

## Advances in technology transference: the experience of integrated crop-livestock-forestry (ICLF) adoption in Tocantins State.

Deivison SANTOS<sup>1</sup>, Cláudio França BARBOSA<sup>1</sup>, Pedro Henrique Rezende de ALCÂNTARA<sup>1</sup>, Roberto Manolio Valladão FLORES<sup>1</sup>, Daniel Chaves WEBBER<sup>1</sup>, Milene Mendonça de Sousa MAGALHÃES<sup>2</sup>, Antônio Humberto SIMÃO<sup>3</sup>

<sup>1</sup> Embrapa Pesca e Aquicultura, 770020-020, Palmas, TO, Brazil ; <sup>2</sup> Instituto de Desenvolvimento Rural do Tocantins, 77000-000, Palmas, TO, Brazil; <sup>3</sup> Ministério da Agricultura Pecuária e Abastecimento, 77000-000, Palmas, TO, Brazil.

E-mail address of presenting author\*: [deivison.santos@embrapa.br](mailto:deivison.santos@embrapa.br)

### Introduction

In 2010 the Brazilian Government established a goal to reduce the emissions of greenhouse gases (GHG) by agriculture from 36.1 up to 38.9% in ten years (2010 -2020). To contribute for reaching part of this purpose in Tocantins State, Embrapa and other research and extension services partners have been conducting a project of technology transference on sustainable agricultural practices, including integrated crop-livestock-forestry (ICLF), since 2012.

### Material and Methods



Figure 1. The basic steps proposed by the methodology.

The approach used was based on the combination of Training & Visit (Domit et al., 2007) and Reference Network (Miranda and Doliveira, 2005) sharing the theoretical and practical knowledge with extension workers. It is expected to enhance the adoption of low carbon emission technologies by farmers through the improvement of extension workers' technical knowledge in sustainable agriculture, including ICLF.

### Results and Conclusions

The approach has been succeeded in the improvement of the adoption of ICLF by farmers from Tocantins so far. The extension workers who take part of the project have put in practice the knowledge shared during the theoretical part through the establishment of 13 reference farms, encompassing an area of more than 1,400 hectares. The main technology applied was crops for pasture recovering (Barreirão, Santa Fé and São Mateus Systems). The strengthening of extension services and the maintenance of the reference farms network applying ICLF's technologies can increase the adoption of sustainable agriculture in Tocantins and surrounding areas of Cerrado, especially in Maranhão, Piauí and Bahia States (MATOPIBA), the Brazilian agricultural frontier.

### References cited

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