



Evaluation Report for Category B, Subcategory 5.0 Application

Application Number: 2014-2822
Application: New maximum residue limit for previously assessed technical grade active ingredient
Product: Clothianidin Technical Insecticide
Registration Number: 27445
Active ingredients (a.i.): Clothianidin
PMRA Document Number : **2486269**

Purpose of Application

The purpose of this application was to establish maximum residue limits (MRLs) in/on imported tuberous and corm vegetables (CSG 1C), leafy vegetables (except *Brassica* vegetables; CG 4), *Brassica* (cole) leafy vegetables (CG 5), pomegranates, rice (grain), figs and tea (dried leaves) for the technical grade active ingredient clothianidin.

Chemistry, Environmental and Value Assessments

Chemistry, environmental and value assessments were not required for this application.

Health Assessments

A toxicology assessment was not required for this application.

Residue data from field trials conducted in/on various crops were assessed in the framework of this application to support the importation from the U.S.A. of leafy vegetables (except *Brassica* vegetables) (CG 4), *Brassica* (cole) leafy vegetables (CG 5), pomegranates, figs, rice and tea (dried leaves) treated with clothianidin. In addition, processing studies in treated rice grain and fresh tea leaves were reviewed to determine the potential for concentration of residues of clothianidin into processed commodities.

Previously reviewed residue data from seed piece, in-furrow and foliar treatments conducted in/on potatoes, and from foliar treatment conducted in/on head lettuce and leaf lettuce were reassessed in the framework of this petition to support the importation from the U.S.A. of tuberous and corm vegetables (CSG 1C) and leafy vegetables (except *Brassica* vegetables) (CG 4). In addition, processing studies in treated potatoes were also reassessed to determine the potential for concentration of residues of clothianidin into processed commodities.

The recommendation for MRLs for clothianidin was based upon the submitted field trial data, and the guidance provided in the OECD MRL Calculator. MRLs to cover residues of clothianidin

in/on crops and processed commodities are proposed as shown in Table 1. Residues in processed commodities not listed in Table 1 are covered under the proposed MRLs for the raw agricultural commodities (RACs).

Table 1 Summary of Field Trial and Processing Data Used to Establish Maximum Residue Limits (MRLs).

Commodity	Application Method; Total Application Rate (g a.i./ha)	PHI (days)	Residues (ppm)		Experimental Processing Factors	Currently Established MRL	Recommended MRL
			LAF T ¹	HAF T ²			
Potato tubers	Seed-piece treatment; 11.8-12.0 g a.i./100 kg seed	90	<0.02	0.23	1.4-fold in wet potato peel; 2.6-fold in potato chips; 6.4-fold in potato granules/flakes	0.3 ppm (potatoes, sweet potato roots) 0.6 ppm (potato chips) 1.5 ppm (potato granules/flakes)	0.3 ppm (CSG 1C) ³
	Seed-piece treatment; 18.75 g a.i./100 kg seed	79-143	<0.01	0.086			
	In-furrow; 221-223	98-132	<0.02	0.023			
	In-furrow; 217-232	85-135	<0.02	0.031			
	Foliar; 221-229	13-15	<0.02	<0.02			
	Foliar; 220-228	13-14	<0.02	0.021			
Head lettuce	Foliar; 317-326	5-8	<0.02	0.101	None	0.2 ppm (head lettuce) 0.5 ppm (leaf lettuce)	3 ppm (CG 4) ⁴
Leaf lettuce	Foliar; 314-326	7	0.073	0.255			
Head lettuce with wrapper leaves	Foliar; 221-228	7	0.012	0.527			
	Chemigation via drip irrigation; 224	32	0.042	0.044			
Leaf lettuce	Foliar; 222-226	7	0.214	1.10			
	Side-dress soil application; 227	21	0.043	0.046			

Commodity	Application Method; Total Application Rate (g a.i./ha)	PHI (days)	Residues (ppm)		Experimental Processing Factors	Currently Established MRL	Recommended MRL
			LAF T ¹	HAF T ²			
Spinach	Foliar; 216-228	6-7	0.080	1.73	None	None	1.9 ppm (CG 5)
	Banded soil application; 223	82	0.030	0.034			
Celery (petioles with leaves)	Foliar; 222-231	7	0.027	0.924			
	Transplant drench soil application; 224	77	<0.01	<0.01			
Cabbage head with wrapper leaves	Foliar; 222-228	6-7	0.013	0.367			
	Drench at transplanting (soil application); 224	77	0.015	0.015			
Cauliflower head and stem	Foliar; 223-228	7	0.014	0.061			
	Banded at planting (soil application); 230	97	<0.01	<0.01			
Mustard greens leaves	Foliar; 218-226	7	0.141	1.31			
	In-furrow at planting (soil application); 223	54	<0.01	<0.01			
Pomegranates (fruits)	Foliar; 224	7	0.042	0.075	None	None	0.2 ppm
Figs (fruit)	Foliar; 224	7	0.017	0.029	None	None	0.05 ppm
Rice (grain)	Foliar; 224-228	20-22	0.131	1.58	2.8-fold in rice hulls; 0.06-fold in polished rice; 0.19-fold in rice bran	None	0.01 ppm ⁵
	Foliar; 405-418	78-82	<0.01	<0.01			
	Seed treatment; 329-348	119-127	<0.01	<0.01			

Commodity	Application Method; Total Application Rate (g a.i./ha)	PHI (days)	Residues (ppm)		Experimental Processing Factors	Currently Established MRL	Recommended MRL
			LAF T ¹	HAF T ²			
Tea (dried leaves)	Foliar; 320-480	7	2.19	36.1	None	None	70 ppm

¹ LAFT: Lowest Average Field Trial. ² HAFT: Highest Average Field Trial. ³ The currently established MRL of 0.3 ppm in/on potatoes and sweet potato roots will be extended to the whole crop subgroup 1C. ⁴ The recommended import MRL of 3 ppm for CG 4 will replace the MRLs of 0.2 ppm (head lettuce) and 0.5 ppm (leaf lettuce). ⁵ The USA registered use pattern on rice is a seed treatment.

Following the review of all available data, MRLs for imported crops of tuberous and corm vegetables (CSG 1C), leafy vegetables (except *Brassica* vegetables) (CG 4), *Brassica* (cole) leafy vegetables (CG 5), pomegranates, figs, rice and tea (dried leaves) are recommended to cover residues of clothianidin. Residues of clothianidin in these crops at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

Conclusion

The PMRA has completed a review of all available information and has established maximum residue limits for imported tuberous and corm vegetables (CSG 1C), leafy vegetables (except *Brassica* vegetables; CG 4), *Brassica* (cole) leafy vegetables (CG 5), pomegranates, rice (grain), figs and tea (dried leaves) as listed above in Table 1.

References

PMRA Document Number	Reference
2450765	2007, Clothianidin Residues on Mustard Greens from Trials Conducted in the United States in 2006, DACO: 7.4.1
2450766	2007, Clothianidin Residues on Cauliflower from Trials Conducted in the United States in 2006, DACO: 7.4.1
2450767	2008, Clothianidin Residues on Celery from Trials Conducted in the United States in 2007, DACO: 7.4.1
2450768	2008, Clothianidin Residues on Spinach from Trials Conducted in the United States in 2007, DACO: 7.4.1
2450769	2007, Clothianidin Residues on Cabbage from Trials Conducted in the United States in 2006, DACO: 7.4.1
2450770	2009, Magnitude of the Residues of Clothianidin on Pomegranates, DACO: 7.4.1
2450773	2009, Clothianidin Residues on Rice and Rice Processed Commodities from Trials Conducted in the United States in 2008, DACO: 7.4.1
2450777	2009, Magnitude of the Residues of Clothianidin on Figs, DACO: 7.4.1

PMRA Document Number	Reference
2452880	2008, Clothianidin Residues on Head Lettuce from Trials Conducted in the United States in 2007, DACO: 7.4.1
2452881	2008, Clothianidin Residues on Leaf Lettuce from Trials Conducted in the United States in 2007, DACO: 7.4.1
2480770	2010, Magnitude of the Residue of Clothianidin in Rice (Exaggerated Rate), DACO: 7.4.1
2480771	2010, Clothianidin: Aquatic Field Dissipation, DACO: 8.3.3.3
2480772	2012, Clothianidin: Aquatic Field Dissipation, DACO: 8.3.3.3
2515959	2011, IR-4 Minor Use Submission in Support of a Tolerance for Clothianidin in/on Tea, DACO: 7.4.1
2525036	2006, Translated: Field residual trial results of Clothianidin on tea, DACO: 7.4.1
2525037	2003, Translated: Trial protocol of field residual test -- special crop of tea, DACO: 7.4.1

ISSN: 1911-8082

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