

Advances in integrated weed management

Edited by Professor Per Kudsk, Aarhus University, Denmark



bd burleigh dodds
SCIENCE PUBLISHING

Publication date

18 Jan 2022

Price

£150 / \$195 / C\$255 / €180 / A\$270

ISBN

Hardback: 978-1-78676-745-5

Mobi: 978-1-78676-746-2

ePub: 978-1-78676-747-9

PDF: 978-1-78676-748-6

Format

152 × 229 mm / 6 × 9 in, 400 pages

Illustrations

Color tables, photos and figures

Series

Burleigh Dodds Series in Agricultural
Science: no. 113

BIC/THEMA classification

TVP - Pest control, TVF - Sustainable
agriculture, TVK - Agronomy & crop
production

Distributors

INGRAM Publisher
Services UK

Print books (exc. US and Canada)



eBooks (worldwide)

Updated 06/12/21

New title information

Advances in integrated weed management

Edited by: Professor Per Kudsk, Aarhus University, Denmark

Endorsement:

“With the evolution and spread of herbicide-resistant weeds, as well as the spread of invasive weeds and new weed challenges with climate change, weed management is becoming increasingly problematic. This volume provides information and insight from a group of distinguished experts on new approaches to tackling these problems with integrated weed management. I look forward to its publication.” *Professor Stephen O. Duke, National Center for Natural Products Research, University of Mississippi, USA*

Description:

Weed management continues to face many challenges, including herbicide resistance, invasive species, climate change and how best to deploy the range of non-chemical control methods available. To tackle these challenges, integrated weed management (IWM) needs to evolve to embrace a more holistic, landscape-based agroecological approach.

Advances in integrated weed management provides an authoritative review of the latest developments in integrated weed management (IWM), including the change in approach to the complex ways weeds interact with their environment and with each other, as well as how some species may have the ability to contribute to ecosystem services such as soil health. This collection explores these developments and offers examples of how they are being applied in practice for particular crops.

Edited by **Professor Per Kudsk**, Aarhus University, Denmark, *Advances in integrated weed management* will be a standard reference for weed scientists, researchers in crop protection, agronomists, farmers, companies supplying/manufacturing pesticides, and government and private sector agencies supporting sustainable agriculture.

Key features:

- Summarises the current advances in IWM, such as the use of technology to allow for more informed decision making (e.g. decision support systems (DSS) and sensor technology)
- Discusses the challenges continually faced by the sector, including herbicide resistance, invasive species, climate change and how best to deploy the range of non-chemical control methods available
- Provides examples of the practical application of IWM and its optimisation in the field on different crops (cereals, vegetables, pasture, grasslands)

Audience:

Weed scientists, researchers in crop protections, agronomists, farmers, pesticide companies, government and private sector agencies supporting sustainable agriculture

Editor details:

Professor Per Kudsk is Head of the Crop Health Section in the Department of Agroecology at Aarhus University, Denmark. An internationally-known expert in integrated weed management, he is a former President of the European Weed Research Society. Professor Kudsk has played a leading role in EU research projects such as IWM PRAISE and the ENDURE Network as well as in the European Plant Protection Organisation (EPPO).

Table of contents:

Part 1 Weed ecology 1. Advances in understanding weed species functional diversity and ecological impacts: *Sandrine Petit, INRAE, France*

2. Advances in understanding weed community growth and dynamics: *Jonathan Storkey, Rothamsted Research, UK*

3. Advances in understanding weed seed bank ecology and control: *Bärbel Gerowitz, University of Rostock, Germany; and Barbara Baraibar, University of Lleida, Spain*

4. Advances in understanding allelopathic interactions between weeds and crops: *Çağla Görkem Eroğlu and Aurélie Gfeller, Agroscope, Plant Production Systems, Herbology in Field Crops, Switzerland; Anna Elizabeth Louw-Gaume, Agroscope, Corporate Strategy, Switzerland; and Judith Wirth, Agroscope, Plant Production Systems, Herbology in Field Crops, Switzerland*

5. Advances in understanding the ecology of invasive weed species: *Ahmet Uludag, Çanakkale Onsekiz Mart Üniversitesi, Turkey*

Part 2 Intelligent weed control technologies (IWCT)

6. Advances in modelling weed dynamics: *Nathalie Colbach, INRAE, France*

7. Developing decision support systems (DSS) for weed management: *Illias Travlos, Agricultural University of Athens, Greece*

8. Advances in sensor technology for weed scouting and mapping: *Cesar Fernandez-Quintanilla, CSIC, Spain*

9. Advances in precision application technologies for weed management: *Ran Lati, Newe Ya'ar Research Center, Agricultural Research Organization, Israel*

10. Advances in mechanical weed control technologies: *Bo Melander and Margaret R. McCollough, Aarhus University, Denmark*

Part 3 Case studies

11. Understanding farmer's attitudes to weed management and barriers to adopting integrated weed management (IWM): *Marleen Riemens, Wageningen University, The Netherlands*

12. Optimising integrated weed management in narrow-row crop cultivation: *Ludovic Bonin, ARVALIS, France*

13. Optimising integrated weed management in pasture/rangelands: *Urs Schaffner, CABI, Switzerland*

14. Optimising integrated weed management in tree crop cultivation: *Jose Gonzalez-Andujar, CSIC, Spain*

15. The economics of integrated weed management (IWM): *Pieter de Wolf, Wageningen University, The Netherlands*

Related products:

Advances in measuring soil health, 978-1-78676-426-3, 22 Jun 2021, GBP 180.00, EUR 215.00, USD 235.00, CAD 305.00, and AUD 325.00

Improving soil health, 978-1-78676-670-0, 26 Apr 2022, GBP 150.00, EUR 180.00, USD 195.00, CAD 255.00, and AUD 270.00

Integrated weed management for sustainable agriculture, 978-1-78676-164-4, 14 Dec 2017, GBP 190.00, EUR 230.00, USD 245.00, CAD 325.00, and AUD 340.00

Managing soil health for sustainable agriculture Volume 1, 978-1-78676-188-0, 06 Aug 2018, GBP 160.00, EUR 190.00, USD 210.00, CAD 270.00, and AUD 290.00

Managing soil health for sustainable agriculture Volume 2, 978-1-78676-192-7, 06 Aug 2018, GBP 180.00, EUR 215.00, USD 235.00, CAD 305.00, and AUD 325.00