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Expectations For Glyphosate Litigation After Monsanto Verdict

By **John Gardella and Michaela Lancer** (March 28, 2019, 12:07 PM EDT)

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On March 19, 2019, a California jury unanimously concluded in Hardeman v. Monsanto Co. et al. that scientific literature supports the conclusion that the chemical glyphosate can cause cancer in humans, specifically in the context of the glyphosate-containing Roundup weedkiller.[1] The issue was litigated in a bifurcated manner to allow the jury to answer the question of glyphosate's cancer-causing potential before the jury could address damages.

On Wednesday, the jury returned a verdict of just over $80 million in favor of Edwin Hardeman in the second phase of the trial. The Hardeman case was the second such trial to take place in the glyphosate litigation — the first being the Dewayne Johnson case, which took place in California state court in 2018 and resulted in a $289 million verdict.[2]

While there is little question that the Johnson and Hardeman verdicts will do nothing to stop the flood of thousands of lawsuits against Bayer AG for its Roundup weedkiller product, the bigger question is how the verdicts will affect product liability and toxic torts litigation more broadly moving forward, and what the next waves of litigation may be stemming from the current glyphosate litigation.

What Is Glyphosate?

Glyphosate is a man-made chemical, first synthesized by a Swiss chemist in 1950. It was independently discovered by scientists at Monsanto in the United States in 1970, when the company asked its scientists to develop an effective herbicide compound for consumers to use as a weedkiller. The product was brought to market in 1974 under the brand name Roundup.

Agriculture quickly realized that glyphosate was one of the most effective weedkilling agents on the market, as it inhibits photosynthesis in plants, which ensures that plant cells are not able to regenerate, thereby killing the plant to which glyphosate is applied. Roundup soon became one of the most widely used weedkilling agents by consumers for use on residential and commercial properties, by landscaping companies and also by the government (primarily for use by groundskeepers at public schools).

In the agricultural sector, glyphosate's use was not so readily adapted, as it was so effective that it killed not only weeds, but the crops themselves. It was not until 1996 with the advent of genetically modified

crops that were resistant to glyphosate that the product became widely used on farms. Genetically modified crops led to a 15-fold increase in the use of glyphosate in the agricultural sector. According to the U.S. Environmental Protection Agency, in 2007, glyphosate was the most used herbicide in the United States agricultural sector, with 180 to 185 million pounds applied, the second-most used herbicide in homes and gardens with 5 to 8 million pounds used, and the U.S. government applied 13 to 15 million pounds in industry and commerce.

Is Glyphosate Harmful to Human Health?

Glyphosate studies were conducted for years prior to the Johnson verdict in July 2018. The majority of the initial studies were conducted on rats. For example, one study in the United Kingdom, in which rats were fed low levels of glyphosate throughout their lives, found that the chemical contributed to a higher risk of nonalcoholic fatty liver disease, a condition in which fat accumulates in the liver and contributes to inflammation and scarring of the tissue. Studies have also been conducted on other mammals, such as rabbits, aquatic fauna, plants and soil bacteria. Numerous studies were also conducted by Monsanto itself as part of the company's effort to determine the potential health hazards associated with the glyphosate compound.

In 2013, over 1,000 epidemiological studies, animal studies, and in vitro studies were reviewed by the German Institute for Risk Assessment. It found that "no classification and labelling for carcinogenicity is warranted" and did not recommend a carcinogen classification. The results were given to the European Food and Safety Authority and in November 2015, the EFSA published its own conclusion of the available studies, stating that glyphosate was "unlikely to pose a carcinogenic hazard to humans."

In the United States, in 1993, the Environmental Protection Agency studied whether glyphosate was hazardous to human health and concluded that the chemical was not carcinogenic. In its review, the EPA considered a "worst case" dietary risk model of an individual eating a lifetime of food derived entirely from glyphosate-sprayed fields with residues at their maximum levels. This model indicated that no adverse health effects would be expected under such conditions. In 2015, the EPA initiated another review of glyphosate's toxicity and in its December 2017 draft risk assessment, reported that glyphosate is likely not carcinogenic. The EPA's interim decision as to whether the conclusions from its draft risk assessment will be upheld is expected in the fourth quarter of 2019.

However, in March 2015, the World Health Organization's International Agency for Research on Cancer concluded its own analysis of the available epidemiological studies and found that glyphosate is "probably carcinogenic to humans."[3] "The evidence in humans is from studies of exposures, mostly agricultural, in the USA, Canada, and Sweden published since 2001. In addition, there is convincing evidence that glyphosate also can cause cancer in laboratory animals."

The IARC report was criticized for not considering all of the available literature on glyphosate. However, IARC admitted that it disregarded any studies that had any connection to the agricultural industry (e.g., studies funded by the industry). This was in contrast to prior government agencies, such as the EPA, that considered such studies while adjusting for potential biases. Nevertheless, it was the IARC conclusion regarding glyphosate's "probable" carcinogenicity in humans that sparked the glyphosate litigation.

Beyond the Roundup Cases — Other Avenues of Litigation to Date

Virtually overnight after the Johnson verdict, personal injury lawsuits regarding glyphosate increased across the country. Many of the cases were personal injury cases against Monsanto, alleging similar

harm as Dewayne Johnson and Edwin Hardeman did in their cases. However, what also emerged after the Johnson verdict were several reports and lawsuits against the food industry for glyphosate content in several manufactured food products. It is from these lawsuits that the clearest clues as to where the glyphosate litigation is likely trending emerge.

Perhaps the most notable food-related case following the Johnson verdict was a lawsuit filed in California against Bob's Red Mill after glyphosate was found in both its organic and nonorganic oats.[4] The plaintiffs alleged that Bob's Red Mill knew that its oat products contained or likely contained glyphosate, but the company failed to disclose this knowledge on the packaging for the products. The lawsuit was sparked by a report by the Environmental Working Group, released just days after the Johnson verdict, finding traces of glyphosate in numerous cereals and oat-based breakfast foods. Out of 45 products tested, 31 had levels higher than what some scientists consider safe for children.

In Canada, shortly after the Johnson verdict, the Environmental Defence organization, in conjunction with Equiterre, conducted its own study of glyphosate content found in food and found detectable levels of glyphosate in 80 percent of the samples tested. The study looked at a broader range of food types than the EWG study, as it tested oats, cereals, bagels, hummus, donuts, crackers, cookies, spaghetti, breads and macaroni and cheese, among other items.

Following reports such as the ones released by the EWG and Environmental Defence, several lawsuits were filed in the United States against food manufacturers, primarily alleging that the companies failed to warn consumers that "natural" or "organic" products contain glyphosate.

Examples of these lawsuits include suits against General Mills Inc. for its Cheerios and Honey Nut Cheerios cereal products; a lawsuit against Florida's Natural for its glyphosate-containing orange juice; Maseca-brand white and yellow corn flour; and a lawsuit against restaurant Pret-A-Manger due to the presence of glyphosate in its "natural" breads. The pet food industry has also not escaped litigation over glyphosate, as a lawsuit was filed against Nutrish brand dog food for traces of glyphosate in its pet food.

What's Ahead in the Glyphosate Litigation?

Although Monsanto held the patent for glyphosate for many years, the patent expired in 2000, which allowed other companies to utilize glyphosate in products sold to consumers. Today, there are over 750 products on the market that contain glyphosate, many of them various types of herbicides. Although Bayer AG is currently the target of the glyphosate litigation for the Roundup product, the vast number of products manufactured and sold by numerous companies means that the easiest avenue for expansion of litigation will come via lawsuits against other companies manufacturing glyphosate-containing products.

The agricultural industry also faces some risk of litigation related to glyphosate, specifically for violations of governmental permissible residue limits for glyphosate on crops. Currently, the EPA sets glyphosate residue limits for crops grown in or imported into the United States. The EPA's residue limit varies depending on the type of crop and the limits range anywhere from 0.1 parts per million, or ppm, to 400 ppm. The U.S. Food and Drug Administration is tasked with conducting annual tests on crops to determine whether there are any violations of the EPA's limits, and the FDA published its sampling results on an annual basis. Violations of the exposure limits could lead to litigation against agricultural companies.

In addition, agricultural companies need to be aware that while the United States has certain residue

limits for glyphosate, other countries have different exposure limits that must be adhered to for companies exporting crops. Further, with some countries advocating for a complete ban on glyphosate-containing herbicides, many expect these countries to adopt exposure limits far stricter than the ones in existence in the United States.

In addition, the food industry has thus far only faced lawsuits related to glyphosate alleging deceptive business practices for advertising products as "natural" or "organic" even though they contain some amount of glyphosate. However, there are calls from both citizens and politicians to re-examine the EPA's current permitted "exposure level" for glyphosate. The EPA's current reference dose, or RfD, is 1.75 mg per kg of body weight,[5] which would require an individual to consume large quantities of glyphosate-containing food on a daily basis in order to exceed the RfD.

Should the RfD change, the food industry could face liability if its products exceed a revised RfD level. Importantly, in the context of today's global economy, many U.S.-based food companies export food products to the European Union and other countries. The E.U.'s equivalent for the EPA's RfD is considerably lower (0.3 mg per kg of body weight), so companies that may escape lawsuits in the United States may face litigation in the European Union for glyphosate in food products.

Finally, a number of studies are currently underway to examine whether glyphosate can cause reproductive and developmental effects in both animals and humans. For example, a study released on March 11, 2019, by The Ramazzini Institute concludes that exposure to glyphosate at levels within the EPA's 1.75 mg per kg of body weight RfD were found to have reproductive and developmental effects in rats.

Although the Ramazzini Institute study is but one such report concluding that glyphosate can have developmental or reproductive effects, other studies have reached the opposite conclusion. Nevertheless, with the burgeoning interest in and litigation concerning hormone disruptors and chemicals causing developmental delays in humans, glyphosate litigation may eventually become one of the many aspects of the hormone disruptor of litigation.

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[1] Monsanto Co. manufactured Roundup until June of 2018, when the company was purchased by Bayer AG.

[2] The verdict was later reduced to $78 million, which plaintiff Johnson accepted.

[3] https://www.iarc.fr/wp-content/uploads/2018/07/MonographVolume112-1.pdf

[4] A copy of the complaint can be found here: https://www.courthousenews.com/wp-content/uploads/2018/08/RedMill.pdf

[5] The EPA defines an RfD as "an estimate of the quantity of chemical that a person could be exposed to every day for the rest of their life with no appreciable risk of adverse health effects."