

CONSTRUINDO SABERES, FORMANDO PESSOAS E TRANSFORMANDO A PRODUÇÃO ANIMAL

## ROOT DEVELOPMENT OF PIATA GRASS IN SHADING SYSTEM AND SUBMITTED TO FOLIAR FERTILIZATION LEVELS

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The objective of this study was to evaluate the root system of *Urochloa brizantha* cv. BRS Piata grass in the Eucalyptus shading and submitted to foliar fertilization levels (0, 3, 6 and 9 L ha<sup>-1</sup>) of Quimiorgen Pasto®. The experiment was conducted from August to November 2017 in the Mato Grosso do Sul State University, Aquidauana's Unit. The foliar fertilizer was applied in August 2017 and the evaluation occurred 83 growth days after fertilization. At points representative of the average height, samples were collected through a steel cylinder with 15 cm diameter and 15 cm high, which will be introduced at a depth of approximately 15 cm from the soil surface. First, the shoot samples were cut at 5 cm from the soil and then the cylinder inserted into the soil to remove the roots. The root samples, once removed, were refrigerated, washed in running water for removal from the soil, and frozen (to avoid losses of soluble compounds). After thawing, stem bases were separated. The roots, stem bases and shoot samples were dried at 65 °C for 72 h and again weighed to obtain the total dry matter. The shoot samples were also frozen before drying. The design used was randomized blocks with a factorial arrangement 4 x 2, three replications. The variables will be evaluated by variance analysis and comparison of means by the t test at 5%. Masses of root, stem base and shoot were similar ( $P > 0.05$ ) between treatments with average values of 20489.98, 4443.27, and 38797.69 kg ha<sup>-1</sup>, respectively. Considering the presence or not of shade, only root mass showed differences ( $P < 0.05$ ) with higher ( $P < 0.05$ ) mass observed in shade (24797.83 kg ha<sup>-1</sup>) than in full sun (16182.12 kg ha<sup>-1</sup>). Independently of the luminosity conditions imposed on the pastures, the plants were able to maintain the photosynthetic rates at a level sufficient to maintain the sward growth and accumulate organic reserves in the roots. The pastures grew freely after fertilization, i.e., were not subjected to cutting or grazing that could cause the reallocation of these reserves. In case of reduction the amount of photosynthetic active leaves may occur decrease in reserve compounds, consequently the mass of roots. From these results we can infer that the Piata grass is adapted to the shading.

**Keywords:** *Brachiaria*, Cerrado-Pantanal transition, full sun, shading, shoot

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