

## THE TOXICITY OF GLYPHOSATE: DISPUTED IN THE LABORATORY AND THE JURY ROOM

Spending the better part of the last decade litigating asbestos claims, first at a plaintiff's firm, and now representing defendants alleged to have encountered asbestos, I keep getting asked the same two questions: when will asbestos litigation end, and what is the "next asbestos." Almost anyone that has worked in asbestos litigation will answer the former question the same. "We are done guessing because we all thought it would have ended by now." As for the latter, many other types of toxic exposure cases have come and gone, and few if any have had the impact close to what asbestos has had on a national level. Still because of the lessons we have learned with asbestos, when a new exposure comes around and results in large plaintiff's verdicts, mass tort litigators pay attention. Our attention recently has turned toward glyphosate.

Glyphosate is the active ingredient in Roundup, the most popular name brand for the world's most commonly used herbicide. It has been used residentially, but on a greater scale, commercially to selectively stop vegetative growth in farming. The amateur gardener likely knows Roundup as an effective weed killer. However, commercially it has multiple uses which include the killing of unwanted vegetation. Glyphosate can also be used directly on the crops that are intended to be harvested. Some crops such as corn and soybeans have been genetically engineered to tolerate certain herbicides. For these crops, grown as part of the "Roundup Ready" crop management program, the herbicide can be applied directly to them, killing any impeding vegetation and leaving the crops unharmed. Additionally, glyphosate is also used in desiccation, a process where the herbicide is applied directly to crops to aid in harvesting. The herbicide speeds up the harvest by killing the plants at the same time causing the crops to dry evenly.

Much like asbestos, usefulness of glyphosate is not in question. Asbestos is a great insulator and does a great job withstanding high temperatures. Similarly, glyphosate does a great job controlling unwanted plant growth, which helps to optimize crop yield. The problem with asbestos is that human exposure, under certain circumstances, can lead to life-ending disease. The most important question faced by manufacturers and users of glyphosate is whether it also causes debilitating illness. Originally, glyphosate was thought to be safe because it was designed to inhibit an enzymatic pathway required for protein analysis, which only exists in plants. After forty years of use, studies from seemingly reputable sources have reached opposite conclusions on whether glyphosate is toxic to humans. The chart below is a non-exhaustive look at some of the more frequently quoted studies on the subject.

<b>Date</b>	<b>Publisher</b>	<b>Finding</b>
4/30/19	EPA	There are no risks to public health when glyphosate is used in accordance with its current label and that glyphosate is not a carcinogen.
4/23/19	Scientific Reports	Glyphosate exposure can induce the transgenerational inheritance of disease.
2/10/19	Mutation Research	Glyphosate exposure increases the risk of NHL by more than 40 percent.
2/16/18	Environmental Research and Public Health	Glyphosate has shown to be associated with the odds of premature mortality from Parkinson's Disease
11/9/17	Journal of the National Cancer Institute	No association was apparent between glyphosate and any solid tumors or lymphoid malignancies overall, including NHL
5/24/16	World Health Organization	Glyphosate is unlikely to pose a carcinogenic risk to humans exposed via the diet.

10/30/15	European Food Safety Authority	Glyphosate is unlikely to pose a carcinogenic hazard to humans
3/20/15	WHO/IARC	Glyphosate classified as probably carcinogenic to humans

A comparison of the results of these studies is troubling. While one might think that we can look to science to provide objective answers to questions of toxicity, what we see are presumably reputable groups providing “objective” answers that contradict. Does this mean that one or more of the studies are incorrect? Are certain groups perhaps motivated beyond simply finding the correct answer? For instance, the IARC study was criticized by Reuters researchers for removing objective findings within a draft of their study that suggested Glyphosate was not a carcinogen. Ultimately IARC concluded that glyphosate was probably carcinogenic despite the contrary findings contained in the original first draft. Of course, no study is perfect and because different studies take into consideration different inputs and assumptions, it is possible that the outcomes correctly reflect the data. It is also possible that two scientists can look at the same data and genuinely develop opposing conclusions. Still, it is hard to reconcile opposite results without suspecting some other confounder at play.

Take this conundrum and put it in a courtroom in front of six to twelve jurors with possibly no experience in farming, toxicology, or epidemiology. Add to this mix varying teams of lawyers and expert witnesses who are paid, in part, for their skills of persuasion. Not only is there a possibility that a jury could be swayed by a report or study that is the product of some internal bias, but there is also a guarantee that these attorneys and experts will attempt to influence the jury’s task of finding the truth. This is the current state of affairs in the litigation against manufacturers, who incorporate glyphosate in their products. Other defendants who may not have manufactured the product, but caused others to use glyphosate may soon be brought into the fray. Of course, plaintiffs will have an uphill battle proving that any purchaser had knowledge of potential hazards when the manufacturer maintains to this day that the product is not harmful when used as directed.

Every case is different and the proper defense strategy will likely require an individualized assessment of the matter. This inquiry must include assessments of the specific court/jurisdiction and its history of handling toxic tort cases. Juries will ultimately decide whether or not glyphosate is harmful. Thus, the defense strategy must also include an assessment of the jury pool and prior verdicts from that jurisdiction. In such cases, national or in-house counsel for the defendants will be well advised to consult with local counsel to provide a foundational understanding of the landscape of the court in which the claims are filed. If the action is filed by a local plaintiff’s firm, a local defense team, that has built a relationship with plaintiff’s counsel, may also help in resolving the dispute before a jury decides whether to believe one or more studies, one or more experts, or one or more attorneys at trial.

To be sure, the large verdicts will attract more cases. While glyphosate litigation is still relatively new, over 17,000 plaintiffs have brought suits alleging damages from the pesticide. There is little incentive for the plaintiff’s bar not to file these actions where the potential for a large verdict seems to be as likely as the potential for a defense verdict. Looking forward, a phenomenon known as *generational toxicology* could play a role in expanding glyphosate litigation. The theory posits that future generations can be affected by a prior generation’s exposure to a toxin. If generational toxicology exists in persons exposed to glyphosate, we could

certainly expect to witness a significant expansion of the pool of plaintiffs bringing suit against glyphosate related defendants.