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## Grassland – A Resource for Sustenance in South India

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## Grassland—a resource for sustenance in south India

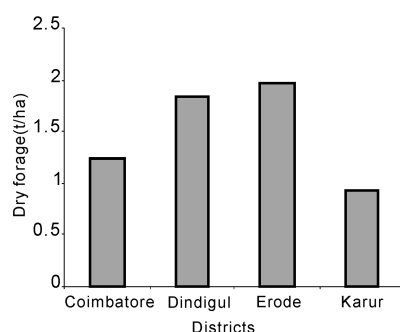
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**Key words** : herbage biomass, Kangayam, production potential, species structure

**Introduction** Grasslands/rangelands are a major source of feed and fodder for the livestock in peninsular India where poor soil and erratic rainfall condition exists. Grassland husbandry is the main source of livelihood in rural areas in this region. These grasslands are spread over twenty thousands hectares in four districts namely: Erode, Karur, Dindigul and Coimbatore of Tamil Nadu state and they are being managed since ages. The area is known for famous Kangayam cattle breed which is native to this region. The present paper describes species structure and production potential of these grasslands.

**Material and methods** The area is situated in southern part of the India. The average annual rainfall is 666 mm. The major rains are received from October to January. Half of the total rains are received from NE monsoon and 30% rains from SW monsoon. Phytosociological studies of herbaceous vegetation were carried out by taking 2.5 m line interception transect (Brown 1954). For estimating forage biomass, harvest method was adopted. Dry forage production was estimated by clipping herbage (5 quadrates) and drying at 80°C. The woody vegetation was studied by quadrat method.

**Results** Based on phytosociological studies carried out at seventy two sites, 103 plant species were listed, which included 11 perennial and 15 annual grasses, 16 legumes and 42 forbs of herbaceous vegetation and 13 shrubs and 6 trees species. On the basis of dominance of Importance Value Index (IVI) 6 grasses communities were recognized viz., i) *Cenchrus* community, ii) *Chrysopogon* community, iii) *Cenchrus-Chrysopogon* community, iii) *Andropogon-Aristidon-Cynodon* community, iv) *Cenchrus indigofera* community, v) *Aristida-Cenchrus-Borreria* community and vi) *Sehima-Dichanthium-Chrysopogon* community. There was a great variation in herbage biomass and it ranged from 0.39 t/ha at Malaikovil post of Karur district (a degraded site) to 8.26 t/ha at Kudhiraipallayam of Erode district (an established pasture) with an average of  $1.6 \pm 1.4$  t/ha. The contribution of grass component in total herbage production was found to be highest (83%) followed by legumes (12.8%) and least by forbs (4.1%). The average dry herbage production was highest in Erode district (1.97 t/ha), while it was least in Karur district (Figure 1).



**Figure 1** Dry forage production in different districts in the grassland.

Among woody vegetation, *Acacia leucophloea* was present at all the sites and its density fluctuated from 40 to 1350 plants/ha with an average of 540 plants/ha. The dbh of trees varied from 2.6 to 17.4 cm with an average of  $7.4 \pm 3.1$  cm.

### Reference

Brown, D. 1954. *Methods of surveying and measuring vegetation*, common wealth Agricultural Bureaux Bulletin 42.