

SOIL COVER USING INTERCROPPING CORN-BRACHIARIA

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The climatic characteristics of the Brazilian Cerrado difficult to maintain a cover of soil quality and satisfactory amount for the implementation of tillage system. Intercropping corn with brachiaria is a viable alternative to increase the production of residues. The objective was evaluate the plants population most appropriate to increase dry matter production brachiaria without decrease corn yield. The study was conducted in the fall-winter 2016 year at experimental area of Embrapa Agropecuaria Oeste, in Dourados, Mato Grosso do Sul, Brazil. The experimental design was randomized blocks design with split split-plot with four replications. The main plots were composed of single and intercropping corn with Brachiaria brizantha cv. Paiaguás; subplots by row corn spacing (0.45 m and 0.90 m), and subplots by the population of corn plants (45,000; 52,000 and 65,000 plants ha⁻¹). Brachiaria was sown in row spacing 0.50 m and 20 plants m⁻². At physiological maturity of corn were evaluated corn and Brachiaria morphological components and grain yield. Data were submitted to ANOVA and means were compared by Tukey test ($p < 0.05$). The treatment had no significant effect on the corn (207.8 cm) and brachiaria (22.6 cm) plants height and dry biomass brachiaria (1.249 kg ha⁻¹). The intercropping increases the straw total production in 605 kg ha⁻¹, although reducing corn leaf area (8,776 cm²) and leaf area index (4.73). Better results were observed for the spaced 0.90 m, stem diameter (22.37 mm) and grain yield (9.947 kg ha⁻¹) were significantly higher when combined with the intercropping, except for the corn dry biomass, which was higher in the single corn and reduced spacing crop (7.257 kg ha⁻¹). The corn populations of 52,000 and 65,000 plants ha⁻¹ increased dry biomass corn (6,977 and 7,333 kg ha⁻¹) and straw total production (8,031 and 8,434 kg ha⁻¹), and grain yield in both spacing 0.45 m (5,320 and 5,960 kg ha⁻¹) and in 0.90 m (9,487 and 9,167 kg ha⁻¹).

Keywords: Zea mays, plant arrangement; tillage; biomass.

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