Pest And Diseases Of Coconut And Their Control

Historical background; world acreages and production; botany and characteristics of the coconut palm; climate and soil; establishment of plantations; care of plantations; manuring and cultivation; insect pests; pests other than insects; diseases and damage; the crop; commercial products; toddy products; minor and domestic coconut products; research and information. Tree species are indispensable to support human life. Due to their long life cycle and environmental sensitivity, breeding trees to suit day-to-day human needs is a formidable challenge. Whether they are edible or industrial crops, improving yield under optimal, sub-optimal and marginal areas calls for united efforts from the scientists around the world.

While the uniqueness of coconut (Sanskrit meaning tree-of-life) marks its presence in every continent from Far East to South America, tree crops like cocoa, oil palm, rubber, apple, peach, grapes and walnut prove their environmental sensitivity towards tropical, subtropical and temperate climates. Desert climate is quintessential for date palm. Thus, from soft drinks to breweries to beverages to oil to tyres, the value addition offers a spectrum of products to human kind, enriched with nutritional, environmental, financial, social and trade-related attributes. Taxonomically, tree crops do not confine to a few families, but spread across a section of genera, an attribute so unique that contributes immensely to genetic biodiversity even while cultivated at the commercial scale. Many of these species in?uence other ?ora to nurture in their vicinity, thus ensuring their integrity in serving the genetic biodiversity. While wheat, rice, maize, barley, soybean, cassava and banana makeup the major food staples, many fruit tree species contribute greatly to nutritional enrichment in human diet. The edible part of these species is the source of several nutrients that makes additives for the daily diet of humans, for example, vitamins, sugars, aromas and ?avour compounds, and raw material for food processing industries. Tree crops face an array of agronomic and horticultural problems in propagation, yield, appearance, quality, diseases and pest control, abiotic stresses and poor shelf-life.

The book discusses almonds, Brazil nuts, cashews, chestnuts, coconuts, filberts, macadamia nuts, peanuts, pecans, pistachios, sunflower seeds, and walnuts; a supplementary section describes the characteristics of 30 other nuts. A bibliography, recipe index, glossary, and general index round out this definitive work on the subject and a treasured reference for any kitchen or library.


General; varieties of coconut; production of planting material; transplanting and care of young seedlings; maintenance of adult plantations; pests; diseases; food products; commercial products; coconut shell and miscellaneous products; multicropping in coconut holdings.

Since the publication of "The coconut palm - A monograph" in 1960, considerable information has been accrued on the crop through work at research institutes, international organisations and development agencies. Although coconut cultivation is spread over 93 countries, providing employment and creating livelihood opportunities to 64 million families around the globe, smallholder coconut farmers are now facing numerous challenges. The wide gap between the potential and actual yield is a major concern, and as such it is necessary to disseminate knowledge in order to implement
research findings. Coconut research in India, one of the leading coconut producing countries, is celebrating its centenary, making this an opportune time to review the research and development advances and the relevant technologies. This detailed, comprehensive book covers all aspects of coconut, from the origins to cultivation, breeding, physiology and value addition, as well as subjects of topical interest like nutrition and health, biotechnology, and climate change and carbon sequestration. Written by leading experts in the fields it emphasises that the livelihood of the small coconut landholders is the ultimate aim of scientists and developmental agencies, and outlines various important strategies to make coconut farming more remunerative globally. It discusses work in all the major coconut growing countries and outlines suggestions for international cooperation. Research work on the crop is comparatively difficult because of its perennial nature, longevity, height, long juvenile phase, large sized nuts, cross pollination and seed propagation. As these special features necessitate greater investment of resources, time and land, it is all the more imperative that research is not duplicated and the information and experience becoming available around the world is shared so that it can be fully utilised. In this context periodic publications, compiling all the available information on coconut assume greater significance. This book is therefore of great value to researchers, students, extension workers, developmental agencies and progressive farmers.

Widely known as the ‘tree of life’, coconut (Cocos nucifera L.) provides a bountiful source for making a wide variety of healthy foods and industrial items. Its cultivation, however, has been encountering seriously destructive issues including lethal diseases and natural adversities which are currently distressing livelihoods of millions of small-holder farmers around the world. There is an urgent mandate to resolve these issues by meeting sustainable seedling production, facilitating genetic conservation, as well as developing disease identification and modern breeding. This book introduces improvements in coconut biotechnology by covering the advances in micropropagation, germplasm conservation, and molecular pathogenic diagnosis. This comprehensive volume will be a useful source of information and references to researchers, graduate students, agricultural developers, and scholars in the plant sciences. In order to benefit general readers, the book also covers fundamental aspects of biology, diversity, and evolution of this marvelous palm species.

Today, forest health and the management of threats towards it are attracting more and more attention on a global scale. This book covers the most recent advances in the management of forest diseases, including the epidemiology and infection biology of forest pathogens, and forest protection based on integrated pest and disease management approaches. A comprehensive range of diseases caused by viruses, bacteria, fungi and other organisms are discussed in detail, making this book essential reading for forest managers and extension specialists. Written by recognized authorities in the subject of forest health, this book also provides a wealth of information useful for researchers and lecturers of forest pathology and ecology.

Ecological requirements; Varieties and varietal improvement; Cultural practices; Disorders; Pests; Diseases; Coconut products and marketing of copra, meal and oil; Coconut development;

Palms constitute one of the largest botanical families and include some of the world's most important economic plants. This book reviews the interrelationships between palms and insects. The host plants, distribution and bionomics of representative insects are discussed.

This work gives details of some fifty diseases of tropical tree crops which cause very significant yield losses hence compromising or even preventing cultivation. Breeding resistant planting material is currently the most widely used control method. Research is also under way on the rational use of chemical pesticides, the adoption of appropriate crop techniques and on reducing populations of insect vectors of viral and fungal diseases, phytoplasms and Phytomonas.

This is the last volume of the IPMD series. It aims, in a multi-disciplinary approach, at reviewing and discussing recent advances and achievements in the practice of crop protection and integrated pest and disease management. This last effort deals with management of arthropods, and is organized with a first section on biological control in citrus orchards, a second one on advanced and integrated technologies for insect pest management and a last section, dealing with mites and their biological control. A wide and exhaustive literature already covers several aspects of chemical or biological control of insects and mites, but there is still a need for a more holistic vision of management, accounting for different problems and solutions, as they are applied or developed, in different regions and cropping systems, worldwide. In this series we attempted to fill this gap, providing an informative coverage for a broad range of agricultural systems and situations.

Coconut is one of the oldest crops grown in India and presently covers 1.5 million hectares in this country. Found across much of the tropic and subtropical area, the coconut is known for its great versatility as seen in the many domestic, commercial, and industrial uses of its different parts. Coconuts are part of the daily diet of many people. Its endosperm is initially in its nuclear phase suspended within the coconut water. As development continues, cellular layers of endosperm deposit along the walls of the coconut, becoming the edible coconut flesh. When dried, the coconut flesh is called copra. The oil and milk derived from it are commonly used in cooking and frying; coconut oil is also widely used in soaps and cosmetics. The clear liquid coconut water within is a refreshing drink and can be processed to create alcohol. The husks and leaves can be used as material to make a variety of products for furnishing and decorating. It also has cultural and religious significance in many societies that use it. India stands third in the production of coconut in the world. There are only two distinguishable
varieties of coconut; the tall and the dwarf. As a result of cross pollination in the tails, a wide range of variations occur within the same variety. Coconut based cropping/farming systems promote on farm diversity and strengthens ecological base of coconut farming. Coconut husk is the raw material for the coir industry. It is also used as a domestic fuel and as a fuel in copra kilns. Coconut oil comes under edible/industrial group, is used as cooking oil, hair oil, massage oil and industrial oil. It is dominated by saturated fats and high percentage of lauric acid. India accounts for the 18% of total coconut production in the world and it is the third largest coconut producing country in the world. Coconut processing adds value, and a number of products like coconut oil, desiccated coconut, coir fibre, pith, mattresses, desiccated coconut (DC), coconut cream, coconut milk, spray dried coconut milk powder, coconut shell products, shell charcoal, shell powder, virgin coconut oil are obtained. The demand for coconut oil increases 15 to 20 % during the festival season. Coconut oil for edible purposes is now being claimed to be the second best edible oil in the world, after Olive oil. Coconut shell charcoal is most widely used as domestic and industrial fuel. Some of the fundamentals of the book are product diversification in coconut, future of coconut oil, scope for product diversification, varieties of coconut, farming systems in coconut, organic farming of coconut, spices and herbs, establishment and maintenance of organic coconut plantations, production of organic spices, medicinal and aromatic plants along with coconut, crop improvement, green manuring in coconut garden organic recycling in coconut, soil moisture conservation in coconut garden, harvest and post harvest technology, integrated farming in coconut holdings for productivity improvement, machinery and processing of desiccated coconut, coconut processing sector in India, etc. Coconut plays an important role in the economic, social and cultural activities of millions of people in our country. India is a major producer of coconut in the world. Coconut provides food, edible oil, industrial oil and health drink to humanity. All parts of coconut tree is useful in one way or other and the crop profoundly influences the socio economic security of millions of farm families. The present book contains the methods of cultivation and processing of coconut. This book is very beneficial for agriculturist, researchers, professionals, entrepreneurs, agriculture universities etc.

Pests of the Coconut Palm

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