

Shade Tree Wilt Diseases

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This book covers major wilt diseases of trees grown in forests and used as shade trees planted in gardens, parks and along streets. Such trees present high value from public or garden owner's point of view as well as

from an ecological point of view. The book is a comprehensive reference for plant pathologists, arborists, and other professionals who work with shade trees.

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ISBN 0-89054-277-5  
Hardcover, 257 pages, \$45.00

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Ash Cynthia L. (ed.). 2001. Shade Tree Wilt Diseases. APS Press – The American Phytopathological Society, St. Paul, Minnesota 257 pp. ISBN 0-89054-277-5.

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biodiversity reasons. The best known category of such case is Dutch elm disease responsible for wiping out million trees of elms (*Ulmus* spp.) in Europe and North America.

The book consists 25 chapters focused on the practical implications of research findings for the control and management of wilt diseases of *Ulmus*, *Quercus*, *Pinus*, *Tilia* and *Platanus*.

Chapter 1 "Anatomy and physiology of vascular tissues of woody plants" provides information on anatomy and physiology pertinent to understanding of infection process, symptoms and control of vascular wilt pathogens.

Chapters 2–6 deal with Dutch elm disease caused by two species *Ophiostoma ulmi* (Buisman) Nannf. and *O. novo-ulmi* Brasier. The interested reader will find information on past, present and future of disease management using fungicides successful program in Minneapolis.

Chapters 7–14 deal with Oak wilt caused by *Ceratocystis fagacearum* (T. W. Bretz) J. Hunt, first discovered in 1941 in Wisconsin (USA) attacking several *Quercus* species, and being transmitted by bark beetles (*Pseudopityophthorus*, *Carpophilus*, *Colopterus*) as well as through root contacts. Biology and ecology as well as current practices and suppression methods for managing oak wilt diseases were discussed.

Chapters 15 and 16 deal with *Verticillium* wilt of shade and ornamental trees and shrubs caused by *Verticillium dahliae* Kleb. and *V. albo-atrum* R. & B.

Chapter 17 covers wilt diseases of mimosa (*Albizia julibrissin*) and tree of heaven (*Ailanthus altissima*) caused by *Fusarium oxysporum* f.sp. *perniciosum* (Hepting) Toole, providing information on symptoms and control.

Chapter 18 provides voluminous information on group of lesser known wilt diseases caused by *Dothiorella ulmi* Verral & May among *Ulmus americana*, by *Ophiostoma* and *Ceratocystis* species among *Pinus*, *Tsuga*, *Acer*, and *Liriodendron*. Also oak decline caused by *Phytophthora cinnamomi* is characterized in that chapter.

Chapters 19 and 20 deal with *Xylella fastidiosa* Wells et al., an interesting bacterial pathogen of *Quercus*, *Cornus* and many other shade trees, transmitted by insect vectors belonging to spittle-bugs (*Cicadellidae*).

Chapter 21 describes dieback of plantation sycamores (*Platanus occidentalis*) in southeastern USA caused by *Xylella fastidiosa* and *Botryosphaeria rhodina*.

Chapter 22 deals with watermark disease of *Salix* spp. in Japan but the diseases was also recorded in the USA, England, Netherlands and Belgium. The causative agent is *Erwinia salicis* belonging to *E. amylovora* group.

Chapter 23 describes phytoplasma – incited diseases: ash yellows in *Fraxinus americana* and elm yellows in American elms – *Ulmus americana* and others.

Chapter 24 broadly deals with pine wilt diseases caused by nematode *Bursaphelenchus xylophilus*. This is a very comprehensive review of nematode biology, insect vectors, diseases cycle and prevention methods. This nematode is considered as a very serious threat to forest ecosystems around the globe.

Chapter 25 provides guidelines for quick root collar examination of trees using linden (*Tilia cordata*) as a model and being supported by instructive photographs.

Of special interest is chapter 26 titled "Communicating your concerns to citizens: A quick guide to the use of effective tools for spreading the word on tree diseases". It is well understood by city councils that active participation of city inhabitants and home garden owners is necessary to achieve full success in preventive or control actions against diseases of trees in urban areas.

This book will be of great value to all scientists and administrators concerned with tree health in forests, parks and urban areas.

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