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Chemical Composition and Digestibility of Native Shrub Species as Feed Resources for Small Ruminants, Northeastern Mexico

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Abstract

The aim of this study was to determine the chemical composition and the *in vitro* digestibility in five shrub species that could be consumed by small ruminants in the semi-arid regions of northeastern Mexico. In two sampling sites, located in the counties of Linares and Los Ramones, state of Nuevo León, Mexico, leaves of the shrub species Celtis pallida, Croton suaveolens, Forestiera angustifolia, Guaiacum angustifolium and Parkinsonia aculeata, were monthly collected from July 2018 to June 2019. The *in vitro* digestibility was calculated using the Daisy method. According to the results, DM (total mean = 91.3%), OM (88.3%), NDF (41.6%), hemicellulose (20.8%), IVOMD (76.1%) were significantly different (p < 0.001), among species, sites and months and the double and triple interactions were also significant (p < 0.001), for ADF (20.8%), ADL (8.4%), CP (21.9%), cellulose (12.5%), IVDMD (75.5%) didn't show significant differences between sites. Also, cellulose (month*site) and CP (site*species) didn't show significant differences. In general, Los Ramones site showed higher OM, NDF and Hemicellulose while, Linares site had higher DM and IVOMD. The Daisy method showed that low content of ADF found in march and in the species C. pallida and F. angustifolia had the highest IVDMD values. While, P. aculeata and C. suaveolens had lower IVDMD figures because their high content of ADF and NDF. The highest IVOMD values were observed in C. pallida and G. angustifolium showed the lowest OM content. All species maintain considerable high levels of digestibility which is related to high CP levels. Thus, shrub should be considered as emergency feed resources throughout the year by small ruminants.

Keywords: Cellulose, crude protein, Dry matter, Native shrubs, Organic matter

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