Pest Management Regulatory Agency
Agence de réglementation de la lutte antiparasitaire

Re-evaluation Decision Document RRD2006-15

Metribuzin

The purpose of this Re-evaluation Decision Document (RRD) is to notify registrants, pesticide regulatory officials and the Canadian public that Health Canada's Pest Management Regulatory Agency (PMRA) has re-evaluated the active ingredient metribuzin and its associated uses as a herbicide on industrial oil seed crops and fibre crops, terrestrial feed crops, terrestrial food crops and outdoor ornamentals.

On 30 August 2005, Proposed Acceptability for Continuing Registration document PACR2005-07, *Re-evaluation of Metribuzin*, was published for consultation. The PMRA has reviewed the comments received and provides a response in Appendix I of this RRD. These comments did not result in any substantive changes to the regulatory decision as described in PACR2005-07.

The PMRA has determined that this active ingredient is acceptable for continued registration. Mitigation measures to further protect workers and the environment are specified in Appendix II of this RRD. The registrants have been informed by letter of the specific requirements, including confirmatory data requirements as per Appendix III of this RRD, affecting their product registrations and the regulatory options available to comply with this decision.

(publié aussi en français) **30 March 2006**

This document is published by the Alternative Strategies and Regulatory Affairs Division, Pest Management Regulatory Agency. For further information, please contact:

Publications
Pest Management Regulatory Agency
Health Canada
2720 Riverside Drive
A.L. 6605C
Ottawa, Ontario
K1A 0K9

Internet: pmra_publications@hc-sc.gc.ca
www.pmra-arla.gc.ca
Information Service:
1 800 267-6315 or (613) 736-3799
Facsimile: (613) 736-3758

ISBN: 0-662-43105-7 (0-662-43106-5)
Catalogue number: H113-12/2006-15E (H113-12/2006-15E-PDF)

Appendix I Comments on PACR2005-07 and Responses

1.0 Comment on Re-entry Interval Statement

The re-entry interval (REI) statement "Do not re-enter or allow re-entry into treated areas until 12 hours after application" in PACR2005-07 should include the exception that if a product is soil-injected or soil-incorporated workers may enter the treated area if there will be no contact with anything that has been treated. In addition, the REI statement should also include early re-entry personal protective equipment (coveralls, chemical-resistant gloves and shoes plus socks) for workers performing early re-entry activities that involve contact with anything that has been treated (e.g., soil or plants).

Response
The PMRA agrees that an exception can be made, allowing workers to enter treated fields if a metribuzin product is soil-injected or soil-incorporated such that there will be no contact with anything that has been treated. This is consistent with the United States Environmental Protection Agency (USEPA) Reregistration Eligibility Decision (RED) for metribuzin in which the USEPA permits workers to enter the treated area during the REI without personal protective equipment if metribuzin has been correctly incorporated in soil and if the workers are performing tasks that do not involve contact with the soil surface.

The PMRA generally does not allow early re-entry with personal protective equipment when workers need to perform tasks that involve contact with treated surfaces (e.g., soil, plant foliage).

The 12-hour REI is required under these circumstances to ensure that sprays have dried when workers re-enter the field.

The following revised statement is required on all metribuzin end-use product labels:

> "Do not enter or allow re-entry into treated areas until 12 hours after application. Exception: If the product is soil-injected or soil-incorporated, workers may enter the treated area if there will be no contact with anything that has been treated."

2.0 Comment on Proposed Prohibition of Use of Low-pressure and High-volume Hand-wand Equipment

In Canada, hand-wand equipment is often the only practical method of applying pesticides in low acreage perennial horticultural crops, such as fruit trees. Consistent with the USEPA RED for metribuzin, the PMRA prohibited the use of low-pressure and high volume hand-wand equipment when applying end-use products containing metribuzin. However, the USEPA's risk assessments in the RED do not indicate that the use of low-pressure and high volume hand-wand equipment presents any health or safety risk. Therefore, this prohibition is not appropriate.

Response
In the RED, the USEPA reported acceptable short- and intermediate-term inhalation MOEs (i.e., > 100) of 650 000 from application by high-volume hand sprayer and ranging from 29 250 to 585 000, depending on the application rate, for mixing, loading and applying metribuzin with a low-pressure hand wand.

Because the prohibition does not appear to be based on the results of the quantitative risk assessment and the PMRA is not privy to the decision process that resulted in the prohibition of hand-wand equipment in the United States, the proposed statement prohibiting hand-wand equipment will no longer be required on Canadian metribuzin end-use product labels.

3.0 Comment on Buffer Zones

3.1 Size of Terrestrial Buffer Zones

In PACR2005-07, the PMRA proposed buffer zones to protect sensitive aquatic and terrestrial habitats, with buffer zones for terrestrial habitats ranging from 6 to 20 metres (i.e., 20 m; 15 m if using cones; or 6 m if using shrouds). In Eastern Canada, metribuzin is used on a lot of small-acreage horticultural crops, where a 20 m buffer zone could leave complete fields untreated. The proposed buffer zones should be reconsidered by reducing the maximum use rate on which the proposed buffer zones are based, of 2.25 kg a.i./ha (registered for use on asparagus) to 1.125 kg a.i./ha (actual use rates in asparagus fields).

Response
The PMRA accepts that the maximum use rate for asparagus can be reduced to 1.125 kg a.i./ha because this rate is already present as the minimum efficacious rate for use on asparagus on the current end-use product labels for metribuzin. Metribuzin end-use product labels must be revised to reflect this change in the maximum application rate on asparagus.

However, the PMRA calculates buffer zones based on the highest cumulative rate (i.e., taking into account the number of applications per year). With the reduction in the single application rate for asparagus, the highest cumulative rate for metribuzin is now for tomatoes, at 1.350 kg a.i./ha. The next highest cumulative rate is for asparagus, at 1.125 kg a.i./ha.

Given the concern regarding small-acreage horticultural crops in Eastern Canada, the PMRA has calculated one set of buffer zones for tomatoes and another set for all other crops based on the application rate for asparagus. The new buffer zone distances, outlined in Appendix II of this RRD, were calculated according to the PMRA methodology based on the data of Wolf and Caldwell[1].

3.2 Inclusion of Shelter Belts

In PACR2005-07, shelter belts are listed in the examples of sensitive terrestrial habitats for which a buffer zone must be observed. However, metribuzin is registered for use in shelter belts; therefore, shelter belts should be excluded from the list of examples of sensitive terrestrial habitats.

Response
As metribuzin is intended for weed control in shelter belts, the PMRA agrees that this habitat be excluded from the list of sensitive terrestrial habitats.

3.3 Drift Reduction Technologies

The proposed buffer zones are only feasible if they could be adjusted for application technologies and environmental conditions that mitigate drift. This re-evaluation did not include newer drift reduction technologies such as air induction or low drift nozzles that would allow growers to safely spray very close to sensitive habitats.

Response
It should be recognized that buffer zones are required only if sensitive habitats are downwind from the point of application. Buffer zones are not required when sensitive habitats are upwind from the application area.

The PMRA recognizes that recent improvements in spray application technology have resulted in a number of low drift nozzles being used in the field. Unfortunately, the PMRA has not yet been able to review drift reduction data for air induction nozzles and

[1] Wolf, T.M., and B.C. Caldwell. 2001. Development of a Canadian spray drift model for the determination of buffer zone distances. Page 60. In: Expert Committee on Weeds - Comité d'experts en malherbologie (ECW-CEM). Proceedings of the 2001 National Meeting, city of Québec. Saint-Anne-de-Bellevue, Quebec: ECW-CEM. Edited by D. Bernier, D.R.A. Campbell and D. Cloutier.

is not able to provide buffer zone modifiers at this time for their use. The PMRA has released Regulatory Proposal PRO2005-06, *Agricultural Buffer Zone Strategy Policy*, for stakeholder comment. As this document outlines drift reduction strategies, the PMRA will finalize this policy following the comment period.

3.4 Integrated Weed Management

Flexibility in the buffer zone distance is essential for growers who implement integrated weed management practices. Often, controlling weeds along field edges can dramatically reduce "in field" weed pressure, thereby reducing herbicide use. A flexible buffer zone would allow for weeds along field edges to be controlled where appropriate drift mitigation procedures are followed.

Response
The PMRA's *Agricultural Buffer Zone Strategy Policy* also outlines buffer zone reduction strategies based on meteorological and equipment factors. The PMRA will finalize the drift reduction strategies following the comment period on this policy.

4.0 Comment on Clarification of Terminology

Clarification of the term "field sprayer with cones" is needed. This terminology might cause some confusion among fruit growers who use hollow cone and full cone nozzles in their air blast sprayer for a totally different purpose.

Response
It is PMRA's understanding that "field sprayers" refers only to boom sprayers used in field crops and does not apply to airblast sprayers used in orchards. The PMRA will modify its terminology in the future if more information is provided indicating that applicators typically regard airblast sprayers as "field sprayers".

Appendix II Revised Label Amendments

The label amendments presented here do not include all label requirements for individual end-use products, such as first aid statements, disposal statements, precautionary statements and supplementary protective equipment. Additional information on labels of currently registered products should not be removed unless it contradicts the label statements presented here.

For all commercial end-use products containing metribuzin, the following statements must be included in a section entitled "**PRECAUTIONS**":

- "Users should wash hands before eating, drinking, chewing gum, using tobacco or using the toilet."
- "Users should remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing."
- "Users should remove personal protective equipment immediately after handling this product. Wash the outside of the gloves before removing. As soon as possible, wash thoroughly and change into clean clothing."
- "Wear long pants, a long-sleeved shirt and chemical-resistant gloves during mixing/loading, clean-up and repair activities."
- "If this pest control product is to be used on a commodity that may be exported to the U.S. and if you require information on acceptable residue levels in the U.S., contact 1-866-375-4648 or www.cropro.org."

For all commercial end-use products containing metribuzin, the following statements must be included in a section entitled "**DIRECTIONS FOR USE**":

- "Do not enter or allow re-entry into treated areas until 12 hours after application. Exception: If the product is soil-injected or soil-incorporated, workers may enter the treated area if there will be no contact with anything that has been treated."
- "It is recommended that this product not be applied in a way that will contact workers or other persons, either directly or through drift. Only handlers wearing personal protective equipment may be in the area during application."
- "Field sprayer application: **DO NOT** apply during periods of dead calm or when winds are gusty. **DO NOT** apply with spray droplets smaller than the American Society of Agricultural Engineers (ASAE) medium classification.

  DO NOT apply by air.

Buffer zones:

The buffer zones specified in the table below are required between the point of direct application and the closest downwind edge of sensitive terrestrial habitats (such as grasslands, forested areas, woodlots, hedgerows, pastures, rangelands, and shrublands), sensitive freshwater habitats (such as lakes, rivers, sloughs, ponds, prairie potholes, creeks, marshes, streams, reservoirs, and wetlands), and estuarine/marine habitats.

Crop	Method of Application	Buffer Zones (metres) Required for the Protection of:						
		Freshwater Habitats of Depths			Estuarine/Marine Habitats of Depths			Terrestrial Habitat
		Less than 1 m	1–3 m	Greater than 3 m	Less than 1 m	1–3 m	Greater than 3 m	
All crops except tomatoes	Field sprayer	5	2	1	5	2	1	10
	Field sprayer with shrouds	2	1	0	2	1	0	3
	Field sprayer with cones	4	1	1	4	1	1	5
Tomatoes	Field sprayer	10	3	1	5	2	1	15
	Field sprayer with shrouds	3	1	0	2	1	0	5
	Field sprayer with cones	5	2	1	4	1	1	10

When a tank mixture is used, consult the labels of the tank-mix partners and observe the largest (most restrictive) buffer zone of the products involved in the tank mixture."

NOTE: The last three rows referring to buffer zones for use on tomatoes in the table above should be omitted from the labels of end-use products containing metribuzin that are not registered for use on tomatoes.

For all commercial end-use products containing metribuzin the following statements must be included in a section entitled "**ENVIRONMENTAL HAZARD**":

- "The use of this chemical may result in contamination of groundwater particularly in areas where soils are permeable (e.g., sandy soil) and/or the depth to the water table is shallow."

- "To reduce runoff from treated areas into aquatic habitats, consider the characteristics and conditions of the site before treatment. Site characteristics and conditions that may lead to runoff include, but are not limited to, heavy rainfall, moderate to steep slope, bare soil, poorly draining soil (e.g., soils that are compacted, fine textured or low in organic matter such as clay). Avoid application of this product when heavy rain is forecast."

The labels of all end-use products containing metribuzin registered for use on asparagus must be revised to reflect the new maximum application rate on asparagus of 1.125 kg a.i./ha.

Appendix III Revised Data Requirements

The USEPA's environmental fate review indicates metribuzin has a potential to leach into groundwater and can runoff or drift into surface water. The USEPA monitoring data indicates that levels of metribuzin and its metabolites do not exceed the USEPA's drinking water standards for human health in the United States. In Canada, the following data and/or scientific rationale are required within 24 months of finalization of the re-evaluation decision:

- Data to confirm that acceptable drinking water levels are not exceeded in Canada. A scientific rationale showing the relevance of existing American monitoring data to Canada may be acceptable. This rationale should include information on metribuzin use in Canada (e.g., areas of use, quantity used, typical application rates, etc.) and establish the vulnerability of areas of use to groundwater contamination (i.e., provide information on soil type and groundwater depth in areas of use).

- Any existing Canadian water monitoring data.

Registrants should note that specific data, selected from the data package that was submitted to the USEPA to support reregistration of this active ingredient, may be required by the PMRA in the future with respect to use expansions, special reviews or minor uses, or to establish maximum residue limits (MRLs).