



INTERNATIONAL ORGANIZATION FOR BIOLOGICAL CONTROL  
OF NOXIOUS ANIMALS AND PLANTS (IOBC)

# IOBC NEWSLETTER 88

[WWW.IOBC-GLOBAL.ORG](http://www.iobc-global.org)

IOBC is affiliated with the International Council of Scientific Unions (ICSU)  
as the Section of Biological Control of the International Union of Biological Sciences (IUBS)

**President:** Prof.dr. J. Brodeur  
Plant Biology Research Institute,  
Montreal University  
4101, rue Sherbrooke Est, Montreal (Quebec)  
Canada H1X 2B2  
Tel: + 1 514-872-4563, Fax: + 1 514-872-9406  
Email: jacques.brodeur@umontreal.ca

**General Secretary:** Prof. dr. J.C. van Lenteren  
Laboratory of Entomology, Wageningen University  
P.O. Box 8031, 6700 EH Wageningen, The Netherlands,  
Tel: +31 317 482327 Fax: +31 317 484821  
Email: Joop.vanLenteren@wur.nl

**Treasurer:** Dr. A. Urbaneja  
Unidad de Entomología, Inst. Valenciano Invest.  
Agrarias, Carretera de Moncada-Náquera km. 4,5  
Moncada 46113, Valencia, Spain  
Tel: +34 963424130, Fax: +34 963424001  
Email: aurbaneja@ivia.es

**Vice-President:** Dr. Barbara Barratt, New Zealand.  
Email: barbara.barratt@agresearch.co.nz  
**Vice-President:** Prof.dr. J. R. P. Parra, Brazil. Email:  
jrpparra@esalq.usp.br  
**Past-President:** Prof.dr. J.C. van Lenteren, The  
Netherlands. Email: Joop.vanLenteren@wur.nl

## CONTENTS OF IOBC GLOBAL NEWSLETTER ISSUE 88 – DECEMBER 2010

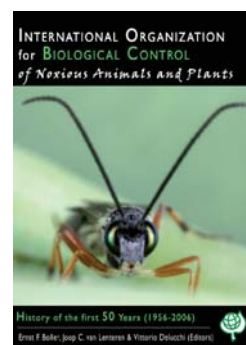
1. Message from the president
2. News about Biological Control and Access and Benefit-Sharing
3. Why is it important to be member of IOBC?
4. Why should you publish in our own journal “BioControl”?
5. Council and Executive Committee meeting June 2010
6. Candidates for Executive Committee 2012 – 2016
7. Fifth Edition of IOBC Internet Book of Biological Control
8. Introduction to ‘The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide’ (IOBC Global)
9. Two new Honorary Members of IOBC Global
10. Regional Sections of IOBC Global
11. Working Groups of IOBC Global
12. Latest news



Some copies of “IOBC: History of the first 50 years”  
are still available.

Order your copy (10 Euro or 15 US\$) by emailing  
[Joop.vanLenteren@wur.nl](mailto:Joop.vanLenteren@wur.nl)

PDF files of previous newsletters can be found at  
[www.iobc-global.org](http://www.iobc-global.org)



**1. MESSAGE FROM THE PRESIDENT: BIOLOGICAL CONTROL VS. ACCESS AND BENEFIT-SHARING OF GENETIC RESOURCES: ENTERING THE POST-NAGOYA ERA**

In a previous editorial (IOBC Global Newsletter; Issue 85 – May 2009), I summarized the mandate of the Convention on Biological Diversity (CBD), discussed its consequences on the discovery and exportation of biological control agents and introduced the IOBC Commission on Biological Control and Access and Benefits Sharing. Important developments have recently occurred and deserved our attention as they might impact the development and implementation of new biological control programs worldwide.

A primary goal of the CBD is to protect genetic resources, including biological control agents, which potentially have commercial value for biomedical and agricultural applications. Last October in Nagoya, Japan, the 10<sup>th</sup> Conference of the Parties to the CBD adopted an international protocol on the 'Access to genetic resources and the fair and equitable sharing of benefits arising from their utilization'. The discussions lasted for seven years and, typical from these international negotiations, deadlocks had to be resolved behind the scene through the night. The Protocol is now the instrument for the implementation of the access and benefit-sharing provisions of the CBD. The Parties to the CBD are invited to sign the Protocol... 'at their earliest opportunity'. A minimum of 50 countries has to sign the Protocol before it can be ratified. For those of you who would like to learn more about the Protocol, the document is available on line at [www.cbd.int](http://www.cbd.int).

At this point it is impossible to foresee the consequences of the Nagoya Protocol on biological control. In any case, at the end of the process, there will be more bureaucracy for all of us who develop biological control programs worldwide. It remains unclear how the Protocol will be implemented and to what extent legislative, administrative and policy measures will be similar for each country. Furthermore, according to some experts, the lack of clarity in many places in the Protocol leaves room for different/divergent interpretations of obligations and may cause problems for its implementation. Of significance for biological control, parties/countries are more or less implicitly divided into 'providers' and 'users' of genetic resources. This is more or less compatible with the 'spirit' of biological control. Our IOBC Commission clearly stressed that biological control is typically based on bilateral or multilateral practice of exchange of biological control agents on a complementary and mutually reinforcing basis, which ensures fair and equitable sharing of the benefits of biological control worldwide (Cock et al., 2010).

Will the Nagoya Protocol turn into a box of Pandora for biological control? I guess not. I personally think that the Protocol provides the basis for the adoptions of measures and legislations to fully implement the benefit-sharing objective of the CBD. This is so because the Nagoya Protocol offers opportunities for our sector to develop its own rules. Although not explicitly stated in the Protocol, a sectorial approach is favored to ensure practical and effective arrangements for the collection and use of genetic resources. Access and benefit-sharing measures need to accommodate a range of realities and exchange practices. There is now a clear recognition of the special nature of genetic resources for food and agriculture. Accordingly, the specific features of biological control agents (see Cock et al. 2010 for a review) require a distinctive solution. Another positive aspect of the Nagoya Protocol is that it strongly recognizes that benefits arising from the utilization of genetic resources include non-monetary benefits. The list of non-monetary benefits identified in one of the annexes of the Protocol includes several items that are highly pertinent to biological control. Finally, there is a clear recognition of the need to facilitate non-commercial research.

From now on, coordinated actions from the stakeholders and international organizations, such as IOBC, are needed to first identify the impact of the Protocol to each sector, and second to design access and benefit sharing measures to fulfill the principles of the Protocol. Through its commission, IOBC Global remains dedicated to actively contribute to these objectives. From my participation in a number of workshops and conferences on this issue, my understanding is that the situation/problem is significantly less complex for biological control than for other sectors or commodities (e.g. seeds, microbes, aquaculture, forestry). Consequently, the quest for a solution should be easier for us. We are

moving in the right direction. I thank Jennifer Long, Barbara Barratt and Matthew Cock who shared some thoughts about the post-Nagoya era.

Cock, M.J.W., J. C. van Lenteren, J. Brodeur, B.I.P. Barratt, F. Bigler, K. Bolckmans, F.L. Cònsoli, F. Haas, P.G. Mason, J.R.P. Parra, 2010. Do new Access and Benefit Sharing procedures under the Convention on Biological Diversity threaten the future of Biological Control? *BioControl* 55: 199-218.

Jacques Brodeur  
President IOBC Global  
Université de Montréal  
Québec, Canada

## 2. NEWS ABOUT BIOLOGICAL CONTROL AND ACCESS AND BENEFIT SHARING

In the editorial, our President Jacques Brodeur gives an update about the latest developments concerning Access and Benefit Sharing and biological control. Overall, the future for a reasonable protocol seems positive. We, as IOBC and in particular our Commission on ABS and biological control, will follow new developments carefully and we will take part in several groups working on the protocol. We will attend meetings in January, February and March 2011 where the most recent version of the protocol will be evaluated and where proposals for redrafting of the protocol will be formulated.

**For the latest version of the ABS protocol see <http://www.cbd.int>**

## 3. WHY IS IT IMPORTANT TO BE MEMBER OF IOBC?

- IOBC coordinates biological control activities worldwide and has 6 regional sections (Africa, Asia, East Europe, North America, South America, and West Europe) and many working groups.
- IOBC is the only truly worldwide organization representing research in biological control in various global, regional and national organizations (e.g. IUBS, FAO, EC, ICE) for more than 50 years
- IOBC developed practically applied biological control and integrated pest management programs
- IOBC was the first to develop IPM guidelines for all major crops in Europe and has since continued to contribute to the development of principles of sustainable agriculture, e.g. guidelines on Integrated Production.
- IOBC initiated and co-developed Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms (International Standard for Phytosanitary Measures Number 3, 32 pages, 2005; Secretariat of the International Plant Protection Convention; available at [www.FAO.org](http://www.FAO.org))
- IOBC initiated and co-developed methods to test side effects of pesticides on natural enemies, which are now the official standard for testing side effects in the European Union pesticide registration procedure and published as the EPPO standard for Environmental Risk Assessment Scheme for Plant Protection Products, Chapter 9, PP 3/9, EPPO Bulletin 33, 99-131; available at [http://archives.eppo.org/EPPOStandards/PP3\\_ERA/pp3-09\(2\).pdf](http://archives.eppo.org/EPPOStandards/PP3_ERA/pp3-09(2).pdf).
- IOBC initiated and co-developed with the natural enemy producers guidelines for mass production and quality control of beneficial organisms (see: <http://www.amrqc.org>).
- IOBC co-developed with OECD a document on Guidance for Information Requirements for Regulation of Invertebrates as Biological Control Agents (IBCA) (OECD Series on Pesticides

Number 21, Environment Directorate; Organisation for Economic Co-Operation and Development, Paris 2003, 22 pages; Available at <http://www.oecd.org/dataoecd/6/20/28725175.pdf>).

- IOBC Global and WPRS co-developed a tiered method for environmental risk assessment of natural enemies (Lenteren, J.C. van, Bale, J., Bigler, F, Hokkanen, H.M.T., Loomans, A.J.M., 2006. Assessing risks of releasing exotic biological control agents of arthropod pests. Annual Review of Entomology, 51: 609-634. + supplemental material)
- IOBC contributed information on biological control and biodiversity to the FAO report “Genetic resources of importance to agriculture” (FAO, 2007).
- IOBC reviewed and made important contributions to paragraphs on sustainable agriculture and pest management in the UN-coordinated International Assessment of Agricultural Science and Technology for Development (UN, 2008).
- IOBC provided information to several organizations about natural enemies as quality indicators for biodiversity, and natural enemies as test organisms for side effects of pollutants and for pesticides as indicator of in and off field non-target effects.
- IOBC wrote, on request of FAO, a report on The use and exchange of biological control agents for food and agriculture (Cock, M.J.W., J. C. van Lenteren, J. Brodeur, B.I.P. Barratt, F. Bigler, K. Bolckmans, F.L. Cónsoli, F. Haas, P.G. Mason, J.R.P. Parra, 2009. The use and exchange of biological control agents for food and agriculture. Report prepared for the FAO Genetic Resources Commission by the IOBC Global Commission on Biological Control and Access and Benefit Sharing. IOBC, Bern, Switzerland: 88 pp.; <ftp://ftp.fao.org/docrep/fao/meeting/017/ak569e.pdf>). The full text of the FAO report can be downloaded from: [http://www.fao.org/nr/cgrfa/cgrfa-back/en/?no\\_cache=1](http://www.fao.org/nr/cgrfa/cgrfa-back/en/?no_cache=1)
- IOBC wrote a vision paper on the issue of Access and Benefit Sharing for the journal BioControl, entitled “Do new Access and Benefit Sharing procedures under the Convention on Biological Diversity threaten the future of Biological Control?” (Cock, M.J.W., J. C. van Lenteren, J. Brodeur, B.I.P. Barratt, F. Bigler, K. Bolckmans, F.L. Cónsoli, F. Haas, P.G. Mason, J.R.P. Parra, 2009. Do new Access and Benefit Sharing procedures under the Convention on Biological Diversity threaten the future of Biological Control? BioControl; [www.springer.com/life+sci/entomology/journal/10526](http://www.springer.com/life+sci/entomology/journal/10526)).

#### 4. WHY SHOULD YOU PUBLISH IN OUR OWN JOURNAL BIOCONTROL: 9 GOOD REASONS TO DO SO !!!



BioControl

Journal of the International Organization for Biological Control  
Editor-in-Chief: Eric Wajnberg

**Now Even More Reasons to Publish in BioControl:**

1. **High Impact Factor**
2. **Submission to full acceptance: average < 100 days**
3. **Acceptance to Online First: average < 21 days**
4. **No Page Charges**
5. **Free Colour in Online Version**
6. **Online Submission at <http://www.editorialmanager.com/bico>**
7. **Covered by all important Indexing and Abstracting Services**
8. **Available in over 4,500 Institutions Globally**
9. **Strongly reduced subscription costs for members**

**BioControl is the official journal of the International Organization for Biological Control (IOBC).** It includes original papers on basic and applied research in all aspects of biological control of invertebrate, vertebrate and weed pests, and plant diseases.

Subject areas covered in BioControl comprise biology and ecology of organisms for biological control, and various facets of their use including any biological means of control for integrated pest management (IPM) such as plant resistance, pheromones and intercropping. Interdisciplinary papers with a global perspective on the use of biological control in integrated pest management systems are strongly encouraged.

Developments in molecular biology and biotechnology that have direct relevance to biological control will also be considered for publication. Organisms covered by BioControl include parasitoids, invertebrate and vertebrate predators of pest animals and plants, mites, plant and insect pathogens, nematodes, and weeds. In addition to original research papers, BioControl also publishes forum papers, reviews (solicited by the Editor-in-Chief) and Letters to the Editor on critical issues relevant to biological control.

## 5. ACTIVITIES OF THE EXECUTIVE COMMITTEE 2008 - 2012

The Executive Committee has met in November 2009 in Valencia, Spain. This was followed by a Council and Executive Committee meeting in June 2010 in Wageningen, The Netherlands. Below, a selection of topics discussed at this meeting is presented.

- The financial situation of Global is healthy. We are able to support all WG meetings with a fixed amount of money, which is meant to support travel and accommodation of young IOBC members.
- IOBC will provide a grant and an annual amount of money to CABI for a revision of the biocontrol database and annual updates. CABI will soon start to update their database (see elsewhere in this newsletter). The database will be available for everyone. As soon as the database is updated, we will make a link to the database on IOBC's website.
- Most Regional Sections function well, but we still have problems to find candidates for the Executive Committee of the African Regional Section of IOBC. For an overview of the Regional Sections and their activities, see [www.IOBC-GLOBAL.org](http://www.IOBC-GLOBAL.org)
- Most Working Groups of IOBC Global also function well and meet every two or three years. One of the global WGs (Egg Parasitoids) might be dissolved in the near future, but its activities will be continued under the wings of a Regional Section WG (more news in next newsletter). For an overview of WG activities, see [www.IOBC-GLOBAL.org](http://www.IOBC-GLOBAL.org)
- The website of Global has recently been updated, we are now preparing a facelift and hope to add attractive illustrations to make the site more interesting for the general public.
- Statutes and By-Laws of IOBC Global. Several sections will be added to the By-Laws: new election procedure, procedure for selection of honorary members, procedure for establishment of new working groups. As soon as these sections are added, the new version of the By-Laws will be put in the website of IOBC Global.
- Many ideas have been proposed for symposia to be organized during the next International Congress of Entomology in South Korea. The Council and Executive Committee will select four interesting topics and contact potential speakers.
- The programme for the General Assembly of IOBC Global to be held in 2010 in South Korea was discussed.
- The IOBC writing partnership (see our website for more information) has resulted in the editing of 58 papers from different areas in the world.
- The relationships with various international organizations has been intensified during the past years, and particularly the relationship with FAO has resulted in various combined activities concerning biological control.

- IOBC Global will work on the organization of international courses on biological control. This year, we hope to write a course manual, which will be followed with one or more two weeks courses taught in Latin America.
- The current Executive Committee will propose to the General Assembly in 2010 to simplify the name of IOBC (now: International Organization of Biological Control of Noxious Animals and Plants). The reasons are that in the current name biological control of plant pathogens is not included, and that the current name is cumbersome and always needs to be explained to the press and general public. We will propose the new name for IOBC GLOBAL to be: International Organization of Biological Control.



Council meeting June 2010, from left to right:

Alberto Urbaneja (Global),  
Leigh Pilkington (APRS),  
Maria Manzano (NTRS),  
Jacques Brodeur (Global),  
Danuta Sosnowska (EPRS),  
Joop van Lenteren (Global),  
Barbara Barratt (Global),  
Franz Bigler (WPRS),  
Les Shipp (NRS)

## 6. CANDIDATES FOR THE EXECUTIVE COMMITTEE 2012 - 2016

In 2012, a new Executive Committee for IOBC Global will be elected. We are looking for candidates for ALL positions: President, 2 Vice-presidents, Secretary General and Treasurer.

**PLEASE HELP US FINDING ENTHUSIASTIC CANDIDATES**

## 7. IOBC INTERNET BOOK ON BIOLOGICAL CONTROL

The FIFTH EDITION of the IOBC INTERNET BOOK OF BIOCONTROL IS AVAILABLE ON IOBC-Global.org



### IOBC Internet Book of Biological Control

**Aim: to present the history, the current state of affairs and the future of biological control in order to show that this control method is sound, safe and sustainable**

The fifth edition of the book (2008) contains more than 130 pages with information about biocontrol and is available for free on our website. We ask you to support the preparation of this book. The first priority is to receive summaries of the actual application of biological control in each country or region.

The second priority is to document the history of biological control in each country, including some key references, so that it will be easier for all biocontrol workers worldwide to know what has been done and what is going on at this moment. This will help us to make clear **how important biological control is**. We have received several very good contributions during the past months, which will be included in the sixth edition. THANK YOU !!!!

## 8. INTRODUCTION TO THE BOOK 'THE USE AND REGULATION OF MICROBIAL PESTICIDES IN REPRESENTATIVE JURISDICTIONS WORLDWIDE

**This article introduces the online book 'The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide' (Kabaluk, Svircev, Goettel, and Woo (ed.)), IOBC Global. Available online through [www.IOBC-Global.org](http://www.IOBC-Global.org)**

**Mark S. Goettel<sup>1</sup>, Vijay Cuddeford<sup>2</sup>, and J. Todd Kabaluk<sup>3</sup>**

<sup>1</sup> Research Fellow, Agriculture and Agri-Food Canada, Lethbridge Research Centre, Lethbridge, Alberta

<sup>2</sup> Regulatory Consultant, North Vancouver, British Columbia, Canada

<sup>3</sup> Biologist, Agriculture and Agri-Food Canada, Pacific Agri-Food Research Centre, Agassiz, British Columbia

Chemical pesticides remain the primary weapons used against pests in agriculture, forestry, and urban settings. Dependence on traditional chemicals cannot be relied upon indefinitely due to the development of pesticide resistant pests, environmental and human safety concerns, public demand for what appear to be safer products, product withdrawals, and expanding markets for pesticide-free produce. Integrated pest management practices that increase the use of biopesticides are being promoted as the best alternative for sustainable production systems. These goals are achieved by the exploitation of biological control either through conservation of naturally occurring predators, parasitoids, pathogens or antagonists, or through their artificial augmentation. Used in the latter form, these microbial pesticides include pathogens or antagonists such as bacteria, fungi, protozoa or viruses that are mass produced and inundatively applied for management of pest invertebrates, weeds, and plant diseases. Although over 100 microorganisms have been developed as microbial pesticides (Copping 2004; Kabaluk and Gazdik 2010; Kabaluk et al. 2010a), their adoption in the form of products for pest management remains minor compared to synthetic pesticides. Exceptions do exist: Cuba's ecological approach to pest management makes widespread use of microbial pesticides, supplied by a network of government operated production facilities throughout the country (Henderson and Ayala 2010). Brazil claims the largest single microbial biocontrol programme in agriculture worldwide, targeting vast areas of soybean with *Anticarsia gemmatalis* nucleopolyhedrosis virus for control of the velvet bean caterpillar (Rangel and Faria 2010). In many countries, the primary motivation for the development and adoption of biopesticides has been due to the development of pest populations resistant to chemical pesticides. For instance, widespread failure of chemical insecticides to control *Helicoverpa armigera*, *Spodoptera litura*, and other pests in cotton in India prompted efforts to develop systematic integrated pest management (IPM) and insecticide resistance management programmes with biopesticides as major components (Rabindra and Grzywacz 2010). Similarly in Australia, biopesticides have been widely adopted in the commercial cotton and sorghum industries for area-wide integrated pest management programmes established to manage resistance to chemical insecticides in *Helicoverpa* species, and to reduce secondary pest outbreaks by maintaining beneficial insect populations (Hauxwell et al. 2010). In New Zealand, biological control has been recognized as a means of producing meat and milk products free of chemical residues, resulting in the commercialisation of the grass grub control product Bioshield, based on the bacterium *Serratia entomophila* (Jackson et al. 2010). But overall, the availability of products and adoption of biopesticides worldwide is variable: there are fewer than 15 registered products available in Argentina (Lopez Lastra 2010) and the United Kingdom (Gwynn and Dale 2010), while there are over 100

products registered in the United States (Braverman 2010) and well over 300 in China (Wang and Li 2010). However, the situation is rapidly changing in many countries. For instance, although only 18 products are presently registered in South Korea, another 20 are pending registration (Kim et al. 2010). Canada too has recently experienced a significant increase in the number of registered microbial pesticides - from 13 unique microorganisms registered as of 2004, to 36 as of 2010 (Kabaluk et al. 2010a).

Although biopesticides derived from naturally occurring microorganisms are generally considered to provide an environmentally benign pest control option, they may not be entirely free of hazards and consequently require a risk assessment. Risks associated with the introduction of microbial plant protection products are related to toxicity, infectivity, pathogenicity and displacement of non-target organisms, and the potential irreversibility of introduction (Laird et al. 1990; Cook et al. 1996; Goettel and Hajek 2001; Jaronski et al. 2003). When there is a risk of harm to human health and the environment from introduction of a marketed product, regulatory procedures for pre-market assessment of safety are common in most industrialized countries. Regulatory frameworks for pest control products typically include procedures to assess safety to consumers, pesticide applicators, and non-target organisms in the environment. Successful regulatory frameworks provide protection, facilitate the availability of biopesticides, and contribute to economic activity in the agricultural sector. Dysfunctional regulatory systems err either through loosely enforced or inadequate procedures that fail to protect environmental and human health, or by blocking product introduction through onerous data requirements and unpredictable procedures. Overly burdensome information requirements for product registration may not only deter innovation, but may actually place the public and the environment at greater risk because new and safer products are barred from the market (excerpt from Cuddeford and Kabaluk 2010).

Regulatory processes are inevitably time-consuming and costly. The time required in assessing the safety and effectiveness of a product means that its introduction to the market is delayed. As the microbial pest control industry is dominated by small and medium enterprises, delays can be exacerbated because cost control involved in data generation is more critical. Biopesticide companies generally cater to niche markets which are relatively small. This characteristic further contributes to difficulties in obtaining good investment returns that would otherwise keep companies financially healthy and actively pursuing research, development, and growth.

One way to streamline and hasten the registration process is the international harmonization of regulatory frameworks for data requirements, fees, timelines, criteria for approval, and risk assessment procedures. This seems to be a natural tendency, and major steps have already been taken to increase the transparency and harmonization of data requirements as well as the procedures for risk assessment, at the Organization for Economic Cooperation and Development, North American, and European Union levels (Cuddeford and Kabaluk 2010; Gwynn and Dale 2010; Kabaluk et al. 2010a). Africa, although not formally harmonized, defers to common regulatory principles as prescribed by the Food and Agriculture Organization of the United Nations, with Kenya leading the continent with respect to biopesticide-specific regulation (Gwynn and Maniania 2010). The regulation of pesticides among the Newly Independent States of the former Soviet Union has understandably become disjointed, and microbial pesticide use in Eastern European countries is minimal (Anishchenko et al. 2010).

In addition to harmonization of regulatory requirements and risk assessments, it is imperative that the regulatory approach be weaned from a commonly inappropriate model derived from the regulation of synthetic chemicals (Jaronski et al. 2003; Chandler et al. 2008). Chandler et al. (2008) contend that “a failing in the regulatory process has created a barrier to getting more products on the market, caused in part by failure to apply ecological theory to the environment risk evaluation of products set within an overall regulatory framework that encourages innovation”. Certainly data requirements that do not directly address pertinent risks can unnecessarily incur costs by registrants. Chandler et al. (2008) also claim that the marked differences in the availability of products can also be explained by differences in the regulatory systems among different countries.

The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide (Kabaluk et al. 2010b) generalizes the use of microbial pesticides in a range of countries, presents a

narrative or itemizes key elements of regulatory systems and agencies involved, and discusses organizations involved in the promotion of biological control, which can indicate a country's support for alternatives to synthetic pesticides at both governmental and non-governmental organization levels. Tables list microorganisms and products registered for pest control in 42 countries. Represented jurisdictions include: Africa (Kenya), Asia (China, India, and South Korea), Europe (European Union countries with special reference to the United Kingdom; Ukraine, Moldova, and Russia), Latin America (Argentina, Brazil, and Cuba), North America (Canada and the United States) and Oceania (Australia and New Zealand).

While some contributions by the authors may support the conclusion by Chandler et al. (2008) that regulatory constraints are a major factor in the availability of products in certain jurisdictions, they also demonstrate that regulatory systems and support are evolving, and regulators are hearing the case that special treatment of microbial pesticides is required. For example, in Canada and the United States, the recent harmonization of registration submissions and reviews are streamlining the registration process for registrants in both countries. The development of this process was largely influenced by the activities of Health Canada's Pest Management Regulatory Agency and the United States Environment Protection Agency on the international stage with respect to regulatory cooperation. Government programmes within Canada are currently offering regulatory support for registrants, which are accelerating the appearance of new microbial pesticides in the Canadian market. Together, these advances, rather than changing the standards under which the regulatory system are bound, are aimed on eliminating redundancy and offer guidance through what has been considered a complex network of processes.

Over time, scientists will inevitably gain more knowledge on the ecology, phylogeny, biogeography, mode of action, and persistence of microorganisms destined for use as biopesticides. An expanded body of scientific information will hopefully become a familiar resource to which regulators can refer so that unnecessary regulatory oversight will follow. There is existing evidence that this is taking place. In Tanzania, for example, indigenous baculoviruses are entirely exempt from registration for use on particular pandemic occurrences of lepidopteran pests (Gwynn and Maniania 2010).

The contributions to this book demonstrate that regulatory systems for microbial pesticides are varied, but in many cases, in a state of evolution. As complex and entrenched in the model for synthetic pesticides as they can appear to be, progress is slowly making room for microbial pesticides to become more prominent tools for pest control (Cuddeford and Kabaluk 2010).

## REFERENCES

- Anishchenko, I., S. Lapa, L. Cepoi, N. Voloshchuk, T. Bondar, I.I. Koshevskiy, N. Goncharenko, A.P. Gryganskyi, and J.T. Kabaluk. 2010. Ukraine, Russia, and Moldova. p35-41, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Braverman, M. 2010. United States. p74-79, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Chandler, D., G. Davidson, W.P. Grant, J. Greaves and G.M. Tatchell. 2008. Microbial biopesticides for integrated crop management: an assessment of environmental and regulatory sustainability. *Food Sci. Technol.* 19: 275-283.
- Cook, R.J., W.L. Bruckart, J.R. Coulson, M.S. Goettel, R.A. Humber, R.D. Lumsden, J.V. Maddox, M.L. McManus, L. Moore, S.F. Meyer, P.C. Quimby, J.P. Stack and J.L. Vaughn. 1996. Safety of microorganisms intended for pest and plant disease control: A framework for scientific evaluation. *Biol. Contr.* 7: 333-351.
- Copping, L.G. 2004. *The Manual of Biocontrol Agents*. BCPC Publications. Alton, UK.
- Cuddeford, V. and Kabaluk, J.T. 2010. Alternative regulatory models for microbial pesticides. p94-98, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).

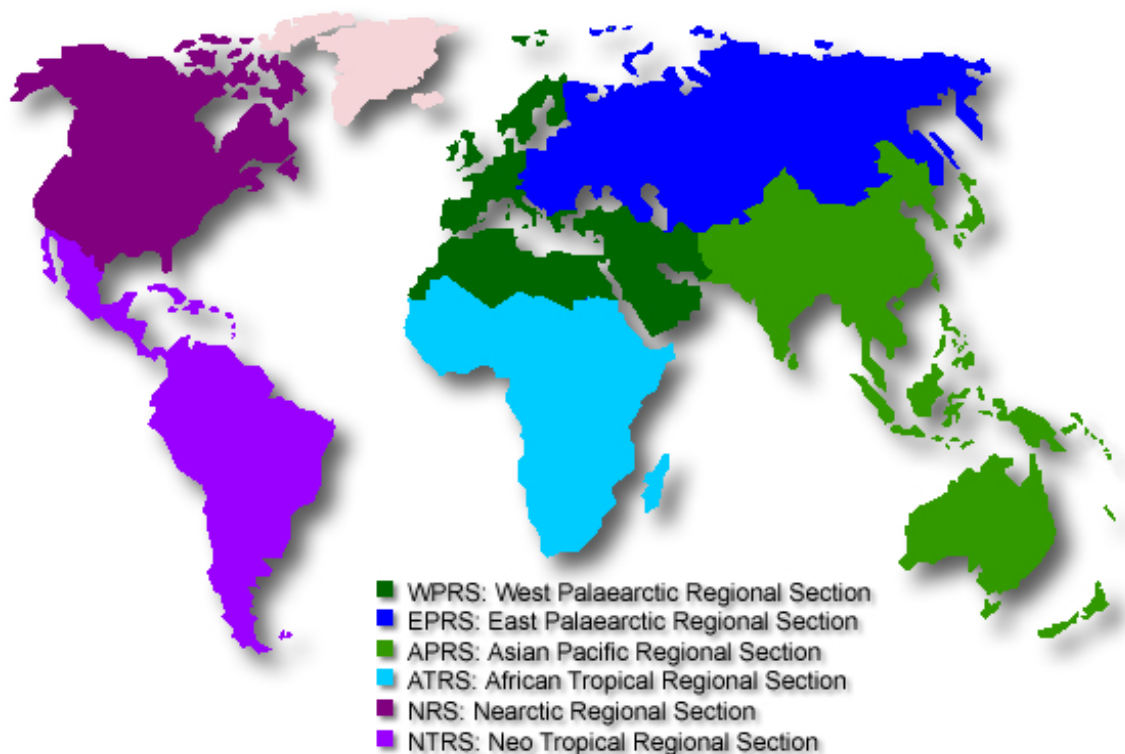
- Goettel, M.S and A.E. Hajek. 2001. Evaluation of non-target effects of pathogens used for management of arthropods. p81-97, *In* E. Wajnberg, J.K. Scott and P.C. Quimby (ed.), *Evaluating Indirect Ecological Effects of Biological Control*. CABI Press. Wallingford, U.K.
- Gwynn, R.L. and J. Dale. 2010. European Union with Special Reference to the United Kingdom. p24-34, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Gwynn, R.L. and J.N.K. Maniania. 2010. Africa with Specific Reference to Kenya. p1-6, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Hauxwell, C., M. Tichon, P. Buerger, and S. Anderson. 2010. Australia. p80-88, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Henderson, D.E. and J.L. Ayala. 2010. Cuba. p51-58, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Jackson, T.A., M. Brownbridge, and T.R. Glare. 2010. New Zealand. p89-93, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Jaronski, S.T., M.S. Goettel, and C.J. Lomer. 2003. Regulatory requirements for ecotoxicological assessments of microbial insecticides - how relevant are they? p237-260, *In* H.M.T. Hokkanen and A.E. Hajek (ed.), *Environmental Impacts of Microbial Insecticides*. Kluwer Academic Publishers. Dordrecht, The Netherlands.
- Kabaluk, J.T. and K. Gazdik. 2010. *unpublished update of Directory of microbial pesticides of agricultural use in OECD countries (2007)*. Catalogue No. A42-107/2007E-PDF; ISBN 987-0-662-47103-5. (in English and French)
- Kabaluk, J.T., V. Brookes, and A.M. Svircev. 2010. Canada. p59-73, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Kabaluk, J.T., A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.). 2010. *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. 99p. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Kim, J.J., S.G. Lee, S. Lee, and H.J. Jee. 2010. South Korea. p18-23, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Laird, M., L.A. Lacey, and E.W. Davidson (ed.). 1990. *Safety of Microbial Insecticides*. CRC Press. Boca Raton, FL, USA.
- Lopez Lastra, C. 2010. Argentina. p42-45, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Rabindra, R.J. and D. Grzywacz. 2010. India. p12-17, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Rangel, D.E.N. and M. Faria. 2010. Brazil. p46-50, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).
- Wang, B. and Z. Li. 2010. China. p7-11, *In* J.T. Kabaluk, A.M. Svircev, M.S. Goettel, and S.G. Woo (ed.), *The Use and Regulation of Microbial Pesticides in Representative Jurisdictions Worldwide*. IOBC Global. Available through [www.IOBC-Global.org](http://www.IOBC-Global.org).

## 9. TWO NEW HONARARY MEMBERS OF IOBC GLOBAL

During the combined IOBC meetings of the '8<sup>th</sup> International Workshop on Biological Control and management of *Chromolaena odorata* and other Eupatorieae' and '1<sup>st</sup> International Workshop on Biological Control and management of *Parthenium hysterophorus*' held in Nairobi, Kenya, from 1-5 November 2010, IOBC Global honorary memberships were awarded to two long-serving researchers. **Dr. Rachel McFadyen** and **Dr. Rangaswamy Muniappan** were lauded for their past, current and future contributions to the field of biological control on 3 November 2010 at a cocktail function held at the IUCN offices in Nairobi. Both researchers have dedicated most of their working lives to the discipline, and even in retirement remain actively involved with IOBC related activities.



## 10. REGIONAL SECTIONS OF IOBC



Short information of all the Regional Sections, with a link to their websites, can be found on [www.IOBC-Global.org](http://www.IOBC-Global.org).

### ASIA AND THE PACIFIC REGIONAL SECTION (APRS)

**President:** Dr. Leigh Pilkington, Gosford Horticultural Institute, Locked Bag 26, Gosford NSW 2250, AUSTRALIA, Telephone: +61 2 4348 1953 , Fax: +61 2 4348 1910 , Mobile: +61 409 77 00 61 , Email: [leigh.pilkington@dpi.nsw.gov.au](mailto:leigh.pilkington@dpi.nsw.gov.au)

**Vice Presidents:** Prof. Shu-Sheng Liu (Zhejiang University, China), Institute of Insect Sciences, Zhejiang University, 268 Kai Xuan Road, Hangzhou 310029, People's Republic of China, Tel. (86-571) 86971505, Fax (86-571) 86049815, E-Mail: [shshliu@zju.edu.cn](mailto:shshliu@zju.edu.cn)

Dr. Takatoshi Ueno, Institute of Biological Control, Kyushu University, Fukuoka 812-8581, JAPAN, Tel. +81-92-642-3036 (office), Fax.+81-92-642-3040, E-mail: [ueno@grt.kyushu-u.ac.jp](mailto:ueno@grt.kyushu-u.ac.jp)

**Secretary General:** Dr. Barbara Barratt, Programme leader for Biosecurity at AgResearch in New Zealand. Private Bag 50034 Mosgiel New Zealand, Email: [barbara.barratt@agresearch.co.nz](mailto:barbara.barratt@agresearch.co.nz).

**Treasurer:** Gary Leason BSc, Organic Crop Protectants Pty Ltd, 42 Halloran St, NSW 2040 AUSTRALIA, [garyl@ocp.com.au](mailto:garyl@ocp.com.au)

**Past President:** Prof.dr. Eizi Yano



Website with all relevant information about APRS: <http://iobc-aprs.org>

### AFROTROPICAL REGIONAL SECTION (ATRS)

This section of IOBC is looking for candidates for an Executive Committee. For ideas to reactivate this section, please contact [Joop.vanLenteren@wur.nl](mailto:Joop.vanLenteren@wur.nl)



### EAST PALEARCTIC REGIONAL SECTION (EPRS)

**President:** Dr. Danuta Sosnowska. Institute of Plant Protection, Department of Biocontrol and Quarantine, 60-138 Poznan, Miczurina Str. 20, Poland.

Email: [D.Sosnowska@ior.poznan.pl](mailto:D.Sosnowska@ior.poznan.pl)



**Vice-President:** Prof. Milka Glavendekic, University of Belgrade, Faculty of Forestry, Belgrade, Serbia; e-mail: milka.glavendekic@nadlanu.com

**Vice-President:** Prof. V. Dolzenko, All-Russian Plant Protection Institute, St. Petersburg, Russia

**General Secretary:** Dr. Yuriy Gninenko, All-Russian Research Institute for Sylviculture and Mechanization of Forestry, e-mail: gninenko-yuri@mail.ru

**Executive secretary:** Dr. Edvard Sodomov, Moscow, Russia

**Past President:** Dr. Istvan Eke, Hungary

### NEARCTIC REGIONAL SECTION (NRS)

**President:** Les Shipp, Agriculture and Agri-Food Canada, Harrow, Ont., N0R 1G0 Canada. Email: shippl@agr.gc.ca

**President-Elect:** Doug Landis, Center for Integrated Plant Systems, Michigan State University, East Lansing, MI. landisd@msu.edu

**Past President:** Marshall W. Johnson, Department of Entomology, University of California-Riverside, Kearney Agricultural Center Parlier, CA.. mjohnson@uckac.edu

**Vice-President:** James Hagler, Pest Management and Biological Control Research Unit, Arid Land Agricultural Research Center, USDA-ARS, Maricopa, AZ. James.Hagler@ars.usda.gov

**Secretary Treasurer:** Stefan Jaronski, Pest Management Research Unit, Northern Plains Agricultural Research Laboratory, USDA-ARS, Sidney, MT. bug@midrivers.com

**Corresponding Secretary:** Jonathan Lundgren, North Central Agricultural Research Laboratory, USDA-ARS, Brookings, SD Jonathan.Lundgren@ars.usda.gov

#### Members at Large

Ray Carruthers, Exotic and Invasive Weeds Research, Western Regional Research Center, USDA-ARS, Albany, CA Ray.Carruthers@ars.usda.gov

Mark Hoddle, Department of Entomology, University of California-Riverside, Riverside, CA mark.hoddle@ucr.edu

Janet Knodel, Department of Entomology, North Dakota State University, Fargo, ND janet.knodel@ndsu.edu

Website with all relevant information about NRS: [www.iobcnrs.com/](http://www.iobcnrs.com/)

### NEOTROPICAL REGIONAL SECTION (NTRS)

**President:** Prof.dr. Vanda .H.P. Bueno, Department of Entomology/UFLA, P.O.Box 3037, 37200-000 Lavras, MG, Brazil. Email: vhpbuono@ufla.br

**Secretary General:** Dr. William Cabrera, South American Biological Control Laboratory, Agricultural Counselor American Research Service Laboratory, USDA--ARS, U.S. Embassy--Buenos Aires. Unit 4325, APO AA 34034--0001. Email: gcabrera@speedy.com.ar

**Treasurer:** Dr. Luis Devotto, Avda. Vicente Méndez 515, and Instituto de Investigaciones Agropecuarias (INIA), Chillán, Chile. Email: ldevotto@inia.cl

**Vice President 1:** Dr. Maria Manzano, Universidad Nacional de Colombia, sede Palmira, Colombia. Email: mrmanzano@palmira.unal.edu.co

**Vice President 2:** Dr. Mary M. Whu Paredes, Enrique León García N° 527. Urb. Chama-Surco. Unidad de Producción de Insectos Benéficos del Programa Nacional de Control Biológico del Servicio Nacional de Sanidad Agraria -SENASA Lima-Perú. E-mail: mwhu@senasa.gob.pe

**Vice President 3:** Dr. Leopoldo Hidalgo, Centro Nacional de Sanidad Agropecuaria (CENSA), Carretera a Tapaste y 8 vías, Apartado 10, CP 32700, San José de las Lajas, La Habana, Cuba. Email: lhidalgo@censa.edu.cu

**Past President:** Dr. Raquel Alatorre, Mexico. Email: alatoros@colpos.mx



## Next Meeting of NTRS: First Announcement



**Exchanges of Experiences in the Mass Production and Use of Biological Control Agents.**

**IOBC/NTRS Joint Meeting with the International Seminar on Animal and Plant Health**

*hosted by:*

The National Center for Animal and Plant Health (CENSA), San Jose de las Lajas, La Habana, Cuba  
3 - 6 May 2011, Palace Convention Center, Havana, Cuba

*In cooperation with:*

Agrarian University (UNAH), Institute of Plant Protection (INISAV), National Center of Plant Protection (CNSV) and the Ministry of Agriculture (MINAG)

### SESSIONS TOPICS:

1. Biodiversity in Latin America and the Provision of Natural Enemies: what are the possibilities or options?
2. Advances and Challenges for Mass Production, Quality Control and Release Methods of Natural Enemies.
3. Registration of Natural Enemies and Access Benefit Sharing in Biological Control.
4. Recent Advances in Biological Control of the Tomato Leafminer *Tuta absoluta* and other Emergent Pest for the Region.
5. Biological Control and GMO's: what are the opportunities for combining these two approaches?
6. Impact of Educational and Extension Programs in the Use of Biological Control for Local Farmers in the Region.

**For additional information, registration and accommodation on line**, please visit the website:

[www.sanidadagropecuaria.com](http://www.sanidadagropecuaria.com)

**For sending abstract:** [sisa2011@censa.edu.cu](mailto:sisa2011@censa.edu.cu), to the attention of IOBC/NTRS Meeting

**For all questions concerning the IOBC/NTRS Scientific Programme**, please contact

Leopoldo Hidalgo-Diaz directly: [lhidalgod@infomed.sld.cu](mailto:lhidalgod@infomed.sld.cu); [lhidalgo@censa.edu.cu](mailto:lhidalgo@censa.edu.cu)

### WEST PALEARCTIC REGIONAL SECTION (WPRS)

**President:** Dr. F. Bigler, Federal Department of Economic Affairs DEA  
Agroscope Reckenholz-Tänikon Research Station ART, Biosafety Group  
Reckenholzstrasse 191, CH-8046 Zürich, SWITZERLAND, email:  
[franz.bigler@fal.admin.ch](mailto:franz.bigler@fal.admin.ch)

**Vice Presidents:** **Dr. Lene SIGSGAARD**, Sweden, [les@life.ku.dk](mailto:les@life.ku.dk); **Dr. Heidrun VOGT**, Germany, [www.jki.bund.de](http://www.jki.bund.de); **Dr. Phyllis G. WEINTRAUB**, Israel, [phyllisw@volcani.agri.gov.il](mailto:phyllisw@volcani.agri.gov.il)



**Secretary General:** Dr. Philippe Nicot, INRA, Unité de Pathologie Végétale, Domaine St Maurice - B.P. 94, F-84143 Montfavet Cedex, FRANCE, email: nicot@avignon.inra.fr

**Treasurer:** Dr. Sylvia Blümel, Austrian Agency for Health and Food Safety (AGES), Institute of Plant Health (PGH), Spargelfeldstr. 191, A-1220 Wien, AUSTRIA, email: sylvia.bluemel@ages.at

Website with all relevant information about WPRS: [www.iobc-wprs.org](http://www.iobc-wprs.org)

## 11. WORKING GROUPS OF IOBC GLOBAL

**Below, we only present limited information about the Working Groups, most information is regularly updated on the websites of the working groups or the website of IOBC Global.**

### WG ARTHROPOD MASS-REARING AND QUALITY CONTROL

**Dr. P. De Clercq**, Laboratory of Agrozoology, Department of Crop Protection, Faculty of Bioscience Engineering, Ghent University, Belgium. Email: Patrick.DeClercq@ugent.be; **Dr. T. Coudron**, USDA-ARS, Columbia, Missouri, USA. Email: coudront@missouri.edu

Proceedings of the workshops are now available online on the website as pdf-files

Latest activity: The 12th workshop of the IOBC global WG on Arthropod Mass Rearing & Quality Control (AMRQC) was held in Vienna, Austria from 19 to 22 October 2010, under the theme of "Blueprint for the future of arthropod rearing and quality assurance". It was organized as a joint meeting of AMRQC, the Association of Natural Bio-control Producers (ANBP), the International Biocontrol Manufacturers Association (IBMA), and the ASTM Subcommittee E35.30 on Natural Multi-Cellular Biological Control Organisms and ran in cooperation with the International Atomic Energy Agency (IAEA). The workshop was co-chaired by AMRQC co-convenors Thomas Coudron (USDA-ARS, USA) and Patrick De Clercq (Ghent University, Belgium), and by Andrew Parker (FAO/IAEA, Austria), who acted as the meeting's host.

Some 100 delegates from 29 countries participated in the event. The workshop focused on different issues related to the rearing of entomophagous and phytophagous insects and mites and of entomopathogenic nematodes, and gave attention to the principles and practices of quality assurance. Seven symposia, with 41 oral presentations and 23 posters, addressed the different aspects of arthropod and nematode rearing as it relates to quality assurance:

- The Role of Microbiota in Insect Mass Rearing and Quality Control (chair: Patrick De Clercq, Ghent University, Ghent, Belgium)
- Entomopathogenic Nematodes: Producing a High Quality, Effective Product for Expanding the Agricultural Market (chair: Lynn LeBeck, ANBP, Clovis, CA, USA)
- SIT Applications and Other Uses of Irradiation Technology (chair: Andrew Parker, FAO/IAEA, Seibersdorf, Austria)
- Application of New Technology to Mass Insect Rearing and Quality Control (chair: Tom Coudron, USDA-ARS, Columbia, MO, USA)
- New, Novel, Innovative and Emerging Applications of Insect Rearing (chair: Karel Bolckmans, Koppert BV, Berkel en Rodenrijs, The Netherlands)
- New and Future Applications for Mass Rearing Insects and Quality Control (chair: Norman Leppla, University of Florida, Gainesville, FL, USA)
- Predatory Mites (chair: Kim Gallagher Horton, Sterling Insectary, Delano, CA, USA)

Papers in these symposia served as a basis for discussion and exchange, with the final aim of improving collaboration among scientists, practitioners and regulators. An important take home message for the meeting was that workers on invertebrate rearing in the field of integrated pest management, biological

control, or sterile insect techniques can learn from those who are producing invertebrates for very different purposes, like insects reared for human or animal food, as they face similar challenges. During the concluding business meeting, a proposal was accepted to change of name of this IOBC Global working group to: "Mass Rearing and Quality Assurance" Working Group. The next workshop of the AMRQC-MRQA group was projected to be in 2013 in Bangalore, India.

For viewing pdf-files of presentations and posters please follow this link:

<http://www-pub.iaea.org/MTCD/Meetings/Announcements.asp?ConfID=38586>



Participants of the 12th workshop of the IOBC Global Working Group on Arthropod Mass Rearing & Quality Control (AMRQC) in Vienna, Austria, October 2010

See website for details on future activities and for proceedings of meetings: [www.amrqc.org](http://www.amrqc.org)

### **WG ECOLOGY OF APHIDOPHAGA**

**Convenor:** IOBC Contact: **Dr. J.P. Michaud** (USA) Associate Professor of Entomology, Kansas State University Agricultural Research Center-Hays 1232 240th Ave. Hays, KS, 67601. Email: [jpmi@ksu.edu](mailto:jpmi@ksu.edu).

Latest activity: The 11<sup>th</sup> meeting of the official IOBC working group "Ecology of Aphidophaga" was held in the historic and scenic Umbria region of central Italy (Perugia Italy, Sept 19 – 24, 2010) and attended by just over 100 participants from 30 different countries. Participation by seven IOBC student

members was made possible by travel grants from the IOBC. The meeting was chaired by Dr. J.P. Michaud of Kansas State University and the local organizing committee was headed by Prof. Carlo Ricci, University of Perugia. In addition to hearing stimulating presentations on recent research developments concerning aphid-feeding arthropods and engaging in animated discussions on their favorite topics, participants were treated to exquisitely catered food services, wine tastings, live entertainment, and a lavish banquet on Thursday evening. Wednesday was designated for local touristic activities and included a guided tour of the historic village of Assisi, followed by a tour of a local winery. By all accounts, a good time was had by all and members are looking forward to the next meeting scheduled to be held in Belgrade, Serbia in the fall of 2013.



Participants at the 11<sup>th</sup> meeting of the IOBC Global Working Group Ecology of Aphidophaga in Perugia, Italy, September 2010

See website for future activities: [www.aphidophaga.org](http://www.aphidophaga.org)

### **WG BIOLOGICAL CONTROL OF CHROMOLAENA ODORATA (SIAM WEED)**

**Convenor:** Dr. Costas Zachariades, ARC-PPRI, Private Bag X6006, Hilton, 3245 South Africa; Tel 033-3559418, cell 0833152100, fax 033-3559423. Email: [ZachariadesC@arc.agric.za](mailto:ZachariadesC@arc.agric.za)

**Activities:** Two recent combined international workshops singularly focused their attention on a pair of globally widespread, highly noxious weed species, and generated biological control-related recommendations based on the input of the attending weed scientists and other concerned specialists. Among the actions suggested during the parallel events concerning biocontrol of *Chromolaena odorata* and *Parthenium hysterophorus* was the need to vastly expand awareness of, and information about, the two species as well as ramp up efforts to survey, monitor, and if possible contain outbreaks and prevent further spread. The workshops, convened in Nairobi, KENYA, emphasized application of biocontrol methods and recommended introduction of the weeds' natural enemies. Governmental officials across Africa and Asia were urged to promptly initiate programs or, where programs exist, to intensify and broaden activities based on an integrated approach.

The two events were the: 8th IOBC International Workshop on Biological Control and Management of *Chromolaena odorata* and other Eupatorieae, and the 1st IOBC International

Workshop on Biological Control and Management of *Parthenium hysterophorus* held concurrently during November 2010. The workshops, held at the World Agroforestry Centre (ICRAF) and hosted by CABI, IUCN and GISP, were attended by a total of 45 participants from 16 countries (Australia, Bangladesh, Ethiopia, Ghana, India, Jamaica, Kenya, Mauritius, Nigeria, Pakistan, Papua New Guinea, South Africa, Tanzania, Thailand, Uganda, USA). Most delegates attended both workshops. Kenya was chosen as a venue because both *Chromolaena* and *Parthenium* are spreading across East Africa.

During the *Chromolaena* section, 24 oral, and one poster, presentations were made on distribution, spread, impacts, ecology and control of *Chromolaena odorata*, *Mikania micrantha*, *Ageratina adenophora* and *Campuloclinium macrocephalum*. Dr A. Witt (CABI) gave a keynote address on invasive alien plants in Africa and their control prospects. Opportunities for discussion of issues arising from the presentations were well used. As has been the practice over the previous seven IOBC *Chromolaena* workshops, the workshop ended with the promulgation of a set of technical recommendations, based on new information emanating from it.

Newsletter: the *Chromolaena odorata* Newsletter is available on the website of the WG

See website for future activities/newsletter: <http://www.ehs.cdu.edu.au/chromolaena/siamhome.html>

### **WG BIOLOGICAL CONTROL OF PLUTELLA**

**Convenors: Dr. A.M. Shelton**, Department of Entomology, Cornell University, New York State Agricultural Experiment Station, 416 Barton Lab Geneva, NY 14456, USA. Tel: +1-315-787-2352. Fax: +1-315-787-2326. Email: [ams5@cornell.edu](mailto:ams5@cornell.edu). **Dr. A. Sivapragasam**, Strategic, Environment and Natural Resources Centre, MARDI, Kuala Lumpur, Malaysia. Email: [sivasam@mardi.my](mailto:sivasam@mardi.my). **Dr. D.J. Wright**, Department of Biology, Imperial College at Silwood Park, Ascot, Berkshire, UK. Email: [d.wright@ic.ac.uk](mailto:d.wright@ic.ac.uk)

Future activity: the WG next meeting is scheduled for 2011 in Thailand.

See website for future activities: <http://www.nysaes.cornell.edu/ent/dbm/>

### **WG BIOLOGICAL CONTROL OF WATER HYACINTH**

**Chairman: Dr Martin Hill**, Department of Zoology and Entomology, Rhodes University, P.O. Box 94, Grahamstown, 6140, South Africa. Email: [m.p.hill@ru.ac.za](mailto:m.p.hill@ru.ac.za)

Website: [www.waterhyacinth.org](http://www.waterhyacinth.org)

### **WG EGG PARASITIDS**

Future activities: The global working group will be terminated. The activities of the egg parasitoid working group will be continued by NTRS. More news in the next newsletter.

Newsletter: the Egg Parasitoid Newsletter is available on the website of the WG

Website: <http://www.lef.esalq.usp.br/iobc-epwg>

### **WG BENEFITS AND RISKS ASSOCIATED WITH EXOTIC BIOLOGICAL CONTROL AGENTS**

**Convenors: Dr. P. Mason & Dr. G. Heimpel**. Contact: Dr. Peter Mason, Agriculture and Agri-food Canada, Neatby Building Central Experimental Farm, 960 Carling Avenue, Ottawa, Ontario, K1A 0C6 Canada. Email: [masonp@agr.gc.ca](mailto:masonp@agr.gc.ca)

A first meeting of this new WG was held in May 2010 in Canada.

## **WG IWGO – *OSTRINIA* AND OTHER MAIZE PESTS**

**Convenors:** **Dr. U. Kuhlmann**; CABI-BioScience; Head Agricultural Pest Research CABI Bioscience Switzerland Centre, Delémont; Switzerland, Email: u.kuhlmann@cabi.org. **Dr. C. R. Edwards**; Purdue University; Dep. of Entomology; Indiana; USA; Email: richedwards@entm.purdue.edu. **Prof. Dr. Wang Zhenying**; Institute of Plant Protection of the Chinese Academy of Agricultural Sciences, Beijing, P.R. China, Email: zywang@ippcaas.cn

Future activities

- 24<sup>th</sup> IWGO Conference will be organized in early spring 2011 (most probably in Switzerland).
- Starting to develop a General IPM Technical Guideline for maize production for Europe in order to define the minimum agronomic requirements.
- IWGO members will be contributing to the establishment of a new version of an EU Directive for managing *Diabrotica*.
- 25<sup>th</sup> IWGO Conference will be organized in early spring/autumn 2013 (most probably in U.S.A. or China).

Newsletter: the IWGO Newsletter is published on the website of the WG.

All relevant data, reports and future meetings are published on the IWGO website:  
<http://www.iwgo.org>

## **GLOBAL WG ON BIOLOGICAL CONTROL AND MANAGEMENT OF PARTHENIUM WEED**

**Convenor:** **Kunjithapatham Dhileepan**, Kunjithapatham.Dhileepan@deedi.qld.gov.au

Activities: Two recent combined international workshops - 8th IOBC International Workshop on Biological Control and Management of *Chromolaena odorata* and other Eupatorieae, and the 1st IOBC International Workshop on Biological Control and Management of *Parthenium hysterophorus* - focused their attention on a pair of globally widespread, highly noxious weed species, and generated biological control-related recommendations based on the input of the attending weed scientists and other concerned specialists. The workshops, convened in Nairobi, KENYA, emphasized application of biocontrol methods and recommended introduction of the weeds' natural enemies. Governmental officials across Africa and Asia were urged to promptly initiate programs or, where programs exist, to intensify and broaden activities based on an integrated approach.

Attendees representing some some dozen organizations and governments recommended continuation of the International *Parthenium* Weed Newsletter and expanded coverage to include other *Parthenium*-related projects. Development and creation of a *Parthenium* website was also suggested. Future jointworkshops gained support as a mechanism to avoid duplication and promote coordination.

The *Parthenium* section was held in combination with the USAID-funded IPM-CRSP project on *Parthenium* in East Africa. Seventeen oral presentations and three poster presentations were given. Again, discussion was robust and this first IOBC *Parthenium* workshop ended with the promulgation of a set of recommendations.

## **GLOBAL WG ON TRANSGENIC ORGANISMS IN IPM AND BIOCONTROL**

**Convenors:** **Dr. Angelika Hilbeck**, Swiss Fed. Inst. of Technology, Geobotanical Institute, Zurichbergstr. 38, CH-8044,Zurich. Tel: +41 (0) 1 632 4322. Fax:+ 41 (0) 1 632 1215. Email: angelika.hilbeck@env.ethz.ch. **Dr. Salvatore Arpaia**, Italy. Email: arpaia@trisaia.enea.it. **Dr. Nick Birch**, UK. Email: n.birch@scri.sari.ac.uk. **Dr Gabor Lovei**, Denmark. Email: gabor.lovei@agrsci.dk;

Proposed activities 2008 – 2012: see website via [www.IOBC-Global.org](http://www.IOBC-Global.org)

**Newsletter:** E-newsletters are sent out periodically by the WG co-convenors to members of the projects linked to the WG.

## 12. LATEST NEWS

Well, not the latest news, but we found the following citation in an unpublished manuscript of a lecture which R.L. Doutt, Professor Emeritus, Univ California, Berkeley, presented during the congress memorizing 100 years of biological control in Riverside, California, USA in 1989: ... *A most gratifying aspect of research in biological control is that one works with intricate biologies of the insects involved. So even though we in biological control were long ridiculed by the dominating chemical control proponents as the lunatic fringe of economic entomology, nevertheless I have always had some compassion for other entomologists assigned to chemical control for they seemed endlessly only to apply chemical compounds and count dead insects. They were rich from grants from industry, arrogant in short-range success, but impoverished as biological scientists...*

Phyllis Weintraub has been able to get IOBC on WIKIPEDIA. Thank you Phyllis! See:

[http://en.wikipedia.org/wiki/International\\_Organization\\_for\\_Biological\\_Control](http://en.wikipedia.org/wiki/International_Organization_for_Biological_Control)

IOBC members: translate the information in your language and keep us updated about translation activities.

**Information about Congresses and Meetings in the field of biological control and integrated pest management can be found at:**

(1) [www.IOBC-WPRS.org](http://www.IOBC-WPRS.org) and

(2) IPMnet News at: [http://www.ipmnet.org/IPMNews/main\\_page.html](http://www.ipmnet.org/IPMNews/main_page.html)

**Database lists biocontrol agents in New Zealand**

This freely accessible database, <http://tinyurl.com/m5jLpf> was developed by C.M. Ferguson, *et al*, and includes information about the host, origin of the biocontrol agent, numbers introduced, and release sites, plus both target and non-target effects. Reference are included as available. The information can be searched by target, by decade of importation, or by an alphabetical listing. The material is said to be continually brought up to date. -> B.I.P. Barratt, AgResearch Ltd., IAC, Private Bag 50034, Mosgiel, NEW ZEALAND. [Barbara.Barratt@agresearch.co.nz](mailto:Barbara.Barratt@agresearch.co.nz).

**Currently, effects of neonicotinoids on ecosystems are receiving much attention worldwide**

A book appeared summarizing the issue: “The systemic pesticides – a disaster in the making” by Henk Tennekes. Available for £8 (10 Euros or \$12) at:

<http://www.lulu.com/product/ebook/the-systemic-insecticides-a-disaster-in-the-making/14310581>

A new class of insecticides, the so-called neonicotinoids, have become the most widely used insecticides worldwide since their introduction in the 1990s. Neonicotinoids are revolutionary because they are put inside seeds, and permeate the whole plant, which is why they are called systemic insecticides. Any insect that feeds on the crop dies. Neonicotinoids are the most effective insecticides ever. The downside is that any bee or butterfly that collects pollen or nectar from the crop is poisoned. Neonicotinoids also seep out of storage or are washed out of the soil into waterways and groundwater. The book describes how the use of neonicotinoids leads to a dramatic decline of insects and common birds.

**Next newsletter (issue 89) will be published in June 2011**

**Editor: Joop C. van Lenteren, December 2010**