

Short Communication

Assessment of Oats (*Avena sativa L.*) Varieties under Snow bound Conditions of District Doda for utilization of fallow land during *Rabi* Season

Narinder Paul, AS Charak, GN Jha, Sanjay Khajuria and Munish Sharma

Krishi Vigyan Kendra Doda (J&K)-182221
Sher-e-Kashmir University of Agricultural Sciences and
Technology of Jammu (SKUAST-J)

Oats rank around sixth in the world cereal production statistics following wheat, maize rice, barley and sorghum. The exact origin of the oat is unclear. Oat (*Avena sativa*) seeds have been found in 4000-year-old remains in Egypt^[1]. Availability of good quality and sufficient quantity of green fodder for stall feeding during winters is a major problem in temperate areas of Jammu Division. Oats (*Avena sativa L.*) is a very useful winter fodder and could help farmers to alleviate winter fodder scarcity. Farmers of the district have acute shortage of fodder and moreover, they lack awareness and knowledge regarding alternative fodder crops and their suitable varieties that can be cultivated in the fallow areas left uncultivated during *Rabi* season. More than 92 percent cultivable area of the district is rainfed and mono-cropped. Besides, in the irrigated areas on the banks of seasonal tributaries of River Chenab, paddy is grown during *Kharif* but this area too remains fallow during *Rabi* season. Under such circumstances, it was perceived that fodder oats has the potential

of providing good quality nutritious fodder for quality protein and nutritional components suitable for maintaining animals health and milk production during winters besides making judicious use of fallow land.

To address the problem of fodder scarcity and effective utilization of fallow land during winters in District Doda, assessment of fodder oats varieties and their suitability during the *Rabi* season when the entire area remains snow bound was made. It would also help overcome the scarcity of green fodder during the winter months. Krishi Vigyan Kendra (KVK) Doda initiated OFTs on Oat (*Avena sativa L.*) for assessing the performance of its varieties under snow bound conditions in the District. OFTs on Oats varieties Kent and Sabzar were planned and conducted during *Rabi* 2016-17.

On-farm trials of Sabzar, Kent and locally used oats varieties were conducted by KVK Doda at 15 locations in randomly selected villages throughout the district for one year during *Rabi* 2016-17 in order to have better wide spread impact on the

farmers by involving Village Agriculture Extension Assistants of the department of agriculture and fellow farmers in those fields which generally remain fallow during *Rabi* season.

The results revealed that oats variety Sabzar recorded the highest average yield of green fodder (360.20 Qtl. ha⁻¹) which was significantly higher than the Kent (324.90 Qtl. ha⁻¹) and locally used farmer's variety (280.40 Qtl. ha⁻¹) with 28.16 percent higher yield over control. Sabzar variety provided the highest net return of Rs. 19291 ha⁻¹ followed by Kent and check.

After successful testing under OFTs, Sabzar variety was up-scaled through Frontline Demonstrations (FLDs), awareness and training programmes in the district for its wider adoption by the farming community. The Front Line Demonstrations on fodder oats were laid out during Rabi 2017-18 and 2018-19 in 8 villages across 04 blocks of Doda District of J&K. In all, 50 Frontline Demonstrations (FLD's) on fodder Oats were carried out in an area of 10.0 hectares with the active participation of the farmers with the objective to demonstrate the Sabzar variety and production technology of fodder oats for higher production.

Table 1 Performance of Oats Varieties under snow bound conditions in District Doda

Technological options	Average yield (Quintals ha ⁻¹)	Increase over farmer's practice (%)	Net returns (Rs ha ⁻¹)	B:C ratio
T ₁ : Farmer Practice (Local Variety)	280.40	-	12582	1.74
T ₂ : Variety Kent	324.90	15.87	16125	1.89
T ₃ : Variety Sabzar	360.20	28.46	19291	2.04

The results revealed that average yield of Oats (green fodder) under Front Line Demonstrations (FLDs) plots were 315 Qtls. ha⁻¹ (pooled data for two years) which was 16.23 percent higher than the farmers practice. Economic analysis of

Conclusion

Oats variety Sabzar was found to be the most suited variety for the district which has also been popularized through Front Line Demonstrations in the District. As a result of it, presently area under fodder oats in Doda District has increased from 1622 hectares to 2370 hectares. Moreover, the demand for the seed of

demonstrated technology in comparison to farmer's practice revealed that on an average, a net return of Rs. 18970 ha⁻¹ was obtained under the demonstrated technology which was 27.60 percent higher over the check.

Sabzar variety of oats has also increased many-fold during the last 3-4 years. Both vertical and horizontal spread of the oats variety and its scientific oat production technology demonstrated by the KVK has successfully resulted in the area expansion of this fodder crop in the District. Extensive extension efforts of KVK,

availability of Sabzar cultivar by the Department of agriculture and private seed retailers due to increased demand by the farmers has made oats crop very popular in the District and has also improved the economic conditions of farmers,

particularly small scale and marginal ones. In nutshell, the problem of fodder scarcity during winters has been contained to a large extent by utilizing the otherwise fallow areas.

References

1. Stevens E.J. Wright, S.C., Pariyar, D., Shrestha, K.K., Munakarmi, P.B., Mishra, C.K., Muhammad, D. and Han, J. (2000). The importance of oats

in resource-poor environments. *Proceeding of the 6th International Oat Conference, Christchurch New Zealand*, November 2000. Pp. 74.