IN THE CIRCUIT COURT OF ST. LOUIS COUNTY
STATE OF MISSOURI

CARL ALESI, *et al.*,	)	
	)	
Plaintiffs,	)	
	)	Cause No. 19SL-CC03617
v.	)	
	)	Division No. 1
MONSANTO COMPANY,	)	
	)	July 22, 2022
Defendant.	)	

ORDER CONCERNING DEFENDANT MONSANTO COMPANY'S MOTIONS TO EXCLUDE EXPERTS

Presently before the Court are Defendant Monsanto Company's ("Monsanto") six separate motions to exclude and accompanying exhibits directed at Plaintiffs' expert witnesses:

1. Monsanto's Motion to Exclude Opinions of Dr. Marc Braunstein and Suggestions in Support;
2. Monsanto's Motion to Exclude Testimony of Dr. Richard DeGrandchamp and Suggestions in Support;
3. Monsanto's Motion to Exclude Opinions of Dr. William R. Sawyer and Suggestions in Support;
4. Monsanto's Motion to Exclude Opinions of David O. Carpenter, M.D. and Suggestions in Support;
5. Monsanto's Motion to Exclude the Opinions of Dr. Joel Joseph Gagnier and Memorandum of Law in Support; and
6. Monsanto's Motion to Exclude Opinions of Charles Benbrook and Suggestions in Support.

On July 20, 2022, the Court conducted a hearing on Monsanto's motions to exclude and other dispositive motions. The Court heard arguments of counsel and reviewed the pleadings and exhibits submitted and took the motions to exclude and other dispositive motions under submission. After careful consideration of the legal briefs, exhibits, and oral arguments, the Court makes the decisions.

I. LEGAL STANDARD

Section 490.065, RSMo, governs admissibility of expert testimony:

> (1) A witness who is qualified as an expert by knowledge, skill, experience, training, or education may testify in the form of an opinion or otherwise if:
>
> (a) The expert's scientific, technical, or other specialized knowledge will help the trier of fact to understand the evidence or to determine a fact in issue;
>
> (b) The testimony is based on sufficient facts or data;
>
> (c) The testimony is the product of reliable principles and methods; and
>
> (d) The expert has reliably applied the principles and methods to the facts of the case . . . .

Sec. 490.065.2, RSMo.

Expert testimony is therefore admissible only if the expert's knowledge "will help the trier of fact to understand the evidence or to determine a fact in issue." *Id.* The testimony must also be the product of reliable methods that are reliably applied to the case's facts.

"Under section 490.065.2, trial courts must act as gatekeepers to ensure that the testimony sought to be admitted ... is not only relevant, but reliable." *Ingham v. Johnson & Johnson*, 608 S.W.3d 663, 700 (Mo. App. E.D. 2020) (internal quotation marks omitted) (quoting *State ex rel. Gardner v. Wright*, 562 S.W.3d 311, 317 (Mo. App. E.D. 2018); *Daubert v. Merrell Dow Pharm., Inc.*, 509 U.S. 579, 589 (1993)). Since this amended version of section 490.065 came into effect in 2017, Missouri courts have used a three-part standard to determine the admissibility of expert opinion testimony: "(1) whether the expert is qualified, (2) whether the testimony is relevant, and (3) whether the testimony is reliable." *State v. Suttles*, 581 S.W.3d 137, 147 (Mo. App. E.D. 2019) (quoting *Jones v. City of Kansas City*, 569 S.W.3d 42, 54 (Mo. Ct. App. 2019), *overruled on other grounds by Wilson v. City of Kansas City*, 598 S.W.3d 888 (Mo. banc 2020)) (citing *State ex rel. Gardner v. Wright*, 562 S.W.3d 311, 319 (Mo. App. E.D. 2018); *Johnson v. Mead Johnson & Co., LLC*, 754 F.3d 557, 561 (8th Cir. 2014)).

As noted by the Supreme Court of Missouri:

> Section 490.065.2 is identical to the Rule 702 of the Federal Rules of Evidence. Where Missouri law adopts language from the Federal Rules of Evidence, federal cases applying those rules are persuasive – though not binding – authority. *State v. Williams*, 548 S.W.3d 275, 285 (Mo. banc 2018). The leading case on Rule 702 is *Daubert v. Merrell Dow Pharms., Inc.*, 509 U.S. 579, 113 S.Ct. 2786, 125 L.Ed.2d 469 (1993), which stressed that Rule 702 is intended to broaden the scope of admissible expert testimony.

State v. Carpenter, 605 S.W.3d 355, 361 n.4 (Mo. banc 2020).

"[R]eliability, under section 490.065.2, is determined by many factors, including those set out in *Daubert*." *Ingham*, 608 S.W.3d at 700 (internal quotation marks omitted) (quoting *State v. Boss*, 577 S.W.3d 509, 517 (Mo. App. W.D. 2019)). Specifically, courts consider the following factors from *Daubert* when determining the reliability of an expert's testimony:

> (1) whether the expert's technique or theory can be or has been tested; (2) whether the technique or theory has been subject to peer review and publication; (3) the known potential error rate of the technique or theory when applied and the existence and maintenance of standards and controls; and (4) whether the technique or theory has been generally accepted in the scientific community.

Id. (quoting *Boss*, 577 S.W.3d at 517; citing *Daubert*, 509 U.S. at 593-94).

While caselaw applying these factors "provide relevant and useful guidance, the *Daubert* factors themselves are not controlling." *Suttles*, 581 S.W.3d at 147.

> The *Daubert* Court described the inquiry trial courts must engage in as "flexible" and cautioned that courts should focus on relevance and reliability while being mindful of the other applicable rules of evidence, including weighing possible prejudice against probative force. *Id.* at 594-95, 113 S.Ct. 2786. The trial court's role as gatekeeper is not intended to serve as a replacement for the adversary system: "Vigorous cross-examination, presentation of contrary evidence, and careful instruction on the burden of proof are the traditional and appropriate means of attacking shaky but admissible evidence." *Id.* at 595, 113 S.Ct. 2786. This is consistent, the Court said, with the "liberal thrust" of the rules and their "general approach of relaxing the traditional barriers to opinion testimony." *Id.* at 588, 113 S.Ct. 2786 (internal quotation marks and citations omitted).

State ex rel. Gardner v. Wright, 562 S.W.3d 311, 317–18 (Mo. App. E.D. 2018). "The proponent of the expert testimony must prove its admissibility by a preponderance of the evidence." *Lauzon v. Senco Prod., Inc.*, 270 F.3d 681, 686 (8th Cir. 2001) (citing *Daubert*, 509 U.S. at 592).

II. DISCUSSION

A. Dr. Marc Braunstein

Dr. Braunstein is a hematologist and oncologist. Plaintiffs have designated Dr. Braunstein to offer opinions on several broad topics, including human cancers, causes of cancer, and causes of non-Hodgkin's lymphoma ("NHL"). In addition, Dr. Braunstein is proffered as a specific causation expert and plans to testify that each trial Plaintiff's NHL was caused by glyphosate and Roundup exposure.

Monsanto argues Dr. Braunstein's opinions do not meet Missouri's admissibility standards and should be excluded in their entirety. Monsanto asserts Dr. Braunstein relied on a small subset of literature to "rule in" Roundup as a potential cause of NHL despite the allegedly common conclusion in human studies that there is no statistically significant increase of NHL after adjustments for the use of other pesticides. Further, Monsanto argues Dr. Braunstein admitted in

his deposition that he could not "rule out" any of the Plaintiffs' other potential risk factors (e.g., Plaintiff Cox's obesity, diabetes, smoking history, family history of lymphoma) or the possibility that Plaintiffs' NHL may be of idiopathic origin (i.e., unknown origin such as random cellular replicative errors).

Plaintiffs respond that Dr. Braunstein's testimony meets the reliability standard under Missouri law and should be admitted. Plaintiffs explain that Dr. Braunstein reached his conclusion that a causal link exists between glyphosate in Roundup and NHL after reviewing relevant medical and scientific literature, including epidemiolocal studies, and thereafter utilizing what are known as the Bradford Hill Criteria.[1] *See* Ex. B attached to Plaintiffs' Resp. to Monsanto's Mot. to Exclude Opinions of Dr. Braunstein, Braunstein Aff. at Attach. A, Dr. Braunstein Cox Report at 11. Dr. Braunstein "conclude[d] to a reasonable degree of medical certainty that Roundup exposure was a significant factor [in] causing or contributing to" Plaintiffs Mary Cox's, Cheryl Davis's, and Gary Gentile's NHL. *See id.* (Cox Report) at 12; *id.* at Attach. B (Gentile Report) at 13; *id.* at Attach. C (Davis Report) at 13. Dr. Braunstein, however, did not render an opinion as to whether Roundup exposure contributed to Plaintiff Roberta Fox's NHL based on Dr. Sawyer's opinion that there was insufficient objective information regarding her exposure.

[1] As explained by the Eastern District of Missouri:

> Developed by Sir Bradford Hill in the 1960s, the criteria are nine factors which researchers often consider when judging whether an observed association is truly causal. The Bradford Hill criteria are: 1) strength of association; 2) consistency; 3) specificity of the association; 4) temporality; 5) dose-response curve; 6) biological plausibility; 7) coherence (with other knowledge): 8) experiment; and 9) analogy.

In re Celexa & Lexapro Prod. Liab. Litig., 927 F. Supp. 2d 758, 765 n.13 (E.D. Mo. 2013) (quoting *In re Neurontin Marketing, Sales Practices, and Prods. Liability Litig.*, 612 F.Supp.2d 116, 132–33 (D. Mass. 2009)).

The Court finds that Plaintiffs have met the threshold requirements under section 490.065.2, RSMo, to present Dr. Braunstein's testimony to the jury in this case. Dr. Braunstein is "qualified as an expert by knowledge, skill, experience, training, or education" as a hematologist and oncologist. *See* sec. 490.065.2(1), RSMo. His opinions are relevant to the issue of specific causation and Plaintiffs have met their burden at this stage of the litigation to show by a preponderance of the evidence that his testimony is reliable. Plaintiffs have shown that Dr. Braunstein used a differential diagnosis to reach his specific causation opinions as to Plaintiffs Cox's, Davis's, and Gentile's NHL.

> "In performing a differential diagnosis, a[n expert] begins by 'ruling in' all scientifically plausible causes of the plaintiff's injury. The [expert] then 'rules out' the least plausible causes of injury until the most likely cause remains." *Glastetter v. Novartis Pharm. Corp.*, 252 F.3d 986, 989 (8th Cir. 2001). "The final result of a differential diagnosis is the expert's conclusion that a defendant's product caused (or did not cause) the plaintiff's injury." *Id.* "[A] medical opinion about causation, based upon a proper differential diagnosis, is sufficiently reliable to satisfy *Daubert.*" *Turner v. Iowa Fire Equip. Co.*, 229 F.3d 1202, 1208 (8th Cir. 2000). "Because a differential diagnosis is presumptively admissible, ... a ... court may exercise its gatekeeping function to exclude only those diagnoses that are scientifically invalid." *Glastetter*, 252 F.3d at 989.

Ingham, 608 S.W.3d at 709. The Missouri Court of Appeals, Eastern District, has clearly stated:

> "A differential diagnosis that fails to take serious account of other potential causes may be so lacking that it cannot provide a reliable basis for an opinion on causation." *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 265 (4th Cir. 1999). "However, '[a] medical expert's causation conclusion should not be excluded because he or she has failed to rule out every possible alternative cause of a plaintiff's illness.' " *Id.*

Id. at 710.

The Eighth Circuit has similarly explained:

> [A] factor commonly applied to the determination of admissibility of an expert opinion is the ability to rule out other possibilities. *Claar,* 29 F.3d at 503 (discussing whether the expert accounts for obvious alternative explanations); *cf. Ambrosini v. Labarraque,* 101 F.3d 129 (D.C.Cir.1996) (stating that the existence of causes not eliminated pertains to weight and not admissibility). Yet, this requirement cannot be carried to a quixotic extreme. Exemplifying this limitation, the U.S. Court of Appeals for the Third Circuit concluded that an " 'expert's causation conclusion should not be excluded because he or she has failed to rule out *every* possible alternative cause." ' *Westberry v. Gislaved Gummi AB,* 178 F.3d 257, 265 (4th Cir.1999) (quoting *Heller v. Shaw Indus., Inc.,* 167 F.3d 146, 156 (3rd Cir.1999)) (emphasis added).

Lauzon, 270 F.3d at 693 (footnote omitted).

Consequently, whether Dr. Braunstein sufficiently "ruled in" or "ruled out" Roundup as a cause of NHL generally or these Plaintiffs' subtypes specifically seems to be properly for the jury to decide.

For these reasons, the Court denies and overrules Monsanto's motion to exclude the testimony of Dr. Braunstein.

B. Dr. Richard DeGrandchamp

Plaintiffs designated Dr. DeGrandchamp to offer opinions on toxicology, exposure, dermal absorption, and risk assessment. During his deposition, however, Plaintiffs' counsel narrowed the topics and withdrew Dr. DeGrandchamp on all topics regarding absorption. For multiple reasons, Monsanto argues Dr. DeGrandchamp should be precluded from testifying as to certain topics.

In their response in opposition to Monsanto's motion directed to the testimony of Dr. DeGrandchamp, Plaintiffs expressly state they will not be calling Dr. DeGrandchamp to testify at trial in the instant matter because he had not had sufficient time to conclude his review of documents and conduct his analysis at the time of his deposition. Accordingly, Plaintiffs request

the Court deny this motion as moot. Monsanto did not file a reply in support of their motion directed at the testimony of Dr. DeGrandchamp.

The Court agrees with Plaintiffs that Monsanto's motion to exclude the testimony of Dr. DeGrandchamp is moot and grants and sustains it as such.

C. Dr. William R. Sawyer

Plaintiffs designated Dr. Sawyer as a toxicology, exposure, dermal absorption, and risk assessment expert. In addition, Dr. Sawyer seeks to offer opinions on general and specific causation.

Monsanto argues his opinions should be excluded in their entirety or, in the alternative, precluded from offering specific areas of testimony. First, Monsanto argues Dr. Sawyer's opinions on general causation should be excluded because he is not qualified to offer these opinions and he did not follow any valid methodology in reaching them. Specifically, Dr. Sawyer testified he did not evaluate any epidemiological, animal, or mechanistic studies to determine whether glyphosate is a carcinogen and relied on cherry-picked epidemiology studies to reach specific causation conclusions for each trial Plaintiff. Further, Monsanto argues Dr. Sawyer should be precluded from testifying about any animal or mechanism studies because he has failed in this and other cases at explaining how such evidence can be properly extrapolated to humans.

Second, Monsanto argues Dr. Sawyer's opinions on specific causation should be excluded because the purported foundation for such specific causation opinions is his flawed comparison of the number of days each Plaintiff allegedly used Roundup to thresholds from six epidemiology studies that he claims demonstrates a person with a certain level of exposure ("exposure days") is *always* at increased risk of developing cancer. As a preliminary matter, Dr. Sawyer did not prepare a report for Plaintiff Fox and expressly stated there was "insufficient evidence to establish a

connection between whatever Roundup she [Fox] used and her NHL" and "didn't feel that there was sufficient objective information for her to move forward as a plaintiff." Moreover, Monsanto argues Dr. Sawyer is not qualified to offer specific causation testimony because he is not an epidemiologist. Monsanto also argues Dr. Sawyer failed to properly "rule in" Roundup as a cause of each Plaintiffs' subtype of NHL and failed to "rule out" the extent each Plaintiffs' genetics or other potential risk factors contributed to their development of cancer. For example, Dr. Sawyer admitted he did not rule out Plaintiff Cox's hypothyroidism and diabetes, Plaintiff Gentile's family history of cancer, and Plaintiff Davis' chronic bronchitis and other prior medical conditions.

Third, Monsanto argues Dr. Sawyer should be precluded from offering testimony based on a single flawed mouse study (the George, J., et al., (2010) carcinogenicity study, referred to as the "George Study"), which he did not conduct, that claimed to show Roundup "promoted" cancer development. According to Monsanto, that study has been rejected as inadequate for scientific analysis and Dr. Sawyer has failed to extrapolate the flawed results to cancer development in humans.

Fourth, Monsanto argues Dr. Sawyer's opinions should be excluded as they relate to his claims that trace levels of certain chemicals are carcinogenic and caused or contributed to the development of Plaintiffs' cancer because there is no scientific evidence of causation linking these trace chemicals to cancer at doses remotely comparable to those at issue here.

Lastly, Monsanto argues Dr. Sawyer should be precluded from testifying about Monsanto documents, regulatory duties, and the sufficiency of the Roundup label because such testimony is generally beyond the realm of proper expert testimony and is specifically outside of Dr. Sawyer's expertise.

Accordingly, Monsanto requests the Court exclude Dr. Sawyer's opinions in their entirety. In the alternative, Monsanto argues Dr. Sawyer should not be permitted to testify on the following topics:

- General Causation – that Roundup generally is capable of causing cancer in humans;
- Specific Causation – that Roundup caused or contributed to Plaintiffs' cancer;
- Cancer promotion based on the flawed George Study – that Roundup is capable of "promoting" cancer and did "promote" Plaintiffs' cancer;
- Trace Ingredients in Roundup – that trace ingredients in Roundup contribute to any alleged cancer risk posed by Roundup; and
- Monsanto company documents, regulatory duties, and the sufficiency of the Roundup label.

Plaintiffs respond that Dr. Sawyer's testimony meets the reliability standard under Missouri law and should be admitted. Plaintiffs argue Dr. Sawyer's general causation opinions are admissible because he applied the Bradford Hill Criteria and relied on and independently analyzed epidemiological, mechanistic, and animal studies including the George Study – which Plaintiffs contend Dr. Sawyer's report sufficiently addresses how to apply animal studies to humans. Plaintiffs argue Dr. Sawyer relied on such studies to conclude that three of the four trial Plaintiffs (Cox, Gentile, and Davis) had an increased risk of development of NHL due to their exposure to Roundup. Dr. Sawyer considered other chemical, environmental, and occupational exposures and other factors (e.g., medical and family history; age; alcohol, tobacco, and drug use) for each trial Plaintiff but found they did not outweigh the risk from Roundup exposure.

With regard to the other specific topics Monsanto seeks to exclude, Plaintiffs expressly acknowledge Dr. Sawyer will not be testifying about trace chemicals in this case. Plaintiffs, however, reject Monsanto's suggestion that an expert like Dr. Sawyer may not testify about the sufficiency of warning labels.

The Court finds that Plaintiffs have met the threshold requirements under section 490.065.2, RSMo, to present Dr. Sawyer's testimony to the jury in this case. Dr. Sawyer is "qualified as an expert by knowledge, skill, experience, training, or education" as a toxicologist with master's degrees in cellular and molecular biology. *See* sec. 490.065.2(1), RSMo. Numerous courts in other jurisdictions have likewise found Dr. Sawyer was qualified to give expert opinions in other Roundup litigation, including a judge in the Circuit Court of the City of St. Louis. *See* Order, *Wade v. Monsanto Co.*, No. 1722-CC00370 (22nd Cir. Ct. Mo., Jan. 21, 2020). His opinions are relevant to the issue of general and specific causation and Plaintiffs have met their burden at this stage of the litigation to show by a preponderance of the evidence that his testimony is reliable.

Plaintiffs have shown that Dr. Sawyer applied the Bradford Hill Criteria and properly relied on epidemiological studies. Missouri courts are "mindful that an '[e]xpert opinion partially based on other expert opinion is not necessarily inadmissible."]'" *Otwell v. Treasurer of Missouri*, 634 S.W.3d 850, 859 (Mo. App. E.D. 2021) (quoting *Garrett v. Treasurer of State of Mo. as Custodian for Second Injury Fund*, 215 S.W.3d 244, 249 (Mo. App. S.D. 2007)).

"Merely because an expert relied on information and opinions of others does not automatically disqualify his testimony[;] [a]s long as such sources serve only as a background for his opinion and are not offered as independent substantive evidence ... he should not be precluded

from testifying." *Id.* (alterations and omission in original) (quoting *Peterson v. Nat'l Carriers, Inc.*, 972 S.W.2d 349, 354 (Mo. App. W.D. 1998).

Here, Dr. Sawyer's reliance on studies by other experts and organizations, such as the International Agency for Research on Cancer ("IARC"), meets the standard for admissibility. Furthermore, Monsanto's arguments about how Dr. Sawyer interpreted and applied animal studies to reach his conclusion about glyphosate's effect in humans goes towards the weight of his testimony rather than its admissibility and can be property addressed via cross-examination. As explained above, whether an expert like Dr. Sawyer sufficiently "ruled in" or "ruled out" Roundup as a cause of NHL generally or these Plaintiffs' subtypes specifically goes to the weight of the expert's testimony and not admissibility. *See Ingham*, 608 S.W.3d at 710; *Lauzon*, 270 F.3d at 693.

For these reasons, the Court grants and sustains Monsanto's motion to exclude Dr. Sawyer in part to prohibit him from offering testimony concerning the following topics:

- Dr. Sawyer is precluded from offering medical causation opinions at trial for any of the Plaintiffs in this case, as stipulated by Plaintiffs on page 19 of their response memorandum.
- Dr. Sawyer is precluded from offering testimony that trace ingredients in Roundup contribute to any alleged cancer risk posed by Roundup, as stipulated by Plaintiffs on page 31 of their response memorandum.
- Dr. Sawyer is precluded from offering testimony concerning Monsanto company documents, regulatory duties, and the sufficiency of the Roundup label.

In all other aspects, the Court denies and overrules Monsanto's motion to exclude directed at Dr. Sawyer.

Specifically, Dr. Sawyer may testify that Plaintiffs Cox's, Gentile's, and Davis's exposure to Roundup was above the threshold values in the dose-metric studies placing them at a statistically significant increased risk of developing NHL. Furthermore, Dr. Sawyer may testify about his use of the George Study.

D. Dr. David O. Carpenter

Plaintiffs designated Dr. Carpenter to offer opinions on neurotoxicity, cellular biology, molecular biology, as well as how exposure to herbicides can cause cancer in humans. Further, Dr. Carpenter seeks to testify about the causative link between glyphosate and cancer and specifically seeks to testify about a report which he co-authored discussing the differences of opinion between the evaluations of the IARC and the European Safety Authority ("EFSA") of the carcinogenicity of glyphosate.

Monsanto argues Dr. Carpenter's opinions do not meet Missouri's admissibility standards and should be excluded. First, Monsanto argues Dr. Carpenter is not qualified to testify regarding his "plausibility" opinion that glyphosate or Roundup causes NHL in humans. Dr. Carpenter holds a medical degree and is a public health physician, but he is not licensed to practice medicine in this or in any other state, has never treated a patient with NHL, and his extremely limited experience with glyphosate includes a generalized introductory course about environmental health. Rather, his experience is largely related to entirely distinct chemicals, polychlorinated biphenyls ("PCBs") that have no bearing on glyphosate. Second, Monsanto argues Dr. Carpenter's testimony is not logically or legally relevant to this case. In short, Monsanto assert's Dr. Carpenter's opinions do not show that glyphosate or Roundup are any more likely the causes of Plaintiffs' cancers than any other potential cause. Moreover, Dr. Carpenter believes that all people are exposed to a background level of glyphosate in food such that all people have elevated PCB

level in their blood serum – meaning, he cannot determine whether any Plaintiffs' NHL was caused by glyphosate (or PCBs) with any level of certainty. Lastly, Monsanto argues Dr. Carpenter's methodology is unreliable because he is not basing his opinions on any epidemiological studies. Accordingly, Monsanto requests the Court exclude Dr. Carpenter's opinions in their entirety.

Plaintiffs argue Dr. Carpenter's testimony meets the requirements of section 490.065.2, RSMo. They argue Dr. Carpenter's long career – which includes voluminous publications and peer-reviewed literature on relevant topics and involvement with IARC – qualifies him as an expert. Plaintiffs contend Dr. Carpenter used his education, training, and experience when reviewing relevant scientific and mechanistic literature on biological plausibility. Plaintiffs further assert Dr. Carpenter's testimony directly on biological plausibility will show exposure to glyphosate on a cellular level creates oxidative stress that causes DNA damage. He would also testify how that process, if enough mutations have occurred, result in cancer cells (i.e., carcinogenesis).

The Court finds that Plaintiffs have met the threshold requirements under section 490.065.2, RSMo, to present Dr. Carpenter's testimony to the jury in this case. Dr. Carpenter is qualified to give expert testimony in this case. As explained above, an expert may properly rely on information and opinions from other experts "[a]s long as such sources serve only as a background for his opinion and are not offered as independent substantive evidence." *Otwell,* 634 S.W.3d at 859 (alteration in original) (quoting *Peterson*, 972 S.W.2d at 354). Dr. Carpenter's reliance on studies by other experts and organizations, such as IARC, meets the standard for admissibility.

Plaintiffs stated the following when designating Dr. Carpenter as an expert in this case:

> Dr. Carpenter is designated to testify on the topics of neurotoxicology, cellular biology and molecular biology generally, and specifically about how exposure to herbicides, including Roundup, can affect human cells on a molecular level and cause carcinogenesis and cancer. He will also offer testimony concerning the mechanisms through which glyphosate and glyphosate-based formulations induce oxidative stress and cause genotoxicity. *Dr. Carpenter will further testify about the existing medical and scientific literature examining a causative link between glyphosate and cancer.*

Pls.' Designation of Expert Witnesses at 4 (emphasis added).

The Court finds that Dr. Carpenter's testimony on neurotoxicology, cellular and molecular biology generally "will help the trier of fact to understand the evidence or to determine a fact in issue." *See* sec. 490.065.2(1)(a), RSMo. However, he testified in his deposition that "[did not] know the full answer" to whether Roundup or glyphosate causes NHL but noted he "[has] some hypotheses." Carpenter Dep. 76:21-77:20. This is insufficient for an expert to offer testimony on causation. *See Rosen v. Ciba-Geigy Corp.*, 78 F.3d 316, 319 (7th Cir. 1996) ("[T]he courtroom is not the place for scientific guesswork, even of the inspired sort. Law lags science; it does not lead it."). Additionally, the Court finds that allowing Dr. Carpenter to testify in any way concerning PCBs – an entirely different chemical compound than the one at issue in this case – has a likelihood to confuse the jury. Accordingly, he should be precluded from mentioning PCBs.

For these reasons, the Court grants and sustains Monsanto's motion to exclude the testimony of Dr. Carpenter in part to prohibit him from offering testimony concerning the following topics:

- Dr. Carpenter is precluded from offering any general or specific causation testimony concerning Roundup or glyphosate and NHL.
- Dr. Carpenter is precluded from mentioning PCBs specifically although he may testify generally concerning biological mechanisms as they relate to other chemical compounds.

In all other aspects, the Court denies and overrules Monsanto's motion to exclude directed at Dr. Carpenter.

E. Dr. Joel Joseph Gagnier

Plaintiffs have designated Dr. Gagnier to give opinion testimony on general causation. Dr. Gagnier is a clinical epidemiologist and former naturopathic doctor.

For multiple reasons, Monsanto, argues Dr. Gagnier's opinions do not meet Missouri's admissibility standards and should be excluded. First, Monsanto argues Dr. Gagnier fails to present any opinion or conclusion linking Roundup exposure to the specific NHL subtypes affecting Plaintiffs. Monsanto cites extra-jurisdictional caselaw to argue:

> [I]n a toxic tort case, expert testimony on the issue of general causation meets *Daubert*'s 'fit' requirement only if the testimony includes an opinion that (1) exposure to the particular substance at issue, (2) in the dose to which the plaintiff was exposed, (3) for the duration in which plaintiff was exposed, (4) can cause the particular condition(s) of which the plaintiff complains.

Amorgianos v. Nat'l R.R. Passenger Corp., 137 F Supp. 2d 147, 163 (E.D.N.Y. 2001), *aff'd*, 303 F.3d 256 (2d Cir. 2002). In his deposition, Dr. Gagnier did not know what subtypes of NHL the four trial Plaintiffs have. Second, Monsanto argues Dr. Gagnier's opinions should be excluded because he uses an unscientific and unreliable methodology to reach his conclusion that glyphosate causes NHL. Specifically, Monsanto complains Dr. Gagnier's causation analysis failed to apply the Bradford Hill Criteria and merely reviewed and evaluated the studies that he had included in his meta-analyses when determining an *association* between glyphosate and NHL, not *causation*. Further, Monsanto argues Dr. Gagnier cherry-picked data that agreed with his litigation-driven opinions without giving sufficient justifications for including some data and excluding others. Lastly, Monsanto argues Dr. Gagnier's opinions are unreliable because he failed to use data that was adjusted for exposure to other pesticides even though he admitted that adjusting for other

pesticides was appropriate. Consequently, Monsanto requests the Court exclude Dr. Gagnier's opinions in their entirety.

Plaintiffs respond that Dr. Gagnier is undeniably qualified as an expert based on his education and training as an epidemiologist. They argue he properly reviewed the most recent meta-analysis and systematic reviews related to the causal relationship between glyphosate and NHL before conducting his own meta-analysis. Plaintiffs assert Dr. Gagnier's meta-analysis showed those exposed to glyphosate at any point in their life showed a statistically significant increased risk for NHL between 15% and 25% and that those exposed to glyphosate at the highest levels of exposure showed an increased risk of NHL between 38% and 42%.

The Court finds that Plaintiffs have met the threshold requirements under section 490.065.2, RSMo, to present Dr. Gagnier's testimony to the jury in this case. He is "qualified as an expert by knowledge, skill, experience, training, or education" as a clinical epidemiologist. *See* sec. 490.065.2(1), RSMo. The fact that Dr. Gagnier did not know the specific subtypes of NHL each Plaintiff has is not dispositive as Monsanto concedes NHL is an umbrella term and Plaintiffs have designated Dr. Gagnier to testify about general causation rather than specific causation. Monsanto's other arguments (e.g., not adjusting for exposure to other pesticides) relate to the *weight* the fact finder should give to his opinions rather than their *admissibility*. As noted above, whether an expert "failed to rule out *every* possible alternative cause" goes to weight and not admissibility. *Lauzon*, 270 F.3d at 693 (emphasis in original) (quoting *Westberry v. Gislaved Gummi AB*, 178 F.3d 257, 265 (4th Cir.1999)).

Monsanto's complaint about Dr. Gagnier's not following the Bradford Hill criteria is not a sufficient basis for a motion to exclude. As one Missouri federal court has explained:

> Although the Bradford Hill criteria may be a tool for determining whether an epidemiological study establishes causation, *see In re Neurontin*, 612 F.Supp.2d at 133, it is by no means required and "in the context of a general causation challenge, failure to satisfy the Bradford Hill criteria does not doom admission under *Daubert*." *Id.* (citing *In re Viagra Prods. Liab. Litig.*, 572 F.Supp.2d 1071, 1081 (D.Minn.2008)). Therefore, whether [a challenged expert] did or did not use the Bradford Hill criteria will not determine the admissibility of his opinions . . . .

In re Celexa & Lexapro Prod. Liab. Litig., 927 F. Supp. 2d 758, 766 (E.D. Mo. 2013).

For these reasons, the Court grants and sustains Monsanto's motion to exclude the testimony of Dr. Gagnier in part to prohibit him from offering testimony concerning the type of lymphoma which any individual plaintiff has. In all other aspects, the Court denies and overrules Monsanto's motion to exclude directed at Dr. Gagnier and orders he be permitted to testify that those exposed to glyphosate at any point in their life showed a statistically significant increased risk for NHL in general and not as to the specific cancers of Plaintiffs.

F. Dr. Charles Benbrook

Plaintiffs designated Dr. Benbrook, an agricultural economist, to offer opinions on several broad topics, primarily relating to the regulation and labeling of glyphosate-based herbicides ("GBH") and Monsanto's corporate conduct.

For various reasons, Monsanto argues Dr. Benbrook's opinions should be expressly limited in specific ways. Monsanto's first main argument is that Dr. Benbrook is not qualified to offer expert testimony in this case. While he has a degree in agricultural economics, he is not a scientist, a lawyer, or a pesticide regulator such as to make him an expert on Monsanto's legal, regulatory, or ethical obligations, or its compliance with U.S. Environmental Protection Agency ("EPA") registration or labeling requirements. Furthermore, Monsanto argues Dr. Benbrook lacks any

qualifications to testify about the proper interpretation of Monsanto documents or to draw inferences from those documents to opine on Monsanto's state of mind, motives, and intent.

Next, Monsanto argues Dr. Benbrook should be precluded from narrating or summarizing Monsanto's documents or offering opinions about Monsanto's intent, motives, or state of mind. According to Monsanto, an expert simply reading or summarizing documents for the jury is not providing helpful testimony because the jury is capable of reading those documents and reaching conclusions about them on its own. Relatedly, Monsanto argues Dr. Benbrook should be precluded from speculating about the EPA's motive, intent, or state of mind related to Monsanto and Roundup.

Next, Monsanto argues Dr. Benbrook's opinions about Monsanto's ethical obligations or compliance should be excluded despite his statement in his deposition that is "an expert in honesty." According to Monsanto, any claim that Monsanto violated federal law and EPA regulations is preempted as EPA itself has the sole power to determine whether its regulations are followed.

Lastly, Monsanto argues Dr. Benbrook should be precluded from testifying about what he believes Monsanto could or should have done differently, including what warnings or labeling might have been accepted by the EPA. As other courts have found, Dr. Benbrook lacks the qualifications necessary to opine about what warnings should have been included under EPA regulations or what warnings EPA may or may not have accepted. *See* Exs. 5 and 6.

Plaintiffs argue Dr. Benbrook is qualified to give expert testimony in this case. They note his prior testimony on these subjects in other Roundup litigation and before Congress as well as his work with multiple governmental entities. Specifically, Plaintiffs quote at length in their response memorandum from reports he authored as Staff Director for the U.S. House of

Representatives Subcommittee on Department Operations, Research and Foreign Agriculture ("DORFA") and later as Executive Director of the Board of Agriculture, National Research Council, for the National Academy of Science, as well as related congressional testimony. Plaintiffs further contend Dr. Benbrook's proposed testimony would assist the jury in understanding the voluminous documents that have been produced in this case.

The Court finds that Plaintiffs have met the threshold requirements under section 490.065.2, RSMo, to present Dr. Benbrook's testimony to the jury in this case. The Court acknowledges that Dr. Benbrook has been excluded from offering similar testimony numerous times by multiple courts. *See* Monsanto's Motion to Exclude Opinions of Benbrook, Exs. 2 and 4 (U.S. District Court for the Northern District of California, 2019); Ex. 3 (California Superior Court, Alameda County, 2019); Ex. 5 (California Superior Court, San Francisco County, 2018); Ex. 6 (California Superior Court, Contra Costa County, 2020).

Specifically, several courts have limited Dr. Benbrook's testimony to the general framework of the EPA regulatory decision-making process and explicitly excluded his testimony regarding topics that include the following: whether Monsanto complied with its legal obligations on registration matters; whether there was a common law standard of regulatory care or stewardship care different from the regulations themselves; whether Monsanto complied with a regulatory standard on registration matters; whether the EPA would have approved an amendment to the Roundup label; whether Monsanto misled the EPA; Monsanto's motive, intent, or state of mind; and/or the industry standard of care on warnings. *See* Exs. 3 and 5.

On the other hand, a 2020 Order by St. Louis City Circuit Judge Elizabeth B. Hogan denied Monsanto's motion to exclude Dr. Benbrook's opinions in their entirety – although Monsanto asserts here that it did not so claim. Ex. 7, Order, *Wade v. Monsanto Co.*, No. 1722-CC00370 (Mo. Cir. Ct. City of St. Louis, Jan. 21, 2020).

Dr. Benbrook has not been designated to offer expert testimony concerning whether glyphosate and Roundup cause NHL. Rather, Plaintiffs seek to offer his testimony on topics related to pesticide regulation. While his experience may be useful in helping the jury understand what EPA and other regulations say, he may not testify about whether Monsanto complied with such rules and regulations. That is solely the province of the jury. *See Bryant v. Bryan Cave LLP*, 400 S.W.3d 325, 334 (Mo. App. E.D. 2013) ("Expert testimony is properly excluded as to issues where the jury is as capable as the expert in drawing conclusions because the expert opinion would not assist the trier of fact."). Furthermore, once the jury is presented with the facts and testimony concerning alleged causal links between glyphosate and Roundup causes NHL, it will be the jury's determination whether glyphosate and Roundup causes NHL generally and Plaintiffs' NHL specifically.

For these reasons, the Court grants and sustains Monsanto's motion to exclude the testimony of Dr. Benbrook in part to prohibit him from offering testimony concerning the following topics:

- Dr. Benbrook is precluded from offering testimony regarding whether Monsanto followed EPA rules.
- Dr. Benbrook is precluded from offering testimony regarding Monsanto corporate documents.

- Dr. Benbrook is precluded from offering testimony regarding Monsanto's intent, motives, or state of mind, including any interpretation of documents that allegedly infer knowledge or intent.
- Dr. Benbrook is precluded from offering testimony regarding the EPA's intent or what it would have done.
- Dr. Benbrook is precluded form offering testimony on whether Monsanto complied with EPA rules.
- Dr. Benbrook is precluded from offering testimony on the sufficiency of Roundup's label.

In all other aspects, the Court denies and overrules Monsanto's motion to exclude directed at Dr. Benbrook. Specifically, Dr. Benbrook may testify about the following topics:

- Dr. Benbrook may testify as to what EPA regulations say.
- Dr. Benbrook may testify as to what Monsanto did as a matter of fact.
- Dr. Benbrook may testify as to the pesticide regulatory scheme and pesticide industry standards of care assuming there are recognized industry standards.
- Dr. Benbrook may testify as to what information Monsanto shared with the public.
- Dr. Benbrook may testify as to the differences between the genotoxicity datasets evaluated by EPA and IARC but may not offer his opinion that the organizations' positions are diametrically opposite.
- Dr. Benbrook may testify as to what Monsanto's corporate practices actually are, but he may not testify as to what he thinks they should be.
- Dr. Benbrook may testify about the history of Roundup.

While the Court will permit Dr. Benbrook to read what EPA rules say, he may not offer any narration or his opinion on whether Monsanto followed the EPA rules. If the Court finds this testimony has no value, it may stop Dr. Benbrook at any time.

III. CONCLUSION

WHEREFORE, for the reasons stated above, the Court make the following rulings:

1. Monsanto's Motion to Exclude the Opinions of Dr. Marc Braunstein is **DENIED AND OVERRULED**.
2. Monsanto's Motion to Exclude Testimony of Dr. Richard DeGrandchamp is **GRANTED AND SUSTAINED AS MOOT**.
3. Monsanto's Motion to Exclude Opinions of Dr. William R. Sawyer is **GRANTED AND SUSTAINED IN PART** to prohibit him from offering testimony concerning the following topics:
    - Dr. Sawyer is precluded from offering medical causation opinions at trial for any of the Plaintiffs in this case, as stipulated by Plaintiffs on page 19 of their response memorandum.
    - Dr. Sawyer is precluded from offering testimony that trace ingredients in Roundup contribute to any alleged cancer risk posed by Roundup, as stipulated by Plaintiffs on page 31 of their response memorandum.
    - Dr. Sawyer is precluded from offering testimony concerning Monsanto company documents, regulatory duties, and the sufficiency of the Roundup label.

In all other aspects, Monsanto's motion to exclude directed at Dr. Sawyer is **DENIED AND OVERRULED IN PART**. Specifically, Dr. Sawyer may testify that Plaintiffs Cox's, Gentile's, and Davis's exposure to Roundup was above the threshold values in the dose-metric studies placing them at a statistically significant increased risk of developing NHL. Furthermore, Dr. Sawyer may testify about his use of the George Study.

4. Monsanto's Motion to Exclude Opinions of David O. Carpenter, M.D. is **GRANTED AND SUSTAINED IN PART** to prohibit him from offering testimony concerning the following topics:

    - Dr. Carpenter is precluded from offering any general or specific causation testimony concerning Roundup or glyphosate and NHL.
    - Dr. Carpenter is precluded from mentioning PCBs specifically although he may testify generally concerning biological mechanisms as they relate to other chemical compounds.

    In all other aspects, Monsanto's motion to exclude directed at Dr. Carpenter is **DENIED AND OVERRULED IN PART**.

5. Monsanto's Motion to Exclude the Opinions of Dr. Joel Joseph Gagnier is **GRANTED AND SUSTAINED IN PART** to prohibit him from offering testimony concerning the type of lymphoma which any individual plaintiff has. In all other aspects, Monsanto's motion to exclude directed at Dr. Gagnier is **DENIED AND OVERRULED IN PART.** Specifically, Dr. Gagnier may testify that those exposed to glyphosate at any point in their life showed a statistically significant increased risk for NHL in general and not as to the specific cancers of Plaintiffs.

6. Monsanto's Motion to Exclude Opinions of Charles Benbrook is **GRANTED AND SUSTAINED IN PART** to exclude the testimony of Dr. Benbrook in part to prohibit him from offering testimony concerning the following topics:

    - Dr. Benbrook is precluded from offering testimony regarding whether Monsanto followed EPA rules.
    - Dr. Benbrook is precluded from offering testimony regarding Monsanto corporate documents.
    - Dr. Benbrook is precluded from offering testimony regarding Monsanto's intent, motives, or state of mind, including any interpretation of documents that allegedly infer knowledge or intent.
    - Dr. Benbrook is precluded from offering testimony regarding the EPA's intent or what it would have done.
    - Dr. Benbrook is precluded form offering testimony on whether Monsanto complied with EPA rules.
    - Dr. Benbrook is precluded from offering testimony on the sufficiency of Roundup's label.

    In all other aspects, Monsanto's motion to exclude directed at Dr. Benbrook is **DENIED AND OVERRULED IN PART**. Specifically, Dr. Benbrook may testify about the following topics:

    - Dr. Benbrook may testify as to what EPA regulations say.
    - Dr. Benbrook may testify as to what Monsanto did as a matter of fact.
    - Dr. Benbrook may testify as to the pesticide regulatory scheme and pesticide industry standards of care assuming there are recognized industry standards.

- Dr. Benbrook may testify as to what information Monsanto shared with the public.
- Dr. Benbrook may testify as to the differences between the genotoxicity datasets evaluated by EPA and IARC but may not offer his opinion that the organizations' positions are diametrically opposite.
- Dr. Benbrook may testify as to what Monsanto's corporate practices actually are, but he may not testify as to what he thinks they should be.
- Dr. Benbrook may testify about the history of Roundup.

While the Court will permit Dr. Benbrook to read what EPA rules say, he may not offer any narration or his opinion on whether Monsanto followed the EPA rules. If the Court finds this testimony has no value, it may stop Dr. Benbrook at any time.

SO ORDERED:


July 22, 2022

_____

Hon Brian H. May
Circuit Judge, Division 1