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### About the book

This book reviews key methods for measuring the environmental impact of agriculture. Part 1 reviews life cycle assessment (LCA) methodology. Part 2 reviews ways of modelling particular types of impact whilst the final part covers particular agricultural sectors.

### About the editor

With over 25 years of experience in life cycle assessment (LCA) research, **Dr Bo P. Weidema** is a Professor at Aalborg University in Denmark, President of the International Life Cycle Academy, founder of 2.-0 LCA consultants and former Chief Scientist for the Ecoinvent database.

### Assessing the environmental impact of agriculture

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# Assessing the environmental impact of agriculture

Edited by: Professor Bo P. Weidema, Aalborg University, Denmark

## Part 1 Life cycle assessment

1. Life cycle assessment methodology for agriculture: some considerations for best practices: *Seyyed Hassan Pishgar-Komleh, Institute of Soil Science and Plant Cultivation, Poland and Czech University of Life Sciences Prague, Czech Republic; Paria Sefeedpari, Institute of Soil Science and Plant Cultivation, Poland; Nathan Pelletier, University of British Columbia, Canada; and Miguel Brandão, KTH Royal Institute of Technology, Sweden*
2. Key challenges in modelling of agricultural activities and their environmental impacts: *Evelyne A. Groen, Wageningen University, The Netherlands*
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4. Assessing the environmental impact of ruminant production systems: *Taro Takahashi, Rothamsted Research and University of Bristol, UK; Graham A. McAuliffe, Rothamsted Research, UK; and Michael R. F. Lee, Rothamsted Research and University of Bristol, UK*
5. Using life cycle assessment to compare intensive versus extensive agricultural systems: *Matthias Meier, Research Institute of Organic Agriculture (FiBL), Switzerland*

## Part 2 Modelling particular impacts

6. Modelling impacts of agriculture on freshwater: *Stephan Pfister, ETH Zurich, Switzerland; and Sandra Payen, CIRAD, France and AgResearch, New Zealand*

7. Modelling the environmental impacts of pesticides in agriculture: *Peter Fantke, Technical University of Denmark, Denmark*
8. Assessing socio-economic impacts of agriculture: *Bo P. Weidema, Aalborg University, Denmark*

## Part 3 Improvement options

9. Improvement options for agricultural crop production for food, feed and bioenergy: *Benoît Gabrielle, AgroParisTech and Université Paris-Saclay, France; and Pietro Goglio, Wageningen University, The Netherlands and Cranfield University, UK*
10. Improving the environmental performance of horticultural production: fruits and vegetables: *Cornelius Adewale and David Granatstein, Washington State University, USA*
11. Improving the environmental performance of pig and poultry production: *Ben Putman, Martin Christie and Greg Thoma, University of Arkansas, USA*
12. The environmental impact of valorising agricultural by-products: *Jerke de Vries and Rik Eweg, Van Hall Larenstein University of Applied Sciences, The Netherlands*