

TOP TAKEAWAYS

Scientific panel finds “low confidence” of a relationship between glyphosate and cancer



In an independent critical scientific review of the existing meta-analyses of studies on the potential health hazards of exposure to glyphosate, a panel of six senior scientists expressed low confidence that any of the studies demonstrated a causal relationship between glyphosate exposure and non-Hodgkin's lymphoma.

WHY IT MATTERS

This consistent score of low confidence—an average of 3 on a scale of 1-10, with no score going above 5—indicates that consumers should be confident that there is currently no evidence of a relationship between glyphosate and non-Hodgkin's lymphoma. Regulators with oversight over the chemical, along with attorneys and judges involved in glyphosate litigation, should take this broad-based research into account when making policy and legal decisions.

A double-blind review of eight published meta and pooled analyses by a panel of six senior international experts with deep expertise in the fields of epidemiology, biostatistics, toxicology, and meta-analysis indicates low confidence in a causal relationship between non-Hodgkin's lymphoma and glyphosate, although there were too few studies to reach a conclusion on some particular non-Hodgkin's lymphoma subtypes.

This is one of the most comprehensive analyses of existing research on the topic to date, and the findings support the most recent actions taken by the EPA to allow the continued use of glyphosate without a cancer warning label. Further, the results raise questions on the validity of thousands of pending lawsuits claiming that glyphosate exposure causes cancer.

The results of the full review should be of immediate interest to regulatory and legal communities, as well as public health policy makers, as decisions are made about the health and safety of the use of glyphosate in gardening and agricultural communities, especially decisions related to the use of glyphosate in weed killers.

The eight meta-analyses included in the review contain meta/pooled analyses of the data from the research studies the Center for Truth in Science identified as having been most frequently cited in risk assessment, public policymaking, and judicial decisions on the toxicity and carcinogenicity of glyphosate in humans.

TOP TAKEAWAYS continued

BACKGROUND

Glyphosate, a glycine derivative, is a non-toxic, non-selective systemic herbicide intended to be applied directly to plant foliage. It is one of the most widely used herbicides in agriculture, forestry, industrial weed control, lawn, garden, and aquatic environments—more than 750 products are currently for sale in the United States containing glyphosate.

The review panel was assembled by SciPinion, an independent research firm based in Bozeman, Montana, that specializes in this review methodology. "The study of the potential for glyphosate to cause cancer in humans is both important and frankly controversial," said Sean Hays, Ph.D., president of SciPinion. "Applying methods to minimize bias in panel selection and implementation was vital."

"While the main finding was low confidence of a causal relationship between glyphosate and non-Hodgkin's lymphoma, an important secondary finding by the panel of experts was the discovery that some of the meta-analyses used poor quality control over the meta-analysis process itself. Internal decisions made by researchers conducting meta-analyses can significantly impact the findings of a meta-analysis, and is not a common issue for risk managers to recognize and account for in their decisions."

MORE KEY FINDINGS

Future efforts to evaluate potential risks of glyphosate exposure should concentrate on supplementing existing databases by conducting new, high-quality cohort and case control studies to provide more definitive answers.

Additional meta-analyses are not needed at this time.

The grantee assembled a highly qualified international panel of six senior scientists with expertise in epidemiology, biostatistics, toxicology, and advanced research methodology. Five are full professors at scientifically strong universities, and one is head of a research institution.

Panelists were not made aware for whom they were doing the reviews, or of each other's identities. This process works to keep the course of action free of controversy and conflict and to reduce bias.

This review was funded by the Center for Truth in Science, an independent non-profit organization dedicated to exploring the intersection of science, justice and the economy.

"We hope this research brings clarity to the ongoing and contentious debate about glyphosate exposure," said Joseph Annotti, current board member and former President and CEO of Center for Truth in Science. "The findings of these independent and unbiased experts increase the likelihood that future policy outcomes on glyphosate will be based on validated science, and produce regulatory and judicial decisions that foster innovation, benefit consumers, and protect public health."

The reviews were performed by a highly qualified international panel of senior scientists with expertise in epidemiology, biostatistics, toxicology, and advanced research methodology at SciPinion, a scientific consulting firm focused on the areas of toxicology and chemistry based in Bozeman, Mont. SciPinion recruited the experts and had them complete three rounds of scoring, where they were anonymous to each other and to the study funder.

Founded in 2020, the Center for Truth in Science is an independent non-profit organization that focuses on issues at the intersection of science, justice, and the economy, with the objective of contributing to a system in which regulatory and judicial decisions are based in comprehensive, fact-based science.

To view the full independent critical review, visit [Meta-Analyses of Glyphosate and Non-Hodgkin's Lymphoma: Expert Panel Conclusions and Recommendations, Journal of Toxicology and Risk Assessment, Volume 8 Issue 1](#)