

Tropical Root and Tuber Crops



R. C. Mandal

Published by:

AGROBIOS (INDIA)

Agro House, Behind Nasrani Cinema

Chopasani Road, Jodhpur 342 002

Phone: 91-0291-2642319, Fax: 2643993

E. mail: agrobios@sify.com



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R. C. MANDAL



AGROBIOS (INDIA)

ISBN No.: 81-7754-199-4

Price: Rs. 795.00 / US\$ 40.00

Published by: Dr. Updesh Purohit for Agrobios (India), Jodhpur

Lasertypeset at: Shriya Computers and Printers, Jodhpur

Cover Design by: Reena

Printed at: Bharat Printers, Jodhpur

Preface

The pressure on, demand for food by rapid growth of human population, stressed the importance of tropical root and tuber as non-conventional food in the diet, especially of lower income groups in developing countries. Those parts of the World where tropical tuber crops are important in diet, are precisely. The parts where population growth is highest. These root and tuber crops include: Cassava and Sweet Potato (root tubers); aroids, yams, coleus (Stem tubers), which are considered as staple foods for the tropical and subtropical regions like Africa, Carabbeans, South America, India and South East Asia.

Eventhough such root and tuber crops provide subsistence food for millions of people; but research and developmental efforts in tropical countries have been more vigorous in the cash and export-larning planation crops, because the tuber crops mostly enjoy local consumption and importance and also do not earn much foreign exchange however, only in recent years various international organisations like CIAT, Colombia; IITA, Nigeria; AVRDC, Taiwan; CTCRI, Trivandrum; National Root Crops Researh Centre, Nigeria; Root Crops branch of Agriculture Department, Thailand; Sukami Research Institute, Indonesia; Philippines Res & Training Centre; TPI, London; IDRC, Canada, have shown considerable interest in research and development activities of these crops. Among these, CIAT has started ambitious research programme on Cassava improvement.

In many developing countries, root crops are important energy sources which are very easy to produce and which have a processing or export potential. The underground tubers are used as food, as animal food and also being increasingly used as a source of raw material in certain industries.

These tuber crops have very high biological efficiency as energy converters and due to this high potentiality, the production per unit area can be increased substantially. The production of cassava (tapioca) per unit area could now be doubled with the use of improved selections/hybrids evolved at CTCRI, Trivandrum; CIAT, Colombia; and elsewhere, coupled with scientific crop management.

The rate of productivity in terms of calories per unit land area per unit time and carbohydrate content of tuber crops as compared to cereals, are estimated and considered to be appreciably high in tuber crops as per evidence on the table.

Crops	Carbohydrate Per Ha (T)	Food Calories PerKg (G)	Energy		
			Per Ha (Miln)	Per Kg	Prod. Per Kg
Cassava raw	6.70	387	27.52	1590	91,700
Sweet Potato raw	3.87	310	15.00	1200	12,500
Yams raw	3.75	250	16.20	1080	6,000
Cocoyams raw	3.25	250	14.004	1080	7,800
Potato raw	1.99	229	8.59	990	7,810
Rice dry	0.87	780	3.89	3470	3,240
Wheat dry	0.78	710	3.83	3470	3,190

Source : Agriculture Situation in India, Jan 1975

Due to obvious reasons, the tropical root and tuber crops have, within the past decades, increased in both local and international importance by the research workers, agriculturists, various agricultural colleges and institutions.

The rich experience gained through research activities more than a decade by the author made to bring out a book on tropical root and tuber Amorphophallus, Yams, Yam bean and Colius. Each crop or group of crops cover topics such as origin, botany, climatic requirment, production of planting material, variety, genetics and cyto-genetics, breeding, agro-techniques, disease and pests, chemical composition storage and utilization.

This has been written as a reference book for the agricultrists, research workers and a text book at the under-graduate and post-graduate level. In the compilation of this comprehensive volume, published matter of researchers, various research and development agencies have been consulted, materials used and have been duly acknowledged.

Ahemdabad

R.C. Mandal

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AROIDS

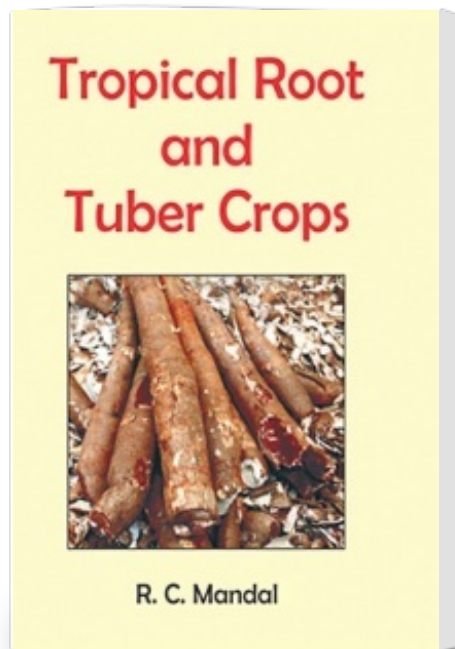
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Tropical Root And Tuber Crops



Publisher : Agrobios Publishers ISBN : 9788177541991

Author : R C Mandal

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