

Evaluation Report for Category B, Subcategory 5.0 Application

Application Number: 2018-0708
Application: New Maximum Residue Limits for Previously Assessed Technical Grade Active Ingredient
Product: Glufosinate Ammonium Technical Herbicide
Registration Number: 23178
Active ingredient (a.i.): Glufosinate-ammonium
PMRA Document Number: 2988975

Purpose of Application

The purpose of this application was to establish maximum residue limits (MRLs) for glufosinate-ammonium in/on the imported commodities avocados, green coffee beans, mangoes and tea (dried leaves).

Health Assessment

Toxicology and occupational exposure assessments were not required for this application.

Residue data for glufosinate-ammonium in crops were submitted to support the maximum residue limits on imported avocados, coffee, mangoes, and tea. In addition, processing studies in treated tea and coffee were reviewed to determine the potential for concentration of residues of glufosinate-ammonium into processed commodities.

Maximum Residue Limits

The recommendation for maximum residue limits (MRLs) for glufosinate-ammonium was based upon the submitted field trial data, and the guidance provided in the [OECD MRL Calculator](#). MRLs to cover total glufosinate residues as 2-amino-4-(hydroxymethyl phosphinyl)butanoic acid monoammonium salt, including the metabolites 3-[hydroxy (methyl)phosphinyl]propanoic acid and 2-(acetylamino)-4-[hydroxy(methyl)phosphinyl] butanoic acid, expressed as glufosinate free-acid equivalents 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 Support Maximum Residue Limits (MRLs)

Commodity	Application Method/ Total Application Rate (kg ai/ha)	PHI (days)	Residues ¹ (ppm)		Experimental Processing Factor	Currently Established MRL (ppm)	Recommended MRL (ppm)
			LAFT	HAFT			
Avocados	Ground spray/3.0	0	<0.030	0.300	-	-	0.6
Mangoes	Ground spray/2.9-3.1	0	<0.030	<0.030	-	-	0.1
Green coffee beans	Post-emergence directed spray along crop line/0.591-0.623	20	<0.030	<0.030	Instant coffee: 1.3× Roasted coffee: 1.5×	-	0.1
Tea (dried leaves)	Soil directed spray/2.6-2.7	10-11	<0.030	0.048	Instant tea: 2.0×	-	0.5

LAFT = Lowest Average Field Trial; HAFT = Highest Average Field Trial

¹ Total glufosinate, calculated as the sum of glufosinate, glufosinate propanoic acid and *N*-acetyl glufosinate, expressed as glufosinate free-acid equivalents.

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover total residues of glufosinate-ammonium. Residues in these crop commodities at the proposed MRLs will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

Chemistry, Environmental and Value Assessments

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

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided, and has found it sufficient to establish MRLs for glufosinate-ammonium in/on the imported commodities avocados, green coffee beans, mangoes and tea (dried leaves).

References

PMRA Document Number	Reference
2836993	Dacus, S.C., 2017, Glufosinate Ammonium: Rationale in Support of a Revised Definition of the Residue in Canada, DACO: 7.1,7.2
2836994	Murphy, I.M., 2011, An analytical method for the analysis of glufosinate, n-acetylglufosinate and 3-methylphosphinico proprionic acid in plant matrices and processed fractions by HPLC-MS/MS, DACO: 7.2.1
2852807	Hoag, R.E. & Brundardt, J.N., 2016, Glufosinate-ammonium - Magnitude of the residue in/on coffee processed commodities: U.S., Canada and E.U. import tolerances, DACO: 7.4.5
2858902	Woodard, D., 2017, Amendment no. 1 to final report - Residues of glufosinate following three applications of glufosinate-ammonium SL 200 to tea in China in 2014 (Tea leaves and processed commodities), DACO: 7.4.1,7.4.2,7.4.5
2858903	Semrau, J., 2015, Determination of residues of glufosinate-ammonium and its metabolites after two applications of glufosinate-ammonium SL 200 in mango at 4 sites in South Africa 2013, DACO: 7.4.1
2921133	Woodard, D. & Lemke, V.J., 2016, Liberty 280 SL and Rely 280 - Magnitude of the residue in/on avocado - U.S., Canada, E.U. import tolerances, DACO: 7.4.1,7.4.2
2921134	Lemke, V.J., 2016, Amended report no. 02 to glufosinate-ammonium - Magnitude of the residue in/on coffee: U.S. and E.U. import tolerances, DACO: 7.4.1,7.4.2

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