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GMO and glyphosate wars rage

Oliver Tickell

16th July 2015

Three in one: EFSA set to re-licence glyphos moves against IARC verdict that glyphosate that FDA principle of GMO 'substantial equivalence' is bunk.

> **The results predict significant accumulation of formaldehyde and concomitant depletion of glutathione in the GMO, suggesting how a 'small' and single GM creates 'large' and systemic perturbations to molecular systems equilibria.**

News on the GMO and glyphosate 'war' under way betweer conspiring with corporations is coming in so fast it's hard t

First, glyphosate. The EU's European Food Safety Authority licence glysophate, the world's number one herbicide and t Roundup, also found in Dow's 'Enlist Duo' along with 2,4D.

Glyphosate was recently determined by the World Health C Research on Cancer (IARC), to be a 'probable carcinogen'. time to combat the global fallout and make sure that it doe company a large share of its multi-billion dollar revenues.

Now it turns out, as reported in *the Guardian*, that a key as Risk Assessments, using information drawn from unpublish *"has drawn contrary conclusions from the IARC's data."*

It therefore appears that the EFSA will re-approve the use subjected to peer review. Documents, moreover, provided Force - no independent arbiter but an industry body dedica connected to Monsanto UK - which even runs their website

Based on this flimsy evidence, the German report found *"v* exposed to the chemical - and even advised that the 'accep already grossly excessive 0.3mg to 0.5 mg per kilogram of bodyweight per day.

By contrast with industry dominated European regulators, IARC has a strict rule tha studies in forming its judgements on the carcinogenicity of a substance.

More Monsanto tricks

Hot on the heels of this disgraceful news, we hear from GMWatch that Monsanto ha (formerly known as Cantox), to review WHO's verdict on glyphosate as a 'probable

Intertek says on its website, *"We protect our customers' interests, helping them su bring products to market in a time-efficient and cost-effective manner."*

In 2000 Intertek / Cantox's executive VP Ian C. Munro co-authored a reassuring pa employees, that defended the safety of glyphosate herbicides. The paper claims tha no birth defects or other developmental toxicity. It concludes, unsurprisingly, that *use, Roundup herbicide does not pose a health risk to humans"*.

The paper was published in the chemical industry-sponsored journal *Regulatory To* industry-linked organizations that were investigated by a US Congressional Commi decision allowing the toxic chemical bisphenol A in infant formula and other foods.

"All this would matter less if Munro and his co-authors had cited credible sources in developmental safety", says GMWatch. *"But they cite unpublished studies from the approval. Strangely the authors fail to mention other studies from the same dossie malformations in lab animals.*

"Monsanto claims in the article below that the process and findings of the new revi that seems unlikely, since Monsanto will be paying or at least commissioning the a reviewing industry studies, which thus far have been kept hidden from the public."

For more information on Cantox and its defence of glyphosate, see the Earth Open (pp.20-21).

'Substantial equivalence' of GMOs under attack

Finally a peer-reviewed paper published in the journal *Agricultural Sciences* has cas substantiated and much criticised) principle employed by US regulators of 'substan (by assertion) much the same as non-GMO food and crops.

In their paper 'Do GMOs Accumulate Formaldehyde and Disrupt Molecular Systems Answers', authors V A Shiva Ayyadurai and Prabhakar Deonikar report on their 'sys find that a small GM alteration in soyabeans may be producing an excess of toxic f

"Proponents of GMOs assert that GMOs are safe since the FDA's policy of substanti their non-GMO counterparts, and argue that genetic modification (GM) is simply an breeding, a form of 'genetic modification', though done over longer time scales", th

"Anti-GMO activists counter that GMOs are unsafe since substantial equivalence is the 1970s to assess safety of medical devices, which are not comparable to the co that targeted GM is not plant breeding."

"Systems biology", they propose, *"which aims to understand complexity of the who studying its parts in a reductionist manner, may provide a framework to determine small or large, may affect emergent properties of the whole system."*

They use a computational ('in silico') systems biology method to investigate known

Glycine max L. (soybean) under realistic conditions.

"The results predict significant accumulation of formaldehyde and concomitant dep how a 'small' and single GM creates 'large' and systemic perturbations to molecula

"Regulatory agencies, currently reviewing rules for GMO safety, may wish to adopt combination of in silico, computational methods used herein, and subsequent targe to develop a systems understanding of 'equivalence' using biomarkers, such as for metabolic disruptions, towards modernizing the safety assessment of GMOs."

Or in ordinary language, regulators should cease to just assume that GMOs are fine investigation and experimental verification on GMOs before declaring them 'safe'.

Oliver Tickell *edits The Ecologist.*