



The California Environmental Health Initiative

Science at the intersection of human health and agriculture

April 12, 2015

Response to the commentary “Roundup and Risk Assessment” by Michael Specter published in the *New Yorker* April 10, 2015

I strongly disagree with Michael Specter’s conclusion (“Roundup and Risk Assessment,” April 10, 2015) that the new report by the World Health Organization/International Agency for Research on Cancer (WHO/IARC) should not change the worldwide practice of using the herbicide Roundup (active ingredient glyphosate).

First, the IARC report didn’t conclude that glyphosate/Roundup “could” be dangerous as Mr. Specter’s commentary asserts but that glyphosate “probably” causes cancer, based on several decades’ accumulated evidence. In other words, it is *likely* that glyphosate causes cancer. IARC has a lesser risk rating for chemical it concludes “possibly” (i.e., “could”) cause cancer. It gave that rating to two other pesticides in this study, but not to glyphosate.

Second, Mr. Specter points to Roundup’s approval by the U.S. Environmental Protection Agency (U.S. EPA) as a reason that this toxic chemical can safely continue to be used. However, U.S. EPA pesticide approval is based only on research submitted by the manufacturer, which naturally has a vested interest in realizing a return on its investment in developing a product and therefore in downplaying the product’s risks. Recent reporting on publicly available documents that were part of the registration and approval process suggest that both Monsanto and U.S. EPA knew of the health risks posed by Roundup; apparently, both chose to ignore them and wait for the tedious process of independent scientific research to reveal the true risks of this pesticide.

This underscores a major flaw in pesticide safety oversight: once a product is approved for sale in the U.S., it takes decades for independent scientists to carry out objective studies investigating whether the chemical is linked to adverse health effects. By the time a body of peer-reviewed evidence has accumulated sufficient to get the attention of an agency like IARC, generations of children and adults have already been exposed to the chemical and are experiencing the consequences.

Third, many of the arguments in Mr. Specter’s article echo the defenses offered by Monsanto and other pesticide manufacturers – the dose makes the poison, IARC doesn’t do its own research but only reviews the research of others, IARC didn’t recommend withdrawing Roundup from the market, another “highly reliable” reporter at Grist agrees with Mr. Specter, other things like disrupted sleep can cause cancer, no study has “clearly demonstrated a link between glyphosate and cancer in humans,” etc.

All of these justifications are fallacious and misrepresent or ignore facts.

With regard to the erroneous statement “the dose makes the poison,” we now know that minute, chronic doses of toxins can have more serious effects than larger short-term doses (the well-documented non-monotonic dose response).

As far as IARC’s role: the agency’s purpose is not to carry out research but to evaluate independent research and draw responsible, objective conclusions to protect world health, the mission of its parent organization. Nor is it IARC’s job to recommend withdrawing a product

from the market but the U.S. EPA's. IARC is not a policy-making body; IARC's objective scientific evaluations are the basis on which policy makers can (and should) formulate responsible decisions.

The citation of another commentator's writing as evidence that this writer's opinions are justified is a basic logical fallacy. Arguments stand or fall on their own factual and logical merits, not on whether someone else (who in this case also happens to consistently report in a manner that also echoes the pesticide industry's talking points) shares those opinions.

Yes, many things can cause cancer. That doesn't justify continuing to sell and sanction the use of products that an accumulated body of scientific evidence shows are likely to cause cancer, particularly when those products are not necessary to produce safe, healthy, nutritious food and other crops, as sustainable and organic agriculture practitioners around the world have amply and repeatedly demonstrated. In fact, Mr. Specter's final word is suspect; the risk of developing products like glyphosate (such as the likelihood of causing cancer) is indeed much greater than the risk of not developing and using them. The latter would require us to farm in a manner that protects soil health and produces more nutritious food not treated with poison.

And, finally, regarding a link between Roundup and cancer in humans, direct experimentation with poisons on humans is prohibited for good reason, and science can rarely if ever demonstrate the precise "smoking molecule" of a substance that initiated a cancerous growth. As the President's 2009 Cancer Panel Report "Reducing Environmental Cancer Risk" points out, this contributes to the problem that "the prevailing regulatory approach in the United States is reactionary rather than precautionary. That is, instead of taking preventative action when uncertainty exists about the potential harm a chemical or other environmental contaminant may cause, a hazard must be incontrovertibly demonstrated before action to ameliorate it is initiated. Moreover, instead of requiring industry or other proponents of specific chemicals, devices, or activities to prove their safety, the public bears the burden of proving that a given environmental exposure is harmful.

Pesticides are chemicals deliberately designed to kill living things. There is perhaps no class of substances more deserving of intense, precautionary scrutiny and proactive regulation. Mr. Specter's thinking might be lagging behind in this regard, but consumers are not, with 91% of Walmart shoppers reporting that they would buy organic food if they had the opportunity.

The same kind of logic that Mr. Specter employs was used for decades by the tobacco industry, which continued to claim its product was safe as study after study revealed the risks of tobacco smoke until, finally, policy makers could no longer turn a blind eye to the evidence. At what point does likelihood of harm lead to a change in behavior and policy, particularly in the case of Roundup, the most widely used pesticide in the world, which laboratory testing has found in breast milk, infant formula, products such as honey and soy sauce, and water bodies and soil around the globe?

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