

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

GROWTH AND BIOMASS PRODUCTION OF *LEUCAENA* IN SOILS WITH DIFFERENTE USES

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Leucaena leucocephala is a legume with great biomass production potential and widely used in animal feed. It is a species indicated for the semiarid, because of its great capacity of regrowth. In addition, it is used for several purposes, such as silvopastoral systems, revegetation, and recovery of areas. Therefore, the objective was to evaluate the growth and production of *Leucaena* biomass in soils with different uses. The experiment, three soil samples with different uses was used: agricultural crop (AG), native forest (NF) and degraded area (DE). Soil samples were collected in Angicos-RN and sub-samples were taken for chemical analysis. The experiment was carried out in a greenhouse at the Universidade Federal Rural do Semiárido, where the soils after processing were distributed in 5L bags, with one plant per bag. The design was completely randomized, with factorial arrangement 3x2, (soils x harvest ages). The treatments were soils, with plant harvest at 60 and 90 days after transplanting. The plant height (PH), collar diameter (CD), shoot dry biomass (SDB), root dry biomass (RDB), and total dry biomass (TDB) were evaluated. The PH and CD were evaluated at 30, 45, 60, 75, and 90 days after transplanting. The other characteristics were evaluated at the plant harvest at 60 and 90 days. The biomass production data were submitted to variance analysis and compared by the Tukey test at 5% probability. For PH and CD the variance analysis was performed by split-plot in time, where the plots were the soils and the subplots were ages. Differences in PH were evident from 45 days between soils. Higher PH was observed at ages 60, 75 and 90 days when *Leucaena* was grown in AG soil. For CD, higher values were observed in AG soil. For the soil DE it was observed low variation in the CD between the ages of harvest. The AG soil allowed higher SDB production at the two harvest ages, the opposite was observed for soil DE. Soils AG and NF contributed to higher RDB. TDB showed no difference between AG and NF soils. Based on the results it is possible to observe that the soil of agricultural area and native forest favored the growth and, consequently, greater production of biomass for *Leucaena*. This may have occurred because of the chemical characteristics of the soil. Growth and biomass production of *Leucaena* are compromised in areas of degraded soil, from 45 days after transplanting.

Keywords: Caatinga, legume, *Leucaena leucocephala*, semiarid, soil

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