

A NOTE ON GROWING OF KORANGA (*ONOBRYCHIS VICIAEFOLIA*) AT MASTUNG

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Abstract

Koranga sown at Soil Conservation Farm, Mastung in March 1981, germinated and survived whole growing season under limited irrigation. Though there was no promising vegetative growth however, plant sprouted vigorously during next season i.e. February–March 1982 and produced fodder at the rate of 19.7075 metric tons per hectare and seed collected from the crop was 600.96 kg. per hectare. It was observed that plant can withstand high rate of soil moisture stress and is suited to arid conditions prevailing in Mastung Valley.

Introduction

**Koranga originated in Central and Southern Europe and Temperate Asia. It is a long lived perennial plant with a long thick tap root, pinnate leaves and red flowers on long terminal racemes. It is specially adopted to dry calcareous soils. In Central Europe, Great Britain and mediterranean it is used as hay and pasture plant (1,3), Koranga has shown promise as pasture and hay legume in dry locations of South Africa, South America and United States of America. It has 50-60 thousand seeds per kg(4). *O. viciaefolia* is best among other species like *O. sativus* and *O. vulgaris*(5). The success of Koranga under wild conditions in watershed areas with a rain fall more than 300 mm is quite satisfactory even at height of 1300 meters above sea level(2).

Materials and Methods.

One hundred grams (5000 Nos) of seeds was supplied for trial in Mastung received from N.W.F.P. in February 1981. The seed was sown in lines 60 cm apart with 5 cms seed to seed distance at soil conservation farm Mastung on 28-2-1981, in well prepared seed bed measuring 16x6 metres. Soil was well pulverised before seedage and added with 0.5 tons of farmyard manure per acre. Seeds placed in lines at a depth of 2 to 2.5 centimeters and covered with soil by hand. Germination was complete upto 18th March 1981. Very limited artificial irrigation through a Kariz water was given at a prolonged interval of 15-20 days throughout growing season (i.e. April 1981 to 15th November 1981). No adequate rainfall was received during the growth period except 15 mm in April 1981. The crop was left in the same plot for next year. No cultural operations were done during the year except casual hoeing and removal of weeds. The crop sprouted in March-April 1982. The plots were then divided into sub plots of 3x3 metres and placed for observation of fodder yield, production of hay and seed production etc.

Observation.

The seeds sown on 28-2-1981 germinated quite successfully upto 18th March 1981

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The data recorded are shown in table I below:-

Table I. Showing Germination Percentage of *O. viciaefolia*
at Soil Conservation Farm at Mastung, 1981

Date of Sowing	No. of seeds sown	Date of germination	No. of seed germinated	Germination percentage
28-2-1981	5000	18-3-1981	4250	85 %

These plants remained in the field but no promising growth was observed upto the end of season. The plant, however sprouted vigorously next year and attained an average height of 0.75 metres upto 15th June 1982. The observation of green fodder hay and seed production are recorded in tables given below:-

Table II. Yield of Green Fodder of Koranga at Soil Conservation Farm, Mastung 1982
in metric tons/hectare

Date of Harvest	No. of Cutting	Yield in Plot A	Yield in Plot B	Mean
21-8-1982	1st	9.019	7.885	8.4520
22-8-1982	2nd	6.505	6.308	6.4065
22-9-1982	3rd	4.953	4.745	4.8490
Total		20.477	18.938	19.7075

The fodder was fed to the sheep, cattle and camels and it was found that there was no difference as far as the palatability of legume is concerned compared with lucerns strains grown at Pashkaram Farm. The yield was further found to be most suitable for drying to make it hay. The sundried hay made from the same yield provided in table 2 above is given as below:-

Table III. Sundried hay of Koranga grass in Metric tonne/hectare
at Soil Conservation Farm, Mastung 1982 (from the green fodder of Table 2)

No. of Cutting	Wt. of Plot A	Wt of Plot B	Mean
1st	3.156	2.845	3.005
2nd	2.275	2.102	2.188
3rd	0.949	0.890	0.914
Total	6.380	5.837	6.107

The sundried hay of the Koranga grass is better in quality as compared to alfalfa which needs

extra care for it may decompose and bring out if not properly cared during drying period. Moreover, it keeps its colour and leaves remain intact after drying. The drying percentage was found to be 30.988, while it is 25.062 percent for alfalfa under climatic conditions of Mastung.

Seed was collected when it was completely matured by hand and weighed after drying under the sun for a period of 6 days. The unhulled production of seed calculated in kg per hectare is as below:-

Table IV. Showing Seed Production of Koranga Grass in kg/hect at Soil Conservation Farm at Mastung 1982

Date of Collection	Yield/per hectare
2.7.82	556.12
31.8.82	44.84
<hr/> Total	<hr/> 600.96

The seed borne on the regrowth of the same crop was collected on 31.8.1982 was not satisfactory and there were few flowers on the top of terminal racemes.

Thirty plants dug out and their roots penetration was measured. The average roots length was found to be 0.78 metres in the soil. Due perhaps to this accelerated penetration of roots plant can withstand aridity and obtains moisture from deeper layers of soils.

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