Agriculture and Agri-Food Canada | Agriculture et Agroalimentaire Canada

Working in Partnership with CABI

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Canada

A Partnership for 67 years

1929 **– Imperial Parasite Service** of the Imperial Agricultural Bureaux, located at the Farnham House Laboratory in England, was responsible for Canada's work overseas.

1940 **– Imperial Agricultural Bureaux** relocated Imperial Parasite Service to Belleville to escape the World War II

1948 **–** headquarters of **Commonwealth Bureaux of Biological Control** transferred to Ottawa, Canada

1951 **– Commonwealth Institute of Biological Control (CIBC),** substations in Switzerland, West Indies (Trinidad) and California, USA

1959 **–** CIBC moved from Ottawa to Trinidad

1984 **–** CIBC headquarters moved to Ascot, UK

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Building capacity

The Canadian government through the Canadian International Development Agency (CIDA) funded totally or partly the establishment of station buildings in Kenya, India and Pakistan.

Kenya Station

India Station

Pakistan Station

Trinidad Station

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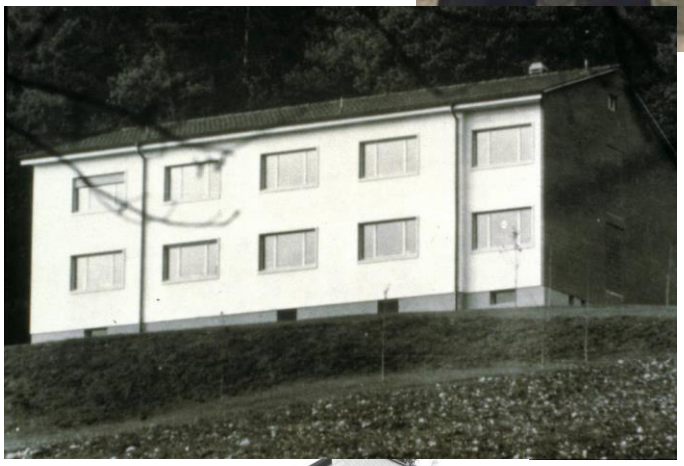
CABI Switzerland

1948 – CBBC substation set up in Switzerland to serve Canada's needs; based in Feldmeilen close to Zurich



1963 – new laboratory opened in Delémont on "Rue des Grillons" (Cricket Street)

2000 – addition added to accommodate growing programmes

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Other partnership contributions

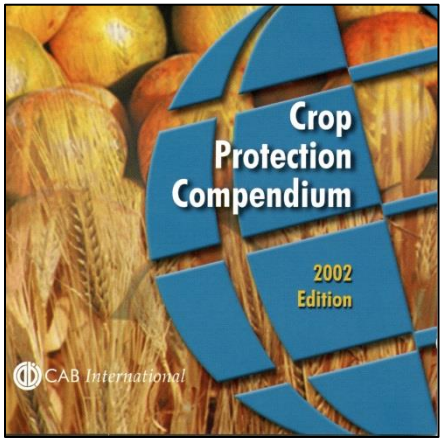
CABI council

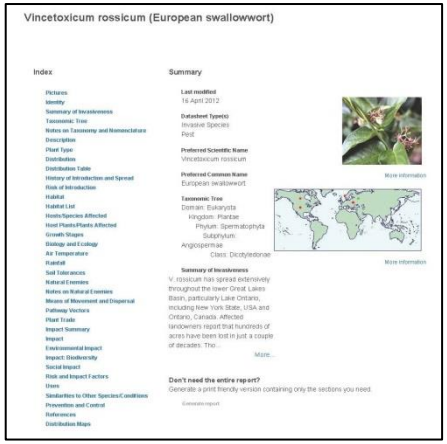
- Canada was Executive Council Chair 2007-2011

Dr. Gary Whitfield

CABI compendia

- AAFC scientists have contributed to the *Crop Protection* and *Invasive Species* compendia





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Our collaborative work



In the early days, CABI's work with Canada involved studying forest pests. The emphasis has gradually shifted and CABI is now studying agricultural pests and weeds almost exclusively.

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CABI's role in Canadian efforts targeting invasive insect pests and weeds

Assessing feasibility of biological control

- Field and literature surveys to look for possible biological control agents

Discovering potential biological control agents

- Field collections, setting up rearing colonies
- Determine the biology/life history of agents

Selecting and assessing suitable agents

- Host-specificity testing for safety
- Evaluate potential for damage

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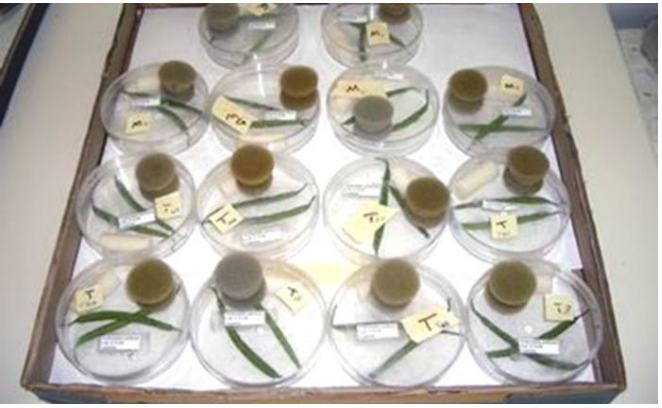
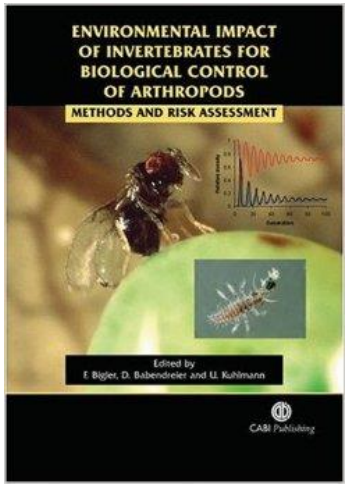


Towards safer biological control

- Joint efforts of CABI and AAFC to improve protocols for regulation of exotic biological control
- Major focus on risk assessment for classical biological control agents
- CABI and AAFC scientists made a major contribution to development of new testing methodology/international guidelines
- Ongoing testing to validate guidelines through practice



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Releases of biological control agents

- In 2010 the Canadian government approved the releases of parasitoids against the invasive leek moth and the lily leaf beetle
- Control agents from Europe have been released against more than 50 invasive agricultural pests, primarily in North America. CABI contributed to the successful control of important agricultural pests such as **cereal leaf beetle**, apple ermine moth, **alfalfa weevil** and ***Lygus* plant bugs**

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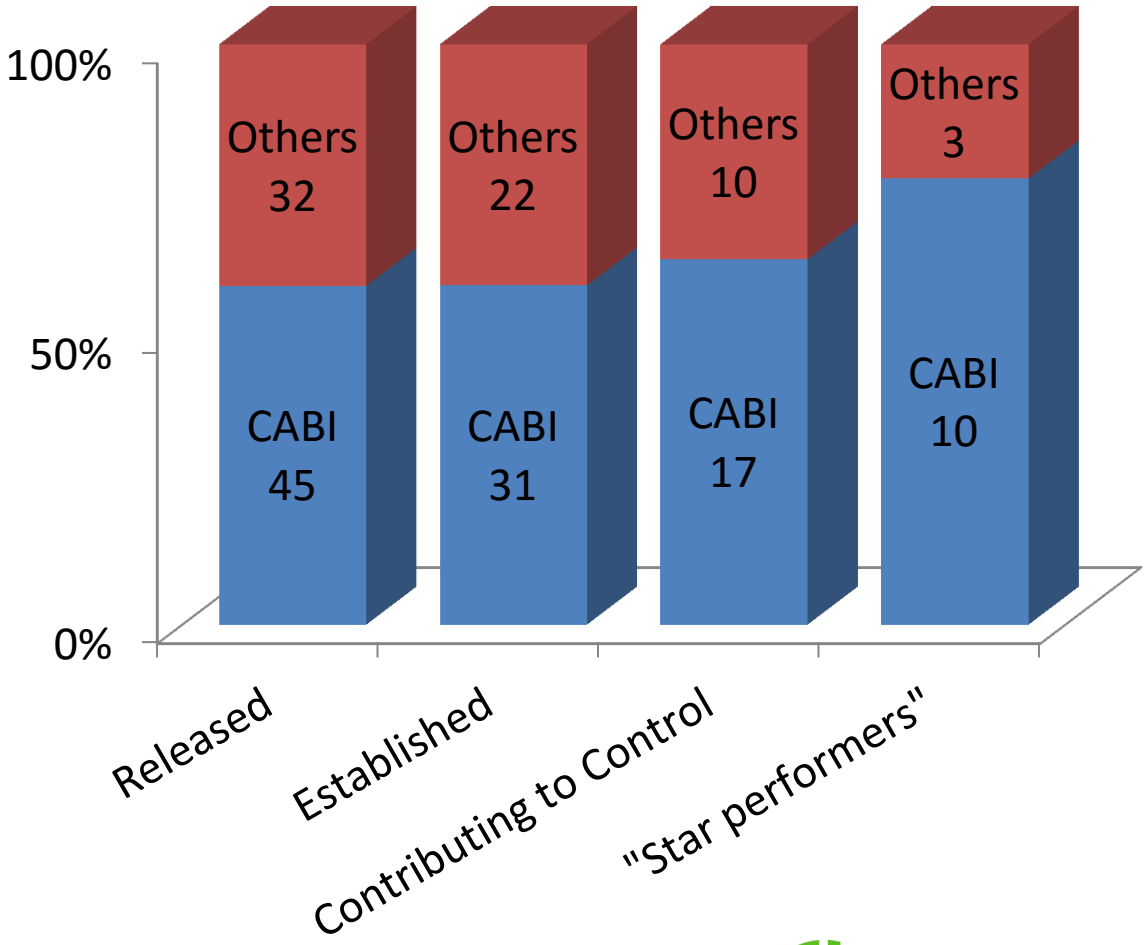
Weed biological control agent releases



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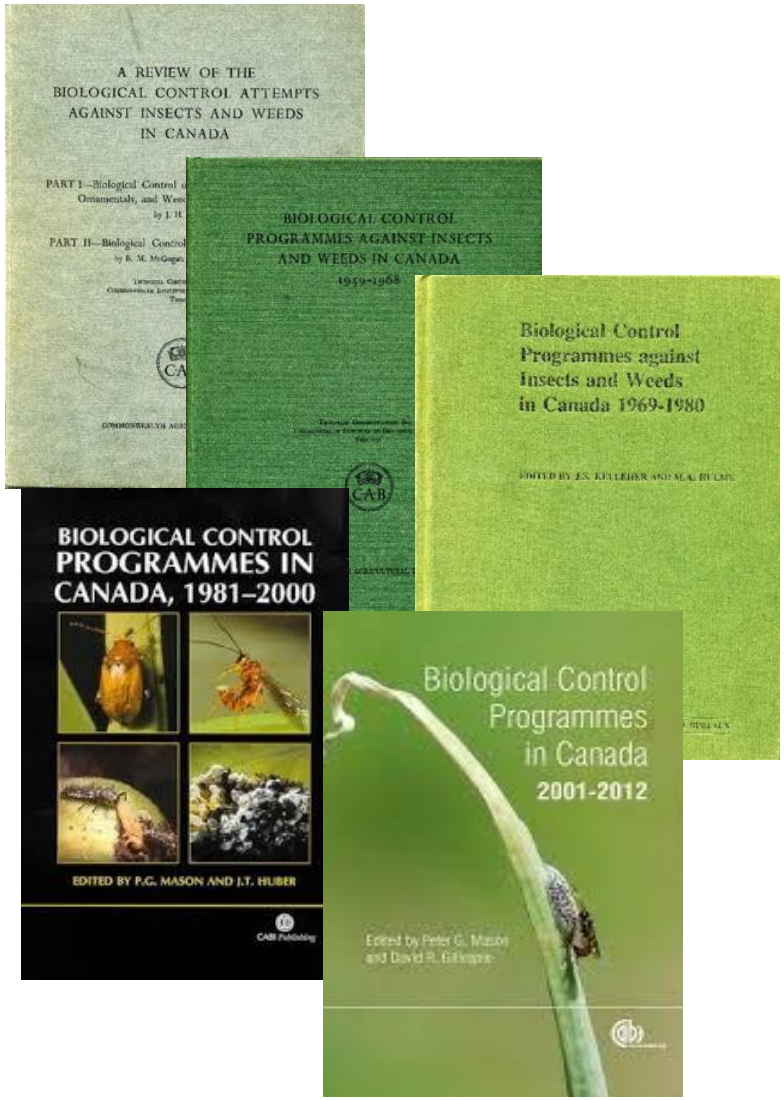
Scientific output



Joint publishing initiatives are also a feature of this unique partnership

Co-authored by CABI scientists from Switzerland and their Canadian counterparts, CABI published the 5th volume of “Biological Control Programmes in Canada from 2001 to 2012”. This series dates back to research done since 1910

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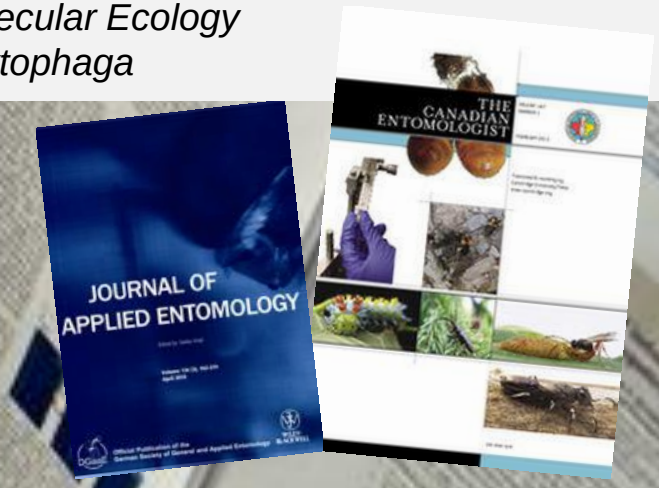
Scientific output

1999-2014:
109 co-authored papers have so far been published, 64 of which were in peer reviewed journals

Agricultural & Forest Entomology
Basic & Applied Ecology
Biocontrol Science & Technology
Biocontrol/Entomophaga
Biological Invasions
Biological Control
Bulletin of Entomological Research
Canadian Entomologist
Entomologia Experimentalis et Applicata
Environmental Entomology
Journal of Applied Ecology
Journal of Applied Entomology
Journal of Integrated Pest Management
Journal of Ecology
Journal of Insect Behavior
Journal of Pest Management
Molecular Ecology
Phytophaga



Canada-CABI collaborators

University of Manitoba:
Barb Sharanowski
Alejandro Costamagna

AAFC Ottawa:
Peter Mason
John Huber
Gary Gibson
Andy Bennett

University of Alberta:
Felix Sperling

BC Ministry of Forests, Lands and Natural Resource Operation:
Susan Turner
Val Miller

Ecoscience
Alec McClay

AAFC Beaverlodge:
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Pest Management Centre Ottawa
Leslie Cass
Kathy Makela

AAFC Summerland:
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AAFCSaint-Jean-sur-Richelieu:
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AAFC Agassiz:
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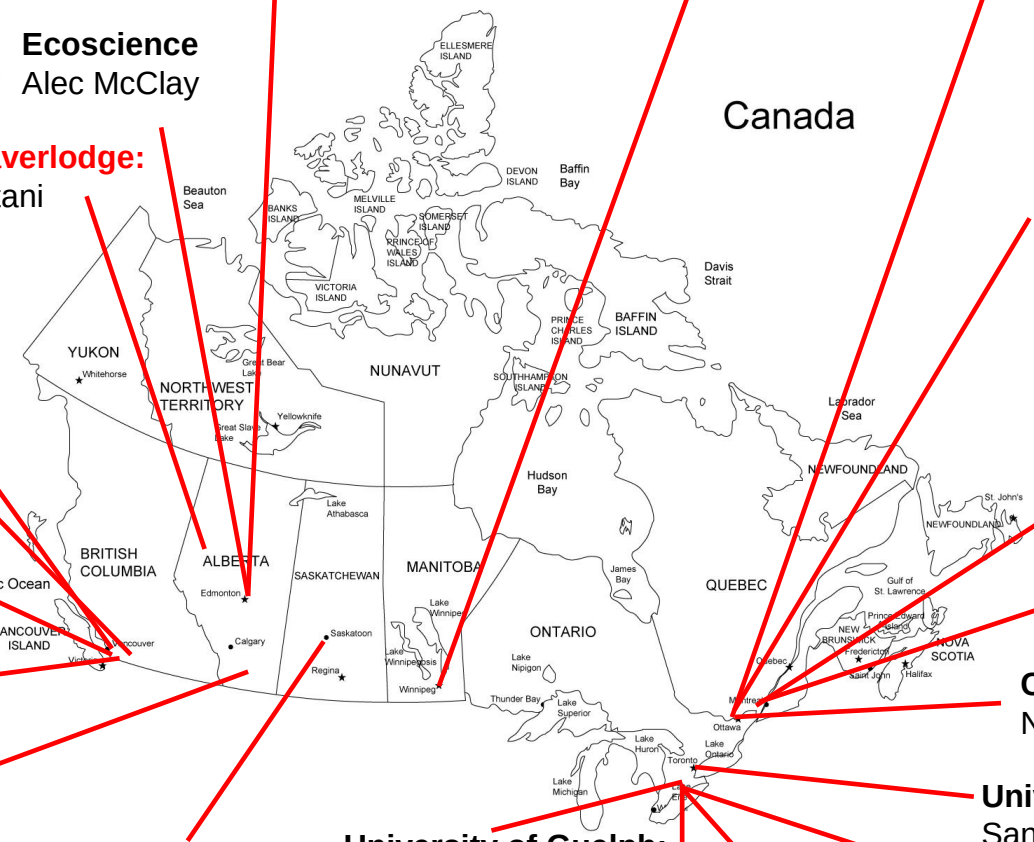
Rebecca Hallett

OMAFRA:
Hanna Fraser

Western University:
Jeremy McNeil

AAFC London:
Tara Gariepy



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The next generation - career of former Canadian CABI students

- Tara Gariepy (PhD student)
  - Research Scientist, AAFC London
- Jennifer Otani (summer student)
  - Research Biologist, AAFC Beaverlodge
- Kathy Makela (summer student)
  - Pest Management Centre, Ottawa
- Lisa Bartels (summer student)
  - Research technican, AAFC Ottawa
- Mike Wogin (MSc student)
  - CFIA Vancouver
- Kimberly Riley (MSc student)
  - Biobest, Leamington
- Lars Andreassen (MSc & PhD student)
  - Post-doc Research Scientist, AAFC, Saskatoon
- Wade Jenner (MSc and PhD student)
  - CABI Switzerland
- and others……..

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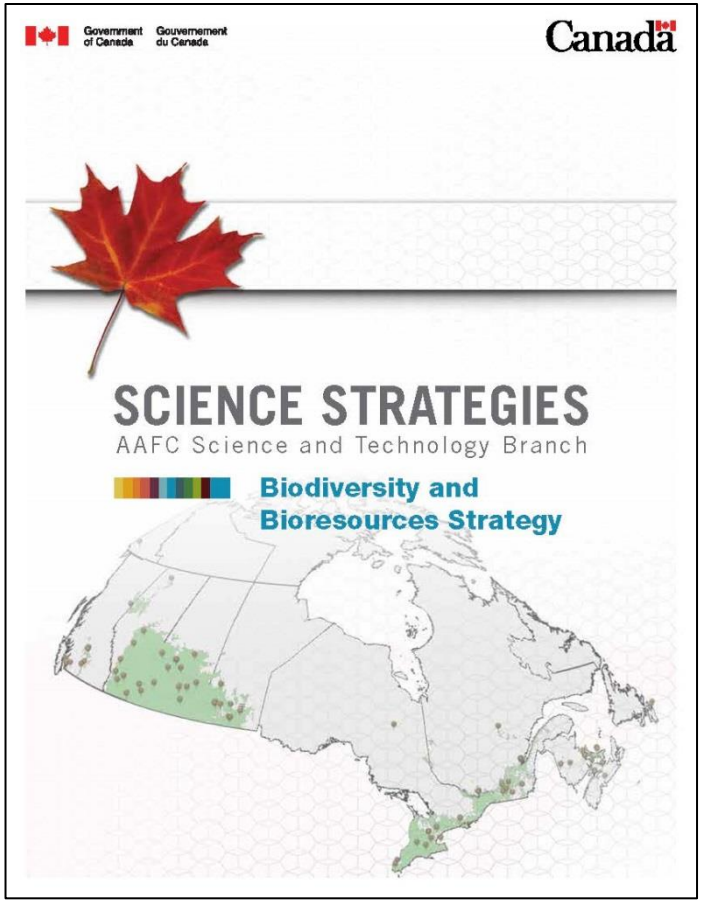
Canada's national priorities

- Development of mitigating biological control strategies for integrated pest management (IPM) for established invasive pests.
- Mining biological collections for agriculturally relevant organisms and development of appropriate identification tools using modern technologies.
- Development of mitigating biological control strategies for integrated pest management (IPM) for emerging, invasive, or quarantine pests.



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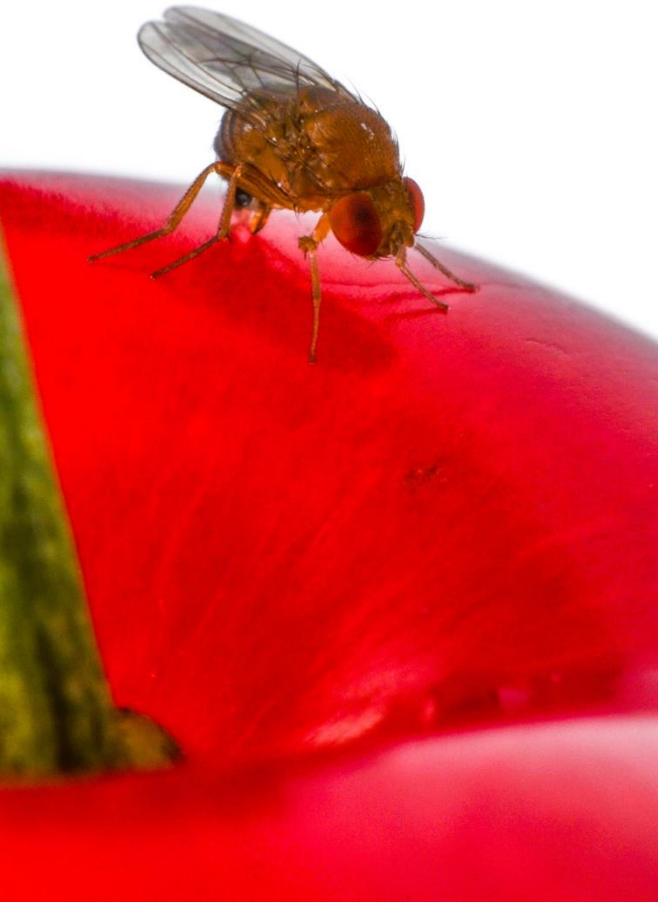
Challenges for the Americas



- The International Union for Conservation of Nature (IUCN) has identified the world's 100 worst invasive alien species. Of those, 50 can be found in China
- The eastern Palaearctic region, mainly China and Japan, is the origin of 15% of invasive plants to Canada
- Two major pests arrived in Canada:
  Spotted Wing Drosophila in 2009
  Brown Marmorated Stink Bug in 2010
- High potential for more big pests to arrive in Canada

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Americas-CABI: the future

Strengthening partnership with CABI

- supporting CABI laboratories in source countries (e.g. China)
- contributing to Invasive Species Compendium

Partnering with other CABI member countries

- pooling resources to discover potential IAS and biological control agents
- understanding Access & Benefits Sharing legislation
- scientist & student exchanges to address global issues such as climate change

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Thank you!

For more information, please contact:

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