ABIM 2009

Market developement for Biocontrol

Market Situation in Germany

Tillmann Frank
e~nema GmbH

Germany 1648 - 1806

Germany since 1990

that means:

- 1 Federal Ministry of Agriculture
- 16 State Ministries of Agriculture
- different „traditions“ of advising
- different ways of collecting data

Area

2008

- Germany 35.700.000 ha
- Agriculture 17.000.000 ha
- Horticulture 210.000 ha
  - Vegetables 116.000 ha
  - Grape 100.000 ha
  - Orchards 68.000 ha
    Apples 33.000 ha (Poland 160.000; Italy 60.000)
  - Tree nurseries 21.000 ha
  - Ornamentals 6.700 ha

  - Greenhouses 3.700 ha (NL 70.000 ha)
    (ornamentals 2.200 ha / vegetables 1.500 ha)

Organic farming

2007/2008, data: ZMP

		total ha	organic ha	%
Germany (2008)		17,0 mill	911.000	5,3
Poland	2007	16,1 mill	285.000	1,8
France	2007	29,0 mill	557.000	1,9
UK	2007	17,4 mill	682.000	3,9
Spain	2007	25,2 mill	988.000	3,9
Germany	2007	17,0 mill	865.000	5,1
Czeck	2007	4,3 mill	313.000	7,4
Italy	2007	13,0 mill	1.150.000	8,6
Austria	2007	3,2 mill	372.000	11,5
EU	2007	182 mill	7.287.000	4,0

Germany 2008

data: ZMP

	total ha	organic ha	%
Cereals	12,0 mill	385.000	3,2
Grassland	4,8 mill	490.000	10,2
Potatoes	260.500	8.150	3,1
Vegetables	116.000	10.600	9,1
Grape	100.000	4.400	4,4
Orchads	68.000	5.600	8,2
Tree nurseries	21.000	460	2,2

Pesticides in Cereals

Organic Production 3.2% market share
Biological Pesticides 1 % (treatment/ha)

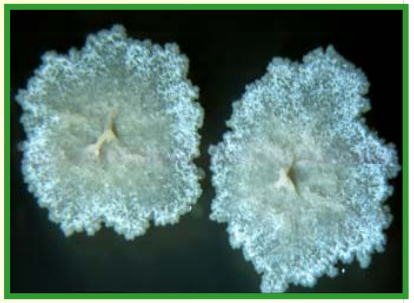
Corn: Organic production 0,8% market share

Treatment European Corn Borer	50.000 ha
Trichogramma	14.000 ha
Chemical pesticides	36.000 ha

Potatoes

Organic Production	8.150 ha
Treatment Colorado Potato Beetle	4.000 - 5.000 ha
Seed potato treatment	15.000 ha

Proradix PLUS
Vitale Wurzel gesunder Ertrag



Grapes

Total	organic
100.000 ha	4.400 ha
Pheromones Grape Moth	50.000 ha
Bt-products	10.000 ha

Apples

Total	organic
33.000 ha	2.700 ha

Cydia pomonella

Pheromones	3.000 ha
Virus	12.000 ha

Vegetables greenhouses

Germany 1.500 ha

85 % treated with benefical insects

Baden-Württemberg 460 ha

100 % treated with benefical insects

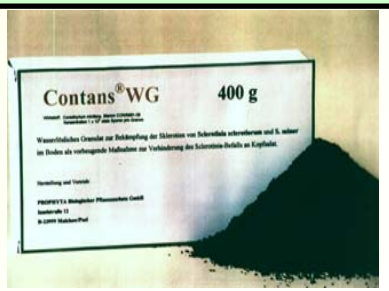
Only 150 ha organic production

Ornamentals Greenhouses

- 2200 ha
- Cuttings 10 - 20 % treated with beneficials
- Potting plants 40 – 70%
- No reliable information available

Annex 1

Ampelomyces quisqualis	AQ10	
Bacillus subtilis	Serenade	D
Spodoptera exigua NPV	Spodex	D
Coniothyrium minitans	Contans	
Gliocladium catenulatum	Prestop	D
Paecilomyces fumosoroseus	Preferal	
Paecilomyces lilacinus	Bioact	
Pseudomonas chlororaphis	Cedomon + Ceral	D



Annex 1/ List 4 Process

Bacillus thuringiensis 4 subspec.	D	D	D
Beauveria bassiana (ATCC 74040 and GHA)			
Cydia pomonella granulosis virus (CpGV)			D
Lecanicillium muscarium (Ve6) *(former Verticillium lecanii)*			
Metarhizium anisopliae (BIPESCO 5F/52)			
Phlebiopsis gigantea			
Pythium oligandrum (M1)			
*Streptomyces griseoviridis (*K61)			
Trichoderma atroviride (IMI 206040) (T 11) *(former T.harzianum)*			
Trichoderma harzianum Rifai (T-22)			
Trichoderma polysporum (IMI 206039)			
Trichoderma gamsii (formerly T. viride) (ICC080)			
Verticillium dahliae alboatrum (WCS850) (formerly Verticillium dahliae)			

In process Annex 1

***Adoxophyes orana* GV strain BV-0001** **D**

***Candida oleophila* strain O**

***Helicoverpa armigera* nucleopolyhedrovirus (HearNPV)**

***Paecilomyces fumosoroseus* strain Fe9901**

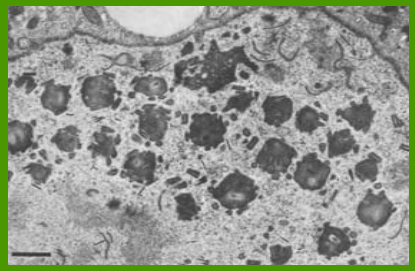
***Pseudomonas* sp. strain DSMZ 13134**

Pseudozyma flocculosa

***Spodoptera littoralis* nucleopolyhedrovirus**

***Trichoderma atroviride* starin I-1237**

Zucchini yellow mosaic virus (ZYMV mild strain)



Pflanzenstärkungsmittel

- “Plant strengtheners”
- 471 products listed
- Botanicals, mineral and homeopathic substances
- 17 micro-organisms (no more accepted)
- Of these several will be removed because of Annex 1 listing

Companies

- Seven producers of beneficials, over 50 species available, but >50% imported
- Germany strong in production (solid and liquid production MBCAs, botanicals)
- SMEs of small size
- Since 2008 IMBA Germany
- VND (beneficials) + IVB (others) merged

Summary

- Germany is less attractive for MBCAs
- Little support for registration
- No tech-transfer into practice (EU)
- Substitution of Cu in organic farming: Where are the alternatives???
- Proposal for ABIM 2010: “Technology Transfer Market” with free access to fair for R&D institutions