

The third year of an integrated crop-livestock-forest system at the Amazon Biome: soybean

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Introduction

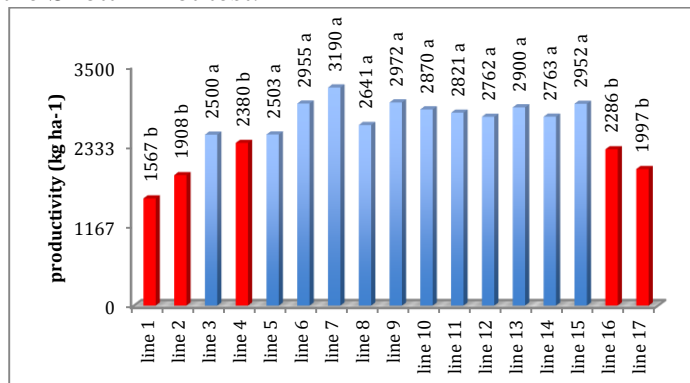
The soybean has been widely used within integrated systems, especially in the first stages of development of forestry species when competition for resources such as light, water and nutrients are lesser. Being able to timely cultivate legumes within an integrated system is of ultimate importance since soil characteristics, both physical and chemical, are concurrently improved with income generation.

Material and Methods

The study was conducted at the Crop-Livestock-Forestry Reference Technology Unit (URT), Gamada Ranch, Nova Canaã do Norte, Mato Grosso, Brazil. The treatments constituted of, three-line spaced forestry species of eucalyptus and “cuiabano” pine tree (3 x 2 x 20 m), and *pau-balsa* and *teca* (3 x 2 x 20 m). In the previous years, rice (first year) and soybean (second and third years) were cultivated. The yield within each line is shown below (Fig. 1).

Results and Conclusions

Fig. 1. Average of soybean grain yield harvested on 17 rows in all treatments. Overall average: 2,586 kg ha⁻¹; CV (%): 30.93. Means followed by the same letter are not statistically different from each other at 5% probability by the Skott- Knot test.



In the third year, the average of soybean yield was 2,586 kg ha⁻¹; however the yield was reduced in the edges of the rows (lines). Shading impaired soybean crop yield, which affected more plants were cover by shade on morning than afternoon. The water availability is not a problem in the Amazon region. Second year, in the same area, the average of soybean yield was 3,342 kg ha⁻¹, with no reduction by shading.

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