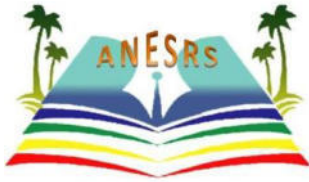




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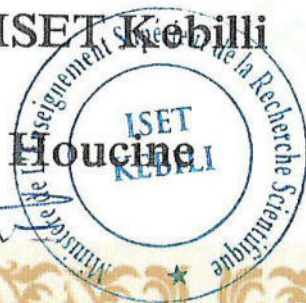
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Nutritive value assessment of (*Phoenix dactylifera* L.) leaves by rumen fermentation
in vitro

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NUTRITIVE VALUE ASSESSMENT OF *PHOENIX DACTILYFERA* L. LEAVES BY RUMEN FERMENTATION *IN VITRO*

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Abstract

The arid zones of North Africa are characterized by the dominance of date palm trees (*Phoenix dactylifera* L.), which the vegetation represents more than 10 million date palm trees in Algeria. The yearly maintenance of date palm trees let considerable quantities of green leaves, roughly 20 kg per tree. This date palm by-product is traditionally used as complementary feeding source for livestock by oasian people. Then, the main objective of this study is assessing the nutritive value of agricultural by-products dry palm leave, *Aristidapungens* (local name: Drinn) in comparison to barley straw by chemical analysis, rumen fermentation characteristics and gas production technique *in vitro*. A quantitative analysis of gases produced from dry palm leaves was compared to that of Drinn and barley straw which are common feeds in the semi-arid and arid regions of Algeria. The results obtained show that the activity of goats' rumen microflora is very important on the studied substrate of the arid regions, which indicates very significant digestibility coefficient. This situation is certainly due to the high content of barley straw of total soluble sugars and thus more easily fermentable. For dry palm leaves, the value of *in vitro* digestibility is 49.8 %. It is close to that of Drinn, probably owing to the fact that these substrates present almost the same level of lignin and of cellular wall contents. These results suggest a high potential of integrating dry palm leaves in ruminants' feed in these areas leading to overcoming the problems of maintaining feed supply.

Keywords: *In vitro* fermentation, Dry palm leaves, Nutritive value, Rumen microflora