

Varietal Evaluation of Wheat through On Farm Testing

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ABSTRACT

*A field trial cum OFT was conducted at 6 farmers field to problem diagnose like low productivity in wheat: to access the productivity levels of improved high yielding variety as compared to local varieties. Three wheat variety RAJ – 4120, RAJ – 4037 and RAJ – 3765 compare with farmer practice local variety LOK – 1/RAJ – 1482. Result showed that RAJ – 4120 variety recorded highest yield (42.0 q/ha) and percent increase in yield was 16.67 over local variety (LOK – 1/RAJ – 1482).
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INTRODUCTION

Wheat is staple food for millions. About 35 percent of the world's population depends upon wheat for food. In India, wheat occupies an area of 24 million hectare with a total production of 55 million tones. In terms of both area and production India ranks fourth among all wheat growing country. Wheat is India's first most important food grain crop. The country has increase its production form a mere 6.46 mt in 1950-51 to 92.46 mt in 2012-13. The production had increased by fourteen times with three fold arease increase and productivity increase by five times (Indu Sharma et.al.) Rajasthan is prominent wheat growing state. Wheat occupies one important place in Tonk district agriculture. The mustard, wheat, chickpea are the major Rabi crops in the district. The farmers of the district on growing traditional variety LOK-1, or RAJ-1482 or local varieties, which are poor yielder and low quality grain. To increase productivity of wheat is a need to replace existing low yielder varieties. Improved varieties of wheat such as RAJ-3765, RAJ-4037 and RAJ-4120 which are available for cultivation. Keeping this in view, the present study was under taken with specific objectives: to assess the productivity levels of improved high yielding varieties as

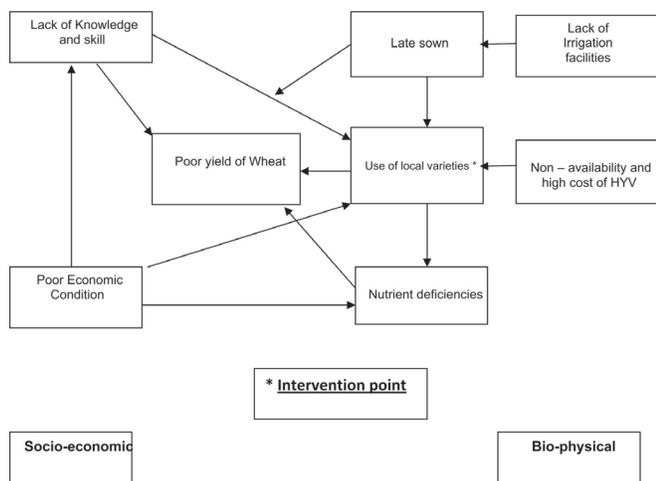
compare to local varieties.

METHODOLOGY

Present study was conducted in 6 locations under On Farm Testing trials in Tonk district villages during Rabi 2013-14 for problem diagnosis low productivity in wheat crop. There were 4 treatments i.e. T₁- farmers practice (LOK-1/RAJ-1482/Local Variety), T₂ – Improved varieties i.e. RAJ-3765, T₃ – Improved variety RAJ-4037 & T₄ – Improved variety RAJ-4120. One farmer in each village was selected and trial was conducted with 0.25 hectare area for each variety i.e. 0.75 hectare/trial. Parameter of assessment was grain and straw yield.

Steps Involved in Conducting OFT

Survey was conducted in operational area at farmer's field to know: the socio-economic status of farmer, farming situation, cropping pattern and location. The existing level of adoption of technologies On Farm Testing site and farmers were selected to suit the activity. Accessibility was also taken at priority. Critical input for OFT were also identified and made available to farmers.



**Problem Cause Diagram
(Low productivity in Wheat)**

RESULTS AND DISCUSSION

Table 1: Performance of wheat varieties on seed yield, net return and B:C ratio

Sr. No.	Treatment	Grain yield q/ha	Net Return (Profit) in ₹ / unit/ha	B:C Ratio
T1	Farmers practice (Lok-1/RAJ-1482)	36.00	34200	1.27
T2	Wheat variety-RAJ 3765	40.50	41850	1.55
T3	Wheat variety-RAJ 4037	41.50	43550	1.61
T4	Wheat variety-RAJ 4120	42.00	44400	1.65

Result showed that RAJ – 4120 variety recorded highest yield (Table 1). The data revealed that variety RAJ – 4120, RAJ – 4037 and RAJ – 3765 gave higher yield 16.67,

15.27 and 12.50 percent respectively over farmer practices (variety LOK – 1/RAJ – 1482). Benefited cost ratio (B: C ratio 1.65) and net return (44400 Rs. /ha) was highest recorded with variety grown RAJ – 4120.

Process of Farmers Participation and their reaction

The evaluation of wheat varieties conducted on the farmers fields with their active participation and under own management. KVK organized field day on OFT trial. Large number of farmer’s line department officers and research scientist participated. Liking of farmers for this variety is due to higher yield and better quality of bread and heat tolerant.

Variety/Breed Selected for OFT (Highest yield recorded)

RAJ – 4120 a prominent wheat variety has height 79 – 94 cm, high tillering and resistant to rust disease, suitable for sowing in normal and irrigated conditions, resistant to lodging, takes 107-124 days to become mature, test weight of seed ranges from 38-41 gm and 48-58 q/ha yield potential, most suitable under Rajasthan climate condition.

CONCLUSION

Final recommendation for micro level situation in RAJ – 4120 variety may be grown in place of RAJ – 4037 and RAJ – 3765 in district Tonk. Liking of farmers for this variety is due to higher yield (42.0 q/ha) and better quality of bread, it also gives 5 – 7 percent more straw than RAJ – 4037 and RAJ – 3765 varieties in district.

REFERENCE

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