Michael Braverman and Jerry Baron

IR-4 Project, North Carolina State University

IR-4 International Activities Report.

Presented May 25

2022 MRL Harmonization Workshop

San Francisco, CA

Cooperative Network- Organizations

www.ir4project.org

Minor Use Foundation https://minorusefoundation.org/

Center of Excellence for Regulatory Science in Agriculture

CERSA https://cals.ncsu.edu/psi/center-of-excellence-for-regulatory-science-in-agriculture/

USDA Foreign Agricultural Service
U.S. DEPARTMENT OF AGRICULTURE

USDA National Institute of Food and Agriculture
UNITED STATES DEPARTMENT OF AGRICULTURE

Board

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Dirk Drost
D3 Consulting, LLC

NEW: Anna Gore,
Director of Operations

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Michael Braverman
IR-4

Alan Norden
Australia (ex APVMA)

Jason Sandahl
Ag Aligned Global

Dan Kunkel
AMVAC (Former IR-4)

Ex officio member

Jerry Baron
Exec. Director of IR-4

IR-4/Agriculture Ag-Food Canada Joint Projects 2021

PR# Priority Protocol	Pesticide(MFG)	Commodity (Crop Group)	Crop Group/ Subgroup
13094 A	DIFENOCONAZOLE + AZOXYSTROBIN (SYNGEN)	SPINACH (04-16A = LEAFY GREENS SUBGROUP)	04-16A
13096 A	OXATHIAPIPROLIN + MANDIPROPAMID (SYNGEN)	CARROT (01AB = ROOT VEGETABLES SUBGROUPS)	01AB
13080 A	OXATHIAPIPROLIN + MANDIPROPAMID (SYNGEN)	RADISH (01AB = ROOT VEGETABLES SUBGROUPS)	01AB
12606 A	PICARBUTRAZOX (NISSO)	GINSENG (01AB = ROOT VEGETABLES SUBGROUPS)	01AB
12848 A	PICARBUTRAZOX (NISSO)	HOPS (99 = MISC GROUP)	99

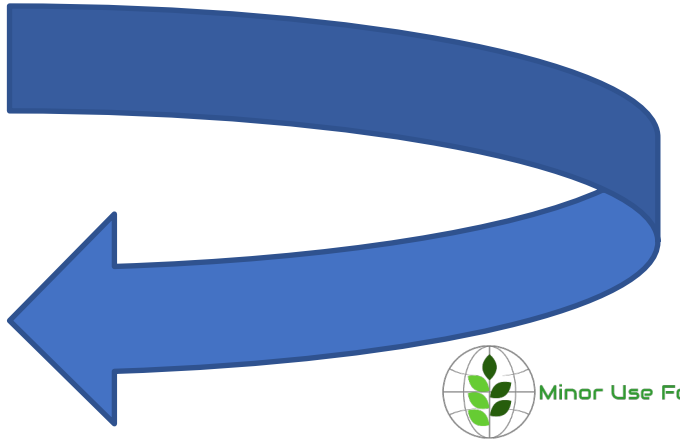
IR-4/Agriculture Ag-Food Canada Joint Projects 2022

IR-4 PR#	Active ingredient	Crop	Target pest
13355	GF-4031 (Corteva)	Strawberry	Powdery mildew
12673	Fludioxanil + Pydiflumetofen (Syngenta)	GH Cucumber	Fusarium
12935	Pyroxasulfone (KI Chemical)	Asparagus	Weed control

Global Cooperation with Benefit to US Growers

- Mefenoxam/Green Onion Downy Mildew
- US has label based on 1980s pre-GLP data(Too old to contribute to CODEX MRL)
- Canada has label and recent residue studies
- Australia has label and recent residue trials
- EU has label and recent residue trials

Combine data to pursue CODEX MRL



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Residue Mitigation- Gulfosinate on hops

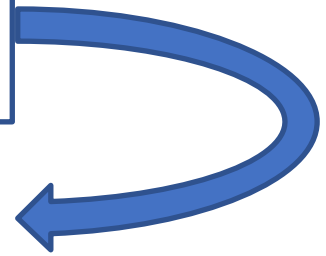
Comparing application methods, number of applications, and application timing to reduce residues of glufosinate in hop cones.

Cooperative Network- Residue Studies

Existing	Under Development
Asia- Thailand, Malaysia, Vietnam, Indonesia	Asia- Pakistan
Africa- Kenya, Uganda, Ghana, Senegal, Tanzania	Africa- South Africa, Rwanda, Zimbabwe
Latin America- Costa Rica, Colombia, Peru, Panama, Ecuador	Latin America- Argentina, Guatemala, Chile, Honduras, Paraguay, Uruguay, Bolivia
N. America and Oceana- Canada, Australia, New Zealand	
Europe	Still seeking government Cooperators

Prioritization Workshops

- Global Minor Use Prioritization Workshop- Fall 2020
- Asia- December 2021
- Latin America September 2022(Aug 2nd Registrant input)
- Africa- Late 2022
- Global Minor Use Prioritization Workshop and Global Minor Use Summit- Fall 2023



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Status of Global Minor Use Workshop Priorities

Crop	Pest	Top Solution	Funded
Tomato	Tuta-Leafminer	No solution identified	
Raspberry	SWD	No solution identified	
Dry Bulb Onion	Downy Mildew	No solution identified	
Blueberry	SWD	MBI-203 (Efficacy only on hold)	
Hops	Downy Mildew	Fluoxapiprolin (Efficacy studies)	✓
Green onion	Downy mildew	Metalaxyl-M (no CODEX MRL)	
Avocado	Phytophthora	Ethaboxam	✓
Coffee	Coffee Berry Borer	Indoxacarb	✓
Mango	Anthracnose	Picoxystrobin	✓
Passion fruit	Leafhopper, mealy bug, scale insects	Sulfoxaflor	✓
Pineapple	Phytophthora	Ethaboxam	✓
Eggplant	Thrips palmi	No solution identified	
Passion fruit	Alternaria	Propiconazole	✓
Okra	Thrips, Fall Army worm	No solution identified	

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Asia Regional Priority Setting Workshop.
https://minorusefoundation.org/events/2021-asian-psw/

Funded by JMPR/FAO to the MUF.

There was online voting, subsequent ranking and a discussion consensus workshop on December 2nd.

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Asian Priority Workshop Results- Fruit and Nut

Priority	Crop	Pest Common Name	Pest Scientific Name	Site	Country	Active Ingredient*
1	Mango	Fruit flies	Bactrocera sp.	field	BD, ID, KH, PK, VN	Spinosad(Existing data)
2	Cashew	Aphids	Aphididae	field	KH	thiamethoxam + lambda-cyhalothrin
3	Mango	Anthracnose	Glomerella cingulata and Colletotrichum sp.	field	VN	Pydiflumetofen, pydiflumetofen + difenoconazole, florylpicoxamid
4	Durian	Phytophthora	Phytophthora spps.	field	VN	fosetyl-aluminum, oxathiapiprolin
5	Durian	Seed borer		field	TH	beta-cyfluthrin
6	Banana	Fusarium	Fusarium sp.	field	MY, VN	penthiopyrad
7	Mango	Thrips	Scirtothrips sp.	field	TH	spidoxamat mixture
8	Papaya	Mealybugs	Paracoccus marginatus	field	ID, MM	sulfoxaflor

* Registrant support yet to be confirmed

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Asian Priorities-Agronomic, Vegetable and Herb

Priority	Crop	Pest Common Name	Pest Scientific Name	Site	Country	Active Ingredient*
1	Corn, sweet	Caterpillars	Helicoverpa sp.	field	ID, KH, MM	spinetoram
2	Pepper, chili	Anthracnose	Colletotrichum sp.	field	PK, VN	Florylpicoxamid, fluopyram + trifloxystrobin, trifloxystrobin + tebuconazole
3	Melon	Thrips	Thrips palmi	greenhouse	BN, MY	spinetoram
4	Melon	Leaf spots	Colletotrichum cucumerinum	greenhouse	BN	florylpicoxamid
5	Basil	Whiteflies	Bemisia tabaci	field	LA	sulfoxaflor
6	Shallot	Armyworms	Spodoptera exigua	field	ID	spinetoram, methoxyfenozide
7	Cabbage	Club root	Plasmodiophora brassicae	field	VN	fluazinam*

* Registrant support yet to be confirmed

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Archives Project- Cooperation with Benefit to US Growers

- IR-4 Majority data already generated.
- MUF Funding additional trials through USDA-FAS
- CERSA Funding additional trials through USDA-FAS International Cooperators to generate additional data

Combine data to pursue CODEX MRL on existing US registration or registration pending.

Ken Samoil- Previously with IR-4

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Archives Project- Cooperation with Benefit to US Growers

Studies supporting global priorities

Crop	AI	#Independent Trials	Codex Trial Requirement	Additional Trials Needed	IR-4/EPA/Registration status
Cucumber (GH)	Flutianil	6	8	2	Study complete; not submitted
Blueberry	Spinetoram	7	4	0	Study complete; use registered - Codex MRL < US tolerance
Blackberry	Cyantraniliprole	2	4	2*	Study complete; use registered
Raspberry	Cyantraniliprole	2	4	2*	Study complete; use registered
Parsley	Difenoconazole	≥ 4	4	0	Study in progress; final report in QA review
Strawberry	Oxathiapiprolin	10	8	0	Study complete; use registered
Guava	Fluopyram + Tebuconazole	4	4	0**	Studies in progress; all data received at IR-4 HQ. Fluopyram is already scheduled at JMPR, but not tebuconazole.
Pomegranate	Fluopyram + Tebuconazole	4	4	0**	

* may be completed based on studies from AAFC

** may need flesh and peel study

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Archives Project- Cooperation with Benefit to US Growers

Additional studies supporting new uses on temperate crops

Crop	AI	#Independent Trials	Codex Trial Requirement	Additional Trials Needed	Notes
Blueberry	Buprofezin	6	4	0	Study complete; NOF issued
Cantaloupe	Ethaboxam	9	8	0**	Study complete; use registered
Cranberry	Bifenthrin	5	4	0	Study complete to support export markets; NOF issued
Hops	Sulfoxaflor	4	4	0	Study complete; not submitted
Kiwifruit	Bifenthrin	5	5	0**	Study complete; not submitted
Mustard Greens	Chlorothalonil	8	4	0	Study complete; not submitted
Summer Squash	Ethaboxam	9	5	0	Study complete; use registered
Sunflower	Novaluron	8	8	0	Study complete; use registered
Tomato	Fluazinam	12	8	0	Study complete; NOF issued

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** may need flesh and peel study

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Archives Project- Cooperation with Benefit to US Growers

Additional studies supporting new uses on tropical crops

Crop	AI	#Independent Trials	Codex Trial Requirement	Additional Trials Needed	Notes
Avocado	Novaluron	6	4	0**	Study complete; use registered
Avocado	Clofentezine	5	4	0**	Study complete; use registered
Guava	Clofentezine	4	4	0**	Study complete; use registered
Lychee	Novaluron	3	4	1**	Study complete; use registered
Okra	Clethodim	6	5	0	Study complete; use registered
Papaya	Cyantraniliprole	5	5	0**	Study in progress; near completion of analytical phase
Papaya	Fluazinam	5	5	0**	Studies complete; NOF issued
Passionfruit	Propiconazole	4	4	0**	Study in progress

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** may need flesh and peel study

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Archives Project- Cooperation with Benefit to US Growers

Studies suggested for CERSA grant

Crop	AI	#Independent Trials	Codex Trial Requirement	Additional Trials Needed	Notes
Almond	Chlorothalonil	3	4	1	Study complete; not submitted
Banana	Acequinocyl	5	8	3**	Study complete; NOF issued
Fig	Buprofezin	3	4	1	Study complete; use registered
Pomegranate	Flonicamid	3	4	1**	Study complete; not submitted
Sunflower	Flonicamid	6	8	2	Study complete; use registered

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** may need flesh and peel study

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Import MRLs for US Exports to ASEAN

Import MRL candidates for crops from the US to ASEAN. Credits to Matt Lantz (Bryant Christie)
Jamin Huang- CERSA

Pesticide	Commodity	US tolerance (ppm)	Codex MRL (ppm)	ASEAN MRL (ppm)	Proposed iMRL based on
Chlorantraniliprole	Hop	40	40	-	Codex MRL
zeta-cypermethrin	Blueberries	0.8	-	-	US tolerance
Spinetoram	Cherries	0.3	0.09	-	US tolerance

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JMPR Rejection Rate Analysis

- Ken Samoil-Covered 2010 to 2019, 162 chemicals and 3,789 new crop uses

All JMPR 77% Accepted, 23% rejected.

IR-4 91% Accepted 9% Rejected(Pyriproxifen/Banana Costa Rica GAP and label mismatch. Company has corrected label and needs to be submitted to JMPR).

<u>Main causes of rejection</u>:

Study GAP and label mismatch(50%), not enough trials(34%), not all residues analyzed(4%), Other- Insufficient toxicology data, Storage stability issues.

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Thank You!

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