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## **Effect of supplementation of concentrate to sweet sorghum bagasse with leaf residue silage on nutrient utilization and nitrogen balance in native sheep**

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The present study was carried out to evaluate the effect of supplementation of concentrate at different levels to sweet sorghum bagasse leaf residue (SSBLR) silage on nutrient utilization in Nellore growing ram lambs in a metabolism trial at the end of 120 d growth trial. Sixteen growing Nellore ram lambs ( $18.3 \pm 0.8$ ) were randomly divided into four groups of four each and were inducted into metabolic cages five days prior to collection for acclimatization followed by a seven day collection period. The four groups were supplemented with concentrate mixture at 0.0 (R-I), 0.75 (R-II), 1.0 (R-III) and 1.25 (R-IV) per cent of their live weight in addition to SSBLR silage ad lib during the trial in a Completely Randomized Design (CRD). Significantly ( $P < 0.01$ ) higher total DMI (g/d or g/kg w0.75) was noticed in concentrate supplemented groups. The Organic Matter, Crude Protein and Nitrogen Free Extract digestibility was significantly ( $P < 0.05$ ) higher in lambs fed R-IV ration than those fed R-I ration. No significant difference in the digestibility of Dry Matter, Ether Extract and cell wall constituents was observed among the rations. The Digestible Crude Protein (g/kg) ( $P < 0.01$ ) and Metabolizable Energy (MJ/kg DM) values were increased ( $P > 0.01$ ) as the level of concentrate increased in the diet. Negative and lower ( $P < 0.01$ ) Nitrogen balance (g/d) was noticed in R-I ration. It concludes that sole SSBLR silage couldn't meet the nutrient requirements and it was appropriate to supplement concentrate mixture at 1.0 per cent of live weight to meet energy and protein requirements of lambs growing at 0.1 kg/d.

**Keywords:** Silage, sweet sorghum bagasse, supplementation, nutrient utilization; sheep.

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