

**Milk production and composition of cows grazing *Brachiaria ruziziensis* as an alternative forage grass in integrated crop-livestock-forestry systems**

MARCO GAMA<sup>1</sup>, GIANI SILVA<sup>2</sup>, ANDREIA MACHADO<sup>3</sup>, RAISSA TEIXEIRA<sup>4</sup>,  
CRISTIANO BORGES<sup>1</sup>, FERNANDO LOPES<sup>1</sup>, CARLOS MARTINS<sup>1</sup>, MIRTON MORENZ<sup>1</sup>,  
FAUSTO SOUZA SOBRINHO\*<sup>1</sup>

<sup>1</sup>Scientific Researcher, Embrapa Gado de Leite, Juiz de Fora, MG; <sup>2</sup>Undergraduate student, Biology, CES, Juiz de Fora, MG; <sup>3</sup>Undergraduate student, Veterinary, UFV, Viçosa, MG;

<sup>4</sup>Undergraduate student, Chemistry, UFJF, MG.

\*fausto.souza@embrapa.br

In addition to producing straw for soil conservation, *Brachiaria ruziziensis* could also be used as a forage source in integrated crop-livestock-forestry systems. This study evaluated the milk production and composition of cows grazing *B. ruziziensis* cv. Kennedy or *B. brizantha* cv. Marandu managed under intermittent stocking in an integrated crop-livestock-forestry system. The experiment was carried out in a commercial farm located in the municipality of Mar de Espanha, MG, Brazil. Eight multiparous Holstein x Gir cows (24.4±3.8 kg d<sup>-1</sup> milk) in mid-lactation were blocked by milk production and genetic composition and assigned to either *B. ruziziensis* or *B. brizantha* pastures in a cross-over design with 21d-experimental periods. All animals received 4.5 kg d<sup>-1</sup> of concentrate (21.4% CP) after morning and afternoon milkings. Both pasture areas were divided in paddocks with 3 days of occupation and 18-d grazing intervals, with a stocking rate of 8 UA ha<sup>-1</sup>. Estimated pre-grazing forage mass was 4.4 and 5.0 t DM ha<sup>-1</sup> for *B. ruziziensis* and *B. brizantha*, respectively, resulting in an average herbage allowance of 6.2 kg DM 100 kg BW<sup>-1</sup>. Forage samples (stratum above the stubble) were collected weekly in pre-grazing condition for chemical composition analysis. Composite milk samples were also collected weekly and analyzed for solids content by spectroscopy and for fatty acid composition by gas chromatography. Data were analyzed by ANOVA for 2x2 crossover design using SAS GLM procedure. Milk production was 9% higher in cows grazing *B. ruziziensis* as compared to *B. brizantha* (24.5 vs. 22.5 kg d<sup>-1</sup>, P = 0.01), but no effects (P>0.1) were observed on milk fat (3.58 vs. 3.63%), milk protein (3.10 vs. 3.02%), and milk lactose content (4.36 vs. 4.36%), respectively. Increased milk production observed in cows consuming *B. ruziziensis* was probably related to its superior nutritional quality in comparison to *B. brizantha* (average values of 13.7 vs. 9.5% for CP, 56.3 vs. 66.0% for NDF, and 29.9 vs. 33.5% for ADF content, respectively). Despite the slightly higher  $\alpha$ -linolenic acid (C18:3 n-3) levels found in *B. ruziziensis* when compared to *B. brizantha* (38.4 vs. 33.6 g 100g<sup>-1</sup> of total fatty acids), no effects (P>0.1) were observed on milk fat conjugated linoleic acid (CLA) content (0.82 vs. 0.84 g 100g<sup>-1</sup> of total fatty acids) or n-6 n-3<sup>-1</sup> ratio in milk fat (2.86 vs. 2.81), respectively. These results indicate the potential of *B. ruziziensis* as an alternative forage source for dairy cows in integrated crop-livestock-forestry systems.

**Keywords:** tropical pasture, fatty acids, dairy cows

**Acknowledgments:** We thank CNPq and Fapemig for funding this study.



Reunião Anual da Sociedade Brasileira de Zootecnia

01 a 04 de agosto de 2016

**PRODUÇÃO ANIMAL  
PARA AS NOVAS GERAÇÕES**

**Voltar ao site**

**Inscrições**

**Contato**

**Já estou inscrito**

**Anais Eletrônicos**

**Busca geral**

Buscar

Você está em: [Página inicial](#) » [Áreas temáticas](#)

## Áreas temáticas

ISSN 1983-4357

1. Ecosistemas pastoris naturais, cultivados ou integrados com agricultura (Pastoral Ecosystems and their Components)
2. Fisiologia e Nutrição Animal (Animal Physiology and Nutrition)
3. Genética, Genômica, Melhoramento e Reprodução (Breeding, Genomics, Genetics and Reproduction)
4. Sistemas de Produção Animal (Livestock Farming Systems)
5. Ambiência, Saúde, bioética, comportamento e bem-estar animal. (Ambience, Health, Bioethics, Behaviour and animal well-being)
6. Ciência dos Alimentos e Produtos de origem animal (Science of Food and Animal Products)
7. Indústria, Produtores, Consumidores, Eficiência e Gestão da produção (Industry, Producers, Consumers, Efficiency and Production management).



Imprimir

Palestras