

IOBC/WPRS

**Biological Control of Fungal and
Bacterial Plant Pathogens**

Working Group

Yigal Elad, Convenor

Nyckle Fokkema, Former convenor

Meetings of the 'Phytopathogens' working group

I- New Approaches in Biological Control of Soil-borne Diseases, Copenhagen, July 1991.

II- Biological Control of Foliar and Post-Harvest Diseases, Wageningen, The Netherlands, Dec. 1992.

III- Biocontrol of Sclerotium-Forming Pathogens, Wellesbourne, UK, Dec. 1994.

IV- Biological and Integrated Control of Root Diseases in Soil-less Cultures, Dijon, France, Sept. 1995.

V- Role of Molecular Methods in Disease Control, Belemont Zurich, Switzerland, 1996.

Session on Biocontrol of Plant Diseases, 7th ICPP Congress, Edinburgh, **August 1998**.

Biological control of Foliar Pathogens, EFPP Congress, Taormina, Italy, Sept., 2000.

VI. Biocontrol agents: modes of action and integration with other means of control

Sevilla, Spain, Nov.-Dec. 2000.



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Biocontrol 2002

VII. Influence of a-biotic and biotic factors on biocontrol agents, Kusadasi, Turkey, May 2002.



VIII. Management of plant diseases and arthropod pests by BCAs and their integration in agricultural systems,

S. Michele all'Adige, Trentino, Italy,
June 2004.

Integration 2004



S. Michele all'Adige, Italy

Biological Control of Fungal and Bacterial Plant Pathogens

Convenor: **YIGAL ELAD**

Integrated Control in Protected Crops, Temperate Climate

Convenor: **ANNIE ENKEGAARD**

Integrated Control in Protected Crops, Mediterranean Climate

Convenor: **CRISTINA CASTAÑÉ**



IOBC
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Statistics

Integration 2004



S. Michele all'Adige, Italy

164 People attending
24 Countries
94 Abstracts
34 Orals
60 Posters



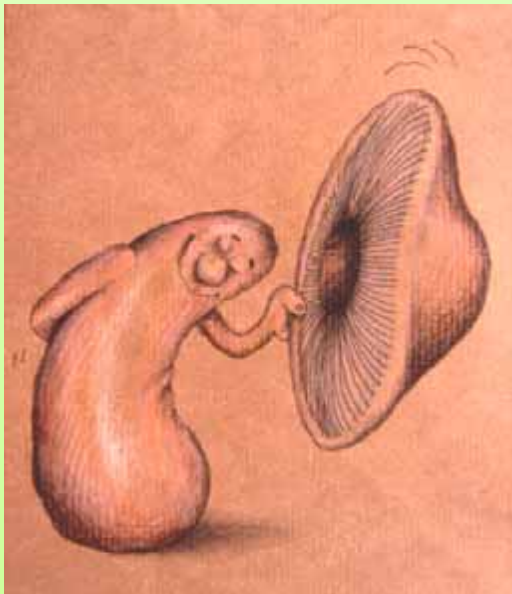


Integration 2004



S. Michele all'Adige, Italy

Thanks to the local organizers:



**Ilaria Pertot
Daniele Barbacovi
Manuela Malavolta
Safe Crop staff**



Integration 2004



S. Michele all'Adige, Italy

Thursday 10.6.2004

10:30-13:00 Oral Session 1

**Combined management for control of
pests and diseases**

Chairpersons: C. Castañé and G. Berg

14:00-14:45 Oral Session 2a

Integrated control of diseases

Chairperson: J. Whipps

14:45-15:30 Oral Session 2b

Risk characterization of BCAs

Chairperson: L. Corazza



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Integration 2004



S. Michele all'Adige, Italy

Friday 11.6.2004

08:00-10:00 Mini excursion

Strawberry and small fruits greenhouse tunnels





Integration 2004



S. Michele all'Adige, Italy

Friday 11.6.2004

10:30-12:30 Round Table



What will be the future for BCAs?

Moderator: C. Gessler

- E. B. Ceglarska: **EU policies** in biocontrol research and biocontrol implementation
- C. Gessler: **Risk related to BCAs**: reality or phantom risk?
- A. Dik: Experience and problems in **transferring scientific results into practice**
- J. Huber: **Future directions** for improvement of research and development of BCAs
- S. Franceschini: **EU registration problems** and possible solution
- M. Benuzzi: The industry point of view **on problems in developing BCAs**

Discussion

Concern regarding the **difficulties in commercialization** of microbial BCAs and alternatives and the delay in their implementation.

Missing information on BCAs behaviour during production, storage and distribution chain

Short shelf life of these products - drawback.

Severe EU regulations for registration of microbials; regulations not clear - major difficulties in placing BCAs in the market.

Companies involved are usually small or medium with **no strong enough financial backbones** to withstand the demands.

The **public ignorance** regarding biocontrol - highlighted as a reason for concern among the scientists.



Integration 2004



S. Michele all'Adige, Italy

Friday 11.6.2004

12:30-evening Excursion

Visit to apple orchards and “Melinda” growers association





Saturday 12.6.2004

Integration 2004



S. Michele all'Adige, Italy

- 08:30-10:00 Oral Session 3: **Management of soil borne disease**
Chairpersons: J. Postma
- 11:00-11:45 Oral Session 4a: **Mode of action of biocontrol agents**
Chairperson: E. Monte
- 11:45-12:30 Oral Session 4b: **Postharvest**
Chairperson: H. Jijakli
- 14:00-15:00 Oral Session 5a: **Combination of control means**
Chairpersons: D. Shtienberg and J. Köhl
- 15:00-16:00 Oral Session 5b: **Integrated management of diseases**
Chairpersons: A. Dik and E.-B. Ceglarska
- 16:30-18:30 **General discussion**
Moderators: J. Head, Y. Elad and A. Enkegaard

Meeting summary

Need for **more work on integration** of control methods for real life management of diseases and arthropod pests was widely expressed.

Questions:

Is there a possibility of **multiple effects on targets** that occur simultaneously?

Is there enough knowledge regarding **conflicting effects** - control of a problem while increasing another.

Risk of **emerging problems**.

The possibility of **minor pathogens** and pests to **become important**.

The limited information about the effect of alternatives on non target organisms.

A call for more research on these subjects was raised.



**International Organisation for Biological and Integrated
Control of Noxious Animals and Plants (IOBC)**

West Palaearctic Regional Section (WPRS)

Organisation Internationale de Lutte Biologique et Intégrée contre les Animaux et les Plantes Nuisibles (OILB)

Section Régionale Ouest Paléarctique (SROP)

Working group

Biological control of fungal and bacterial plant pathogens

Convenor: Yigal Elad

I Xth meeting of the phytopathogens group:

**Fundamental and practical
approaches to increase biocontrol
efficacy**

September 13-17, 2006

Spa, Belgium

Organizing committee: Monica Höfte, Haïssam Jijakli, Marc Ongena,
Yigal Elad

Scientific committee: Monica Höfte, Haïssam Jijakli, Marc Ongena,
Yigal Elad, John Whipps, Gabriele Berg

THEMES OF THE WORKSHOP

1. Understanding/stimulating naturally occurring antagonists in soil, substrate, rhizosphere, phyllosphere.
2. Understanding/stimulating the modes of action and ecological suitability of introduced antagonists in soil, substrate, rhizosphere, phyllosphere.
3. Influence of plant species/cultivar on natural or introduced antagonists.
4. Production and formulation to increase biocontrol efficacy.
5. Use of biocontrol agents in integrated disease management.

Please contact

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