

Solid Reporting on the (Non) Risks of Roundup

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Given the mainstream media's devotion to sensationalism when discussing GMOs, it was an unexpected pleasure to come across a recent [Washington Post article](#) on the subject.

The essay was entitled "It's the chemical Monsanto depends on. How dangerous is it?" This is such an important topic/question from so many points of view that it should be essential reading for anyone who's scientific sophistication is not up to speed — meaning 99.9 percent of Americans.

The reporter's focus on the chemical pesticide glyphosate is illuminating because:

(A) — it's the pesticide in Monsanto's commonly used agricultural *and* home-and-garden herbicide (weed-killer), *Roundup*

(B) — glyphosate is the "poster child" for the anti-GMO activist-promoted hysteria against biotechnology ("frankenfoods") in general, and Monsanto in particular, and especially...

(C) — because the United Nation’s agency in charge of designating cancer risks of, well, anything — IARC, *The International Agency for Research on Cancer* — recently came out with an [opinion placing glyphosate](#) in the IIA category of “probably a human carcinogen.”

As the Post article points out, this assessment was in contrast to the long-standing evaluations of the same chemical by numerous (if not each and every) other official agencies charged with such responsibilities, including our own EPA.

As the reporter puts it:

“Although the Environmental Protection Agency’s assessment of glyphosate, done in 1991, is woefully out of date (a new assessment is due this year), the agency last year took a fresh look specifically at cancer, in which it ‘reviewed over 55 epidemiological studies conducted on the possible cancer and non-cancer effects of glyphosate’ and concluded that ‘this body of research does not provide evidence to show that glyphosate causes cancer. ... This is the same conclusion reached in 2004 by the United Nations’ Food and Agriculture Organization and affirmed this year by Germany’s pesticide regulatory officials.”

However, here is where the reporter presents the most telling case for how we, the public should deal with the IARC verdict: the key factor that they do not take into account is dosage, or *exposure level*.

IARC works under the “precautionary principle,” which, in essence, pays little or no attention to the level of real risk in the real world, which is intimately tied up with *just how much of [whatever chemical under investigation] are we exposed to?*

Officials simply base their assessments on “hazard,” which is a surrogate measure of innate toxicity but does not bother with how much we ingest or absorb. In the real world, actual risk or threat is a function of *hazard multiplied by dose/exposure*.

“The IARC is charged with identifying substances that can cause cancer, but not the levels of exposure that are risky,” reporter Tamar Haspel wrote. “The question about all of these is whether we’re exposed to a high enough level to put us at risk.

“Unfortunately, dosage is an issue we humans tend to ignore,” she continues. “But that thing we tend not to pay attention to — dosage — turns out to be the thing that can go a long way toward reconciling the disparate assessments of the danger of glyphosate.”

Ms. Haspel also goes on to discuss some real issues with glyphosate which have been mostly swept aside by the IARC report: herbicide tolerance and “super-weeds” are problems that have to be dealt with by chemical companies and farmers.

But one comment, returning to the outlier IARC report gives one pause, credited to a Robert Wager: “the IARC report cited six times Seralini et al. It is well documented that those [Seralini papers](#) were rejected by global toxicology and food safety experts.”

The widely-ridiculed and retracted *Sertalini* “study,” any panel claiming scientific authority while citing that study should be castigated for irresponsibility. I believe the forthcoming EPA re-study of glyphosate will confirm their prior evaluation: it’s safe when used as directed.

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