Reviewer’s report

Title: THE EVIDENCE OF HUMAN EXPOSURE TO GLYPHOSATE: A Review

Version: 0 Date: 19 Nov 2018

Reviewer: Robin Mesnage

Reviewer's report:

This manuscript reports an overview of glyphosate urinary levels in different biomonitoring studies in order to inform on gaps and future directions.

The study is comprehensive and accurately describes the results of the reviewed studies in an unbiased way. I have very little comments as the quality of the analysis and the writing of the manuscript is of a sufficient quality to be published after very minor corrections.

If the authors want their manuscript to inform future studies, they could be more critical. Does the ELISA testing provides reliable results in comparison to the mass spectrometry method? What is the cross reactivity? Is there any difference in the quality of the different mass spectrometry method analyses? Some MS methods use a glyphosate derivatisation and thus do not directly detect glyphosate while a few recent methods were optimised to directly detect glyphosate. This could be mentioned. Are all studies adjusting for creatinine? Could it generate a difference in the quality of the results? These are important aspects of glyphosate biomonitoring studies that can be discussed in such a review.

Remarks.

Although it is unpublished I think that it will be important to mention the data presented as a poster by the group of Roy Gerona called 'Biomonitoring of glyphosate across the United States in urine and tap water using high-fidelity LC-MS/MS method' https://bit.ly/2sEPgOP and http://www.apamt.org/wp-content/uploads/2017/06/Poster_Presentation_34.pdf

L49 P4: ‘evidence of bioaccumulation of glyphosate and GBH observed in rodent models’. It is an overstatement. There is no studies showing glyphosate bioaccumulation. Glyphosate internal doses are mostly topped up by daily doses which gives the impression that glyphosate persists. However, most studies shows that glyphosate is cleared from the body. Only few evidences of potential accumulation in bones have been published although they need to be ascertained by more recent studies.

It will be important to indicate when the samples were collected in the text because the use of glyphosate has considerably changed in the last 20 years.
Research on glyphosate is highly tainted by conflicts of interests because of the important economic interests associated with the commercialisation of the product. It will be important to emphasis the absence or presence of conflicts of interests, as well as if the study was performed by academics, the industry, or by some NGOs.

It could also be important to mention that future studies could also investigate if GBH inert ingredients can be found in biological fluids.

I suggest that the authors could discuss the relatively low difference between occupational and environmental exposures. Do you think that epidemiological studies using questionnaires on occupational exposures to classify subjects are unreliable because of the non-controlled environmental exposures which can be sometimes as high as occupational exposures?

Level of interest
Please indicate how interesting you found the manuscript:

An article of importance in its field

Quality of written English
Please indicate the quality of language in the manuscript:

Acceptable

Declaration of competing interests
Please complete a declaration of competing interests, considering the following questions:

1. Have you in the past five years received reimbursements, fees, funding, or salary from an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

2. Do you hold any stocks or shares in an organisation that may in any way gain or lose financially from the publication of this manuscript, either now or in the future?

3. Do you hold or are you currently applying for any patents relating to the content of the manuscript?

4. Have you received reimbursements, fees, funding, or salary from an organization that holds or has applied for patents relating to the content of the manuscript?

5. Do you have any other financial competing interests?

6. Do you have any non-financial competing interests in relation to this paper?

If you can answer no to all of the above, write 'I declare that I have no competing interests' below. If your reply is yes to any, please give details below.
I declare that I have no competing interests

I agree to the open peer review policy of the journal. I understand that my name will be included on my report to the authors and, if the manuscript is accepted for publication, my named report including any attachments I upload will be posted on the website along with the authors' responses. I agree for my report to be made available under an Open Access Creative Commons CC-BY license (http://creativecommons.org/licenses/by/4.0/). I understand that any comments which I do not wish to be included in my named report can be included as confidential comments to the editors, which will not be published.

I agree to the open peer review policy of the journal