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Feeding and spatial behaviour of free-grazing cattle in the upper Ouémé basin of Benin

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Abstract

Cattle are mainly fed on natural pastures in West Africa. The scarcity and degradation of rangelands strongly contribute to changing the behaviour of animals on natural pastures. Feeding and spatial behaviour of livestock on pasture determines the dry matter intake and the nature of forage resources selected. This study aimed to analyse the feeding and spatial behaviour of cattle over the pastoral calendar in the districts of Tchaourou and Djougou in the Upper Ouémé Region in Benin. Feeding and spatial behaviour of cattle were studied in six categories of cattle herds, including small herds (20–50 head), medium herds (50–100 head) and large herds (>100 head) monitored daily at grazing, each for five days according to the five grazing periods (Yannè, Dabune, Ceedu, Seeto, Ndungu) on the communal pastures of Tchaourou and Djougou. Global Positioning System (GPS) was used to record the livestock movements on pasture. The recorded animal positions and direct field observations were used to record the different activities of the animals and the feed intake during grazing. Results revealed that pastoral seasons strongly influence the travel times of grazing cattle ($p < 0.05$). However, they had no significant effect on the distances travelled in the two districts ($p > 0.05$). On the other hand, cattle herd types have a statistically significant effect on distances travelled by animals ($p < 0.05$). Cattle grazing activities also have a significant influence on travel times ($p < 0.05$). In addition, cattle herd types have a significant effect on dry matter intake ($p < 0.05$). The main resources ingested by cattle on rangelands are herbaceous, especially Poaceae (63.6%), woody species, mainly Fabaceae (45.4%) and domesticated resources, especially Poaceae (30%) and Fabaceae (40%). These findings are useful for sustainable management of rangelands and better monitoring of grazing cattle herds.

Keywords: Benin, grazing time, livestock monitoring, rangeland, travel distance