In the
Missouri Court of Appeals
Western District

DANIEL ANDERSON,	)	
JIMMY DRAEGER AND	)	
BRENDA DRAEGER,	)	
VALORIE GUNTHER,	)	
	)	**WD87059**
Respondents,	)	
	)	**OPINION FILED:**
V.	)	**MAY 27, 2025**
	)	
MONSANTO COMPANY,	)	
	)	
Appellant.	)	

Appeal from the Circuit Court of Cole County, Missouri
The Honorable Daniel Green, Judge

Before Special Division: Cynthia L. Martin, Presiding Judge, W. Douglas Thomson, Judge and Joseph M. Ellis, Special Judge

Monsanto Company ("Monsanto") appeals from the trial court's final judgments in favor of Daniel Anderson ("Anderson"), Jimmy Draeger ("Draeger"), Brenda Draeger ("Mrs. Draeger"), and Valorie Gunther ("Gunther")[1] following the entry of jury verdicts in favor of the Plaintiffs on claims of strict liability-design defect, strict liability-failure to warn, and negligence. The central issue in the case was whether glyphosate, an

[1]Anderson, Draeger, and Gunther are at times collectively referred to as "Plaintiffs." Mrs. Draeger's claim in this case was for loss of consortium, which is derivative of Draeger's personal injury claims. Where it is necessary to discuss Mrs. Draeger's loss of consortium claim, we refer to her specifically.

ingredient in Roundup, an herbicide manufactured and sold by Monsanto, caused Plaintiffs to develop non-Hodgkin's lymphoma ("NHL"). Monsanto raises multiple claims of error. After carefully reviewing the voluminous record on appeal and the relevant law, we conclude that Monsanto has not established reversible error with respect to any of its points on appeal. The trial court's judgments are affirmed.

Factual and Procedural History

On March 22, 2022, Draeger and Mrs. Draeger filed a petition against Monsanto in the Circuit Court of Cole County ("trial court") which alleged that Draeger developed NHL as a result of using Roundup to manage the weeds on Draeger's property in Missouri. On May 5, 2022, Anderson and Gunther separately filed petitions against Monsanto in the trial court. Anderson's petition alleged that he was diagnosed with NHL when he was thirty-two after the regular use of Roundup over the course of a decade to prevent weeds on his father's property in California. Gunther's petition alleged that she was diagnosed with NHL after nearly forty years of using Roundup to prevent and kill weeds on various properties she owned in New York.

The Plaintiffs filed a motion to consolidate the cases, which was granted over Monsanto's objection. The cases were set for trial in October 2023.[2]

[2]Marty Hay and his wife Lori Hay also filed a petition against Monsanto in the trial court on January 28, 2022, in which they alleged that Hay was diagnosed with NHL after using Roundup over thousands of acres of row crops. The Hays' case was also consolidated with the Plaintiffs' cases. However, the Hays voluntarily dismissed their claims against Monsanto without prejudice on July 24, 2023.

As trial preparations progressed, the parties filed dozens of pre-trial motions, including numerous motions in limine and motions to exclude expert testimony. On August 8, 2023, Monsanto filed a motion seeking the appointment of special masters to assist the trial court in resolving all of the pre-trial motions, and suggested two individuals with prior experience in Roundup litigation in other Missouri courts. The Plaintiffs did not oppose the appointment of special masters but suggested the appointment of different persons. On September 6, 2023, the trial court entered an order appointing two special masters of its own choosing. Pursuant to Rule 68.01(g), the trial court ordered the special masters to review and hear argument on all pending pre-trial motions, and to issue reports reflecting recommended rulings.[3] The special masters ultimately issued ten reports and recommendations.

Trial commenced on October 23, 2023. Following jury selection and opening statements, the trial court heard arguments outside the presence of the jury on the parties' objections to the recommendations set forth in several of the special masters' reports. Despite the objections, the trial court adopted the recommendations set forth in eight of the special masters' reports at that time, and adopted the recommendations in the remaining two special masters' reports on the day the consolidated cases were submitted to the jury.

The Plaintiffs' case-in-chief presented evidence to establish three claims: (1) strict liability due to Monsanto's failure to warn customers of the risk of using Roundup

[3]All rule references are to *Missouri Court Rules, Volume I -- State, 2023* unless otherwise indicated.

because its ingredient, glyphosate, causes cancer; (2) strict liability due to Monsanto's defective design of Roundup because its ingredient, glyphosate, causes cancer; and (3) negligence due to Monsanto's failure to use ordinary care to design Roundup to be reasonably safe or to adequately warn of the risk of harm posed by the use of Roundup given the capability of its ingredient, glyphosate, to cause cancer. In addition, Mrs. Draeger submitted evidence to support her claim for loss of consortium as a result of Draeger's personal injuries.

Monsanto's case-in-chief focused primarily on evidence that glyphosate, the primary active ingredient in Roundup, had been determined by the Environmental Protection Agency ("EPA") not to pose a risk to human health. Following Plaintiffs' rebuttal evidence, and closing arguments, the case was submitted to the jury in the early afternoon on November 17, 2023. The jury returned its verdicts later that same evening after deliberating for less than eight hours.

The jury found in favor of the Plaintiffs and against Monsanto on each of the three personal injury claims submitted, and in favor of Mrs. Draeger on her claim for loss of consortium. The jury assessed damages as follows: (1) with respect to Anderson, $38 million in compensatory damages and $500 million in punitive damages; (2) with respect to Draeger, $5.6 million in compensatory damages and $500 million in punitive damages; (3) with respect to Mrs. Draeger, $100,000 in compensatory damages; and (4) with respect to Gunther, $17.5 million in compensatory damages and $500 million in punitive

damages. The trial court signed judgments on November 21, 2023,[4] in accordance with the jury's verdicts.

On December 21, 2023, Monsanto filed several post-trial motions, including a motion for judgment notwithstanding the verdicts, a motion for new trial, and a motion for remittitur. The trial court ruled on Monsanto's post-trial motions on March 15, 2024. The trial court denied Monsanto's motion for judgment notwithstanding the verdicts and motion for new trial. With respect to Monsanto's motion for remittitur, the trial court granted the motion in part, remitting the punitive damage awards to $342 million for Anderson, $50.4 million for Draeger, and $157.5 million for Gunther, with the remitted awards representing approximately nine times the amount awarded each Plaintiff in compensatory damages. On that same day, the trial court entered final judgments reflecting the jury's verdicts, with reduced punitive damage awards ("Judgments").

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[4]The judgments were signed by the trial court on November 21, 2023. "A judgment is entered when a writing signed by the judge and denominated 'judgment' . . . is ***filed***." Rule 74.01(a) (emphasis added). Though signed on November 21, 2023, the judgments were not file-stamped and entered into Case.net until December 5, 2023.

Rule 43.02(b) defines "filing" of pleadings or other papers as to contemplate them being "filed" with a judge, who "shall note thereon the filing date and forthwith transmit them to the office of the clerk." In *Coffer v. Wasson-Hunt*, 281 S.W.3d 308, 310 (Mo. banc 2009), our Supreme Court concluded a judgment is "filed" when it is signed by a judge and forwarded to the court clerk, because to hold otherwise would conflict with Rule 43.02(b) and the basic principle that a "judgment derives its force from the court's judicial act and not from the ministerial act of its entry upon the record." (Quoting *State v. Collins*, 154 S.W.3d 486, 492-293 (Mo. App. W.D. 1989).)

Here, it is not clear from the record whether the judgments in this case were forwarded by the trial court to the court clerk immediately after they were signed. It is thus not clear whether the initial judgments were entered when they were signed by the trial judge, or when they were file-stamped and entered on the docket. *See Kinnaman-Carson v. Westport Ins. Corp*., 283 S.W.3d 761, 763 n.2 (Mo. banc 2009) (noting, but not resolving, a similar situation).

Monsanto appeals. Additional facts and procedural history will be addressed as relevant to the discussion of Monsanto's points on appeal.

Analysis

Monsanto presents seven points on appeal. Three of Monsanto's points challenge the trial court's admission of evidence (Points One, Two, and Three). Three of Monsanto's points challenge the trial court's rulings on Monsanto's post-trial motions involving the amount of the punitive damage awards (Points Four, Five, and Six). Monsanto's remaining point challenges the trial court's rejection of its defense that the Federal Insecticide, Fungicide, and Rodenticide Act ("FIFRA")[5] expressly or impliedly preempts the Plaintiffs' claims against Monsanto (Point Seven). We address the points in turn, or collectively where appropriate.

Point One: The trial court did not abuse its discretion in permitting the Plaintiffs' expert witness to testify about a judicial decision that addressed EPA reports relied on by Monsanto to contend that glyphosate has been scientifically determined not likely to cause cancer because the testimony was not categorically inadmissible or prejudicial as argued by Monsanto, and alternatively, was logically relevant and was not demonstrated to be so prejudicial in its entirety as to render it not legally relevant

Monsanto's first point on appeal asserts that the trial court erred in permitting the Plaintiffs to "introduce expert testimony about a legal decision from the Ninth Circuit[] because judicial opinions and expert testimony about them are plainly inadmissible in Missouri." Monsanto's first point further alleges that the "plainly inadmissible" expert testimony about the Ninth Circuit judicial decision "misled and confused the jury and usurped the trial court's role."

[5]7 U.S.C.A. section 136 *et seq.* (Westlaw through Pub. L. No. 119-4).

Point One alleges trial court error that is subject to review for abuse of discretion. *Dalbey v. Heartland Reg'l Med. Ctr.*, 621 S.W.3d 36, 45 (Mo. App. W.D. 2021). That is because a trial court has "considerable discretion" in determining whether to exclude or admit evidence. *Marcantonio v. Bd. of Curators of Lincoln Univ.*, 702 S.W.3d 153, 170 (Mo. App. W.D. 2024) (quoting *Rhoden v. Mo. Delta Med. Ctr.*, 621 S.W.3d 469, 484 (Mo. banc 2021)). A trial court abuses its discretion if its ruling "is 'clearly against the logic of the circumstances then before the court and is so unreasonable and arbitrary that it shocks the sense of justice and indicates a lack of careful, deliberate consideration.'" *Dalbey*, 621 S.W.3d at 45-46 (quoting *Cox v. Kansas City Chiefs Football Club, Inc.*, 473 S.W.3d 107, 114 (Mo. banc 2015)). Not all trial court error in the admission or exclusion of evidence warrants relief, however. *Gordon v. Monsanto Co.*, 702 S.W.3d 506, 510 (Mo. App. E.D. 2024). Even if a trial court abuses its discretion in admitting or excluding evidence, the trial court's judgment will not be reversed unless the appellant establishes that the error was prejudicial. *Shuttlewagon, Inc. v. Higgins*, 628 S.W.3d 185, 200 (Mo. App. W.D. 2021). To be prejudicial, the error in admitting or excluding evidence must be "outcome determinative" because it "materially affect[ed] the merits of the action." *Piers v. Dep't of Corr.*, 688 S.W.3d 65, 73 (Mo. App. W.D. 2024) (quoting *Mansil v. Midwest Emergency Med. Servs., P.C.*, 554 S.W.3d 471, 475 (Mo. App. W.D. 2018)).

Monsanto's claim of error in Point One involves the testimony of Professor T.M. ("Law Professor"), who was identified as an expert witness by the Plaintiffs on the subject of the EPA's regulatory process. His anticipated testimony was expected to cover

several subjects, including the EPA's regulatory system, as set forth in FIFRA, for registering herbicides like Roundup; the registration history for glyphosate; the role of the judicial opinion issued in *Natural Resources Defense Council v. U.S. Environmental Protection Agency*, 38 F.4th 34 (9th Cir. 2022) ("NRDC Opinion") in the EPA's glyphosate registration process; and the manner in which Monsanto had acted over time to influence the EPA's glyphosate registration reports.

A. Monsanto's pre-trial efforts to exclude all of Law Professor's testimony and all evidence involving the NRDC Opinion

Prior to trial, Monsanto filed two motions related to the NRDC Opinion and to Law Professor's anticipated testimony. First, Monsanto filed a motion to exclude Law Professor's anticipated testimony in its entirety. The motion to exclude argued that Law Professor was not qualified as an expert with respect to any of the subjects about which he was expected to testify; that even if qualified as an expert, Law Professor's anticipated testimony about the NRDC Opinion was legally and factually wrong and constituted inadmissible legal conclusions masquerading as expert opinions; and that Law Professor's anticipated testimony about products other than Roundup would be irrelevant and unduly prejudicial. The Plaintiffs countered Monsanto's motion to exclude, arguing that Law Professor's testimony provided context for understanding Roundup's current registration status; that Monsanto's experts would not be providing an accurate or complete explanation of the EPA's registration of glyphosate; that expert testimony about complex regulatory matters is routinely permitted; and that Law Professor's opinions about the NRDC Opinion were accurate. In an amended eighth report addressing all pre-trial

motions to exclude expert testimony, the special masters recommended the denial of Monsanto's motion to exclude Law Professor's testimony, except with respect to discussion of products other than Roundup. Despite objections filed by Monsanto, the trial court entered an order on October 24, 2023, adopting the amended special masters' eighth report. During trial, Monsanto repeated its objections relating to the inadmissibility of Law Professor's testimony before Law Professor testified. The trial court denied Monsanto's objections and reiterated its intention to stand by its adoption of the amended special masters' eighth report.

Though Monsanto's motion to exclude Law Professor's testimony raised several arguments, the only argument raised in Point One on appeal is whether, notwithstanding Law Professor's established expertise, Law Professor's testimony about the NRDC Opinion was inadmissible.

Second, Monsanto filed a motion in limine ("motion in limine number 22") that broadly sought to exclude all argument, evidence, or testimony about the NRDC Opinion. Monsanto argued that the NRDC Opinion is a narrow administrative decision that has no bearing on any issue in the case as the decision did not affect Roundup's registration or approval with the EPA; that the NRDC only vacated a single EPA document--the 2020 Glyphosate Interim Registration Decision ("2020 Interim Decision"), which Monsanto did not intend to introduce at trial; and that if admitted, the NRDC decision would mislead the jury and prejudice Monsanto. The Plaintiffs countered Monsanto's motion in limine number 22 by arguing that the NRDC Opinion vacated the 2020 Interim Decision because the decision's finding that glyphosate is "not likely to be carcinogenic" was not

supported by substantial evidence as the hazard descriptor was arrived at in a manner that was inconsistent with the EPA's Guidelines for Carcinogen Risk Assessment ("Cancer Guidelines"); and that prohibiting the Plaintiffs from providing the jury with a complete picture of the glyphosate registration process would prejudice the Plaintiffs. In an amended seventh report addressing all pre-trial motions in limine, the special masters recommended the denial of Monsanto's motion in limine number 22. Despite objections and an extensive bench brief filed by Monsanto, the trial court entered an order on October 24, 2023, adopting the amended special masters' seventh report. At trial, Monsanto repeated its arguments about the inadmissibility of any discussion of the NRDC Opinion on multiple occasions. On each occasion, the trial court repeated its intention to stand by its ruling adopting the amended special masters' seventh report.

Though Monsanto's motion in limine number 22 objected to the admission of any argument, evidence, or testimony about the NRDC Opinion, the only issue Monsanto raises in its first point on appeal involves Law Professor's testimony about the NRDC Opinion.

B. Monsanto improvidently argues that judicial opinions are categorically inadmissible

Monsanto's first point on appeal frames the trial court's error in admitting Law Professor's testimony in absolute, categorical terms. Monsanto contends that the trial court abused its discretion in permitting Law Professor to testify about the NRDC Opinion because "judicial opinions and expert testimony about them are plainly inadmissible in Missouri." Monsanto repeats this categorical contention in the argument

portion of its Brief when it claims that "Missouri law is clear and is consistent with the 'consensus among courts' nationwide: Judicial opinions have no place in a jury trial." [Appellant's Brief, pp. 37-38] But, Monsanto does not cite a single case that holds that judicial opinions are categorically inadmissible in a jury trial. Instead, as we explain, though judicial opinions and statements have "special potency" which should be considered in determining their admissibility, they are not categorically inadmissible as urged by Monsanto.

We considered the admissibility of judicial writings in *Gamble v. Browning*, 379 S.W.3d 194 (Mo. App. W.D. 2012). In *Gamble*, the plaintiff in a malicious prosecution suit sought to admit a trial court order that set aside his conviction for burglary and permitted the plaintiff to withdraw his guilty plea. *Id.* at 196. The order "made numerous findings which would be helpful to Gamble's litigation" of the malicious prosecution suit. *Id.* at 198. The trial court excluded the order from evidence and instead read the jury a stipulation indicating that a trial court had permitted the plaintiff to withdraw his guilty plea and that a prosecutor had terminated the prosecution against the plaintiff. *Id.* The plaintiff asserted on appeal that it was error to exclude the trial court order because it was both logically and legally relevant to establish that criminal proceedings had been resolved in the plaintiff's favor. *Id.* at 201.

We concluded that the trial court did not abuse its discretion in finding that the order, though logically relevant, was not legally relevant and was thus inadmissible. *Id.* at 202. We noted that, with respect to the admission of judicial opinions or statements, Missouri follows the general consensus:

> Courts are generally hesitant to admit other judicial opinions or statements into evidence, even when relevant, because "judicial findings of fact present a rare case where, by virtue of their having been made by a judge, they would likely be given undue weight by the jury, thus creating a serious danger of unfair prejudice.

Id. at 203 (quoting *Cardinal v. Buchnoff*, No. 06CV0072-MMA(BLM), 2010 WL 3339509, at *2 (S.D. Cal. Aug. 23, 2010)). We noted that the jury had already been informed by the trial court's stipulation that the criminal proceedings had been resolved in the plaintiff's favor. *Id*. at 202. Under those circumstances, we observed that "admission of [the trial court order allowing the plaintiff to withdraw his guilty plea] would have presented a significant danger that the jury would have abdicated its fact-finding role [on the issue of malicious prosecution], instead deferring to the judge's findings in the earlier proceeding." *Id.* at 203.

Contrary to the position taken by Monsanto at trial and in its first point on appeal, *Gamble* did not hold that judicial opinions are "plainly inadmissible," or that "[j]udicial opinions have no place in a jury trial." Instead, *Gamble* recognized that judicial opinions and statements are subject to the same logical and legal relevance framework applicable to determining the admissibility of all evidence. *Id.* at 202-03. In other words, just like any other evidence, judicial opinions or statements are admissible if they are both logically and legally relevant. *Dalbey*, 621 S.W.3d at 46.

> Evidence is logically relevant if it makes the existence of any fact that is of consequence to the determination of the action more probable or less probable than it would be without the evidence. Legal relevance . . . refers to the balance between the probative value and the prejudicial effect of the evidence. That balancing requires the trial court to weigh the probative value, or usefulness, of the evidence against its costs, specifically the dangers of unfair prejudice, confusion of the issues, undue delay,

> misleading the jury, waste of time, or needless presentation of cumulative evidence. If the prejudicial effect of the evidence outweighs its probative value, then the evidence is not relevant and should be excluded.

Id. (quoting *Brummett v. Burberry, Ltd.*, 597 S.W.3d 295, 303-04 (Mo. App. W.D. 2019)). Certainly, *Gamble* noted the peculiar risk of prejudice that can attach to judicial opinions that may support a trial court's exclusion of a judicial opinion, despite its logical relevance. But *Gamble* did not hold, as Monsanto argues, that judicial opinions have no place in a jury trial and are categorically inadmissible because their admission misleads the jury and usurps the trial court's role.

Gamble is not alone in concluding that judicial opinions are not categorically inadmissible. As recognized by the Tenth Circuit, "[t]he guiding principle . . . in admitting what we might call 'judicial' evidence is that, notwithstanding its special potency, it must be treated like any other evidence." *MCC Mgmt. of Naples, Inc. v. Int'l Bancshares Corp.*, 468 F. App'x 816, 824 (10th Cir. 2012). "There is no bright-line rule against its admission." *Id.* In fact, cases addressing the use or admission of judicial opinions reach varied results, but always after application of the traditional analytical framework for determining whether evidence is logically and legally relevant. *See, e.g.*, *J.C.M. v. J.K.M.*, 573 S.W.3d 672, 688-89 (Mo. App. S.D. 2019) (distinguishing *Gamble* to hold that previously entered dissolution judgments were logically relevant to the issues in an action claiming interference with custodial rights and false imprisonment of children, and were not demonstrated to be so prejudicial as to be not legally relevant); *Williams v. Trans States Airlines, Inc.*, 281 S.W.3d 854, 874 (Mo. App. E.D. 2009) (holding in a retaliatory discharge case that it was not an abuse of discretion for the trial

court to exclude a federal court opinion granting summary judgment in favor of the employer on similar claims asserted by another employee, although the employer was permitted to generally introduce evidence that the other employee's charge of retaliatory discharge had been dismissed by the federal court), *overruled on separate grounds by Wilson v. City of Kansas City*, 598 S.W.3d 888 (Mo. banc 2020); *U.S. Steel, LLC, v. Tieco, Inc.*, 261 F.3d 1275 (11th Cir. 2001) (holding that admission of a state-court opinion dismissing criminal charges against a company into evidence in a federal court malicious prosecution action was unfairly prejudicial because the opinion included factual findings on the essential elements of a malicious prosecution claim, and thus on the same ultimate facts the jury was charged with deciding).

We therefore reject the essential premise of Monsanto's first point on appeal that Law Professor's testimony about the NRDC Opinion was categorically inadmissible because judicial opinions have no place in a jury trial, a legal contention for which Monsanto cites no authority and that is in diametric opposition to settled authority. Monsanto's reliance on a bright-line rule to urge that the trial court abused its discretion because judicial opinions are categorically inadmissible is at the expense of ignoring the proper analytical framework for determining if evidence is logically relevant, and if so, whether it is nonetheless inadmissible because it is not legally relevant.

It is true that in the argument portion of its Brief, Monsanto summarily alleges that the NRDC Opinion "did not address any issue in this case," and was nothing more than an assessment of whether the EPA "complied with the Administrative Procedure Act . . . with respect to a single document--the [2020 Interim Decision] related to glyphosate . . . .

in light of earlier agency guidelines." [Appellant's Brief, p. 40] Convinced that its characterization of the NRDC Opinion is unassailable, Monsanto thus argues that Law Professor's testimony about the NRDC Opinion "falsely describ[ed] the scope and impact of that decision on critical defense evidence in the case" and "flatly mischaracterized the scope of that holding." [Appellant's Brief, pp. 41, 44].

However, Monsanto did not advance these arguments tethered to meaningful analysis about whether testimony about the NRDC Opinion was logically relevant, and if so, whether it should nonetheless be excluded because its probative value was outweighed by its prejudicial effect. Instead, Monsanto's conclusory arguments were advanced to support the other categorical proposition set forth in Monsanto's first point on appeal--that by permitting "plainly inadmissible" testimony about the NRDC Opinion into evidence, the trial court committed reversible error because testimony about judicial decisions misleads the jury and usurps the role of the trial court. But, we have already explained that the admission of judicial opinions is not categorically improper, and thus, that the admission of judicial opinions does not categorically mislead the jury or usurp the trial court's role.

This court's appellate review is necessarily constrained to the claims of error raised in an appellant's points relied on. Rule 84.04(d)(1)(B) required Monsanto to "[s]tate concisely the legal reasons for [its] claim of reversible error" in its first point on appeal. Monsanto's point relied on does not claim trial court error because evidence that was not logically relevant was admitted, or because evidence that was logically relevant should nonetheless have been excluded because it was not legally relevant. Though the

argument portion of an appellant's brief cannot permissibly exceed the scope of the point relied on (Rule 84.04(e)), even the argument portion of Monsanto's Brief in support of its first point relied on is devoid of any discussion of the settled framework that should have been applied to determine whether Law Professor's testimony about the NRDC Opinion was logically and legally relevant. Instead, the argument supporting Monsanto's first point on appeal is primarily generalized, conclusory, and self-prophesizing in nature, replete with self-serving, but not self-proving, statements characterizing the NRDC Opinion to be unrelated to any issue in the case, and declaring Law Professor's testimony to be false and a flat mischaracterization of the NRDC Opinion.

However, even if Monsanto's first point on appeal, and the arguments in support of the point, are generously read to claim trial court error in admitting evidence that was not logically relevant, or that was nonetheless not legally relevant, we would not find, after reviewing the voluminous trial record, that the trial court abused its discretion in permitting Law Professor to testify about the NRDC Opinion.[6]

C. Law Professor's testimony about the NRDC Opinion was logically relevant

Here, after being certified as an expert witness, Law Professor provided a brief description of the EPA's regulatory system, as set forth in FIFRA, for registering

[6]Our ruling is limited to the specific facts and circumstances of this case, and must be viewed through the lens of our appellate review, which requires us to determine whether the trial court abused its discretion in admitting evidence, a determination that is necessarily influenced by the trial record. This Opinion should not be read as a categorical declaration that expert witness testimony about the NRDC Opinion is admissible in similar cases, or as a categorical declaration that a trial court's decision to exclude evidence about the NRDC Opinion is an abuse of discretion.

herbicides like Roundup. Law Professor explained that the standard for registration is that the product will not "show unreasonable adverse effects on the environment," which includes human health. Law Professor set forth a timeline of glyphosate's registration history: (1) glyphosate's original registration was approved in 1974; (2) the EPA classified glyphosate as a possible human carcinogen in 1985 after examining two new studies; (3) in 1993, the EPA changed the classification of glyphosate to not likely to be carcinogenic; (4) pursuant to amendments to FIFRA, the EPA initiated a required registration review of glyphosate, a process that can take more than a decade, in 2009; (5) the EPA convened a scientific advisory panel in 2016 to advise the EPA about the registration renewal of glyphosate; (6) on December 12, 2017, the EPA issued a draft human health risk assessment of glyphosate ("2017 Human Health Risk Assessment"), and a revised glyphosate issue paper evaluating glyphosate's carcinogenic potential ("2017 Cancer Paper"); and (7) in early 2020, the EPA issued the 2020 Interim Decision supporting re-registration of glyphosate.[7] None of this testimony is challenged by Monsanto on appeal. None of this testimony involved the NRDC Opinion.

Later in his testimony, Law Professor expressed opinions based on his experience that the EPA had been heavily influenced by Monsanto over the years in reaching the

[7]The 2020 Interim Decision was not required by FIFRA, which did not require a final decision on registration review to be issued by the EPA until October 1, 2022. However, the revised FIFRA guidelines authorized the EPA to issue an interim decision, which it elected to do in accordance with 40 CFR sections 155.56 and 155.58. An interim review decision, if issued, "may require new risk mitigation measures, impose interim risk mitigation measures, identify data or information required to complete the review, and include schedules for . . . completing the registration review." 40 C.F.R. section 155.56.

conclusions it had about the appropriateness of registering glyphosate. None of this testimony is challenged by Monsanto on appeal. None of this testimony involved the NRDC Opinion.

Law Professor was asked during his testimony about the NRDC Opinion, though the NRDC Opinion was not itself offered into evidence. Instead, Law Professor was asked to read excerpts from the NRDC Opinion and was then asked questions about the excerpts:

> Q. Would you read [the paragraph following III]?
>
> A. We first consider Rural Coalition's challenge to [the] EPA's conclusion that glyphosate poses, quote, no risks to human health, end of quote. That conclusion rests an important part on [the] EPA's determination explaining in [the 2017 Cancer Paper] -- that's that paper we talked about, that issue paper. The Court refers to that as a cancer paper. It says, explained in this cancer paper that glyphosate -- and this is a quote -- that glyphosate is not likely to be carcinogenic to humans, end of quote. Rural Coalition contests the cancer paper's reasoning, primarily arguing that [the] EPA contravened the [Cancer Guidelines] -- that's those . . . cancer guidelines -- they purported to follow. We agree.
>
> . . . .
>
> Q. Did the [Ninth Circuit] explain why it came to hold that belief?
>
> A. [Law Professor described substantial-evidence review as an evaluation of whether the evidence supports the agency's conclusion and whether the agency's reasoning is coherent and consistent.]
>
> Q. Did the [Ninth Circuit] say anything with respect to the EPA's assessment of the human studies, the epidemiological studies?
>
> A. Yes. It had a problem with the -- in [the 2017 Cancer Paper's] assessment. The problem was that the cancer paper ultimately having looked at the epidemiological study that indicated that there was an association or cause-effect relationship between glyphosate exposure and cancer in the people, and in particular [NHL], and of the studies that didn't see that association. And at the end of the day, the [2017 Cancer Paper]

said it cannot be determined whether glyphosate causes cancer on the basis of these studies. The [Ninth Circuit] said, well, that's not robust for determining that it's not likely to cause cancer. That's not really a robust -- if you just say, we can't decide, that's not robust support for that conclusion.

. . . .

Q. Could you read [the paragraph under section B]?

A. The analysis underpinning [the] EPA's not like -- quote, not likely, end of quote, descriptor is also flawed in various other ways. [The] EPA relies on two main propositions to support its chosen hazard descriptor, but neither withstands scrutiny under the agency's own framework.

Q. So it says [the] EPA relied on two propositions. What was the first of those?

A. Well, it was that these animal studies did not show a relationship between exposure to glyphosate and the -- and tumors in the animals. . . .

Q. And what was the second proposition that [the] EPA relied on?

A. . . . . [T]his has to do with the maximum tolerated dose. . . .

Q. So you're saying the EPA ignored those altogether?

A. Didn't consider them.

Q. Do the [Cancer Guidelines] require considering it?

A. The [Cancer Guidelines] require considering all of the available evidence. . . .

. . . .

Q. Would you read [the] first two sentences [of section C]?

A. For these reasons [the] EPA's choice of a hazard descriptor is not supported by substantial evidence. Despite [the] EPA's repeated invocation of its cancer guidelines, the interim decision fails to abide by those guidelines. Inconsistent reasoning, quote, is, comma, absent explanation, comma, the hallmark of arbitrary action, end of quote.

. . . .

> Q. Would you read the first two sentences [of the third paragraph of section C]?
>
> A. Based on these considerations, we vacate the human health portion of [the 2020 Interim Decision] and remand for further analysis and explanation.
>
> Q. Keep going.
>
> A. The first factor clearly weighs in favor of vacatur.
>
> . . . .
>
> Q. The next sentence, please.
>
> A. [The] EPA's errors in assessing human health risks are serious.

Monsanto's Brief summarily characterizes all of Law Professor's testimony as "false" and a "flat mischaracterization" of the NRDC Opinion. Monsanto's Brief also summarily argues that the NRDC Opinion "did not address any issue in this case," and only evaluated a "single document," the 2020 Interim Decision. However, our review of the NRDC Opinion and the record reveals that Monsanto's conclusory assertions are not accurate. To explain our conclusion, we begin by discussing the NRDC Opinion.

Following the EPA's 2020 Interim Decision, two groups of plaintiffs--one led by Rural Coalition and another led by Natural Resources Defense Council ("NRDC")--filed petitions seeking judicial review. *Nat. Res. Def. Council*, 38 F.4th at 44. Rural Coalition challenged the EPA's conclusion in the 2020 Interim Decision that glyphosate "poses no risks to human health."[8] *Id.* at 45. Rural Coalition asserted that the 2020 Interim

[8]NRDC's challenges to the EPA's conclusions related to ecological impacts of glyphosate that are not relevant to the Plaintiffs' personal injury claims. *See Nat. Res. Def. Council*, 38 F.4th at 44. Law Professor did not testify about the NRDC's challenges, or about the NRDC Opinion's resolution of those challenges.

Decision's conclusion regarding the carcinogenic risk of glyphosate is based on reasoning in the 2017 Cancer Paper, which itself did not follow the regulations promulgated by the EPA that delineate the process for reviewing the registration of products subject to the FIFRA (the "Cancer Guidelines").[9] *Id.* at 45, 40 (citing 40 C.F.R. sections 155.23-155.58). Rural Coalition argued that the 2020 Interim Decision was not supported by substantial evidence because the EPA relied on the 2017 Cancer Paper, which itself did not follow the Cancer Guidelines. *Id.* at 40, 44.

The NRDC Opinion explained that prior to issuance of the 2020 Interim Decision, the EPA had released "a draft human-health risk assessment [the 2017 Human Health Risk Assessment], and an updated and final paper about glyphosate's carcinogenic potential [the 2017 Cancer Paper]." *Id.* at 42. The NRDC Opinion explained that "[i]n the draft risk assessment, [the] EPA concluded that glyphosate poses no serious human-health risks," and that "glyphosate should be classified as 'not likely to be carcinogenic to humans.'" *Id.* The NRDC Opinion then noted that this conclusion was "explained in the

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[9]After explaining that the purpose of the 2005 Cancer Guidelines is to set forth the process by which the EPA is to conduct registration review, the Ninth Circuit described the Cancer Guidelines as follows:

> The regulations require [the] EPA to assess any new information regarding risks to human health and the environment that has emerged since [the] EPA last issued a registration decision for a pesticide to verify that the pesticide continues to satisfy the FIFRA safety standard. *See, e.g.*, [40 C.F.R. sections] 155.40, 155.53(a). The process concludes with a registration review decision, which conveys "the Agency's determination whether a pesticide meets, or does not meet," the FIFRA safety standard. *Id.* [section] 155.57.

Nat. Res. Def. Council, 38 F.4th at 40.

[2017] Cancer Paper." *Id.* The NRDC Opinion then found the following with respect to the 2020 Interim Decision:

> In January 2020, [the] EPA issued an Interim Registration Review Decision for glyphosate [the 2020 Interim Decision]. The [2020] Interim Decision had three main components. First, the [2020] Interim Decision announced that the earlier draft human-health and ecological risk assessments were now final [which included the 2017 Human Health Risk Assessment]--with no changes from those drafts. In summarizing the [the 2017 Human Health Risk Assessment], the [2020] Interim Decision explained that the agency "determined that there are no risks to human health from the current registered uses of glyphosate and that glyphosate is not likely to be carcinogenic to humans." The [2020] Interim Decision directed readers to the [2017 Human Health Risk Assessment] and the [2017] Cancer Paper for additional information. According to [the] EPA, there were "[n]o additional human health data needs" for glyphosate's registration review.

Id. at 43. A plain reading of these observations in the NRDC Opinion establishes that the draft 2017 Human Health Risk Assessment had become final with no changes, and that the conclusion it reached, along with the identical conclusion in the 2017 Cancer Paper, provided the scientific support on which the EPA relied to issue the 2020 Interim Decision, as the EPA stated in the 2020 Interim Decision that there were no additional human health needs required to complete registration review.

The 2017 Cancer Paper concluded that glyphosate is "not likely" to cause cancer, a hazard descriptor that the Cancer Guidelines use when the "available data are considered ***robust*** for deciding that there is no basis for human hazard concern." *Id.* at 46 (emphasis added). The NRDC Opinion held that classifying glyphosate as "not likely" to cause cancer in the 2017 Cancer Paper conflicted with an earlier statement made in the same paper that "a conclusion regarding the association between glyphosate exposure and risk of NHL cannot be determined based on the available evidence." *Id.* The NRDC Opinion

concluded that the EPA, according to its own Cancer Guidelines which it purported to follow, "cannot reasonably treat its inability to reach a conclusion about NHL risk as consistent with a conclusion that glyphosate is 'not likely' to cause cancer." *Id.* at 46-47. The NRDC Opinion also concluded that the 2017 Cancer Paper failed to follow the EPA's Cancer Guidelines in other respects: (1) the EPA used "historical-control data selectively"; (2) the EPA relied on a "lack of pairwise statistical significance" failing "to account coherently for the evidence of statistical significance from trend tests"; and (3) the EPA "disregard[ed] tumor results occurring at high dosages" that far exceed the "typical human-exposure levels." *Id.* at 47-50.

Because the EPA did not follow its Cancer Guidelines, the NRDC Opinion deemed the EPA's description of glyphosate as "not likely" to cause cancer unsupported by substantial evidence. *Id.* at 51. Accordingly, the NRDC Opinion vacated "the human-health portion of [the] EPA's [2020] Interim Decision and remand[ed] for further analysis and explanation." *Id.* at 52.

Monsanto claims that the NRDC Opinion does not address any issue in this case. The record belies this assertion. Before Law Professor testified as the Plaintiffs' ***last*** witness in their case-in-chief, Dr. D. F., a doctor of philosophy with a discipline in anatomy and cell biology, was called as the Plaintiffs' ***first*** witness in their case-in-chief. Dr. D. F. began working at Monsanto in 1991, and was still working for Monsanto at the time of trial.[10] On cross-examination by Monsanto, Dr. D. F. testified that as a part of her

[10]Although we do not address Dr. D. F.'s direct examination here, her testimony about Monsanto's efforts to control the narrative about glyphosate's association with

job with Monsanto, she stays "abreast of the EPA's written decisions" on the potential carcinogenicity of glyphosate and Roundup. Dr. D. F. was asked on cross-examination about the draft 2017 Human Health Risk Assessment. She confirmed that the subject of the 2017 Human Health Risk Assessment was "in support of registration review." At that point, Monsanto's exhibit 12633, the draft 2017 Human Health Risk Assessment, was admitted into evidence. Dr. D. F. was then asked to read from the 2017 Human Health Risk Assessment, and in particular, to read the EPA's penultimate conclusion "that glyphosate should be classified as not likely to be carcinogenic to humans." Plainly, Monsanto was relying on the EPA's draft 2017 Human Health Risk Assessment to support its contention that it was not liable to the Plaintiffs on their personal injury claims because scientific evidence prepared by the EPA established that glyphosate was not carcinogenic.

On re-direct, the Plaintiffs confronted Dr. D. F. with prior deposition testimony where she admitted that the 2017 Cancer Paper (which explained the 2017 Human Health Risk Assessment and repeated the same conclusion as that reached in the 2017 Human Health Risk Assessment) had been incorporated into the 2020 Interim Decision. Dr. D. F. was then asked to identify Plaintiffs' exhibit 1454, an authenticated EPA memorandum dated September 21, 2022, addressing the EPA's withdrawal of the 2020 Interim Decision. Dr. D. F. confirmed that the EPA's memorandum announced that the NRDC Opinion "vacated and remanded the human health portion of the EPA's [2020 Interim

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human health risks is discussed in detail in connection with Monsanto's fifth point on appeal addressing the punitive damage awards.

Decision] for glyphosate." In a discussion about withdrawal of the 2020 Interim Decision, the EPA's memorandum noted that:

> Although the glyphosate [2020 Interim Decision] is now vacated in part and the remainder withdrawn, that does not automatically mean that [the] EPA's underlying scientific findings regarding glyphosate, including its finding that glyphosate is not likely to be carcinogenic to humans, are either incorrect or cannot be used as support for a future decision following reconsideration in accordance with the [NRDC Opinion].

That statement is, in fact, consistent with the NRDC Opinion, which made clear that it was vacating the 2020 Interim Decision and "remand[ing] for further analysis and explanation," in part because "no disruptive consequences will result from vacating the human-health portion of the [2022] Interim Decision because that portion simply maintained the status quo," *Nat. Res. Def. Council*, 38 F.4th at 52, and noting that the existing "FIFRA deadline to complete glyphosate's registration review by October 2022 is a sufficient backstop." *Id.* at 59.

During Monsanto's re-cross-examination of Dr. D. F., Monsanto admitted exhibit 13179 into evidence. Dr. D. F. identified exhibit 13179 as a printout from the EPA's website discussing glyphosate, discussing the 2020 Interim Decision's conclusion that glyphosate is unlikely to be a human carcinogen, and discussing the NRDC Opinion's vacatur of the human health portion of the 2020 Interim Decision. And, at the conclusion of Dr. D. F.'s testimony, Defendant's exhibit 12637, the 2017 Cancer Paper, was also admitted into evidence.

Though Monsanto objected at trial to the admission of Plaintiffs' exhibit 1454 and to Dr. D. F.'s testimony about the exhibit, it has not claimed trial court error related to the

admission of either on appeal. Nor could it have effectively done so. Once Dr. D. F. testified about the conclusion reached in the 2017 Human Health Risk Assessment, the scientific integrity of the conclusion became eligible for attack.

In light of Dr. D. F.'s testimony, and the exhibits admitted into evidence during Dr. D. F.'s testimony, it is plain that the aforesaid testimony by Law Professor was logically relevant to an issue in this case. Monsanto introduced the 2017 Human Health Risk Assessment and the 2017 Cancer Paper during Dr. D. F.'s cross-examination in order to rely on the conclusion reached by the EPA about glyphosate's carcinogenic properties in an effort to shield itself from liability for the Plaintiffs' claims that their use of Roundup caused NHL. The NRDC Opinion vacated the 2020 Interim Decision because it relied on the scientific conclusion reached by the EPA in the 2017 Human Health Risk Assessment and in the 2017 Cancer Paper, and because that scientific conclusion was not supported by substantial evidence, as it was arrived at in a manner that did not align with the EPA's Cancer Guidelines. The scientific integrity of the EPA's glyphosate hazard descriptor was squarely at issue in this case.

We conclude that even if Monsanto's point on appeal is generously interpreted to claim trial court error in admitting evidence that was not logically relevant, we would not find the contention to be meritorious.

D. The prejudicial impact of Law Professor's testimony about the NRDC Opinion did not so outweigh the probative value of the testimony as to render the testimony not legally relevant

We reach the same conclusion with respect to legal relevance. Even if Monsanto's point on appeal is generously interpreted to claim trial court error in admitting otherwise

logically relevant evidence that was nonetheless not legally relevant, we would not find the contention to be meritorious.

In its first point on appeal, Monsanto argues that admission of Law Professor's testimony about the NRDC Opinion constituted reversible error because the testimony misled the jury and usurped the trial court's role. In developing this contention in the argument portion of its Brief, Monsanto first emphasizes the importance to its defense of the EPA's scientific conclusions regarding the lack of an association between glyphosate and human carcinogenic risk, and complains that "[a]ll of that evidence was undercut by [the Plaintiffs'] use of a purported 'expert' to testify about a judicial decision from another court." [Appellant's Brief, p. 40] This argument ignores that, for the reasons we have already explained, the propriety of Monsanto's reliance on the conclusions expressed by the EPA in the 2017 Human Health Risk Assessment and the 2017 Cancer Paper was at issue. Those conclusions, which served as the foundational underpinning for the 2020 Interim Decision, were declared to be not supported by substantial evidence because they were reached after the EPA disregarded protocols and parameters in the EPA's Cancer Guidelines. Though Monsanto repeatedly and correctly emphasizes that the NRDC Opinion did not foreclose the EPA from publicly assuring that it continued to possess confidence in the conclusion expressed in the 2017 Human Health Risk Assessment and the 2017 Cancer Paper, that argument misses the point. The NRDC Opinion concluded that *as of the time of the 2020 Interim Decision,* the EPA's conclusion in the 2017 Human Health Risk Assessment and the 2017 Cancer Paper was not supported by substantial evidence. The NRDC Opinion thus remanded the registration process to permit the EPA,

to the extent it intended to incorporate the same conclusion in the final registration review due to be filed by October 2022, to better demonstrate that the conclusion is supported by substantial evidence. Though Law Professor's testimony about the NRDC Opinion undercut Monsanto's reliance on the EPA's 2017 Reports to deny liability, that does not render the testimony inadmissible because its prejudicial impact outweighed its probative value. Prejudicial impact for purposes of determining admissibility explores whether evidence is unfairly prejudicial, would confuse or mislead, would waste time, or would be unduly cumulative, and not whether the evidence is effective for the purpose for which it is being offered.

Moreover, by the time Law Professor testified, the jury had already heard about the NRDC Opinion, about the NRDC Opinion's vacatur of the 2020 Interim Decision, about the 2020 Interim Decision's incorporation of, at a minimum, the 2017 Cancer Paper, and about the EPA's withdrawal of the 2020 Interim Decision because of its vacatur. Monsanto did not argue at trial that because the import of the NRDC Opinion was already in evidence through the testimony of Dr. D. F., Law Professor's testimony on the same subject should be excluded as unduly cumulative. *See, e.g.*, *MCC Mgmt. of Naples, Inc.*, 468 F. App'x at 824 (noting that where possible the "preferable method of introducing [judicial evidence] is through one familiar with the . . . litigation"). Having failed to make that objection, Monsanto cannot now complain that it was prejudiced by that portions of Law Professor's testimony that were cumulative of Dr. D. F.'s testimony. *Martin v. Mercy Hosp. Springfield*, 516 S.W.3d 403, 406 (Mo. App. S.D. 2017) (holding

that prejudicial error does not exist when the complained-of evidence was cumulative to other properly admitted evidence).

Monsanto also argues that Law Professor "falsely describe[ed] the scope and impact of [the NRDC Opinion] on critical defense evidence in the case." [Appellant's Brief, p. 41] Monsanto complains in particular about the following testimony from Law Professor:

> Q. Can you tell us the result of this decision as it relates to the 2017 Human Health Risk Assessment?
>
> A. Well, along with the vacation or vacating of the interim regulatory review decision, it's vacating the documents we relied on.
>
> . . . .
>
> Q. What did [the] EPA do as a result of the [NRDC Opinion]?
>
> A. It withdrew the human health aspect of the interim regulatory review decision and it decided to go ahead and withdraw[] all of it. And--
>
> Q. When you say all of it, all of the portions of the registration?
>
> A. Including the endangered species aspects of it and environmental aspects, as well as the human health aspects of it.
>
> . . . .
>
> Q. Do you have any reaction to the suggestion to this jury that they should rely on one of the papers or decisions that was rendered during this registration review?
>
> . . . .
>
> A. I don't think you can rely on it. It's been vacated. Basically what the [Ninth Circuit] has told [the] EPA to do is go back and start over again. You need to look at the science. You need to compare it with the 2005 cancer [guidelines]. You need to go back to square zero and redo this.
>
> . . . .

> Q. Professor, you've stated that your opinion is that in light of the Ninth Circuit's opinion, that all of the documents that were part of this 2009 registration review have been voided. Do you hold that opinion to a reasonable degree of professional certainty regarding regulatory processes?
>
> A. Yes.

It is generally true that a legal expert will not be permitted to give legal opinions that are based on an incorrect understanding of the law. *See, e.g., Loeffel Steel Prods., Inc. v. Delta Brands, Inc.*, 387 F. Supp. 2d 794, 806 (N.D. Ill. 2005) ("Expert opinions that are contrary to law are inadmissible. They cannot be said to be scientific, to be reliable, or to be helpful to the trier of fact.") (citations omitted), *order amended on separate grounds in* No. 01 C 9389, 2005 WL 8178971 (N.D. Ill. Sept. 8, 2005). However, the majority of the aforesaid testimony is not legally false or a factual mischaracterization. Law Professor accurately explained that vacatur of the 2020 Interim Decision was based on a finding that the human health risk conclusions reached by the EPA (that were set forth in the 2017 Human Health Risk Assessment and the 2017 Cancer Paper) were not supported by substantial evidence because the Cancer Guidelines were not followed. And, Law Professor accurately explained that in response, the EPA withdrew its 2020 Interim Decision.

Monsanto places extreme emphasis on Law Professor's statement that by vacating the 2020 Interim Decision, the NRDC Opinion also "vacated" or "voided" the documents the 2020 Interim Decision relied on. We agree that there is no express statement to this effect in the NRDC Opinion. But, we fail to see how Law Professor's characterization of the impact of the NRDC Opinion could have had an outcome determinative impact on the

jury. The unassailable essence of the NRDC Opinion was that the EPA's conclusion in the 2017 Human Health Risk Assessment and in the 2017 Cancer Paper that glyphosate was not likely to be carcinogenic to humans was not supported by substantial evidence. As a result, the NRDC Opinion remanded the registration process to permit the EPA the opportunity to bolster its scientific conclusion, if it could, in a manner that complied with the EPA's Cancer Guidelines before restating that conclusion in the final registration review submission due in October 2022. *Nat. Res. Def. Council*, 38 F.4th at 52 (noting that "[i]t is possible that [the] EPA could come to the same human-health conclusion on remand, but the agency's explanation would need to be so different that we cannot make a confident prediction . . . ."). Whether the NRDC Opinion "vacated" or "voided" the 2017 Human Health Risk Assessment and the 2017 Cancer Paper or simply rejected the conclusion each Report reached as not supported by substantial evidence is a feud over semantics that could not, in our view, have misled or confused the jury. In any event, Law Professor's "sloppy" vocabulary choices would not have warranted characterizing the entirety of Law Professor's testimony as legally irrelevant, and thus inadmissible. Instead, Law Professor's use of the words "vacate" and "voided" to characterize the impact of the NRDC Opinion on the 2017 Human Health Risk Assessment and the 2017 Cancer Paper could have been the subject of discrete objections, though none were made. Otherwise, Law Professor's alleged mischaracterization of the impact of the NRDC Opinion on the 2017 Human Health Risk Assessment and the 2017 Cancer Paper is the kind of alleged error in expert testimony that is more appropriately subject to attack on cross-examination. *See Lamar Advert. Co. v. Zurich Am. Ins. Co.*, 533 F. Supp. 3d 332,

344 (M.D. La. 2021) (holding that "[e]rroneous assumptions made by an expert ordinarily do not disqualify him from testifying but are more appropriately addressed on cross[-]examination"). That is exactly what occurred in this case, as Law Professor was vigorously cross-examined about whether the NRDC Opinion expressly "vacated" or "voided" the 2017 EPA Reports, requiring Law Professor to concede that the NRDC Opinion did not include that specific language.

We reach the same conclusion with respect to Monsanto's complaint about Law Professor's testimony that "all" steps taken by the EPA in connection with the registration review process it began in 2009 were effectively wiped out by the NRDC Opinion. Though there is no express statement to this effect in the NRDC Opinion, we once again fail to see how Law Professor's characterization of the impact of the NRDC Opinion could have had an outcome determinative impact on the jury. After all, the only post-2009 steps in the registration review process meaningfully addressed in the evidence and in the NRDC Opinion were the 2017 Human Health Risk Assessment, the 2017 Cancer Paper, and the 2020 Interim Decision, all of which were undeniably impacted by the NRDC Opinion.[11] Though Law Professor's use of the word "all" arguably implied that the NRDC Opinion had a broader impact, the objectionable nature of this testimony would not have supported declaring the entirety of Law Professor's testimony not legally relevant and thus inadmissible. Monsanto's concern about Law Professor's use of the

[11]In generally describing the registration review process required by the 2009 amendment to FIFRA, Law Professor did note that the EPA appointed a scientific advisory panel in 2016 to advise the EPA about the registration renewal of glyphosate. But, there was no other discussion about the work of this panel.

word "all" could have been addressed by a specific objection, though no such objection was made. In the absence of an objection, Law Professor's characterization of the NRDC Opinion is the kind of error that is best addressed by cross-examination. *Id.*

Finally, Monsanto argues in its Brief that Law Professor's "testimony left the jury with the false impression that the second-highest court in the country has unanimously decided once and for all that glyphosate is dangerous." [Appellant's Brief, p. 45] Monsanto similarly argues that Law Professor's testimony encouraged the jurors to incorrectly conclude that the NRDC Opinion invalidated Roundup's registration in the United States. Monsanto correctly argues that the NRDC Opinion did neither. But, beyond its bare assertions that the jury was misled to these "false" beliefs, Monsanto does not explain why or how that could have happened. Law Professor never testified that the NRDC Opinion held glyphosate to be dangerous, and admitted during cross-examination that the NRDC Opinion did not make a finding that glyphosate is carcinogenic.[12] Law

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[12]Although the NRDC Opinion expresses no scientific opinion or determination as to whether glyphosate causes cancer; and although Law Professor did not testify that the NRDC Opinion held that glyphosate causes cancer and in fact expressly disclaimed that holding during cross-examination; and although the Plaintiffs emphasize in their Respondents' Brief that Law Professor never testified that the NRDC Opinion held that glyphosate causes cancer; we note that Law Professor's testimony was misrepresented by the Plaintiffs during their closing argument. The Plaintiffs argued:

> The EPA, let's talk briefly about them. . . . ***If they would've followed their own cancer guidelines, they never would have reached the determination***.
>
> And, ladies and gentlemen, that's exactly what the evidence ultimately showed when the Ninth Circuit got to review their work. They ultimately had--that's the nice thing about this country, is you ultimately have to show your work. And when they had to show their work, it got invalidated.

Professor never testified that the NRDC Opinion invalidated Roundup's registration, and in contrast the jury heard uncontested evidence to the contrary from Dr. D. F. and from admitted EPA documents that noted that withdrawal of the 2020 Interim Decision did not affect Roundup's registration status, and that the EPA remained confident in the scientific integrity of its conclusion that glyphosate is not likely to be carcinogenic to humans. In fact, the NRDC Opinion explained that vacatur of the 2020 Interim Decision was a proper remedy because the effect was to maintain the status quo--which was glyphosate registration. *Nat. Res. Def. Council*, 38 F.4th at 52.

In summary, though an ultimate issue for the jury to decide in this case was whether glyphosate caused the Plaintiffs' NHL, Law Professor's testimony about the NRDC Opinion was not offered to prove that glyphosate causes cancer, or that Roundup was no longer registered, and was instead offered to discredit Monsanto's reliance on the EPA's 2017 scientific conclusion that glyphosate in not likely to be carcinogenic to humans. In other words, Law Professor's testimony about the NRDC Opinion was logically relevant because it tended to discredit Monsanto's evidence offered in defense, and not because the NRDC Opinion tended to affirmatively establish that glyphosate causes NHL, an essential element of the Plaintiffs' case.

This argument is not supported by the NRDC Opinion or by Law Professor's testimony. The NRDC Opinion plainly left open the possibility that the EPA could reach the same human health risk determinations on remand, and never held that had the EPA followed its Cancer Guidelines, the agency would not have found glyphosate to be unlikely to cause cancer. *Nat. Res. Def. Council*, 38 F.4th at 52. However, Monsanto did not object to the Plaintiffs' suspect closing argument, and raises no claim of error relating to the closing argument on appeal.

If Monsanto was nonetheless concerned about the legal relevance of Law Professor's testimony because the jury might misinterpret the NRDC Opinion as a judicial determination that glyphosate causes cancer or that Roundup's registration had been invalidated, then Monsanto could have sought a limiting instruction to prevent that misinterpretation. *See MCC Mgmt. of Naples, Inc.*, 468 F. App'x at 824 (noting that court decisions should be admitted as substantive evidence "only in the rarest of cases" and then "only with detailed limiting instructions") (quoting *Johnson v. Colt Indus. Operating Corp.*, 797 F.2d 1530, 1534 n.4 (10th Cir. 1986)). Monsanto did not do so. Alternatively, Monsanto could have sought a stipulation in lieu of Law Professor's testimony that advised the jury that the EPA's 2020 Interim Decision had been withdrawn after a court determined the glyphosate conclusion in the 2017 Human Health Risk Assessment and in the 2017 Cancer Paper had been reached by the EPA without fully complying with the EPA's Cancer Guidelines. *See, e.g.*, *Gamble*, 379 S.W.3d at 201-02 (noting that because the jury was informed of the essential relevant essence of a prior judicial opinion in a stipulation, it was not an abuse of discretion for the trial court to exclude the opinion itself from evidence). Monsanto did not do so. It was not, however, an abuse of discretion under the circumstances in this case for the trial court to reject Monsanto's effort to wholesale exclude all of Law Professor's logically relevant testimony based on broad assertions that admission of the testimony would be unduly prejudicial.

For the reasons explained, we conclude that the trial court did not abuse its discretion in permitting Law Professor to testify about the NRDC Opinion.

Point One is denied.

Point Two: The trial court did not commit error in permitting expert testimony expressing the Plaintiffs' exposure to glyphosate in terms of intensity-weighted lifetime days because Monsanto's objection that this testimony was not disclosed by the expert was not timely raised, and in any event, Monsanto has not demonstrated unfair surprise supporting a finding of reversible error.

In its second point on appeal, Monsanto argues that the trial court committed error by permitting one of the Plaintiffs' experts to offer opinions expressing the Plaintiffs' exposure to glyphosate in terms of intensity-weighted lifetime days ("IWLD") because those calculations were not disclosed prior to trial and because this method of calculating the Plaintiffs' exposure was expressly disclaimed by the expert prior to trial. We conclude that Monsanto's objection was waived, and that in any event, Monsanto has not demonstrated unfair surprise warranting reversal.

As with Point One, our standard of review for a claim of error relating to a trial court's decision to admit or exclude evidence is for abuse of discretion resulting in prejudicial error. *Dalbey*, 621 S.W.3d at 45-46.

Dr. J. M. was one of several experts who testified on the Plaintiffs' behalf in an effort to establish a causal relationship between their use of Roundup and their development of NHL. Before Dr. J. M. testified, Dr. T. testified about a number of epidemiological[13] studies noting a statistical association between certain levels of exposure to glyphosate and the development of NHL, but did not testify about specific causation connecting each Plaintiffs' NHL with that Plaintiffs' use of Roundup. Dr. J. M.

[13]Epidemiology refers to the study of patterns of disease and potential contributing risk factors over time and between populaitons.

testified about the specific glyphosate exposure history of each of the Plaintiffs, and that the calculated exposure exceeded the exposure for which epidemiological studies found a statistical association with the development of NHL. After Dr. J. M. testified, Dr. S. testified about specific causation connecting each Plaintiffs' NHL to that Plaintiffs' use of Roundup based on Dr. S.'s exposure calculations.

Monsanto's counsel was provided with a slide deck the Plaintiffs intended to use during Dr. J. M.'s testimony in advance of his testimony. Before Dr. J. M. took the stand, Monsanto expressed an objection to the final slide in that slide deck. The slide noted Dr. J. M.'s conclusion that the exposure histories of the Plaintiffs were at levels that exceeded those shown by epidemiological studies to be statistically associated with developing NHL. Monsanto argued that this "associational" testimony constituted a general or specific causation opinion. Monsanto further argued that the special masters had denied Monsanto's motion to exclude Dr. J. M.'s expert testimony, but only because Dr. J. M. said in his deposition that he was not going to give any testimony regarding whether the Plaintiffs' cancers were caused by glyphosate. Monsanto also argued that Dr. J. M.'s final slide would require Dr. J. M. to give testimony about the epidemiological studies he had reviewed that would be cumulative of Dr. T.'s testimony about the same studies. The trial court took these objections under advisement so it could review the motion to exclude Dr. J. M.'s expert testimony and the Plaintiffs' response to same. During this bench conference, Monsanto did not object that Dr. J. M. was intending to testify about the Plaintiffs' glyphosate exposure levels using undisclosed IWLD calculations, even

though Monsanto had the entire slide deck Dr. J. M. intended to use during his testimony, and even though, as we explain, *infra*, that slide deck included IWLD calculations.

Dr. J. M. then took the stand. Immediately after introducing himself, and before explaining his credentials and background, Dr. J. M. confirmed that he had prepared slides to help him give his testimony. Dr. J. M. explained that human exposure and absorption of chemicals like glyphosate can occur by inhalation, ingestion, or dermal absorption, and that dermal absorption is the most significant source of exposure. After providing detailed testimony about how dermal absorption occurs and diffuses to the bloodstream and various organs and tissue, Dr. J. M. then generally testified about environmental, skin condition, and chemical factors that influence how much of a chemical is absorbed through the skin.

Dr. J. M. was then asked to explain the concept of intensity-weighted lifetime days. Dr. J. M. explained that IWLD is one way to conduct a retrospective exposure assessment by looking at the time frame of exposure (in total years), the frequency of exposure (the number of days per year), the duration of exposure (the number of hours per day), and the magnitude (intensity) of exposure. Dr. J. M. explained that the intensity score is influenced by factors like whether a person mixed the pesticide; the method of application; whether equipment being used required repair during application; and whether and to what extent personal protective equipment was used. Dr. J. M. then discussed a study called Coble 2011, and testified about a table in the Coble 2011 study titled "AHS Pesticide Exposure Algorithm Weighting Factors," explaining how the

intensity factors he had described could be assigned scores to yield an overall intensity score.

Dr. J. M. then applied his explanatory testimony about IWLD calculations, and in particular, the manner of calculating the intensity factor, to explain the overall intensity score he had assigned to Anderson based on the sub-scores assigned for intensity factors. Dr. J. M. then explained that the calculated intensity score would be multiplied by the lifetime days (the number of years and the days per year) of exposure to arrive at an IWLD calculation. Dr. J. M. confirmed that he would later explain his lifetime days calculations for Anderson and the other Plaintiffs. Dr. J. M. then walked through the same process to explain the intensity score he had assigned to Draeger and to Gunther.

Monsanto did not object to any of this testimony. However, at this point in Dr. J. M.'s testimony, Monsanto approached the bench believing it to be an appropriate time to revisit the objections it had previously raised about Dr. J. M.'s anticipated causation testimony. The trial court explained that, based on its review of the pre-trial pleadings submitted to the special masters, it was known that Dr. J. M. would be testifying that the level of the Plaintiffs' exposure to glyphosate exceeded the levels found in epidemiological studies to bear a statistical association with the development of NHL, and observed that the special masters denied Monsanto's motion to exclude Dr. J. M.'s testimony notwithstanding this anticipated testimony.

The trial court was prepared to overrule Monsanto's objections to Dr. J. M.'s testimony regarding a "causation" opinion. Before officially making its ruling, the trial court asked Monsanto to "state what your objection is" for the record. In response,

Monsanto said "it's an undisclosed opinion" (referring, as noted above, to the causation opinion), and it is cumulative (referring to the anticipated duplicative discussion of studies already addressed by Dr. T.). Monsanto then added, for the first time, the following objection:

> The intensity weighted average that he just went through was also not disclosed. I let him go through it. Because I don't--I mean, it's--that was an undisclosed opinion. He did that [in his deposition] with respect to one plaintiff, Mr. Hay, [who later voluntarily dismissed his claims], but not the other people.

Separate counsel for Monsanto chimed in that Dr. J. M. was asked in his deposition whether he intended to calculate an IWLD for the other Plaintiffs, and that his answer was "no." The trial court overruled all of Monsanto's objections.

Dr. J. M.'s testimony continued, and included considerable additional testimony about the calculation of the Plaintiffs' lifetime days, and the combination of each Plaintiffs' lifetime days and intensity score, using IWLD. No further objections were made by Monsanto to this testimony. Ultimately, ***Monsanto*** introduced defense exhibit 14280-F, one of the slides in Dr. J. M.'s slide deck, which was a summary of Dr. J. M.'s IWLD exposure calculations for the Plaintiffs. Monsanto argued that the exhibit "should come into evidence. The expert agreed this is a fair and accurate summary of his calculations." The exhibit was admitted.

Monsanto now claims that the trial court abused its discretion by permitting Dr. J. M. to testify about undisclosed IWLD exposure calculations. "When an expert provides different testimony from that disclosed in discovery, a [trial] court has broad discretion as to its course of action." *Williams v. Mercy Clinic Springfield Cmtys.*, 568 S.W.3d 396,

417 (Mo. banc 2019) (citing *Beverly v. Hudak*, 545 S.W.3d 864, 870 (Mo. App. W.D. 2018)). Here, Dr. J. M. spent a considerable amount of time testifying about what IWLD is, how it is calculated, and how the intensity factor for each of the Plaintiffs had been calculated, with no objection from Monsanto, and despite the fact that Monsanto had access to the slide deck used during Dr. J. M.'s testimony before Dr. J. M. ever took the stand. Given Monsanto's failure to timely object to Dr. J. M.'s IWLD testimony, we cannot find that the trial court abused its discretion in overruling the objection, even if we assume the IWLD testimony was undisclosed. "It is consistently held that a party waives an objection if it is not timely made." *Seabaugh v. Milde Farms, Inc.*, 816 S.W.2d 202, 209 (Mo. banc 1991) (citing *Galovich v. Hertz Corp.*, 513 S.W.2d 325, 336 (Mo. 1974)); *see also K.B. v. Oasis Foot Spa & Massage, LLC*, 703 S.W.3d 606, 614 (Mo. App. E.D. 2024) (holding that to properly preserve for appeal a claim of error relating to the admission of evidence the "objection at trial must be specific and made contemporaneously with the purported error") (quoting *Brock v. Shaikh*, 689 S.W.3d 792, 795-96 (Mo. App. E.D. 2024)).

In any event, it is not enough to establish that an expert has testified beyond opinions disclosed in discovery. Instead, the duty imposed by Rule 56.01(b)(6)[14] on a party intending to use an expert witness to disclose new information to his or her adversary "is not intended as a mechanism for contesting every variance between

[14]At the time *Williams v. Mercy Clinic Springfield Communities* was handed down in 2019, the general provisions governing discovery related to expert witnesses were set forth in Rule 56.01(b)(4). The rule has since been amended, and now these provisions are set forth in Rule 56.01(b)(6).

discovery and trial testimony," but instead to "relieve a party who is genuinely surprised at trial." *Williams*, 568 S.W.3d at 417 (quoting *Shallow v. Follwell*, 554 S.W.3d 878, 881 (Mo. banc 2018)). When Monsanto delinquently objected to Dr. J. M.'s IWLD testimony at trial, it made no argument that it was unfairly surprised by the undisclosed testimony, and even acknowledged that for one plaintiff who had since dismissed his case (Hay), an IWLD calculation had been made by Dr. J. M. and was discussed during his deposition. In the absence of a contemporaneous argument of unfair surprise, we cannot find that the trial court abused its discretion in overruling Monsanto's delinquent objection.

It is true that Monsanto alleges unfair surprise on appeal. Monsanto's rationale for doing so is a summary assertion that it had no opportunity in advance of trial to probe or test the limits of Dr. J. M.'s IWLD opinions, and that it had wasted substantial time preparing for Dr. J. M.'s trial testimony focused on methodologies he originally used to calculate glyphosate exposure for the Plaintiffs as disclosed in his expert report.

These assertions are not self-proving and are belied by the record. Dr. J. M. was extensively and effectively cross-examined by Monsanto's counsel about his IWLD calculations, including securing Dr. J. M.'s admission that he had not previously calculated an IWLD for the Plaintiffs because an IWLD calculation presumes an agricultural scenario that is not relevant to the Plaintiffs, who were not farmers. Dr. J. M. admitted that in advance of his deposition, he had used two computer programs known as UK POEM and Euro POEM to calculate absorbed doses of chemicals for the Plaintiffs, and acknowledge that he was confronted during his depositions with concerns that the computer models had not been validated. Dr. J. M. was confronted during cross-

examination with other studies conducted after the Coble 2011 study, and acknowledged that the more recent studies would not support his opinion of an associational relationship between IWLD's calculated for the Plaintiffs and the development of NHL. Monsanto's counsel then vigorously cross-examined Dr. J. M. about some of the factual assumptions relied on to calculate the IWLD for each of the Plaintiffs, leading Dr. J. M. to admit that the IWLD's he had calculated for the Plaintiffs, who were not farmers, were inexplicably and substantially higher than IWLD's calculated for farmers who use glyphosate nearly every day. The Plaintiffs did not conduct re-direct examination of Dr. J. M. after Monsanto's blistering cross-examination.

Monsanto has not identified any aspect of Dr. J. M.'s IWLD testimony as to which its purported "lack of preparedness" precluded effective cross-examination. Though Monsanto argues that prejudice from the undisclosed IWLD calculations is self-evident because the jury asked for Dr. J. M.'s charts and testimony during its deliberations, we do not agree that the jury's request establishes that Monsanto was unfairly surprised by Dr. J. M.'s undisclosed IWLD calculations.

The trial court did not abuse its discretion in permitting Dr. J. M. to testify about IWLD calculations of the Plaintiffs' glyphosate exposure despite Monsanto's assertion that the testimony involved undisclosed expert opinions.

Point Two is denied.

Point Three: The trial court did not commit error in permitting the Plaintiffs to introduce evidence of the billed amount of their medical expenses

In its third point on appeal, Monsanto alleges that the trial court committed error by permitting the Plaintiffs to introduce evidence of the "billed" amounts of their medical expenses because the "relevant" law only permitted the Plaintiffs to recover the amounts actually paid by them or on their behalf for medical expenses, and that admission of evidence of the amounts billed for medical care dramatically inflated the jury's compensatory damage awards. We disagree.

Monsanto's point on appeal challenges the admission of evidence. As we have previously explained, our review of a trial court's decision to admit or exclude evidence is for an abuse of discretion resulting in prejudicial error. *Dalbey*, 621 S.W.3d at 45-46.

Despite the relative simplicity of Monsanto's point on appeal, the argument portion of the Brief is multifaceted. First, Monsanto notes that the "relevant law" in Missouri is section 490.715.5(1),[15] which addresses the evidence that can be admitted regarding the cost of medical care or treatment, and which Monsanto acknowledges was construed in *Brancati v. Bi-State Development Agency*, 571 S.W.3d 625 (Mo. App. E.D. 2018), to permit the admission into evidence of "billed" or "charged" amounts for medical care or treatment. Monsanto thus concedes that the trial court followed the "relevant law" in Missouri when it permitted the admission of evidence of amounts the Plaintiffs were billed for their medical care. We will not find that a trial court has abused its discretion in admitting evidence when it does so consistent with the relevant and controlling law.

[15]All statutory references are to RSMo 2016 as amended through the dates of trial, October 23, 2023, to November 17, 2023, unless otherwise indicated.

Second, Monsanto argues that we should revisit *Brancati* and find that it was wrongly decided. This is not the claim of error raised in Monsanto's point on appeal, which claimed that the trial court did not follow the relevant law. It is instead a contention that even though the trial court followed the controlling relevant law, we should nonetheless re-evaluate that precedent and remand for a new trial. Monsanto's argument exceeds its point relied on and is not preserved. Rule 84.04(e). Moreover, we are not inclined to revisit the holding in *Brancati*. Monsanto offers no compelling reason to do so beyond expressing disagreement with the holding and a self-serving assertion that the decision is not consistent with legislative intent underlying the amendment of section 490.715 in 2017.

Third, Monsanto argues that even if the trial court followed relevant Missouri law, Missouri law only applied to Draeger, who lives in Missouri, and not to Anderson and Gunther, who reside in California and New York, respectively, and as to whom the admissibility of evidence relating to medical expenses should be controlled by their home state's law. Monsanto's point on appeal does not claim trial court error in failing to make proper choice-of-law decisions. Monsanto's vague contention that the "relevant law" did not permit the admission of evidence of billed amounts for medical care is insufficient to put this court or Monsanto's adversary on notice that Monsanto claims trial court error related to choice-of-law decisions. Rule 84.04(d)(1)(B) (requiring a point relied on to "[s]tate concisely the legal reasons for the appellant's claim of reversible error"). For that reason, we do not find Monsanto's choice-of-law arguments to be preserved, as they

exceed the scope of its point relied on. Rule 84.04(e) (providing that "[t]he argument [in an appellant's brief] shall be limited to those errors included in the "Points Relied On").

Even if Monsanto's reference to the "relevant law" in its third point on appeal is deemed sufficient to preserve Monsanto's choice-of-law contentions, we would not find them to be meritorious as they were delinquently and inconsistently asserted, and were never ruled on by the trial court as to support a claim of trial court error.

Monsanto filed a bench brief seeking the trial court's ruling on the admissibility of evidence of amounts billed for medical care a few days before Anderson, one of the Plaintiffs, testified. The bench brief argued that section 490.715.5 controlled the admissibility of evidence to establish medical expenses for all three Plaintiffs, and only allowed evidence of amounts actually paid to be admitted. The bench brief did not raise choice-of-law issues, and instead, urged the application of Missouri law to all three Plaintiffs.

Monsanto did not raise the California choice-of-law issue with respect to Anderson until deep into Anderson's testimony ***after*** he had already testified about incurring $5.1 million in medical bills. Monsanto did not raise the New York choice-of-law issue with respect to Gunther until she testified and was preparing to answer a question about the amount of medical bills she had incurred. Monsanto's bench brief, which requested a ruling from the trial court that section 490.715 applied to all three Plaintiffs and limited the admissibility of evidence about medical expenses to evidence of amounts actually paid, was still pending when both of these choice-of-law arguments were first raised. Given the inconsistent position taken by Monsanto in its bench brief,

and the untimely injection of choice-of-law questions in the middle of trial while the bench brief remained unruled, the trial court did not abuse its discretion in applying Missouri law to determine the evidence that was admissible to establish the Plaintiffs' medical expenses. *See Foreman v. AO Smith Corp*., 477 S.W.3d 649, 651 n.2 (Mo. App. E.D. 2015) (holding that Missouri law applies when a defendant does not timely move to apply another state's laws).

In addition, Monsanto's choice-of-law contentions were never ruled on by the trial court before the Plaintiffs' claims were submitted to the jury. When Monsanto raised the California choice-of-law issue during Anderson's testimony and cited a California case for the proposition that amounts billed for medical care are inadmissible, the Plaintiffs noted that this was the first they had heard of any argument about California law applying. The trial court did not rule on the choice-of-law issue at that time. When the choice-of-law issue was revisited later during Anderson's testimony, the trial court again deferred ruling the issue to give the Plaintiffs time to research whether Missouri law would control, notwithstanding the California case, because the admissibility of evidence involves procedural and not substantive law. Monsanto has not directed us to any further discussion in the record about the California choice-of-law issue before the Plaintiffs' claims were submitted to the jury.

The same is true with the New York choice-of-law issue first raised by Monsanto during Gunther's testimony. Monsanto argued that under New York law, the amounts billed for medical expenses are to be admitted at trial, subject to a post-trial hearing to reduce any medical expense award for medical write-offs. The Plaintiffs expressed

disagreement that this was the law in New York. The trial court did not rule the issue. Instead, it noted that because Missouri law permits both the amount billed and the amount paid to be admitted into evidence, so long as both numbers come into evidence, choice-of-law issues could be later determined. Monsanto has not directed us to any further discussion in the record about the New York choice-of-law issue before the Plaintiffs' claims were submitted to the jury.[16]

"A blanket challenge that does not identify a specific [trial] court ruling or action being challenged does not comply with Rule 84.04(d)(1)(A)." *Mansfield v. Horner*, 443 S.W.3d 627, 653 (Mo. App. W.D. 2014) (quoting *Eagle Star Grp., Inc. v. Marcus*, 334 S.W.3d 548, 554 (Mo. App. W.D. 2010)). In the absence of a ruling on Monsanto's choice-of-law contentions, there is no basis to claim trial court error, and there is nothing for us to review. We cannot assume from a silent record that the trial court overruled Monsanto's choice-of-law contentions before the Plaintiffs' claims were submitted to the jury, as the silence of the record would be equally consistent with Monsanto electing to abandon its choice-of-law contentions.

Apropos of this possibility, Monsanto stipulated to the medical expenses, and the Plaintiffs' attorney read into evidence a statement with the aid of a chart. The chart listed the Plaintiffs in one column, the total amounts billed each Plaintiff for medical care under a second column labeled "billed," and the total amounts paid for each Plaintiffs' medical

[16]Ironically, Monsanto's argument at trial was that New York law required evidence of the amounts billed for medical care to be admitted. Yet, in its third point relied on, Monsanto argues that the trial court committed error because the relevant law does not permit the admission into evidence of the amounts billed for medical bills.

care under a third column labeled "paid by Plaintiff or on his/her behalf." The chart was shown to the jury near the close of the Plaintiffs' case-in-chief, and a stipulation was read to the jury by Plaintiffs' counsel with the following proviso by the trial court: "Ladies and gentleman, plaintiffs' counsel will read some evidence into the record. ***This is evidence that the parties have agreed as [sic] accurate and that you may consider together with other evidence you have heard in this case***." Though Monsanto claims in its Reply Brief that it only entered into this stipulation after the trial court ruled that evidence of the amounts billed and paid for medical care would be admissible pursuant to Missouri law, Monsanto has not directed us to any place in the record where that ruling was made as to reject Monsanto's choice-of-law contentions. *See Rinehart v. Mo. Dep't of Corr.*, 669 S.W.3d 679, 685 (Mo. App. W.D. 2023) (holding that when "a party affirmatively indicates in the trial court that it has no objection to [a] trial court ruling, it may be found to have intentionally abandoned the issue, waiving even plain-error review") (quoting *Gray v. Mo. Dep't of Corr.*, 635 S.W.3d 99, 103 (Mo. App. W.D. 2021)).

Finally, though Monsanto's point on appeal claims that the admission of evidence of the amounts billed for medical expenses resulted in prejudicial error demonstrated by "dramatically inflated" compensatory damage awards, that claim is speculative. There is no way to know the amount of medical expenses included in the jury's compensatory damage awards, or whether the jury relied on amounts billed or paid for medical expenses to calculate the compensatory damage awards. Monsanto notes in a footnote that it sought a modification to the verdict forms to separate compensatory damages into

two lines for "past medical expenses" and "other compensatory damages." However, the trial court refused this modification, a decision Monsanto has not challenged on appeal.

For all of the reasons explained, Monsanto's third point on appeal is without merit. Point Three is denied.

Points Four and Six: The trial court did not commit error in denying Monsanto's post-trial motion to further reduce or apply credits against the jury's punitive damage awards on the basis that the awards were duplicative and improperly punished Monsanto for the same underlying conduct

In their fourth point on appeal, Monsanto argues that the punitive damages awarded to the Plaintiffs were unconstitutionally duplicative of each other and of past awards in other cases because they punished for the same underlying conduct. In their sixth point on appeal, Monsanto argues that the trial court erred in denying their motion for a statutory credit against the Plaintiffs' punitive damage awards for amounts paid for punitive damages awarded in other cases for the same conduct. Given the similarity of these points on appeal, we address the points together.

Monsanto argues that both of these points on appeal require *de novo* review because Point Four addresses the constitutionality of a punitive damage award, and Point Six requires us to engage in statutory construction. We disagree. The constitutional and statutory construction arguments advanced in these points first depend on whether Monsanto has established the factual proposition that the punitive awards in favor of the Plaintiffs were duplicative of each other, or of awards in other cases, because they were awarded for the same underlying conduct. The determination of whether punitive awards are unconstitutionally duplicative as to require a credit thus presents a mixed question of

law and fact. *See, e.g., Dixson v. Mo. Dep't of Corr.*, 586 S.W.3d 816, 823 (Mo. App. W.D. 2019) (holding that "[t]he determination of whether the [defendant] is entitled to a credit under [s]ection 510.263.4 presents a mixed question of fact and law, as the [trial] court was required to assess the facts to determine whether the statutory credit applied"). "When reviewing mixed questions of fact and law, we defer to [trial] court in its assessment of the facts and then apply *de novo* review in determining how the law applies to those facts." *Id.* (citing *Rhea v. Sapp*, 463 S.W.3d 370, 375 (Mo. App. W.D. 2015)).

The essence of Monsanto's arguments in Points Four and Six is that punitive damages cannot be awarded multiple times for the same conduct. Monsanto relies on *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408, 423 (2003), for the proposition that due process prohibits punishment "of multiple punitive damages awards for the same conduct."

In its fourth point on appeal, Monsanto claims this constitutional prohibition was violated in two ways: (i) because massive punitive awards in favor of the Plaintiffs punished Monsanto three times for the same underlying conduct; and (ii) because Monsanto has already paid out just under $100 million in punitive damages in other cases for the same underlying conduct.

With respect to the first contention, Monsanto first raised its concern that the Plaintiffs' punitive damage awards punished Monsanto three times for the same underlying conduct in its post-trial motion for remittitur. It noted that the jury awarded three separate $500 million punitive damage verdicts in the same case based on the same purchases of the same product, and based on the same evidence regarding Monsanto's

alleged conduct. Monsanto urged that the cumulative awards were unconstitutional under *State Farm* and "should be remitted in full." However, Monsanto alternatively argued that "at a minimum, the [trial court] should significantly reduce the punitive damage awards in this case because of their cumulative nature."

The alternative relief Monsanto sought is precisely the relief the trial court afforded. Although the jury originally awarded each Plaintiff punitive damages in the amount of $500 million, the trial court remitted these awards to $50.4 million for Draeger, $157.5 million for Gunther, and $342 million for Anderson. The total punitive award was just under $550 million, an amount very close to the amount originally awarded each Plaintiff. Monsanto cannot claim trial court error in failing to remediate duplicative punitive damage awards to the Plaintiffs when the trial court did exactly what Monsanto asked it to do to remediate that concern.

Moreover, Monsanto could have addressed (and avoided) this concern before the Plaintiffs' cases were submitted to the jury. In *Elam v. Alcolac, Inc.*, 765 S.W.2d 42, 230 (Mo. App. W.D. 1988), a case Monsanto cited in its motion for remitter and cited again in its Brief, this court remanded a toxic chemicals case with thirty-one plaintiffs for re-adjudication of compensatory and punitive damages, and noted that because a defendant should not "be required to pay redundant punitive damages based on the same conduct," the trial court could "under Rule 66.01(b) submit to the jury for verdict the common issue of the sum that will serve to punish and deter [the defendant] and others from like conduct rendered as a single sum and apportioned separately by verdict to each plaintiff." (Citation omitted.) Nothing prevented Monsanto from requesting the trial to submit a

single verdict on the common issue of punitive damages, with that sum being apportioned separately to each of the Plaintiffs. Monsanto did not do so, and we will not fault the trial court for failing to do so *sua sponte*.

Monsanto's contention that the punitive damage awards to the Plaintiffs were unconstitutionally duplicative of one another is denied.

The second contention raised in connection with Monsanto's fourth point on appeal is Monsanto's concern that it has already paid duplicative punitive awards in other cases. The potential for duplicative punitive damage awards in other cases is expressly contemplated and addressed by section 510.263.4. The application of section 510.263.4 is the subject of Monsanto's sixth point on appeal.

Section 510.263.4 provides as follows:

> Within the time for filing a motion for new trial, a defendant may file a post-trial motion requesting the amount awarded by the jury as punitive damages be credited by the court with amounts previously paid . . . . by the defendant for punitive damages arising out of the same conduct on which the imposition of punitive damages is based. At any hearing, the burden on all issues relating to such a credit shall be on the defendant and either party may introduce relevant evidence on such motion. Such a motion shall be determined by the trial court within the time and according to procedures applicable to motions for new trial. If the trial court sustains such a motion the trial court shall credit the jury award of punitive damages by the amount found by the trial court to have been previously paid by the defendant arising out of the same conduct and enter judgment accordingly. If the defendant fails to establish entitlement to a credit under the provisions of this section, or the trial court finds from the evidence that the defendant's conduct out of which the prior punitive damage award arose was not the same conduct on which the imposition of punitive damages is based in the pending action, or the trial court finds the defendant unreasonably continued the conduct after acquiring actual knowledge of the dangerous nature of such conduct, the trial court shall disallow such credit . . . .

Section 510.263.4. "After the defendant files a motion requesting credit, the court may, but is not required to, hold a hearing." *Dixson*, 586 S.W.3d at 823 (citing section 510.263.4). "The defendant has the burden to establish that it is entitled to a credit." *Id.* (citing section 510.263.4).

Here, Monsanto asserts that it preserved its claim for a statutory credit "with respect to each [of the Plaintiffs'] punitive damages judgments," and cites to pages 22-26 of document 1556, its post-verdict motion for remittitur. [Appellant's Brief, p. 79] However, in the motion for remittitur, the ***only*** statutory offset urged by Monsanto is against the punitive damages awarded to Draeger. Monsanto has not preserved a claim for a statutory credit with respect to the punitive damage awards in favor of Gunther or Anderson.[17]

With respect to Draeger's punitive damages award, Monsanto argued in its motion for remittitur that it has paid just under $100 million in punitive damages in three separate cases in California arising out of the same conduct at issue in Draeger's case.

[17]On January 5, 2024, Monsanto filed a supplemental motion for remittitur, and sought to expand the claim for a statutory credit under section 510.263.4 to include Anderson and Gunther. The trial court's initial judgments were signed on November 21, 2023, and were file-stamped on December 6, 2023. We explain in footnote 4, *supra*, why it is unclear from the record which of these dates should be viewed as the date on which the initial judgments were "filed." However, by either measure, the supplemental motion for remittitur was not timely filed, as it was filed forty-five days after the initial judgments were signed, and thirty-one days after the initial judgments were file-stamped. *See* Rules 78.04, 78.10 (requiring after trial motions, including for remittitur, to be filed within thirty days of entry of a judgment). The supplemental motion for remittitur is not cited by Monsanto in the preservation statement of its Brief as required by Rule 84.04(e), suggesting Monsanto is aware that the pleading was not timely filed.

Monsanto pointed to nearly identical allegations of misconduct in the complaints in the three California cases when compared to Draeger's petition as the basis for contending that the punitive awards were for the same underlying conduct. The "same underlying conduct" highlighted by Monsanto included shared allegations that despite scientific evidence that Roundup was carcinogenic, Monsanto continued to sell Roundup, and failed to warn of the dangerous effects of using Roundup. On appeal, Monsanto argues that the identical assertions of conduct in the three California cases and in Draeger's case, render it "undisputed" that Monsanto has paid nearly $100 million in punitive damages in three prior Roundup cases for the same conduct at issue in Draeger's case.

Monsanto cites no authority for the proposition that similar or identical assertions of misconduct in complaints or petitions is sufficient to permit the conclusion that punitive damages awarded in those cases are duplicative as a matter of law. Even assuming this to be the case (an issue we need not and do not decide), Monsanto acknowledges that section 510.263.4 does not require a credit for previously paid punitive damage awards if "the trial court finds the defendant unreasonably continued the conduct after acquiring actual knowledge of the dangerous nature of such conduct." In fact, section 510.263.4 directs that in the event of such a finding, "the trial court ***shall disallow*** such credit." (Emphasis added.)

In an effort to dispel applicability of this express limitation on a trial court's authority to apply a credit against a punitive damage award, Monsanto alleged in its

motion for remittitur that "as of October 2023,[18] following entry of the punitive damage judgments in [the three California cases], Monsanto ceased production of glyphosate-based products for the United States consumer lawn and garden market." Monsanto claimed that it had therefore "discontinued the alleged conduct that purports to give rise to the punitive damages award[] in this case." Monsanto's assertion was supported by the declaration of J. G., the Global Commercial Lead for the Roundup Consumer Lawn & Garden Business.[19] In that declaration, J. G. declared under penalty of perjury that ***production*** of glyphosate-based products for the United States consumer lawn and garden

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[18]The Plaintiffs' trial began on October 23, 2023. Though Monsanto alleges it paid punitive damages awarded in the three California cases by that time, the date the awards were paid in the California cases is not set forth in Monsanto's motion for remittitur.

[19]The Plaintiffs filed a Motion to Strike Monsanto's Brief in part, arguing that the declaration from J. G. was an "untested declaration . . . well after cross-examination was available." However, section 510.263.4 expressly provides that the trial court can, but is not required, to conduct a hearing on a post-trial motion for a punitive damages credit, and imposes the burden to establish the right to same on the party requesting the credit. It is thus obvious that any request for a statutory credit pursuant to section 510.263.4 will need to be accompanied by evidence, as a hearing is not assured. That evidence must be submitted by a declaration under penalty of perjury. *See* Rule 55.28 (providing that "[w]hen a motion is based on facts not appearing of record the court may hear the matter on affidavits presented by the respective parties . . . . "); Rule 78.05 (providing that an after-trial motion "based on facts not appearing of record" may include affidavits filed with the motion). Monsanto had every right to attached declarations to its motion for remittitur in support of its request for a section 510.263.4 credit. If the Plaintiffs wanted to "test" J. G.'s declaration by cross-examination, nothing prevented them from requesting a hearing to do so. Moreover, nothing prevented them from attaching their own declarations to their response to Monsanto's motion for remittitur to contest Monsanto's claimed right to a statutory credit.

However, there is no provision in section 510.263 permitting any party to supplement, ***on appeal***, the evidentiary record relevant to determining whether a ***trial court*** committed error in ruling on a request for a statutory punitive damage credit. We have completely disregarded the new evidence improvidently tendered by the Plaintiffs as a part of their Motion to Strike in ruling on Monsanto's sixth point on appeal.

The Plaintiffs' Motion to Strike Monsanto's Brief in part is denied.

market ceased as of October 2023. However, J. G. also declared under penalty of perjury that "its remaining inventory of glyphosate-based products will be sold off by the end of Q2 2024." J. G.'s declaration then confirmed that from and after October 2023, Monsanto continued to ***sell*** glyphosate-based Roundup, and that it would continue to do so until its remaining inventory was sold. J. G.'s declaration was silent with respect to whether any effort had been made by Monsanto as of October 2023 to enhance or modify the warnings provided to consumers about the dangerous effects of Roundup. To the contrary, J. G.'s declared that "Monsanto ceased production not because of any concern about potential carcinogenicity of [glyphosate-based Roundup], but instead to manage litigation risk spurred by the large punitive awards issued against Monsanto in jury trials in the United States."

The misconduct complained about in the complaints in the three California cases Monsanto relies on, and in Draeger's petition, includes allegations that despite scientific evidence that Roundup was carcinogenic, Monsanto continued to ***sell*** Roundup, and that Monsanto ***failed to warn*** of the dangerous effects of using Roundup. J. G.'s declaration establishes that the sale of glyphosate-based Roundup did not cease as of October 2023, and in fact continued for at least so long as it took for Monsanto's existing glyphosate-based Roundup inventory to be sold. J.G.'s declaration failed to address, let alone establish, that Monsanto modified the warnings on the glyphosate-based Roundup that remained in inventory as of October 2023.

The trial court granted the motion for remittitur in part to reduce the punitive damages awarded the Plaintiffs, as noted above. The trial court's order was silent with

respect to Monsanto's request for a statutory credit against Draeger's punitive award. making it unclear the extent to which, if at all, the request for a statutory credit played a role in the remitted amount of punitive damages awarded Draeger. But, even accepting Monsanto's contention that the trial court did not afford a section 510.263.4 statutory credit against Draeger's punitive award, we cannot find that the trial court committed error. The declaration attached to Monsanto's motion for remittitur does not establish that by the time trial commenced in the Plaintiffs' cases, Monsanto had discontinued the conduct giving rise to the punitive damage awards in the three California cases on which they rely, and instead supports the conclusion that Monsanto continued the misconduct alleged in the three California cases on which it relies after acquiring actual knowledge of the dangerous nature of such conduct.

For the reasons explained, Monsanto's assertions in its fourth and sixth points relied on that the Plaintiffs' punitive damages awards were unconstitutionally duplicative and were not reduced by a required statutory credit for amounts previously paid for duplicative punitive damage awards in other cases are without merit.

Points Four and Six are denied.

Point Five: The Plaintiffs' punitive damage awards, which were significantly reduced by the trial court, are not grossly excessive as to violate Monsanto's due process rights

Monsanto's fifth point on appeal contends that "[t]he trial court erred in denying Monsanto's post-trial motions to eliminate or, at a minimum, to significantly reduce the punitive damages awarded[] because those awards violate Monsanto's due process rights in that they impose a grossly excessive penalty out of line with the evidence presented in

this case." Monsanto's contention is facially without merit because it challenges a trial court ruling that never occurred. The trial court did ***not*** deny Monsanto's motion for remittitur alleging that the Plaintiffs' punitive damage awards were grossly excessive in violation of Monsanto's due process rights. Instead, the trial court ***granted*** Monsanto's motion for remittitur in part, and substantially reduced each Plaintiff's $500 million punitive damage award as follows: (1) with respect to Anderson, the award was reduced to $342 million; (2) with respect to Draeger, the award was reduced to $50.4 million; and (3) with respect to Gunther, the award was reduced to $157.5 million.

Though Monsanto's fifth point on appeal is facially without merit, as stated, it is plain from the argument following the point that Monsanto's position is that the Plaintiffs' punitive awards, though reduced, remain grossly excessive in violation of its right to due process. We gratuitously address Monsanto's point on appeal as reframed by its argument.

It is within the jury's purview to assess damages, whether compensatory or punitive. *Crowder v. Ingram Barge Co.*, 681 S.W.3d 641, 649 (Mo. App. E.D. 2023). While compensatory damages are designed "to redress the concrete loss that the plaintiff has suffered by reason of the defendant's wrongful conduct," "punitive damages serve a broader function," particularly deterring unlawful conduct and providing retribution. *State Farm*, 538 U.S. at 416. "'The decision to punish a tortfeasor through an award of punitive damages is an exercise of state power that must comply with the Due Process Clause of the Fourteenth Amendment' of the United States Constitution and with Article I, section 10 of the Missouri Constitution." *Mansfield v. Horner*, 443 S.W.3d 627, 643

(Mo. App. W.D. 2014) (quoting *Krysa v. Payne*, 176 S.W.3d 150, 155 (Mo. App. W.D. 2013)). "Elementary notions of fairness enshrined in . . . constitutional jurisprudence dictate that a person receive fair notice not only of the conduct that will subject him to punishment, but also of the severity of the penalty that a State may impose." *Lewellen v. Franklin*, 441 S.W.3d 136, 145-46 (Mo. banc 2014) (quoting *BMW of N. Am., Inc. v. Gore*, 517 U.S. 559, 574-75 (1996)). The trial court's evaluation of whether an award of punitive damages comports with due process guarantees is a question of law that we review the *de novo*. *Mansfield*, 443 S.W.3d at 643; *see also State Farm*, 538 U.S. at 418 ("Exacting appellate review ensures that an award of punitive damages is based upon an 'application of law, rather than a decisionmaker's caprice.'") (quoting *Cooper Indus., Inc. v. Leatherman Tool Grp., Inc.*, 532 U.S. 424, 436 (2001)).

The constitutional due process guarantee "prohibits the imposition of grossly excessive or arbitrary punishments on a tortfeasor." *State Farm*, 538 U.S. at 416. Such a standard is easily stated, but determining the point at which punitive damages crosses "the relevant constitutional line is 'inherently imprecise'" and cannot be determined using "'a simple mathematical formula.'" *Cooper Inds., Inc.*, 532 U.S. at 434-35 (quoting *United States v. Bajakajian*, 524 U.S. 321, 336 (1998), and *BMW of N. Am., Inc.*, 517 U.S. at 582). Instead, there are three "guideposts" that the Supreme Court of the United States has instructed courts to use when reviewing punitive damage awards to determine whether they violate due process guarantees: "(1) the degree of reprehensibility of the defendant's misconduct; (2) the disparity between the actual or potential harm suffered by the plaintiff and the punitive damages award; and (3) the difference between the punitive

damages awarded by the jury and the civil penalties authorized or imposed in comparable cases." *State Farm*, 538 U.S. at 418.

A. The Degree of Reprehensibility

The first guidepost--the degree of reprehensibility of the defendant's misconduct--is the most important factor. *Id.* at 419. Compensatory damages are presumed to make the plaintiff whole for his injuries, so that punitive damages are appropriate only "if the defendant's culpability, after having paid compensatory damages, is so reprehensible as to warrant the imposition of further sanctions to achieve punishment or deterrence." *Id.* In determining the degree of reprehensibility of the defendant's misconduct, we consider the following factors: (1) whether "the harm caused was physical as opposed to economic;" (2) whether "the tortious conduct evinced an indifference to or a reckless disregard of the health or safety of others;" (3) whether "the target of the conduct had financial vulnerability;" (4) whether "the conduct involved repeated actions or was an isolated incident;" and (5) whether "the harm was the result of intentional malice, trickery, or deceit, or [was] mere accident." *Id.* While absence of evidence supporting any one of these factors does not automatically render a punitive damages award grossly excessive or arbitrary, "the absence of all of them renders any award suspect." *Id.*

Our review of the five factors for determining reprehensibility set forth in *State Farm* causes us to conclude that Monsanto's degree of reprehensibility was high. First, each of the Plaintiffs' use of glyphosate-based Roundup resulted in serious physical harm, as each developed NHL, and in significant economic harm. The economic and non-economic damages suffered by the Plaintiffs sprang from Monsanto's sale of Roundup, a

product that the jury found suffered from a design defect that rendered it unreasonably dangerous when used as reasonably anticipated; from Monsanto's failure to warn Roundup purchasers of the unreasonably dangerous risks associated with reasonably anticipated use of the product; and from Monsanto's negligence in failing to design Roundup to be reasonably safe or to adequately warn of Roundup's capability to cause cancer in humans.

Second, the tortious conduct found by the jury demonstrated Monsanto's "reckless disregard of the health or safety of others." The evidence established that, while the EPA has continuously registered Monsanto for sale since 1974, Monsanto has been aware since 1985 that glyphosate, the active ingredient in Roundup, has the potential to cause cancer. On March 4, 1985, the EPA released a memorandum that indicated "a group of toxicology branch personnel met [on February 11, 1985,] to evaluate and discuss the database on glyphosate, and in particular the potential oncogenic response of glyphosate." The memorandum provided that, after considering all information available to the EPA, including a letter from Monsanto rebutting the significance of studies demonstrating the connection between glyphosate and renal mouse tumors, and in accordance with EPA guidelines, "the panel [of toxicology branch personnel] classified glyphosate as a Class C oncogene." Dr. D. F. admitted during the Plaintiffs' redirect examination of her that, even after Monsanto received the EPA's 1985 memorandum, Monsanto did not warn customers about the EPA's 1985 conclusion regarding the active ingredient in Roundup and continued to sell the product.

Dr. D. F. also testified that she was aware that, between 1993 and 1999, four peer-reviewed studies concluded that glyphosate was capable of producing genotoxicity--in other words, capable of causing damages to DNA and to the structure of chromosomes--in live animals through a process called "oxidative stress." Dr. D. F. then admitted that, by 1999, Monsanto had evidence that "glyphosate was cable of producing genotoxicity."

Dr. E. T.--a medical doctor and the director of the Institute for Translational Epidemiology at Icahn School of Medicine at Mount Sinai in New York City, as well as a member of the EPA's scientific advisory panel ("SAP") tasked with advising the EPA during the review of chemicals--testified during the Plaintiffs' case-in-chief as an expert witness on the general causation of cancer risk assessment. In December 2016, Dr. E. T. served on the EPA's SAP related to the re-registration of glyphosate, and in conjunction with that role, Dr. E. T. reviewed all of the then-available epidemiological studies related to the association between glyphosate and NHL. The papers reviewed by Dr. E. T. included five epidemiological studies conducted between 1999 and 2008, all of which found a statistically significant positive association between glyphosate and NHL. Dr. D. F. conceded during direct examination that the epidemiological studies reviewed by Dr. E. T. showed a positive association between glyphosate and NHL. Dr. D. F. testified that Monsanto was aware of these studies, as demonstrated by email chains among Monsanto employees, including Dr. D. F., discussing the studies.[20] Dr. D. F. admitted

[20]Two emails were particularly probative. After the 1999 study was published, Dr. D. F. sent an email to a fellow Monsanto employee that stated, "Regarding business, unfortunately we feel that [the 1999 study] is just the tip of the iceberg for these type of association epi-studies." After a 2001 epidemiological study was published, Dr. D. F.

that despite being aware of these studies, Monsanto did not conduct its own epidemiological study regarding a possible link between Roundup and NHL. Dr. E. T. testified that post-2008 epidemiological studies regarding a connection between glyphosate and NHL also found a statistically significant positive association.

Dr. D. F. testified that, even though it had knowledge of peer-reviewed studies of animal exposure to glyphosate and epidemiological studies demonstrating a possible link between glyphosate and NHL, Monsanto did not reformulate Roundup to remove glyphosate; did not provide a warning label addressing the risk of cancer, particularly NHL, posed by Roundup; and did not remove Roundup from the marketplace.

On September 24, 1998, Monsanto convened a meeting of its employees, including Dr. D. F., in order to "develop a more comprehensive, robust genetic toxicology defense," including "[d]evelop[ing] an external global network of experts to manage allegations of potential genotoxicity."[21] Following that meeting, Dr. D. F. contacted Dr. P., a world-renowned toxicologist based in the United Kingdom. Ultimately Monsanto engaged Dr. P. to evaluate the peer-review studies regarding the potential genotoxicity of glyphosate in Roundup. Dr. P. concluded in a 1999 letter to Monsanto that "the overall data provided by the four [genotoxicity] publications provide evidence to support a model that glyphosate is capable of producing genotoxicity both in

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sent an email to a fellow Monsanto employee that stated, "[W]e don't know yet what it says in the small print, but the fact that glyphosate is no longer mentioned in the abstract is a huge step forward. It removes it from being picked up by abstract searches!"

[21]The purpose for the meeting was included in the minutes, which was admitted into evidence during Dr. D. F.'s direct examination testimony.

vivo and in vitro by a mechanism based upon the production of oxidative stress." In response to Dr. P.'s letter, Monsanto employees, including Dr. D. F., had a meeting in February 1999. Dr. D. F. wrote the meeting minutes, which included the statement that "data that Dr. [P.] evaluated is limited and is not consistent with other better conducted studies." The meeting minutes continue, "[i]n order to move Dr. [P.] from his position, we will need to provide him with that additional information, as well as asking him to critically evaluate the quality of all data, including the open literature studies." Monsanto ultimately asked Dr. P. to perform a second evaluation during which he was given access to Monsanto's proprietary studies of the safety of glyphosate after he signed a confidentially agreement. After the second review, Dr. P. concluded that "glyphosate could be clastogenic," meaning that glyphosate could have an effect on the structure of chromosomes, which may result in cancer.

Dr. D. F. testified that Monsanto disagreed with Dr. P.'s conclusion following his second review of the data. Dr. D. F. testified that she received an email in September 1999 from a fellow Monsanto employee that stated, "We want to find/develop someone who is comfortable with the genotox profile of glyphosate and Roundup, and who can be influential with regulators and scientific research operations when genotox issues arise. . . . My read is that [Dr. P.] is not currently such a person, and it would take quite some time and money/studies to get him there." Dr. D. F. testified that Dr. P. never wrote a third report.

In 2000, a paper titled "Safety Evaluation and Risk Assessment of the Herbicide Roundup and Its Active Ingredient Glyphosate for Humans" was published in *Regulatory*

Toxicology and Pharmacology. Monsanto funded the paper, and the authors credited Monsanto and "key personnel . . . who provided scientific support." Dr. D. F. testified that Monsanto used that paper to respond to various regulatory agencies. In a February 19, 2015 email sent to Dr. D. F. ahead of the International Agency for Research on Cancer's ("IARC") 2015 determination that glyphosate is a class 2A probable human carcinogen, a toxicologist employed by Monsanto wrote, "[an] approach might be to involve experts only for the areas of contention . . . depending on what comes out of the IARC meeting, and then we'd ghostwrite the exposure tox and genotox sections." That email stated "recall how we handled [the authors of the 2000 paper]," referencing allowing those authors to "have their names on the publication, but [Monsanto] would be keeping the cost down by . . . doing the writing [itself] and [the authors] would just edit and sign their names." Dr. D. F. testified that, following the IARC's 2015 determination, Monsanto employees considered activities the company could take to support glyphosate. Dr. D. F. testified that Monsanto ultimately funded an animal study with a consultant for litigation matters regarding glyphosate credited as the author. Dr. D. F. acknowledged that three other papers funded by Monsanto--a genotoxicity paper, an exposure paper, and an epidemiology paper, all of which were written by scientists who had previously been affiliated with Monsanto--were published in *Critical Reviews in Toxicology*. The journal ultimately published an addendum indicating that the authors of those three papers had not fully disclosed their relationship with Monsanto.

Monsanto's awareness of studies demonstrating the possibility of a causal relationship between glyphosate, the active ingredient in Roundup, and cancer,

particularly NHL, and then its decision to double down on its defense of Roundup in lieu of changing the product's formulation or adding a warning label regarding the risk posed by Roundup demonstrates, at best, Monsanto's indifference to or reckless disregard of the health of its customers.

The third factor--the financial vulnerability of the Plaintiffs--has no application to this case. However, the fourth and fifth factors do. The fourth factor requires us to consider whether Monsanto's misconduct was isolated or repeated. As described in our discussion of the second factor, Monsanto engaged in a pattern of behavior designed to represent to the public that Roundup posed no risk to its users, regardless of independent peer-reviewed studies suggesting otherwise. The fifth factor requires us to examine the evidence to determine whether the Plaintiffs' damages were the result of intentional malice, trickery, or deceit. The evidence presented at trial, and summarized above, demonstrates that Monsanto affirmatively adopted a strategy to defend the safety of Roundup, regardless of evidence suggesting otherwise.

B. The disparity between the actual or potential harm suffered and the punitive damages award

The second guidepost requires consideration of "the ratio between harm, or potential harm, to the plaintiff and the punitive damages award." *State Farm*, 538 U.S. at 424. While there is no bright-line ratio that the award of punitive damages may not exceed, the United States Supreme Court's "jurisprudence . . . demonstrate . . . that, in practice, few awards exceeding a single-digit ratio between punitive and compensatory damages, to a significant degree, will satisfy due process." *Id.* at 425. "Single-digit

multipliers are more likely to comport with due process, while still achieving the State's goals of deterrence and retribution, than awards with [greater] ratios . . . ." *Id.*

Here, the Judgments awarded the following: (1) to Anderson, $38 million in compensatory damages and $342 million in punitive damages, a ratio of 9 to 1; (2) to Draeger, $5.6 million in compensatory damages and $50.4 million in punitive damages, a ratio of 9 to 1; and (3) to Gunther, $17.5 million in compensatory damages and $157.5 million in punitive damages, a ratio of 9 to 1. While the ratio of punitive to compensatory damages is in the single digits, Monsanto nonetheless argues that, because the compensatory damages awards are substantial, the ratio should not exceed 1 to 1. But, when considering the evidence, we conclude that ratio of 9 to 1 is not grossly excessive.

Throughout the trial, the jury heard about Monsanto's adoption of a strategy to defend the safety of Roundup to the public and to the EPA, despite independent analyses of glyphosate that demonstrated the possibility of a causal link between glyphosate and cancer, particularly NHL. Despite knowing about the possibility of this causal link since 1985, Monsanto made no effort to either alter the composition of Roundup to remove glyphosate or to place a warning label on Roundup detailing the possible risk of use of the product. Instead, it pursued profit at the expense of the health of its customers. Given the reprehensibility of Monsanto's misconduct as well as the goal to deter Monsanto from continuing its strategy of pursuing profit at the expense of the health of Roundup users, a 9 to 1 ratio of punitive damages to compensatory damages was appropriate. "A much larger amount of punitive damages is required to have a deterrent

effect on a multi-billion dollar corporation than a smaller business . . . ." *Poage v. Crane Co.*, 523 S.W.3d 496, 523-24 (Mo. App. E.D. 2017) (affirming a punitive damage award in a mesothelioma case where the ratio of punitive damages to compensatory damages equaled just under 7 to 1, and approximately 12 to 1 using the jury's net award of compensatory damages). As was the case in *Poage*, "in this case, a larger punitive damages award is justified to promote Missouri's legitimate interest of deterring companies from putting unreasonably dangerous products into our State's stream of commerce." *Id.* at 524.

C. The difference between the punitive damages awarded by the jury and any civil penalties authorized or imposed

The third guidepost requires consideration of the "disparity between the punitive damages award and the 'civil penalties authorized or imposed in comparable cases.'" *State Farm*, 538 U.S. at 428 (quoting *BMW of N. Am., Inc.*, 517 U.S. at 575). "Civil penalties" refer to those sanctions that have been created by the legislature. *See BMW of N. Am., Inc.*, 517 U.S. at 583 ("[A] reviewing court engaged in determining whether an award of punitive damages is excessive should 'accord substantial deference to legislative judgments concerning appropriate sanctions for the conduct at issue.'") (quoting *Browning-Ferris Indus. of Vt., Inc. v. Kelco Disposal, Inc.*, 492 U.S. 257, 301 (1989) (O'Connor, J., concurring in part and dissenting in part)). Monsanto does not cite to any civil penalty authorized by either the United States Congress or the Missouri General Assembly. Thus, this guidepost is not material to our analysis.

Though Monsanto does not identify any civil penalties assessed against it by any government authority, to address the third guidepost, Monsanto relies on two California Roundup decisions and one Ninth Circuit Roundup decision where the ratio of punitive damages to compensatory damages was lower than a 9 to 1 ratio. In *Johnson v. Monsanto Co.*, 266 Cal. Rptr. 3d 111, 135 (Cal. Ct. App. 2020), the court rejected the plaintiff's assertion that the trial court's decision to remit the punitive damage award to reflect a 1 to 1 ratio was error, emphasizing that "*in this case* . . . a one-to-one limit was appropriate." The *Johnson* case was filed in January 2016, and tried in the summer of 2018. *Id.* at 117. In *Pilliod v. Monsanto Co.*, 282 Cal. Rptr. 3d 679, 725 (Cal. Ct. App. 2021), the court concluded that a 4 to 1 ratio, while substantial, did not exceed constitutional limits. The *Pilliod* case was filed in 2017 and tried in the spring of 2019. *Id.* at 693-94. The Ninth Circuit determined in *Hardeman v. Monsanto Co.*, 997 F.3d 941, 976 (9th Cir. 2021), that a 3.8 to 1 damages ratio is "close to the line of constitutional impropriety," but ultimately found it comported with due process. The Ninth Circuit then recognized that "a smaller punitive damages award in other cases [concerning Roundup] may safely satisfy due process concerns by still imposing the appropriate punishment and achieving the goals of deterrence and retribution." *Id.* at 976. The *Hardeman* case was filed in 2016. *Id.* at 952.

It is not possible to know whether the evidence presented in these cases that would have been relevant to evaluating the *State Farm* guideposts was the same as the evidence presented in the Plaintiffs' cases. However, since the Plaintiffs' cases were not filed until 2022, and were tried in 2023, it is highly likely that the evidence presented at trial in the

Plaintiffs' cases benefited from the discovery of additional relevant evidence that post-dated the California cases. Certainly, as explained in our discussion of Monsanto's sixth point on appeal, Monsanto continued to produce glyphosate-based Roundup until October 2023, well after the disposition of the California cases. And, Monsanto continued to sell glyphosate-based Roundup without modifying warning labels to advise consumers of the risk of developing cancer even after it ceased production of glyphosate-based Roundup in October 2023, intent on ensuring all product in the pipeline was first sold. Monsanto made these choices after being ordered to pay comparatively smaller punitive damage awards in the California cases. And, Monsanto continued to rely on the EPA's 2017 Human Health Risk Assessment and the 2017 Cancer Paper to declare, without equivocation, that glyphosate is not likely to be carcinogenic to humans, even though the efficacy of the scientific rationale for reaching that conclusion was found in 2022 to be not supported by substantial evidence. Under the circumstances, we do not believe that the California cases require the conclusion that a 9 to 1 ratio of punitive damages to compensatory damage in the Plaintiffs' cases violates due process.

After considering the guideposts set forth in *State Farm* for reviewing whether a punitive damage award is grossly excessive or arbitrary in violation of a defendant's due process rights, we conclude that the Judgments' awards of punitive damages to Anderson, Draeger, and Gunther pass constitutional muster.

Point Five is denied.

Point Seven: The Plaintiffs' claims are not expressly or impliedly preempted by FIFRA

In its seventh point on appeal, Monsanto argues that the Plaintiffs' claims for strict liability based on a design defect, strict liability based on a failure to warn, and for negligence are expressly federally preempted by FIFRA. They cite to *Schaffner v. Monsanto Corp.*, 113 F.4th 364, 398-99 (3d Cir. 2024), for the proposition that failure-to-warn claims involving glyphosate-based Roundup are preempted by FIFRA. They extrapolate from this holding without citation to any authority that the same conclusion must be reached with respect to the Plaintiffs' design defect and negligence claims.

Monsanto also argues all of the Plaintiffs' failure-to-warn claims are impliedly preempted by federal law, an assertion that imposes an exacting burden on Monsanto to show that it fully informed the EPA of the nature of the warning Missouri law would have required, that the EPA informed Monsanto that it would not approve changing the label on Roundup accordingly, and that the EPA undertook its action pursuant to authority that carries the force of law. *See Carson v. Monsanto Co.*, 92 F.4th 980, 986 (11th Cir. 2024).

These exact arguments were recently made by Monsanto in *Durnell v. Monsanto Co.*, 707 S.W.3d 828 (Mo. App. E.D. 2025), *transfer denied*, No. SC100975 (Mo. banc Apr. 1, 2025), *petition for cert. filed*, No. 24-1068 (Apr. 4, 2025). When Monsanto filed its opening Brief in the instant appeal, it noted that the aforesaid case was pending in the Eastern District, and that in lieu of full briefing of the issue here, it would be relying on the full briefing of the preemption issues it had filed in the Eastern Distinct case.

Subsequent to briefing, *Durnell* was decided, and the Eastern District rejected Monsanto's express and implied preemption arguments in a sound and reasoned opinion. The Eastern District concluded that FIFRA does not apply to preempt the Plaintiffs' strict liability failure-to-warn claims, and to conclude that Monsanto has not established an irreconcilable conflict between FIFRA and Missouri failure-to-warn law as to impliedly preempt the Plaintiffs' strict liability failure to warn claims. *Id.* at 833-34. We agree with the reasoned analysis set forth by the Eastern District in *Durnell*. That analysis is adopted by our court without further discussion.

Point Seven is denied.

Conclusion

The Judgments are affirmed.

Cynthia L. Martin, Presiding Judge

All concur