

# Paraquat: Outreach, Concerns and Feedback

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# Outreach Approach: Is it necessary?

- Category 1 substances generally phasing out.
  - Received feedback from ag sector (i.e. agents, applicators, private sector).
- Feedback
  - Use is increasing.
  - Many applicators are unaware of PPE requirements. Category 1
  - Dealers often don't carry necessary PPE.
  - Many were unaware of mitigation measures.



# Why paraquat use is increasing?

- Use is increasing in Montana as paraquat represents an alternative to the popular non-selective herbicide, glyphosate. We are observing widespread glyphosate resistance to select weeds.
  - Kochia, Russian Thistle
- Valuable tool for the agricultural industry for pre-plant burn down or as a dessicant.



# Outreach Approach

- Delivered two MSU news releases across the state regarding paraquat (safety; mitigation measures)
- Focused outreach on high-use areas of paraquat in Montana.
- Covered history, toxicity, PPE and mitigation measures.

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**PESTICIDE NEWS**

**Paraquat Mitigation Measures Approved by EPA**  
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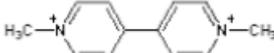


Figure 1. Chemical structure of paraquat.

The U.S. Environmental Protection Agency (EPA) has announced its final decision regarding proposed mitigation measures for the herbicide active ingredient paraquat (i.e. dichloride salt of paraquat, ortho paraquat CL, paraquat dichloride) due to increased human health concerns. Paraquat was first registered in 1964 in the US for weed control and crop desiccation; however, it is categorized as highly toxic through all routes of exposure by EPA where as little as one sip can be lethal with no known antidote. Many human poisonings through the ingestion of paraquat, either accidental or intentional, have been reported to EPA from poison control centers, product registrants, health agencies, environmental agencies and individual consumers. See Table 1 for a list of pesticide products containing paraquat.

Some Pesticide Products Containing Paraquat	
Blanco®	Bonedry®
Cyclone SL 2.0®	Devour®
Firestorm®	Gramoxone SL 2.0®
Helmquat 3SL®	Para-Shot 3.0®
Paraquat Concentrate®	Willowood Paraquat 3 SL®

Table 1. Pesticide Products Containing Paraquat

EPA has ordered the following measures to adequately protect applicators and the public.

1. Label changes emphasizing paraquat toxicity and supplemental warning materials.
2. Targeted training materials for paraquat users.
3. Closed-system packaging for all non-bulk (< 120 gallon) end use containers of paraquat.
4. Restricting the use of all paraquat products to certified applicators only.

Prohibiting the use of handheld or backpack sprayers (when applying paraquat) was considered, however due to compelling public comments EPA is permitting the continued use of handheld and backpack equipment if use complies with new closed-system packaging requirements and contains a dye to aid in early detection of leaks and spills.

**Label Changes.** EPA is requiring updated label language and supplemental warning statements including: 1) highlighting ingestion risk and clarifying toxicity statements, 2) targeted paraquat training statements, and 3) statements designating paraquat products to only be handled by certified applicators. Paraquat products sold/distributed by pesticide manufacturers shall contain these updated label statements no later than 12 months after the "label stamped date" by EPA. This is a variable deadline, however this transition will likely take place prior to the 2019 field season (See \*).

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# Trainings: We identified GAPS

- Have a poor understanding of what type of respirator to use, and fit testing requirements.
- Poor understanding that PPE requirements vary from applicators to mixers and loaders.

*Filtering face-piece respirator (N, R, or P)*



*Respirator (APR) with particulate filters (P)*



*Respirator (APR) with combo chemical cartridge and particulate filter*



# Trainings: Mitigation Measures

- Applicators were not upset over mandatory training requirements after hearing the introduction on poisoning / history.
- Concerned over:
  - Phase 2, close system standards. As in details related to
  - Will containers retrofit to all types of equipment? How? When?



# Trainings: Other concerns

- Outreach was to maintain this valuable tool, not to scare people from using. However, we did go over poisonings/toxicity in detail.
  - Great feedback
  - Few applicators did not wish to use the product as a result which resulted in concern from a few commercial sector folks. Resolution with good communication.



# Contact

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