



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: Pastures and Forage

Development of *Zea mays* subjected to biochar applied to sandy soil

Ediclecia Andressa da Silva Ramos *¹, Elisiane Martins de Lima², Argemiro Martins Pereira Filho¹, Mirelle Conceição Santos¹, Ernando Luís Leite da Silva¹, Érika Valente de Medeiros¹

¹Universidade Federal do Agreste de Pernambuco, Garanhuns /Pernambuco, Brasil; ²Universidade Federal Rural de Pernambuco, Recife/Pernambuco, Brasil. * Andressa.ramos2.ar@ email.com.br

Corn holds significant importance as one of the most widely used energy ingredients in both human and animal diets. In the northeastern region, there's a low supply of this commodity due to poor soil fertility and technological levels in production, limiting its productive potential. Consequently, most inputs are imported from other regions, leading to increased costs in livestock activities. Therefore, conducting research to offer producers sustainable alternatives to enhance production and increase productivity is crucial. Many studies have been conducted to improve the initial development of corn plants in the semi-arid region. However, there remains a gap regarding the effect of biochar applied to sandy soils on corn development for animal feed. Biochar has been used as an alternative to recycle residues that could be environmental liabilities, transforming them into a value-added product, bringing various benefits to plants and soil. Thus, this study aimed to evaluate the effect of biochar derived from grape residues on the morphological characteristics of corn plants. An experiment was conducted in a greenhouse with a completely randomized design comprising three treatments: control (without biochar), grape stem biochar (GB), and grape fermentation biochar (FB), with five replications, totaling 15 experimental plots. Each plot consisted of a 7 kg soil pot, with 10g of biochar applied and four corn seeds sown, followed by thinning after 10 days. Foundation fertilization was carried out with nitrogen, phosphorus, and potassium. After 45 days of sowing, plant height (PH), number of leaves (NL), and stem diameter (SD) were evaluated. All biochars applied to the soil led to improved corn plant development. There was a 10% increase in PH when GB was used and a 14% increase in plants treated with FB. There was a 35% increase in stem diameter in corn plants treated with GB and a 42% increase in plants treated with FB, likely due to improvements in soil structure and nutrient availability provided by biochar. It is recommended to use biochar derived from vineyard residues for corn plant development.

Keywords: Corn, Animal feed, Forage, Grape residues.

Financial support: FACEPE