

New Paraquat Requirements¹

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This document will address the mitigation measures being undertaken by the EPA which will become new labeling requirements for paraquat products.

What is paraquat?

Paraquat dichloride, commonly referred to as “paraquat,” is one of the most widely used herbicides registered in the United States. Paraquat is sold under several brand names, one of which is the popular product, Gramoxone. Although commonly used, it is one of the most acutely toxic pesticides commonly on the market with a LD₅₀ value of only 3 to 5 mg/kg in humans. To put this in perspective, this translates into as little as 10 to 15 ml of a 20% solution.

What are paraquat’s use patterns?

Paraquat is used to control weeds in many agricultural and non-agricultural use sites. It is also used as a defoliant on crops such as cotton prior to harvest. There are no homeowner uses and no products registered for application in residential areas. All paraquat products registered for use in the United States are Restricted Use Pesticides (RUPs), which can only be sold to and used by certified and licensed applicators.

Why is the EPA taking mitigation measures with paraquat?

The EPA noted in 2016 that the illegal transfer of paraquat to beverage containers resulted in accidental ingestions that led to the deaths of 17 people since 2000. Three of those

who died were children. In all of these cases, someone put paraquat into a drink bottle, which led to the death of someone else. Because of paraquat’s acute toxicity to humans, one small sip can be fatal and there is no antidote. Data also suggests that paraquat is corrosive to the skin and eyes. Since 2000, three deaths and a high number of severe injuries have been caused by paraquat getting onto the skin or into the eyes of workers handling paraquat.

What are the specific mitigation measures that will be put into effect with paraquat?

In order to mitigate some of the issues with paraquat, EPA is requiring some changes. These include:

- New closed-system packaging designed to prevent transfer or removal of the pesticide except directly into proper application equipment. This will prevent spills, mixing, pouring the pesticide into other containers, or other actions that could lead to paraquat exposure.
- Specialized training for certified applicators who use paraquat to emphasize that the chemical should not be transferred to or stored in improper containers.
- Changes to the pesticide label and distribution of supplemental warning materials to highlight the toxicity and risks associated with paraquat products.
- Restricting the use of paraquat to certified pesticide applicators only. Individuals working under the supervision of a certified applicator are prohibited from using paraquat.

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What are the closed-system requirements?

The closed-system requirement only applies to non-bulk end-use paraquat products. Persons other than registrants may continue to sell and/or use existing stocks of paraquat products with the previously approved labeling until such stocks are exhausted, provided that such use is consistent with the terms of the previously approved labeling.

What is going to be involved with the mandatory training for paraquat use?

The paraquat training program is a key component of EPA's efforts to prevent accidental ingestion of paraquat. At the time of writing this document, the paraquat training program has been developed by registrants and is still awaiting final approval. Details of the link to the online training that will be on product labels are still being worked out. All paraquat applicators will be required to take the training once label amendments have been finalized and the link is available on the label. All paraquat handlers will need to take the training once the link is available on the label and will need to successfully complete the training every 3 years.

The training consists of five key points:

- The acute toxicity of paraquat through all routes of exposure
- Emphasis on never transferring paraquat into another container
- Examples and consequences of misuse of paraquat
- What to do in case of accidental exposure to paraquat
- A summary of what has changed as a result of the paraquat human health mitigation decision

What amendments will occur to paraquat product labels?

There will be additions to existing product labels. Additions to the product labels include:

- Statements highlighting paraquat toxicity
- The "Certified Applicator Only" statement
- The EPA-approved paraquat training program statement. This statement will include a link to the on-line training.

There will also be some supplemental materials made available. These materials will be in English, Spanish, and pictogram format. They include:

- Product Package Safety Requirements stickers on each paraquat container on the side opposite the label
- Counter cards with warning information for people who purchase paraquat
- A cap sticker with a warning statement and the skull and crossbones pictogram

In Florida, I thought that a certified and licensed agricultural applicator may provide direct supervision to up to 15 unlicensed employee applicators. How is this changing?

That is correct with practically all RUPs; however, paraquat will now be an exception. As previously stated, only certified applicators who successfully complete an EPA-approved training program will be able to legally handle paraquat. This is not only a requirement in Florida, but a federal prerequisite.

Additional Information

Fishel, F.M. 2015. *Pesticide storage: keep it in the container*. PI-255. Gainesville: University of Florida Institute of Food and Agricultural Sciences. <http://edis.ifas.ufl.edu/pdffiles/PI/PI25500.pdf>

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