NAFTA Technical Working Group on Pesticides
Grupo de Trabajo Técnico del TLCAN sobre Plaguicidas
Le groupe de travail technique de l'ALENA sur les pesticides

Biopesticides Registration Improvement Course

Biopesticides support by the Pesticide Risk Reduction Program

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Resources

- Pest Management Centre
  - http://www.agr.gc.ca/prrmupp
- Pesticide Risk Reduction Program
  - http://www4.agr.gc.ca/AAFC-AAC/display-afficher.do?id=1288277891464&lang=eng
- Biopesticides Regulatory Support
  - http://www.agr.gc.ca/biopesticides
  - Tobias.Laengle@agr.gc.ca

Outline of presentation

- Pest Management Centre overview
- Our role with biopesticides
- Biopesticides Regulatory Support
- Conclusions
- Some advice on developing good submissions

Biopesticides: what do we mean?

- **Microbials** (DIR2001-02)
  - bacteria, fungi, viruses
- **Semiochemicals** (PRO2002-02)
  - pheromones and other ‘message bearing substances’
- **Other non-conventional Pest Control Products** (PRO2010-06)
  - pesticidal action is not the result of toxicity
  - low inherent toxicity to non-target organisms
  - low potential for significant exposure
  - not persistent in the environment
  - already widely available to the public for other uses
  - unlikely to select for pest resistance

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Pest Management Centre:
Partnering for Results

Registrant Companies — Provinces — Pest Management Regulatory Agency — **Pest Management Centre** — AAFC Research Branch — Grower Organizations — Federal & International Partners

Mission:

To improve Canadian growers' access to and adoption of minor use and reduced-risk pest management tools and practices

The **Minor Use Pesticides Program** works with grower organizations and provinces to identify crop/pest priorities, and partners with AAFC Research Branch, the US IR-4 minor use program, registrant companies and Health Canada's PMRA to conduct field trials to develop data supporting new minor use pesticide registrations.

The **Pesticide Risk Reduction Program** works with partners in PMRA, AAFC Research Branch, Environment Canada, and grower associations to develop pesticide risk reduction strategies. Strategy adoption is facilitated through projects to develop and demonstrate reduced risk pest management tools and IPM systems.

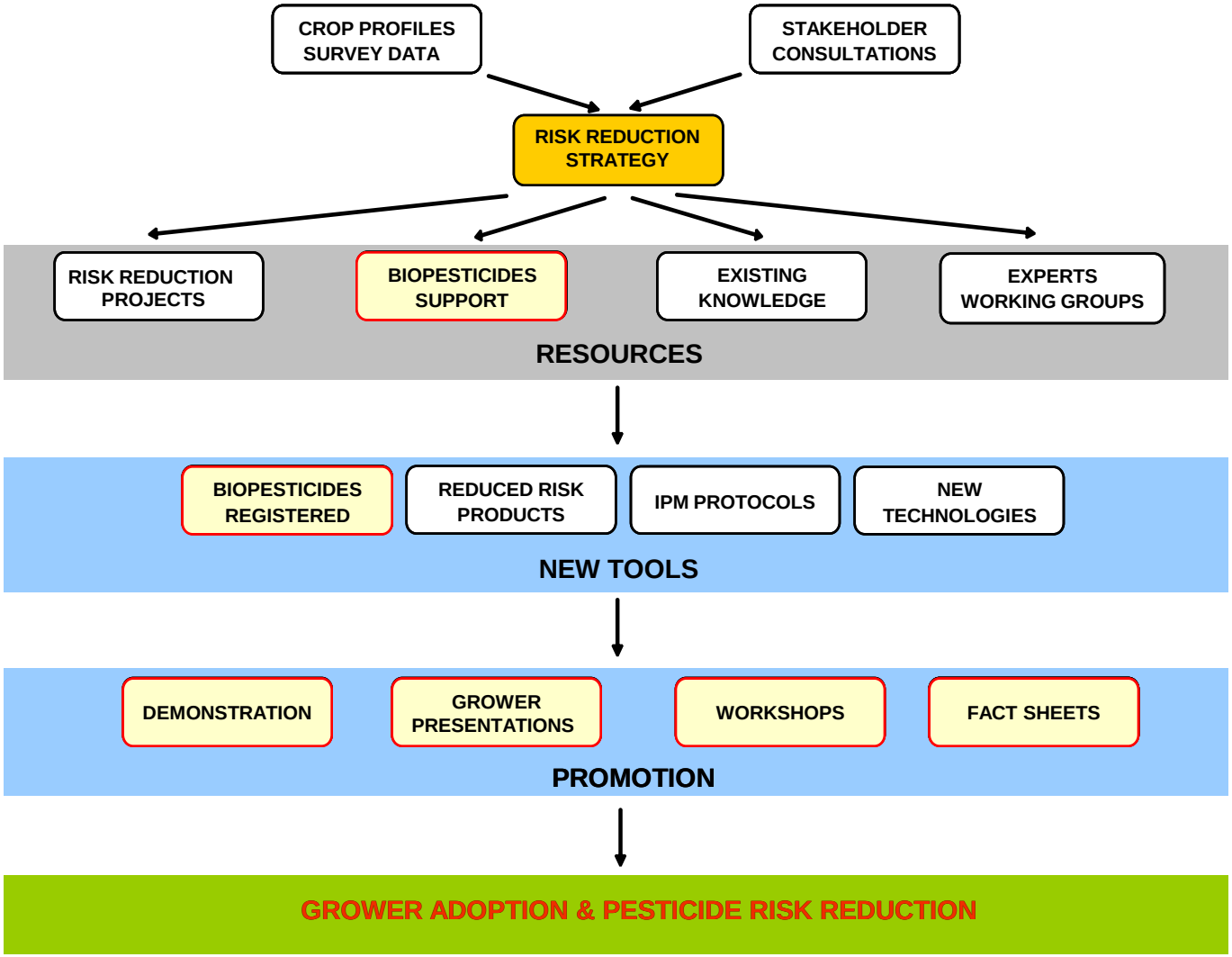
Crop Protection Tools, Knowledge and Support for Adoption

Canadian Growers

Using new, reduced-risk pest management products, tools and practices to enhance competitiveness and sustainability

For more information visit the PMC website at **www.agr.gc.ca/prrmup**

Pesticide Risk Reduction Program



Information Gathering, Priority Setting

Establish priorities, Identify solutions

New projects funded

New projects funded

Strategies Implemented

Historical and current context of biopesticides in agriculture

DEL MAL DEL SEGNO

CALCINACCIO o MOSCARDINO

Malattia che affligge

I BACHI DA SETA

E SUL MODO

DI LIBERARNE LE BIGATTAJE

ANCHE LE PIÙ INFESTATE

Opera

DEL DOTTORE AGOSTINO BASSI

DI LODI

la quale oltre a contenere molti utili precetti intorno al miglior governo dei Filugelli, tratta altresì delle Malattie

DEL MEGRONE E DEL GIALLUME

LODI

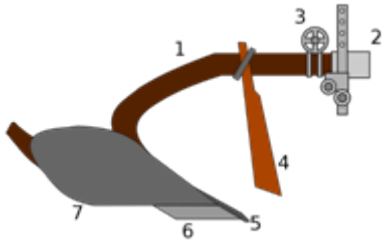
DALLA TIPOGRAFIA ORCESI

1835

- Discovery of entomopathogenic fungi and postulated use in pest control in 1835 (precedes germ theory)
- Field trials with Metarhizium in 1884 in the Ukraine
- Research almost ceased with the arrival of highly effective synthetic pesticides
- *Bacillus thuringiensis* led the way to become the first commercial biopesticide in the 1960s
- **Renewed interest and increase in biopesticides registration submissions in Canada in recent years**
- **However, there still is a technology gap when compared to the US**

Considerations for growers using biopesticides

- Product efficacy
- Economics of production
- Familiarity with product
- Ability to integrate into current production systems
- Resistance management
- Compatibility with other products and beneficials
- Re-evaluation and phase-out of older chemistries
- Pre-harvest and re-entry intervals
- MRL related concerns & trade barriers
- Storage and handling requirements of product



PMC role in biopesticides

- Stakeholder consultation in 2005 highlighted barriers which limited access to sustainable pest management tools in Canada
- Significant expertise and data on biopesticides available in public sector and academic research
- Concerted effort was needed to make innovative technologies and products available to Canadian growers
- Role for PMC in facilitating the registration and implementation of biopesticides in Canada was identified

PMC role in biopesticides (cont'd)

Three-pronged approach developed:

- Project funding for biopesticides development and implementation
- Regulatory support for priority products
- Education and demonstration





Example of implementation project funding: Pollinators deliver biopesticides to target

- Technology development by AAFC Research Branch (Dr. Les Shipp)
- Good efficacy and economics
- Integrates into cropping system
- Submission for label expansion to include novel application method in near future

Example of demonstration/education project: Integrated *Sclerotinia* management

- Demonstration project on 10 farms in Canadian prairies
- 500 hectares of bean and canola treated with biofungicides Contans® and Serenade®
- Demonstrate integration into current production systems
- Factsheets, field days and workshops to support demonstration efforts




Biopesticides Regulatory Support

- PRRP works closely with registrants, PMRA and growers to develop high-quality submissions
- Facilitated submissions & registrations for 21 products, including 13 new registrations
- Annual Biopesticides Priority Setting Meeting since 2010

Biopesticides Regulatory Support (cont'd)

- **New registrations:** PPRP facilitates submission of a quality data package for first time registration (Cat A) to the PMRA
  - advice on regulatory and scientific questions
  - literature surveys and scientific rationales
  - assistance with preparation of Cat A data package
  - assembly of existing data to ensure the initial registration covers as many uses as possible
  - trial support
- **Label expansions:** PRRP works with registrant to facilitate label expansion submission (URMULE or Cat. B) to PMRA
  - advice on regulatory and science questions
  - trial support

Grower selected priority projects 2010 & 2011

Project number	Crop	Target Pest	Product	Active ingredient	Registrant
BPR11-010	Wheat	Broadleaf weeds	**Name confidential**	*Phoma macrostoma*	The Scotts Company/AAFC
BPR11-020	Tomato, greenhouse	Botrytis	**CLO1**	*Clonostachys rosea* ACM941	ICUS Canada/AAFC
BPR11-030	Onion	Onion thrips	Met52	*Metarhizium anisopliae* F52	Novozymes
BPR11-040	Cherry	Cherry fruit fly	**Naturalis L**	*Beauveria bassiana* ATCC 74040	Troy Corporation
BPR11-050	Pepper, greenhouse	Thrips	**Naturalis L**	*Beauveria bassiana* ATCC 74040	Troy Corporation
BPR11-060	Chrys-anthemum	Thrips	Met52	*Metarhizium anisopliae* F52	Novoymes
BPR11-070	Wheat	Fusarium head blight	**CLO1**	*Clonostachys rosea* ACM941	ICUS Canada/AAFC
BPR11-080	Ornamentals, outdoor	Foliar diseases	Rhapsody	*Bacillus subtilis* QST713	Agraquest
BPR12-010	Cranberry	Sedges & rushes	**Munger Vinegar Plus**	*acetic acid*	Munger
BPR12-020	Strawberry	Tarnished plant bug	**Naturalis L**	*Beauveria bassiana*	Troy Crop
BPR12-030	Canola	Diamond back moth	**Xentari**	*B. thuringiensis aizawai*	Valent Biosciences
BPR12-040	Hops	Downy mildew	**Sonata**	*Bacillus pumilus* QST 2808	AgraQuest
BPR12-050	Cucumber (GH)	Thrips	**SorbiShield**	*Sorbitol Octanoate*	Natural Forces
BPR12-060	Tomato (GH)	Powdery mildew	**Prev-Am**	*Citrus oil*	UAP
BPR12-070	Ornamentals (GH)	Thrips	**Suffoil-x**	*paraffinic oil*	BioWorks Inc.
BPR12-080	Turf (sod, golf course)	Hairy chinch bug	**MBI-203**	*Chromobacterium subtsugae*	Marrone Bio Innovations

New registrations in bold

Summary & Outlook

- Facilitated successful submission/registration of 21 products for 200 new uses for growers
- Supported development of new biopesticides, novel application methods, and integrated approaches
- Raised profile of biopesticides in agricultural community through outreach and on- farm demonstration projects
- Growing interest in use of biopesticides in IPM/conventional production

→ **This model for biopesticides support continues to yield positive results for Canadian agriculture**

Some advice on developing quality submissions

- Request a pre-submission consultation
- Address all required data points – a simple rationale is often enough
- Take your time when crafting waiver requests/rationales – they may save you a lot of money if they are well done
- There is a wealth of information in published literature – use it
- You are the expert on your product – explain what you know
- Use common sense and good science when developing bridging arguments
- Pick up the phone and discuss with an expert
- Think like a regulator & anticipate their questions and concerns – are you convinced by your own rationales?

Thank you!

Canada