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CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

WATER CONTENT IN SOILS OF SILVIPASTORAL SYSTEMS

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Soil is affected by management practices, with consequent alteration of the dynamics and retention of water in the pores. The objective of this work was to evaluate the water contentunder the tree canopy and at the full sun in silvopastoral system. The study was carried out in a silvopastoral system at the Itambe experimental station belonging to the Agronomic Institute of Pernambuco. The seven-year-old legumes were distributed in seven double rows at the spacing of 15 x 1.0 x 0.5 m and in seven single rows at the spacing 17 x 1.0 x 0.5. In the two spacings, once every three months, soil samples were collected in the 0-20 cm layers in full sun and under the canopy of the *Mimosa caesalpiniifolia* Benth (Sabia) or *Gliricidia sepium* Jack x Steud (Gliricidia) in consortium with *Brachiaria decumbens* Stapf. Bovines of approximately 200 kg live weight were managed, under variable continuous stocking. Target herbage allowance was 3kg of dry green matter per kilogram of animal live weight, and it was used to adjust stocking rate. Soil samples were weighed and placed in an oven at 105°C for 24 hours. The relative moisture was calculated by the difference between the wet mass (m_1) and the dry mass (m_2), divided by the dry mass and multiplied by 100, according to the following formula: m_1-m_2 / m_2 * 100. Rainfall in the collection months were 0, 12, 3, 0 and 76 mm of rainfall in March, June, September, December and March of 2018, respectively. Treatment means were compared by Tukey test, using the level of significance of 1%. The soil moisture contents were higher in the areas between the trees when compared to the soil moisture content under full sun. The average results of 21.3% (under tree canopy) and 12.2% (full sun) in the area of Sabia with greater spacing and of 22,9 (under tree canopy) and 13,3 (full sun) for the Gliricidia, respectively. In the area with denser spacing, soil moisture was 21.80 and 11.95% for Sabia and 23.46 and 11.48% for Gliricidia, under tree canopy and full sun, respectively. Greater rainfall amount in March 2018 lead to greater soil moisture content. Different land uses and grazing systems affected soil moisture. Gliricidia had greater soil moisture content in the soil near the trees when compared to Sabia.

Keywords: conservation, legumes, moisture