

Book Review

Stevenson W.R., Loria R., Franc G.D., Weingartner D.P. (eds.). 2001. *Compendium of Potato Diseases*. 2nd edition. APS Press, The American Phytopathological Society, St. Paul, Minnesota, USA, ISBN 0-89054-275-9.

This is a second edition of the very valuable book concerning potato diseases first published in 1981. Since then, the knowledge of key potato pathogens has greatly expanded and new ones have been discovered. Many pathogens gained international importance and have been included into quarantine lists by many countries. A great progress has also been made in preventive or control tools. For the above reasons this book will be useful to all working with the potato crop nationally and internationally.

The book contains four parts: (1) introductory; (2) dealing with infectious diseases; (3) color plates – with 194 color photos illustrating symptoms of diseases, pathogens and growth disturbances; (4) dealing with non-infectious diseases.

Part “Introduction” (p. 1–8) provides information on origin, history and importance of potato. Recent evidence indicates that the potato was domesticated 10,000 years ago near Lake Titicaca.

Part I “Diseases in the presence of infectious pathogens” (p. 9–74) covers six categories of infectious diseases. Chapter “Diseases caused by bacteria” covers: *Clavibacter michiganensis* ssp. *sepedonicus*, *Erwinia* spp., *Ralstonia solanacearum*, *Clostridium* spp., *Streptomyces* spp. A pink eye disease with unknown causative agent is also described that has become important in recent years. Chapter “Diseases caused by fungi” covers: *Colletotrichum coccodes* (= *C. atramentarium*), *Alternaria solani*, *Mycovellosiella concors* (= *Cercospora concors*), *Macrophomina phaeolina*, *Sclerotium bataticola*, *Choanephora cucurbitarum*, *Puccinia pittieriana*, *Aecidium cantensis*, *Alternaria solani*, *Fusarium* spp., *Phoma* spp., *Botrytis cinerea*, *Phytophthora infestans*, *P. erythroseptica*, *Pythium ultimum*, *Pleospora herbarum*, *Erysiphe cichoracearum*, *Spongospora subterranea*, *Rhizoctonia solani*, *Rosellinia* sp., *Septoria lycopersici*, *Helminthosporium solani*, *Polyscytalum pustulans*, *Sclerotium rolfsii*, *Angiosorus solani*, *Ulocladium atrum*, *Verticillium dahliae*, *Synchytrium endobioticum*, *Sclerotinia sclerotiorum*. Chapter “Diseases caused by plant-parasitic nematodes” covers: *Globodera rostochiensis*, *G. pallida*, *Ditylenchus destructor*, *Meloidogyne chitwoodi*, *M. incognita*, *M. hapla*, *Pratylenchus* spp. (nine species), *Belonolaimus longicaudatus*, *Paratrichodorus* spp. Chapter “Diseases caused by phytoplasmas” covers only two diseases: aster yellows diseases and witches'-broom, both transmitted by leafhoppers. Chapter “Diseases caused by viruses and viroids” covers: alfalfa mosaic virus, potato leafroll virus, potato mop-top virus, potato spindle tuber viroid, potato viruses A, M, S, T, X, Y, tobacco rattle virus and tomato spotted wilt virus. Of special value and interest in this chapter is a voluminous three page table listing all known viruses and viroids infecting potatoes with information on following features: particle size, distribution, means of transmission, host range, virus reservoir with comments and references.

Part II “Diseases in the absence of infectious pathogens” (p. 75–96) covers six categories of diseases. Chapter “Nutrient imbalance” describes disturbances in growth and tuber deformations due to deficiency of nitrogen, phosphorus, potassium, calcium, magnesium, sulfur, boron, zinc, copper, manganese, molybdenum, nickel, aluminum and chlorine. Chapter “Physiological disorders and injuries affecting potato plants” describes injuries due air pollution, hail and lightning injuries, high-temperature and low temperature injury to stem and foliage, and wind injury. Chapter “Physiological disorders of tubers” covers separately external symptoms and internal symptoms and deal with tuber cracking, greening malformation, internal spots and vascular necrosis. Chapter “Chemical injury” describes symptoms of herbicide injury to potatoes as a non-target crop occurring in tubers, canopy and leaves. Several tables provide information on side-effects of herbicides. The last chapter “Tuber mechanical damage” describes four types of injury occurring in tubers: skinning, shatter bruise, blackspot bruise and pressure bruise.

“Glossary” (p. 97–101) and “Index” (p. 103–106) make easy to find needed information on each disease and pathogen infecting potato covered in this very comprehensive compendium of potato disease. It may be stressed that many of the pathogens or diseases included into compendium are not yet recorded or recognized in Europe but surely with time they invade the European continent and potato specialists should be aware of such threat.

Jerzy J. Lipa
Institute of Plant Protection, Poznań