

BIOMASS PRODUCTION OF WINTER ANNUAL CROPS AND THE EFFECTS IN SOYBEAN IN NO-TILLAGE SYSTEM

Renato Albuquerque da Luz^{1*}, Ricardo Fachinelli¹, Priscila Akemi Makino¹,
Rômulo Dutra Rasslan², Gessi Ceccon³

¹Agronomist, postgraduate at Federal University of Grande Dourados - MS, Brazil.
renatoalbuquerque.luz@gmail.com, rfachinelli@hotmail.com, luanmarcon@hotmail.com,
priscila_akemi17@hotmail.com, hadassa.antunes@gmail.com

²Undergraduate student in Agronomy at Federal University of Grande Dourados – MS, Brazil,
romulo_rasslan@hotmail.com ³Agronomist, D.Sc. in Agriculture, researcher at Embrapa Western
Agriculture, Dourados - MS, Brazil. gessi.ceccon@embrapa.br

*Corresponding author: renatoalbuquerque.luz@gmail.com

The no-tillage is one of the most important soil conservationist technic. It contributes to enhance the chemical, physics and microbiological soil attributes. However, no-tillage system needs to preserve the soil surface continuously with vegetation cover and straw. Therefore, the aimed of this study was to evaluated the production of cover crop biomass of different winter crops and the productivity of soybean by two desiccation time. The experiment was conducted at Embrapa Western Agriculture located in the municipality of Dourados - MS, Brazil. The soil is classified as a Dystroferic Red Latosol (Oxisol), and the climate of the region, according to the Köppen climate classification, is tropical monsoon Am. The experiment was conducted in a factorial design 4 X 2 with three replicates in randomized blocks. Where the soybean crop was sowed after four winter crops (corn, corn intercropped with *Brachiaria* sp., *Brachiaria ruziziensis* and cowpea), and two intervals of dissection (30 days and 1 day before sowing). The desiccation were performed with Potassium Glyphosate at a dose of 2.00 kg ha⁻¹ a.i. BRS 1003 IPRO soybean cultivar was sowed with 0.5m by rows as a population of 280 thousand plants per hectare, and inoculated with *Bradyrhizobium japonicum*. The fowling variables were evaluated: dry biomass productivity of the cultures at sowing time, soybean germination, plant height at maturation, and crop yield. The variables were not affected by the desiccation interval, and germination was not influenced by the biomass productivity. Corn intercropped, corn and *B. ruziziensis* showed the highest averages of dry biomass ($p < 0.005$) 7786.00 kg ha⁻¹, 7072.00 kg ha⁻¹, and 6695.00 kg ha⁻¹, however cowpea dry biomass was the lowest 2841 kg ha⁻¹. Averages of the soybean variables, as plant height and yield, did not differ after corn intercropped, corn and cowpea (0.73m, 0.71m and 0.74) and (2864.00 kg ha⁻¹, 2699.00 kg ha⁻¹ and 3045.00 kg ha⁻¹) respectively. Concluding that the crops biomass of corn intercropped and corn provided nutrients to the system then increasing the crop yield.

Keywords: Straw production, corn intercropped with *Brachiaria* sp, dissection

Acknowledgements: EMBRAPA Western Agriculture CAPES, UFGD.