Book of Abstracts

1st World Congress of Agroforestry

Working Together for Sustainable Land Use Systems

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UNIVERSITY OF FLORIDA
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Congress website: conference.ifas.ufl.edu/wca/

FOREWORD

This Book contains the abstracts of papers that were selected for presentation at the 1st World Congress of Agroforestry (WCA), 2004. Except for the abstracts of 29 invited presentations for seven symposia included in the beginning of the book, all were voluntary submissions for oral or poster sessions.

In preparation for the Congress, we solicited potential participants to submit abstracts for presentation during oral and poster sessions. The response vastly exceeded our expectations: we received more than 800 voluntary submissions from all over the world. The abstracts were sent to the respective WCA session organizers for their scrutiny and decision on their acceptability for oral or poster presentations. Although the session organizers were requested to be as accommodative as possible in making their decisions, quite a few abstracts had to be rejected as they were deemed unrelated to agroforestry even by the broadest definition of the term. The authors were then given the opportunity to submit revised and updated abstracts. The final selected abstracts were then edited for uniformity in length (maximum 250 words), presentation format, and language. Because of the volume of work that had to be accomplished within a tight time schedule, the edited versions could not be sent back to the authors for their approval; we request the authors' understanding and forbearance for this. At the time of sending this to the press, some authors' attendance in the Congress and presentation of their work are still uncertain because of financial and administrative reasons. Nevertheless, all abstracts processed as above are included in this book with the authors' approval.

Undoubtedly, this Book of Abstracts represents the current state of information and knowledge in agroforestry worldwide. Several of these presentations will be developed as full-length journal articles for the special issues of thematic journals that will feature Congress presentations (at the time of this writing, arrangements have been confirmed for special issues of seven scientific journals). But, for the majority of the abstracts that may not be published as professional and academic publications, this Book of Abstracts will remain the only source of reference. Thus, we believe that this book will be a valuable resource for future use. The book will also be made available to Congress participants as a CD, and the abstracts will be posted on the Congress Web-site (http://conference.ifas.ufl.edu/wca), and retained for several months after the Congress.

Compiling this Book of Abstracts involved the efforts of a number of individuals. I wish to express my sincere appreciation to my colleague Dr. Samuel Allen of the Center for Subtropical Agroforestry (CSTAF), University of Florida (UF), who edited the final abstracts for technical language, length, content and style. Other CSTAF colleagues, notably Dr. Michael Bannister and Ms. Julie Clingerman, provided considerable support and assistance to Dr. Allen in accomplishing this task. Special thanks are due to the Congress Coordinator, Ms. Mandy Stage, who with the assistance of Ms. Tracy Nininger and others at the UF Office of Conferences and Institutes, has handled effectively and tirelessly the myriad of logistics and communication associated with the development of this Book, including the final proofing and printing. Finally, I sincerely thank all the authors and session organizers, without whose cooperation and timely inputs this publication would not have been possible.

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The Land Equivalent Ratio for Evaluating the Efficiency of Multi-strata Agroforestry Systems

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Much of the current analysis on the productivity of tropical multi-strata agroforestry systems considers individual evaluations of each component species. One reason for this is related to the difficulty of transforming the individual yield of species in a single measure. The main objective of this paper was to use the Land Equivalent Ratio (LER) to evaluate the land use efficiency of three 14-year tropical multi-strata agroforestry systems (AFS) in Rondônia State, in the western Brazilian Amazon. The species used were: banana (Musa sp.) - Ba, black pepper (Piper nigrum) - Pm, cupuaçu (Theobroma grandiflorum) - Cp, Brazil nut (Bertholletia excelsa) - Ca, freijó wood (Cordia alliodora) - Fr, and pupunha (Bactris gassipaes) - Pu. The AFS were: T1: Ca+Ba+Pm+Cp; T2: Fr+Ba+Pm+Cp and T3: Pu+Ba+Pm+Cp. The yield variables evaluated were: Ba and Pu: weight of cluster (kg); Pm: dry weight of grains (kg); Cp: weight of fruit (kg); Ca: wood volume (m3) and number of fruits (n); and Fr: wood volume (m3). Evaluations from 1988 to 2002 indicated that multi-strata AFS T1 and T2 were more efficient than the AFS where B. gassipaes was the perennial component. In the beginning years, land use efficiency was higher in monoculture systems, although AFS performance was, during a 10-year period, the most efficient land use system compared to monoculture. With three years of agroforestry production, the products harvested included three food crops. With 14 years the AFS still have potential to enhance diversity of food and to increase income through high-value wood and fruits.

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