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Entire sugar cane or sugar cane residues for feeding sheep. Chemical composition and *in vitro* degradability of canes

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Abstract

Chemical composition and *in vitro* degradability of either entire sugar cane or burnt, sugar cane crop residue was determined as influenced by fermentation, additives or none according to a 2 x 3 factorial arrangement with three replications, where the factors were type of sugar cane and sugar cane processing by physical, biological and chemical methods, respectively. The sugar cane cultivar was MEX 69-290, the predominant in the Mexican State of Nayarit, based on its yield potential and local availability.

The results indicate that the nutritive value was affected by the process of preparation of canes. The chemical composition of sugar cane crop residues was improved by fermentation and additives. *In vitro* rumen degradability as measured for DM digestibility was higher ($P<0.05$) for intact sugar cane (68.3%) and sugar cane crop residue (75.3%). Sugar cane subjected to a fermentative processes had DM digestibility from 45.4 to 53.0%, but in contrast, showed significantly ($P<0.05$) higher crude protein content (2.18 to 13.25%) than intact canes (1.50 to 2.60%).

It is suggested that sugar cane and sugar cane crop residues should be satisfactorily employed as feedstuff in integral diets for ruminant animals.

Key words: alimentary processes, chemical composition, crop residues

Introduction

In the dry tropics existing in Nayarit, Mexico, rainy season alternates to a dry period thus determining a season-dependent forage production. In this connection, sugar cane harvest occurs in the dry season. Since this grass if considered an energetic bank, showing an extraordinary production of biomass when utilized for animal feeding, either in an integral form or as crop residue from the sugar industry (Stuart and Fundora 1994), then sugar cane could strategically be managed during the summer period of the year. In this sense, sugar cane could be considered as an alternative for cattle feeding in Nayarit. This is true, if it is taken into account that sugar cane is the main crop to which soil is used, and that Nayarit is in the eight place of Mexico from the point of view of sugar cane cultivation as perennial crop (SAGARPA 2005).