

Short Communication

Performance of *Cenchrus ciliaris* Varieties at Bhuj

N Sudhakar, M L Swami and M S Yadav*

Regional Research Station, CAZRI, Kukma 370105, India

Kutch is situated in the arid region of Gujarat, where crop production entirely depends on temporal and spatial rainfall during South-West monsoon. High livestock population necessitates introduction and production of high yielding and nutritive grasses. *Cenchrus ciliaris*, a valuable tufted, nutritious and palatable perennial grass of arid and semi-arid areas is reported to be adaptable to varied soil conditions (Yadav 1991). Forage yields of different varieties of this grass studied at Regional Research Station of CAZRI, at Kukma, Bhuj, are reported in this communication.

The soil of the experimental field was sandy loam with pH 7.9, containing 0.25% OC, 29 kg ha⁻¹ available P and 225 kg ha⁻¹ available K.

The experiment was laid out in randomized block design with three replications. Forty-day-old seedlings of ten varieties of *C. ciliaris* (Table 1) were transplanted at spacings of 70 x 40 cm.

The size of the gross plot was 3.5 x 4.0 m, while that of the net plot was 2.1 x 3.2 m. Uniform dose of FYM was applied @ 2 t ha⁻¹ at the time of field preparation during the first year. The grass was also fertilized with 20 kg N ha⁻¹ and 20 kg P ha⁻¹ during each season. The grass was cut at 50% flowering stage and dried in sun for recording dry fodder yields. Two cuttings of grass could be obtained in 1989 (August and November).

The seasonal rainfall and number of rainy days (> 10 mm) were 376 mm and 13 in 1988, 378 mm and 8 in 1989, 232 mm and 5 in 1990 and 102 mm and 5 in 1991.

A perusal of the data on forage yield of different varieties reconfirms the potential of this grass for sustained fodder production (Table 1). In 1991, when the rainfall was hardly 102 mm, the dry grass yield was 1.4 t ha⁻¹ while some of the varieties produced upto 2.0 t ha⁻¹.

Table 1 Dry forage yield (t ha⁻¹) of different varieties of *Cenchrus ciliaris*

Variety	1988	1989	1990	1991	Mean
CAZRI-75	5.49	16.18	6.43	1.76	7.46
CAZRI-368	4.24	7.28	3.21	1.23	3.99
CAZRI-531	3.45	8.25	3.42	1.11	4.06
CAZRI-1106	5.04	8.36	3.31	0.96	4.42
CAZRI-1263	4.81	9.18	5.12	1.95	5.26
IGFRI-660	3.11	5.65	3.21	1.03	3.25
IGFRI-678	3.08	6.59	3.07	1.05	3.45
CAZRI-3108	4.73	9.28	4.00	1.32	4.83
CAZRI-1228	5.02	11.06	4.76	1.95	5.70
FS-391	4.79	9.37	5.74	1.75	5.41
CD at 5%	1.19	2.55	1.42	0.41	0.99

* CAZRI, Jodhpur 342 003, India

The pooled analysis of dry forage yield of different varieties of *C. ciliaris* indicated that the performance of Var. *Marwar Anjan* (CAZRI-75) was significantly superior to that of other varieties. Further, the superiority of this grass variety over others, in terms of fodder production, was found to be consistent, irrespective of considerable variation in the annual rainfall (102 to 378 mm). Among the other varieties tested,

CAZRI-1228, FS-391 and CAZRI-1263 were found to be promising.

Reference

- Yadav MS 1991 Potential grasses for arid zone. In *Dryland Resources and Technology* (Ed. LL Somani), Vol. 6, pp. 115-122, Scientific Publishers, Jodhpur