on an area of 35.5 lakh ha with the average productivity of 43.04 q/ha (Anonymous, 2016). The preference for different varieties of wheat and method of sowing varies from farmer to farmer, as per their ease and management. The socio-economic factors such as age and education had impact on farmer's package of practices followed and wheat yield obtained. Taking the above issues in consideration, a survey was planned to understand the preference of different varieties of wheat along with method of sowing opted by farmers in district Kapurthala. In the present study, a comparison was also made regarding varietal preferences and method of sowing used by the farmers during the year 2014-15.

MATERIALS AND METHODS

The survey was conducted during Rabi 2015-16 in district Kapurthala. The grain market of different blocks of Kapurthala was visited to collect the information on wheat. A total of 146 farmers with wheat cultivated on 365 ha were selected. A questionnaire on wheat was developed using different parameters including variety sown,

method of sowing, age and education of the farmer, fertilizer input added and wheat yield obtained. The data thus collected were tabulated and analyzed.

RESULTS AND DISCUSSION

Diversity in wheat cultivation

The data (Table 1) revealed that during the year 2014-15, wheat cultivar HD 2967 sown on maximum (96%) area followed by WH 1105 (2.6%) and PBW 621 (1.4%), respectively (Manan et al, 2015). During 2015-16, HD 2967 covered 72.9 per cent of the total area in the district followed by HD 3086 (20.0%), WH 1105 (4.9%), PBW 550 (1.3%) and PBW 677 (0.9%), respectively. The major shift in area from HD 2967 to HD 3086 was observed with marginal increase in area under WH 1105 and PBW 677 (a new variety released by PAU, Ludhiana). Overall, HD 2967 still have been sown on maximum area as compared to other wheat varieties. This was in line with the findings of Brar (2014).

Age and education in relation with fertilizer use and wheat yield

Data in Table 2 revealed that most of students with education level up to 10th were of age more

Table 1. Diversity in wheat cultivation.

Variety	2014-15		2015-16	
	Per cent area covered	Yield (q/ha)	Per cent area covered	Yield (q/ha)
HD 2967	96.0	34.3	72.9	47.2
HD 3086	--	--	20.0	46.7
WH 1105	2.6	35.0	4.9	48.0
PBW 550	--	--	1.3	45.5
PBW 677	--	--	0.9	43.7
PBW 621	1.4	38.8	--	--

than 30 yr and farmers with education level of more than 10th were of age less than 45 yr. Maximum area was covered by farmers with education level of 10th and of age more than 45 yr followed by farmers with education level of 12th and were in age group of 30-45 yr.

Regarding fertilizer use, the use of urea and di-ammonium phosphate (DAP) decreased with the education of the farmers, irrespective of farmer age in different groups, while there was marginal effect on wheat yield with the variation in education, age and fertilizer application etc.

Method of sowing in relation with wheat yield

Data gathered in Table 3 revealed the area covered under different methods of sowing during last 2 years. It was evident that during the year 2014-15, major area covered under seed cum fertilizer drill (39.1%) followed by zero till seed drill (31.5%), broadcasting (22.9%) and use of rotavator (6.5%), respectively (Manan et al, 2015). During 2015-16, the maximum area under wheat was sown by zero till drill (38.8%) followed by broadcasting (27.3%), seed cum fertilizer drill (14.6%), rotavator (12.3%) and happy seeder (7.0%), respectively. Zero till seed drill was getting popularity because intensive

Table 2. Effect of age and education level of farmers on fertilizer levels and yield of wheat.

Education level	Age (Years)	Number of farmers	Per cent area covered	Urea applied (kg/ha)	DAP applied (Kg/ha)	Yield (q/ha)
Up to 5th	<30	--	--	--	--	--
	30-45	2	0.3	312.5	187.5	45.0
	>45	12	2.8	302.0	156.2	46.2
6-10th	<30	--	--	--	--	--
	30-45	12	5.8	298.0	143.7	46.5
	>45	54	39.7	272.5	146.7	46.5
10-12th	<30	8	1.6	250.0	140.5	48.2
	30-45	38	33.6	276.2	127.7	47.2
	>45	--	--	--	--	--
Collegiate	<30	6	4.0	250.0	125.0	47.5
	30-45	14	12.2	214.2	126.7	46.7
	>45	--	--	--	--	--

Effect of Variety and Method of Sowing on Wheat Yield

Table 3. Effect of method of sowing on wheat yield.

Method of sowing	2014-15		2015-16	
	Per cent area cov-ered	Yield (q/ha)	Per cent area cov-ered	Yield (q/ha)
Zero till seed drill	31.5	32.3	38.8	47.2
Broadcasting	22.9	36.0	27.3	48.0
Seed cum fertilizer drill	39.1	34.2	14.6	47.0
Rotavator	6.5	37.9	12.3	48.2
Happy seeder	--	--	7.0	46.2

tillage may not be necessary for wheat crop in paddy-wheat rotation and there is sufficient scope to reduced tillage operations for seed bed preparation of wheat crop. Overall, zero tillage sowing was found to be most time, energy saving by the farmers and it also reduced cost of production as compare to conventional method of sowing (Papu et al, 2012).

The shift in method of sowing was probably due to adoption of happy seeder technology by the farmers and increase in area under use of rotavator was probably due to easiness of using rotavator as compared to seed cum fertilizer drill. The increase in grain yield with rotavator and broadcasting as compared to row sowing was observed during both the years under study. Similar results were also reported by Abbas et al(2009).

CONCLUSION

Considering diversity in wheat cultivation, the shift in area under HD 3086 was observed from HD 2967 along with increased area under PBW 550 (late sown) and PBW 677 (new variety). Taking into account the education level and age of the

farmers, use of fertilizers was reduced. Considering the method of sowing in wheat, shift in area under rotavator and happy seeder was observed from seed cum fertilizer drill, as compared to last year. Overall, farmers preferred new varieties and technologies. With the ease in technology, the adoption level increased as in case of zero till seed drill and broadcasting methods of wheat sowing.

REFERENCES

- Abbas G, Ali M A, Abbas G, Azam M and Hussain I (2009). Impact of planting methods on wheat grain yield and yield contributing parameters. *The J Anim & Plant Sci* 19(1): 30-33.
- Anonymous (2016). Package and Practices of Rabi crops 2016-17. Punjab Agricultural University, Ludhiana. pp 1.
- Brar R S (2014). Wheat variety HD 2967 gains popularity among farmers. *Hindustan Times*, Nov 10th , 2014.
- Manan J, Sharma M, Singh G and Singh G (2015). Package of practices followed by farmers and its effect on wheat yield in district Kapurthala. *J Krishi Vigyan* 4(1): 67-71.
- Papu S, Singh S and Singh B R (2012). Performance of zero-till drill for wheat cultivation at farmer's fields. *Int J Sci & Res ISSN (Online)*: 2319-7064.

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