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# *In vitro* digestibility and gas production of *Nopalea cochenillifera* Salm-Dyck in different post-harvest storage periods

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Forage cactus is of great importance for animal feed, especially in the Northeast of Brazil, during periods of drought. However, its cultivation and use require labor, from planting the crop to cutting and daily transportation, which contributes to increased costs. The objective was to evaluate the *in vitro* digestibility of dry matter and total gas production of the forage cactus *Nopalea cochenillifera* Salm-Dyck cv. 'Miuda' subjected to different post-harvest storage periods. The experiment was carried out at 'Prof. Antônio de Pádua Maranhão Fernandes' Didactic Farm of URFPE, located in Garanhuns - PE, Brazil. The cactus forage came from cactus crops established on the farm, with a harvest age of one year and preserving the mother cladode. The design used was completely randomized, with repeated measurements over time and four replications. Eight experimental treatments were evaluated: 0, 8, 16, 24, 32, 40, 48, 56 days of post-harvest storage. In an open on the side and ventilated warehouse, whole plants were piled up into mounds on wooden plallets, each mounds weighing approximately 120 kg. During the evaluation period, the average internal temperature of the warehouse was recorded at 24.9 °C, with a maximum and minimum of 27.1 and 23.2 °C, respectively, while the relative humidity of the air varied from 64 to 79%. The samples for analysis were composed of cladodes from different orders and collected in different parts of the mounds. *In vitro* digestibility dry matter (IVDDM) and total gas production (IVTGP) were evaluated with samples ground in 2 mm. The analysis was carried out at the Animal Nutrition Laboratory of the Federal Agreste University of Pernambuco. Regression analysis was performed, using a significance level of 5%. There was a significant quadratic effect for IVDDM ($p < 0.0303$), observing that at the time 0 the value was 727.5 g $kg^{-1}$, with a decrease until 40 days post-harvest, being 726.6 and 668.5 g $kg^{-1}$ from 8 to 56 days post-harvest, respectively. A quadratic effect was observed for IVTGP ($p < 0.0001$), with total gas production at time 0 being 267.7 mL $g^{-1}$ DM, with a decrease until around 32 days, reaching 179.9 mL $g^{-1}$ DM, followed by an increase, registering IVTGP of 219.5 mL $g^{-1}$ DM at 56 days post-harvest. The coefficients of determination were 0.21 and 0.73 for IVDDM and IVTGP, respectively, indicating a low fit of the data to the equations for IVDDM and a high for IVTGP. Post-harvest storage for a period of up to 56 days did not compromise the digestibility of the stored material.

**Keywords: Forage quality, 'Miuda', Post-harvest management, semiarid**

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