

Weedkiller chemical (glyphosate) safety standards need urgent review

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Emerging evidence suggests that the safety standards for glyphosate—a chemical widely used in common weed-killers—may be failing to protect public and environmental health, suggest experts in an essay published in the *Journal of Epidemiology & Community Health*.

The standards are based on out of date science, say the researchers, and may not therefore be able to address the full complement of potential health hazards associated with exposure to these chemicals. They call for an urgent review of these standards.

Earlier this month, the European Chemicals Agency gave glyphosate the all-clear, concluding that it is not linked to a heightened risk of cancer in people. This ruling will be used to inform the European Commission's decision later this year on whether to re-authorise the use of this chemical.

In the US, glyphosate use has increased rapidly over the past two decades and it is now the most widely used weed-killer in the nation. And global estimates suggest that in 2014 enough glyphosate was used to spray nearly 0.5 kg on every hectare of arable land across the entire planet.

Glyphosate is not only used to kill off weeds before crops are planted, and to control weed growth afterwards, but it is also used to speed up the natural drying of seeds before harvest. Residues have also been found in soybeans, wheat, barley and many other crops and foods, say the researchers.

But most of the science used to support the [safety standards](#) applied in the US was carried out more than 30 years ago, and relatively little of it was subject to peer review, they point out. More than 1500 studies have been published on the [chemical](#) over the past decade alone.

"It is incongruous that safety assessments of the most widely used herbicide on the planet rely largely on fewer than 300 unpublished, non-peer reviewed studies while excluding the vast modern literature on glyphosate effects," say the experts.

And despite the rapid increase in use there is no systematic monitoring system for tracking levels in human tissue, and few studies have looked at potential harms to human health.

But recent animal studies have suggested that glyphosate at doses lower than those used to assess risk, may be linked to heightened risks of liver, kidney, eye and cardiovascular system damage.

And weed-killers, which combine glyphosate with other 'so-called inert ingredients,' may be even more potent. But these mixtures are regarded as commercially sensitive by the manufacturers and are therefore not available for public scrutiny, say the experts.

Debate continues to rage as to whether glyphosate is associated with a heightened risk of cancer or whether it has the potential to disrupt hormone function.

The researchers call for:

- improved surveillance of the levels of glyphosate and its metabolites in people
- the latest state of the art tests and technology to be applied to risk assessments of these chemicals and other combination weed-

killers

- further research to track occupational exposures in agricultural workers, manufacturers, and other vulnerable groups, such as pregnant women and their children
- evaluations of commercial combination weed-killers containing [glyphosate](#).

"After a review of all evaluations, we conclude that the current safety standards are outdated and may fail to protect public [health](#) and the environment," they write.

More information: Laura N Vandenberg et al. Is it time to reassess current safety standards for glyphosate-based herbicides?, *Journal of Epidemiology and Community Health* (2017). [DOI: 10.1136/jech-2016-208463](#)

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