

Technical Note No. 56

(ii) GRASS SEEDING IN SUB-TROPICAL SEMI-ARID ZONE AT JAMRUD DISTRICT PESHAWAR

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Forest department N.W.F.P. started planting *Eucalyptus camaldulensis* at 3 x 3 m in late seventies at Jamrud, near Peshawar (Av. Ann. rainfall 350 mm). Since lot of intervening space was available, it was decided to reseed the area with grasses such as *Cenchrus ciliaris* and *Panicum antidotale*. The selection of these two grasses was based on the fact that both of these are hardy, high yielders, palatable and nutritious.

Cenchrus ciliaris was seeded in July, 1980 after two ploughings with the cultivator in opposite directions at seed rate of 10 kg/ha in lines spaced 50 cm between *Eucalyptus camaldulensis*.

The data collected during October, 1984 show that the cover percent of palatable species increased from 8 to 60 and mean air dry forage from 165 to 6077 kg/ha due to seeding. While the improvement in cover percent helps reduction of erosion, increase in forage production enhances the grazing capacity of the area. The study also indicated that silvi-pastoral practices i.e. growing of grass under eucalyptus trees can be easily applied in the depleted rangelands of subtropical semi-arid areas.

Six ecotypes of *Cenchrus ciliaris* were again sown in the same area in a RCB experimental design replicated six times in July, 1983. The average forage production of various ecotypes obtained in October, 1984 is given below:

| R.M.No. | Source | Air dry forage production kg/ha |
|---------|-----------|------------------------------------|
| 235 | USA | 2884 |
| 267 | India | 4200 |
| 268 | India | 3534 |
| 269 | India | 5484 |
| 425 | Australia | 3310 |
| 426 | Australia | 5000 |
| Average | | 4068 |

Ecotype R.M. No. 269 from India yielded much more forage than the other ecotypes.

Three ecotypes of *Panicum antidotale* were sown in the same area in eight replications during July, 1983. The forage yield of various ecotypes obtained in October, 1985 is given

as under:

| R. M. No. | Source | Air dry forage production kg/ha |
|-----------|---------|---------------------------------|
| 248 | Sudan | 3119 |
| 258 | Arizona | 4656 |
| 264 | FAO | 3350 |

The seed source from Arizona produced more forage than the other two seed sources.

The present forage production (kg/ha), number of sheep which can be reared in one hectare and number of hectares needed for rearing one sheep in seeded and unseeded areas is given as under:

| | <i>Cenchrus ciliaris</i> seeding | <i>Cenchrus ciliaris</i> ecotypes trials | <i>Panicum antidotale</i> ecotypes trials | Unseeded area |
|----------------------|----------------------------------|--|---|---------------|
| — Forage production | 6077 | 4068 | 3708 | 165 |
| — Number of sheep/ha | 8.3 | 5.6 | 5.1 | 0.23 |
| — Number of ha/sheep | 0.12 | 0.18 | 0.20 | 4.3 |

The results are very encouraging. Reseeding with these grasses is strongly recommended in all new afforestation areas where rainfall is around 350 mm. Some Forest Officers have already picked up the message and are seeding their new *Eucalyptus camaldulensis* plantations in N.W.F.P.