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## Assessment of the Extent of Utilizing Crop Residues as Ruminant Feed in Crop – Livestock Farming Systems in Babati District, Tanzania

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### Abstract

Two experiments were conducted in Babati district to assess types and quality of crop residues and other feed resources available for feeding livestock, crop residue handling, quantity fed, milk yield and manure handling and use within the farming system. Experiment one covered three different villages across different agro-ecological zones, involving 143 farmers in six focused group discussion and 54 farmers in individual quantitative questionnaire while experiment two involved 24 farms. It was observed that 0.52 to 8.25Mt./Ha of different crop residues were produced annually. About 14.6 % of the crop residues were included in the animals' diet yearly, hence contribute 1.44 %, 1.36 % and 1.63 % of Dry matter (DM), Metabolizable energy (ME) and Crude protein (CP), respectively in the diet. All the respondents used maize stover to feed animals, while 81.5 % used beans haulms and 59.3 % fed pigeon pea chaffs. The average milk yield of the lactating cows under zero grazing was 11.2 kg/cow/day. The nutrient content of analysed crop residues ranged from 4.31 to 13.9 % CP and 28.8 to 65.3 % In-vitro dry matter digestibility (INVDMD). Higher levels of CP were observed in leguminous than cereal crop residues. The analysed diets from the monitored farms had a nutritive value range of 6.99 to 10.5 % CP and 36.6 to 49.9 % INVDMD; and the ME range of 5.69 to 8.61 MJ ME/kgDM. Considerable amounts of crop residues were available in Mid-March to May where irrigated maize was harvested and in July to October which was the major crop harvesting season. It was observed that 83.3 % of household hipped manure under trees, 66.7 % used manure to fertilise homestead farms and vegetable gardens while 12.5 % used manure for animal beddings. It is concluded that more of the available crop residues could be used as animal feed while manure could be used for nutrient recycling, when proper technologies are impacted to farmers.

**Keywords:** Cerealcrop, crop residues, feed resources, leguminous