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Boosting oats productivity through frontline demonstrations in Doda district of Jammu and Kashmir

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ABSTRACT

The present study was carried out during Rabi season of 2007-08 to 2015-16 in 45 villages across 6 blocks of Doda district of Jammu and Kashmir. In all 162 frontline demonstrations (FLDs) on oat crop were laid out in an area of 36.20 hectares with the active participation of the farmers with the objective to demonstrate the latest technology of oat production. The results of the study revealed that the average yield of oats (green fodder) under FLD plots varied between 226.28 to 403.13 q/ha whereas under the farmers' practice it varied between 180.00 to 297.50 q/ha. The increment in yield of oat crop under frontline demonstrations was due to dissemination of improved and latest technology on high yielding varieties, seed treatment, recommended seed rate, balanced fertilization and plant protection measures.

Keywords: Frontline demonstration; oats; seed treatment; balanced fertilization

INTRODUCTION

Availability of good and sufficient quantity of green fodder for stall feeding during the winter months has been a problem in Jammu and Kashmir state in general and temperate areas in particular. In plain areas of Jammu province Berseem (*Trifolium alexandrinum*) is very popular winter season fodder crop but can only be grown under irrigated conditions. To find alternative forage for rainfed hilly areas research on oats has begun and is continuing. The oats have potential of providing good quality nutritious forage for a long duration. The good quality protein and nutritional components are suitable for maintaining animals and milk production. Oat grain has good potential as food supplement, baby food as well as animal feed. Most of the cultivated fields in Doda district formerly remained barren in winter because of the cold conditions. Severe winters, snowfall and uncertainity of rains in winter compel the farmers to avoid uncertain labour and resource intensive food crops and switch over to alternative professions in winter especially making of handicrafts. Inspite of extensive research and extension availability of excellent cultivars having easy cultivation, oats have not only become very popular in temperate

areas of Jammu province but also have improved the economic conditions of farmers particularly small scale and marginal farmers. Therefore large scale frontline demonstrations (FLDs) on oat crop were conducted throughout district Doda in order to have better wide spread impact of the demonstrated technologies on the farmers' fields by involving field level extension functionaries. The target clients of FLDs were both farmers and the extension officers. The purpose was to convince extension functionaries and farmers together about the potentialities of technologies for further wide scale diffusion.

MATERIAL and METHODS

KVK Doda conducted FLDs on oat crop during Rabi 2007-08 to Rabi 2015-16. Total 162 FLDs were conducted on farmers' fields in different parts of Doda district. The demonstrations were conducted under rainfed conditions and the soil of demonstration plots ranged from sandy loam to clay loam. Two varieties namely Sabzar and Kent were demonstrated on total area of 36.2 hectares. Similarly equal number of control plots ie 162 was laid on a total area of 36.2 hectares. Emphasis was given on the use of quality seed of high yielding varieties and improved agronomical practices including proper seed rate, seed treatment, balanced fertilization etc. Crop was sown in the first fortnight of November to first fortnight of December and harvested in second fortnight of May to first fortnight of June during 2007-2015. Inputs such as seeds and fertilizers were provided to the farmers free of cost but the field operations were carried out by the farmers themselves under the guidance of KVK scientists. Moreover a local check plot of farmers' practice was also laid along with demonstration plot. Data on total yield in demonstration plot as well as local check were recorded.

RESULTS and DISCUSSION

The difference in adoption of oat production technologies under demonstrations and local farmers' practice were measured. The major differences were observed regarding recommended varieties, seed rate, seed treatment, fertilizer dose, sowing method and plant protection measures. Under farmers' practice they generally broadcast the oat seed at high rate without any seed treatment (Table 1). It was observed that under farmers' practice fertilizers were generally broadcast with unbalanced form whereas under demonstrations balanced doses of fertilizers were applied at the time of sowing. Similar findings have also been observed by Khan and Chouhan (2005), Kirar et al (2006), Yadav et al (2007) and Asiwal and Hussain (2008).

The results obtained during the five years are presented in Table 2. The results reveal that the average yield of oats (fodder) under FLD plots varied between

Table 1. Differences between technological intervention and farmers' practice for oat crop

Component	Demonstration package	Farmers' package
Variety	Sabzaar, Kent	Local variety
Seed rate	100 kg/ha	160-200 kg/ha
Farming situation	Rainfed	Rainfed
Method of sowing	Line sowing (20 cm)	Broadcasting
Fertilizer dose	80:40:20 (NPK kg/ha)	Irrational use of nitrogenous fertilizers
Seed treatment with fungicide	Vitavax @ 2 g/kg	Nil
Plant protection measures	Need-based sprays of insecticides and fungicides	Nil

Table 2. Performance of oat crop under frontline demonstration and farmers' practice

Year	Variety	Total area (ha)	# demonstrations	Average yield (q/ha)		% increase in yield over farmers' practice	B:C ratio
				Demonstration	Farmers' practice		
2007-08	Kent	05	17	226.28	180.00	25.7	1:2.88
2008-09	Sabzar	05	25	369.52	270.88	36.41	1:3.04
2009-10	Sabzar	05	21	386.80	280.30	38.0	1:2.12
2010-11	Sabzar	05	19	378.90	280.20	35.20	1:2.05
2011-12	Kent	03	15	403.13	282.93	42.48	1:2.29
2012-13	Kent	03	15	401.10	297.50	34.80	1:2.18
2013-14	Sabzar	3	14	384.4	200.50	47.00	1:2.55

226.28 to 403.13 q/ha whereas under the farmers' practice it varied between 180.0 to 297.50 q/ha. The demonstrated plots recorded 25.7 to 47.0 per cent increase in yield over the farmers' practice. The benefit:cost ratio of improved technologies varied between 2.05 to 3.04. This may be due to higher yields obtained under improved technologies compared to local check or farmers' practices. This finding is in corroboration with the finding of Balai et al (2013).

CONCLUSION

It is concluded that FLD programme is an effective tool for increasing the production and productivity of oat crop and changing the knowledge, attitude and skill of farmers. The per cent increment in yield of oat crop to the extent of 25.7 to 47.0 in FLDs over the farmers' practices created great awareness and motivated the other farmers to adopt improved package and practices. These developments also built

the relationship and confidence between farmers and scientists. The beneficiary farmers of the FLDs also played an important role as a source of information and quality seed of high yielding varieties of oat for wider dissemination to nearby farmers and villages.

REFERENCES

Asiwal BL and Hussain A 2008. Demonstration: an effective technology for increasing the productivity of gram. Rajasthan Journal of Extension Education **16(1):** 88-91.

Balai CM, Bairwa RK, Roat BL and Meena BL 2013. Impact of front line demonstration on maize yield improvement in tribal belt of Rajasthan. Research Journal of Agricultural Sciences **4(3):** 369-371.

Khan PM and Chauhan J 2005. Adoption of pattern of farmers towards new farm technology. Indian Research Journal of Extension Education **5(1):** 1-3.

Kirar BS, Nishine R, Gupta AK and Mukherjee SC 2006. Demonstration: an effective tool for increasing the productivity of Urd. Indian Research Journal of Extension Education **6(3):** 70-74.

Yadav VPS, Kumar R, Deshwal AK, Raman RS, Sharma BK and Bhela SL 2007. Boosting pulse production through frontline demonstration. Indian Research Journal of Extension Education **7(2-3):** 26-28.

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