

Evaluation Report for Category B, Subcategory 3.1, 3.3, 3.5 Application

Application Number: 2017-8218
Application: Changes to Product Labels – Application Rate Increase or Decrease, Application Number Frequency and Rotational Crops/Plantback Interval
Product: Liberty 150 SN Herbicide and Crop Desiccant MP
Registration Number: 24081
Active ingredient (a.i.): Glufosinate-ammonium
PMRA Document Number: 2958278

Purpose of Application

The purpose of this application was to 1) align the application rate and number of applications in glufosinate ammonium tolerant canola crops grown commercially or grown for seed production, 2) add a 70-day plant-back interval for root and leafy vegetables, and 3) harmonize the current residue definition in Canada with the rest of the world.

Chemistry Assessment

A chemistry assessment was not required for this application.

Health Assessments

A toxicology assessment was not required for this application.

The amendments to the registration of Liberty 150 SN Herbicide and Crop Desiccant MP constitute an expansion of the use pattern for the active ingredient glufosinate ammonium. Hence, updated quantitative risk assessments were conducted for mixers, loaders, applicators and postapplication workers; and no health risks of concern are expected when workers follow label directions and wear personal protective equipment as stated on the label.

Residue data for glufosinate-ammonium in glufosinate-ammonium tolerant canola (transgenic) were submitted to support the amendment of the Liberty 150 SN Herbicide and Crop Desiccant label. Glufosinate-ammonium was applied to transgenic canola at label rates, and harvested according to label directions. In addition, a processing study in treated transgenic canola was reviewed to determine the potential for concentration of residues of glufosinate-ammonium into processed commodities.

The residue data submitted for glufosinate-ammonium in rotational crops support the amendments to the plant-back intervals.

Maximum Residue Limit(s)

No revision to the maximum residue limit (MRL) for glufosinate-ammonium in canola is required. Based on the submitted field trial data, the MRL currently established for glufosinate-ammonium in/on rapeseeds (canola) will cover residues of glufosinate-ammonium in/on canola seed as shown in Table 1. Residues in processed commodities not listed in Table 1 are covered under the MRL established for the raw agricultural commodity (RAC) canola seed.

TABLE 1 Summary of Field Trial and Processing Data for Transgenic Canola.

Commodity	Application Method/ Total Application Rate (kg a.i./ha)	PHI (days)	Residues (ppm) ²		Experimental Processing Factor	Currently Established MRL ³ (ppm)	Recommended MRL (ppm)
			LAFT ¹	HAFT ¹			
Transgenic canola seed	Foliar/1.48-1.54	71-78	<0.030	0.061	No quantifiable residues observed at exaggerated rates.	3.0	None

¹LAFT = Lowest Average Field Trial; HAFT = Highest Average Field Trial.

²Total glufosinate, calculated as the sum of glufosinate, glufosinate propanoic acid and *N*-acetyl glufosinate, and expressed as glufosinate free-acid equivalents.

³ Glufosinate-ammonium, including the metabolite glufosinate propanoic acid.

No increase to the dietary burden of livestock is anticipated, and residues of glufosinate-ammonium will be covered under the MRLs currently established for livestock food commodities (<http://pr-rp.hc-sc.gc.ca/mrl-lrm/index-eng.php>).

Residues of glufosinate-ammonium in/on canola commodities and in/on rotational crops as a result of this action will not pose any health risks of concern to any segment of the population, including infants, children, adults and seniors.

Environmental Assessment

No additional risk to the environment is expected from the amendments to the registration of Liberty 150 SN Herbicide and Crop Desiccant MP that cannot be mitigated through labelling. The label was amended to include buffer zones for the amended use on canola.

Value Assessment

Increasing the number of applications per year will give growers the flexibility to control additional weed flushes until the bolting stage of glufosinate ammonium tolerant canola. Increasing the rate for each application will give growers the option of choosing a higher rate to control a broader spectrum of problematic weeds in this crop.

Crop tolerance information reported from GLP food residue field trials demonstrated that glufosinate ammonium tolerant canola exhibited an adequate margin of crop tolerance to three sequential applications of Liberty 150 SN Herbicide and Crop Desiccant MP applied at 4.0 L/ha with a total of 12.0 L/ha/year. Crop tolerance information from small scale replicated field trials supported this conclusion.

Based on the herbicide mode of action and scientific rationale, increasing the number of applications per year and the rate of each application is not expected to affect crop tolerance on labelled rotational crops. Also, it is expected that root and leafy vegetable crops will exhibit adequate tolerance to Liberty 150 SN and Crop Desiccant MP applied in accordance with the label.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the available information and has found it sufficient to amend the product label for Liberty 150 SN Herbicide and Crop Desiccant MP and harmonize the residue definition.

References

PMRA Document Number	References
2836997	2014, Glufosinate-ammonium: Magnitude of residues in/on Liberty Link Canola following three applications of Liberty 150 SN, DACO: 7.4.1, 7.4.2.
2836999	2005, Liberty 1.67 SL - Magnitude of the Residue in Field Rotational Crops - Wheat, Mustard Greens, and Turnips, DACO: 7.4.4
2840510	2011, Glufosinate-ammonium: Magnitude of residues in/on processed fractions of Liberty link canola varieties (Ignite 280 SL), DACO: 7.4.5
2840511	2018, Value assessment of Liberty 150 SN - Label expansion for sequential use of a 600 g a.i./ha rate in glufosinate ammonium-tolerant canola, DACO: 10, 10.1, 10.2, 10.2.1, 10.2.2, 10.2.3, 10.2.3.1, 10.2.3.3(B), 10.2.4, 10.3, 10.3.1, 10.3.2, 10.3.2(A), and 10.3.3.
2840512	2017, Compilation of trial reports (DACO 10.3 Non-safety Adverse-effects): Value assessment of Liberty 150 SN - Label expansion for sequential use of a 600 g a.i./ha rate in glufosinate ammonium-tolerant canola, DACO: 10, 10.2.3.3(B), and 10.3,10.3.2(A).

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