

Glyphosate carcinogenic? Independent global scientists weigh in

The Science Media Centre—an independent British-based non-profit that solicits reactions from top independent scientists when major new studies are released—has posted a slew of responses to the March 20th decision by IARC to reclassify the herbicide glyphosate as a likely carcinogen.

The entire roundup of views can be found [here](#). Here are some excerpts:

Dr. Oliver Jones, Senior Lecturer in Analytical Chemistry at RMIT University in Melbourne, said:

“The main thing in this new assessment is that two pesticides not previously assessed by the IARC (Glyphosate and Diazinon) have been reviewed and classified as ‘probably carcinogenic to humans’. Malathion has been upgraded to the same status, while Parathion and Tetrachlorvinphos are now classified as ‘possibly carcinogenic’.

“This sounds scary and IARC evaluations are usually very good, but to me the evidence cited here appears a bit thin.

“People might be interested to know that there are over 70 other things IARC also classifies as ‘probably carcinogenic’, including night shifts. In the highest category of known carcinogens are ‘alcoholic beverages’ and ‘solar radiation’ (sunlight)—along with plutonium.

“So yes, pesticides can be dangerous, but are many other common things which are also dangerous in sufficient amounts or over long periods of time – the dose makes the poison. While absence of evidence is not evidence of absence this does seem to me to be a precautionary rather than a reactionary change.

Professor Alan Boobis, from biochemical pharmacology at Imperial College London, said:

“IARC bases its conclusions on an evaluation of the human and experimental data, leading to hazard identification. They ask: is a substance carcinogenic? And if so, how good is the evidence in humans?

“The IARC process is not designed to take into account how a pesticide is used in the real world – generally there is no requirement to establish a specific mode of action, nor does mode of action influence the conclusion or classification category for carcinogenicity.

“The IARC process is not a risk assessment. It determines the potential for a compound to cause cancer, but not the likelihood. Exposure assessment in epidemiological studies on the effects of pesticides is notoriously difficult. Agricultural workers, the most commonly studied group, are almost never exposed to just a single pesticide and it is very difficult to establish cause and effect.

“The UK Committee on Carcinogenicity has evaluated possible links between pesticide exposure and cancer on several occasions. It has found little evidence for such a link. At most, the evidence was inconsistent and was considered insufficient to call for regulatory action.

“In my view this report is not a cause for undue alarm.

Professor Sir Colin Berry, Emeritus Professor of Pathology at Queen Mary University of London, said:

“I have served on a number of regulatory bodies for the UK, EU and WHO and I am well used to sifting wheat from chaff in the analysis of pesticides. What is missing in this new assessment is balance in the consideration of the studies.

“There are over 60 genotoxicity studies on glyphosate with none showing results that should cause alarm relating to any likely human exposure. For human epidemiological studies there are 7 cohort and 14 case control studies, none of which support carcinogenicity.

“The authors have included non-Hodgkin lymphoma (NHL), but that diagnosis is no longer used in pathology because it’s far too imprecise. Even if you do include NHL there are still 7 studies, only one of which is positive – and that one is not a good study in my view.

“The weight of evidence is against carcinogenicity.

Professor David Coggon, from occupational and environmental medicine at the University of Southampton, said:

“IARC monographs do not present new primary research. Rather they rigorously and systematically review the available evidence from published peer-reviewed studies in animals and humans in order to classify chemicals according to their cancer hazard (i.e. their potential to cause cancer at some level of exposure) in animals and in humans.

“Given the large number of epidemiological studies that have been carried out on pesticides and cancer, many of them looking at multiple types of malignancy, it is to be expected that some positive associations will occur simply by chance. Thus, when evaluating the epidemiological evidence, one is looking for a consistent pattern of increased risk for one or more tumour types, which is unlikely to be explained by biases (often unavoidable) in the study methods. It is clear from the summary table in the Lancet report that clear and consistent evidence of this type was not found for any of the pesticides that were considered.

“Where there are any indications that a compound might cause cancer, it will not be approved for use unless there is good evidence that it is not genotoxic and that no risk of cancer would occur from the levels of exposure that could occur in a worst case scenario. Risk assessments are reviewed periodically, and particularly if new evidence emerges to suggest a previously unrecognised problem.

“The IARC report does not raise immediate alarms. However, I would expect regulatory authorities around the world to take note of this new evaluation, and to consider whether it indicates a need to review their risk assessments for any of the pesticides that they currently approve.”