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Cattle production pattern and feed resources in the derived Savannah ecological area of Oyo state

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Abstract

Forage availability for ruminant production is the main challenge, especially in the dry season. The low qualitative and quantitative forages necessitate looking inward for other feed resources (FR) for cattle production at the system level. The study tried to investigate cattle distribution patterns and FR in the derived savannah ecological area of Oyo State, Nigeria. A multi-stage sampling technique used to elicit information from purposively selected one hundred and eighty respondents in six locations; Akinyele, Ido, Egbeda, Ona-ara, Oluyole, and Ibarapa East. The distribution of cattle farms were taken with Global Positioning Systems (GPS), and cattle herd size (Total Livestock Unit, TLU) was recorded. The GPS data were transferred into the ARC-GIS software and processed with the ARCGIS model 10.0. Samples of (FR) fed to cattle were collected and analysed for chemical compositions: crude protein (CP), neutral detergent fibre (NDF), and acid detergent fibre (ADF) with near infra-red reflectance spectroscopy (NIRS). A mixed feed global calibration Model using the software package WIN ISI. Data were analysed using descriptive statistics. The cattle production and distribution pattern (TLU) were 100, 70, 6, 4, 3, and 2 for Ido, Ibarapa East, Egbeda, Ona-ara, Akinyele, and Oluyole local government areas, respectively. The available FR were natural forages, crop residues, fodder planted, feed ingredients bought from the market, agro-industrial by-products, and processed feed. The cpdm (%) ranged from 6.54±0.2 (*Eleusine indica*) to 23.08±0.3 (*Leucaena leucocephala*), ndfdm range from 28.42±0.3 (*Moringa oleifera*) to 67.16±0.2 (*Eleusine indica*), adfdm 15.79±0.3 (Maize gluten) to 45.56±0.3 (Cowpea haulm).

The nutritional status of the available feed resources in the ecological area is high quality. The large expanse of fertile land can support viable investment in cattle production. Thus the relevance of bio-informatics to livestock production systems for desirable policy framework.

Keywords: Ecological zones, forage, GIS, GPS, production system, ruminant nutrition