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Título: EFFECT OF SPACING ON MORPHOLOGICAL ASPECTS UNDER PLANTING STRATEGIES AND CUTTING MANAGEMENT OF MEXICAN ELEPHANT EAR FORAGE CACTUS

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The semi-arid region is characterized by climatic conditions marked by scarce and irregular rainfall throughout the years, which difficult traditional agriculture and livestock, making producers in these areas look for alternatives to achieve success in their production. The forage cactus is one of the main foods for ruminant animals in these places, notably for dairy farming, because, it is a plant adapted to the region's climate, with high biomass productivity, palatable and good digestibility. It's a forage that provides a large amount of forage per hectare, which can be a good alternative to reduce animal feed costs. Based on this, this study aims to analyze the morphology of the Mexican elephant ear forage cactus subjected to different planting strategies and cutting frequencies. The experiment was conducted at IPA at the Arcoverde Experimental Station, located in the transition zone between the Agreste and Sertão of the state, located at latitude 8° 26' 4.6" S, longitude 37° 03' 26.26" WGr and altitude of 686 m, implemented in 2011 and harvested in 2022/23. The experimental design used was randomized blocks with split-split-plots and factorial arrangement (4 x 2 x 2), with four replications. The plots were four populations formed by different planting spacing, (P_1 = 1.80 m x 0.10 m = 55,555 ha^{-1}; P_2 = 1.80 m x 0.20 m = 27,777 ha^{-1}; P_3 = 1.80 m x 0.40 m = 13,888 ha^{-1}; P_4 = 1.80 m x 0.80 m = 6,944 ha^{-1}), the subplots were two cutting frequencies (F_1 = annual harvest and F_2 = biennial harvest) and sub subplots two intensities cutting (C_1 = primary spoon and others and C_2 = secondary spoon and others). The useful area of the plot comprised 2.4 m of the central row for all spacings, using the cultivar IPA - Mexican elephant ear (*Opuntia stricta* (Haw.) Haw.). The variables analyzed in this study were plant height (PH), plant width (PW) and number of total cladodes (NTC). From the data obtained it was possible to observe that there was no significant difference for the populations referring to PH, there was only a difference for the biennial harvest and cutting plants in the primary cladode which were larger. For PW, P_3 and P_4 were wider than P_1 21.74%, 32.18% and P_2 18.45%, 28.60%, respectively. PW also had a significant effect for biennial harvest and cutting in the primary cladode. With regard to NTC, P_4 presented a greater number of total cladodes when compared to the other populations, while for harvesting and cutting the behavior was the same as that of the PH and PW variables. Although P_3 and P_4 presented plants with a greater number of cladodes and wider plants, this does not mean they have greater productivity as they are the smallest populations. From the above, it was proven that the biennial harvest and the cut in primary cladodes obtained the best results.

Key words: semi-arid, *Opuntia stricta*, animal production

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