

## BOOK REVIEW

**Van der Zwet T., Orolaza-Halbrendt N., Zeller W. 2011. Fire Blight: History, Biology, and Management. APS Press – The American Phytopathological Society, St. Paul MN, USA  
421 pp. ISBN 978 0 89054 394 58**

Three world-renowned phytopathologists provide comprehensive scientific coverage of this first known plant disease caused by a bacterium fire blight which is present in 47 countries and affects many common host plants in the *Rosaceae* family worldwide. Although enormous progress has been made against the disease it still remains a devastating and difficult problem to control in certain locations under optimum weather conditions and horticultural scientists must remain diligent. It is expected the disease may eventually spread around the globe to all countries growing susceptible host plants and the knowledge presented in this book will be an important first line of defense.

This nearly 500-page book includes a history of the disease plus detailed information about the biology and epidemiology of *Erwinia amylovora* and host-pathogen interactions, as well as horticultural, chemical and biological control management strategies. It includes important coverage of the discovery of pathogenicity and virulence genes, induced resistance, and the variability, and diversity of the bacterial pathogen. These research advances offer promise for controlling the disease where the traditional studies, and epidemiology and conventional chemical or biological control have been unsuccessful. An addendum chapter compiling most of the literature covering phytopathological and molecular techniques for quick and easy reference is included.

This book will be especially useful to scientists beginning work on this disease and essential whenever scientists and the growers are fighting its devastating effects on the economically important crops of pear, apple and other members of *Rosaceae* family

Part I "History" (p. 3–41) contains three chapters: Chapter 1 "Early theories and discoveries regarding fire blight" (p. 3–14). Chapter 2 "Spread and current distribution of fire blight" (p. 15–36). Chapter 3 "Losses due to Fire blight and economic importance of the disease" (p. 37–41).

Part II "Biology" (p. 15–41) contains eight chapters: Chapter 4 "Symptomatology of the fire blight and host

range of *Erwinia amylovora*" (p. 45–64). Chapter 5 "Taxonomy, detection and identification of *Erwinia amylovora*" (p. 65–81). Chapter 6 "Growth and physiology of *Erwinia amylovora*" (p. 83–108). Chapter 7 "Genetic diversity of *Erwinia amylovora*" (p. 109–122). Chapter 8 "Physiology and biochemistry of fire blight infection" (p. 123–135). Chapter 9 "Pathogenicity and virulence factors of *Erwinia amylovora*" (p. 137–154), Chapter 10 "The disease cycle of fire blight" (p. 155–182). Chapter 11 "Effect of host conditions, cultural practices, and environment on disease development" (p. 183–193).

Part III "Management" (p. 195–365) contains nine chapters: Chapter 12 "Breeding for resistance to fire blight" (p. 197–226). Chapter 13 "Utilizing host resistance to fire blight" (p. 227–247). Chapter 14 "Chemical and cultural approaches to enhancing host resistant to fire blight" (p. 249–263). Chapter 15 "Exclusion of fire blight by sanitation, eradication, and quarantine" (p. 265–275). Chapter 16 "Reducing inoculum levels in previously infected orchards" (p. 277–285). Chapter 17 "Fire blight risk assessment systems and prediction models" (p. 287–303). Chapter 18 "Chemical agents that interfere with fire blight infection" (p. 305–332). Chapter 19 "Biological control of fire blight" (p. 333–353). Chapter 20 "Integrated management strategies for fire blight control" (p. 355–365).

This book contains also very useful three appendixes: Appendix 1 – "Phytopathological and molecular biology techniques" (p. 367–386). Appendix 2 – "Theses and dissertations on fire blight" (p. 387–394). Appendix 2 – "Theses and dissertations on fire blight" performed in: Algeria, Austria, Belgium, Canada, Chile, Czech Republic, Denmark, Egypt, France, Germany, Greece, Italy, Mexico, the Netherlands, Poland, Romania, Serbia, South Africa, Spain, Turkey, Ukraine, United Kingdom (p. 387–394), United States (p. 391–394), Appendix 3 – "Books, chapters, reviews, bulletins and feature articles on fire blight" (p. 395–396). Appendix 4 – "American and international workshops on fire blight: (Books, chapters, reviews, bulletins, and feature articles on fire blight 1970–2007)" (p. 395–396). Appendix 4 "American and international workshops on fire blight (1969–2004)".

Good "Index" (399–421) greatly facilitates finding tremendous volume of information on taxonomic, biological and economic features of *Erwinia amylovora*.

I strongly recommend this book to attention of plant pathologists and to each agricultural and natural science libraries as well.

Jerzy J. Lipa  
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