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## Prospects of *Moringa oleifera* as a Feed Resource in the West African Mixed Farming System

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### Abstract

Well known as a component of Senegambian foods, *Moringa oleifera* has been used for many purposes for a very long time although without any systematic mode of cultivation and conservation. Due to its high yield potential and excellent nutritive composition, this plant rightly deserves all the attention as it undergoes evaluation as a feed supplement for ruminant livestock. The integration of *Moringa* in the feeding system will significantly contribute to the reduction of feed protein constraints. The characterisation and evaluation of *Moringa* becomes justifiable as a logical development towards its integration into the animal feeding systems.

Emerging results on nutrient compositions and biomass yields on-station on the quantitative evaluation of *Moringa* has shown considerable potential as a good quality protein supplement for livestock. It also has a capability of producing up to 20 tonnes DM of utilisable biomass in a growing cycle of 50 days on-station. Young *Moringa* twigs spaced at 20 × 20 cm planting density were harvested 50 days after planting by cutting with a machete to a height of 20–35 cm above ground. Representative samples of air-dried materials were analysed for dry matter, nitrogen, neutral detergent fibre, digestibility and rumen gas production on dry matter basis. Using the Hohenheim Gas Test and in vivo methods, digestibility parameters of groundnut hay supplemented with *Moringa* were assessed. The digestibility coefficient of groundnut hay was significantly improved following supplementation with *Moringa* suggesting an ameliorated rumen function. Preliminary results in both N'Dama and its cross with the Jersey breed show that in vivo digestibility of groundnut hay was significantly improved from 50 % in unsupplemented diets to more than 60 % when total dry matter intake consisted of up to 20 % *Moringa* on DM basis.

These qualities of *Moringa* strengthens its wider role and underscores the benefits of its systematic integration into the crop-agroforestry-livestock mixed farming system of West Africa especially where high producing livestock such as crossbred milking animals are involved.

**Keywords:** *Moringa oleifera*, ruminant nutrition, West Africa