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

Horizontal distribution of the soybean yield in crop-livestock-forest integration system

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Introduction

The crop-livestock-forest integration system increases the diversity, along with environmental sustainability, of both sectors. At the same time it provides opportunities for increasing overall production and economics of farming. The objective of this study was to evaluate the horizontal distribution of the yeld of soybean crops in exclusive systems and integrated systems of crop-livestock-forest (ICLF).

Material and Methods

The experiment was conducted at Sinop/MT, evaluating the following treatments: 1) crop with soybean during the main season and maize intercropped with *Brachiaria brizantha* during the second season and 2) Crop-livestock-forest system established with eucalyptus provisions in triple lines (3,5 x 3,0 m East-West orientation), space between the forest component with soybean crop (main season) and maize intercropped with *B. brizantha* (second season). The experiment used a randomized block design with four replications. In the integrated system with forest component, samples were collected in four equidistant transects per treatment in the transverse direction of the lines of forest species, at the distances of 3, 6, 10 and 15 m on both sides (north and south faces).

Results and Conclusions

Significant differences were not verified in the agronomic characteristics of soybean, no difference in productivity was verified comparing the exclusive and integrated systems (Fig 1.). Therefore, it is plausible to say that the strip of trees inside the integrated system did not affect the productivity of the agricultural component (soybean) on the second year of the system implementation.

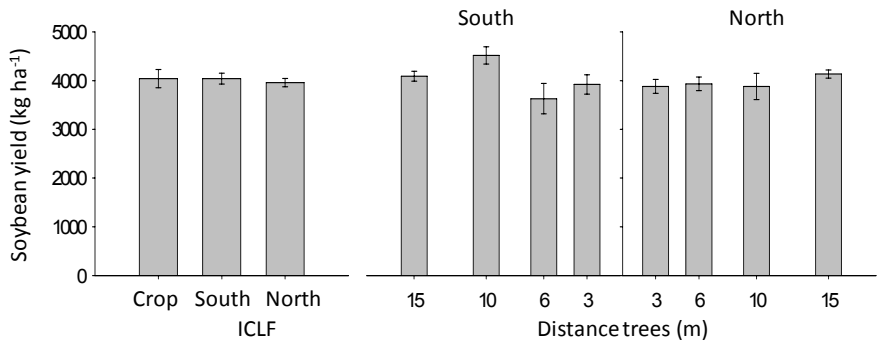

Figure 1. Soybean yield (BRSGO 8560 RR) in exclusive system and on the south side and north side of the eucalyptus triple lines (East-West orientation) in the crop-livestock-forest integration system (ICLF).

Acknowledgements

To Embrapa, CNPq and CAPES