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From forage surplus to dry season feeding: Evaluating strategies for ruminants in central Cameroon

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Abstract

Livestock plays an important role in rural areas. In Cameroon, 54 % of the meat consumed is beef. In most sub-Saharan countries, forage is abundant during the rainy season but gets poorer in quality and quantity during the dry season. This affects the animal productivity through weight loss, slower growth rates for calves, and low or no milk production. Improved feeding strategies, like fodder conservation, may help to maintain the productivity of ruminants and improve their resilience to dry season scarcity and climate change.

This study aimed to optimise ruminant feeding strategies using locally available resources at Bilone Farm, Central Cameroon, a training facility of the Agricultural Institute of Obala. Its role is to allow students to gain practical knowledge about different agricultural sectors, and to show them how to create a profitable agricultural business. Multi-nutrient blocs (MNBs) were produced using wheat bran, molasse, and either *Tithonia diversifolia* or *Stylosanthes guianensis*. Their physical and chemical characteristics, feasibility (from production to distribution), and palatability were evaluated in a 30-day feeding trial with nine calves. In addition, silage was produced from locally available grasses, *Tithonia diversifolia*, banana leaves, and molasse.

Both types of MNBs were readily accepted by calves, with no significant difference in consumption and an average consumption of 523g per animal per day. The tithonia MNB shows greater practical potential because of a shorter production process and the better physical characteristics. Storage during the rainy season proved challenging because of high humidity, highlighting the importance of appropriate storage room and timing of production. The silage production in a concrete compartment of 0.8 m² was successful, and the product was accepted by both cattle and sheep. However, termites infested one corner of the compartment, showing the importance of using adequate materials like thick plastics and 100 % airtight conditions.

Ensuring sufficient production of conserved fodder during periods of forage surplus is critical to enable feeding during the dry season. While silage has a lot of potential, MNBs production is more time consuming, and both require further research including controlled feeding trials to quantify their effects on animal performance and productivity.

Keywords: Cameroon, fodder conservation, forage, multi-nutrient blocs, palatability, ruminant nutrition, silage

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