Monsanto defends glyphosate: Rigorous independent studies underscore safe use

Monsanto created and held the patent on glyphosate until recent years. **Read full, original article:** Monsanto Disagrees with IARC Classification for Glyphosate

As consumers ourselves, safety is a priority for every person who works at Monsanto. And, we want to be clear: All labeled uses of glyphosate are safe for human health and supported by one of the most extensive worldwide human health databases ever compiled on an agricultural product. In fact, every glyphosate-based herbicide on the market meets the rigorous standards set by regulatory and health authorities to protect human health.

"As recently as January, the German government completed a rigorous, four-year evaluation of glyphosate for the European Union. They reviewed all the data IARC considered, plus significantly more, and concluded "glyphosate was unlikely to pose a carcinogenic risk in humans," said Dr. Philip Miller, Vice President Global Regulatory Affairs, Monsanto.

We join fellow members of both the EU and U.S. glyphosate taskforces in our disagreement with IARC's classification for several reasons:

- There is no new research or data here. Each of the studies considered by IARC have been previously reviewed and considered by regulatory agencies – most recently by the German government on behalf of the European Union.
- Relevant, scientific data was excluded from review. IARC received and purposefully disregarded dozens of scientific studies – specifically genetic toxicity studies – that support the conclusion glyphosate is nota human health risk.
- The conclusion is not supported by scientific data. IARC's classification is inconsistent with the numerous multi-year, comprehensive assessments conducted by hundreds of scientists from countries worldwide who are responsible for ensuring public safety.
- IARC's classification does not establish a link between glyphosate and an increase in cancer. It's important to put IARC's classifications into perspective. IARC has classified numerous everyday items in Category 2 including coffee, cell phones, aloe vera extract and pickled vegetables, as well as professions such as a barber and fry cook.

We take great pride in the science behind, and safety of, our products. We are committed to developing products that contribute to safe and nutritious food choices for all consumers. And, we are reaching out to the World Health Organization (WHO) to understand how, despite the wealth of existing science on glyphosate, the IARC panel could make a classification that disagrees with scientific and regulatory reviews.

We believe conclusions about a matter as important as human safety MUST BE non-biased, thorough and based on quality science that adheres to internationally recognized standards. We join others in viewing IARC's process and its assessment with strong skepticism. IARC has previously come under criticism for

both its process and demonstrated bias.

We urge anyone who wants to know more about glyphosate to look at the conclusions reached by regulatory authorities in developed countries that rigorously consider all available data, published and unpublished, in a comprehensive evaluation. You can also learn more at www.monsanto.com/iarc-roundup

Here are are summary conclusions on the safety of glyphosate by numerous major independent global science organizations:

World Health Organization/Food and Agriculture Organization Joint Meeting on Pesticide Residues (WHO/FAO JMPR, 1987):

"The chronic toxicity of glyphosate is low; the only significant toxicity seen in a number of animal bioassays was mild hepatotoxicity at high doses in mice. There is no evidence of carcinogenicity."

Canadian Pest Management Regulatory Agency (1991):

"Health and Welfare Canada has reviewed the glyphosate toxicology database, which is considered to be complete. The acute toxicity of glyphosate is very low. The submitted studies contain no evidence that glyphosate causes mutations, birth defects or cancer."

U.S. Environmental Protection Agency, Registration Eligibility Document (US EPA, 1993):

"Based on the results of its reregistration review, EPA has concluded that all registered uses of glyphosate are eligible for reregistration. The Agency has classified glyphosate as a Group E carcinogen (signifies evidence of noncarcinogenicity in humans)."

World Health Organization International Programme on Chemical Safety, Environmental Health Criteria 159 (WHO IPCS, 1994):

"Animal studies show that glyphosate is not carcinogenic, mutagenic or teratogenic."

World Health Organization/Food and Agriculture Organization Joint Meeting on Pesticide Residues (WHO/FAO JMPR, 2004)

"In view of the absence of a carcinogenic potential in animals and the lack of genotoxicity in standard tests, the Meeting concluded that glyphosate is unlikely to pose a carcinogenic risk to humans."

Australian Pesticides and Veterinary Medicines Authority (APVMA, 2013) review of the Earth Open Source report "Roundup and Birth Defects: Is the Public Being Kept in the Dark?"

"The APVMA currently has no data before it suggesting that glyphosate products registered in Australia and used according to label instructions present any unacceptable risks to human health, the environment and trade ..."

"The weight and strength of evidence shows that glyphosate is not genotoxic, carcinogenic or neurotoxic. "

Glyphosate Reevaluation Assessment Report, Germany Rapporteur Member State for the European Annex I Renewal of Glyphosate (2014)

"...glyphosate was considered unlikely to pose a carcinogenic risk in humans ..."

"In epidemiological studies in humans, there was no evidence of carcinogencity and there were no effects on fertility, reproduction and development or of neurotoxicity that might be attributed to glyphosate."

In recent years, multiple publications with various levels of scientific rigor have been disseminated concerning the safety of glyphosate (Antoniou et al., 2012; Krüger et al., 2013). Some claim that glyphosate is responsible for all the ailments of the Western world (Samsel and Seneff, 2014). Others simply selectively cite literature on their topic of interest without presenting the scope of information on the topic and assert unwarranted conclusions that do not reflect the body of scientific knowledge. Some have been rejected by the scientific community and retracted by the publishers and are no longer citable. While having a background in toxicology, epidemiology or medicine may be helpful in discerning the quality and integrity of such publications, I suggest the following nontechnical considerations to help make up your own mind on the merits of specific publications.

- 1. Are the authors experienced in this area of research? What is their publication track record?
- 2. Is the publication based on the authors' own research? If it is cited from elsewhere, dig deeper to see if the primary literature conclusions are actually reflected in the publication at hand.
- 3. Is the publication agenda driven or objective research? Was the publication concomitant with a media campaign and/or book release or followed up with a lecture tour, and, if so, who is funding these activities?
- 4. The scientific process does not stop with a publication. Often, letters to the editor follow; these may offer further insights and opinions but, sadly, are not often linked to the original paper. Dig deeper to find follow-up correspondence on the literature of interest.
- 5. Look for expert review manuscripts on the topic, published in high-quality scientific journals.
- 6. Check the authenticity of the journal as offering quality peer-reviewed scientific literature. Go to Beall's list (http://scholarlyoa.com/2012/12/06/bealls-list-of-predatory-publishers-2013/) to help discern questionable publishers and journals, which may not provide adequate peer review. Often such journals may not publish letters to the editor.

While I have gone beyond the simple answer "no," I hope my response has provided you with confidence in the many glyphosate scientific regulatory reviews endorsing the safe and responsible use of glyphosate. I've also suggested additional approaches to help increase your confidence in researching and answering similar questions, if you have the time—or you may simply submit more questions to GMO

Answers.

Regards,

David Saltmiras, PhD, DABT

Toxicology Manager, Science Fellow

Monsanto Company

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