

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## EFFECTS OF RUMEN PROTECTED METHIONINE SUPPLEMENTATION ON PERFORMANCE OF HIGH PRODUCTION DAIRY COWS IN BRAZIL

Valdir CHIOGNA JUNIOR<sup>1</sup>, Fernanda LOPES<sup>2</sup>, Edgar Alain COLLAO-SAENZ\*<sup>1</sup>

\*corresponding author: edgar\_collao\_saenz@ufg.br

<sup>1</sup>Universidade Federal de Goiás, Jataí, Goiás, Brasil

<sup>2</sup>Adisseo SA., São Paulo, São Paulo, Brasil

Adequate LYS:MET ratio for optimal milk yield can be important in markets where milk volume is the major determinant for price. The objective of this study was to determine the effect of supplementing rumen-protected methionine on the performance of lactating cows. Seventy-six multiparous Holstein cows from a commercial farm were blocked by milk yield and DIM (average 39.1 kg d<sup>-1</sup> of milk ± 6.8 SD and 65 DIM ± 28 SD) into 38 blocks. Within each block two animals were randomly assigned to one of two experimental diets; a 2-wk covariate period was used with a common diet followed by a 10-wk treatment period. Diets were formulated using the NRC (2001) recommendations and consisted of a basal diet (CON; 3.77LYS:1MET); and RPMet (basal diet + 23 g of Smartamine M<sup>®</sup>, Adisseo SA, which provided 14 g of metabolizable methionine; 2.97LYS:1MET). Data were analyzed by SAS MIXED procedure. Milk yield (41.7 vs. 40.1 kg d<sup>-1</sup>; *P* = 0.03), ECM (41.0 vs. 38 kg d<sup>-1</sup>; *P* ≤ 0.01), protein (1.30 vs. 1.18 kg d<sup>-1</sup>; *P* ≤ 0.01) and fat (1.42 vs. 1.29 kg d<sup>-1</sup>; *P* = 0.02) were higher for RPMet compared to CON group. Milk protein (3.14 vs. 2.97%; *P* ≤ 0.01) and casein percentage (2.39 vs. 2.28%; *P* ≤ 0.01) were also greater for RPMet. A tendency (*P* = 0.06) for higher milk fat percentage compared to control (3.41 vs. 3.21%) was determined. Milk MUN and SCC did not differ between treatments. Body weight (BW) and body condition score (BCS) measured at the beginning and the end of the experiment were similar for BW with a tendency (*P* = 0.08) for a higher BCS in CON group. These data confirmed positive effect of rumen-protected methionine supplementation on milk composition and yield and, suggest that the efficiency of nutrient utilization of diets with adequate level of LYS can be improved by adjusting the MET level. It also confirmed that supplementation with rumen-protected methionine in a market that pays mainly for milk yield can be a profitable strategy.

**Keywords:** amino acids, milk composition, milk yield

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