and recommendations are accepted, an improved risk assessment system should result.

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Cassava is the fourth most important source of energy, and it contributes to the direct nutrition and livelihood of up to 500 million people. The world annual production of its starchy roots reaches more than 158 billion tons used for human consumption (58%), animal food (22%), and other uses (20%). Native to tropical America but now mainly produced in Africa, cassava is a low input crop distributed worldwide. This book presents a comprehensive review of cassava production and its use covering all the regions where it is grown. Paradoxically, there are no antecedents to this kind of monograph for cassava. Addressed to researchers and graduate students, this book has been written by specialists. Some of them are members or former members of CIAT and IITA, the two international centers with the global mandate for cassava breeding and research. Other contributors are active in research institutes and universities.

A valuable overview of botanical, geographical, and agricultural origins of the crop gives the background to postulate that 'manipeba', a climbing bitter landrace, could be the transitional link between the wild ancestor and cultivated cassava (Ch. 1). This interesting hypothesis gives insight about the ethnobotanic and taxonomic origin of cassava, and it should be tested in the near future using DNA mapping techniques. Production, utilization, and market aspects in the main cassava-growing regions of Latin America (Ch. 2), Africa (Ch. 3), and Asia and the Pacific (Ch. 4) are presented summing up production systems, production constraints, and production trends. Recent statistics are used to analyze the future of cassava development and details about selected countries are also provided. In the last decade, Africa produced more cassava than the rest of the world combined, and in this continent it is replacing maize and other root crops like yams and cocoyams. Poor understanding of cyanogenesis in cassava limits crop utilization. Nevertheless, a very broad palette of processed food is available. Some starch-based industrial applications are also emerging.

Crop physiology is explored based on a good systematization of both morphological and physiological data (Ch. 5). Source-sink balance is essential for maximum productivity, but cassava shoot growth seems to be independent of storage root growth. Environmental and stress physiology of cassava are also reviewed. Principles of good agronomic management including soil conservation and water management are given (Chs. 6-9). Both ex situ and in situ gene banks are needed to conserve cassava diversity, threatened by the destruction of land and habits and abandonment of old traditional cultivars by farmers (Ch. 9). Molecular markers and genetic engineering are possibilities for resistance, reduction of cyanogenesis, and increasing protein content and extending leaf longevity, one of the main traits associated with high yields (Ch. 10). Arthropod pests (Ch. 11), viral, fungal, and bacterial diseases (Ch. 12), and bacterial, fungal, and nematode diseases (Ch. 13) are reducing cassava yields, and there is an uncertainly concerning epidemiology and mode of spread of some of these biotic factors. Cassava perishability is critical, therefore, postharvest interventions are described considering small-scale processing (Ch. 14). Technical information about utilization in food, feed, and industry (Ch. 15) concludes this book, suggesting that a wider utilization of cassava can be a catalyst for rural industrial development, a main goal in all tropical countries.

The strengths of Cassava; Biology, Production and Utilization are both the regional and breadth approaches covering production problems, the consideration of advanced biotechnology for genetic improvement, and the competence of the editor in relation to its coverage. I missed systematization related to cassava modeling, a topic already explored, and other root crops that can be useful in order to elucidating bridges between crop physiology and management. This book is a valuable overview of botanical, geographical, and agricultural origins of the crop and can be useful for students, this book has been written by specialists. Some of them are members or former members of CIAT and IITA, the two international centers with the global mandate for cassava breeding and research. Other contributors are active in research institutes and universities.

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OTHER BOOKS


This book presents the proceedings of the 13th International Congress on Nitrogen Fixation, held in Hamilton, Ontario, Canada, July 2001.


Books that collect chapters written by specialists, the integral analysis available for readers, who must be able of insight by themselves, applying the well documented information offered by authors to solve common multifactorial problems. Management presented considers the impact of soil eutrophication on agriculture and it is becoming a need nowadays. Particularly noteworthy is the potential of cassava genetic improvement and use diversification that could let us sketch out routes of rural development based on cassava, as some growers in the tropics are already doing.

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