How farmers’ apply Biocontrol Technologies

Wouter van den Bosch
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Brussel
COMPANY PRESENTATION
KWEKERIJ VAN DEN BOSCH

Door Jaco en Wouter van den Bosch

Family business
Bleiswijk
The Netherlands
Long family tradition

- Farm
- Crisis during the 30’s
- Wim van den Bosch
  - Orchard
  - First greenhouse
- Jaco van den Bosch
  - Substrate
  - Eggplant
  - Sweet pepper
- Wouter and Jaco van den Bosch
  - Algae
  - Black berries in greenhouse
  - Year-round Black berries with artificial light
Welcome at the Dutch F&V sector!
The Netherlands: global player

€7,6 BILLION IMPORT FROM 128 COUNTRIES

PRODUCTION €3,5 BILLION

CONSUMPTION €6,3 BILLION

€11,3 BILLION EXPORT TO 152 COUNTRIES
Dutch Growers
Growing of fruit and vegetables in NL
In hectares

Total +/- 110,000 ha

Source: CBS 2018
Export fruit & vegetables Dutch origine in 2017; total export 3.2 billion kilo
IPM Control

Systems in greenhouse cultures
Integrated Pest Management (IPM)

- Directive 2009/128/EC
- Use as much as possible non-chemical methods and keep the pesticide-input for pest management as low as possible
- Goal: lowering the environmental impact
- General principles of integrated pest management → 8 steps
Integrated Pest Management in 8 basic steps

1. Prevention
2. Monitoring
3. Decision
4. Non-chemical methods
5. As specific as possible
6. Limit to necessary level
7. Anti-resistance strategies
8. Learn and optimize
Sweet peppers

• Pests: aphids, thrips, spider mite and white fly

• Successful IPM system, based on parasitic wasps, predatory mites and predatory bugs

• Specific Plant Protection Product required in IPM
IPM: step 1

Prevention
- Hygiene
- Pest free starting material
- Resistant / tolerant crops
- Adequate cultivation techniques;
  » Irrigation, fertilization, climate
- Basic: clean, healthy, strong crop
- Prevention better then cure
- Pests and diseases
- Creating a standing army
IPM: step 2

Monitoring

• Signal plates
• Observations in the field
• Early diagnosis system

• Pests and diseases
• Biological / natural enemies
IPM: step 3

**Decision**

→ Based on the results of the monitoring
→ Monitoring ‘the sooner the better’
IPM: step 4

Sustainable biological, physical and other non-chemical methods
IPM: step 5 & 6

Use pesticides as specific as possible & limit to the necessary level

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side effects
IPM: step 7

Anti-resistance strategies
IPM: step 8

Learn and optimize
IPM = Green Challenge

Pest control in balance
No environmental impact
Excellent quality fruit & vegetables
IPM can only exist and be successful with a sufficient toolbox:

1. Bio toolbox
   - More robust system
   - New biological products (microbials)
   - New predators
   - Low risk products, basic substances
   - Speed up the process of legislation

But: some occurring diseases cannot be dealt in IPM yet e.g. stinkbug in bell pepper
IPM can only exist and be successful with a sufficient toolbox:

2. Chemical toolbox
   - Plant Protection Products (PPP) for correction in the IPM system
   - Legislation of biocides for cleaning the greenhouse and tools
   - Reduction of active substances and PPP’s reduces successful IPM

Support the Minor Uses Facility and a sustainable Integrated Pest Management => combination of biological, chemical and technology!
THANK YOU

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