

Corn and soybean yield in the Integrated Crop-Livestock System in the Cerrado, Maranhão Eastern Region

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Introduction

The Cerrado of the East region in Maranhão state is located in the agricultural expansion area called MATOPIBA where soybeans production has grown on a large scale. This region requires special care in the management and conservation of soils, including crop rotation and no-tillage system, due to characteristics of soil and climate. The Integrated Crop-Livestock System (ICLS) has been introduced to facilitate the management of soil in rotation with corn and grazing and to improve soil coverage during the period between harvests. This system also allowed the introduction of the animal component, diversifying farm production.

Material and Methods

The study was conducted from 2009 to 2014 in the Barbosa Farm, located in Brejo country, Maranhão State (3°42'33"S; 42°56'44"W). Corn and grass (*Brachiaria ruziziensis*) were cultivated in 2010. In the following years soybean was planted on the grass straw (no-tilled system). So, the corn and soybean yields in these areas with ICLS were evaluated. In the areas planted with corn and grass, after corn harvest, cattle were allocated to graze the grass according to the forage available.

Results and Conclusions

The Fig. 1 shows the corn and soybean yield in ICLS, in the Barbosa Farm. The average yield of corn and soybean in Brejo county for the last ten years was 858 kg ha⁻¹ and 2,591 kg ha⁻¹, respectively (IBGE, 2014). The corn yield average in ICLS presented 473% higher than the average of the municipality. The yield obtained during the five years of evaluation for corn and four years for soybeans show that ICLS is one of the technological alternatives that can be adopted to improve the grain yield in the eastern region of Maranhão. It is noteworthy that the ICLS improves the soil physical properties and allow animal inclusion on the farm system.

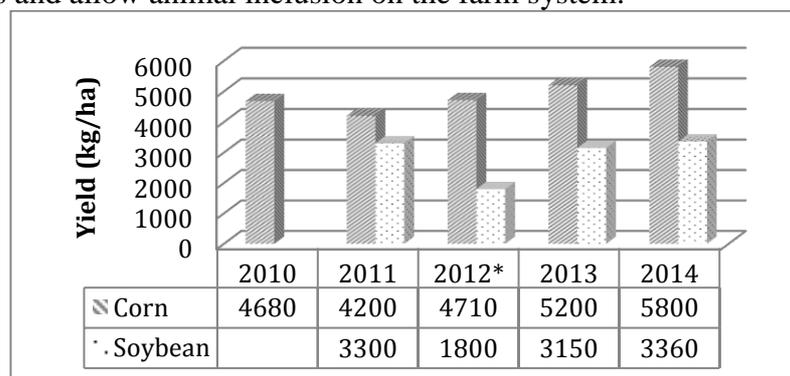


Fig. 1. Corn and soybean yields in ICLS, Barbosa Farm, Brejo Country – Maranhão State

*In 2012 there was drought, influencing negatively the yield

References cited

IBGE, Inst. Bras. Geog. Estat. 2014.

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