

# **Effect of supplementing palm oil in diet of dairy Lacaune sheep on fatty acid profile in milk**

Anderson E. Bianchi<sup>a</sup>, Talyta Zortea<sup>b</sup>, Chrystian J. Cazzarotto<sup>b</sup>, Gustavo Machado<sup>c</sup>, Luis G. Pellegrini<sup>d</sup>, Neila S.P.S. Richards<sup>d</sup>, Matheus D. Baldissera<sup>e</sup>, Alessandro C. Galvão<sup>f</sup>, Vicente P. Macedo<sup>g</sup>, Aleksandro S. da Silva<sup>b\*</sup>

<sup>a</sup> Graduate Program in Science Animal, Universidade Federal do Paraná, Curitiba, PR, Brazil.

<sup>b</sup> Graduate Program in Science Animal, Universidade do Estado de Santa Catarina, Chapecó, SC, Brazil.

<sup>c</sup> Laboratory of Veterinary Epidemiology, Universidade Federal do Rio Grande do Sul, RS, Brazil.

<sup>d</sup> Universidade Federal de Santa Maria, Santa Maria, RS, Brazil.

<sup>e</sup> Department of Microbiology and Parasitology, Universidade Federal de Santa Maria, RS, Brazil.

<sup>f</sup> Department of Food and Chemical Engineering, Universidade do Estado de Santa Catarina, Pinhalzinho, SC, Brazil.

<sup>g</sup> Department of Animal Science, Universidade Tecnológica Federal do Paraná, Dois Vizinhos, PR, Brazil.

\*Author for correspondence: [aleksandro\\_ss@yahoo.com.br](mailto:aleksandro_ss@yahoo.com.br) (A.S. Da Silva).

## ABSTRACT

The aim of this study was to evaluate the fatty acid profile in milk of dairy sheep after addition of palm oil in the diet. Thirty-six sheep in early lactation were divided in four groups (n=9), and each group received different percentages of palm oil (0, 2, 4, and 6%) supplemented in its ration. After 60 and 120 days of experiment, samples of milk were collected and the composition of saturated fatty acids (SFA), monounsaturated fatty acids (MFA) and polyunsaturated fatty acids (PFA) were analyzed. In general, 120 days of treatment supplemented with 6% of palm oil showed a significant reduction of SFA and PFA and regarding MFA, a concomitant increase and decrease of some fatty acids were observed. The reduction of SFA levels on milk may promote a beneficial role for consumers due to several SFA are linked to coronary heart diseases. On the other hand, a reduction of PFA levels may lead to a negative effect, since many PFA, such as omega 3, are linked to reduction of inflammation, stroke, oxidative stress and hepatic disorder. Moreover, the palm oil can be considered an important energetic source for ruminants.