

Cupuassu byproduct in supplements for buffalo cows: milk yield and calf performance

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The use of by-products in animal nutrition is an alternative for reducing feed cost within livestock system and for improving waste recycling in fruit agroindustry. Almonds from the cupuassu (*Theobroma grandiflorum*) is a byproduct of the pulp processing which is very common in the Amazon region. The aim of this study was to evaluate milk yield and calf performances of Murrah buffalo cows supplemented with rations containing cupuassu byproduct in substitution of ground corn. The cupuassu byproduct had 16.8, 51.4, 8.3, 83.5 and 3.4% of ether extract (EE), neutral detergent fiber (NDF), crude protein (CP), total digestible nutrients (TDN) and nonfibrous carbohydrate (NFC), respectively. Isoprotein and isoenergy rations were balanced with 22.0% of crude protein (CP) and 80.1% of total digestible nutrient (TDN). Two 5 x 5 Latin Square trials (five periods and five treatments) were carried out for evaluating five inclusion levels (0, 15, 30, 45, 60%, dry matter basis) of cupuassu byproduct. Rations were offered at milking in amounts of 1.5 kg.cow⁻¹.day⁻¹ for ten cows with initial averages of 5.89±0.28 kg of daily milk yield and 596.30±23.03 kg of body weight (BW). They were around 52 to 70 days in lactation and were grazing Palissadegrass (*Urochoa brizantha* cv Marandu) pasture managed with 4.0 AU.ha⁻¹ of stocking rate during the rainy season. Cows were milking mechanically once a day at 6:30 a.m. in with their conjunction calves. Milk yield and calf BW were registered by weekly weighing. The general linear model (GLM) of SAS was used for variance analysis and means were compared by Regression at 5% of significance level. The inclusion of cupuassu byproduct in diets did not influence the daily milk yield, which had an average of 5.7±0.35 kg. Mean of milk yield corrected for 4.0% fat was 7.27±0.70 kg and the ratio between milk yield and 4%-fat corrected milk yield was 1.27. Substitution of ground corn by cupuassu byproduct did not influence calf performances, with had average of 143.2±3.52 kg of final BW. The inclusion of cupuassu byproduct until the level of 60% can be recommended as an alternative for supplementation of grazing buffalo dairy cows in the western Amazon.

Key Words: fat milk, grazing system, agro-industrial byproduct