



GE Free New Zealand

In Food And Environment Inc.

PO Box 13402, Wellington, NZ

Open Letter - Glyphosate Based Herbicides Reassessment

5 November 2018

Tena koe Dr. Freeth,

GE Free NZ in Food and Environment are extremely disappointed that the Environmental Protection Agency (EPA) is not considering the re assessment of the glyphosate based herbicides (GBH).

The decision not to re assess GBHs (approved under the Hazardous Substances and New Organisms Act HSNO s32) in light of new evidence and concerns raised after the EPA Temple report in 2016, by Bruning and Browning¹ on the safety profile of GBH, means that without reassessment the original findings are unreliable.

We also request under HSNO s63 (2)(b) that the EPA conduct a re assessment of the conditions that the workers and public are subject to when GBHs are being used.

For many years there has been concern over the use of many pesticides. Mesnage *et al*^{2, 3} found that the commercial formulations (the active ingredients and the adjuvants) increased the toxicity of the pesticides up to 10,000 times than the active ingredient alone.

When Roundup, a GBH, was first approved it was only for weed management not in food or agriculture. It is so wide spread now it is seen as too useful to ban. When it came off patent in the early 2000, many companies made their own glyphosate formulations, these never had to under go regulatory approval.

New Zealand now has 91 registered GBH formulations. It appears that over the years this approval profile has led to an exponential use of these commercially sensitive formulations, often the concentrations are off label, with wide spread use in residential areas as well as farmland, with ever increasing levels creeping into the food chain with unknown effects.

¹ Bruning JI, Browning S. Public Health Concern: Why did the NZ EPA ignore the world authority on cancer? Wellington: Green Party of Aotearoa New Zealand, 2017

² Mesnage, R., Bernay, B., & Séralini, G. (2013). Ethoxylated adjuvants of glyphosate-based herbicides are active principles of human cell toxicity. *Toxicology*, 313(2-3), 122-128.

³ Mesnage, R., Defarge, N., Spiroux de Vendômois, J., & Séralini, G. (2014). Major Pesticides Are More Toxic to Human Cells Than Their Declared Active Principles. *Biomed Research International*, 2014, 1-8. doi: 10.1155/2014/179691

In 2016 the EPA contracted Dr Wayne Temple to do a paper reassessment on glyphosate (N-phosphonomethyl glycine; CAS registry #1071-83-6) alone, not the 91 different commercial products that contain undeclared commercially sensitive inert additives in their formulations.

Researchers have discovered that these confidential inert additives or adjuvants in full commercial formulations are as toxic as glyphosate, but have not been assessed. The Principal Scientist of the Science group acknowledged this in an email to an EPA member on the 26 July 2016 conceding that "the hazardous properties of a co-formulant POE-tallow amine had not had a risk assessment conducted on it, and maybe they missed something" (Bruning et al 2016, p152).

A memo to Dr. Wayne Temple on 2 August questioned the accuracy of his wording around the minority of glyphosate formulations containing the toxic adjuvant POEA that had not undergone any risk assessment.

We have another question about the wording. As a result of a recent enquiry we have discovered that we estimate 69 glyphosate-based herbicides in New Zealand are believed to contain POEA, which is more than half of the 91 ACVM-registered formulations.

Therefore we consider that the current wording of the report on p.11 should be modified. The Report currently includes the following paragraph:

As regards glyphosate based commercial formulations a number of formulations with unknown composition have given positive results when tested *in vivo* and *in-vitro*. However some of the test systems are not validated and / or interpretation is difficult due to possible confounding, such as cytotoxicity, specific organ toxicity or unclear relevance to humans (such as tests in amphibians, or Invertebrates). Some of the co-formulants (such as polyethoxylated amines (POEA), used in a minority of products) may be more systemically toxic than glyphosate. However EFSA concluded that the genotoxic potential of such complete should further assessed."

Based on the information gathered we no longer consider it accurate to refer to POEA being in **minority** of products. So we suggest the highlighted sentence is amended by deleting "in a minority of products", so that it reads:

Some of the co-formulants (such as polyethoxylated tallow amine (POEA)) may be more toxic than glyphosate."

Please advise whether you are happy to accept this change? (Bruning J, 2016, p.153)

Glyphosate is a commonly used herbicide around the parks, berms and roadsides and farmland. It is a main herbicide for Local body council NZTA on the main roads and Regional councils and Department of Conservation for pest eradication.

In 2016 the International Agency for Cancer Research (IARC) declared that glyphosate was probable carcinogen and made it a 2A classification. ⁴

⁴ <http://publications.iarc.fr/Book-And-Report-Series/Iarc-Monographs-On-The-Evaluation-Of-Carcinogenic-Risks-To-Humans/Some-Organophosphate-Insecticides-And-Herbicides-2017>

On the 10 August a groundbreaking court case found that Dewayne Johnson's cancer (non-Hodgkin's Lymphoma) has been caused by the use of the glyphosate based herbicides (GBH) Roundup Pro and Ranger Pro.⁵ The judgment by the court awarded punitive (\$250 million) and economic/ non-economic loss damages (\$39 million) on the known dangers glyphosate, which played a direct causation of Johnsons NHL cancer that has led to a shortened life expectancy. Monsanto's appealed against the ruling but the California judge on 22 October upheld jury verdict but lessened the punitive damages to \$39 Million.⁶

A study published by Kurenbach et al (2018)⁷ has shown that herbicides containing glyphosate can have an effect in causing antibiotic resistance. Their research demonstrated that the herbicides and antibiotics tested together accelerated capability for resistance. They went on to say

"Unfortunately, antibiotic resistance may increase even if total antibiotic use is reduced, and new ones are invented, unless other environmental exposures are also controlled. This raises concern when GBH are used so prolifically around the regions and people are often on antibiotics".

We ask that these conditions are considered and re classification of toxicity implemented in the reassessment for Glyphosate Based Herbicides use

- All workers are protected with proper clothing and headgear to stop the fine spray being inhaled or landing on their faces.
- Prohibition of spray in public places or sports grounds where the public and children play.
- No GBH is to be used over waterways or aerially sprayed.
- Parameters around wind speed when spraying.
- Regular blood testing for workers who are using GBH sprays.
- All illnesses that arise when people are in contact with or workers undertaking GBH spraying are given thorough clinical tests to rule out GBH causation.

As Dr. Jane Goodall said in her comment in the Bruning J (2016) report

"Today, I find myself wondering how we might hold regulators to account when they appear to be failing in their duty of protecting people and the environment."

We ask that the EPA not fail in their duty of care to the public and re assess the conditions of use on Glyphosate Based Herbicides.

Nga mihi,
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⁵ Johnson vs. Monsanto verdict <https://www.youtube.com/watch?v=um00x2EITWs>

⁶ <https://www.baumhedlundlaw.com/pdf/monsanto-documents/johnson-trial/Order-Denying-Monsantos-Motion.PDF>

⁷ Kurenbach et al. (2018), Agrichemicals and antibiotics in combination increase antibiotic resistance evolution. *PeerJ* 6:e5801; DOI 10.7717/peerj.5801