

## Achieving sustainable cultivation of potatoes

Volume 2: Production and storage, crop protection and sustainability

Edited by Dr Stuart Wale, Potato Dynamics Ltd, UK



 burleigh dodds  
SCIENCE PUBLISHING

### Publication date

18 Jul 2018

### Price

£170 / \$220 / €205 / A\$305

### ISBN

Hardback: 978-1-78676-128-6

PDF: 978-1-78676-131-6

ePub: 978-1-78676-130-9

Mobi: 978-1-78676-129-3

### Format

152 × 229 mm / 6 × 9 in, 360 pages

### Illustrations

Color tables, photos and figures

### Series

Burleigh Dodds Series in Agricultural Science: no. 33

### BIC/THEMA classification

TVK - Agronomy & crop production,  
PSTP - Plant pathology & diseases, TVF -  
Sustainable agriculture, TVG - Organic  
farming, TVKF - Fertilizers & manures,  
TVP - Pest control



Print (exc. US and Canada) and e-books  
(worldwide) distributed by NBN  
International.

Updated 22/05/18

## New title information

# Achieving sustainable cultivation of potatoes Volume 2

## Production, storage and crop protection

Edited by: Dr Stuart Wale, Potato Dynamics Ltd, UK

### Endorsement:

"Sustainable potato cultivation means simultaneously addressing and resolving a complex set of varied and interlinked context-specific constraints. These books promise to rise to the occasion with a talented cast of authors who span the disciplinary spectrum from genetics, pests and diseases, cropping systems all the way through to nutrition and consumer perspectives."

*Graham Thiele, Director - CGIAR Research Program on Roots Tubers and Bananas, led by the International Potato Center (CIP), Lima, Peru*

### Description:

Potatoes are one of the world's key food crops. Their nutritional value, and the fact that they can be grown with relatively few inputs in a wide range of environments, makes them an important food security crop. However, yields in developing countries are held back by factors such as poor cultivation practices and the impact of pests and diseases, whilst more intensive systems need to become more 'climate smart' both to minimise their environmental impact and adapt to climate change.

This volume looks at key research on improving cultivation techniques at each stage in the value chain for potato production. Chapters in Part 1 range from modelling yields to nutrient and irrigation management as well as post-harvest storage. Part 2 reviews advances in understanding and managing fungal, bacterial and viral diseases as well as the management of insect pests and weeds. The final part of the book discusses ways of monitoring and reducing the environmental impact of potato cultivation.

With its distinguished editor and international team of expert authors, this will be a standard reference for potato scientists, growers, government and non-government agencies supporting potato cultivation. Volume 1 looks at breeding and aspects of quality.

### Key features:

- Comprehensive coverage of improvements in cultivation techniques across the potato value chain, from yield modelling to post-harvest storage
- Detailed review of the main fungal, bacterial and viral diseases affecting potatoes
- Assesses the environmental impact of potato cultivation

### Audience:

Audience: academic researchers in potato science; potato growers; government and non-governmental agencies supporting potato cultivation

### Editor details:

Dr Stuart Wale is a potato agronomist and researcher for SAC Consulting within SRUC (Scotland's Rural College). He was formerly Head of Crop Services at the Scottish Agricultural College (SAC - the forerunner of SRUC). He has published widely on potato diseases in particular, co-editing *Diseases, pests and disorders of potatoes: a colour handbook*, and is a former President of the British Society of Plant Pathology. Dr Wale also has his own consultancy: Potato Dynamics Ltd.

## Table of contents:

### Part 1 Potato production and storage

1. Modelling potato growth: *Ilkka Leinonen, Scotland's Rural College (SRUC), UK; and Hongyan Chen and James A. Taylor, Newcastle University, UK*
2. Achieving sustainable potato cultivation: an overview: *Vijay Kumar Dua, Sanjay Rawal, Sukhwinder Singh and Jagdev Sharma Central Potato Research Institute (CPRI), India*
3. Improving nutrient management in potato cultivation: *Philip J. White, The James Hutton Institute, UK*
4. Advances in irrigation management and technology in potato cultivation: experiences from a humid climate: *Jerry Knox and Tim Hess, Cranfield University, UK*
5. Organic potato cultivation: *Thomas F. Döring, Humboldt-Universität zu Berlin and University of Bonn, Germany; and Derek H. Lynch, Dalhousie University, Canada;*
6. Post-harvest storage of potatoes: *Adrian Briddon, Adrian Cunnington and Glyn Harper, Sutton Bridge Crop Storage Research, UK*
7. Acrylamide formation in fried potato products and its mitigation: *Bruno De Meulenaer, Raquel Medeiros Vinci and Frédéric Mestdagh, Ghent University, Belgium*

### Part 2 Diseases and pests

8. Fungal diseases affecting potato storage: *A. The James Hutton Institute, UK*
9. Bacterial diseases affecting potatoes: *M. Jennifer Sjölund, Rachel Kelly, Gerry S. Saddler and David M. Kenyon, Science and Advice for Scottish Agriculture (SASA), UK*
10. Viruses affecting potatoes: *Colin Jeffries and Christophe Lacomme, Science and Advice for Scottish Agriculture (SASA), UK*
11. Non-infectious disorders affecting potatoes: *Andrew Robinson, North Dakota State University and University of Minnesota, USA*
12. Nematode pests of potatoes: *Jon Pickup and Kim Davie, Science and Advice for Scottish Agriculture (SASA), UK*
13. Potato insect pest management: the case of the Pacific Northwest (USA): *Stuart Reitz, Oregon State University, USA*

## Related products:

- Achieving sustainable cultivation of cassava Volume 1, 978-1-78676-000-5, 31 Jul 2017, USD 245.00, EUR 230.00, CAD 325.00, GBP 190.00, and AUD 340.00
- Achieving sustainable cultivation of cassava Volume 2, 978-1-78676-004-3, 31 Aug 2017, USD 180.00, EUR 170.00, CAD 240.00, GBP 140.00, and AUD 250.00
- Achieving sustainable cultivation of potatoes Volume 1, 978-1-78676-100-2, 23 Jul 2018, GBP 150.00, EUR 180.00, USD 195.00, CAD 255.00, and AUD 270.00
- Precision agriculture for sustainability, 978-1-78676-204-7, 24 Aug 2018, GBP 180.00, EUR 215.00, USD 235.00, CAD 305.00, and AUD 325.00