

## Achieving sustainable cultivation of bananas

Volume 3: Diseases and pests

Edited by Professor André Drenth, The University of Queensland, Australia

Professor Gert H. J. Kema, Wageningen University, The Netherlands



**burleigh dodds**  
SCIENCE PUBLISHING

### Publication date

12 Mar 2024

### Price

£170 / \$220 / C\$290 / €205 / A\$305

### ISBN

Hardback: 978-1-78676-981-7

ePub: 978-1-78676-983-1

PDF: 978-1-78676-984-8

Mobi: 978-1-78676-982-4

### Format

152 × 229 mm / 6 × 9 in, 600 pages

### Illustrations

Color tables, photos and figures

### Series

Burleigh Dodds Series in Agricultural Science: no. 123

### BIC/THEMA classification

TVS - Horticulture, TVF - Sustainable agriculture, TVQ - Tropical agriculture - practice & techniques, TVB - Agricultural science, TVK - Agronomy & crop production

### Distributors

**INGRAM** Publisher Services UK

Print books (exc. US and Canada)



eBooks (worldwide)

Updated 07/02/24

## New title information

# Achieving sustainable cultivation of bananas Volume 3

## Diseases and pests

Edited by: Professor André Drenth, University of Queensland, Australia and Professor Gert H. J. Kema, Wageningen University, The Netherlands

### Endorsement:

"The current range of disease and pest threats means that Volume 3 of *Achieving sustainable cultivation of bananas* covering a wide array of pathogens and pests is urgently needed. The two editors of this volume, Professor André Drenth of The University of Queensland in Australia and Professor Gert Kema of Wageningen University in The Netherlands, are highly knowledgeable specialists with extensive experience in pest and disease management of bananas. They have selected similarly knowledgeable scientists writing the individual chapters. The book is comprehensive and of excellent quality. It will be useful for both students and researchers, as well as banana production practitioners." (Dr Ariena van Bruggen - Emeritus Professor of Plant Pathology and Emerging Pathogens, University of Florida in Gainesville, Florida, USA)

### Description:

**Bananas are a key food source for millions, whilst their production supports the livelihood of farmers across the globe.** However, recent research has identified the vulnerability of particular banana varieties to major pests and diseases. With the banana industry under threat of extinction, more research is required into understanding the biology of the pests and diseases that pose this threat so that more effective management strategies can be developed and the risk of future outbreaks reduced.

*Achieving sustainable cultivation of bananas Volume 3: Diseases and pests* provides a comprehensive review of the major pests and diseases affecting global banana production including Tropical Race 4, black Sigatoka and banana streak virus. The book explores existing methods for pest/disease diagnosis and identification, current management strategies used to control and/or prevent outbreaks, as well as the development of disease-resistant cultivars and integrated pest and disease management programmes.

### Key features:

- Provides a comprehensive analysis of the major pests and diseases affecting global banana production, including their impact and occurrence, as well as the modes of disease transmission and distribution
- Addresses the economic impact of individual pests and diseases on farm profit margins and provides examples of the quantified impacts of losses per ha and whole farm/plantation
- Reviews current management strategies available to banana growers and producers to control and/or prevent future outbreaks of pests and disease

### Audience:

University and other researchers in tropical fruit science; government and other private sector agencies supporting sustainable banana cultivation; as well as commercial banana growers, producers and retailers

### Editors' details:

**Dr André Drenth** is Professor in Tropical Plant Pathology at the University of Queensland.  
**Dr Gert H. J. Kema** is Professor of Phytopathology and chair at the Laboratory for Phytopathology of Wageningen University, The Netherlands.

## Table of contents:

### Part 1 Fungal diseases

- 1.The Sigatoka leaf disease complex in banana: *Jean Carlier, CIRAD, France*;
- 2.Controlling black leaf streak disease (BLSD) in banana: the case of Costa Rica: *Gert Kema, Wageningen University, The Netherlands*;
- 3.Freckle disease of banana: *André Drenth, The University of Queensland, Australia*;
- 4.Impact, epidemiology and management of Fusarium wilt race 1 and 2 in banana: *Einar Martinez, Wageningen University, The Netherlands*;
- 5.The past, present and future of Fusarium wilt of banana caused by Tropical Race 4: *Gert Kema, Wageningen University, The Netherlands*;
- 6.Towards sustainable management of Fusarium wilt of banana: *André Drenth, The University of Queensland, Australia*;
- 7.Minor fungal diseases of banana: *Luis Ernesto Pocasangre, EARTH University, Costa Rica*;

### Part 2 Bacterial and phytoplasma diseases

- 8.Moko bacterial wilt of banana: *Mauricio Guzmán, Corbana, Costa Rica*;
- 9.Banana Blood disease: *Jane Ray, The University of Queensland, Australia*;
- 10.Xanthomonas wilt of banana: *Guy Blomme, The Alliance of Bioversity International and The International Center for Tropical Agriculture (CIAT), Ethiopia*; *Elizabeth Kearsley, BlueGreen Labs, Belgium*; and *Walter Ocimati, The Alliance of Bioversity International and The International Center for Tropical Agriculture (CIAT) Uganda*;
- 11.Bacterial soft rot of banana: *Luis Pérez-Vicente, INISAV, Cuba*;
- 12.Phytoplasma diseases of banana plants: *Lilia Carvalhais, The University of Queensland, Australia*;

### Part 3 Viral diseases

- 13.Banana bunchy top virus: *John Thomas, The University of Queensland, Australia*;
- 14.Banana streak disease: *Andrew Geering, The University of Queensland, Australia*;
- 15.Other viral pathogens of banana: *Andrew Geering, The University of Queensland, Australia*;

### Part 4 Nematode pests

- 16.Nematodes in banana: *Mieke Daneel, Agricultural Research Council (ARC), South Africa*;
- 17.Towards sustainable management of nematodes in banana: *Tony Pattison, DAF - Queensland, Australia*;

### Part 5 Insect pests

- 18.The banana weevil borer: *Cesar Guillen Sanchez, Corbana, Costa Rica*;
- 19.Banana Red Rust thrips: *Frans Wielemaker Sanderse, Consultant (formerly Director of Research at Dole Fresh Fruit International), Costa Rica*;
- 20.Managing banana bunch pests: towards more ecological approaches: *Luud Clercx, Project Manager – AgroFair Benelux BV, The Netherlands*;

### Part 6 Fruit diseases

- 21.Management of diseases on banana fruit in the field: *Marc Jackson, Global Fruit Protection, Australia*;
- 22.Postharvest diseases of bananas and their sustainable management: *Maria Gloria Lobo, Instituto Canario de Investigaciones Agrarias, Spain*;

## Related products:

Achieving sustainable cultivation of bananas Volume 1, 978-1-78676-156-9, 05 Oct 2018, AUD 305.00, CAD 289.00, EUR 205.00, GBP 170.00, and USD 220.00

Achieving sustainable cultivation of bananas Volume 2, 978-1-78676-344-0, 24 Nov 2020, AUD 305.00, CAD 290.00, EUR 205.00, GBP 170.00, and USD 220.00

Achieving sustainable cultivation of mangoes, 978-1-78676-132-3, 09 Feb 2018, AUD 325.00, CAD 305.00, EUR 215.00, GBP 180.00, and USD 235.00

Achieving sustainable cultivation of tropical fruits, 978-1-78676-284-9, 10 Dec 2019, AUD 340.00, CAD 325.00, EUR 230.00, GBP 190.00, and USD 245.00