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Demonstration: An Effective Technology for Increasing the Productivity of Oats Under Temperate Area of Jammu and Kashmir

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Abstract

The present study was carried out in 33 villages across 04 blocks of Doda District of J&K. In all, 95 Frontline Demonstrations (FLD's) on Oat crop were carried out in an area of 21.0 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 369.52 q/ha to 403.13q/ha, whereas, under the farmer's practice, it varied between 270.88 q/ha to 297.50q/ha. The increment in yield of Oats crop under Frontline Demonstrations was due to dissemination of improved and latest technology viz: high yielding varieties, seed treatment, recommended seed rate, balanced fertilization and plant protection measures.

Key words: *Frontline Demonstration, Oats, Seed treatment, balanced fertilization and plant protection measures.*

Introduction

Oats has not only become very popular in temperate areas of Jammu province but also has improved the economic conditions of farmers, particularly small scale and marginal farmers. Therefore, large scale FLD's on Oats crop were conducted throughout the district by Krishi Vigyan Kendra, Doda in order to have better wide spread impact of the demonstrated technologies on the farmers field by involving Field Level Extension Functionaries. The target clients of FLD's were both farmers and the extension officers. The purpose is to be convince extension functionaries and farmers together about the potentialities of technologies for further wide scale diffusion. The results showed farmers that Oats is an easy crop, demanding almost no after care, once sown. Farmers have found the best answer in oats, an easy crop that can provide some output from land that otherwise would remain fallow in winters.

Materials and Methods

KVK Doda conducted FLD's on Oats crop during Rabi 2007-08 to Rabi 2012-13. Total 95 FLD's were conducted on Oats crop on farmer's field 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 21.0 hectares. Similarly, equal numbers of control plots i.e 95 were laid on a total area of 21.0 hectares. In FLD's emphasis was given on the use of quality seed of high yielding variety and improved agronomical practices including proper seed rate, seed treatment, balanced fertilization, etc under rainfed conditions. 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 study period 2007-2013. Inputs such as seed and fertilizer was provided to the farmers free of cost but the field operations were carried 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 was recorded.

Results and Discussion

The difference in adoption of Oat production technologies under demonstrations and local farmer's practice were measured. The major differences were observed regarding recommended varieties, seed rate, seed treatment, fertilizer dose, sowing methods and plant protection measures. Table 1 shows that under the demonstrated plots only recommended varieties and fertilizer dose were given to the farmer by the KVK free of cost and all the other package and practices were timely performed by the farmers itself under the supervision of KVK scientists. Under farmer's practice, they generally broadcast the Oat seed at a very high seed rate without any seed treatment. It is observed that under farmer's practices fertilizers are generally broadcasted with unbalanced form, whereas, under demonstration balance dose of fertilizers are applied at the time of sowing. Similar findings have also been observed by earlier investigators[1,3,4,5] (Table 1).

Table 1 Differences between technological intervention and farmers practices for Oats crop

Particular Practice	Demonstration Package	Farmer's Practice
Variety	Sabzaar and Kent	Local Variety
Seed Rate	100kg/ha	160-200 kg/ha
Farming Situation	Rain fed	Rain fed
Method of Sowing	Line sowing (20cms)	Broadcasting
Fertilizer dose	80:40:20 (NPK kg/ha)	Irrational use of nitrogenous fertilizers
Seed treatment with fungicide	Vitavax @ 2g/kg	Nil
Plant protection measures	Need based spray of insecticides and fungicides	Nil

The results obtained during last five years are presented in Table 2. The results revealed that the average yield of Oats (fodder) under FLD plots varied between 369.52 to 403.13 q/ha, whereas, under the farmer's practice, it varied between 270.88 to 297.50 q/ha. The demonstrated plots recorded 35.20 to 42.48 per cent increase in yield over the farmer's 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 farmer's practices. This finding is in corroboration with the findings reported in the past[2].

Table 2 Performance of Oats under Front Line Demonstration and Farmer's Practice

Under FLD Programme				Average Yield (q/ha)		% increase in yield over Farmer's practice	B:C ratio
Year	Variety	Total Area (Ha)	No. Of Demonstrations	Demonstration	Farmer's Practice		
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
2011-2012	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
Total/Average	-	21	95	387.87	282.36	35.61	2.34

Conclusion

It is concluded that FLD programme is an effective tool for increasing the production and productivity of Oats crop and changing the knowledge, attitude and skill of farmers. The per cent increment in yield of Oats crop to the extent of 35.20 to 42.48 in FLD's over the farmer's practice created greater awareness and motivated the other farmer's to adopt improved package and practices of Oat developed by SKUAST-Jammu. These developments also build the relationship and confidence between farmers and scientists. The beneficiary farmers of the FLD's also play an important role as a source of information and quality seeds for wider dissemination of the high yielding varieties of Oat for other nearby farmers and villages.

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