



## Effects of secondary compounds from cactus and acacias trees on rumen microbial profile changes performed by Real-Time PCR

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Mots-clés	Microbial profile [8], Oxalates [9], Plant secondary compounds [10], Real time PCR [11], Rumen fermentation [12], Tannins [13]
Résumé en anglais	<p>Plant rich secondary compounds had antimicrobial effects by acting against different rumen microbial populations. The current study investigated the influence of spineless cactus (<i>Opuntia ficus indica f. inermis</i>), <i>Acacia nilotica</i> and <i>A. saligna</i> on rumen microbial fermentation, using in vitro gas production technique, and microbial population profile changes, using a molecular-based technique (Real-Time PCR). The acacias and <i>Opuntia</i> reduced significantly total gas production (<math>p &lt; 0.01</math>), rumen CH<sub>4</sub> production (<math>p &gt; 0.01</math>) and ammonia concentration (<math>p &lt; 0.001</math>). At 24h of incubation, Fungi population was 0.30- and 0.03 -fold reduced with <i>A. nilotica</i> and <i>Opuntia</i> as compared to 0h, but 2- and 1.24- fold higher with <i>A. cyanophylla</i>. Increases in the abundance of <i>F. succinogenes</i> were observed in all substrates; however, the tanniferous plants and <i>Opuntia</i> reduced the relative abundance of <i>R. flavefaciens</i>. Methanogenic population was increased with all substrates, except for <i>Opuntia</i> (0.90-fold lower than the control). There was a significant reduction (<math>p &lt; 0.05</math>) in rumen protozoa count with <i>A. cyanophylla</i>, <i>Opuntia</i> and <i>A. nilotica</i> (3.68; 5.59 and 5.34 times, respectively). Results suggested that tannin sources from <i>A. nilotica</i> and <i>A. cyanophylla</i> had an indirect effect on methanogenesis. This study showed an antimicrobial activity of oxalates content of <i>O. ficus indica</i>.</p>
URL de la notice	<a href="http://okina.univ-angers.fr/publications/ua12463">http://okina.univ-angers.fr/publications/ua12463</a> [14]

Lien vers le document <http://www.journalijar.com/article/1007/effects-of-secondary-compounds-f...> [15]

Titre abrégé Int. J. of Adv. Res.

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