

Bioherbicides: the next generation

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Summary

At this sixth meeting of the International Bioherbicide Group, twenty one papers were presented summarising work being conducted in laboratories around the world investigating the potential and application of plant pathogens as biological herbicides (listed below). The title of the workshop “The Next Generation” reflected a need to find ways of overcoming the constraints that have resulted in only two or three new bioherbicide products reaching the market following the early successes of Collego and Devine in the late 1970s. Professor Alan Watson of McGill University, Canada, asked “When will we be successful? Can we solve the formulation and production problems? Can we increase the virulence of our bioherbicides? Can we satisfactorily answer all the regulatory questions? and Can we raise the capital (1–2 million dollars) to complete registration requirements and launch a bioherbicide product?” Lively debate was held around these and other issues in a general discussion following the formal presentations by participants.

Choosing the right market niche and the right organism were considered to be vital for the successful application of plant pathogens as biological herbicides. Further information on the research activities of members of the International Bioherbicide Group is available at <<http://ibg.ba.cnr.it>>.

Abstracts

Battling the fragrant invader: mass production, application, and implementation of biological control for kahili ginger (*Hedychium gardnerianum*)

R. Anderson

Biological control of aquatic weeds of rice in Australia using *Rhynchosporium alismatis*

G.J. Ash, E.J. Cother, F.G. Jahromi, W. Pitt, V.M. Lanoiselet & S. Ciquet

WOW emulsion formulation for bioherbicides

B.A. Auld

Evaluation of *Phoma macrostoma* for control of broadleaf weeds in turfgrass

K.L. Bailey, J. Derby & S. Falk

Microbes and microbial products for biological control of parasitic weeds

Boari, M. Vurro, M. A. Abouzeid, M.C. Zonno & A. Evidente

Tobacco mild green mosaic virus: a virus-based bioherbicide

R. Charudattan, M. Elliott, J.T. DeValerio, E. Hiebert, & M.E. Pettersen

Microencapsulation: an answer to the formulation quandary?

T. Chittick, G.J. Ash, R.A. Kennedy & J.D.I. Harper

Evaluation of *Ascochyta caulina* for biological control of *Chenopodium album*

R. Ghorbani, C. Leifert & W. Seel

Survey of diseases of alligator weed in eastern Australia for their bioherbicide potential

B.R. Hennecke, R.L. Gilbert & B.A. Auld

Evaluating *Fusarium tumidum* and *Chondrostereum purpureum* as mycoherbicides for gorse

G.A. Hurrell, G.W. Bourdôt, J. Barton (née Fröhlich) & A. Gianotti

Evaluation of the efficiency of *Cercospora caricis* for control of purple nutsedge

S.C.M. Mello & E.A. Teixeira

Phomopsis amaranthicola as a post-emergence bioherbicide in peppers (*Capsicum annuum* and *C. frutescens*) and eggplant (*Solanum melongena*)

J.P. Morales-Payan, R. Charudattan, W.M. Stall & J.T. DeValerio

Assessment of *Dactylaria higginsii* as a postemergence bioherbicide for purple nutsedge (*Cyperus rotundus*) in bell pepper (*Capsicum annuum*)

J.P. Morales-Payan, R. Charudattan, W.M. Stall & J.T. DeValerio

Interactions of *Pyricularia setariae* with herbicides for control of green foxtail

G. Peng & K.N. Byer

International Mycoherbicide Programme for *Eichhornia crassipes* control in Africa (IMPECCA)

R.H. Reeder

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Are bioherbicides compatible with organic farming systems and will businesses invest in the further development of this technology?

E. Roskopf & R. Koenig

Virulence enhancement of bioherbicides

David C. Sands, Alice L. Pilgeram, Tim Anderson & Kanat Tiourebaev

Indigenous fungal pathogens — a potential additional tool for the management of *Rhododendron ponticum* L. in the UK

M.K. Seier & H.C. Evans

Strategies for optimization of the biocontrol agent

Ascochyta caulina

L. Wang, J. Netland & M.A. Jackson

Where did it go wrong? Why is the concept of bioherbicide suffering from limited success?

A.K. Watson

Bio-herbicides, bio-pesticides and their market in Japan

Ken-ichi Yamaguchi & Katsumi Ozaki