

Investment in the safety of paraquat

We have invested hundreds of millions of dollars over the product lifetime of paraquat to ensure its safety. Our company is absolutely committed to the safe and proper use of our products and reject any assertion to the contrary.

Paraquat has been the subject of more than 1,200 safety studies submitted to, and reviewed by, regulatory authorities around the world including recent evaluations in the US, Australia and by the FAO/WHO.¹

Syngenta has been at the leading edge when it comes to industry efforts to drive continuous improvement in the safety of the products that we offer. We are currently investing tens of millions of dollars in developing and enabling new techniques, like our Closed Loop Knapsack (CLKS) Sprayer system, technologies to further increase the safe use of our products, and in user training.

All of our decisions are driven by the efficacy and safety of our products and based on the best available science. In a market where there are 376 other companies with licenses to sell paraquat, our product is typically the most expensive, reflecting the high standards and service we provide aimed at safe and effective use. Our detractors have wilfully misrepresented and mischaracterized a limited number of documents which ordinarily form part of an entire dialogue on product design, to focus on the element of cost. In reality, the dialogue related to product design would include discussions linked to research and development, manufacturing, regulatory considerations, marketing, as well as other factors. Cost is only one of these elements, and whilst it is a factor, safety considerations will never be over-ridden by cost.

Our product design is supported by modern expert medical opinion. The FAO/WHO, US EPA and other bodies, who make no judgement on cost in arriving at their recommendations, are aware of the viewpoint of former Syngenta employee Jon Heylings, and have not changed their recommendations, which are consistent with leading medical experts and our own view of the science.

Over many decades, we have invested hundreds of millions of dollars to develop and commercialize safer paraquat formulations, including the inclusion of an emetic (a substance that produces nausea and vomiting) in our products and advocating for other manufacturers

¹ FAO/WHO <http://www.inchem.org/documents/jmpr/jmpmono/v2003pr08.htm>

Australia <http://apvma.gov.au/node/12666>

US <https://www.regulations.gov/document/EPA-HQ-OPP-2011-0855-0121> and <https://www.regulations.gov/document/EPA-HQ-OPP-2011-0855-0209>

to do the same. In fact, nearly 30 years ago, Syngenta requested that the FAO/WHO mandate the inclusions of an emetic in all paraquat formulations.

Syngenta has also worked with regulators to take additional measures to prevent accidental ingestion. These include:

- Creating smaller packaging sizes to reduce the likelihood of needing to pour the product into another container.
- Adding stricter label warnings against transferring the product to a food or beverage container.
- Adding a colored dye and an odor to help distinguish the product from a beverage.
- Implementing paraquat-specific training for farmers.

Safety of our products has always been paramount, and we keep investing in developing better and safer products for weed control, including new active substances with new mode of actions. More targeted application methodologies, closed loop application equipment and advancements in packaging and formulation offer further opportunities to reduce risk from application or use of any herbicide, by eliminating contact with undiluted crop protection products and making product application both easier and safer for users. This activity represents roughly a third of our investment in R&D in crop protection over the last decade which runs to hundreds of millions of dollars.

Closed Transfer Systems

Closed Loop Knapsack Sprayer (CLKS) system is a revolutionary all-in-one solution which has been primarily designed for farmers who use small knapsack (or backpack) sprayers to apply paraquat to their crops.

The crop protection product is supplied in a sealed cartridge which plugs into a leak-free handle with a trigger, spray lance and nozzle. The handle attaches to the knapsack sprayer which is filled with water only. When the trigger is squeezed, water from the knapsack automatically mixes with the product concentrate, at the correct dose, and is sprayed through the nozzle, without exposure.

While we began this project with a focus on the safe use of paraquat, we believe that the technology has the potential to extend to other liquid herbicides, and also be readily adapted for the application of other liquid crop protection products.

The [Closed Loop Knapsack Sprayer](#) system closes a technology gap by giving farmers who commonly use knapsack spray systems cost effective access to the same CTS (closed transfer system) technology increasingly available on larger farms.

We plan to launch the Closed Loop Knapsack Sprayer system in Indonesia in 2022, with the technology made widely and easily accessible to all farmers who need it, at no profit to Syngenta. Our intention is to extend and scale up this solution to knapsack users in various markets such as Japan, India as well as in African and Latin American countries.

In addition, we expect to launch new closed system packaging for GRAMOXONE® **for pack sizes below 120 gallons** in the United States by July 2021, in line with US EPA regulatory requirements.

For more information, please contact media.relations@syngenta.com.

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