



The voice of **Canadian fruit and vegetable growers**

PMRA Re-evaluations and the Potato Sector

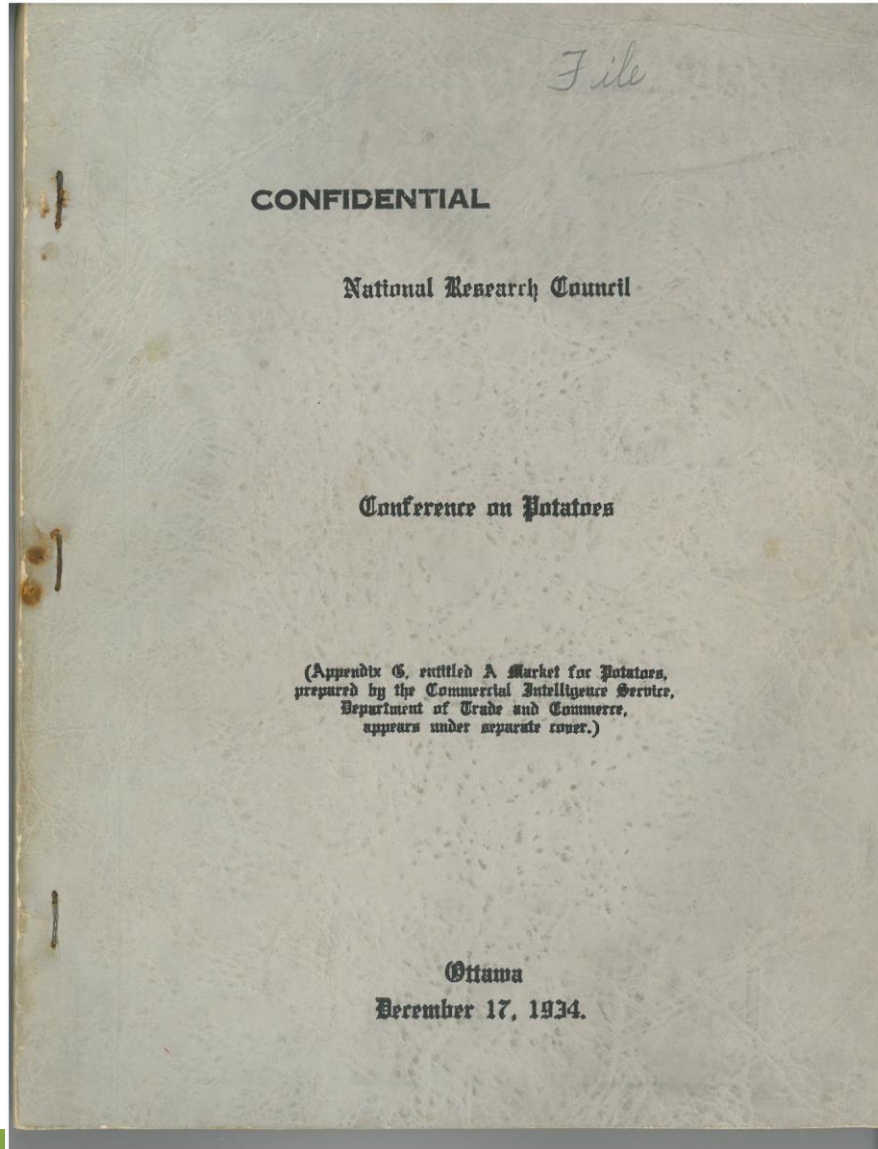
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December 1934 Conference on Potatoes (Ottawa)



Potato Industry Priorities -

- New Uses of Potatoes
- Breeding of Improved Varieties
- Food Value of Potatoes
- advertising claims made on behalf of other competing foods and widely promoted diets that are reducing the consumption of potatoes

PMRA Re-evaluations

- Overview of Re-evaluation
- Canadian Horticultural Council Response
- Proposed Decisions Impacting the Potato Sector

Pesticide Re-evaluations in Canada

Two Re-evaluation Streams:

- **Old Active Ingredient Backlog**
 - Originally 400+ actives
 - e.g. LOROX/linuron, DITHANE/mancozeb, POLYRAM/metiram, BRAVO/chlorothalonil, MAESTRO/captan
- **Cyclical 15-year Review After First Registration**
 - New up to date databases and modern risk assessments
 - e.g. neonicotinoids
- **Special Reviews (OECD country)**

Pesticide Re-evaluations in Canada

Process:

1. Initiation of Re-evaluation (grower input – new)
2. Publication of Proposed Re-evaluation Decision (PRVD)*
3. Public Consultation (90-days) (grower input - old)
4. Re-evaluation Decision Document (RDD)
5. Label amendments or phase-out of uses

*no consideration of economic value/benefit

Proposed Re-evaluation Decisions (pending Final Decisions)

Active Ingredient	linuron Group 7	mancozeb Group-M	metiram Group-M	ferbam Group-M	ziram Group-M	thiram Group-M	chlorothalonil Group-M	Iprodione Group -2	captan Group-M	cypermethrin Group-3	Imidacloprid Group-4
Trade Name	LOROX Herbicide	DITHANE Fungicide	POLYRAM Fungicide	FERBAM Fungicide	ZIRAM Fungicide	THIRAM Fungicide	BRAVO Fungicide	ROVRAL Fungicide	CAPTAN Fungicide	RIPCORD Insecticide	ADMIRE Insecticide
Consultation Status	Sept 24, 2012 Response Submitted Pending Final Decision Dec 2016*	Sept 27, 2013 Response Submitted Pending Final Decision Mar 2017	Sept 18, 2014 Response Submitted Pending Final Decision Mar 2017	May 27, 2016 Response Submitted Pending Final Decision Jun 2018	May 27, 2016 Response Submitted Pending Final Decision Jun 2018	May 27, 2016 Response Submitted Pending Final Decision Jun 2018	June 10, 2016 Response Submitted Pending Final Decision Mar 2018	July 15, 2016 Response Submitted Pending Final Decision Mar 2018	July 30, 2016 Response Submitted Pending Final Decision Mar 2018	Aug 30, 2016 Response Submitted Final Decision Sep 2018	Nov 23, 2016 Response due Feb 21, 2016 Final Decision Dec 2017
Proposed Decision (*final decision)	Cancel all uses	Cancel all Uses	Cancel all Uses	Cancel all Uses	Cancel all Uses	Cancel all Uses	Cancel certain uses and limitations on remaining uses	Cancel all Uses	Cancel certain uses and limitations on remaining uses	Decrease no. of applications for some uses and large buffer zones	Cancel all Agricultural Uses
Horticultural Food Uses Proposed to be Cancelled (*final decision)	Asparagus Carrots Caraway Celery Coriander Dill Parsnip Potato Apple Peach Pear Plum Cherry Saskatoon Sweet Corn	Potato (foliar and seed) Tomato Onion Celery Carrot Cabbage Cauliflower Pumpkin Squash Melon Watermelon Cucumber Apple Pear Grape	Potato Tomato Asparagus Carrot Celery Apple Grape	GH Cucumber, GH Tomato, GH Lettuce, Apple, Pear, Apricot, Cherry, Peach, Plum, Blackberry, Boysenberry, Dewberry, Raspberry, Blueberry, Cranberry, Currant, Grape	Tomato Cucumber, Melon Squash Pumpkin, Apple (BC only) Peach (BC only) Apricot (BC only)	Celery Sweet Potato Apple Peach Plum Strawberry Seed Treatment - (beets, broccoli, Brussels sprouts, cabbage, carrot, cauliflower, celery, lettuce, pepper, radish, spinach, turnip, eggplant, tomato, onion, snap bean, peas, squash, pumpkin, watermelon, cucumber, cantaloupe, onion)	Broccoli Brussels Sprouts Cabbage Cauliflower Corn (sweet) Celery Onion (dry and green) Cherry (sweet and sour) Peach Nectarine Blueberry (high and low) Cranberry	Cabbage (stored) Cauliflower, Garlic (preplant dip) Lettuce Onion Snap Bean Leek Potato (seed piece trt) GH Cucumber GH Lettuce GH Tomato Apricot Cherry Peach Plum Raspberry Strawberry Grape Ginseng Seed Treatment (carrot)	GH uses (except soil) Apple Pear Cherry Plum Peach Nectarine Apricot Grape Pumpkin Squash Tomato Strawberry Loganberry Blueberry Blackberry Raspberry On-Farm Bean Seed Treatment	Potatoes Root Veg (1-B) Tuberous and Corm Veg (1-D) Sweet Potato Leaves of Root and Tuber Veg (2) Leafy Greens (4-A) Leafy Petioles (4-B) Brassica Leafy Veg (5) Squash Fruiting Veg (except cucurbits 8) Cucurbit Veg (9) Pome Fruit (11) Stone Fruit (12) Berry -Small Fruit (13-A,B,F,G) Cranberry Herbs (19-A) Globe Artichoke Seed Treatments In-Furrow GH (drench and irrigation) Tomato, Cucumber, Pepper, Eggplant, Lettuce, Brassica 5A	

Proposed Decisions

- 8 fungicides, 3 insecticides, 1 herbicide
 - Cancel all uses – 8
 - Cancel some uses and limit other uses – 4
 - Maintain all uses – 0
- 7 Group-M fungicides
 - Cancel all uses - DITHANE, POLYRAM, FERBAM, ZIRAM, THIRAM
 - Cancel some uses and limit other uses – CAPTAN, BRAVO
 - Extreme concern for managing pathogen resistance!
 - No general mode-of action fungicides for apple scab

Response to Proposed Decisions

- **Review of Proposed Decision**
 - Cancelled uses and limited uses
 - Basis of decision – human health (dietary/drinking water, worker exposure) or environment
- **Response Plan**
 - What are assumptions has PMRA made?
 - What information is needed to address assumptions?
 - How can we impact a revised PMRA risk assessment?
- **CHC Crop Protection Advisory Committee**

Response to Proposed Decisions

- Describe current grower use of active ingredient
 - Use rate, number of applications, application method
- Post-application activities
 - Scouting, rogueing, hand-weeding, irrigation
- PMRA considers maximum label uses
 - e.g. unlimited applications at maximum rate

Response to Proposed Decisions Impacting Potatoes

Surveys completed by growers are critical to providing information to PMRA on product use in the response to Proposed Re-evaluation Decisions!

- LOROX/linuron – September 2012 – **Cancel all uses**
- DITHANE/mancozeb – September 2013 – **Cancel all uses**
- POLYRAM/metiram – September 2014 – **Cancel all uses**
- ADMIRE/imidacloprid – March 2017 – **Cancel all uses**

- BRAVO/chlorothalonil – June 2016 – Cancel some uses
(potato 1 application)
- MAESTRO/captan – July 2016 – Cancel some uses
(potato 1 application)

Examples of Responses – BRAVO/chlorothalonil

PMRA identified risk for post-application worker exposure and given number of applications there is no reasonable re-entry interval (REI)

- Cancel Use on: Broccoli, Brussels Sprouts, Cabbage, Cauliflower, Corn (sweet), Celery, Onion (dry and green), Cherry (sweet and sour), Peach, Nectarine, Blueberry (high and low), Cranberry
- Maintain Use on: asparagus, carrot, mushroom, parsnip, strawberry
- Maintain Use - 1 Application on: celery (seedbeds only), cucurbits, ginseng, **potato**, tomato

BRAVO/chlorothalonil Information from Grower Survey - Potatoes

187 responses submitted (30%+ acreage)

- 95.5% of growers apply BRAVO at least once during a growing season (n=155).
- 85.8%, consider BRAVO extremely important to managing resistance and another 11.0% consider it to be moderately important. (n=154)
- 26% always apply BRAVO alone, 38% apply with another fungicide about a third of the time, 22% about half of the time, and 14% never apply without another fungicide (n=150).

BRAVO/chlorothalonil Information from Grower Survey - Potatoes

- mean application rate used in 2015 was 86.5% of the maximum label application rate (n=141)
- mean number of applications was 4.75 per season that would typically be applied (n=146)
- maximum number of applications required was 6.29 (n=140)

BRAVO/chlorothalonil Information from Grower Survey - Potatoes

Post-Application Activities

- mean number of entries for scouting/monitoring was 10.9 (n=136) with duration of 2.1 hrs
- mean number of entries for rogueing was 2.6 (n=45) with duration of 6.6 hrs
- mean number of entries for hand-weeding was 1.4 (n=11) with duration of 4.5 hrs

BRAVO/chlorothalonil Information from Grower Survey - Potatoes

So what?

- PMRA assumptions can be corrected:
 - 10-12 applications vs. 4-6 applications
 - 86% application rate vs. full label rate
 - Most common post-application entry is for scouting at 10
 - Other post-application entries very limited
 - Use of Personal Protective Equipment
- Revised PMRA risk assessment could be positive

Neonicotinoids

Pollinator focused re-evaluation

- ADMIRE/Imidacloprid, TITAN/clothianidin, CRUISER/MINECTO DUO/thiamethoxam
- Proposed Decision December 2017

Cyclical (15-yr) Re-evaluations (health & environment)

- imidacloprid (Proposed Decision November 2016)
- clothianidin, thiamethoxam (Proposed Decision December 2018)

Special Reviews (aquatic invertebrates)

- clothianidin, thiamethoxam (December 2017?)

Pollinator Incident Report Evaluations (ongoing)

- 80% reduction in planting incidents since mitigation

ADMIRE/Imidacloprid Re-evaluation

Proposed Decision

- Cancel all uses
- No risks identified for human health
- Risks identified for aquatic invertebrates based on water monitoring data (no direct evidence)
- Monitoring data from Ontario and Quebec (some limited Saskatchewan)
- Modelled association with greenhouses (Ontario), field vegetables (Ontario, Quebec) and potatoes (Quebec)

ADMIRE/imidacloprid Grower Surveys

- 5 Sectors each with specific survey
 - Greenhouse Vegetables
 - Field Vegetables
 - Tree Fruit
 - Berries/vines
 - Potatoes – **still can submit until February 21!**
- Includes imidacloprid, clothianidin, thiamethoxam

Grower Survey - ADMIRE

Province	Commodity Type				
	Greenhouse	Field Vegetable	Potatoes	Tree Fruit	Berries, Vines & Grapes
Alberta	5	0	33	1	0
British Columbia	9	0	4	0	17
Manitoba	0	0	9	0	1
New Brunswick	0	0	32	2	1
Newfoundland and Labrador	0	3	2	1	2
Nova Scotia	0	3	1	25	5
Ontario	27	13	35	69	23
Prince Edward Island	0	0	40	0	0
Quebec	12	55	27	1	38
Saskatchewan	0	0	4	1	0
Total:	53	74	187	100	87

ADMIRE/Imidacloprid Re-evaluation

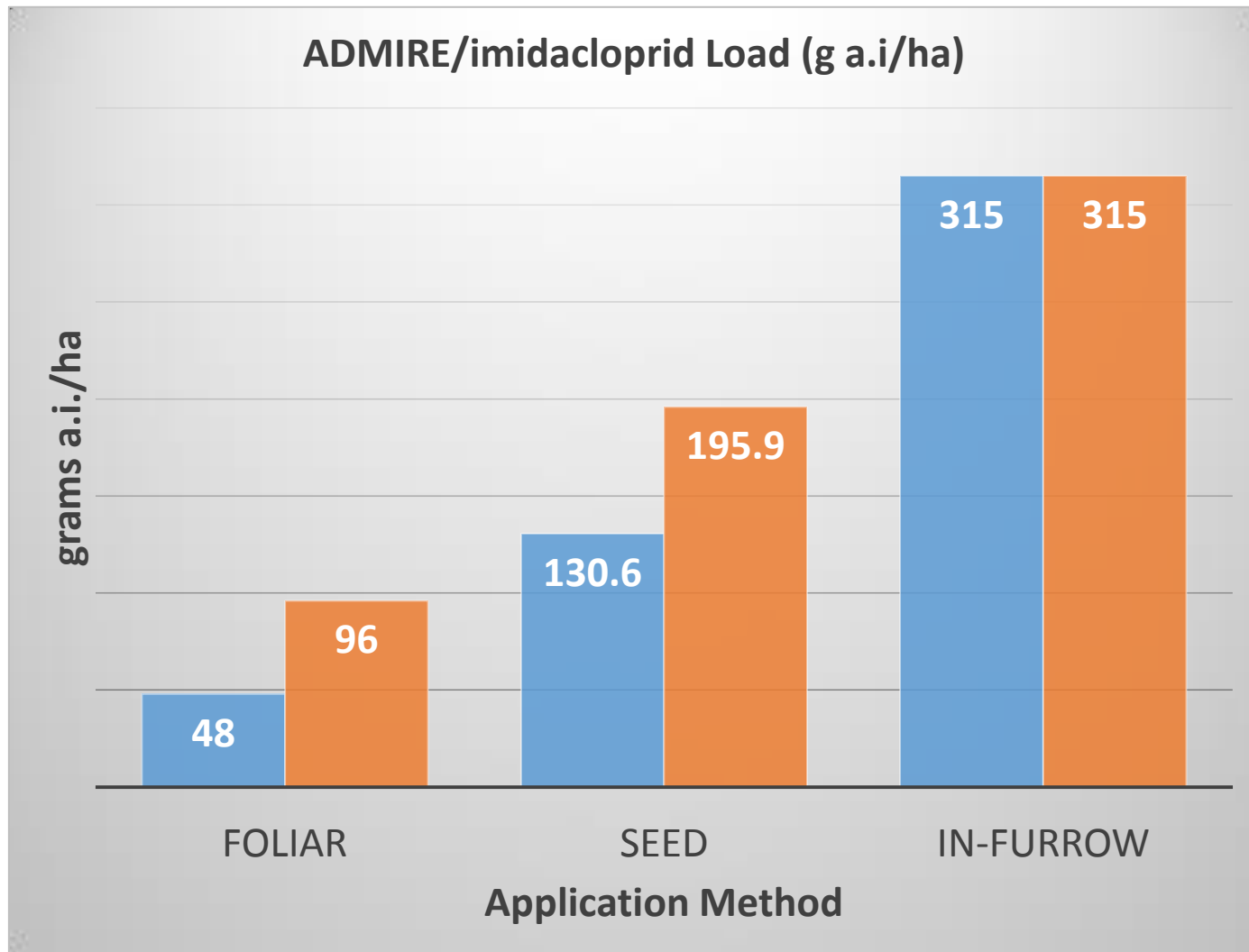
Consultation Response

(90-days; February 21, 2017 extended to March 23, 2017)

Industry:

- AAFC Multi-stakeholder Forum (Dec 21 and Feb 14)
- 3 Working Groups formed
 - Alternatives
 - Risk Mitigation
 - Environmental Monitoring

ADMIRE/Imidacloprid – Risk Mitigation



Re-evaluation Final Decisions

LOROX/linuron – December 2016
(also Special Review – Q2 2017)

DITHANE/mancozeb – March 2017

POLYRAM/metiram – March 2017

THIRAM/FERBAM/ZIRAM – 2018

ROVRAL/iprodione – March 2018

MAESTRO/captan – March 2018

BRAVO/chlorothalonil – March 2018

Final Thoughts

- Grower input via surveys is critical to correcting PMRA assumptions for revised risk assessments
- Extreme pressure on PMRA from environmental advocates
 - ADMIRE consultation over 17,000 responses (mostly click and send) not substantive comments
- Recent decisions based on water monitoring data and extremely conservative risk assessments are concerning
- Precedent established for future re-evaluations!

Thank you!



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CHC AGM

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