ORGANISATON NORD AMERICAINE POUR LA PROTECTION DES PLANTES
NORTH AMERICAN PLANT PROTECTION ORGANIZATION
ORGANIZACION NORTEAMERICANA DE PROTECCION A LAS PLANTAS
CANADA UNITED STATES MEXICO

NAPPO Panel Report

Panel Name:	**Biological Control**	
Location:	Victoria, British Columbia, Canada	
Date:	February 19-23, 2007	
Panel Chair:	Hugo César Arredondo Bernal, SAGARPA	
Participants:		
Peter Mason, Canada	Brian Spencer (Industry), Canada	Joe Vorgetts, USDA
Barbara Peterson, Canada	Andrea Davenport (Industry) Koppert, Canada	John Goolsby, USDA
Angela Hale (Industry), Bug Factory, Canada	Ronald Valentin (Industry) Biobest, Canada	Keneth Bloem , USDA

Summary

Issue 1:	Reports on biological control programs from NAPPO member countries.
Consensus:	**Peter Mason, Canada** **Biological Control Review Committee** In 2006 the Biological Control Review Committee (BCRC) coordinated review of five petitions for APHIS for release of entomophagous biological control agents. The recommendations were forwarded to APHIS and copied to the Canadian Food Inspection Agency (CFIA) and Sanidad Vegetal. The committee also reviewed eight USDA Technical Advisory Group (TAG) submissions, six for biological control agent release (four were recommended, one recommended with conditions, and one was not recommended) and two host plant test lists (both recommended) for weed biological control agents. **Regulation of Biological Control Agents** Efforts continue to ensure that regulation of biological control agents in Canada is based on science and is harmonized as much as possible, at least within North America. A publication, "De Clerck-Floate, R.A., P.G. Mason, D.J. Parker, D.R. Gillespie, A.B. Broadbent, G. Boivin. 2006. Guide for the Importation and Release of Arthropod Biological Control Agents in Canada. Agriculture and Agri-Food Canada A42-105/2006E. 55p.", was finalized and is now available online at: http://www.agr.gc.ca/env/pest/index_e.php. **Research Activities** Major targets for classical biological control of weeds include: *Linaria* spp., *Cirsium arvense*, *Acroptilon repens*. Major targets for classical biological control of arthropod pests include: *Lygus* spp., *Enarmonia formosan*, *Ceutorhynchus obstrictus*, *Delia radicum*, and *Acrolepiopsis assectella*. AAFC is also contributing to the work on *Sirex*

noctilio in terms of taxonomic expertise for the wood wasps and the nematode biological control agents.

Barbara Peterson (comment the report of Douglas Parker)

This past fiscal year, Operations of the CFIA surveyed for *Yponomeuta malinellus*, *Zeuzera pyrina, Hylurgopinus rufipes, Scolytus schevyrewi*, *Ips* and *Tomicus piniperda*, *Popillia japonica*, *Rhagoletis mendax*, *Rh. pomonella*, and *Lymantria dispar*, *Lymantria monacha*, *Grapholita molesta*, *Tetropium fuscum*, *Sirex noctilio, Acrolepiopsis assectella*, *Contarinia nasturtii*, *Agrilus planipennis*, *Anoplophora glabripennis*, *Duponchelia fovealis, Archips xylosteana* and *Synanthedon myopaeformis*.

A new pest in greenhouses in British Columbia, *Chrysodeixis eriosoma/chalcites* (LEPIDOPTERA: Noctuidae), has been detected and there is a delimitation survey underway.

We received approximately 7500 submissions and approximately 10,000 samples from April 2005 to date. We received about 300 permit applications for the importation of living organisms from insect zoos, butterfly houses, schools and universities, biocontrol companies, scientists and other citizens.

Importers of new biocontrol organisms (i.e. not previously released in Canada) must submit petitions that comply with the NAPPO (North American Plant Protection Organization) Standards for entomophagous and phytophagous insects, mites and terrestrial molluscs (RSPM 12 and 7 respectively). Submissions that do not follow the NAPPO guidelines will no longer be circulated within the AAFC Biological Control Review Committee; incomplete petitions will be returned to the petitioner with advice on how to meet the criteria for submission.

The Entomology Unit of the Ontario Plant Laboratory - CEF (OPL-CEF) continues to work closely with the Biological Control Review Committee (Chair: Dr. Peter Mason) of AAFC, the NAPPO Biocontrol Panel and the taxonomists and systematists on the Central Experimental Farm.

John Goolsby, USDA-ARS

John presented a list of investigators that work actively in programs of classic biological control. Kevin J. Hackett, is Senior National Program Leader Biological Control. Biological Control Programs of insctes pest are asian citrus psylla, asian longhorned beetle, brown marmorated stink bug, cereal aphids (russian wheat aphid, green bug), cherry Bark Tortrix, chinese soybean aphid, codling moth, cycad scale, emerald ash borer, fire Ants, giant Reed, glassywinged sharpshooter, japanese eetle, lobate lac scale, Lygus spp., onion thrips, oriental fruit fly, root weevil, dilverleaf whitefly, soybean aphid, sweetpotato whitefly, varroa mite, viburnum leaf beetle, vine mealybug, wheat stem sawfly, wili wili gall wasp.

The leader of the programs of biological control of weeds is Ernest S. Delfosse. At the moment they develop the following projects: Alligator weed, Arundo, Australian paperbark, Australian pine, Brazilian pepper, Brazilian water weed, Canada thistle, Cape ivy, Dyers' woad, fanwort, mesquite, field bindweed, hemp sesbania, hoary cress, knapweed Complex, kudzu, leafy spurge, medusahead, musk thistle, Old World climbing fern, redvine, rush skeletonweed, Russian olive, Saltcedar, Scotch thistle, sicklepod, Swallow-worts, trumpetcreeper, water hyacinth, water primrose, whitetop, Yellow star thistle,

Ken Bloem, USDA-APHIS

Made emphasis in programs of biological control related with: Sirex noctilo, Emerald Ash Borer, Tropical Soda Apple, Red Imported Fire Ant (Cooperative project with ARS – Sanford Porter. APHIS is re-releasing permitted agents in the SE USA. The end goal is to release 5-6 of the phorid fly species. To date there have been no documented impacts), Passionvine Mealybug (this is a new exotic mealybug, Planococcus minor that

	has been found in the Caribbean), Red Palm Mite, Cactoblastis (an SIT program is in underway in Mexico), Medfly, Weed BC (in 2006 APHIS canvassed their stakeholders and the following weeds were prioritized for BC: Russian knapweed, hoary cress, garlic mustard and hawkweeds). Made mention about Dale Meyerdirk, the accomplished and long time advocate of biological control retired in July. Dale is considered to be the founder of the 'Offshore' biological approach. Dale's position will be refilled. Several members of the NAPPO panel wished Dale well in retirement and fondly remembered his contributions to NAPPO and biological control. **Joe Vorgetts, USDA** A standard is needed for GMO biological control agents. APHIS is developing a standard and will circulate for comment. It is not certain which agency in the U.S. Gov't will regulate these organisms. USDA and EPA are currently in dialogue regarding regulation of entomopathogens. APHIS is requesting a permit for the first time release of exotic entomopathogens in North America. Entomophagous insects. It is proposed that biological control agents be regulated with a new set of regulations. Eric Rudyj (APHIS), ARS Representative, and Bob Nowierski (CREES) are on a board of advisors to help draft the new regulations. Host range testing of entomphagous insects may be required. APHIS is developing a transit permit for biological control agents and insects that are being carried through US ports of entry by international transit passengers. APHIS is developing a 'white list' of commercially available, unregulated biological control agents. **Hugo Arredondo, Mexico** Mexico's report focussed on the biological control activities by the government's national plant protection campaign, which includes the release of male sterile insects – given that FAO regards SIT as a biocontrol strategy. There has been progress in the control and eradication program for fruit flies *Anastrepha ludens* and *A. oblicua* with sterile flies and parasitoids. On the exotic fruit fly monitoring program, it was reported about this program's range regarding *Ceratitis capitata*. In May 2002, the Mexican government began an eradication program for Pink Bollworm (*Pectinophora gossypiella*) in Chihuahua State, and measures to expand the program to another six states have been taken. It was reported that the Pink Moth is under control and that it continues to be confined in the States of Nayarit and Jalisco; and that there have been outbreaks in Baja California and Quintana Roo in ornamental plants. It was mentioned that a major part of the management has been through regulating movement of plant products, and biocontrol with *Cryptoalemus montrouzieri* and *Anagyrus kamali*, with up to 90% of parasitism. Undergoing projects by Sanidad Vegetal through the National Reference Centre of Biocontrol are relating to microbial control of *Trips palmi*, strengthening the biological control programme for *Schistocerca* piceifrons and locust through *Metarhizium anisopliae cridum*, certification of biological suitability of *Beauveria bassiana* reproduced and applied to control coffee berry borer *Hypothenemus hampei*, biological control mango scale *Aulacaspis tubercularis* Newstead.

Issue 2:	Complete NAPPO working paper on taxonomic expertise in biological control activities
Consensus :	Peter discussed the importance of taxonomic resources to biological control. NAPPO would like a statement on the importance to plant protection. Peter indicated that only Federal systematic labs have the responsibility to identify insects and that State and university taxonomists while helpful do not have this responsibility. A letter will be elaborated where it will be established the importance and necessity of having human resources to strengthen the taxonomy, same that will be sent to the Executive Director to determine the form of making it arrive to the authorities of the governments of the countries members of the NAPPO.
Issue 3:	Review RSPM No. 7, Guidelines for Petition for Release of Exotic Phytophagous Agents for the Biological Control of Weeds, and RSPM No. 12, Guidelines for Petition for Release of Exotic Entomophagous Agents for the Biological Control of Pests, to determine whether they should be archived in view of revisions to ISPM No. 3, Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms.
Consensus	We Concludes that the NAPPO standards (RSPM No. 7 y RSPM No. 12) are complementary to the standard to ISPM No. 3, Guidelines for the export, shipment, import and release of biological control agents and other beneficial organisms of the FAO, for what a justification will be elaborated where we will establish the reasons to maintain archived the standars No. 7 and 12.
Issue 4:	Develop NAPPO guidelines for introduction of non-Apis beneficial insects.
Consensus :	A discussion was held regarding the utility of the BC Panel to develop guidelines for non-Apis. It was decided that starting a new panel would significantly delay guidelines and that the panel would consult with non-Apis experts in the member countries. Mexico will identify the people that should participate in the elaboration of this standard. The title for the new standard: Guidelines for the importation and release of non-Apis pollinating insects into NAPPO Countries. Key points to consider in guideline: • Potential of pollinator to become naturalized • Known pollination preferences for species • Competition with native non-Apis pollinators • Entomopathogens associated with non-Apis insects
Issue 5:	Review and revise NAPPO RSPM No. 7 Guidelines for Petition for Release of Exotic Phytophagous Agents for the Biological Control of Weeds
Consensus :	The title was changed to Guidelines for Petition for First Release of Exotic Phytophagous Biological Control Agents New references are needed to update the current state of the science in biological control. The definitions were update and were carried out modifications to the text of the standard.

Next Steps

Responsible Person	Action	Date
Peter Mason Barbara Peterson John Goolsby	Official letter about NAPPO position on taxonomic resources	May 1, 2007
NAPPO Panel	To get comments back about draft letter	May 15, 2007
NAPPO Panel	Conference call	June 1, 2007
Peter Mason Barbara Peterson John Goolsby	Send final version to executive committee	June 8, 2007
Hugo Arredondo	Justification letter why they should maintain RSPMs 7 & 12	May 30, 2007
NAPPO Panel	To get comments back about draft letter	June 15, 2007
Hugo Arredondo	Send final version to Executive Director	June 30, 2007
Peter Mason	To correct with base in the discussion sustained in the Victoria, B.C., Canada, NAPPO RSPM No. 7 Guidelines for Petition for Release of Exotic Phytophagous Agents for the Biological Control of Weeds	May 30, 2007
NAPPO Panel	To get comments back about draft NAPPO RSPM No. 7 Guidelines for Petition for Release of Exotic Phytophagous Agents for the Biological Control of Weeds	June 15, 2007
Peter Mason	Send final version for translation and executive approval.	June 30, 2007

Next Meeting

Location:	Potential Locations: Logan, Utah, Newark, Delaware South Padre Island, Weslaco, Texas
Date:	25 al 29 de Febrero de 2008

Proposed Agenda Items

1. An approved list of biological control agents for importation into NAPPO countries. As part of that we will develop criteria for assigning organism to the approved list.
2. Develop Guidelines for the importation and release of non-Apis pollinating insects into NAPPO Countries.
3. NAPPO country BC activities