



# Viroids: Properties, Detection, Diseases and their Control

*Ahmed Hadidi, Ricardo Flores, John Randles, Joseph Semancik*

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This comprehensive volume presents indispensable and up-to-date information on viroids and viroid diseases. It provides a single source of information on the properties of viroids, the economic impact of viroid diseases, and methods for their detection and control. It examines the diseases associated with different plant species, the geographic distribution and epidemiology of viroids, diseases of possible viroid etiology, and the future applications of viroids.

Viroids examines the biology of viroids, molecular characteristics, localization and movement, replication, pathogenesis, viroids and gene silencing, classification, viroid-like satellite RNAs, detection of viroids using bioamplification hosts, biological indexing, polyacrylamide gel electrophoresis, molecular hybridisation and polymerase chain reaction. The book looks at the geographical distribution and epidemiology of viroids in North America, Australasia, China, Japan, Europe, the Middle East, Africa, South America, and at the global level. It covers the control of viroids including quarantine of imported germplasm, availability of viroid-tested propagation materials, thermotherapy, tissue culture, and other conventional strategies as well as biotechnological control approaches. Special topics such as ribozyme reaction of viroids and economic advantages of viroid infection are also included. Other chapters summarise the current state of knowledge concerning viroid diseases of the crop in question and aspects of the natural history of viroids in horticulture. Among the crops covered are potato, tomato, tobacco, cucumber, pome fruits, stone fruits, avocado, citrus, grapevines, hop, chrysanthemum, coleus, columnea, and coconut palm.

The four eminent editors of this watershed volume have assembled an international group of more than 70 scientists who have substantial experience with viroids and viroid diseases. They have produced a cohesive and comprehensive work that can be used by students, researchers, extension agents, and regulators. It may also be of a great value to science managers, policy makers, and industries in formulating policies and products to obtain viroid-free plants and control viroid diseases. The information on plant quarantine and certification programs will help anyone concerned with the safe movement of plant material across international boundaries or within a single country.

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