
Pest Management Regulatory Agency

Information Note

February 21, 2005

2,4-D and Use on Lawns and Turf

Health Canada's Pest Management Regulatory Agency (PMRA), the federal body responsible for the regulation of pesticides in Canada, has conducted its re-evaluation of 2,4-D, a herbicide commonly used to control weeds on lawn and turf. The PMRA has determined that 2,4-D can be used safely on lawn and turf when label directions are followed; therefore, it is proposing continued registration of 2,4-D for lawn and turf use.

The PMRA understands that the public may have concerns over domestic uses of pesticides and would like to convey that all registered pesticides undergo a thorough science-based risk assessment and must meet strict health and environmental standards before being approved for use in Canada.

The proposed decision on 2,4-D is consistent with those of other countries. The United States Environmental Protection Agency's re-evaluation, released in January 2005, is the most recent reassessment of 2,4-D. It also found 2,4-D to be acceptable for use on lawn and turf.

The PMRA reviewed 2,4-D as part of the re-evaluation program currently underway. The purpose of this re-evaluation is to determine if the pesticides currently on the market, which were registered before January 1, 1995, meet modern health and environmental standards.

Before finalizing its decision, as part of its normal process, the PMRA is inviting stakeholders, including the scientific community and all other interested parties, to provide any additional information that may be relevant to this re-evaluation. The Proposed Acceptability for Continuing Registration ([PACR2005-01](#)), *Re-evaluation of Lawn and Turf Uses of (2,4-Dichlorophenoxy)acetic Acid [2,4-D]*, and supporting background material can be found on the PMRA's website at www.pmra-arla.gc.ca. The PMRA will consider all additional information prior to finalizing the decision. The consultation period ends on April 22, 2005.



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About the Re-evaluation of 2,4-D

The PMRA reviewed the extensive body of information available for 2,4-D, which included the following:

- **An extensive proprietary database.** Manufacturers of the 2,4-D ingredient provided the PMRA with a database comprised of over 100 toxicity tests in animals. In addition to mammalian toxicity studies, numerous other studies on chemistry, exposure, environmental fate, environmental toxicity and on efficacy were also provided.
- **Published scientific information.** These include reports, epidemiological studies and all other relevant scientific information published in scientific journals and other publicly available documentation.
- **Foreign reviews.** The PMRA reviewed the scientific assessments of 2,4-D from the United States, the European Union, New Zealand and the World Health Organization.
- **Use pattern information collected by the PMRA.** The PMRA collected and examined all available information from a variety of sources in order to properly characterize the use pattern of 2,4-D in Canada.

The re-evaluation included a science-based risk assessment to determine if the product can be used safely. This assessment consisted of the following:

- a health assessment that looked at the potential for 2,4-D to cause adverse health effects such as cancer, birth defects and endocrine disruption;
- an assessment of all sources and routes (oral, dermal, inhalation) of potential exposure to 2,4-D, including exposure from the diet, drinking water and from contact with treated areas like lawns and gardens;
- homeowner as well as occupational exposure assessments (exposure encountered by the user/applicator of the product), both during and after application of 2,4-D;
- a human health risk assessment that determined the toxicity in relation to the amount of exposure in all potentially exposed populations, including children;
- an environmental risk assessment that considered risks to plants, birds, mammals, aquatic organisms as well as fate in the environment; and
- an assessment of value as it relates to the efficacy of the product.



Part of the human health assessment is to ensure that, when 2,4-D is used according to label directions, there is a large enough margin of safety between the level of exposure humans could be exposed to and any identified toxic effect during animal testing. The PMRA's assessment included the addition of extra safety factors to ensure that the most sensitive subpopulations, such as children and pregnant women, were also protected. The PMRA also took into consideration the unique physiology, behaviours and play habits of children, such as their lower body weights and hand-to-mouth contact while playing on treated grass.

In addition to the 2,4-D-specific animal toxicity data, the PMRA also considered the large body of epidemiological studies and reviews pertaining to 2,4-D and human health. The extensive body of scientific information examined by the PMRA included relevant data used by non-regulatory groups, such as the Ontario College of Family Physicians in their April 2004 report. While that report focussed on a subset of epidemiology studies from the public literature, the PMRA reviewed the extensive body of information available for 2,4-D to conduct a full human health risk assessment. The examination of animal toxicity data from internationally accepted guideline studies using doses well above those to which humans are typically exposed, combined with exposure data obtained from well designed studies, is currently the best methodology available for assessing risks to human health. Based on the evaluation of the available information, as listed earlier, the PMRA determined that 2,4-D can be used safely when label directions are followed.

Proposed Changes

The PMRA is requiring some changes to the use of 2,4-D on lawn and turf to increase the protection of human health and the environment, including:

- In order to enhance safety, all application rates to be set to the lowest effective rate, consistent with the PMRA approach for all pesticides, to further minimize exposure to the products.
- Buffer zones will be required for liquid commercial class products that are applied by tractor-pulled field sprayers used on golf courses or sod farms, in order to protect adjacent non-target vegetation
- Directions for Use such as limiting the amount of broadcast applications (i.e., treating the entire lawn) to two per season will further reduce exposure to humans and the environment.



Need More Information?

Visit the following links on the PMRA's website to read more about the topics discussed in this document.

2,4-D Re-evaluation Documents

Re-evaluation of the Lawn and Turf Uses of (2,4-Dichlorophenoxy)acetic Acid [2,4-D]
(PACR 2005-01)

www.pmra-arla.gc.ca

Questions and Answers about 2,4-D

www.pmra-arla.gc.ca

Information Note: Re-evaluation of Pesticides Program

www.pmra-arla.gc.ca

USEPA. 2005. *2,4-Dichlorophenoxyacetic Acid Revised Risk Assessments and Preliminary Risk Reduction Options (Phase 5 of 6-Phase Process)*; Docket ID OPP-2004-0167, United States Environmental Protection Agency.

www.epa.gov/fedrgstr/EPA-PEST/2005/January/Day-12/p505.htm

Risk Assessment Process

Fact Sheet on The Regulation of Pesticides in Canada

www.pmra-arla.gc.ca/english/pdf/fact/fs_pestreg-e.pdf

Other Information on Risk Assessment Process

www.pmra-arla.gc.ca/english/aboutpmra/about-e.html

Children's Health Priorities within the Pest Management Regulatory Agency (SPN2002-01)

www.pmra-arla.gc.ca/english/pdf/spn/spn2002-01-e.pdf

A Decision Framework for Risk Assessment and Risk Management in the Pest Management Regulatory Agency (SPN2000-01)

www.pmra-arla.gc.ca/english/pdf/spn/spn2000-01-e.pdf

Efficacy Guidelines for Plant Protection Products (DIR2003-04)

www.pmra-arla.gc.ca/english/pdf/dir/dir2003-04-e.pdf



Responsible Pest Management

Healthy Lawns Strategy

www.healthylawns.net

Pest Notes

www.pmra-arla.gc.ca/english/consum/pnotes-e.html

Action Plan on Urban Use Pesticides

www.pmra-arla.gc.ca/english/pdf/hlawns/hl-ActionPlan-e.pdf

Information Note: Roles of the Three Levels of Governments Regarding Pesticides in Canada

www.pmra-arla.gc.ca/english/pdf/highlights/InfoNote-GovtRoles-e.pdf

