I-INTERNATIONAL MEETING OF ANIMAL SCIENCE IN SEMI-ARID REGIONS
Universidade Federal do Agreste de Pernambuco – UFAPE
July 03rd to 05th, 2024, Garanhuns-PE

Área do trabalho: Pastagens e forragicultura

Initial growth of forage cactus genotypes in the semi-arid region of Paraíba

Diany Dantas Bandeira*[1], Pedro Henrique Martins Araújo Santos[1], Danilo Dantas da Silva[1], Maria do Socorro de Caldas Pinto[1], Aurion Diniz Medeiros Filho[2], Moisés Dantas de Oliveira[1]
[1]Universidade Estadual da Paraíba, Catolé do Rocha/Paraíba, Brasil; [2]Empresa de Assistência Técnica e Extensão Rural – EMATER/RN, Umarizal/Rio Grande do Norte, Brasil. *dianybandeira10@gmail.com.

Forage cactus plays a crucial role in feeding domestic ruminants and in the sustainability of livestock systems in the Brazilian semi-arid region. Its genetic diversity allows the selection of varieties with superior characteristics, such as greater biomass production, resistance to pests, diseases and drought tolerance. In this study, the objective was to evaluate the initial growth of cactus genotypes cultivated in the semi-arid region of Paraíba, in order to identify performance characteristics that favor the selection of varieties adapted to the edaphoclimatic conditions of the region. 19 genotypes from the EMPAER-PB Germplasm Bank were analyzed, evaluated 180 days after planting under rainfed conditions, with a spacing of 1.0 x 0.5 m (20,000 plants. ha^{-1}). The soil was fertilized with 30 t. ha^{-1} of cattle manure 45 days after planting. Growth traits evaluated included plant height, plant width, cladode number, cladode area (AC) estimated from cladode width and length data, and the cladode area index (IAC $m^2.m^{-2}$) calculated based on AC and spacing between rows and plants. The experimental design used was completely randomized, with ten replications. The data were subjected to analysis of variance and the means compared using the Scott-Knott test at 5% significance. There was high variability for the morphological characteristics of the evaluated genotypes, with significant differences between the materials ($p<0.05$). Regarding plant height, the genotypes demonstrated different performances, forming three groupings. Genotypes T75, FRDRI and F22 stood out with average heights greater than 82 cm; in contrast, genotypes PB4, V03 and V14 presented values below 47 cm. Plants with greater width (>92 cm) were obtained with genotypes F07 and F16. Plants with a width of less than 31.0 cm were observed in the FX genotype. Analysis of the vertical and horizontal development of these genotypes is important to determine the appropriate planting spacing. Genotypes V14 and F07 achieved the highest number of cladodes, with averages of 30.2 and 17.8 units per plant, respectively. However, genotypes with fewer than 10 cladodes were predominant. For the greater number of cladodes to translate into greater biomass productivity, it is essential that it is related to other variables, such as plant height or width and cladode size. At 180 days after planting, genotypes F07, F16 and OM reached the highest IAC, 0.76, 0.73 and 0.72 $m^2.m^{-2}$, respectively, standing out in relation to the other genotypes. These high rates demonstrate a greater potential in the production of biomass and dry matter, as this variable is often used as an indicator of productivity as it represents the morphometric nature of the plant. The genotypes present great variability in morphological aspects, and F07 and F16 can be used in actions to improve the productivity of palm plantations in the semi-arid region of Paraíba.
Keywords: cacti, morphological characteristics, genotype selection.

Apoio financeiro: PIBIC/UEPB.