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Milk composition of Murrah buffalo cows supplemented with cupuassu byproduct in Western Amazon

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Because of their gentle dispositions, adaptability to different ambient and local conditions, physical toughness and long useful life (15 years) water buffalos (*bubalus bubalus*) are excellent as livestock. Besides, annually, they have birth rate of more than 80% and mortality less than 3%, and high returns of milk, meat and work production, which means an excellent economic return. The pulp processing of cupuassu fruit (*Theobroma grandiflorum*) originates almonds as by-product that can be used in animal nutrition, especially in the Amazon region. The aim of this study was to evaluate milk composition of Murrah buffalo cows supplemented with rations containing cupuassu byproduct in substitution of ground corn. 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 by-product. 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, 596.30± 23.03 kg of body weight (BW), from 52 to 70 days in lactation. They 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 whose mean BW was 135.00 ± 3.19 kg. The determination of protein, fat, lactose, mineral matter and water in milk samples were evaluated by Kjeldahl, Rose Gottlieb and by HPLC methods, respectively. 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 did not affect milk composition, which had averages of 4.76 % of protein, 5.89 % fat, 4.16 % lactose, 0.70 % minerals and 84.5 % of water ($P > 0.05$). Cupuassu byproduct inclusion in substitution of ground corn does not affect composition of milk from buffalo cows grazing Palissadegrass during rainy season.

Key Words: agro-industrial byproducts, buffalo milk, grazing system