**FORAGE DIVERSITY, PREFERENCE AND FEEDING BEHAVIOUR OF CAMEL (CAMELUS DROMEDARIUS) ON RANGELAND ECOSYSTEM OF SEMI-ARID NORTH WESTERN NIGERIA**

**By**

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**ABSTRACT**

The composition and vegetation cover of some preferred forages by one humped camel was studied on some selected rangelands of North-Western Nigeria. Total cover (TC), Relative Density (RD) and life-form spectrum (LS) were determined using line intercept method. Chemical composition and utilization of some preferred forages were also studied. A total of 23 forage species were identified of which 58% were annual and 42% perennial plants. There was significant (P<0.05) difference in the LS of the forages across three states of the study area with Sokoto State having highest vegetation cover (VC) of 143.78plants/ha, while Jigawa State had the least VC of 58.81 plants/h. Indigofera oblongifolia and Pelgularia tomentosa had the highest cover of 293.88 plants/ha and 235.46plants/ha, respectively.The dietary preference, behavior and quality of the camel forages, four categories of camels Adult Male (AM), Adult Female (AF), Young Male (YM) and Young Female (YF) were observed during rainy and dry seasons. Browsing/grazing was found to be the major day time activity followed by walking and ruminating. The adult male and female were found to spend more time (162.59 min/day) grazing than the young male and female (158.10 min/day). Idling time and other activities were not significant (P>0.05). Leptadania hastata was found to be the most preferred forage during the rainy season and Ziziphu smauritania was the most preferred during dry season with mean grazing/browsing time of 87.33 min/day and 46.66 min/day, respectively; while the least preferred during the rainy and dry seasons were Acacia sieberiana and Bauhinia rufescens with mean grazing/browsing time of 0.11min/day and 15.00 min/day, respectively. The chemical composition showed a significant (P<0.001) variation among the preferred forages. Dry Matter (DM) content ranged from 82.37% for Acacia nilotica to 86.10% for Acacia sieberiana. The Crude Protein (CP) was significantly higher in Acacia nilotica (18.50%) while the least CP was observed in Leptadania hastata (9.94%). However, Crude Fibre (CF) was higher in A. sieberiana (19.42%) while the least is (15.23%) for G. senegalensis. The apparent digestibility of the DM also differ (P<0.001) significantly among the various forages and ranged from 63.41% for Leptadania hastata to 75.30% for Acacia nilotica. The haematological profile of the camels fed experimental forages showed a significant (P<0.05) difference in serum amylase, glucose and Urea Nitrogen while blood proteins, cholesterol and alkaline phosphatase had no significant (P>0.05) difference. However, serum biophysical parameters showed significant (P<0.001) variation due to forage type. It was concluded that the forage species were of high nutritional value and could meet the nutritional requirements of the camels at various physiological states without deleterious effect on haematological parameters.

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