



Case studies and system case studies: approach and main results Introduction

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FOOD
QUALITY
AND
SAFETY



Integrated Pest Management in Europe

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- **Case studies**

- Comparative analysis of crop protection practices in different countries (specific crop/pest combinations)
 - o Description of practices in different countries/regions
 - o Reasons for differences between countries/regions
 - o Can “best practices” in one country/region be adopted by other countries/regions

• Case studies

- Output:
 - o Reports
 - o Guides for advisors and farmers (From Science to Field)
 - o Scientific papers
 - o Input for training activities
 - o Input to Endure Information Centre

From Science to Field
Wheat Case Study – Guide Number 1

Using Cultivar Resistance to Reduce Fungicide Input in Wheat

Lee Nöstrup Jørgensen, Aarhus University, Denmark
Bill Clark, Rothamsted Research, UK
Margo Jahn, JKI, Germany
Daniela Antikich, SSSJP, Italy



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From Science to Field
Maize Case Study – Guide Number 1

Non-chemical control of corn borers using *Trichogramma* or Bt maize

Michael Manula, Franz Bigler and Patrick Mouton, Agroscope ART, Switzerland
Franz Kabiri, Biologie, France
Xavier Pons, Universitat de Lleida, Spain



Photo © Catherine Escudé, Agroscope ART, Switzerland

From Science to Field
Grapevine Case Study – Guide Number 1

Reducing Herbicide Use With Cover Cropping And Tillage Dissemination and bottlenecks in different European grapevine-growing regions

Christian Garry and Marc Fermaud, INRA, France



© Yvan Bouillon, INRA, France

• Case studies

Crop	Pest
Wheat	Foliar diseases
Potato	Late blight
Tomato	White flies
Pomefruit	Scab, brown spot & codling moth
Integrated Weed Management	Row crops (maize)
Maize	All pests
Field vegetables	Biofumigation & landscape management
Banana	<i>Mycosphaerella</i> , black weevil & nematodes
Grapevine	Diseases, grape berry moth & weeds

• Case studies

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- **System case studies**

- Redesigning the cropping system and looking at longer term innovations to further reduce the dependence on pesticides
 - o Promote a system approach
 - o Identify science-based sources of innovation for implementing alternative crop protection strategies (e.g. DNA based monitoring methods, robotics, IT, resistance genes, semiochemicals, landscape management)
 - o Identify relevant criteria for assessing the sustainability of crop protection strategies
 - o Design *ex ante* assessment tools that makes it possible to evaluation innovative strategies

- **System case studies**

- Cropping systems studied:
 - o Winter crops based cropping systems
 - o Maize based cropping system
 - o Orchard system case study
- Scenarios analysed:
 - o Current system
 - o Advanced system (short term innovations)
 - o Innovative system (long term innovations)

- **System case studies**

- *Ex ante* assessment:

- o DEXiPM

- Agronomic assessment

- Environmental assessment

- Social assessment

- o DEXiPM slightly modified for the maize based cropping system

- o DEXiPM extensively modified for the orchard system case study (DEXiOS)

- **Session programme:**

- From crop pest focus to system approach**

- 1. Wheat case study (Lise Nistrup Joergensen)
 2. Winter crops based cropping systems (Bo Melander)
 3. DEXiPM (Gabriele Fortino)

- Examples on results of case and system case studies**

- 1. Maize case study and maize based cropping systems (Jozsep Kiss)
 2. Pomefruit case study and orchard system case study (Bart Heijne)