International Workshop

Biological Control of Postharvest Diseases: Challenges and Opportunities

25-28 October 2010
The National Conference Center
Leesburg, Virginia, USA

Second Circular

Registration and accommodation
Call for abstracts

Invitation

The US/Israel Binational Agricultural Research and Development Fund (BARD) and the International Society of Horticultural Science (ISHS) sponsored workshop on "Biological Control of Postharvest Diseases: Challenges and Opportunities will be held at the National Conference Center, Leesburg, VA, October 25-28, 2010. This facility is conveniently located twelve miles from Dulles International Airport and a short drive from Washington DC. The workshop will bring together experts in diverse areas of biological control to exchange information, explore new ideas and build relationships. The workshop program will consist primarily of invited speakers and discussion panels but also include contributed short oral presentations and posters. The workshop will provide an overview of the current global status of postharvest biocontrol and allow participants to identify new opportunities for the practical application of this technology. The first BARD-sponsored workshop, held twenty years ago, helped to define and launch this exciting field of biocontrol research. We are hoping that the present workshop will also greatly contribute to defining the future direction of postharvest biocontrol and the critical areas of research and development that need to be addressed.

From the responses to the first circular, we are expecting wide participation from many countries that will include scientists, and representatives from the biological product and postharvest industry, as well as service companies and private producing and exporting companies and marketing chains. The workshop will be an excellent opportunity to strengthen the communication between scientists and industry representatives about opportunities and challenges related to the successful development and commercial application of postharvest biological control agents. A significant amount of time will be allocated for both formal and informal discussions.

The workshop will last 3 full days and include invited and contributed oral presentations, panel discussions and poster sessions (for more details please refer to the included tentative scientific program). We will publish a proceedings with short papers of the presentations in special issue of Acta Horticulturae. Each registered participant will receive a copy of the proceedings when completed.

At this time we would like to take this opportunity to formally invite you to the conference and sincerely hope that you will be able to attend.

We are looking forward to welcoming you in the National Conference Center, Leesburg, VA.

Sincerely

Michael Wisniewski
USDA-ARS

Samir Droby
ARO, the Volcani Center

Conveners:

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Meeting venue:

The workshop will be held at the National Conference Center (NCC), Leesburg, VA (http://www.conferencecenter.com/index.cfm). All meetings, meals, social events and accommodation will take place on the campus of the center providing ample opportunity for informal discussions. The Center is located outside Washington DC for those who would like to explore the city before or after the workshop.

Getting to the National Conference Center

The National Conference Center is located on the North side of U.S. Route 7 (Harry Byrd Hwy) at the intersection of Belmont Ridge Road and Upper Belmont Place, four miles East from Leesburg, Virginia, and 35 miles Northwest of Washington, D.C. The venue is only 12 mile away from Dulles International Airport (IAD). Arrival to this airport is strongly recommended. A **shuttle service** between Dulles Airport and NCC will be provided for a cost of $20 each way. The shuttle can be reserved through the NCC web site: http://www.conferencecenter.com/transportation.cfm . Taxi service is available outside the arrival area at the airport. Those who choose to arrive to other Washington D.C. airports (Roland Regan National airport (DCA) or Baltimore International (BWI) airport) or drive to the conference center are kindly requested to check for more detailed information and directions in the conference center web site (maps & Directions).

Registration and Accommodation

Accommodation for the Workshop will be at the National Conference Center. Guest rooms are offered to participants at a reasonable cost compared to hotels outside the conference center area. Room rate is **$140/night plus 5% state tax and 5% occupancy tax**. Those who wish to upgrade from room to a suite, the cost is $200 per day and is based on availability. This has to be done individually by contacting the NCC directly. Room reservations and registration for the

meeting can be made at the NCC conference registration web page
https://resweb.passkey.com/go/usda22964

Registration fees

	Early registration (dead line 30.08.10)	*Late registration (after 30.08.10)*
ISHS member*	$400	$450
Non-ISHS member*	$450	$500
Student*§	$300	$350
Accompanying Partner**	$230	$230
Day participation***	$120/Day	$120/Day

***** Meeting package comprises participation in sessions plus tea/coffee and snacks during breaks, meals (lunch and dinner), workshop reception, workshop banquet, book of abstracts and program, book of proceedings.

§ A student card or certificate is required. Students are encouraged to submit an abstract and present their work as a poster.

** Accompanying persons fee includes meals and banquet, but not participation in the Workshop.

*** People who will attend the conference for only 1 -2 days.
This will include all the meals and coffee breaks. Participation in the Banquet will involve additional $50. The coast of receiving the book of proceedings will be $40.

CANCELLATION POLICY: For those participants needing to cancel their attendance at the meeting, the following policy is in effect:
Cancellations prior to September 25: $50.00 Processing Fee
Cancellation After September 25: One Night's Lodging plus 10% Tax = 154.00 plus $100.00 Processing Fee Total Charge = $254.00

Payment

Payments of fees will be accepted with credit card. For those who cannot pay with credit card, they will need to fill and submit a special form included in this circular to the NCC and the conveners. Payment will be due upon check-in either with cash or traveler checks. Fees are accepted only in US $. For more information about the payments please visit the workshop webpage: https://resweb.passkey.com/go/usda22964. Those who are unable to pay with credit card and intend to pay by cash or traveler cheques are requested to fill in "**no credit form/ reservation request**" in which they will be required to pay upon check-in. To download the form please go to: www.bard-isus.com/ws/ph (under downloads)

Guidelines for Abstract, Poster and Manuscript preparation

Abstracts should be submitted in English and should be delivered camera-ready. The content of the abstract should be clear, concise and have been **revised by an experienced English speaker**. It should contain a short introduction, objectives, methods, results and conclusions. Some of the sections may be omitted if they are not relevant. The abstract must be submitted as an attached file. It should be prepared as a **Microsoft Word file (.doc),** or as a rich text format file (.rtf). The abstract should not exceed 2000 characters with spaces, and includes: title, authors with presenter underlined, one e-mail address according the style below, affiliation and addresses, body of the text. Abstract submission forms and Abstracts and manuscripts should be sent to: **Michael.Wisniewski@ARS.USDA.GOV**
Last date of arrival of abstracts is 30 September 2010.
Last date of arrival of manuscripts is 30 October 2010.

Acknowledgement of abstract acceptance will be emailed to the presenting author.

Abstract format:

A4 format, single spacing (1/2 page, 250-300 words including title, authors and affiliations), Times New Roman 12 pt. Give full first names of all authors, Underline the presenter's name and provide presenter's e-mail.

Abstracts should not include subheadings, figures or tables. Follow the example below:

Commercialization of Postharvest Biocontrol: Barriers and Opportunities
Michael Wisniewski[1], Samir Droby[2], Dumitru Macarisin[1]

[1]Appalachian Fruit Research Station, U.S. Department of Agriculture, Agricultural Research Service (USDA-ARS), Kearneysville, WV 25430 USA, e-mail: michael.wisniewski@ars.usda.gov

[2]Department of Postharvest Science, Agricultural Research Organization, the Volcani Center, Bet Dagan 50250 Israel

The past twenty years has seen the field of postharvest biocontrol evolve from an unknown entity with one or two novel reports in the literature to a sophisticated science with strong research programs worldwide, hundreds of publications, patented technologies, and now several commercial products. Despite this rapid progress, however, the use of these products and both our fundamental and applied knowledge of postharvest biocontrol remain limited. The practical application of postharvest biocontrol has slowly changed its paradigm from a very classical view of using one organism to control another organism to a broader, more integrated outlook where antagonists are combined with natural products, physical treatments, and pre- as well as postharvest applications in order to enhance the efficacy and reliability of using microbial antagonists. These integrated approaches offer the potential of helping to overcome problems related to the performance and use of postharvest biocontrol agents, however, these integrated approaches need to be standardized if they are to be readily adopted by the industry. More research is needed in many aspects of the science and technology of postharvest biocontrol in

order to integrate biocontrol agents into a combined pre- and postharvest production and handling system. The tools of molecular biology, such as genome sequences, microarrays, and genetic transformation now provide the ability to develop a better understanding of the mode of action of postharvest biocontrol agents as part of a tritrophic interaction between the host, antagonist, and pathogen. From an industrial viewpoint, knowledge regarding the short and long term effects of fermentation and packaging technologies on efficacy is still very rudimentary. These topics will be reviewed in the context of elucidating the barriers that need to be overcome for the widespread commercialization of postharvest biocontrol agents and outlining future research directions that will provide new opportunities for developing alternative methods of postharvest disease control.

Manuscript

All participants (invited speakers and contributed short oral and poster presentations) are requested to submit a manuscript to be published in special issue of Acta Horticulturae. Instructions for manuscript preparation (guidelines and sample) are available for download in the following web page: www.bard-isus.com/ws/ph (under downloads). Note that publication in this bulletin does not preclude subsequent submission of the same data in different form as full papers to other journals, but do not exactly duplicate text, figures, etc.

Posters:

All posters will remain standing throughout the meeting. No oral presentations will be made for posters. Please use standard A0 format (118.9 cm high × 84.1 cm wide). Adhesive will be provided in Registration packets.

Please post this circular and pass it on to your colleagues.

For further information related to the Workshop please contact:

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ABSTRACT SUBMISSION FORM

International Workshop

Biological Control of Postharvest Diseases: Challenges and Opportunities

25-28 October 2010, Leesburg, Virginia, USA

PERSONAL DETAILS:

Family name_____

First name _____Title_____

Organization_____

ISHS member number_____

Contact address _____

_____

Country_____ Telephone _____

Fax _____ E-mail_____

PRESENTATION:

I am interested in submitting a paper for ___ Oral ___ Poster Presentation

Title:

Further Information Please contact

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To download Microsoft Word file of this form please go to: www.bard-isus.com/ws/ph (under downloads).
ATTACH abstract as MS Word file

International Workshop on Postharvest Biological Control:
Challenges and Opportunities
Leesburg, VA, October 25-28

TENTATIVE PROGRAM

Monday 25 October:

Arrival and registration

19:00 Welcome by the organizers and reception (refreshments and light snacks)

19:30 – 19:45 Edo Chalutz , BARD Executive Director
BARD's Operations, Funding Opportunities and Role in Postharvest Biocontrol Research

Tuesday 26 October

8:30 – 8:40 Samir Droby and Michael Wisniewski, Conveners
Opening of the workshop and welcoming remarks

8:40 - 9:10 Charles Wilson, Wilson LLC, Shepherdstown, WV, US
Historical Perspective on Postharvest Biocontrol: past, present and future

Session I: Epiphytic competence and microbial communication

9:15- 9:45 Johan Leveau, UC Davis, California, US
Molecular approaches to study microbial ecology on plant surfaces

9:45-10:15 Michael Harding, Innovotech, Inc., Alberta, Canada
The biology and management of microbial biofilms on plant surfaces

10:15-10:45 Coffee break

10:45-11:15 Ann E. Stapleton, University of North Carolina, Wilmington, US
Genetic Control of Plant Microflora

11:15- 11:45 Rob Smith, Biomedical Engineering, Duke University Durham, NC
Engineering microbial consortia and applications of synthetic ecosystems

11:45 -12:30 **Round table discussion I**
Establishment of biocontrol agents on plant surfaces – role of biofilm formation and microbial interactions in biocontrol efficacy.

12:30 – 14:00 Lunch

- **Session II - Antagonist-pathogen-host interactions**

14:00 – 14:30 Samir Droby, ARO, The Volcani Center, Israel
Current knowledge on mode of action of postharvest biocontrol agents

14:30-15:00 Shiping Tian, Chinese Academy of Sciences, Beijing, China
Plant host response to biocontrol agents

15:00-15:30 Michael Glenn, USDA-ARS, WV, US
Metagenomic Approach to Tracking Microorganisms on Apples- a Case Study

15:30-15:50 Coffee break

15:50 -16:20 Davide Spadaro, AGROINNOVA, University of Torino, Torino, Italy
The role of competition for iron and cell wall degrading enzymes in mechanism of action of postharvest biocontrol agents

16:20-16:50 Sandra Wright , University Campobasso, Italy
Detoxification of fungal mycotoxins by yeast antagonists -biochemical and molecular mechanisms

16:50-17:30 **Round table discussion II**

Mode of action: What we don't know about the tri-trophic interactions of biocontrol agents, pathogens, and host commodities

17:30-18:30 Poster viewing

18:30-19:30 Dinner

Free time

Wednesday 27 October

- **Session III Integrated approaches for disease management (from field to table)**

8:30-9:00 Silvana Vero, University of the Republic Montevideo, Uruguay
Integrated Approaches to Postharvest Biocontrol

9:00-9:30 Antonio Ippolito, University of Bari, Italy
Control of postharvest decay through the integration of Pre and postharvest use of nonchemical compounds

9:30-10:00 Joseph Smilanick, USDA-ARS-AFRS, Parlier, CA
Integrated approaches to postharvest disease management in California packing houses"

10:00-10:20 coffee break

10:50-11:20 Robert Prange, Agriculture and Agri-Food Canada, Kentville, Nova Scotia
Integration of biocontrol strategies in organic production of fruit crops

11:20-12:00 **Round table discussion III**

Biocontrol agents in integrated disease management program

12:00-14:00 Lunch

- **Session IV Discovery, formulation technology, and commercialization of Biocontrol agents**

14:00-14:30 David Schessler , USDA-ARS, Peoria, IL
Challenges in the Formulation of Biocontrol Agents

14:30-15:00 Neus Teixido' , IRTA, Lleida, Catalonia, Spain
Improvement the Efficacy of Postharvest Biocontrol Agents – Production of Environmental Stress Tolerant Formulations"

15:00-15:30 Haissam Jijakli, Plant Care Unit , Lallemand Group, Bruxelles, Belgium
Bridging the Gap Between Academic Research and Industry Demands in the Field of Postharvest Biological Control

15:30-16:00 John Whipps, HRI, University of Warwick, Wellesbourne, UK (Not Confirmed)
Commercially used biological control agents in Europe: current status and future outlook

16:00-16:20 Coffee break

16:20-16:50 W. Janisiewicz, USDA-ARS, WV, US
Identifying and characterizing microflora of stone fruits to select antagonist for control of brown rot with emphasis on latent infections

16:50 – 17:30 **Round table discussion IV**

Formulation Technologies and development of biological control products

- Identification of the barriers that prevent the wide scale commercial application of biocontrol products.
- Identification of critical needs in formulation science and technology for biocontrol agents.
- New directions in future research needs

17:30-18:30 Poster viewing

19:30 Banquet

Thursday 28 October

- **Session V – Commercialization of postharvest biocontrol agents – Regulatory and Company view point**

8:30-9:00 Jonathan Margolis, Agraquest, Davis, CA
Development of and Marketing Biocontrol Agents – Industry Perspective

9:00-9:30 Johan Schnürer, Swedish University of Agricultural Sciences, Uppsala, Sweden
Development and Commercial Application of Biocontrol Agents of Grain Storage Diseases

9:30-10:00 Charlene Jewell, JBT FoodTech, Riverside, CA,
Commercializing of Green Technologies for Postharvest Disease Management.

10:00-10:20 coffee break

10:20-10:50 Michael Braverman, Rutgers University, Princeton, NJ
The Role of IR-4 In Facilitating the Registration of Biopesticides in the US

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10:50- 12:00 Round Table discussion V

View points on postharvest biocontrol in major fruit producing countries
Each speaker will have 15 min

Registration and regulation of Biocontrol agents/microorganisms on food commodities in South America - Alba Marina Cotes, *CORPOICA ,Bogata, Colombia*

The potential Use of Postharevst biocontrol products in China - Shiping Tian , *Chinese Academy of Sciences, Beijing, China*

Postharvest use of non-chemical control strategies in Turkey - Pervin Kinay, *Ege University, Izmir, Turkey*

12-13:00 Lunch

- **Session VI: Biocontrol in various fruit and vegetable systems**

13:00-15:30 Contributed short oral presentations