BOOK REVIEW

Sugarcane Pathology, Volume II : Virus and Phytoplasma Diseases.

Eds : G.P. Rao, R.E. Ford, M. Tosić and D.S. Teakle,
Science Publishers, Inc., Enfield, New Hampshire,
USA 2001, 377 pp, ISBN 1-57808-128-9.

Sugarcane is an important cash crop in many tropical and subtropical countries. This crop can be affected by numerous diseases that induce significant yield losses. Many advances have been made in sugarcane pathology during the last decade. Updated information became available regarding known diseases, new diseases were described and identified, and thanks to progress in molecular biology, new diagnostic techniques were developed. Only a few books have been published on sugarcane pathology and the last comprehensive one was published in 1989. This new book, which is the second in a trilogy, is devoted to virus and phytoplasma diseases. According to the editors, the objective of this volume was not to give a comprehensive account of all the virus and phytoplasma disease problems, but rather a comparative idea of current researches being carried out in this field world-wide.

The book begins with an interesting foreword by Jack Comstock, well known sugarcane pathologist from the USA, who describes the content of the book and gives his impressions about recent progress made in sugarcane virology and phytoplasmaology. The volume is then structured into eight sections of unequal importance.

Section I ("Disease") is devoted to updated reviews of virus diseases and especially to sugarcane yellow leaf syndrome that is the most studied disease of sugarcane during the last years. One chapter gives an overview of new and virus-like diseases of sugarcane and one describes a new strain of the Sugarcane streak mosaic virus causing mosaic symptoms.

Section II ("Taxonomy") comprises three chapters on the taxonomy of Potyviruses and the phytoplasmas

causing white leaf and grassy shoot diseases. Although these pathogens have been known for several years, sequencing data recently obtained allowed new insights into their classification.

Section III ("Diagnosis") is the largest section of the book with four chapters on diagnosis of viruses and phytoplasmas. The first two chapters deal with molecular characterization and diagnosis whereas the two other ones deal with serological detection and diagnosis.

Section IV ("Characterization") assembles various information on the serological relationships among sugarcane mosaic viruses and recent molecular characterization of the phytoplasmas causing white leaf and grassy shoot diseases.

The last four sections contain only one chapter each: improvement of the purification of the Sugarcane mosaic virus (Section V), an overview of the transmission of virus and phytoplasma diseases by insect vectors (Section VI), host pathogen interactions between sugarcane and the causal agent of grassy shoot (Section VII) and genetic engineering for virus-resistance in sugarcane (Section VIII). The volume finishes with a subject index and a biography of the four editors.

Overall, this book gives important information regarding present knowledge and research on virus and phytoplasma diseases. It is a good combination of excellent reviews and research papers, from the diagnosis and characterization of known pathogens and new diseases to modern control of sugarcane diseases through genetic engineering. This volume will be of particular interest to advanced students and scientists with special interests in sugarcane pathology. However, it also contains information that might be useful to other plant pathologists.

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