Regulatory Proposal PRO2026-01, Consultation on permitting pesticide application by Remotely Piloted Aircraft Systems (RPAS; commonly known as drones) for products currently registered for aerial application

Notice to the reader:

The online consultation is now closed.

Pest Management Regulatory Agency
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Consultation foreword

This document contains the proposed policy for permitting application in Canada by Remotely Piloted Aircraft Systems (RPAS; commonly known as drones) of pest control products registered for aerial application.
This document is open for public consultation for 30 days from the publication date. Health Canada will consider all comments received before finalizing the science policy notice.
The final policy is intended to be read in conjunction with the *Pest Control Products Act* and the Pest Control Products Regulations.
Please forward your comments to the PMRA's Publications Section, through the Public Engagement Portal (Public Engagement Forms – Consultation Comment), and include:

- The title of this consultation document;
- Your full name and organization;
- Your phone number; and

- Your complete mailing address or email address.

1.0 Introduction

1.1 Purpose

The purpose of this document is to inform partners and stakeholders of Health Canada's plan to allow the use of RPAS to apply pest control products that are already registered for conventional aerial application. Upon implementation of this proposed change, pesticides not registered for aerial application will still require a Health Canada approved label amendment in order to use RPAS for pesticide application in accordance with existing process.

Health Canada is aware that RPAS can give growers more flexibility for pest control product application while also providing distinct advantages over current conventional application methods. Permitting RPAS use without the need for label amendments will allow these potential advantages to be realized more rapidly in Canada without additional regulatory burden. Following implementation of this policy change, Health Canada will explore potential streamlined mechanisms to add RPAS specific use information to pesticide labels and adapt regulatory processes as the technology advances.

1.2 Background

The *Pest Control Products Act* and Regulations require that registered pest control products include clear directions for use on their labels. This ensures products are used safely and effectively.

Applying pesticides by air is an important crop protection tool in

Canadian agriculture. Aerial spraying using conventionally piloted aircraft (fixed-wing or rotary) is often the preferred—or sometimes the only—practical option when terrain is soft, wet or too difficult for ground application equipment; when pest outbreaks occur late in crop growth; or for areas are either too large or inaccessible for ground spraying. The use of RPAS introduces a new way to apply pesticides in Canada.

As outlined in the *Information Note Regarding the Use of Drones when Applying Pesticides* published in 2023, only products that specifically allow RPAS application on their label can be currently applied using this method of application. This restriction was originally put in place due to the lack of RPAS-specific data and limited information on RPAS use, which prevented a proper understanding of potential risks associated with this method of application.

Through collaboration in Canada and internationally, the PMRA has obtained additional information and scientific data addressing dietary exposure (food residue levels) and environmental risks (spray drift) associated with RPAS use. These data support a more flexible approach to allowing RPAS applications (see section 2.0).

While scientific data suggest that the risks associated with using RPAS for pesticide application are sufficiently comparable to conventional aerial spraying, Health Canada recognizes that it also has unique characteristics. Because RPAS are remotely piloted and capable of highly precise, targeted applications – similar to spot treatments performed from the ground – the occupational considerations associated with their use span both aerial and ground application methods. In light of this, dedicated policies and training are needed at both the federal and provincial/territorial levels to support the safe and effective use of drones for applying pesticides.

Health Canada acknowledges the importance of proper training to ensure RPAS are used correctly, personal protective equipment (PPE) and engineering controls are applied where required, and all other label safety measures must be followed for handling pest control products, regardless of the application method. Furthermore, RPAS operators must comply with both Federal and Provincial/Territorial regulations and policies as pesticide regulations in Canada is a shared jurisdiction.

2.0 Permitting RPAS application when aerial application is present on the registered pest control product label

For aerial application to be permitted, registered end-use products must include specific instructions for such use. Furthermore, if the label states “DO NOT apply by air” or the label does not include aerial application, then aerial application is prohibited, regardless of the equipment used. This label restriction also applies to the use of RPAS for pesticide application.

For currently registered end-use products, where the product label permits aerial application (in other words, conventionally piloted aircraft such as fixed-wing or rotary aircraft equipment), Health Canada proposes to allow their application using RPAS. While differences exist between RPAS application and what is currently considered as conventional aerial application methods, recent advancements outlined below have demonstrated that the existing label directions are sufficient to address the potential health and environmental risks related to the application of pesticides by RPAS. **Application using RPAS would be required to fully comply with all label directions for aerial**

application, with no changes to spray volume, application rate, droplet size, spray buffer zones, or any other conditions of use specified on the label. With the publication of PRO2026-01, existing aerial application labels together with this policy, will inform the compliance and enforcement approach for the application of pesticides by RPAS.

The proposed policy forms the basis of this approach, which were informed by the following:

- **Value**: When the use directions currently appearing on the registered aerial label are unchanged, application by RPAS is not expected to impact the value of the pesticide being applied. As such, RPAS-specific data are not required to support the addition of aerial applications by RPAS to a pest control product label.
- **Environment**: The Unmanned Aerial Pesticide Application Systems Task Force has been overseeing global studies to compare the spray drift generated from RPAS to that of conventional aerial application. The Task Force has accumulated and submitted data from over half of its global spray drift studies to the PMRA, as well as several other regulatory bodies represented in the Organisation for Economic Co-operation and Development Drone/Unmanned Aerial Spray Systems Subgroup of the Working Party on Pesticides. Regulators within the subgroup have been working collaboratively to review these studies and generate the required regulatory spray drift models.

  Data assessed to date demonstrate that spray drift from RPAS is more similar to ground application equipment than that arising from conventional aircraft. As such, the use of spray buffer zones established for conventionally piloted rotary wing aircraft will be sufficiently protective of sensitive habitats (in other words, be larger

than RPAS-specific spray buffer zones). The allowance of RPAS use under current label restrictions for aerial application will thus be a sufficiently protective surrogate until the RPAS-specific models become available.

- **Dietary exposure**: Field crop residue data collaboratively generated by Agriculture and Agri-Food Canada and industry have been submitted and assessed by the PMRA. The PMRA concluded that pesticide residues on food crops resulting from RPAS applications are not higher than those resulting from conventional application methods. As such, current label directions for aerial application will be adequately protective of dietary health risks when pesticides are applied by RPAS. When the use-pattern remains the same for RPAS compared to conventional application methods, additional residue data generated by RPAS application are not required to support this application method.
- **Occupational exposure**: RPAS can have an important safety advantage compared to conventional aerial and some ground spraying methods because the operator is not in close contact with the equipment during application—they control it remotely. Early research (Felkers et al.. 2024 and Kuster et al., 2023) shows that the highest risk of exposure happens during mixing, loading and maintenance (in other words, handling, clean-up, repair and battery changing) of the RPAS. While these studies are limited and not enough for a full risk assessment, the evidence suggests that the risk is unlikely to be higher than with conventional equipment. This is because some tasks, like mixing and loading, are similar, and others – such as application – must be done by different people, as required on pesticide labels for conventional aerial spraying.

Based on all the information and data reviewed so far Health Canada proposes the following:

- Label directions for aerial application should be sufficiently protective of human health and the environment, with some clarifications regarding Personal Protective Equipment (PPE) and safety measures for the RPAS operators (in other words, pilots) (see details below).
- Key elements of aerial spraying label directions must be followed including:
    - The use-pattern including:
        - Application rate and retreatment interval
        - Spray volume
        - Any other applicable requirements listed for aerial application, including the aerial spray buffer zones
    - Separation of key roles so that the person who mixes and loads the pesticide must be different from the RPAS operator.
    - PPE and Safety Measures for mixing, loading, operating, handling, clean-up and repair (including battery change).
- Specifically for PPE and Safety Measures the following label directions should be noted:

  Workers handling pesticides (mixers/loaders) for RPAS application, RPAS operators (in other words, pilots), visual observers (when required), and any individuals working near the application area **must wear the minimum PPE** required on the label. This includes anyone handling the pesticide, lifting or carrying the RPAS, changing batteries, or touching any part of the RPAS (since it may have pesticide residues). The required minimum PPE for all pesticide products applies to all activities and consists of **a long-sleeved shirt, long pants, chemical-resistant gloves, socks and shoes**. If the

pesticide label requires additional PPE (like coveralls), engineering controls (like closed mixing/loading systems) or limits on the amount of pesticide handled per day, these requirements must also be followed. For more information on PPE, consult the fact sheet on Personal Protective Equipment on Canada.ca.

- Why gloves matter: Hands are the main way pesticides get into the body for workers, so wearing gloves is essential.
- Important precaution for RPAS operators: Do not touch clean surfaces, like the Remote Controller, while wearing contaminated gloves. To reduce this risk, it is recommended that the person responsible for mixing and loading the pesticide also handle battery changes. This helps prevent the RPAS operator from accidentally transferring pesticide residues onto clean equipment. For more information, consult the fact sheet on Pesticide Gloves on Canada.ca.

- PPE Requirements and Safety Measures specific for pesticides that are registered for both aerial and groundboom/airblast application: For the crop or use site being treated, the RPAS operator must check if the PPE requirements for ground application (either groundboom or airblast equipment depending on the crop/use site) and aerial application are the same.
  - If they are the same, the RPAS operator, the visual observer, and workers handling the RPAS unit during application must use the specified PPE.
  - If they are not the same, the RPAS **operator, the visual observer, and workers handling the RPAS unit during application, must follow the PPE and mitigation measures for groundboom (or airblast) application**.
  - If ground application requires a closed cab (which is rare), this

pest control product must not be applied by RPAS and the RPAS operator should instead choose another product that does not require this mitigation measure.

As part of our commitment to inform and adapt our regulatory and policy approaches, Health Canada will continue to:

- Engage and collaborate with RPAS technology experts, manufacturers and users to develop best practices for applying pesticides safely and effectively;
- Monitor information related to occupational risks through its Continuous Oversight and Incident Reporting Programs and develop a RPAS-specific approach if needed.

3.0 Importance of proper RPAS use

To ensure the safe application of pesticides by RPAS, rigorous training and certification/licencing are essential for RPAS operators.

- For certification: All RPAS operators (including growers applying on their own land and commercial applicators) **must register their RPAS with Transport Canada and hold a valid RPAS pilot certificate**, issued by Transport Canada, that corresponds to the size of the RPAS used for application. For more details, consult the Transport Canada website on Drone safety and Drone operation categories and pilot certificates: Overview.
    - As an example, medium RPAS (25 kg to 150 kg) require an Advance Pilot Certificate if operated within visual line of sight, or a Level 1 Complex Pilot Certificate if operated within lower-risk beyond visual line-of-sight. Additionally, when these RPAS are used to apply pesticides, operators must also complete WHMIS

training.

- For education and training related to handling or application of pesticides using RPAS, conventional aerial equipment, or both, individuals should contact their provincial or territorial agency responsible for delivering pesticide education and certification programs.

  To be recognized nationwide, these programs must follow the Standard for Pesticide Education, Training and Certification in Canada, developed by the Federal/Provincial/Territorial Standing Subcommittee on Pesticide Education, Training and Certification (PETC) to ensure that workers handling pesticides, aerial applicators and all individuals handling and piloting RPAS are properly trained. PMRA is committed to continue working with PETC and the Provincial Territorial partners to inform the development of training materials for RPAS.

  All workers who handle or apply pesticides using RPAS (including growers applying on their own land and commercial applicators) are expected to complete this training and become familiar with proper equipment handling as well as the safe use of pest control products.

- When activities associated to the dispersal of pesticides classified as dangerous goods involve handling, transporting, offering for transport, and importing, these must be conducted in compliance with the Transportation of Dangerous Goods Regulations and the Transportation of Dangerous Goods Act, 1992. For reference, see Section 5 of the Transportation of Dangerous Goods Act, 1992.

4.0 Registrant opting out

Some registrants may decide that one or more of their products labelled for conventional aerial application should not be used with RPAS. If so, they should submit a Notification (Category F application) to update their product label to add the statement: “DO NOT apply by Remotely Piloted Aircraft Systems (RPAS)”.

5.0 Restricted uses

Aerial application of pesticides to forest management or woodland management sites, residential areas, and aquatic sites constitutes a Restricted use. End-use products must not be applied by air unless aerial application is specified for these use areas on the label and the application of the end-use product is consistent with label instructions, rates, and precautions.

RPAS operators must comply with these restrictions and obtain a permit from their province or territory to be able to apply pesticides to these areas.

List of abbreviations

kg
Kilogram

PETC
Pesticide Education, Training, and Certification

PMRA
Pest Management Regulatory Agency

PPE
Personal Protective Equipment

RPAS

Remotely Piloted Aircraft Systems

WHMIS

Workplace Hazardous Materials Information System

Glossary

Handler:

A worker who performs tasks that involve direct contact with the pesticide or with RPAS surfaces when residues may be present, including mixing and loading before application and tasks such as lifting or carrying the RPAS, battery changes, clean-up, or repair during or after application.

Maintenance:

Work performed to inspect, lift, service, or repair the RPAS, including battery changes or cleaning.

Operator:

The individual who remotely controls the RPAS using a remote controller or ground control station and is responsible for its flight operations, as defined by Transport Canada. The pilot must hold the required Transport Canada RPAS pilot certificate and may be a grower applying on their own land or a commercial applicator.

Visual observer:

A crew member who assists the RPAS operator by maintaining unaided visual line-of-sight with the aircraft, monitoring the surrounding airspace and ground environment for hazards, and remaining in direct communication with the operator, as required by Transport Canada.

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