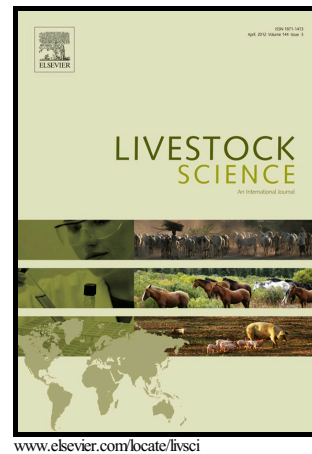


# Author's Accepted Manuscript

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J. Montenegro, E. Barrantes, N. DiLorenzo



PII: S1871-1413(16)30213-X  
DOI: <http://dx.doi.org/10.1016/j.livsci.2016.09.008>  
Reference: LIVSCI3070

To appear in: *Livestock Science*

Received date: 18 April 2016  
Revised date: 20 September 2016  
Accepted date: 21 September 2016

Cite this article as: J. Montenegro, E. Barrantes and N. DiLorenzo, Methan emissions by beef cattle consuming hay of varying quality in the dry forest ecosystem of Costa Rica, *Livestock Science* <http://dx.doi.org/10.1016/j.livsci.2016.09.008>

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**Methane emissions by beef cattle consuming hay of varying quality in the dry forest ecosystem of Costa Rica<sup>1,2</sup>**

J. Montenegro<sup>1</sup>, E. Barrantes<sup>2</sup>, N. DiLorenzo<sup>3\*</sup>

1 Instituto Nacional de Innovación y Transferencia en Tecnología Agropecuaria (INTA) and Instituto Meteorológico Nacional (IMN), Costa Rica;

<sup>2</sup>Universidad Técnica Nacional, Sede Atenas, Costa Rica;

<sup>3</sup>Department of Animal Sciences, North Florida Research and Education Center, University of Florida, Marianna, 32446-7906

\*Corresponding author: ndilorenzo@ufl.edu

**ABSTRACT:**

In livestock production systems, methane (CH<sub>4</sub>) is produced and released during the digestive process, representing a loss of energy that can be as high as 12% of total intake. In Costa Rica there are not actual in vivo measurements of methane produced from enteric fermentation in the livestock sector. This research represents the first effort to quantify the CH<sub>4</sub> emitted by growing beef steers fed three different diets during the dry season in the Dry Tropics ecosystem of Costa Rica, using the SF<sub>6</sub> tracer technique. Three diets were evaluated, all of them offered at libitum: 1) Good quality hay of transvala (*Digitaria decumbens*; GOOD). 2) Low quality *Brachiaria tanner* hay (POOR). 3) Low quality hay (*B. tanner*) plus a supplement of 1 kg/d of sugar cane molasses mixed with 46 g/d of urea (POOR+MU). Nine Brahman steers (329 ± 38 kg of body

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<sup>1</sup> This study was funded by United Nations Program for Development (PNUD) in Costa Rica (project LECB-08317); and FITTACORI (project F010-2011).

<sup>2</sup> Appreciation is expressed to F. M. Ciriaco, D. D. Henry, L. Rostoll, and Jeffrey Gamboa for their assistance in data collection and sample analysis.

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