



## Maguery (*Agave spp.*) silage production with either alfalfa or mesquite pod meal as protein sources

G. Álvarez-Fuentes<sup>1#</sup>, J.C. García-López<sup>1</sup>, J.M. Pinos-Rodríguez<sup>1</sup>, Y. Jasso-Pineda<sup>1</sup>, F.M. Tristán-Patiño<sup>1</sup> & R. González-Garduño<sup>2</sup>.

<sup>1</sup>Instituto de Investigaciones de Zonas Desérticas, Universidad Autónoma de San Luis Potosí, San Luis Potosí, S.L.P. 78377, México.

<sup>2</sup>Universidad Autónoma Chapingo, Centro Regional Universitario del Sureste, Km 7.5, carretera Teapa-Vicente Guerrero, Apartado Postal 29, Teapa, 86800, Tabasco, México.

# corresponding author Email: [gregorio.alvarez@uaslp.mx](mailto:gregorio.alvarez@uaslp.mx); [galvarezfuentes@live.com.mx](mailto:galvarezfuentes@live.com.mx)

Keywords: Silage, agave, fermentation, natural resources.

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### 1 ABSTRACT

Maguery (*Agave spp*) contains high sugar (242 g/kg) content and low pH (4.9), which makes it an ideal plant for silage making. However, its low protein (4.5 %) content limits its use in ruminant nutrition. The aim of the present study was to evaluate maguery silage produced with either alfalfa (A) or mesquite pods meal (MPM) as protein sources. Four different silage mixtures were produced as i) 100% maguery (M); ii) 90 % M + 10 % MPM (MM); iii) 50 % M + 50% A (MA); and iv) 33.3 % M + 33.3 % A + 33.3 % MPM (MAM). The MAM silage had the highest ( $p<0.05$ ) dry matter content. The lowest ( $p<0.05$ ) pH was for MAM and the highest value for MA silage. The M silage had the lowest ( $p<0.05$ ) crude protein content. The M and MA silage, had the highest ( $p<0.05$ ) NDF content than the other silages. The N-NH<sub>3</sub> content was higher ( $p<0.05$ ) in MA, but had the lowest acetic acid concentration. Soluble fraction *in vitro* degradation for MAM silage was higher ( $p<0.05$ ) than the other silages, similar results were presented for total degradation with the lowest value for M and MM silages. Combination of maguery with forages rich in protein improved silage nutritional quality and preservation was maintained.

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