



ABIM Congress 2014

Biocontrol from a Retailer's Point of View

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1. Coop in a Nutshell

- Coop is one of the two most important retailers in Switzerland
- Retail turnover in 2013: CHF 19,5 billions (**EUR 16 billions**)
- Turnover with organic products in 2013 : CHF 1061 millions (**EUR 870 millions**)
- Total number of shops: 2'000
- Total number of employees: 75'000



2. Why is the Topic Biocontrol Important for Coop?

- Consumers demand products with low pesticide residues and are concerned about the impact of pesticides on workers health and safety and the environment
- Sustainability is part of Coop's business strategy. In 2011 Coop was rated the most sustainable retailer in the world by the independent agency "oekom research"
- Coop conducted a sustainability screening in 2012. Among others following challenges for the future were identified:

Working conditions



Biodiversity



Water



Soil fertility



- **The approach of Coop to address these challenges:**
 - Further increase its organic product line
 - Promote biocontrol methods in conventional production

3. Update Case Study: Fair Trade Roses from Kenya

Description of Sustainability Project

- **Goals:**
 - Pesticide reduction in Fair Trade roses production
 - Foster the implementation of IPM and biocontrol
- **Project participants:** Coop, Rewe Group
- **Flower farms:** 20
- **Main pests and diseases:** Red spider mite, thrips, whiteflies, mealy bugs, powdery mildew, downy mildew, botrytis
- **External partners:** MPS, Dudutech, Real IPM, Koppert
- **Scope:** Kenya
- **Duration:** 2012 – 2014



Project Set-up

Update Case Study: Fair Trade Roses from Kenya

- 10 out of 20 flower farms started a pilot project in March 2013 to implement IPM and biocontrol methods together with Dudutech, Real IPM, Koppert
- Every participating flower farm dedicated
 - 1 trial greenhouse (~1ha) where IPM and biocontrol methods are applied
 - 1 conventional greenhouse (~1ha), where current crop protection methods are applied
- In the trial and the conventional greenhouse the same varieties are grown

Trial greenhouse
(~1ha)
IPM and biocontrol
methods

Conventional
greenhouse
(~1ha)
Current crop
protection methods

Responsibilities within the Project

Update Case Study: Fair Trade Roses from Kenya

- **Dudutech, Real IPM and Koppert:**
 - Provide IPM and biocontrol solutions to the flower farms
 - Assist the flower farms in implementing IPM and biocontrol methods in trial greenhouses
- **Flower farms:**
 - Implement IPM and biocontrol methods
 - Register the applications and quantities of pesticides sprayed for trial greenhouses and conventional greenhouses in the online database of MPS
 - Register data such as quality, yields, production costs
- **Coop and Rewe Group:**
 - Co-finance the field visits of project partners
 - Fund pesticide residue analysis every two months on trial greenhouses and conventional greenhouses

Comparison of Trial and Conventional Greenhouse

Update Case Study: Fair Trade Roses from Kenya

Trial greenhouse



Conventional greenhouse



Key Performance Indicators (KPI's)

Update Case Study: Fair Trade Roses from Kenya

To measure the progress of the pilot project with IPM and biocontrol Key Performance Indicators (KPI's) have been defined:

- **KPI 1: Pesticide inputs (kg/ha)**
- **KPI 2: Residue concentration (mg/kg)**
- **KPI 3: Yields, quality & costs**

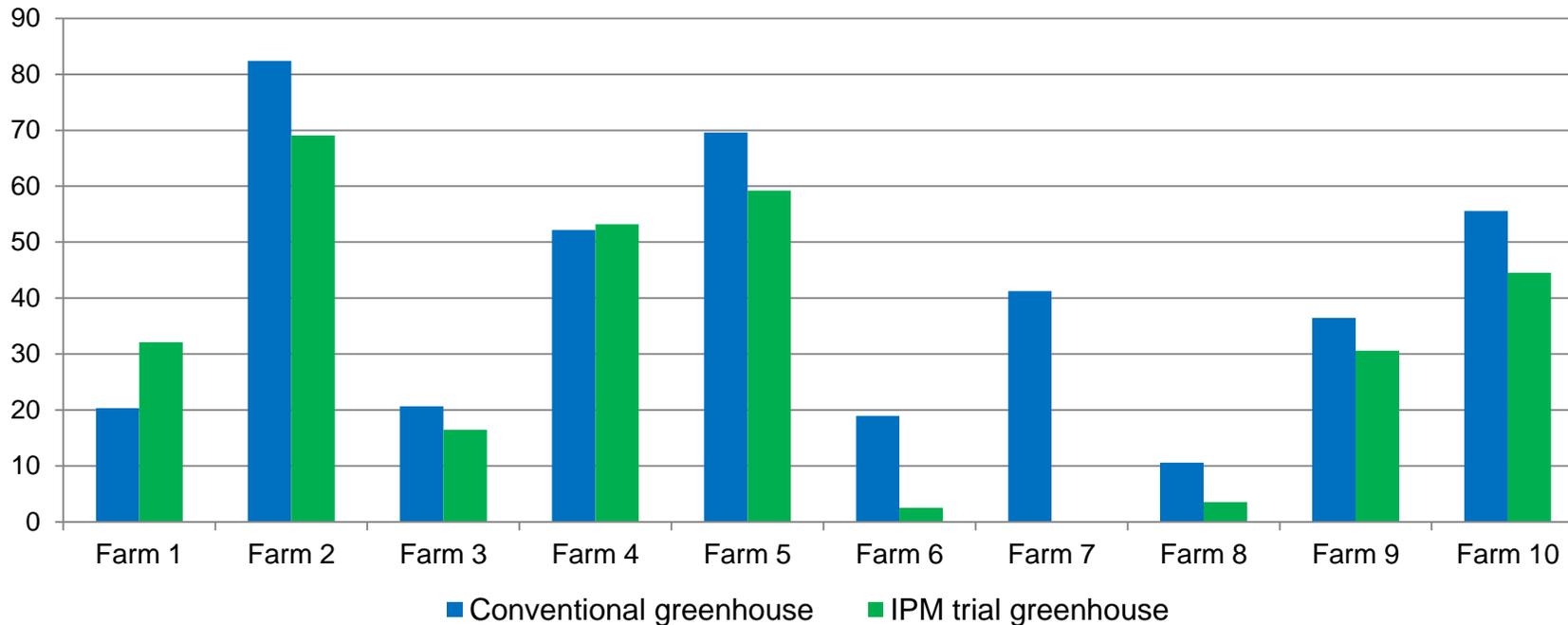
KPI's were analyzed for the 1. project year (April 2013 – March 2014)

Performance of trial and conventional greenhouses was compared

Analyzed KPI's

April 2013 – March 2014

KPI 1: Pesticide inputs (in kg/ha)



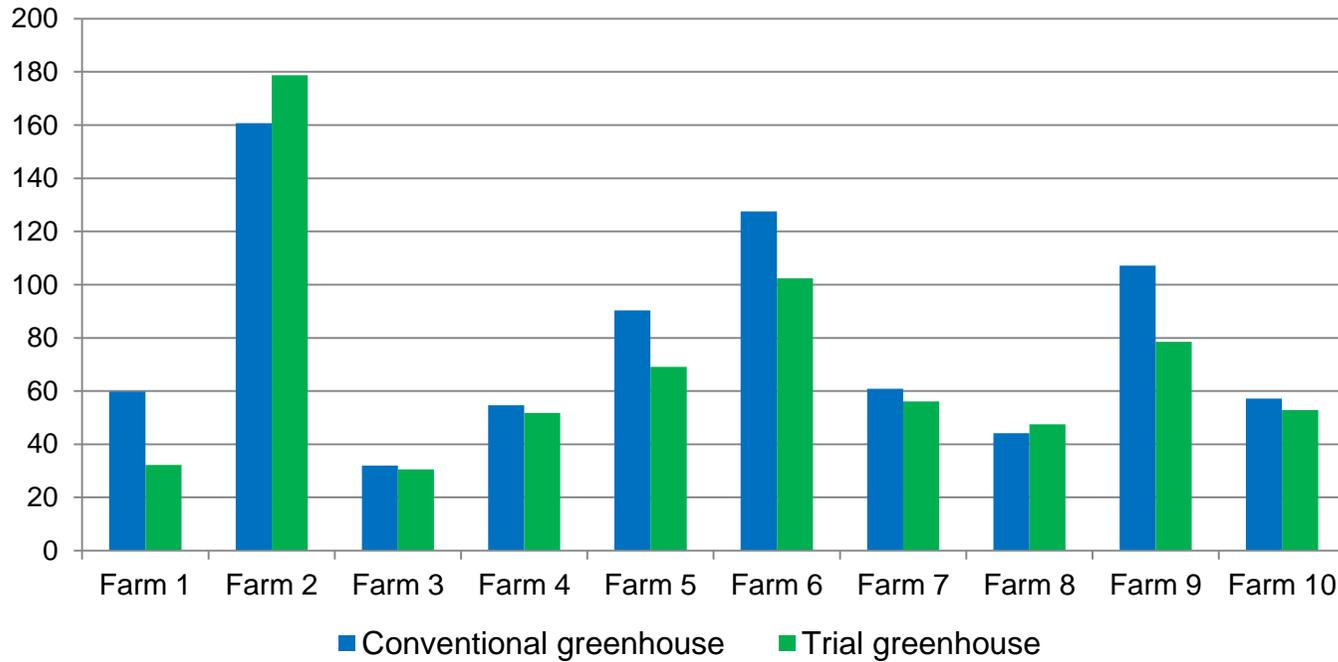
- 8 out of 10 farms managed to reduce the inputs of pesticides (kg/ha) on trial greenhouses with IPM and biocontrol methods
- Variation between farms is high
- Data of farm 7 is not considered reliable

Analyzed KPI's

April 2013 – March 2014

KPI 2: Residue concentration (mg/kg)

Bars show the average residue concentration of 6 analysed rose samples



- 8 out of 10 have a lower average residue concentration (mg/kg) on trial greenhouses with IPM and biocontrol methods
- Variation is high

Analyzed KPI's

April 2013 – March 2014

KPI 3: Yields, quality & costs

Only data of 5 farms available

Farm	Yield increase on trial greenhouses (%)	Quality on trial greenhouses	Costs / ha for trial greenhouses	Costs / stem for trial greenhouses
1	27.6	Higher	Lower	Lower
2	-5.5	Improving	Higher	Higher
3	25.1	Higher	Lower	Lower
4	58.8	Higher	Lower	Lower
5	18	Higher	Higher	Lower

- 4 out of 5 farms could increase their yield on trial greenhouses with IPM and biocontrol methods
- Quality is better or improving on trial greenhouses
- 4 out of 5 farms have lower costs per stem on trial greenhouses

Conclusion

Update Case Study: Fair Trade Roses from Kenya

- **Success:**
 - 8 out of 10 farms reduced the pesticide input (kg/ha) on trial greenhouses
 - 4 out of 5 farms improved yield and quality on trial greenhouses
 - 4 out of 5 farms have lower costs per stem on trial greenhouses
- **Potential for improvement:**
 - Reliability of pesticide input data
 - Get data from more farms on yields, quality and costs
 - The high variation between farms shows that further improvements are possible

Next steps

Update Case Study: Fair Trade Roses from Kenya

- Continuation of existing pilot projects till March 2015
- Successful biocontrol methods shall be implemented in further greenhouses of involved flower farms
- Anyone interested in doing a PhD on that topic?

4. Challenges to Foster Biocontrol as a Retailer

- **Difficult to convince conventional farmers to use IPM and biocontrol methods:**
 - Farmers fear the risk of losing their crop
 - Also they argue that costs of biocontrol methods are higher
- **To choose the right framework:**
 - Stricter requirements regarding residue levels (e.g. only residue levels < 50% of MRL accepted)
 - Limiting max. number of different active ingredients on the products (e.g. max. 6)
 - Working with positive lists for pesticides
 - Getting involved directly with farmers and start pilot projects to foster biocontrol
- **Outdoor crops**
 - For outdoor crops biocontrol is not yet as accepted among conventional farmers as it is for greenhouse crops

5. Expectations from Coop Towards the Biocontrol Industry

- Contact retailers actively and give advice on successful frameworks to foster biocontrol within their supply-chains
- Conduct more cost/benefit studies regarding the implementation of biocontrol and communicate the outcomes to farmers and stakeholders
- Conduct more pilot projects to convince conventional farmers
- Promote more biocontrol solutions for outdoor crops such as grapes or salads
- Develop new methods to further improve organic production (e.g. alternatives to copper)

Thank you for your attention!

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