world congress on integrated

crop-livestock-forest systems

3rd International Symposium on Integrated Crop-Livestock Systems

towards sustainable intensification

brasilia • brazil • 2015

Congress Proceedings

Anais do Congresso

These Proceedings organize the papers and abstracts presented at the 2015 World Congress on Integrated Crop-livestock-forest systems (WCCLF) incorporating the Third International Symposium on Integrated Crop-Livestock Systems, held from July 12 to 17, 2015, at the Ulysses Guimarães Convention Center in Brasília, DF.

The objective of the Congress was to discuss the state-of-the-art of integrated agricultural systems as well as its perspectives as main 'drivers' of sustainable intensification on agriculture all over the world. The event was organized and promoted by the Brazilian Agricultural Research Corporation and the Federal University of Rio Grande do Sul, with the support of many national and international institutions including CIAT, CIRAD and USDA.

The event was based and three pillars. Plenary presentations of international scientific results on ICLF systems; technical training of technicians with focus on existing recommendations; and teaching conferences to discuss inclusion of the ICLF in the Universities agendas.

Scientists, experts, technicians, professors, students and leading producers of different fields participated in the Congress, which was organized into three main topics: technology, environment and social economy. The subjects distributed in many topics in the agenda include issues related to global agriculture sustainability; opportunities and limitations on the adoption of integrated systems; environmental costs of intensive agriculture; contributions of integration for family farming; efficient use of water and nutrients; carbon sequestration and greenhouse gas emissions, among others.

More than 350 scientific papers were selected for presentation. Forty of these scientific submissions were chosen for oral presentation, arranged in ten parallel sessions. The other submissions were presented in poster format, and remained displayed in the panels during the entire event. This present publication is divided in three sessions: Abstracts of plenary speakers, Abstracts of Oral Presentations in parallel sessions and Posters' Abstracts.

RESULTS

The program of the Congress, both technical and scientific, was substantial and produced significant statistics. A total of 24 scientists participated in the Plenary Session, from several different countries including five from Brazil. The two Special Sessions, for technicians and for teaching, had 23 presentations. A total of 907 attendees were pre-registered and 602 were present at the event. Twenty six Brazilian states were represented as well as 22 countries. Two hundred and twenty eight public and private institutions were represented by different attendees. Three hundred and fifty four submitted papers were presented either as posters or as oral presentations. The total of 1,075 co-authors contributed with scientific papers submitted. An intensive debate was encouraged in the teaching Special Sessions in order to discuss the inclusion ICLF systems courses in the universities and technical schools. Professors, students and technicians appointed limitations in the curricular plans and course programs. They proposed alternatives, new procedures and recommendations to improve ICLF disciplines, considering the complexity of the systems and the need of a systemic multidisciplinary approach of this subject

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

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Introduction

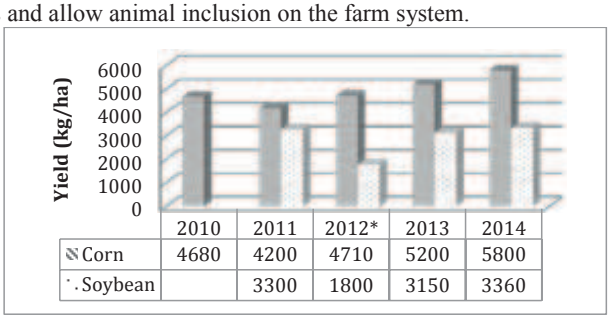
The Cerrado of the East region in Maranhão state is located in the agricultural expansion area called MATOPIBA where soybeans production has grown on a large scale. This region requires special care in the management and conservation of soils, including crop rotation and no-tillage system, due to characteristics 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 (3º42'33"S; 42º56'44"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.



	2010	2011	2012*	2013	2014
Corn	4680	4200	4710	5200	5800
Soybean		3300	1800	3150	3360

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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GO TO
KEYNOTE SPEAKERS
ORAL PRESENTATIONS
POSTERS

NEXT ABSTRACT