



Evaluation Report for Category B, Subcategory 5.0 Application

Application Number: 2009-2003
Application: 3.11 - New Pests
3.12 - New Host
Product: Mesotrione Technical Herbicide
Registration Number: 27831
Active ingredients (a.i.): Mesotrione (MER)
PMRA Document Number English PDF: 2027120

Purpose of Application

The purpose of this application was to establish MRLs for mesotrione on/in various imported commodities.

Health Assessments

Residue data for mesotrione in/on asparagus, berries, cereal grains, rhubarb and sugarcane from trials conducted in NAFTA representative regions were submitted to support the establishment of maximum residue limits (MRLs) on asparagus, bushberry subgroup, flaxseed, millet, oats, popcorn grain, rhubarb, sorghum and sugarcane. Residue data on field corn previously reviewed (Regulatory Note: Mesotrione and Callisto 480SC Herbicide, REG2005-02) were re-assessed in the context of the current application for the import MRL on popcorn grain. In addition, processing studies in treated flax, oats and sugar cane were assessed to determine the potential for concentration of residues of mesotrione into processed commodities.

MRL Recommendations

Following an assessment of the available information, Maximum Residue Limits to cover residues of mesotrione in/on the various imported commodities have been established as shown in Table 1.

TABLE 1. Summary of Field Trial and Processing Data Used to Establish Maximum Residue Limit(s) (MRLs)

Commodity	Application Method/ Total Application Rate (g a.e./ha)	PHI (days)	Residues (ppm)		Mean Experimental Processing Factor	Currently Established MRL	Recommended MRL
			Min	Max			
Asparagus	Pre-emergence, soil surface spray/ 267-280 (representative of US GAP)	8-26	<0.01	<0.01	Processing study not required	None	0.01
Blueberry (representative crop of the Bush berry Crop Subgroup, Crop Subgroup 13-07B)	Pre-bloom directed spray/ 102-110	32-88	<0.01	<0.01	Processing study not required	An MRL of 0.01 ppm has been proposed	-
	Pre-bloom directed spray/ 209-216 (representative of the US GAP)	32-88	<0.01	<0.01			
Flax, seed	At-planting, soil surface/ 105-106	89-170	<0.01	<0.01	Residues of mesotrione were <LOQ (<0.01 ppm) in flax seed and meal treated post-emergence at exaggerated rates.	None	0.01
	At-planting, soil surface/ 208-211 (representative of US GAP)	89-170	<0.01	<0.01			
	Post-emergence, over-the-top/105-107	46-130	<0.01	<0.01			
Grain sorghum, grain	At-planting, soil surface/ 224 (representative of US GAP)	NA	<0.01	<0.01	Residues of mesotrione were <LOQ (<0.01 ppm) in sorghum grain and aspirated	None	0.01

			Residues (ppm)				
	At-planting, pre-plant incorporated/ 224	NA	<0.01	<0.01			
	Post-emergence, over the top/ 224	69-111	<0.01	<0.01			
Oat, grain	At-planting, soil surface/ 208-216 (representative of US GAP)	NA	<0.01	<0.01	The processed commodities (hulls, groats, rolled oats, bran and flour) were not analyzed since residues of mesotrione were <LOQ (<0.01 ppm) in grain treated at exaggerated rates post-emergence	None	0.01
	Post-emergence, over-the-top/ 103-108 (representative of US GAP)	49-54	<0.01	<0.01			
Millet, grain	At-planting, soil surface/ 104-110	84-132	<0.01	<0.01	Processing study not required	None	0.01
	At-planting, soil surface/ 209-218 (representative of US GAP)	84-132	<0.01	<0.01			
	Post-emergence, over-the-top/ 104-109	61-113	<0.01	<0.01			
Rhubarb petiole/stems	Pre-emergence, soil surface spray/ 202-217 (representative of US GAP)	42	<0.01	<0.01	Processing study not required	None	0.01
	Pre-emergence, soil surface spray/ 337-351	42	<0.01	<0.01			

			Residues (ppm)				
Sugarcane	At-planting, soil surface + post-emergence, over-the-top/ 356-403	114	<0.01	<0.01	The processed commodities (refined sugar and molasses) were not analyzed since residues of mesotrione were <LOQ (<0.01 ppm) in sugarcane treated at exaggerated rates post-emergence	None	0.01
	At-planting, soil surface + post-emergence, direct/ 364-390 (representative of US GAP)	100	<0.01	<0.01			
	Post-emergence, over-the-top + post-emergence direct/ 206-226	100	<0.01	<0.01			
	Post-emergence, over-the-top + post-emergence direct/ 659	100	<0.01	<0.01			
	Post-emergence, over-the-top + post-emergence direct/ 1040-1100	100	<0.01	<0.01			

Chemistry Assessment

A chemistry assessment was not required for this application since mesotrione is already registered in Canada.

Value and Environmental Assessments

Value and Environmental assessments were not required for this application.

Conclusion

Following the review of all available data, MRLs of 0.01 ppm for asparagus, flaxseed, pearl millet, proso millet, oats, popcorn grain, rhubarb, sorghum and sugarcane is recommended to cover residues of mesotrione. Residues of mesotrione at the recommended MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

References

- 1767399 2006, Mesotrione - Magnitude of the Residues in or on Rhubarb, DACO: 7.4.1, 7.4.2
- 1767403 2005, Mesotrione - Magnitude of the Residues in or on Millet, DACO: 7.4.1, 7.4.2
- 1767405 2005, Mesotrione - Magnitude of the Residues in or on Berry, Group 13, DACO: 7.4.1, 7.4.2
- 1767407 2005, Mesotrione - Magnitude of the Residues in or on Oats, Including Processed Commodities, DACO: 7.4.1, 7.4.2
- 1767409 2005, Mesotrione - Magnitude of the Residues in or on Flax and Processed Commodities, DACO: 7.4.1, 7.4.2
- 1767412 2006, Mesotrione - Magnitude of the Residues in or on Asparagus, DACO: 7.4.1, 7.4.2
- 1767414 2006, Mesotrione - Magnitude of the Residues in or on Sorghum, DACO: 7.4.1, 7.4.2
- 1767416 2006, Mesotrione - Magnitude of the Residues in or on Sugarcane, DACO: 7.4.1, 7.4.2
- 1864320 2010, Rationale for Plant Metabolism of Mesotrione and Definition of Residue-Mesotrione Technical Herbicide, DACO: 6.3
- 1864321 2003, [Cyclohexane-2-14C] Mesotrione: Nature of the Residue in Peanuts – Mesotrione Technical Herbicide, DACO: 6.3
- 1864322 2003, [Phenyl-U-14C] Mesotrione: Nature of the Residue in Peanuts - Mesotrione Technical Herbicide, DACO: 6.3
- 1890323 2006, Stability of Mesotrione Residues in Blueberry, Asparagus, Sugarcane and Okra Under Freezer Storage Conditions, DACO: 7.3

ISSN: 1911-8082

© Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services Canada 2011

All rights reserved. No part of this information (publication or product) may be reproduced or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise, or stored in a retrieval system, without prior written permission of the Minister of Public Works and Government Services Canada, Ottawa, Ontario K1A 0S5.