

Corn Yield in the Integrated Crop-Livestock System in Peritoró, Cocais Region of Maranhão State

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Introduction

Integrating crop and livestock systems have been currently disseminated as a viable alternative to obtain both grain production and forage in the same cultivated area. In the Maranhão state sustainable agricultural practices has been adopted by some Farms. Examples are the Integration Crop-Livestock Systems (ICLS) and No-Tillage System, which provide numerous benefits for the soil conservation, allow an increase of grain yield and sustainability of the system. This study aims to evaluate the corn yield in a farm which adopted the ICLS, in Peritoró County, Maranhão State, Brazil.

Material and Methods

The data of annual corn yield from Gaspar Farm, located in Peritoró County, Maranhão State, which adopted the ICLS, were measured from 2011 to 2014. Corn yield average of the municipality and of the Maranhão State were taken for the same years using the IBGE System (Brazilian Institute of Geography and Statistics), except 2014, which data have not yet been disclosed. These data sets were compared in order to verify the differences of corn yield between the traditional system and the ICLS.

Results and Conclusions

The annual average corn yield in Gaspar Farm was 4,080 kg.ha⁻¹ (Fig. 01). This value was 619% and 92% higher when compared to the municipality and state annual corn yield average, respectively. A decrease was observed in the corn yield in 2012 due to a long drought period, but the effect of this climate factor was minimized in the Gaspar Farm, probably by the high level of organic matter on the soil, an intrinsic improvement of ICLS. This suggests that cumulative benefits for the soil contribute to improve grain yield of the ICLS.

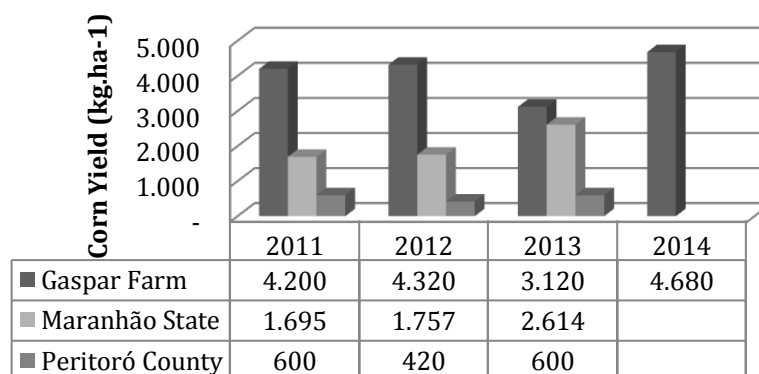


Figure 1. Annual yield of Corn (*Zea mays*).

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