

Evaluation Report for Category B, Subcategory 3.12, 3.2, 3.3 Application

Application Number: 2020-3919
Application: Changes to Product Labels – New Site or Host, Application Timing and Application Number or Frequency
Product: AIM EC Herbicide
Registration Number: 28573
Active ingredient (a.i.): Carfentrazone-ethyl
PMRA Document Number: 3280601

Purpose of application

The purpose of this application was to amend the product label of AIM EC Herbicide to add preemergence and post-harvest application timing, multiple applications per year for certain crops and to update the crop groups.

Chemistry assessment

A chemistry assessment was not required for this application.

Health assessments

The amendments to the AIM EC Herbicide label, which include the addition of new crops, new timings of application and a second application per season for certain crops, represent an expansion of the use pattern for the active ingredient carfentrazone-ethyl. Therefore, an updated mixer/loader/ applicator exposure risk assessment was conducted. For postapplication occupational and residential exposure, based on the timings and methods of application, carfentrazone-ethyl residues on foliage and/or crops are expected to be negligible and quantitative risk assessments are not required. No health risks of concern were identified provided that workers wear the appropriate personal protective equipment and follow all label directions.

No new residue data for carfentrazone-ethyl in the representative crops of Root and Tuber Vegetables (Crop Group 1), Bulb Vegetables (Crop Group 3-07), Leafy Vegetables (Crop Group 4-13), Brassica Head and Stem Vegetables (Crop Group 5-13), Legume Vegetables (Succulent or Dried) (Crop Group 6), Fruiting Vegetables (Crop Group 8-09), Cucurbit Vegetables (Crop Group 9), Pome Fruits (Crop Group 11-09), Stone Fruits (Crop Group 12-09), Caneberries (Crop Subgroup 13-07A), Bushberries (Crop Subgroup 13-07B), Tree Nuts (Crop Group 14-11), Cereal Grains (Crop Group 15), Rapeseed (Crop Subgroup 20A), Sunflowers (Crop Subgroup 20B), Leaf Petiole Vegetables (Crop Subgroup 22B), Grapes, Hops, Mint, and Strawberries were submitted to support the use expansion of this active ingredient on the AIM EC Herbicide label.

Previously reviewed residue data from field trials conducted in/on the crops and the representative crops of the aforementioned crop groups were reassessed in the framework of this application. In addition, processing studies in treated apple, corn, grapes, plums, sorghum, soybean, tomato and wheat were also reassessed to determine the potential for concentration of residues of carfentrazone-ethyl into processed commodities.

Maximum residue limits

The recommendation for maximum residue limits (MRLs) for carfentrazone-ethyl was based upon the submitted field trial data, and the guidance provided in the [OECD MRL Calculator](#). MRLs to cover residues of carfentrazone-ethyl and metabolite carfentrazone-chloropropionic acid (F8426-Cl-Pac) 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 (g a.i./ha)	PHI (days)	Residues ¹ (ppm)		Experimental Processing Factor	Currently Established MRL (ppm)	Recommended MRL ² (ppm)
			LAF T	HAF T			
Dry bulb onion and green onion	Preplant soil followed by hooded spray/ 62.7-107.5	1	<0.1	<0.1	Not required	0.1 for Crop Group 3 Bulb Vegetables	0.1 Extended to the remaining commodities of Crop Group 3- 07 ³
Head lettuce, leaf lettuce, spinach	Preplant soil followed by hooded spray/ 107.5	1	<0.1	<0.1	Not required	0.1 for Crop Group 4 Leafy Vegetables	0.1 Extended to the remaining commodities of Crop Group 4- 13 ⁴
Pepper	Preplant soil followed by hooded spray/ 106.4-110.9	1	<0.1	<0.1	No concentratio n in processed commoditie s	0.1 for Crop Group 8 Fruiting Vegetables	0.1 Extended to the remaining commodities of Crop Group 8- 09 ⁵
Tomato	Preplant soil followed by hooded spray/ 106.4-217.3						

Commodity	Application Method/ Total Application	PHI (days)	Residues ¹ (ppm)		Experimental Processing	Currently Established	Recommended MRL ²
Apples and pears	Soil directed or soil and tree trunk directed/ 138.9	3	<0.1	<0.1	No concentration in processed commodities	0.1 for Crop Group 11 Pome Fruits	0.1 Extended to the remaining commodities of Crop Group 11-09 ⁶
Cherries (sour and sweet), peach, plum	Soil directed or a soil and tree trunk directed/ 138.9	3	<0.1	<0.1	No concentration in processed commodities	0.1 for Crop Group 12 Stone Fruits	0.1 Extended to the remaining commodities of Crop Group 12-09 ⁷
Blueberries	Post-direct spray to the base of the trunk at the dormant stage followed by a hooded spray/ 42.6-107.5	1	<0.1	<0.1	Not required	0.1	0.1 Extended to the remaining commodities of Crop Subgroup 13-07B ⁸
Canola	Preplant soil followed by hooded spray/ 62.7-360	1	<0.1	<0.1	No quantifiable residues at exaggerated rates	0.1	0.1 Extended to the remaining commodities of Crop Subgroup 20A ⁹
Sunflower	Preplant soil followed by hooded spray/ 73.9-280	1	<0.1	<0.1	No quantifiable residues at exaggerated rates	0.1	0.1 Extended to the remaining commodities of Crop Subgroup 20B ¹⁰

Commodity	Application Method/ Total Application	PHI (days)	Residues ¹ (ppm)		Experimental Processing	Currently Established	Recommended MRL ²
Celery	Preplant soil followed by hooded spray/ 62.7-107.5	1	<0.1	<0.1	Not required	0.1	0.1 Extended to the remaining commodities of Crop Subgroup 22B ¹¹
Mint	Broadcast application during dormant period/ 16.6-35.6	91-124	<0.1	<0.1	Not required	None	0.1 Peppermint tops, Spearmint tops
Wheat grain	Foliar/ 34.7	3-4	<0.1	<0.1	No concentration in processed commodities	0.8 for milling fractions of barley, buckwheat, millet, oat, rye, triticale and wheat	Remove separate MRL for cereal processed commodities; residues in processed fractions will be covered by the MRL for the RAC
		46-104	<0.1	<0.1			

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

¹ Combined residues of carfentrazone-ethyl and the metabolite carfentrazone-chloropropionic acid (F8426-Cl-Pac)

² The following MRLs will be removed to reflect recent changes in crop grouping terminology: Edible leaved chrysanthemum, Chinese mustard cabbages, Mustard spinach, Pepper hybrids

³ Beltsville bunching onions, Daylilies, Elegans hosta, Fresh Chinese chive leaves, Fresh chive leaves, Fresh onions, Fritillaria bulbs, Fritillaria leaves, Lady's leeks, Lilies, Kurrats, Macrostem onions, Pearl onions, Serpent garlic, Shallot bulbs (will replace the previously established MRL for shallots to reflect recent changes in crop grouping terminology), Shallot leaves, Wild leeks

⁴ Abyssinian cabbages, Bitter lettuce, Blackjack, Cat's Whiskers, cham-chwi, cham-na-mul, Chinese amaranth, Chinese violets, Chipilin, Common plantains, Cosmos, Dang-gwi, Dol-nam-mul, Ebolo, English primrose, Escaroles, Fameflowers, Feather cockscombs, Fresh cilantro leaves, Fresh dillweed leaves, Good King Henry, Hanover salad, Huauzontles, Indian asters, Jute leaves, Maca, Mizuna, Radish leaves, Seakale cabbages, Shepherd's purse, Tanier spinach, Tree spinach, Turnip greens, Watercress, Wild rocket

⁵ African eggplants, Currant tomatoes, Garden huckleberries, Goji berries, Martynias, Okras, Pea eggplants, Scarlet eggplants, Sunberries

⁶ Azaroles, Chinese quinces, Japanese quinces, Medlars, Tejocotes

⁷ American plums, Beach plums, Black cherries, Canada plums, Cherry plums, Chickasaw plums, Damson plums, Japanese apricots, Japanese plums, Jujubes, Klamath plums, Nanking cherries, Sloes

⁸ Aronia berries, Highbush blueberries, Lowbush blueberries (will replace the previously established MRL for blueberries to reflect recent changes in crop grouping terminology), Buffalo currants, Chilean guavas, European barberries, Highbush cranberries, Honeysuckle, Jostaberries, Saskatoon berries (juneberries), Lingonberries, Native currants, Salal berries, Sea buckthorn

⁹ Borage seeds, Cuphea seeds, Echium seeds, Gold of Pleasure seeds, Hare's ear mustard seeds, Milkweed seeds, Oil radish seeds, Poppy seeds, Sesame seeds, Sweet rocket seeds

¹⁰ Calendula seeds, Evening primrose seeds, Niger seed seeds

¹¹ Fuki, Udo, Zuiki

Following the review of all available data, MRLs as proposed in Table 1 are recommended to cover residues of carfentrazone-ethyl. Residues 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.

A toxicology assessment was not required for this application.

Environmental assessment

The risks from the environmental perspective resulting from the use of AIM EC Herbicide on a variety of crops are acceptable provided that the environmental precautions and mitigation measures are observed according to the label.

The spray buffer zones determined for this submission are for both terrestrial and aquatic habitats. To maintain consistency with the crop amendments, terrestrial and aquatic spray buffer zones were also determined for all labelled crops.

Value assessment

The expansion of the AIM EC Herbicide label to include pre-emergence burndown and post-harvest burndown application timings as well as a maximum of two applications per year for different applications timings for use in the listed crops would provide growers with greater flexibility in application timings and the ability to control emerging weeds throughout the growing season.

Value information submitted for review consisted of data from replicated field trials and scientific rationales including extrapolations from registered uses. Based on the weight of evidence, the inclusion of pre-emergence burndown and post-harvest burndown application timings as well as a maximum of two applications per year for certain listed crops is considered to have acceptable value.

Conclusion

The Pest Management Regulatory Agency has conducted an assessment of the information provided and has found it sufficient to support the amendments to the AIM EC Herbicide product label.

References

PMRA Document Number	References
3148796	2020, AIM EC Herbicide (PCP No. 28573): Value Summary to Support the Addition of Preemergence Application and the Update of Crop Groups, DACO: 10.1,10.2.1,10.2.2,10.2.3.1,10.2.3.3,10.3.2,10.3.3,10.4,10.5.1,10.5.2,10.5.3,10.5.4, 10.5.5

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