

## Corn yield in the Integrated Crop-Livestock System in Fortuna, Maranhão State

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### Introduction

The use of integrated crop-livestock systems (ICLS) promotes moisture retention in the soil, by increase the amount of organic matter. The adoption of this technique improves the conditions for no-tillage system in crop rotation systems, especially in low rainfall areas. Currently, efforts are being made to recover pasture degraded areas in order to achieve a sustainable production and enable the use of the same land over the years. This study aims to evaluate the corn yield of an ICLS, in Fortuna County, Maranhão State, Brazil.

### Material and Methods

Corn yield data were obtained from a farm named “Baixa das Coivaras”, which adopts the ICLS in Fortuna county, Maranhão State. The corn seeds were sowed in no-tillage system, on the grass straw. Data of corn average yield in the farm were taken from 2011 to 2014. Data of corn yield of the municipality and of the Maranhão State were taken for the same years (2011-2014) 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 corn yield of the farm that adopts ICLS was higher than the municipality and state yield average (Fig 1). In 2012, due to a long drought period, a decrease of 32.47% of corn yield was observed on the farm. Likewise, the Fortuna municipality average presents a 60.29% decrease. These data indicates that losses of the crop production systems resulting from environmental factors can be minimized by adopting integrated systems. Thus, the ICLS can be a technological practice which can improve the crop yield in Fortuna county and Maranhão State.

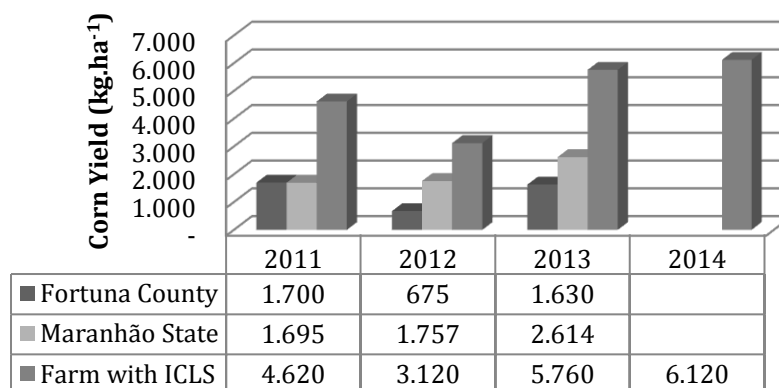


Figure 1. Annual yield of Corn (*Zea mays*).

### References cited

IBGE, Inst. Bras. Geog. Estat. 2014

### Acknowledgements

To Embrapa, Fundação Eliseu Alves, CNPq and Baixa das Coivaras Farm.