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Field Development Rep II/Technical Service Rep - Fungicides

Concord, OH 44077

Isofetamid

Kenja™ 400SC, Kabuto™ 400SC, Astun™ 400SC

A 4th generation SDHI

Isofetamid

- Mode of Action: SDHI (succinate dehydrogenase inhibitor)
- FRAC Group: 7
- Spectrum: Broad (no Oomycete, limited Basidiomycete control)
- Type of Activity: Preventative, curative, locally systemic
- Registration: US and Canada (Japan, Mexico, others pending)

Spectrum

Pathogens	
<i>Botrytis cinerea</i>	<i>Ramularia areola</i>
<i>Botrytis squamosa</i>	<i>Monilinia fructigena</i>
<i>Sclerotinia sclerotiorum</i>	<i>Monilinia laxa</i>
<i>Sclerotinia minor</i>	<i>Corynespora cassiicola</i>
<i>Glomerella cingulata</i>	<i>Podosphaera aphanis</i>
<i>Alternaria solani</i>	<i>Sphaerotheca fuliginea</i>
<i>Alternaria alternata</i> <i>Japanese pear pathotype</i>	<i>Erysiphe necator</i>
<i>Venturia inaequalis</i>	<i>Elsinoe ampelina</i>

✘ No activity against fungi belonging to Oomycetes and Basidiomycetes

Isofetamid approved label

CROP	DISEASE	Rate	Number of applications	Timing
Rapeseed, Crop Subgroup 20A	Control of Sclerotinia stem rot (<i>Sclerotinia sclerotiorum</i>)*	0.750 to 0.875 L/ha	2	BBCH 62, 69
Grape	Control of Botrytis bunch rot (<i>Botrytis cinerea</i>)* Powdery mildew (<i>Erysiphe necator</i>) Anthracnose (<i>Colletotrichum sp.</i>)	1.46 to 1.61 L/ha	3	14-day interval 14 day PHI
Low Growing Berry, Crop Subgroup 13-07G	Control of Grey mold (<i>Botrytis cinerea</i>)* Powdery mildew (<i>Podosphaera aphanis</i>) Anthracnose (<i>Colletotrichum fragariae</i>)	0.987 - 1.24 L/ha	5	7- to 14-day interval 0 day PHI
Lettuce, Head and Leaf	Control of Sclerotinia drop (<i>Sclerotinia minor</i> , <i>Sclerotinia sclerotiorum</i>)*	0.90 L/ha	2	At emergence /transplant, 14 days after 14 day PHI
Turfgrass on golf courses and sod farms	Control of Dollar Spot (<i>Sclerotinia homoeocarpa</i>)*	12.7-15.9 mL/100 m ²	8	14 day intervals

REI – 12 hours for all labeled uses

*On isofetamid Canadian label

Isofetamid approved label

CROP	DISEASE	Rate	Number of applications	Timing
Berry and Small Fruit Crop Group 13-07 except Subgroup 13-07C, 13-07F, 13-07G.	Control of Grey mold (<i>Botrytis cinerea</i>)*	0.987 - 1.24 L/ha	3	7- to 14-day interval 7 day PHI
Stone Fruit, Crop Group 12-09	Brown Rot and Blossom Blight (<i>Monilinia fructicola</i>)*	0.913 L/ha	3	7- to 14-day interval 1 day PHI
Pome Fruit, Crop Group 11-10 (Apple only in Canada)	Control of Apple Scab (<i>Venturia inaequalis</i>) * Pear scab (<i>Venturia pirina</i>) Suppression: Powdery mildew (<i>Podosphaera leucotricha</i>)	0.913 L/ha	6	10 to 14-day interval 20 day PHI
Edible-podded Legume Vegetables, Crop Groups 6A, 6B, 6C	White mold, (<i>Sclerotinia sclerotiorum</i>) * Gray mold (<i>Botrytis cinerea</i>)	1.25 L/ha	2	7- to 14-day interval 6A – 7 day PHI 6B – 14 day PHI 6A – 30 day PHI

Isofetamid acute toxicity

Type of study	Species	Results
Oral route	Rat	LD ₅₀ >2000 mg/kg*
Dermal route	Rat	LD ₅₀ >2000 mg/kg*
Inhalation	Rat	LC ₅₀ at 4 hours > 5.13 mg/L
Skin irritation	Rabbit	Non-irritating
Eye irritation	Rabbit	Non-irritating
Skin sensitization	Mouse	Not sensitizing

*Maximum rate tested

Kenja MRLs

Crop	Country	Status	Date	Tolerance (ppm)
Strawberry (subgroup 13-07G)	Canada	Published	February 2015	4
Grape (subgroup 13-07F)	Canada	Published	February 2015	3
Strawberry (subgroup 13-07G)	USA	Published	July 2015	4
Grape (subgroup 13-07F)	USA	Published	July 2015	3
Grape	Korea	Published	June 2016	7
Strawberry	Japan	Published	June 2017	4
Blueberry	Japan	Published	June 2017	4
Cranberry	Japan	Published	June 2017	4
Other berries*	Japan	Published	June 2017	4
Grape	Japan	Published	June 2017	10
Lettuce	Japan	Published	June 2017	20
Legumes	Japan	Published	June 2017	0.05
Wine grape	EU	Published	February 2017	4
Strawberry	EU	Published	February 2017	3
Herbs and edible flowers	EU	Published	February 2017	20
Grape	CODEX	Proposed	2017 3Q (Plan)	
Stone fruit	CODEX	Proposed	2017 3Q (Plan)	
Strawberry	CODEX	Proposed	2017 3Q (Plan)	

* other berries: chokeberry, mulberry, seaberry, gooseberry, black currant, Lonicera caerulea

Fervent™ 475SC

- First registered premixture in ISK's history
- Combination of isofetamid and tebuconazole
- Registered on almonds and grapevine
- Additional crops submitted for addition to the label

Pyriofenone

Prolivo 300SC[®], Property 300SC[®]

**Unique action for powdery
control**

Prolivo 300SC

Mode of Action:	Likely actin disrupter
FRAC Group:	U8 (moderate potential for resistance)
Spectrum:	Powdery mildews
Type of Activity:	Preventive, curative, locally systemic
Registration:	US and Canada in Q4 2016*†

*Registered as Property 180SC and Kusabi 300SC in EU,
Property 300SC in Korea and Japan

†Currently seeking registration in Canada as Property 300SC

PROLIVO 300SC labeled use as submitted

Crop	Diseases	Rate fl oz/A	Use Instructions
Cucurbit Vegetables	<i>Podosphaera xanthii</i>	4 – 5	Apply on 7- to 10-day intervals
	<i>Erysiphe cichoracearum</i>		Begin at bloom or when conditions are favorable prior to disease development.
Berry and Small Fruit	<i>Erysiphe necator</i>	4 – 5	For use on all types of grape.
	<i>Podosphaera aphanis</i>		Applications to grape and similar vine climbing fruits should be made on a 14-day interval.
	Other powdery mildews		Applications to strawberries and other similar low growing berries should be made on a 7- to 10-day interval. Begin applications preventatively and continue as needed per instructions above.

Resistance Management: Do not make more than 2 sequential applications of Pyriofenone or other Group U8 containing fungicides before rotation to a fungicide with a different mode of action.

Restrictions: Do Not apply more than 360 g ai/Ha/year

The Pre-Harvest Interval (PHI) for all crops on the label is 0 days.

Prolivo MRLs

Crop	Country	Status	Date	Tolerance (ppm)
Strawberry (subgroup 13-07C)	Canada	Proposed		0.9
Cucurbit vegetable Crop Group 9	Canada	Proposed		0.3
Strawberry (subgroup 13-07C)	US	Proposed		0.9
Cucurbit vegetable Crop Group 9	US	Proposed		0.3
Raisin grape – EXISTING IMPORT TOLERANCE	US	Proposed		0.5
Grape – EXISTING IMPORT TOLERANCE	US	Proposed		0.3
Strawberry	Korea	Published		2
Melon	Korea	Published		0.5
Watermelon	Korea	Published		0.1
Cucumber	Korea	Published		0.7
Oriental melon	Korea	Published		2
Pumpkin	Korea	Published		0.5
Cucumber	Japan	Published		1
Strawberry	Japan	Published		2
Pumpkin	Japan	Proposed	2017 1Q (Plan)	0.7
Watermelon	Japan	Proposed	2017 1Q (Plan)	0.05
Melons	Japan	Proposed	2017 1Q (Plan)	0.2
Grapes	Japan	Proposed	2017 1Q (Plan)	3
Table and wine grapes	EU	Published		0.2 Table grapes (0.9)

Pyriofenone acute toxicity

Type of study	Species	Results	
		Pyriofenone	PROLIVO 300SC
Oral route	Rat	LD ₅₀ >2000 mg/kg	LD ₅₀ >2000 mg/kg
Dermal route	Rat	LD ₅₀ >2000 mg/kg	LD ₅₀ >2000 mg/kg
Inhalation	Rat	LC ₅₀ at 4 hours >5.18 mg/L	LC ₅₀ at 4 hours > 2.78 mg/L
Skin irritation	Rabbit	Non-irritating	Non-irritating
Eye irritation	Rabbit	Non-irritating	Minimally irritating
Skin sensitization	Mouse	Not sensitizing	----
	Guinea Pig	----	Not sensitizing

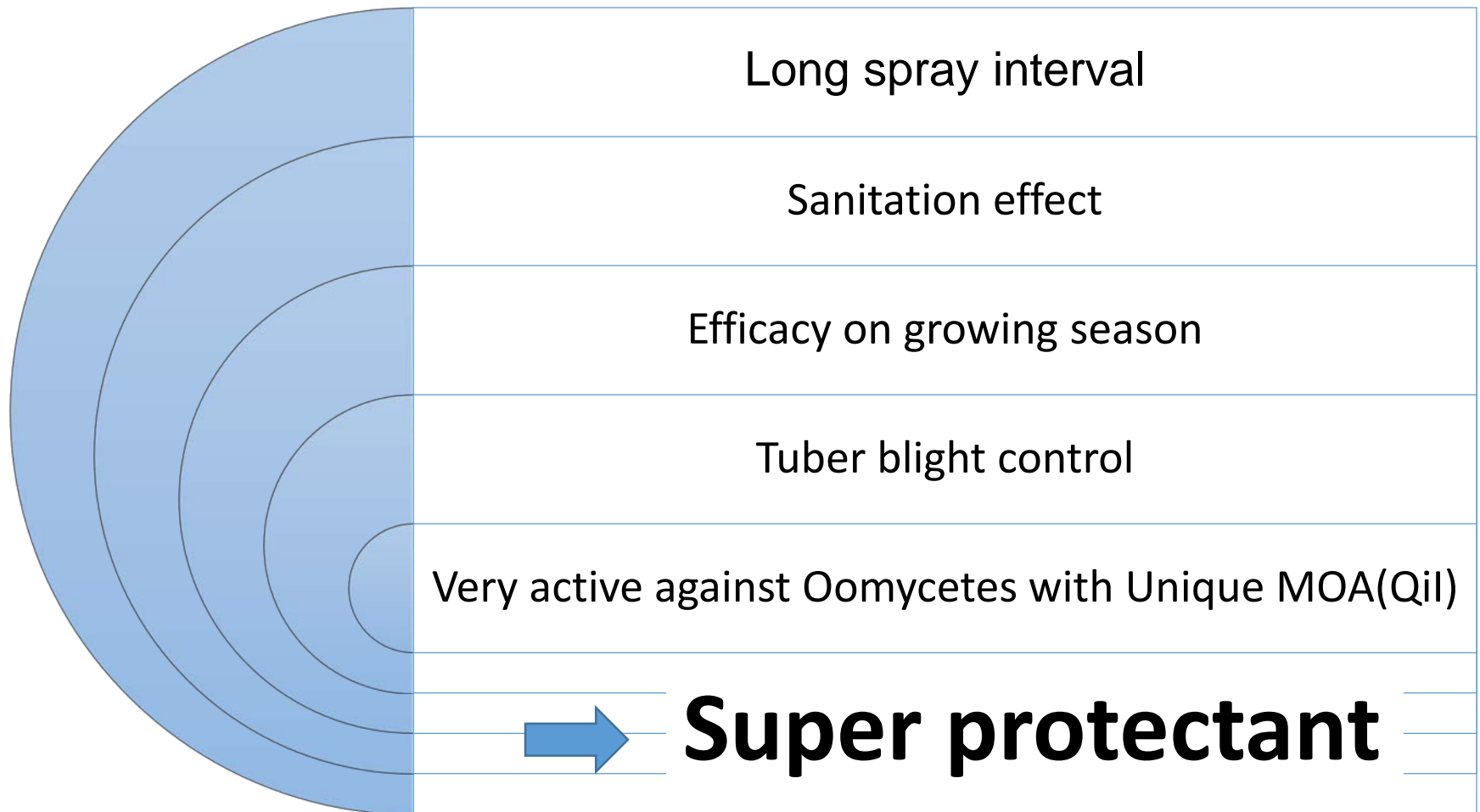
Cyazofamid

Ranman, Segway, Torrent

**Oomycete control in a class of
its own**



Cyazofamid Key points



Ranman 400SC

Mode of Action:	Quinone inside inhibitor (Qil)
FRAC Group:	21
Spectrum:	Oomycetes
Type of Activity:	Preventive, curative, locally systemic