

## BOOK REVIEW

Schumann G.L., D'Arcy C.J. 2012. **Hungry Planet – Stories of Plant Diseases**. APS Press – The American Phytopathological Society, St. Paul, Minnesota USA, 294 pp. ISBN 978-0-89054-399-3

The “Preface” (p. VII–VIII) points out that plant diseases have changed human history and culture, yet few people know the details pertaining to this subject. This topic is well presented in many chapters of this book in a manner which is engaging for both phytopathologists and the common reader.

Chapter 1 “The Irish potato famine: the birth of plant pathology” (p. 1–19) opens this book. The history of European potato cultivation introduced from South America, and the history of the potato blight caused by the fungus *Phytophthora infestans* are described. Pioneer phytopathologist Anton DeBary's research and work contributions are well pointed out.

Chapter 2 “The most important plant pathogens: Fungi and Oomycetes” (p. 21–37) is an excellently written description. Concise information on the taxonomy, development, and importance of the Fungi and Oomycete taxonomy groups in nature, to humans and in economic and industrial activities is included.

Chapter 3 “Coffee and rubber: monocultures and quarantines” (p. 39–54) contains a well-presented history of coffee rust (*Hemileia vastatrix*). The present world occurrence of coffee rust due to the increase in the cultivated areas in various parts of the world is described. Aspects of bioterrorism, and the need for observing quarantine law are pointed out and discussed.

Chapter 4 “Grow a healthy plant: soil, water, and air” (p. 55–73) provides basic information on some important elements for plant growth. Also described are deficiency symptoms in plants.

Chapter 5 “Single-celled pathogens: bacteria” (p. 75–93) covers various basic and practical topics including preventing and lowering economic losses due to such important diseases or pathogens as citrus canker, fastidious bacteria, and crown gall (*Agrobacterium tumefaciens*).

Chapter 6 “People improving plant genes and genetic engineering” (p. 95–114) provides very clear, practical information on genetic engineering. Engrossing information on the use of crown gall *Agrobacterium tumefaciens* in genetic engineering and in plant pathology is also offered.

Chapter 7 “Roles people play: epidemics and their management” (p. 115–134) covers such topics as (a) plant diseases in traditional agriculture: fact versus myth; (b) ecological agriculture: striking a balance; (c) eradication: reducing pathogen populations; and (d) the 1970's Southern corn leaf blight epidemic: an important field crop epidemic of the 20th century.

Chapter 8 “Chemicals to protect plants: pesticides” (p. 13–157) contains quite a bit of detail on various topics including: (a) costs, risks, and history of pesticide use, (b) pesticides in organic farming, (c) monitoring of pesticide residues in food, (d) integrated pest management using economics, and using biological information.

Chapter 9 “The world belowground: soil borne pathogens” (p. 159–175) provides an excellent review on (a) soil microbes and plant pathogens; (b) biological control and microbial protection; (c) nematodes; (d) the fate of pesticides in soils and (e) other topics.

Chapter 10 “Natural poisons and gourmet delicacies: fungi in food” (p. 177–194) extensively describes fungi food and gourmet delicacies in a fascinating way.

Chapter 11 “Ancient and present-day foes: the rusts” (p. 195–212) describes in detail the following topics: (a) managing cereal rust epidemics and protecting the foods which are considered the staffs of life; (b) effects of barberry eradication – success or failure?

Chapter 12 “Diseases of the largest plants: trees” (p. 213–231) provides interesting information on diseases of forest and city park trees e.g. such as *Ulmus americanus* and *U. procera* spp. caused by *Ophiostoma ulmi* and *Ophiostoma novo-ulmi*.

Chapter 13 “The smallest pathogens, viruses, and viroids” (p. 233–248) contains concise details on structure, replication, transmission, detection, prevention, and propagation of virus-free plants.

Chapter 14 “Food for a hungry planet” (p. 249–266) points out such valuable topics as: (a) “arable land: less and less every year” (p. 250–252), and (b) international agricultural research centers (p. 261–263).

A large, excellent “Glossary” (p. 267–280) at the end, is of particular value.

All aspects of this book are of great value for research workers as well as university teachers and students. The book can also be generally used as a source of interesting and useful information.

Jerzy J. Lipa  
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