KELLY J. MARTEL,	:	
	:	COURT OF COMMON PLEAS
Plaintiff,	:	PHILADELPHIA COUNTY
v.	:	TRIAL DIVISION -CIVIL
	:	
MONSANTO COMPANY, et al.,	:	No. 210900084
	:	
Defendants.	:	Control Nos.: 23124034, 23124043,
	:	23123191

OPINION

INTRODUCTION

Presently before the court are Motions by Defendant Monsanto Company ("Monsanto") and by Defendant Nouryon Surface Chemistry LLC ("Nouryon") for Post-Trial Relief and by Plaintiff for the award of Delay Damages, following a jury trial before the Honorable Genece Brinkley resulting in a verdict in Plaintiff's favor for $500,000 in compensatory damages and $3 million in punitive damages. Judge Brinkley retired from the bench shortly after the conclusion of the trial whereupon the post-trial motions were assigned to this court. This court has reviewed the entire record, beginning with the pre-trial Frye motions and motions in limine, along with the entirety of the trial transcripts and the post-trial motions. After its review, the court conducted oral argument on the motions and now addresses the arguments before it.

The lawsuit alleged that Plaintiff used Monsanto's product Roundup for substantial hours over many years and was exposed to carcinogenic ingredients in the product that led to her diagnosis with Non-Hodgkins Lymphoma ("NHL"), risks of which Defendants were aware and failed to warn or to provide instructions for the safe use of the product. The Plaintiff further alleged that Nouryon's product was designed to enhance the effectiveness of the product that made it more dangerous to consumers like her.

The court considers both of the Defendants' motions herein, but in two parts. In the first part, the court focuses on the arguments in Monsanto's motion, to which Nouryon has joined, and which, for the most part, apply to both Defendants. In the second part, the court addresses the arguments specific to Nouryon only. In Part Three, the court addresses Plaintiff's Motion for Delay Damages.

PART ONE

I. REQUESTED RELIEF

Defendants present the court with three proposed orders, representing the alternative forms of relief they seek. Initially, they argue that the court must grant them Judgment Notwithstanding the Verdict based upon the insufficiency of the trial evidence as to numerous elements of Plaintiff's proposed causes of action. Specifically, Monsanto and Nouryon attack the causation evidence as lacking a sufficient factual foundation and failing to satisfy the requirement of specific causation. Defendants also challenge the sufficiency of the evidence related to the ingredients in the formulated Roundup. Defendants dispute that they had an obligation to warn users of the product or that Pennsylvania can impose a duty to warn because federal law applicable to weedkillers preempts Pennsylvania law.

Defendants are alternatively seeking a new trial on the basis of trial errors, including improper conduct of the jury voir dire, alleged erroneous jury instructions and verdict slip, failure to send the written charge to the jury, error in the order of questions on the verdict slip, improper trial management, the court's improper questioning of witnesses, improperly broad scope of cross examination of Monsanto (adverse) witnesses and improperly limited direct examination of the same witnesses, improper admission or exclusion of specific evidence and failure to prevent prejudicial misconduct by Plaintiff's counsel. Moreover, any order for a new

trial, Defendants claim, should reflect the testimony that the claims arose and should have been tried in the county of Plaintiff's residence and where she was exposed to Roundup, Westmoreland County.

Defendants finally assault the damages awards as unsupported, excessive and unconstitutional. Monsanto argues that both the compensatory and punitive damages awards were based on trial error, erroneous evidentiary rulings, improper jury instructions, prejudicial arguments by Plaintiff's counsel and other deficiencies.

Nouryon also advances arguments unique to the facts of its involvement in the manufacture of Roundup. Specifically, Defendant contends that the jury's determination that the Nouryon's product was the not factual cause of Plaintiff's injury under Plaintiff's strict liability design defect theories was inconsistent with its conclusion that Nouryon's negligence was a factual cause of the injury. As Nouryon was not the only supplier of the component surfactant in Monsanto's Roundup, Defendant argues that Plaintiff failed to prove exposure to its surfactant. Additionally, as a mere component supplier, Nouryon claims that it played no role in the design of the product and could not be liable under any of Plaintiff's legal theories. Further, Nouryon claims there was no evidence of a defect in the Nouryon product itself or evidence that it could cause cancer. As a consequence of these deficiencies, Nouryon argues that it is entitled to JNOV.

The court turns to the merits of the parties' arguments.

II. ANALYSIS-Monsanto Motions and Issues Joined by Nouryon

A. Scope of Review-Grounds for Relief

Under Rule 227.1(a), upon written motion for post-trial relief, "the court may" (1) order a new trial as to all or any issues, (2) direct entry of judgment (judgment *non obstante veredicto* or

"JNOV"), (3) remove non-suit, (4) affirm, modify, or change the decision, or (5) enter any other appropriate order. Pa.R.C.P. No. 227.1. Relief may not be granted unless the grounds for relief were raised before or at trial. *See* Pa.R.C.P. No. 227.1(b); it MUST have been raised before or at trial (motion, objection, "other appropriate method").

JNOV "can be entered upon two bases: (1) where the movant is entitled to judgment as a matter of law; and/or, (2) the evidence was such that no two reasonable minds could disagree that the verdict should have been rendered for the movant." *Simon v. Wyeth Pharm., Inc.*, 989 A.2d 356, 365 (Pa. Super. 2009)(citations omitted). In deciding the motion, "the evidence must be considered in the light most favorable to the verdict winner, and he must be given the benefit of every reasonable inference of fact arising therefrom, any conflict in the evidence must be resolved in his favor." *Surowiec v. Gen. Motors Corp.*, 672 A.2d 333, 337 (Pa. Super. 1996)(citations omitted). Thus, the court "must consider all of the evidence admitted to decide if there was sufficient competent evidence to sustain the verdict." *Simon*, 989 A.2d at 365. Credibility and weight of the evidence remain matters for the jury, and the court "will not substitute [its] judgment for that of the finder of fact. If any basis exists upon which the jury could have properly made its award, then we must affirm." *Id.*

By comparison, in deciding a request for new trial, the court performs two levels of analysis:

> First, the court must determine whether, colloquially speaking, a "mistake" (or mistakes) was made at trial. Second, the court decides whether the mistake (or mistakes) is sufficient basis for granting a new trial. The first decision—whether a mistake was made—may involve factual, legal, or discretionary matters. However, the second and ultimate decision—whether to grant a new trial—is always a discretionary matter because it requires consideration of the particular circumstances of the case.

Morrison v. Com., Dept. of Pub. Welfare, Off. of Mental Health (Woodville State Hosp.), 646 A.2d 565, 571 (Pa. 1994). Moreover, "[a] new trial is not warranted merely because some irregularity occurred during the trial or another trial judge would have ruled differently; the moving party must demonstrate to the trial court that he or she has suffered prejudice from the mistake. *Rettger v. UPMC Shadyside*, 991 A.2d 915, 923–24 (Pa. Super. 2010).

B. JNOV

1. Dr. Levy's Testimony

Monsanto's first challenge essentially argues that Plaintiff's expert, Dr. Levy, failed to present sufficient evidence of causation. (Monsanto's Motion for Post-Trial Relief ("Monsanto Post-Trial") ¶¶ 6 – 35). Monsanto specifically alleges that Dr. Levy (1) assumed facts regarding plaintiff's exposure that were contradicted by trial testimony, (2) concluded that Plaintiff's cancer was caused by a combined effect of Roundup, cigarette smoke, and hair dye, (3) improperly used "exposure days," which constituted insufficient evidence of specific causation, and (4) improperly performed a "differential diagnosis." This analysis allegedly failed to present sufficient evidence of causation insofar as it failed to rule out cigarette smoke and hair dye.

"In order for liability to attach in a products liability action, plaintiff must establish that the injuries were caused by a product of the particular manufacturer or supplier." *Eckenrod v. GAF Corp.*, 544 A.2d 50, 52 (Pa. Super. 1988). "Liability in a strict liability action will attach where the manufacturer distributes a defective product[,] and the existing defect is a substantial factor in causing injury to another." *Sheehan v. Cincinnati Shaper Co.*, 555 A.2d 1352, 1354 (Pa. Super. 1989). This "substantial factor" analysis equally applies in theories for negligence. *See*, *e.g.*, *Straw v. Fair*, 187 A.3d 966, 993 (Pa. Super. 2018); *Summers v. Certainteed Corp.*, 997 A.2d 1152, 1164 (Pa. 2010).

Pennsylvania courts recognize that even if a manufacturer's product is a "concurring cause," it may still be a substantial factor despite the fact that it did not work alone:

> A defective product substantially contributes to a plaintiff's injuries if it is sufficient to cause them or when combined with other contributing factors is sufficient to cause them, even though each alone would have been insufficient. A defendant will not be permitted to avoid responsibility for the injurious consequences of its defective product merely because a defective product of another would have independently caused the same result.

Maya v. Johnson and Johnson, 97 A.3d 1203, 1220 (Pa. Super. 2014). The law of concurring causes "applies just as forcibly to […] defective products" as to negligence. *Id.* (*quoting Lilley v. Johns–Manville Corp.*, 596 A.2d 203, 215–216 (1991)(Olszewski, J. concurring)). *See also Rost v. Ford Motor Co.*, 151 A.3d 1032, 1048-49 (Pa. 2016)(so long as the expert "opine[s] within a reasonable degree of medical certainty that the exposures at [defendant's business] were sufficient to cause" mesothelioma, "[c]omparison of [plaintiff's] other occupational exposures to asbestos [i]s unnecessary"); *Summers v. Certainteed Corp.*, 997 A.2d 1152, 1164 (Pa. 2010)("the fact that some other cause concurs with the negligence of the defendant in producing an injury does not relieve the defendant from liability unless he can show that such other cause would have produced the injury **independently** of his negligence" (citations and quotations omitted)(emphasis added)); Pa. SSJI (Civ), §§13.20, 16.70 (2020)(Factual Cause; Factual Cause—Products Liability).

Monsanto's does not argue that it established that the other factors (smoking and hair dye) independently (or even the two in combination) caused Plaintiff's NHL. Its argument essentially contends that Plaintiff's evidence of causation is inadequate. A review of the record demonstrates this argument is without merit.

Dr. Irving Allen, a cancer biologist and immunologist, testified on general causation between glyphosate/Roundup and NHL. Dr. Allen concluded that it is "highly probable that glyphosate is associated with cancer" and that "[i]n the context of non-Hodgkin's lymphoma, the scientific data is compelling." (N.T. 11/15/23 (PM) at 81, 97). Dr. Allen testified he analyzed peer reviewed scientific literature on glyphosate and Roundup using the 14 Hallmarks of Cancer ("Hallmarks")—a set of characteristics "well-used" as a "framework" for understanding how cancer occurs. (N.T. 11/15/23 (AM) at 53, 87). In reviewing the literature, Dr. Allen concluded that glyphosate and Roundup probably or highly probably exhibit nine of the 14 Hallmarks: metastasis, evading growth suppressors, avoiding immune destruction, altering cellular metabolism, epigenetic reprogramming, altering microbiome, promoting pro-tumor inflation, promoting DNA mutation[1] and proliferation. (N.T. 11/15/23 (PM) at 80-81). Dr. Allen testified to the details of his opinion for each of these Hallmarks.[2] By contrast, he concluded that resisting cell death and vasculature may be affected by glyphosate, and that plasticity, senescence, and replication immortality Hallmarks were not likely to be affected by glyphosate. (N.T. 11/15/23 (AM) at 98-101; (PM) at 37-38, 80). Dr. Allen reached this conclusion based upon the totality of the data that he reviewed. (N.T. 11/15/23 (PM) at 96).

[1] Dr. Allen noted that mutations are an "enabling characteristic" rather than a Hallmark. (N.T. 11/15/23 PM at 73.)

[2] Specifically: proliferation signaling (N.T. 11/15/23 AM at 59-60; PM at 41-46), evading growth suppressors (N.T. 11/15/23 AM at 61-63; PM at 47-52), altering cellular metabolism (N.T. 11/15/23 AM at 69-70; PM at 58-61), promoting pro-tumor inflammation (N.T. 11/15/23 AM at 73-75; PM at 68-73), metastasis (N.T. 11/15/23 PM at 39-41), avoiding immune destruction (N.T. 11/15/23 AM at PM at 52-58), epigenetic reprogramming (N.T. 11/15/23 PM at 61-64), altering microbiome (N.T. 11/15/23 PM at 65-68), and promoting mutations (N.T. 11/15/23 PM at 74).

Dr. Levy testified to specific causation of Plaintiff's NHL using a differential diagnosis.[3] He began by "gathering information on the diagnosis and exposure, […] considering not only Roundup as glyphosate-based formulations, but also other plausible factors that may have caused or contributed to the causation of her non-Hodgkin's lymphoma[.]" (N.T. 11/17/23 (AM) at 25-26). Other plausible factors included cigarette smoking history, hair dye, exposure to polychlorinated biphenyls, exposure to other pesticides, personal and family history of previous cancers and treatments, exposures to solvents such as benzene, X-ray exposures, immunosuppressant exposure, and relevant disease. (*Id.*).

Dr. Levy included Roundup based on his research of the scientific literature. Dr. Levy identified "three studies that provide extremely valuable information showing that people with a certain degree of exposure to […] Roundup, to glyphosate, have a statistically increased risk of developing non-Hodkin's lymphoma." (N.T. 11/17/23 (AM) at 32). Dr. Levy explained that the first two studies, McDuffie in 2001 and Eriksson in 2008, reported that more than two days of exposure to glyphosate per year or 10 total days over a lifetime were associated with more than double the risk of non-Hodgkin's lymphoma. (*Id.* at 34-36). Dr. Levy repeatedly testified that the Eriksson study required eight cumulative hours of exposure for a participant to be included, and he denied that a subsequent Hardell study in 2023[4] defined each "exposure day" as eight hours.

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[3] A differential diagnosis involves "ruling in all identifiable known causes of (and risk factors for) [the disease in question] and then ruling out those for which there is inadequate evidence." *Walsh Est. of Walsh v. BASF Corp.*, 234 A.3d 446, 453 (Pa. 2020)(citing causation expert's testimony, brackets in original). "There is nothing scientifically novel about using differential diagnosis[.] Certainly differential diagnosis is a generally accepted methodology[.] *Stange v. Janssen Pharm., Inc.*, 179 A.3d 45, 55 (Pa. Super. 2018).

[4] Defendants may "disagree" with the studies upon which Dr. Levy relied and/or may contend that other studies undermine his conclusions. However, these arguments do not render their scientific sources conclusive or render his testimony valueless. Defendants had adequate opportunity on cross-examination to attack Dr. Levy and to present their own experts to dispute

(*Id.* at 108, 110, 113-116). Dr. Levy added that the Pahwa study in 2019 also concluded that greater than two days of exposure per year was associated with 1.73 times the risk of developing non-Hodgkin's lymphoma and adjusted for other pesticides. (*Id.* at 37-38).

Dr. Levy further testified that the scientific literature revealed that surfactants contained in Roundup—polyethoxylated amines, or POEAs—make it more toxic. (*Id.* at 65-66). He explained that Roundup is a mixture containing a number of chemicals including glyphosate and surfactants and testified that "Roundup is a cause of non-Hodgkin's lymphoma" as supported by epidemiological literature. (*Id.* at 64-68).

After ruling in the world of factors to consider, Dr. Levy ruled out all but three factors for as causes of Plaintiff's NHL: Roundup, smoking, and hair dye. (*Id.* at 26, 47-55). Dr. Levy concluded that Roundup was "a substantial contributing factor and a specific link to [Plaintiff's] non-Hodgkin's lymphoma. And had it not been for her exposure to Monsanto's Roundup, she would not have developed non-Hodgkin's lymphoma when she did." (*Id.* at 47). Dr. Levy further concluded that Plaintiff's 30 pack-year history of smoking and her use of hair dye (10 times per year for 36 years) were also substantial contributing factors to her non-Hodgkin's lymphoma upon comparison to the literature. (*Id.* at 53-56). Dr. Levy denied any scientific basis to weigh one of these factors more than the others. (*Id.* at 59). Defendants' specific causation expert, Dr. Rashef, similarly testified that smoking and hair dye were risk factors but did not testify that they independently caused her NHL. (N.T. 11/30/23 (PM) at 89, 95-96).

Dr. Levy testified he counted the number of times Plaintiff sprayed Roundup across three addresses: six times at 200 Rustic Drive from 1998 to 1999, 45 times at 9 Allen Way from 2005

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him. The court sees no basis for JNOV in Defendants' arguments since determination of expert credibility, if any, was a matter for the jury.

to 2014, and 32 times at 8960 Pennsylvania Avenue from 1998 to 2004. (N.T. 11/17/23 (AM) at 40-41). He reached a sum of 83 times over 17 years, which he testified meant spraying over four times per year. (*Id.* at 41). Dr. Levy testified he could not perform a quantitative analysis to determine the level of glyphosate that would have absorbed into Plaintiff's body and denied calculating the number of hours that Plaintiff spent spraying. (N.T. 11/17/23 (AM) at 98; N.T. 11/17/23 (PM) at 6). He further acknowledged that the sum of the hours reflected in his report resulted in 53.25 hours of times Plaintiff spent spraying between 1998 and 2014. (N.T. 11/17/23 (PM) at 8-11).

Plaintiff subsequently testified she spent 220 minutes spraying at Rustic Drive, 4,340 minutes spraying at Pennsylvania Avenue, and 1,215 minutes at Allen Way. (N.T. 11/27/23 (AM) at 105, 118-19, 122, 144-47, 152-53, 167-68, 170-171). This sum constitutes 96.25 hours over her lifetime, though Plaintiff testified to 81.85 hours to discount for breaks between sprays. (*Id.* at 169-171). She thus testified to 10.23 eight-hour days of exposure over her lifetime. (*Id.* at 172).

The jury's verdict is supported by this evidence. The jury found Monsanto's Roundup defective under both the consumer expectations and risk-utility tests, and that the defect was a factual cause of Plaintiff's harm. (Trial Worksheet, Dkt. at 16/6/23). The jury further found Monsanto negligent, and that its negligence was a factual cause of Plaintiff's harm. (Id.).

Dr. Levy explained to the jury that scientific literature reflected a statistically significant increase in NHL risk associated with two eight-hour days per year or ten days of exposure over a lifetime. Dr. Levy concluded Plaintiff crossed this threshold based on his review of the medical records and evidence. Plaintiff further testified in detail to approximately 10.23 eight-hour exposure days over her lifetime.

Pennsylvania law does not require Plaintiff to rule out all other concurrent causes, only to demonstrate that the defendants' product was a substantial factor in bringing about the cause. *See Maya v. Johnson and Johnson*, *supra*; *Summers v. Certainteed Corp.*, *supra*. Nor does Pennsylvania law require a plaintiff to present evidence of quantified dose in products liability cases involving environmental exposures occurring over decades resulting in latent harm. *See Rost v. Ford Motor Co.*, 151 A.3d 1032, 1052 (Pa. 2016) (rejecting requirement of quantification in asbestos cases where there "is substantial doubt whether such quantification is possible" as doing so would "have the effect of creating an impossible burden of proof," and leaving comparison of multiple asbestos products to jury).

While defendants validly challenged Dr. Levy's credibility, his interpretation of studies, and his decision not to calculate hours, the jury nevertheless heard testimony from Plaintiff and Dr. Levy from which it could reasonably conclude that formulated Roundup as a whole was a substantial factor in causing Plaintiff's NHL. Furthermore, Defendants had the opportunity to and did challenge the inconsistencies in Plaintiff's testimony as to exposure and argued that her inconsistencies undermined both her credibility and the basis for Dr. Levy's conclusions. Whatever weight to accord this evidence and to determine the credibility of these witnesses fell within the province of the jury.

Considering the evidence in the light most favorable to Plaintiff as the verdict winner, Plaintiff presented sufficient to support the jury's verdict that Roundup was a substantial factor in causing Plaintiff's injury.

2. Other Toxic "Ingredients"

Monsanto argues that plaintiff failed to present sufficient evidence to allow a jury to conclude that any of the "toxic chemicals" (discussed elsewhere as ethylene oxide, 1,4 dioxane, and arsenic) caused Plaintiff's NHL. (Monsanto Post-Trial at ¶¶ 36-39).

However, as explained in detail above, Plaintiff presented extensive testimony explaining how Roundup caused her NHL. Thus, this argument need not be addressed as it does not affect the validity of the jury's conclusion that Roundup caused Plaintiff's NHL. For completeness, the record reflects that Dr. Levy explained the presence of ethylene oxide, 1, 4 dioxane, and arsenic in Roundup and their known carcinogenicity. (N.T. 11/17/23 (AM) at 62-65). He later testified that Roundup—rather than glyphosate alone—is a cause of NHL. (*Id.* at 68).

3. Design Defect

Monsanto contends that Plaintiff failed to present sufficient evidence for a design defect claim due to lack of evidence of an alternative design. (Monsanto Post-Trial at ¶¶ 40-44).

To succeed on a strict products liability claim, the plaintiff "must establish only two things: [(1)] that the product was sold in a defective condition 'unreasonably dangerous' to the user, and [(2)] that the defect caused plaintiff's injury." *Cmmw. v. Monsanto Co.,* 269 A.3d 623, 663 (Pa. Cmmw. 2021). A plaintiff may prove "defective condition" by showing either that "(1) the danger is unknowable and unacceptable to the average or ordinary consumer, or that (2) a reasonable person would conclude that the probability and seriousness of harm caused by the product outweigh the burden or costs of taking precautions." *Tincher v. Omega Flex, Inc.*, 104 A.3d 328, 335 (Pa. 2014). These tests are respectively known as the "consumer expectations test" and the "risk utility test." *Tincher*, 104 A.3d at 368.

The consumer expectations test considers "[t]he nature of the product, the identity of the user, the product's intended use and intended user, and any express or implied representations by a manufacturer or other seller[.]" *Tincher v. Omega Flex, Inc.*, 104 A.3d 328, 387 (Pa. 2014); *see also* Pa. SSJI (Civ), §16.20 (2020) ("Determination of Design Defect"). The risk utility test considers seven factors known as the "Wade" factors:

> (1) The usefulness and desirability of the product—its utility to the user and to the public as a whole;
>
> (2) The safety aspects of the product—the likelihood that it will cause injury, and the probable seriousness of the injury;
>
> (3) The availability of a substitute product which would meet the same need and not be as unsafe;
>
> (4) The manufacturer's ability to eliminate the unsafe character of the product without impairing its usefulness or making it too expensive to maintain its utility;
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> (5) The user's ability to avoid danger by the exercise of care in the use of the product;
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> (6) The user's anticipated awareness of the dangers inherent in the product and their availability, because of general public knowledge of the obvious condition of the product, or of the existence of suitable warnings or instructions; and
>
> (7) The feasibility, on the part of the manufacturer, of spreading the loss by setting the price of the product or carrying liability insurance.

Tincher v. Omega Flex, Inc., 104 A.3d 328, 389–90 (Pa. 2014); *compare* Pa. SSJI (Civ), §16.20 (2020) ("Determination of Design Defect"). While the Pennsylvania Supreme Court has provided extensive factors to consider under each test, the ultimate decision of "[w]hether a

product is in a defective condition is a question of fact ordinarily submitted for determination to the finder of fact; the question is removed from the jury's consideration only where it is clear that reasonable minds could not differ on the issue." *Tincher*, 104 A.3d at 335 (emphasis added).

Plaintiff presented sufficient evidence for the jury to conclude that Monsanto's Roundup was defective under either the consumer expectations test or the risk-utility test. Speaking to the consumer expectation test, Plaintiff introduced evidence that Roundup was marketed by depicting users in shorts and t-shirts while spraying Roundup, and Dr. Reeves testified such advertisements reflected that users "don't need a bunch of protective equipment because the safety profile is so strong." (N.T. 11/13/23 (PM) at 97-99). Plaintiff testified that she used Roundup in a similar manner to the depiction in the advertisement: wearing shorts, t-shirts or tank tops, tennis shoes, and sunglasses. (N.T. 11/27/23 (AM) at 94). She wore cloth (gardening) gloves, but not rubber gloves. (*Id.*). She testified that nowhere did the label instruct her to wear long sleeves, long pants, or a mask, or to avoid getting Roundup on her skin. (*Id.* at 95.).

As to the risk-utility test, the parties do not dispute that Roundup effectively kills weeds. In support of factor two, Plaintiff presented testimony about the safety of the product through both Dr. Levy and Dr. Allen (described above) regarding glyphosate and Roundup's likelihood of causing NHL.

Regarding factors three and four, Plaintiff presented testimony from Monsanto employee William Reeves that the active ingredients in non-glyphosate herbicides "have been available for a long time[,]" and that Roundup began including non-glyphosate herbicides in its product line "in the last five or so years." (N.T. 11/14/23 (AM) at 123). Moreover, while alternative designs are a relevant factor for consideration, the Pennsylvania Supreme Court has expressly declined to

require evidence of an "alternative design" for design defect claims. *See Tincher v. Omega Flex, Inc.*, 104 A.3d 328, 395 (Pa. 2014).[5]

As to factors five and six, the jury heard evidence that Roundup was marketed as safe to use without protective equipment, as explained above. The jury further heard testimony that scientific evidence of glyphosate's and Roundup's carcinogenicity was available in the late 90s, but that no warning (or even a special instruction as to simple protections) was ever given in connection thereto. (*See* N.T. 11/9/23 (AM) at 93-94; N.T. 11/13/23 (AM) at 8-9; 11-12; 59-61). Plaintiff also presented evidence that Monsanto declined to provide warnings about carcinogenicity after internal scientific reviews raised concerns. (N.T. 11/13/23 (AM) at 56-58, 68-70, 78; 11/14/23 at 43). These actions, if accepted by the jury as true, have the necessary consequence of preventing the user from becoming aware of the carcinogenic dangers in Roundup. Further, the carcinogenic potential of a compound can hardly be said to be an "obvious" condition given the complex science involved in reaching such a conclusion. Such a potential is in stark contrast to advertisements showing users in shorts and t-shirts.

The court instructed the jury on both the consumer expectation test and the risk utility test using the standard instructions. (N.T. 12/4/23(PM) 109-112; *compare* Pa. SSJI (Civ), §16.20 (2020) ("Determination of Design Defect"). Considering the above-described evidence in the light most favorable to Plaintiff, sufficient evidence existed for the jury to conclude either that

[5] As explained by the *Tincher* court, the "alternative design" approach—generally used by the Third Restatement of Torts—"proscriptively limits the applicability of the cause of action to certain products as to which that sort of evidence is available." *Id.* Viewing this consequence as an "*a priori* categorical exemption" on liability, the court declined to adopt such a requirement as insulation from tort liability as it "optimally requires an assessment and balancing of policies best left to the General Assembly." *Id.* at 396 (citations and quotations omitted); *see also Lance v. Wyeth*, 85 A.3d 434, 459 n.36 (Pa. 2014)(the "assertion […] that [Pennsylvania courts have] required proof of an alternative safer design as an absolute prerequisite to the advancement of a design-defect claim is in error").

the danger of carcinogenicity was unknowable and unacceptable to the average or ordinary consumer of Roundup, or that the probability and seriousness of harm caused by the product outweighed the burden or costs of taking precautions.

Accordingly, Monsanto's challenge to plaintiff's claim of design defect is without merit.

4. Failure to Warn

Defendants seek JNOV on Plaintiff's Failure to Warn Claims based on negligence and strict liability. Defendants' position is based upon the simple assertion that widespread discussion about the risks of glyphosate did not enter the scientific discourse until the IRAC findings in 2015, which was after Plaintiff's diagnosis and after her use of Roundup ceased, and Monsanto has seriously challenged those findings and advanced its approved registrations by the EPA and in foreign countries as conclusive on the issue of the known safety of the product. Somehow, in Defendants' view, the more recent timing of discourse about the product ends any inquiry into what was known or knowable about this product and shields Monsanto from any obligation to have investigated and ensured its product safety.

Even assuming the court could identify any deficiencies in this argument in the form of evidence in the record that casts doubt on Monsanto's asserted ignorance of any hazard, Defendants' fallback position is they are further shielded based upon preemption—specifically, they take the position that any imposition of liability for failure to warn implicates the contents of its labelling which was approved by the EPA under a regulatory scheme that makes its label sacrosanct and its obligations impenetrable. In lay terms – "if it was good enough for the EPA, Monsanto had no obligation to do more and was not required to make any disclosures beyond those that were approved." In fact, Monsanto touts the registration as a prohibition against "doing more." Finally, Defendants argue that this court cannot even reach the issue because to

do so would necessarily overturn appellate court precedent in the form of the decision in *Romah v. Hygienic Sanitation Co.*, 705 A.2d 841 (Pa. Super. 1997), despite that *Romah* seeks to apply federal law as it interprets the preemptive effect of a federal statute, which law is arguably evolving and undercuts the foundation of that decision.

Defendants first dispute that the product requires a warning (i.e. any alleged risk was not required or not known or knowable). Monsanto contends that glyphosate does not cause cancer, so there is no duty to warn. While that was certainly one of Monsanto's positions at the trial, the jury had substantial testimony from Plaintiff's experts to the contrary. This was coupled with evidence that Monsanto systematically engaged in efforts to attack and discredit any research that raised safety concerns and that Monsanto itself never undertook a thorough scientific investigation. Monsanto's own experts and history of substantial economic self-interests supporting its "no risk of cancer" theme and their credibility and weight were seriously challenged on cross-examination, and the jury was free to disregard the Plaintiff's evidence and testimony and accept Monsanto's position that the EPA registration was essentially an endorsement.

Defendants also dispute that there was any duty to warn. Specifically, they claim any purported risk was not known or knowable at the time. Monsanto's own documents and its actions in the scientific community could suggest otherwise – Monsanto's witnesses were confronted with internal documents wherein Monsanto planned elaborate campaigns to discredit any research that suggested risks related to the Roundup product or to glyphosate. For example, Paul Wright, a former Monsanto employee who performed a supposed scientific study was accused of fraud in conjunction with his research (and after that independent research re-hired by Monsanto, which also funded his defense in the subsequent fraud case). After the Wright fraud

became public, Monsanto began its own research and terminated it before a conclusion to avoid any potentially unfavorable outcome. From the evidence at trial, the jury could reasonably conclude that risks were known or potentially knowable if Monsanto had not engaged in disinformation or suspended its investigation. There was substantial evidence that raised concerns about the carcinogenic potential of the product during the years of Plaintiff's use, research that Monsanto organized campaigns to discredit.

Only if the record were assessed on the basis of Monsanto's "favorable to the defense, ignoring evidence to the contrary" narrative could the court conclude that the jury had no basis to make a finding in favor of Plaintiff on strict liability failure to warn. However, on the totality of the evidence, submitted for the jury's consideration with the court's comprehensive and standard instructions, weighed in favor of the verdict winner, there is no basis for judgment NOV on strict liability.

5. Preemption

Monsanto asserted in motions for summary judgment and in limine pre-trial, in evidentiary objections, motions for mistrial and dispositive motions during trial, at the close of evidence and now on post-trial motion that Defendants are entitled to judgment on failure to warn based upon federal preemption under the Federal Insecticide, Fungicide and Rodenticide Act ("FIFRA"), 7 U.S.C. §136v(v). Monsanto argues that once its label was "approved" by EPA, that process essentially immunized it from any claims that could in any way be remotely related to a deficiency in its labelling. Monsanto infers that a presumably "exhaustive" review process amounted to an endorsement of Roundup's efficacy and, more importantly, safety.

The representation of the process sustaining this argument is both misleading and inaccurate. While the EPA does provide an approval, it does so on the limited basis of the

information provided by the applicant – in other words, Monsanto strategically chose what information to give EPA, information that would support the suggested labelling it was willing to provide. As the court in *Carson v. Monsanto Company*, 92 F.4th 980, 987 (11th Cir. 2024) explains: to register, the manufacturer "must submit a proposed label to the Agency along with certain supporting data." 7 U.S.C. §136(c)(1)(C), (F). The en banc panel of the 11th Circuit characterized the process this way: "a federal agency action that otherwise lacks the force of law …" *Carson v. Monsanto*, 72 F.4th 1261, 1263 (11th Cir. 2023). The contents of the label and its justification are within the control of Monsanto, and not the product of an Agency endorsement or any independent agency action or adjudication. In fact, as *Carson* goes on to explain, the statute "imposes an ongoing reporting requirement…." whereunder a "manufacturer must report to the Agency (1) 'additional factual information regarding unreasonable adverse effects on the environment,' 7 U.S.C. §136d(a)(2), and (2) incidents involving a pesticide's toxic effects on humans that may not be adequately reflected in its label's warning, *see* 40 C.F.R. §159.184(a)." Clearly, the law presumes an affirmatively responsible registrant providing accurate and complete data, not a self-interested business protecting its income stream. Merely because the agency has not accused a registrant of "misbranding" does not establish that the labelling is compliant or would pass muster as a matter of state tort law, or, as the 11th Circuit in *Carson* explains: "we cannot conflate FIFRA's broad prohibition on misbranding—indisputably a 'requirement'—or even generally applicable agency regulations, with an individualized finding that a particular pesticide is not misbranded." 92 F.4th at 993. For this reason, FIFRA provides that "[i]n no event shall registration … be construed as a defense for the commission of any offense under its provisions. 7 U.S.C. §136a(f)(2)." *Id*. In *Hardeman v. Monsanto*, 997 F.3d 941, 956 (9th Cir. 2021), *cert. den.* 142 S.Ct. 2834 (2022), the court held that "because EPA's labeling

determinations are **not** dispositive of FIFRA compliance, they similarly are not conclusive as to which common law requirements are 'in addition to or different from' [and thus potentially preempted by] the requirements imposed by FIFRA."

Monsanto itself admittedly never conducted its own studies as to risks of the product and could cherry-pick and funnel the information it provided to EPA in order to justify the label that it proposed. Nothing in the label approval process itself or in the actions of Monsanto as presented in the evidence at trial led to a ringing scientific endorsement of the safety of this product. As the court in *Nat. Res. Def. Council v. U.S. EPA*, 38 F.4th 34, 51-52 (9th Cir. 2022) determined, the process was arbitrary and "not supported by substantial evidence," and the conclusions were not the tested result of an adjudicatory proceeding, nullifying any argument of the re-registration decision's preemptive effect. Moreover, *Carson* concludes that the registration/labelling provisions of FIFRA do not represent an "express preemption" statute. 92 F.4th at 995.

Monsanto has suggested that Congress' imposition of a "uniformity" requirement for insecticide labelling creates a preemptive standard which protects manufacturers from claims such as those here. However, the argument ignores the minimal aspect of a manufacturer's undertaking, an aspect that cannot impede a state's concurrent interest in the marketing of safe products with accurate directions for use. Furthermore, Monsanto admittedly never sought any, even if a minimal, caution to a consumer, as a label change. Finally, Monsanto does not explain how the label prevented it from recommending the consumer cover the skin or face from exposure or use PPD or from attaching gloves and a mask to the product for the consumer when it marketed it for sale.

This court is unwilling to conclude that, in a state that has rejected industry standards as a defense to strict liability claims, *see Sullivan v. Werner Ladder*, Pa. , 306 A.3d 846, 861-62 (Pa. 2023), our courts would agree that the type of label approval process at issue here (in contrast to package inserts related to prescription drug use) forecloses any claim based upon an inherent danger or defect that a manufacturer knows or should have known and about which it should have apprised the public. The economic and legal self-interest of manufacturers and/or their alter ego trade groups in creating "standards" is, in and of itself, at best, a profoundly weak basis on which to defend Monsanto's actions under Pennsylvania law. In fact, to date, the significant decisional law has determined that a state's interest in product safety and the vindication of such an interest in strict liability law is wholly consistent with the objectives of FIFRA, *see Hardeman v. Monsanto*, 997 F.3d at 955-956, *Carson v. Monsanto*, 92 F.4th at 991.[6]

6. Punitive Damages

Monsanto contends that it is entitled to JNOV on the jury's decision to award punitive damages. While Monsanto does argue that evidence of its "own exhaustive testing, worldwide

[6] Monsanto suggests that this court is precluded from even reaching this question because Pennsylvania precedent going back to 1997 holds that FIFRA preempts state common law personal injury claims. *See Romah v. Hygienic Sanitation Co.*, 705 A.2d 841, 852-53 (Pa. Super. 1997). This court disagrees that *Romah* controls the inquiry here. First of all, under the law of the case, Monsanto previously sought dismissal on the basis of FIFRA and had its motion on this ground denied. Second, *Romah* itself recognizes that not every claim based upon an injurious pesticide is encompassed by a FIFRA preemption argument. *Romah*, citing *Higgins v. Monsanto Co.*, 862 F.Supp. 752 (N.D.N.Y. 1994), recognizes that a manufacturer's failure to disclose complete and accurate information during the FIFRA registration process is outside the scope of federal preemption. Plaintiff here introduced significant evidence related to Monsanto's conduct sufficient to support a finding that it purposefully withheld information during the registration process. Furthermore, *Romah* was decided before the U.S. Supreme Court decision in *Bates v. Dow Agrosciences LLC*, 544 U.S. 431, 444 (2005), which rejected the *Romah* proposition that registration alone triggered FIFRA's express preemption clause. Furthermore, the court finds persuasive the preemption analysis of the Superior Court in *A.Y. v. Janssen Pharmaceuticals, Inc.*, 2019 PA Super 348, 224 A.3d 1 (Pa. Super. 2019) which rejects *Romah's* conceptualization of the scope of preemption and adopts a presumption against the allowance of such a defense.

regulatory approval" and scientific consensus demonstrates its lack of malice or evil motive (N.T. 11/20/23 (AM) at 21:20-22:9), its argument is simply an instance of casting the evidence in the light most favorable to the verdict loser. Moreover, Monsanto fails to explain, in that portion of its motion seeking JNOV, how the record, **as a matter of law**, supports judgment in its favor or even how no two minds could conclude that its actions warrant the decision to send the issue to the jury. The record contained the testimony of Monsanto employees who acknowledged that any hint of research suggesting a risk to human health from glyphosate was met with the hiring of public relations professionals designing campaigns to discredit and spin the narrative in Monsanto's favor, while at the same time purposefully refusing to undertake the type of comprehensive research that would represent conclusive evidence of safety. For Monsanto to characterize its testing as "exhaustive" is a stretch, to the extent that it infers an investigation as to safety. Its testing may have been exhaustive as to the efficacy of its product to "kill weeds," but that conclusion alone –its toxicity to living plants—should have required further investigation as to human exposure. Certainly, there was a record before the court that presented a hotly-contested, two-sided view of Monsanto's actions, and it was up to Monsanto to show that on this record no reasonable mind would see its actions as selfishly motivated to advance its economic interests over the safety of consumers. It simply has failed to do so or to establish that JNOV is warranted on this issue.

C. Motion for a New Trial

Defendants seek a new trial on the basis of certain "other errors and irregularities." These include four basic categories: 1) alleged errors related to the jury instructions and verdict slip; 2) alleged irregularities in the proceedings; 3) alleged erroneous admission of evidence; and 4) alleged prejudicial misconduct on the part of Plaintiff's counsel. This portion of Monsanto's

motion encompasses twenty subjects, including one area—Plaintiff's Closing—with five additional sub-topics. The court is unwilling to accept Defendants' invitation to descend into the rabbit hole with them in order to defend the verdict since principles of broad discretion encompass and would uphold the trial court's decisions in the heat of the trial. Furthermore, at oral argument, Defendants did not highlight a single argument in any of these categories, suggesting that its lack of causation/JNOV argument was the strongest basis for the application to overturn the verdict.

1. Instructions and Verdict Slip

Monsanto challenges several of the trial court's instructions, including (a) use of a concurring cause instruction, (b) instructing that the defendants are liable for harm caused "by "Roundup" rather than a "defective condition," (c) declining to instruct the jury that Pennsylvania requires expert evidence of defect, (d) declining to instruct the jury not to consider punitive damages, (e) declining to modify its instruction on punitive damages, (f) declining to provide a written copy of the instructions to the jury, and (g) declining to place the causation interrogatory first on the verdict sheet. (Monsanto Post-Trial at ¶¶ 63-82).

a. Concurring Cause Instruction

Monsanto takes issue with the court's election to charge standard instructions, claiming that the negligence and strict liability factual cause instructions are different and therefore confusing and did not reflect the evidence at trial. "A court's instructions must adequately and accurately state the law and provide the jury with a guide during its deliberations." *Wilson v. Anderson*, 616 A.2d 34, 36 (Pa. Super. 1992). "A charge will be found adequate unless the issues are not made clear to the jury or the jury was palpably misled by what the trial judge said." *Jeter v. Owens-Corning Fiberglas Corp*, 716 A.2d 633, 635 (Pa. Super. 1998)(citations and

quotations omitted). "A trial court has wide latitude choosing the precise language of the charge, but in all instances must fully and adequately convey the applicable law to the jury." *Gaudio v. Ford Motor Co.*, 976 A.2d 524, 550 (Pa. Super. 2009). Thus, the Suggested Standard Jury Instructions (SSJI) are "instructive" for trial courts and exist "as a reference material available to assist the trial judge[,]" but are not binding. *Shifflett v. Mengel*, 296 A.3d 622 (Pa. Super. 2023).

Monsanto contends that use of the phrase "a factual cause" rather than "the factual case" during the charge to the jury constitutes error. Defendant points out that the Pennsylvania Suggested Standard Jury Instructions for causation in the negligence section uses the phrase "a factual cause," while the instruction for strict liability uses the phrase "the factual cause." *See* Pa. SSJI (Civ), §§13.20, 16.70 (2020).

The trial court first instructed on factual cause for negligence under Suggested Instructions 13.20 and 13.150:

> In order for Kelly Martel, the plaintiff, to recover in this case one or more of defendants' negligent conduct must have been a factual cause in bringing about harm. Conduct is a factual cause of harm when the harm would not have occurred absent the conduct. To be a factual cause, the conduct must have been an actual real factor in causing the harm, even if the result is unusual or unexpected. A factual cause cannot be an imaginary or fanciful factor having no connection or only insignificant connection with the harm. To be a factual cause, defendant's conduct need not be the only cause, the only factual cause. The fact that some other causes concur with a defendant's negligence in producing an injury does not relieve that defendant or defendants from liability as long as their own negligence is a factual cause of the injury.
>
> Sometimes a person's negligent conduct combines with other circumstances to cause harm. When a defendant's negligent conduct combines with other circumstances, the defendant is legally responsible if their negligent conduct was one of the factual causes of the harm. In such a case, any defendant found to be a factual cause is fully responsible for the harm suffered by the plaintiff Kelly Martel regardless of the extent to which that defendant's conduct contributed to the harm.

The trial court subsequently instructed causation for products liability under Suggested Instruction 16.70:

> If you find that the product was defective, the defendants are liable for all the harm caused to plaintiff by such defective condition. A defective condition is a factual cause of harm if the harm would not have occurred absent the defect. In order for plaintiff to recover in this case, the defendant's conduct must have been a factual cause of the injury.

(N.T. 12/4/23 PM at 106; *compare* Pa. SSJI (Civ) §16.70 (2020) (using "the factual case" instead of "a factual cause").).

The trial court's use of "a factual cause" instead of "the factual cause" accurately reflects Pennsylvania law. Pennsylvania recognizes that a manufacturer does not escape liability in either strict products liability or negligence merely because its product does not act alone in causing the harm—i.e. that it is a "concurring cause" of the injury. *See Maya v. Johnson and Johnson*, 97 A.3d 1203, 1220 (Pa. Super. 2014)(the law of concurring causes "applies just as forcibly to […] defective products" as to negligence, *quoting Lilley v. Johns–Manville Corp.*, , 596 A.2d 203, 215–216 (Pa. Super. 1991)(Olszewski, J. concurring)); *Rost v. Ford Motor Co.*, 151 A.3d 1032, 1048-49 (Pa. 2016)(so long as the expert "opine[s] within a reasonable degree of medical certainty that the exposures at [defendant's business] were sufficient to cause" mesothelioma, "[c]omparison of [plaintiff's] other occupational exposures to asbestos [i]s unnecessary"); *Summers v. Certainteed Corp.*, 997 A.2d 1152, 1164 (Pa. 2010)("the fact that some other cause concurs with the negligence of the defendant in producing an injury does not relieve the defendant from liability unless he can show that such other cause would have produced the injury independently of his negligence" (citations and quotations omitted)).

Dr. Levy expressly concluded that Roundup, smoking, and hair dye were all substantial factors in bringing about Plaintiff's NHL. The trial court's instructions closely followed the

suggested instructions. Accordingly, the record supported use of the concurrent cause instruction, and trial court did not err in so instructing.

b. Other Instruction Errors

Monsanto contends the trial court erred when it included a preliminary phrase that the general rule for strict liability imposes liability "for harm caused by Roundup" rather than "harm caused by the defective condition" for both Monsanto and Nouryon. Monsanto also contends the trial court should have given an instruction that Pennsylvania requires expert evidence on design defect, should have instructed the jury not to consider impurities, and should have modified the SSJI it used on punitive damages. (Monsanto Post-Trial at ¶¶ 73-78.) Products liability requires that the injuries "were caused by a product of the particular manufacturer or supplier" *Eckenrod v. GAF Corp.*, 544 A.2d 50, 52 (Pa. Super. 1988). The SSJI indeed states that a defendant is "liable for all harm caused by the product" if it is defective and reached the consumer without substantial change in the condition. Pa. SSJI (Civ), §16.10 (2020)(emphasis added).

The court instructed that:

> Monsanto is liable for harm caused by Roundup if you find the following: One, that at the time the product left Monsanto's control, it was defective and, two, the product reached a user or consumer without substantial change in the condition in which it was sold.
>
> Nouryon is liable for harm caused by Roundup if you find, one, that at the time the surfactants left Nouryon's control they were defective and, two, that the surfactants reached Monsanto and, ultimately, plaintiff Kelly Martel without substantial change in the condition in which they were sold.

(N.T. 12/4/23 (AM) at 107-108.). This instruction accurately reflected Pennsylvania law that manufacturers are liable for harm caused by their product. The instruction elaborated—as in the standard instruction—that a defective condition is a requirement for such liability. That defect is discussed later in the instruction is insignificant. Monsanto's argument is without merit.

Monsanto contends the court erred when it refused to instruct the jury that expert evidence of design defect is required and that it should not consider surfactants or trace impurities. Pennsylvania law requires expert testimony where matters are "not within the ordinary knowledge and experience of laypersons[.]." *Grossman v. Barke*, 868 A.2d 561, 566 (Pa. Super. 2005). The Commonwealth Court has held that "[w]hether a product is defective solely because of its chemical composition is a matter beyond the knowledge of the average layperson. Consequently, expert testimony on this issue is required." *Com., Dept. of Gen. Services v. U.S. Mineral Products Co.*, 809 A.2d 994, 999 (Pa. Cmmw. 2002). The narrow question of whether expert testimony is required, however, is ordinarily decided by the court, not by the jury. *See*, *e.g.*, *Id.* (holding expert testimony required for prescription drugs); *Robinson v. Wirts*, 127 A.2d 706, 710 (Pa. 1956) (imposing requirement of expert testimony in medical malpractice case); *Dion v. Graduate Hosp. of U. of Pennsylvania*, 520 A.2d 876, 881 (Pa. Super. 1987) (holding expert testimony required to determine whether warning on drug is adequate due to complexity of prescription drugs and their warnings).

As previously explained, Plaintiff presented substantial testimony through Dr. Allen and Dr. Levy on the carcinogenicity of glyphosate and Roundup on whether it was a substantial factor in causing Plaintiff's NHL. Dr. Levy testified to scientific literature showing the surfactants in Roundup increased its toxicity. The trial court instructed the jury on expert testimony consistent with standard instructions 4.80, 4.90, and 4.100:

> During the trial, you've heard testimony from both fact witnesses and expert witnesses. To assist jurors in deciding cases such as this one involving scientific, technical or other specialized knowledge beyond that possessed by a layperson, the law allows an expert witness with special education and experience to express an opinion, to express opinion testimony. An expert witness gives his or her opinion to a reasonable degree of professional certainty based upon the assumption of certain facts. You do not have to accept an expert's opinion just because they are

> considered an expert in their field. In evaluating an expert witness's testimony and/or resolving any conflicting expert witness's testimony you should consider the following: the witness's knowledge, skill, experience, training and education and whether you find that the facts the witness relied upon in reaching their opinion are accurate and all the believability factors that I have already given to you.
>
> In resolving any conflict that may exist in the testimony of expert witnesses, you are entitled to weigh the opinion of one expert against that of another. In doing this, you should consider the relative qualifications and reliability of the expert witnesses, as well as the reason for each opinion and the facts and other matters upon which it is based. In general, the opinion of an expert has value only when you accept the facts upon which it is based.
>
> This is true whether the facts are assumed hypothetically by the expert or they come from the expert's personal knowledge, from some other proper source or from some combination of these. The expert witness in this case may have been asked to assume certain -- that certain facts were true and to give an opinion based upon those assumptions. These are called hypothetical questions. If you find that any important fact assumed in the hypothetical question has not been established by the evidence, you should disregard the expert's opinion given in response to that question. Similarly, if the expert has made it clear that his or her opinion is based upon the assumption that an important fact did not exist and you find that it did exist, you should disregard that opinion.

(N.T. 12/4/23 (AM) at 99-101; *compare* Pa. SSJI (Civ), §§ 4.80, 4.90, 4.100 (2020)). The trial court's instruction fully informed the jury that it may reject the conclusions of Plaintiff's experts. The instructions constitute an accurate reflection of Pennsylvania law. Monsanto has pointed to no court requiring the jury be instructed on whether expert testimony is necessary[7], and this court has located none. Accordingly, this challenge is without merit.

Monsanto further contends the trial court erred in failing to modify its damages instructions by removing "embarrassment and humiliation" from its instruction on noneconomic

[7] Monsanto had the opportunity to challenge the Plaintiff's evidence and argue to the court that it was entitled to judgment based upon the need for expert testimony on design defect. It was for the court to determine, under the law and the principles of expert witness evidence, whether the type of defect in question was within the ability of lay persons to evaluate.

damages. Pennsylvania Rule of Civil Procedure 223.3 states that in actions for bodily injury raising a viable claim for noneconomic loss, "the court shall" instruct the jury as stated in the rule, including past and future "(1) pain and suffering; (2) embarrassment and humiliation; (3) loss of ability to enjoy the pleasures of life; and (4) disfigurement." Pa. R. Civ. P. 223.3. The suggested "instruction specifically tracks" the rule. Pa. SSJI (Civ), §7.110 (2020) (Subcomittee note). Plaintiff testified she shared her diagnosis with others at work but specifically pointed out that did not raise the topic herself, indicating a reluctance to share her story at work. (N.T. 11/27/23 at 50.). Plaintiff's testimony permits an inference of shame regarding her diagnosis, and thus supported inclusion of an embarrassment and humiliation instruction. (N.T. 11/30/23 at 174-75).

Monsanto contends the court erred in declining to instruct the jury not to award punitive damages on the basis of harm to other persons or on unrelated conduct and in failing to exhaustively emphasize the extraordinary nature of punitive damages as a remedy. "Punitive damages may be awarded for conduct that is outrageous, because of the defendant's evil motive or his reckless indifference to the rights of others." *Hutchison ex rel. Hutchison v. Luddy*, 870 A.2d 766, 770 (Pa. 2005). This standard is met in two scenarios: (1) "where the actor knows, or has reason to know, of facts which create a high degree of risk of physical harm to another, and deliberately proceeds to act, or to fail to act, in conscious disregard of, or indifference to, that risk;" or (2) "where the actor had such knowledge, or reason to know, of the facts, but does not realize or appreciate the high degree of risk involved, although a reasonable man in his position would do so." *Id.* at 771 (citations and quotations omitted). "[I]n determining an appropriate punitive damage award, it is the jury's province to assess the factors outlined in section 908(2) of the Restatement (Second) of Torts, *i.e.,* (1) the character of the act; (2) the nature and extent of

the harm; and (3) the wealth of the defendant." *Vance v. 46 and 2, Inc.*, 920 A.2d 202, 206 (Pa. Super. 2007).

The trial court instructed the jury on punitive damages as follows:

> If you find that the conduct of either defendant was outrageous, you may award punitive damages, as well as any compensatory damages in order to punish each defendant for their conduct and to deter that defendant and others from committing similar acts. A person's conduct or company's conduct is outrageous when it is malicious, wanton, willful or oppressive or shows reckless indifference to the interest of others.
>
> If you decide that Plaintiff Martel is entitled to an award of punitive damages, it is your job to affix the amount of such damages. In doing so, you may consider any or all of the following factors: One, the character of Monsanto and/or Nouryon's acts, two, the nature and extent of the harm to Ms. Martel that defendants caused or intended to cause. In this regard, you may include Plaintiff Martel's trouble and expense in seeking to protect her interests in legal proceedings and in this suit, three, the wealth of Monsanto and/or Nouryon in so far as it is relevant in affixing an amount that will punish them and deter them and others from like conduct in the future. It is not necessary that you award compensatory damages to Plaintiff Martel in order to assess punitive damages against Monsanto and/or Nouryon as long as you find in favor of Plaintiff Martel and against Monsanto and/or Nouryon on the question of liability. The amount of punitive damages awarded must not be the result of passion or prejudice against either defendant on the part of the jury. The sole purpose of punitive damages is to punish either defendants' outrageous conduct and to deter that defendant and others from similar acts.

(N.T. 12/4/23 (PM) at 117-119; *compare* Pa. SSJI (Civ), §§ 8.00, 8.20 (2020)). The trial court's instruction accurately reflected Pennsylvania law and provided the three factors the jury could properly consider in deciding the extent of punitive damages. The instruction expressly limited the jury to considering the extent of the harm "to Ms. Martel." Accordingly, the trial court did not err and Monsanto's claim is without merit.

c. Providing the Jury with a Written Copy of Instructions

Monsanto contends the trial court erred in failing to provide a written copy of the instructions to the jury. (Monsanto Post-Trial at ¶ 79.). Under Rule of Civil Procedure 223.1(d)(4), "(d) The court may […] (4) make a written copy of the charge or instructions, or a portion thereof, available to the jury following the oral charge or instructions at the conclusion of evidence for use during its deliberations." Pa.R.C.P. No. 223.1(d)(4). The trial court chose, in its discretion, to instruct the jury that they may seek further instructions if they became confused as to the law. (N.T. 12/4/23 (PM) at 119.). The trial court declined to provide written instructions out of concern that the jury would attempt to parse out different portions of the instructions, indicating concern of confusion and interpretation by the jury outside the court's guidance. (N.T. 12/4/23 (PM) at 129). Such activity would lead the jury's focus away from weighing the evidence and credibility of witnesses to focusing on the language of the charge. Furthermore, it might confer more weight on the opinions of jurors who were capable of interpreting the language. Accordingly, the trial court did not abuse its discretion.

d. Order of Verdict Slip Interrogatories

Monsanto contends the trial court should have placed the special interrogatories regarding causation first on the verdict sheet. (Monsanto Post-Trial ¶¶ 80-82.). "A request for special findings lies within the discretion of the trial judge. It is the duty of the trial judge to grant or refuse special findings on the basis of whether they will add to a logical and reasonable understanding of the issues." *Greet v. Arned Corp.*, 194 A.2d 343, 345 (Pa. 1963). "[W]hen the trial court exercises its discretion to employ a general verdict with special findings, […] the analytical subparts of the jury's process will be set forth in individual questions to be answered

by the jury, and the answers thereto are always given in connection with the ultimate general verdict." *Fritz v. Wright*, 907 A.2d 1083, 1091 (Pa. 2006).

Monsanto does not cite controlling authority suggesting it is error not to place the causation inquiry first. The narrowest cites it does provide are distinct. First, in *Alexander v. Synthatron Corp.*, the Bucks County Court of Common Pleas submitted a special interrogatory to the jury whether the plaintiff's criminal methamphetamine production activities were a substantial factor in causing the harm. 10 Pa. D. & C.4th 584, 589 (Com. Pl. 1991), aff'd, 620 A.2d 1230 (Pa. Super. 1992). Second, in *Voorhees v. Univ. of Pennsylvania*, the Philadelphia Court of Common Pleas declined to include two separate causation questions relating to the conduct of the defendant hospital after including separate interrogatories on vicarious liability and corporate negligence. 33 Phila.Co.Rptr. 302, 325-26, 1997 WL 1433733 (Pa. Com. Pl. June 3, 1997). Neither case suggests any error or abuse of discretion in declining to place causation first.

The trial court did not abuse its discretion in placing the causation inquiry first. The verdict sheet here presented a standard structure tracking the common steps in establishing tort liability: (1) liability (i.e. defect or negligence), (2) causation, and (3) damages. (*See* Amended Worksheet, Dkt. at 12/18/23). The verdict sheet presented a logical and reasonable structure of analytical subparts to guide the jury's deliberation, a structure that follows the express language of the standard charge, which identified liability as the first element in Plaintiff's burden of proof. Thus, Defendants' argument is without merit.

2. Irregularities and Errors

Defendants seek a new trial on the basis of so-called "irregularities in the proceedings" and erroneous evidentiary rulings. The irregularities include scheduling issues, the court's

management of the questioning of witnesses and alleged improper conduct of the jury selection process. Defendants present a slanted and erroneous description of the trial proceedings in order to infer an imbalance that did not exist.

a. Trial Management

Defendants complain that the court failed to ensure a precisely equal division of time and, by providing the jury with an overall timetable and projected schedule, it "forced" the Defendants into an untenable situation that prevented them from presenting their cases. Based upon when Plaintiff formally rested, Defendants suggest that they only had 2 days to present their case. What they fail to mention, and what the court finds exceedingly misleading is that the Monsanto employees and witnesses Dr. Reeves and Dr. Farmer were called as on cross in Plaintiff's case and Monsanto presented the testimony of these witnesses as part of its case in chief during Plaintiff's case for the sake of economy and the convenience of the witnesses. The court also notes from the transcript that the testimony of these witnesses during the Plaintiff's case was extremely protracted, particularly in the case of Dr. Farmer, because the witnesses would not answer questions directly and insisted on giving lengthy explanations without answering the questions. (*See, e.g.*, N.T. 11/7/23 (AM) at 32:19-33:14; 46:24-47:12; 52:08-53:05; 11/8/23 (AM) at 32:17-35:04).

Defendants' argument also does not account for the repeated interruptions of testimony of Plaintiff's witnesses and the extensive leeway that the court allowed for making objections and arguing over the court's rulings and Monsanto's repeated motions for mistrial, which it liberally argued. Defendants do not identify a single witness that they had to forego or any major topic or defense that they were unable to present. Instead, their position simply amounts to an admission

that Defendants made a strategic decision to limit their case. This is not a basis for claiming that the court interfered with Defendants' opportunity to present their case.

The record further reveals that the case was initially plagued with delays that were outside the court or any party's control. While the jurors did seek the court's guidance after the Thanksgiving holiday as to the expected length of the trial, such a request was not unreasonable given the time that was being devoted to the case and in order for the members of the panel to secure coverage at their employment or for their personal obligations. Nothing in the record suggests an impatience or an urgency that imposed an unfair burden on Defendants or that required them to shorten their case.

b. Irregularities

Defendants complain about the court's comments during witness examination, its allowance of juror questions and its own questioning and initiation of witness questioning and argue that these instances unfairly interjected into Defendants' case and signaled a more favorable view of the Plaintiff's case. In a common deficiency to Defendants' arguments, they only represent the record in a manner slanted in their favor, without any neutral assessment whatsoever. Additionally, Defendants seem to view the trial as a "cat and mouse" game where its witnesses were entitled to avoid providing direct answers, free to disregard the questions posed and where court instructions constitute unfair "interference" in Defendants' case. Defendants' position ignores that the purpose of the trial is a search for the truth based upon the evidence in the courtroom. *See Seels v. Tenet Health System Hahnemann, LLC*, 167 A.3d 190, 201 (Pa. Super. 2017). There is no absolute prohibition on the court questioning a witness during the trial. In *Bowman v. Rand Spear & Associates, P.C.*, 234 A.3d 155, 863 (Pa. Super 2020), the court declined to adopt a policy that would limit the court's discretion to manage the trial:

> Although a trial court should normally leave the questioning of witnesses to counsel, it has "the right if not the duty to interrogate witnesses in order to clarify a disputed issue or vague evidence." *Jordan v. Jackson*, 876 A.2d 443, 453 (Pa.Super. 2005) (quoting *Mansour v. Linganna*, 787 A.2d 443, 446 (Pa.Super. 2001)). A new trial based on a court questioning of a witness will not be granted "[u]nless the complaining party can establish the judge's questioning constituted an abuse of discretion, resulting in discernible prejudice, capricious disbelief, or prejudgment." *Id.* at 454 (quoting *Mansour*, 787 A.2d at 446).

In this case, Defendants highlight limited instances over the course of more than three weeks of proceedings. The record, even as portrayed in Defendants' motion does not suggest that the court took too active a part in developing testimony or itself took over interrogating witnesses or engaged in an extended examination. *Jordan v. Jackson*, *supra*. The content of the questions does not suggest inappropriate conduct by the court. *See Tiburzio-Kelly v. Montgomery*, 681 A.2d 757, 770-71 (1996). On this record, the court cannot agree that clarifying the evidence constitutes bias or is a basis for overturning the jury's verdict.

c. Reeves and Farmer

Monsanto complains about the denial of its Motion to Quash the Subpoenas directed to its employee Dr. William Reeves and the court's allowance of questions which it argues did not seek to elicit information from this witness based upon "personal knowledge." As a result, according to Defendant, the Plaintiff was able to call this individual as an adverse witness, and the wide-ranging examination that the court allowed purportedly led to a "one-sided" presentation of evidence.

In the court's view, the question of the scope of a witness' testimony is not confined to a narrow construction of what constitutes "personal knowledge." The question for the court was whether a proper foundation was laid by Plaintiff to support an inquiry into the topics about

which the witness was interrogated. In this case, prior to any substantive inquiry, Plaintiff laid a strong foundation to support an expansive cross-examination. Specifically, Dr. Reeves testified about the hundreds of hours that he spent with attorneys reviewing Monsanto records as well as the hours that he actually testified at trials and in depositions. (N.T. 11/9/23 (AM) at 11:23-12:5; 13:12-13:14). With this foundation in the record, the court determined that Dr. Reeves had sufficient knowledge to be called as a witness by Plaintiff. He was certainly free to respond that he lacked personal knowledge of any matter and could decline to speculate. However, he not only displayed sufficient familiarity with the information, he repeatedly offered much more in the way of response than the questions required. The court's rulings on Dr. Reeves' adverse testimony did not constitute an abuse of discretion, particularly in light of the foundation laid by Plaintiff.

Monsanto's "one-sided" argument is largely paradoxical (as Defendant in pre-trial motions argued that Dr. Reeves was incompetent based upon his purported lack of personal knowledge, but then sought to elicit "expert"/expert-like testimony from him because of his wide-ranging experience at Monsanto). Defendant bases the argument upon the characterization that it was unfairly restricted in eliciting testimony from Dr. Reeves on direct. However, Monsanto fails to disclose that any restrictions related to Monsanto's efforts to exceed Dr. Reeves' lay testimony in Plaintiff's case in chief. Monsanto's principal complaint relates to the court preventing it from eliciting expert opinion from him, a complaint that is dubious in light of the fat that Monsanto failed to previously designate Dr. Reeves as an expert to be called at trial and failed to provide Plaintiff with an expert opinion. Nevertheless, Monsanto repeatedly elicited fulsome, self-serving opinion testimony from Dr. Reeves, and the court allowed considerable leeway to the Defendants. For example, Dr. Reeves testified at length premised upon albeit

persistently leading questions from Monsanto's counsel requiring a vast array of expertise about the EPA and on the state of scientific study of glyphosate, as did Monsanto's other employee, Dr. Farmer. Further, despite protesting pretrial that Dr. Reeves had no personal knowledge sufficient to allow him to testify at trial, on direct Dr. Reeves magically became a super witness with wide-ranging personal knowledge and extensive expertise. Not only was Dr. Reeves demonstrated to have requisite knowledge as demonstrated by Plaintiff on cross examination, like many of the Monsanto witnesses, he avoided and evaded responding to questions posed by Plaintiff's counsel which protracted Plaintiff's cross-examination and direct. Dr. Farmer's testimony as well demonstrated not only a well-prepared and experienced litigation witness for Monsanto but she was knowledgeable as a fact witness.

d. Juror Voir Dire

Defendants' final complained-of irregularity is addressed to the court's conduct of the voir dire and the issue of Plaintiff's history as a smoker. It is the case that the experts for both sides opined on the causal relationship between Plaintiff's smoking and her NHL. Defendants inferred that the trial court improperly asked if potential jurors could "set aside" or "disregard" Plaintiff's smoking. However, the transcript reveals that the court asked if jurors "would have any problem with being fair to both sides if you knew that the plaintiff was a smoker," (N.T. 11/2/23 (AM) at 57:15-57:18). Defendants do not explain how this question predisposed the jury one way or the other or claim that they were prevented from exploring biases in individual voir dire to determine the nature of any attitudes toward smokers. Furthermore, Plaintiff's expert, Dr. Levy, conceded that smoking could not be ruled out as a contributing cause. Looking at the record as a whole, the court can see no evidence from the verdict that the jury disregarded

Plaintiff's smoking as a contributing cause or that the amount of the compensatory verdict fails to take Monsanto's arguments into account.

3. Erroneous Evidentiary Rulings

Monsanto complains about the court's admission of alleged prejudicial propensity evidence, allowance of alleged "prior bad act" evidence related to bribing an Indonesian official, references to non-Roundup products to which Plaintiff was exposed (PCBs and Agent Orange), improper admission of the testimony of Plaintiff's experts Dr. Levy and Dr. MacLean, erroneous rulings related to court decisions from other jurisdictions, allowance of the use of a city ordinance related to herbicides, evidence related to impurities in Roundup, and testimony related to Paul Wright and Industrial Bio-Test.

Defendant also claims that the court's alleged wide latitude toward Plaintiff's case resulted in the admission of "propensity evidence" that improperly suggested that, in Monsanto's manufacture of other chemical products such as PCBs and DDT, Monsanto habitually sold harmful products which exposed the public to cancers. As Plaintiff points out, Monsanto opened the door when counsel declared in openings that Monsanto "would not have stayed in business this long" if it was selling products that caused cancer. (N.T. 11/6/23 (AM) at 9:23-10:3). Furthermore, this argument represents Monsanto's presentation of a post-trial slanted record to favor its argument as opposed to a description of the actual evidence itself and how it related to the Plaintiff's case. Plaintiff presented background on Monsanto's business and the economic imperative in the timing of Roundup's release, which the business withdrawal of PCBs and DDT precipitated. Plaintiff did not equate the products or present evidence of the course of approval or sale of these other products as a comparator for Roundup. The products were simply mentioned

in context, not in any causation testimony. Accordingly, the court finds Monsanto's argument meritless.

As to the testimony of Dr. Levy and Dr. MacLean, the court determined that these witnesses were qualified to provide expert testimony. Monsanto's arguments relate to the weight and credibility of these witnesses' conclusions and their ability to assist the jury, factors that Monsanto had more than an adequate opportunity to attack on cross examination and on which Monsanto was free to offer competing expert opinions. Moreover, the court has previously discussed in detail how these arguments fail as to Dr. Levy.

In the case of Dr. MacLean, Monsanto objects that the witness was merely reading Monsanto emails to the jury, many of which were already in front of the jury and introduced during the testimony of other witnesses. However, the trial court determined that Dr. MacLean had the background and specialized expertise to explain the context of the regulatory process to the jury and that his testimony was relevant as a response to Monsanto's claim of a defense based upon regulatory approval. Dr. MacLean explained to the jury how that approval process worked, and that approval did not equate with the type of endorsement that Monsanto claimed. To the extent that Monsanto disagreed with his opinion, it could attack his testimony on cross-examination or it could have elected to retain its own expert on this topic. However, the admission of the expert testimony of Dr. MacLean was not an error of sufficient magnitude to warrant a new trial.

The decision as to whether and what legal precedents to allow the parties to use in examination of witnesses involved the trial court's determination of their relevance to the issues in this case. This court cannot say what rulings it would have made in the heat of the trial or

second-guess the trial court. However, the court perceives the exclusion of the *Wheat Growers*[8] decision justified on the basis of relevance due to the narrow issue related to California Prop 65 (which had no equivalent in Pennsylvania law) and Rule 403 due to the limited probative value of the ruling. As to the City's herbicide policy, the Defendants opened the door to evidence that the product and its synthetic components were a matter of scientific debate and dispute and not, as Defendants claimed, widely accepted as safe by the scientific community. The City's Ordinance was simply circumstantial evidence to dispute that claim.

Defendants' objections to evidence related to the presence of impurities in formulated Roundup relates to its contention that Plaintiff's case was based upon the assertion that the glyphosate in Roundup was carcinogenic and caused her cancer. Plaintiff's experts did not analyze the impurities or opine that they caused her cancer such that evidence regarding trace chemicals was prejudicial to the defense. However, Plaintiff used formulated Roundup and her experts opined as to the connection between the "product" which included the impurities and her NHL. The presence of other chemicals in the product that were known carcinogens or potentially carcinogenic certainly was relevant to Plaintiff's claim of negligent design – if Defendants thoughtlessly or purposefully used other carcinogens in the formulation, the jury was entitled to consider the evidence is assessing the Defendants' conduct.

Finally, Monsanto objects to evidence relating to Industrial Bio-Test, a clinical laboratory hired by Monsanto to conduct testing on glyphosate, which tests were conducted under the supervision of a former Monsanto employee, Paul Wright, who went back later to work for Monsanto immediately after completing the tests. It was undisputed that IBT's test results were determined to be fraudulent, resulting in Wright's subsequent criminal prosecution. Monsanto

[8] *National Association of Wheat Growers v. Bonta*, 85 F.4th 1263 (9th Cir. 2023).

discounts the importance of the testing and trivializes the evidence in the light most favorable to the non-prevailing party view, claiming a mere coincidence in and technicality of Wright's different employments purportedly demonstrating that IBT crimes are not traceable to Defendant (making the evidence prejudicial). The court concludes that Plaintiff could present the circumstantial aspect of the coincidental timing and make the equally compelling argument that the evidence, even without the Wright issue, is relevant to the issue of Monsanto's diligence in conducting sufficient and responsible investigation into the safety of its product. While potentially prejudicial, the evidence is not irrelevant and has a substantial probative value as to the issue of negligence.

In sum, none of the court's rulings on the admission or preclusion of these points of evidence represents an abuse of discretion. Furthermore, viewed in the context of the entirety of the evidence at trial, not a single one of these issues nor the combination of all of the rulings together were so substantial as rise to the level that would justify the award of a new trial.

4. Plaintiff's Counsel's Prejudicial Conduct

a. Editorializing

Monsanto points to several instances of alleged misconduct by Plaintiff's counsel. (Monsanto Post-Trial at ¶¶ 161-182.). First, Monsanto contends that counsel "editorialized" witness answers. (Monsanto Post-Trial at ¶¶ 161-65.). The statements can be summarized as roughly five statements that the jury would read and decide how to interpret documents and

responses, and two characterizations of witness statements as instances of "blocking and bridging."[9, 10] (*Id.*).

Attorneys may not make "irrelevant remarks ... which are reasonably likely to have a direct and prejudicial effect on the award of damages." *Buttaccio v. Am. Premier Underwriters, Inc.*, 175 A.3d 311, 321 (Pa. Super. 2017)(citations omitted). "[I]n the heat of trial, counsel may make a statement which is not justified by the record but which may or may not have had a prejudicial effect on the jury. For that reason, the granting of a new trial rests largely in the discretion of the trial judge." *Narciso v. Mauch Chunk Tp.*, 87 A.2d 233, 234 (Pa. 1952). The Superior Court has stated, in dicta, that "counsel should not use cross-examination for interjecting what the jury might consider to be testimony by him." *Russell v. Helm's Exp., Inc.*, 293 A.2d 78, 79 n.1 (Pa. Super. 1972)(addressing case where record contained "constant

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[9] Testimony from Donna Farmer reflects that "blocking and bridging" describes a "way to keep [an interview] on task." (N.T. 11/7/23 (AM) at 46). Ms. Martel presented Monsanto documents on media training, which described the technique as "[m]oving from the question to the answer you want to give." (*Id.*)

[10] Monsanto points specifically to the following exchange regarding blocking and bridging:

> Q. Is that – is that an example of blocking and bridging?
> A. I don't believe it is.
> Q. Okay. It sounded like it to me. My only question was, Did Monsanto regulatory affairs people go to members of Congress to talk about IARC? That's it. Did they do that?
> […]
> Q. Okay. Can we go to the next section, please. Okay. It says, Health and Human Services, a key agency, briefed. I just want to make sure. Doctor, do you – do you understand – strike that. Do you appreciate that Monsanto seems to have access to pretty powerful people in the United States Government? Would you agree with that?
> A. I would agree that under – yes, that we had access with such a situation that was creating such confusion that we did have that access.
> Q. We're getting late in the day. I don't – I mean, that sounded like blocking and bridging to me.

(N.T. 11/7/23 (PM) at 87).

bickering between counsel for both sides and particularly bitter exchanges between defense counsel and an attorney-witness for the plaintiff").

The issue "must be determined by assessing the circumstances concerning the improper question or statement and the precautions taken to prevent it from having a prejudicial effect on the jury." *Livingston v. Greyhound Lines Inc.*, 208 A.3d 1122, 1133 (Pa. Super. 2019)(citations omitted). Thus, in determining whether a new trial should be granted for misconduct, "the court should consider whether the trial court gave a curative instruction, the frequency and nature of the improper questions or statements, and whether the verdict shows any prejudicial effect from the improper conduct." *Id.*

Monsanto's argument does not warrant relief. Counsel's statements regarding what the jury will read and decide merely reflect the law of Pennsylvania that issues of credibility are matters for the jury. Counsel's statements about his own perception of blocking and bridging are limited to essentially a single instance over the three-week trial. (N.T. 11/7/23 (PM) at 87). The comments arose during cross-examination of a witness that repeatedly required Court direction to answer questions. (N.T. 11/7/23 (AM) at 33, 47; N.T. 11/8/23 (AM) at 33). The trial court instructed the jury at the close of evidence that nothing the attorneys say is considered evidence. (N.T. 12/4/23 (PM) at 90). Thus, the trial court did not abuse its discretion in overruling the objections, and a new trial is not warranted.

b. Questioning Plaintiff about Monsanto Documents

Monsanto contends the trial court erred when it allowed Plaintiff to testify to two items outside her personal knowledge: (1) whether she would want to know about Monsanto's understanding of Roundup's carcinogenicity as expressed in a 2009 email authored by Monsanto employee Donna Farmer, and (2) whether she would want to know about Monsanto's

"connections with Congress" as implied by a June 5, 2015 email between Monsanto government outreach employees about the IARC classification of glyphosate. (Monsanto Post-Trial at ¶¶ 166-70).

"Questions concerning the admission or exclusion of evidence are within the sound discretion of the trial court[.]" *Dean Witter Reynolds, Inc. v. Genteel*, 499 A.2d 637, 642 (Pa. Super. 1985)(citations omitted). "A witness may testify to a matter only if evidence is introduced sufficient to support a finding that the witness has personal knowledge of the matter." Pa.R.E. 602.

The 2009 Farmer email was introduced through Dr. Farmer herself, and counsel questioned Dr. Farmer about her statements that one "cannot say Roundup does not cause cancer[.]" (N.T. 11/7/23 (AM) at 32-34). Plaintiff's counsel later asked Plaintiff herself whether she would have wanted to know such information. (N.T. 11/27/23 (PM) at 17, 22-23).

The June 5, 2015 email sits in a similar posture. Dr. Farmer testified to this email, which was admitted into evidence, and Plaintiff's counsel questioned her about its statements that Monsanto employees had briefed "members of Congress" among others. (N.T. 11/7/23 (PM) at 81, 85-86). Plaintiff was later asked whether she would have wanted to know about such connections and "influence," explaining that it would put doubt in her mind and that she would have used a different product. (N.T. 11/27/23 (PM) at 26-27).

Plaintiff's testimony relates to her expectations regarding Roundup, its warnings, and how disclosure of specific information would have impacted her decision to use Roundup—all matters that fall within her personal knowledge. It does not relate to the authenticity or truth of the email, which had been established through Dr. Farmer herself. Accordingly, this argument merits no relief.

c. Comments During Closing

Monsanto contends it is entitled to a new trial due to plaintiff counsel's improper and prejudicial closing arguments. Monsanto challenges numerous excerpts of testimony, which generally include (1) suggestion for deciding punitive damages, (2) references to unrelated Monsanto products (PCB, DDT, and Agent Orange), (3) references to other litigation, (4) misrepresentations of evidence, (5) requests for punitive damages without a nexus to the case, (6) improper attempts to inflame the jury by personalizing the jury's role, and (7) suggestion that Plaintiff is the underdog and that she presented the most credible expert evidence. (Monsanto Post-Trial at 171-182). None of Monsanto's arguments warrant relief.

In closing arguments, "trial counsel must be expected to advance a spirited argument to support his client's cause and promote the interest of justice." *Easter v. Hancock*, 346 A.2d 323, 326 (Pa. Super. 1975). While counsel may not argue in a manner that is "not supported by facts in evidence, or which [is] inflammatory or beyond the limits of fair or sound argument[, …] [a]s long as no liberties are taken with the evidence or prejudices aroused by exaggerated accusations, a lawyer may appeal to a jury in colorful language with the strongest aspect of his case." *Id.* at 326–27. Further, "any prejudicial remarks made by counsel during argument can be handled within the broad powers and discretion of the trial judge and his actions will not be disturbed on appeal unless there is an obvious abuse of discretion." *Hyrcza v. W. Penn Allegheny Health System, Inc.*, 978 A.2d 961, 977 (Pa. Super. 2009)(citations an quotations omitted)(not error to allow statement that doctors "help each other out [in] a jam" as supported by evidence).

Monsanto's first, second, and fifth arguments, all relating to closing arguments on punitive damages, do not warrant relief. "[I]n determining an appropriate punitive damage award, it is the jury's province to assess the factors outlined in section 908(2) of the Restatement

(Second) of Torts, i.e., (1) the character of the act; (2) the nature and extent of the harm; and (3) the wealth of the defendant." *Vance v. 46 and 2, Inc.*, 920 A.2d 202, 206 (Pa. Super. 2007). As the purpose of punitive damages is to deter or punish, remarks in closing to send a "message" or a "warning" in cases involving punitive damages are appropriate. *See Easter v. Hancock*, 346 A.2d 323, 326 (Pa. Super. 1975)(not improper to allow argument that jury should send a "warning" to defendant doctors); *Bargerstock v. Washington Greene Community Action Corp.*, 580 A.2d 361, 366 (Pa. Super. 1990)(not error for court to instruct jury on punitive damages that jury might "send a message" that the "conduct will not be tolerated").

Pennsylvania generally limits parties' ability to suggest numbers for damages that are not capable of evidentiary calculation. For example, Pennsylvania "law specifically prohibits counsel from estimating or suggesting to a jury the amount of damages to be awarded, especially for pain and suffering in a personal injury case." *Carlino v. Ethicon, Inc.*, 208 A.3d 92, 120 (Pa. Super. 2019)(citations omitted). However, "rhetoric, analogy, or metaphor" which does not state a specific sum or arbitrary amount to award may be used without running afoul of the rule. *Clark v. Philadelphia College of Osteopathic Med.*, 693 A.2d 202, 206 (Pa. Super. 1997)(holding not improper for counsel to argue that lost earning capacity of over $2,000,000 was only the "tip of the iceberg" in relation to pain and suffering damages).

In closing, plaintiff's counsel stated that

> One of the biggest factors you need to consider in how much -- again, I can't suggest a number is what would it take for Monsanto to get Monsanto's attention. You'd have to consider their wealth. If you were going to punish somebody who makes what Dr. Reshef who makes, you know $6,000 a day, maybe you punish him a thousand bucks I don't know. If you're going to punish Monsanto, you need to take it into the context of what is their wealth, how much did they sell and what will make them say, hey, we got the message. That, again, is something for you to consider.

(N.T. 12/1/23 (PM) at 73). Counsel further contended that Roundup was "dangerous to a lot of people." (N.T. 12/1/23 (PM) at 72). Counsel reiterated that Monsanto made PCBs, DDT, and Agent Orange, and proceeded to argue that Monsanto was "never going to stop unless you tell them to." (N.T. 12/4/23 (PM) at 52-53). Counsel urged the jury to "[s]tand up for [themselves], for everyone in this country and around the world and say no to Monsanto." (N.T. 12/4/23 at 77).

Counsel's arguments in closing merely represent zealous advocacy and colorful presentation of the evidence admitted at trial. Counsel accurately stated that they could not suggest a number to the jury for punitive damages and presented an analogy to emphasize that the jury must consider Monsanto's wealth. The statement did not state a specific sum or arbitrary amount for the jury to award. While the analogy can be interpreted as presenting a six-to-one ratio of wealth to award, such ratio does not compel the conclusion of prejudice that Monsanto advances. Counsel's argument—rather than suggest awarding six times the amount of compensatory damages as punitive damages—suggests punitive damages award of approximately one sixth of Monsanto's wealth. Monsanto's argument that the six-to-one ratio suggested by the analogy resembles the jury's verdict is erroneous. As the parties stipulated that Monsanto's net worth is $20 billion, it cannot be said that the jury used this statement to calculate its punitive damages award. (N.T. 12/1/23 (AM) at 95).

Regarding other products, plaintiff presented testimony from Monsanto employee William Reeves that Monsanto generated revenue from Agent Orange, PCB, and DDT, that those revenue streams stopped in the early 1970s, and that Monsanto decided in 1970 that it could sell glyphosate as an herbicide. (N.T. 11/9/23 (AM) at 44-47). Such references are accordingly supported by the record.

Monsanto's reliance on *State Farm* does not alter this conclusion. That case concerned consideration of conduct dissimilar to that which harmed the plaintiff to determine the reasonableness of the jury award. *State Farm Mut. Auto. Ins. Co. v. Campbell*, 538 U.S. 408, 424 (2003). In *State Farm*, the plaintiffs brought bad faith claims against State Farm for initially refusing to settle a third-party automobile insurance claim. *Id.* at 413. At trial, the plaintiffs introduced evidence of State Farm's business practices over 20 years in numerous states to cap payouts on claims company wide, most of which bore no relation to third-party automobile insurance claims. *Id.* at 414-15. The state supreme court upheld a $145 million punitive damages award along with $1 million in compensatory damages. *Id.* at 415. On appeal, the U.S. Supreme Court reiterated that the "reprehensibility" guidepost considers whether:

> the harm caused was physical as opposed to economic; the tortious conduct evinced an indifference to or a reckless disregard of the health or safety of others; the target of the conduct had financial vulnerability; the conduct involved repeated actions or was an isolated incident; and the harm was the result of intentional malice, trickery, or deceit, or mere accident.

Id. at 419. The Court clarified that the analysis should not, however, consider "conduct that bore no relation to the [plaintiff's] harm" and which was lawful where it occurred. *Id.* at 422. The Court admonished the Utah Supreme Court's reliance on State Farm's "nationwide policies [to cap payouts on claims] rather than the conduct directed toward the" plaintiff in analyzing the reasonableness of the award. *Id.* at 420. The Court expressly noted that the plaintiffs there had "identified scant evidence of repeated misconduct of the sort that injured them" and had shown "no conduct by state farm similar to that which harmed them" that would be relevant to the reprehensibility analysis. *Id.* at 423-24.

Here, in contrast, counsel urged the jury to consider the danger presented by Roundup—the Monsanto product that harmed her. As explained in greater detail in the below section

regarding challenges to allegedly cumulative punitive damages awards, the jury heard a panoply of evidence regarding Monsanto's internal communications suggesting awareness of the risk, and of efforts to discredit scientific discussion of that risk including ghostwriting, lobbying, and attacking scientific research. While counsel made reference to Monsanto's prior manufacture of PCBs, Agent Orange, and DDT in closing, the verdict does not suggest this reference prejudiced Monsanto. The jury's $3.5 million verdict ($500,000 in compensatory damages and $3 million in punitive damages) is modest when compared to other awards seen in Roundup cases to date. *See*, *e.g.*, *Pilliod v. Monsanto Co.*, 282 Cal. Rptr. 3d 679 (Cal. App. 1st Dist. 2021) (jury awarding total $55 million in compensatory damages and $2 billion in punitive damages, reduced post-trial). The jury's relatively modest verdict cannot be said to have resulted from improper passion or prejudice brought about by the limited reference to these prior products.

Monsanto contends that counsel's references to other litigation during closing caused improper prejudice. Monsanto points to counsel's arguments that Monsanto "fought […] outside th[e] courtroom to defend" Roundup, that Roundup is being taken off the market "because of lawsuits," and that internal Monsanto documents (specifically the reports of James Parry) were not revealed "until Monsanto got hauled into court." (Monsanto Post-Trial at ¶ 176; N.T. 12/1/23 (PM) at 22-24, 27-28, 31.)

Counsel's statements only generally referenced other litigation. Those comments did not suggest that the jury base its finding on the harm inflicted on nonparties. Moreover, Monsanto employee William Reeves testified that Roundup was pulled from the market "largely because of litigation, not safety." (N.T. 11/14/23 (PM) at 18). Reeves further testified that Monsanto did not publish or disclose Parry's findings regarding genotoxicity from 1999. (N.T. 11/13/23 (PM) at 72, 78). Accordingly, this argument warrants no relief.

Monsanto contends that counsel misrepresented evidence in discussing "impurities" in Roundup and arguing that Monsanto "sent" Paul Wright to IBT. During closing arguments, Plaintiff's counsel noted "other toxic chemicals" found in Roundup, including ethylene oxide as a "known human cause of non-Hodgkin's lymphoma[,]" 1, 4 dioxane as "another known human carcinogen," and arsenic. (N.T. 12/1/23 (PM) at 38-39). Counsel further argued that Monsanto "sent Paul Wright to [Industrial BioTest] to work for them" and that he later returned to Monsanto. (*Id.* at 25).

These arguments find support in the record. Dr. Levy explained the presence of ethylene oxide, 1, 4 dioxane, and arsenic in Roundup and their known carcinogenicity. (N.T. 11/17/23 (AM) at 62-65). He subsequently testified that Roundup—rather than glyphosate alone—is a cause of NHL. *Id.* at 68. Plaintiff further elicited testimony from Dr. Reeves that Paul Wright was laid off Monsanto in 1970 and began for Industrial BioTest ("IBT")—one of the labs that Monsanto used to test its products, including glyphosate. (N.T. 11/9/23 (AM) at 48-52). Dr. Reeves further confirmed that Wright worked at IBT for 18 months, and that during this time animal studies for Roundup were underway. (N.T. 11/9/23 (AM) at 50-52, 60). During a challenge to Dr. Reeves' credibility regarding Wright's departure from Monsanto, Dr. Reeves confirmed he was "aware" of testimony that Monsanto "sent" Wright to IBT, but that such testimony was "not true." (*Id.* at 48).

While counsel's statements during closing present a degree of embellishment, they nevertheless find support in the record. Accordingly, this argument provides no basis for relief.

Monsanto's final two arguments regarding closings are that Plaintiff's counsel improperly attempted to inflame the jury by personalizing the jury's role and emphasized that Plaintiff is the underdog and that she presented the most credible expert evidence.

Counsel urged the jury in closing to "protect Americans," to "[s]tand up for [them]selves, for everyone in this country" against Monsanto. (N.T. 12/4/23 (PM) at 46-47, 76-78). Counsel likened Plaintiff to an "underdog[,]" emphasized that Dr. Levy was "the most credible causation expert[,]" and characterized defendants' strategy as an "old defense lawyer trick." (N.T. 12/4/23 (PM) at 38, 44, 49-50).

Counsel's arguments here are not akin to those seen in the cases Monsanto cites. *See Todd v. Lit Bros.*, 112 A.2d 810, 811 (Pa. 1955) (improper to ask witness about other accidents at or on premises where court cautioned counsel against such prior to trial); *Young v. Washington Hosp.*, 761 A.2d 559, 562 (Pa. Super. 2000) (improper to insinuate in opening that plaintiff-parents brought suit for their own financial gain instead of welfare of their child); *Finney v. G. C. Murphy Co.*, 161 A.2d 385, 387 (Pa. 1960) (improper to argue that false recovery would cause increased insurance premiums and thus hurt the jurors). Counsel's arguments did not suggest that the jury decide its verdict based on the likely effect on the juror's lives or on some basis other than recovering for Plaintiff's injuries. Rather, the arguments merely urged the jury to send a message[11] and demonstrated zealous advocacy for Plaintiff's case.

Overall, Monsanto's arguments do not warrant relief. Monsanto identifies a handful of isolated instances over the course of a three-week trial. Nearly all of the statements that Monsanto challenges find evidentiary support in the record, and the remainder present little more than common rhetoric used in advocacy. The trial court instructed the jury at the close of evidence that nothing the attorneys say is considered evidence. (N.T. 12/4/23 (PM) at 90). Monsanto fails to demonstrate that any of the challenges resulted in prejudice or caused the jury to reach its modest verdict using passion rather than reason.

[11] *Easter v. Hancock*, 346 A.2d 323, 326 (Pa. Super. 1975).

D. Venue

Monsanto argues in passing that the trial court should have granted the motion to transfer for *forum non conveniens* as "[t]he trial evidence and witnesses only reinforced that Westmoreland County, and not Philadelphia, was the proper venue for this matter." (Monsanto Post-Trial at ¶ 184.)

As Monsanto acknowledges, on September 18, 2023, Judge Fletman denied the collective defendants' motion to transfer for *forum non conveniens.* (Order, Dkt. at 9/19/23). The trial court is prohibited from altering that order under the coordinate jurisdiction rule. The coordinate jurisdiction rule "commands that upon transfer of a matter between trial judges of coordinate jurisdiction, a transferee trial judge may not alter resolution of a legal question previously decided by a transferor trial judge." *Zane v. Friends Hosp.*, 836 A.2d 25, 29 (Pa. 2003). The rule is not absolute, and departure is allowed in "exceptional circumstances" such as (1) "a change in the controlling law[,] (2) where there was a substantial change in the facts or evidence" or (3) where "the prior holding was clearly erroneous and would create a manifest injustice if followed." *Id.* (citations omitted).

Monsanto points to no grounds presented at the trial or otherwise that would warrant departure from the rule. It merely contends that the trial evidence "reinforced" that Westmoreland County is the proper venue. This does not present a change in the law, a change in the evidence, or demonstrate the holding was clearly erroneous. Accordingly, this warrants no relief.

F. Damages

Monsanto's final points relate to the jury's punitive damages award. Monsanto presumes that the mere mention of the number in the jury's determination "shocks the conscience" and

thus entitles it to relief. The court cannot agree that the mere award of a substantial punitive damages verdict creates a presumption in favor of an arbitrary reduction or a new trial as to damages. The question for the court is: what evidence did the jury hear and does the evidence support its verdict?

1. Assessing Damages Verdict

This court initially looks to the Superior Court's guidance in *Tillery v. Children's Hospital of Phila.*, 2017 Pa. Super. 50, 156 A.3d 1233, 1246 (Pa. Super. 2017) that the inquiry begins "with the premise that large verdicts are not necessarily excessive verdicts," and that "[e]ach case is unique and dependent on its own special circumstances …" *citing Tindall v. Friedman*, 970 A.2d 1159, 1177 (Pa. Super. 2009). Moreover, abstract comparison with other verdicts is not a reason to deem a damages award excessive. *Potochnick v. Perry*, 861 A.2d 277, 285 (Pa. Super. 2005).

2. Punitive Damages

Monsanto disputes the award of any punitive damages. At the outset it argues that its conduct was reasonable and again posits that the EPA exhaustively determined that its product was safe, negating any basis for punitive damages. Monsanto also seeks vacatur or reduction of the jury's punitive damages award on due process grounds, because the award is arguably cumulative as to conduct that has already been punished and because the award is confiscatory.

The court cannot agree that weight of the evidence supports the position that Monsanto acted reasonably. In awarding damages for negligence, the jury determined that Monsanto violated a duty of care and did not act reasonably. A compensatory award is a question of the assessment of the extent of a plaintiff's injury, a factual determination, "whereas [the jury's] imposition of punitive damages is an expression of its moral condemnation." *Cooper Indus, Inc.*

v. Leatherman Tool Grp., Inc., 523 U.S. 432, 121 S. Ct. 1678, 149 L.Ed.2d 674 (2001). Whether the degree of jury's finding of sufficient behavior warranted punitive damages is a question of the weight that the jury gave to the evidence and its credibility determinations. Monsanto at trial was confronted with evidence in the form of its own internal communications revealing repeated defiant and invidious efforts to attack and discredit science raising a concern as to the product's safety. Plaintiff presented the Seralini Study, which dated from the 1980's, evidence of ghost-writing and a focus on public relations over scientific investigation, regulatory manipulation, response to the IARC ruling, and termination of its Post-Paul Wright research, all of which the jury was entitled to consider in assessing "moral condemnation." While Monsanto claims to have done its own studies confirming the safety of the product, the evidence as to the comprehensiveness of such studies was questionable. Moreover, there was evidence that Defendant was motivated by financial considerations and to protect its sales and profits over conducting unbiased research on the risks to consumers or the safety of its product. Furthermore, the evidence showed that the financial considerations were more than consequential—the amount of profits over the course of Plaintiff's exposure and from the sale of the product were in the stratosphere. Further, in the context of the full trial evidence, Monsanto demonstrably showed the jury that it was remorseless in continuing unabated its profit driven sales and marketing of the product.

The jury determined this conduct met the standard of outrageousness for the award of punitive damages. The jury also imposed a penalty consummate with Monsanto's wealth[12] and

[12] As the court in *Sprague v. Walter*, 656 A.2d 890, 920 (Pa. Super. 1995) noted: "It is well-settled that when punitive damages are at issue in a case, the jury must consider not only the character of the act underlying the claim and the harm suffered by the plaintiff, but also the wealth of the defendant. *Kirkbride v. Lisbon Contractors, Inc.,* 521 Pa. 97, 102, 555 A.2d 800, 803 (1989) (citing Restatement (Second) of Torts § 908(2)). *Accord Feld v. Merriam,* 506 Pa.

the profits it made from its reckless actions in fair relation to the compensatory damages awarded to the Plaintiff. The court will not abrogate the jury's considered verdict that is well grounded in weighing and considering all the evidence admitted at trial or otherwise disrupt its determination.

Monsanto further challenges the award on due process grounds under the three-part test for analyzing constitutional excessiveness. Monsanto generally argues comparisons and claims that it has already lost and settled after trials and paid such damages in other cases, to the point where imposition of such damages has become confiscatory and violates its due process rights. The Pennsylvania Supreme Court has recently issued its interpretation of the constraints of federal due process on punitive damages awards in state tort cases. The court reasoned:

> The overall concern of the United States Supreme Court in limiting the discretion-based common-law approach to the assessment of punitive damages was to curtail punitive awards that "run wild" and offend "judicial sensibilities," *[Pacific Mutual Live Insurance v.] Haslip*, 499 U.S. [1] at 18, 111 S.Ct. 1032 [113 L.Ed.2d 1 (1991)], or that amount to an arbitrary deprivation of property in violation of due process, *TXO [Production Corp. v. Alliance Resources Corp.]*, 509 U.S.[443] at 453–54, 113 S.Ct. 2711. The High Court "rejected the notion that the constitutional line [of excessiveness] is marked by a simple mathematical formula, even one that compares actual and potential damages to the punitive award." *[BMW of North America, Inc. v.] Gore*, 517 U.S. [559] at 582, 116 S.Ct. 1589, 134 L. Ed. 2d 809 (1996)].

Bert Company, 298 A.3d at 81-82. This court is wary to determine the propriety of the award here when the outcome would be to replace the determination of duly sworn citizens in the dignified and sober discharge of their public service duty as jurors weighing the all evidence with the court's opinion (and in this case, a court assigned to post-trial motion practice to be decided on the basis of transcript review rather than assessment of live testimony), particularly

383, 396, 485 A.2d 742, 748 (1984). *See also, Empire Trucking Co., Inc. v. Reading Anthracite Coal Co.*, 2013 Pa. Super. 148, 71 A.3d 923, 938 (Pa. Super. 2013).

where the state's highest court recognizes that constitutional principles only require curtailing punitive awards that "run wild" and offend "judicial sensibilities." 298 A.3d at 81.

In this case, Plaintiff presented evidence of the profits that Monsanto recorded for the sale of glyphosate containing products and GMO seeds genetically engineered to be immune to glyphosate containing products (so that only the weeds would respond), sales to ordinary consumers and commercial users that continued unchanged after an independent scientific agency raised concerns that glyphosate was genotoxic and carcinogenic and after several juries awarded substantial damages to individuals just like the Plaintiff. Moreover, Monsanto has continued to sell the product without warning or safety recommendations. The issue for this court is the evidence that the jury had before it when it decided the issue in conjunction with the factors for assessing the award of punitive damages. *Gore* articulates what the court in *Bert Company v. Turk* calls "three 'guideposts' for determining if an award of punitive damages is grossly excessive" (as the court has discussed above in conjunction with the request for JNOV on punitive damages):

> (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. *Id.* at 575, 116 S.Ct. 1589.

298 A.3d at 60.

In this case, the jury heard evidence about Monsanto's actions—e.g., ghostwriting, lobbying legislators, covertly attacking scientific research unfavorable to its position, economic bullying, all the while collecting exceedingly high profits and paying excessive compensation to a stable of expert witnesses, from which the jury could find Monsanto's conduct reprehensible. The harm to Plaintiff was demonstrable, not potential at some future time. From the evidence,

this jury could conclude the Monsanto violated and continues to violate the public trust and its recklessness was directed at a vulnerable population of ordinary homeowners, landscapers, and maintenance workers, creating a moral imperative warranting the imposition of punitive damages.

The court has reviewed the record (in the light most favorable to the Plaintiff), in light of the controlling Pennsylvania law and under the accepted guideposts and determines that the evidence meets the criteria for degree of reprehensibility based on the Defendant's extreme recklessness presented in Plaintiff's case and based upon the jury's apparent inability to find Monsanto's witnesses credible, having assessed the weight and credibility of all the evidence. The court is not shocked by either the verdict or the amount, with the benefit of substantial experiences and having reviewed awards in other Roundup cases and having observed many of the witnesses in its previous trial, with the defense having failed to persuade the jury of its defenses and trial strategy.

In light of the court's determination that, in the context of the entirety of the trial, considering all of the evidence, the damages verdicts, and in particular the punitive damages, are not conscience shocking, but rather reflect the measured and thoughtful response of ordinary citizens to what could be considered extreme hubris, reckless indifference and disrespect for the risk to which individuals such as Plaintiff were exposed, the court cannot conclude that it is in a better position than the jury (or the trial court in allowing the issue to go to the jury) to assess the damages.

The court further declines to provide Monsanto relief on due process grounds. In this court's view, its arguments to the effect that it has been penalized or paid settlements based upon business judgments factually developed in trials in this court or in other jurisdictions for the

same (or better or worse) bad actions or injuries proven here, which should require the court to remit the jury's verdict, are incongruous. Monsanto is not saying this verdict in and of itself and in light of the record before the court violates due process, but that, it having injured scores of individuals resulting in juries imposing damages against its widely-determined reckless conduct should be a basis to relieve some of its obligation here and apparently in perpetuity. The court cannot agree that based upon the evidence presented in this case, due process requires reduction of the jury's award of punitive damages.

PART 2 - Nouryon Motion for Post-Trial Relief

Nouryon has joined in all the arguments in Monsanto's motion and also filed its own separate motion for post-trial relief raising issues specific to its status as a component manufacturer. Nouryon additionally seeks JNOV on the grounds that there was insufficient evidence connecting it to the products used by Plaintiff or that it should be liable under the asserted legal theories for Monsanto's formulation of the product. Nouryon first contends that it is entitled to JNOV as Plaintiff allegedly did not establish what surfactant was present in the specific Roundup formulas that Plaintiff used. (Nouryon Motion for Post-Trial Relief ("Nouryon Post-Trial") at ¶¶ 24-27). At its core, Nouryon's argument contends that plaintiff failed to present sufficient evidence of product identification.

A. Product identification

In a products liability action, Pennsylvania generally requires "identification of appellee as the manufacturer or seller of the particular offending product, before appellant's injuries may be found to be proximately caused by some negligence of appellee. Absent such identification, there can be no allegations of duty, breach of duty or legal causation, and hence there can be no liability." *Cummins v. Firestone Tire & Rubber Co.*, 495 A.2d 963, 967–68 (Pa. Super. 1985).

Plaintiff need not supply the specific product unit where the alleged defect is not unique to that unit, and "in cases in which the allegedly defective product is not available, a plaintiff may prove identification through circumstantial evidence. […] The quantum of identification evidence a plaintiff must offer prior to trial in order to justify allowing the issue to be submitted to a jury is factual and, thus, case-specific[.]" *Stephens v. Paris Cleaners, Inc.*, 885 A.2d 59, 63 (Pa. Super. 2005)(citations and quotations omitted).

Neither party points this court to Pennsylvania caselaw addressing the quantum of product identification evidence necessary for a supplier of raw materials that are alleged to substantially contribute to the toxicity of the final product to cause the harm, and a thorough search does not reveal any case on the specific issue.

Analogous facts exist in asbestos cases involving suppliers of raw asbestos. It is well established that Pennsylvania cases in that context "enunciate[] the standard for sufficiency of the evidence for product identification specify merely what quantum of evidence is necessary to allow the jury to draw an inference that the plaintiff was exposed to the defendant's product." *Coward v. Owens-Corning Fiberglas Corp.*, 729 A.2d 614, 624 (Pa. Super. 1999)(*citing Eckenrod v. GAF Corp.*, 544 A.2d 50, 53 (Pa. Super. 1988)). In making the inquiry, Pennsylvania courts rely on the frequency, regularity, and proximity analysis. *Id.* That analysis ordinarily requires that a plaintiff present sufficient evidence of a frequent, regular, and proximate exposure to a specific asbestos-containing product for a jury to reasonably conclude that the asbestos caused the plaintiff's harm. *See*, *e.g.*, *Eckenrod*, *supra*.

Pennsylvania cases have not, however, thoroughly analyzed identification of raw material suppliers, but instead have focused on the identification of the end-product or on whether it contained asbestos, rather than identification of one manufacturer of the raw asbestos among

multiple possible manufacturers. *See*, *e.g.*, *Krauss v. Trane U.S. Inc.*, 104 A.3d 556, 569 (Pa. Super. 2014)(affirming summary judgment as neither affidavit from coworker nor responses to interrogatories established presence of asbestos in products on job site); *Samarin v. GAF Corp.*, 571 A.2d 398, 403 (Pa. Super. 1989)(affirming summary judgment for failure to show presence of asbestos in products at workplace as testimony only based their assertions of such presence on knowledge of high temperature applications).

Absent direct, on-point caselaw in Pennsylvania, cases from other jurisdictions provide insight. A survey of caselaw across the county reveals several cases analyzing product identification at summary judgment for one raw asbestos supplier among many for a single end-product. Such cases present a close analogy as they analyze whether one supplier of raw material has adequately been identified from among several that supplied to the manufacturer of the end-product. Those cases reflect a pattern of fact-intensive analysis focusing on whether the plaintiff has presented evidence from which a jury could conclude the plaintiff was more likely than not exposed to the product of the raw material supplier. The cases overall suggest that evidence showing the supplier to be only a minority supplier is inadequate to reach the jury, while evidence of exclusive or majority supply is adequate.

In *Nelson v. Air and Liquid Sys. Corp.*, the federal district court granted summary judgment to Union Carbide as the plaintiff failed to create a genuine issue of fact that the joint compounds he used contained Union Carbide asbestos. *Nelson v. Air and Liquid Sys. Corp.*, 926 F. Supp. 2d 1120 (C.D. Cal. 2013). The court observed that the record reflected Union Carbide was a minor supplier to each of the five brands. *Id.* at 1129 The court specifically explained that Union Carbide supplied only 8% for brand Kelly-Moore; was a "smaller supplier" for brand Kaiser; that brand U.S. Gypsum "primarily" purchased from another supplier; that Georgia

Pacific dry-mix sold in the relevant state never contained Union Carbide asbestos; and that National Gypsum had "multiple suppliers." *Id.* The court observed that although the evidence created a "reasonable inference" that the plaintiff used one or more of five brands of joint compound during the period they contained asbestos, such an inference remained too speculative. *Id.*

In *Robertson v. Doug Ashy Bldg. Materials, Inc.*, the Louisiana Court of Appeals held that the plaintiff presented adequate identification of Union Carbide as a raw supplier of asbestos in Georgia-Pacific drywall finishing products. *Robertson v. Doug Ashy Bldg. Materials, Inc.*, 77 So. 3d 360, 374 (La. App. 1st Cir. 2011). The court reasoned that the evidence showed (1) the plaintiff was exposed to Georgia–Pacific products; (2) Georgia–Pacific's drywall finishing products contained chrysotile asbestos from the time it began manufacturing them in 1965 through 1977; (3) Union Carbide targeted the joint compound product market for the sale of its Calidria-brand asbestos; and (4) Georgia–Pacific purchased raw asbestos fibers to manufacture its asbestos-containing drywall products from Union Carbide. *Id.* Plaintiff presented interrogatories from Georgia-Pacific that stated it purchased from Union Carbide, Johns-Manville, and Phillip Carey, and produced invoices from Union Carbide showing asbestos sales to Georgia-Pacific during relevant years. *Id.* at 365. On this record, the court found sufficient evidence to submit the issue to the jury. *Id.* at 374.

In *Izell v. Union Carbide Corp.*, the California Court of Appeal affirmed a jury verdict against Union Carbide as a supplier of raw asbestos and analyzed the varied evidence across multiple end-products to determine whether Union Carbide's raw asbestos was adequately identified. *Izell v. Union Carbide Corp.*, 180 Cal. Rptr. 3d 382, 390 (Cal. App. 2d Dist. 2014). The court began by explaining the brands of product with insufficient evidence of identification.

It first explained that plaintiff failed to present sufficient evidence of exposure to Union Carbide asbestos from Kelly-Moore joint compound since Union Carbide was only a minor supplier of many suppliers during relevant period, supplying 8% compared to 75% and 20% from others. *Id.* at 390. It similarly concluded that plaintiff failed to connect Union Carbide to Georgia Pacific Ready-Mix as plaintiff only showed that Ready-Mix made at Texas plant "all" contained Union Carbide asbestos, while supply chains to the relevant area during relevant period included rebranded Ready-Mix manufactured in Kelly-Moore's facility. *Id.* at 390-91. Third, the court held a similar analysis applied to Kaiser Gypsum and Riverside products; Kaiser Gypsum primarily received asbestos from Carey Canadian and Johns-Manville, and the parties stipulated that Union Carbide was a "minority supplier" at Riverside. *Id.* at 391-92. By contrast, the court concluded that plaintiff *did* present sufficient evidence connecting Union Carbide asbestos to Hamilton products as testimony from the company president that the asbestos used was "all Union Carbide" established that Union Carbide "exclusive[ly]" supplied Hamilton during the relevant years. *Id.* at 392.

The unreported analysis of the Judge Robreno in *Coble v. 3M Co.* provides further insight. *Coble v. 3M Co.*, No. 10-00092, 2011 WL 7573806, at *1 (E.D. Pa. Dec. 22, 2011)(UNREPORTED). There, the court issued a footnote opinion applying the frequency, regularity, and proximity test through North Carolina law to analyze product identification at the summary judgment stage in a case involving multiple suppliers of raw asbestos used in the final joint compound products. *Id.* The court first held that plaintiff failed to present sufficient evidence of identification as to the "Gold Bond" product because multiple companies supplied the raw asbestos but there existed "no evidentiary basis" to suggest that plaintiff may have been exposed to the defendant's product rather than another supplier's product. *Id.* However, it further

concluded that plaintiff presented sufficient evidence of identification as to the "Ready Mix" product as testimony from a consultant stated that the product "more likely than not" contained asbestos from the defendant supplier during the relevant period. *Id.*

Keeping these considerations in mind, the record here, read in the light most favorable to Plaintiff, reveals that Nouryon was a majority supplier of surfactants for Roundup, that it specifically developed surfactants with Monsanto for use in Roundup, and that Nouryon's surfactants were approved for use in four of the five specific Roundup formulas that Plaintiff used between 1998 and 2014.

Plaintiff used Roundup between 1998 and 2014, spending roughly 81.85 hours spraying Roundup over her lifetime, after accounting for breaks between sprays. (N.T. 11/17/23 (PM) at 8-11; N.T. 11/27/23 (AM) at 169-172). She testified that she specifically used:

(1) Roundup Ready-To-Use Weed and Grass Killer Plus Fastact Select,

(2) Roundup Weed and Grass Killer Mata Malezas Y Grams,

(3) Roundup Ready-To-Use Plus,

(4) Roundup Weed and Grass Killer Ready-To-Use, and

(5) Roundup Weed and Grass Killer 1 Ready-To-Use.

(N.T. 11/27/23 (AM) at 77-80).

Plaintiff presented testimony from Ryan Totten, a representative of Bayer and Monsanto, who explained the use of Nouryon surfactants across the Roundup product line. (N.T. 11/28/23 (AM) at 111; Def. Mot. Ex. B ("Totten Dep.")). Totten testified that a Roundup formulation has "surfactant options"—i.e., a collection of one or two surfactants approved for a particular formula, which may have two or three sources. (Totten Dep. at 2). Totten presented a list of Roundup products and the respective Nouryon surfactant option. (*Id.* at 3). Totten explained that

surfactant identifiers beginning with "C" refer to Nouryon surfactant blends. (*Id.* at 4). Thus, for example, surfactants C-6178 and C-6330 "always" refers to a Nouryon surfactant. (*Id.* at 4-5). For additional example, Nouryon surfactant C-6221 possessed a "backup option" supplied by Oxiteno. (*Id.* at 5). Totten confirmed that:

(1) Roundup Ready-To-Use Weed & Grass Killer Plus Fastact Select contained Nouryon surfactant option C-6330;

(2) Roundup Weed & Grass Killer Mata Malezas Y Gramas Ready-To-Use Plus contained Nouryon surfactant option "Flo Mo TD-20A" prior to 2010, at which time the surfactant was removed;

(3) Roundup Weed & Grass Killer Ready-To-Use contained Nouryon surfactant option C-6178; and

(4) Roundup Weed & Grass Killer 1 Ready-To-Use contained Nouryon surfactant option C-6178.

(Totten Dep. at 8-9). Totten added that Monsanto did not keep records whether a certain formula of Roundup contained a Nouryon surfactant in a given timeframe. (*Id.* at 12).

Plaintiff presented further testimony from Nouryon employee Jon Staley that since 1992 Nouryon and its predecessors worked with Monsanto to develop surfactants for Roundup pursuant to a "joint development agreement" ("JDA")(N.T. 11/21/23 (PM) at 68; Nouryon Mot. Ex. A at 12-14 ("Staley Dep.")).[13] Testimony further reflects that, in return for the JDA, Monsanto bought about 65% of its surfactants from Nouryon. (*See* Totten Dep. at 7; Staley Dep.

[13] Ms. Martel presented testimony that the JDA began between Witco and Monsanto in 1992 and was amended in 1994. (Staley Dep. at 13.). Witco joined AkzoNobel when AkzoNobel acquired Crompton Industrial Chemicals. (*Id.*). Nouryon subsequently purchased all the assets and liabilities of AkzoNobel Chemicals for $10 billion, including AkzoNobel Surface Chemistry—the entity that exclusively held contracts with Monsanto. (Staley Dep. at 6-7).

at 17). Nouryon produces polyethoxylated tallow amine surfactants ("POEA") for Monsanto, which are also known as tallow amine ethoxylates ("TAEO"). (*See* Staley Dep. at 3, 10-11; N.T. 11/9/23 (AM) at 32-33). Surfactants C-6178 and C-6330 contain TAEO. (Staley Dep at 10-11).

On this trial record, Nouryon is not entitled to JNOV for lack of identification. The record, read in the light most favorable to Plaintiff, reveals that four of the five specific Roundup formulas Plaintiff used had approval to include Nouryon surfactants over the 16 years (and 81.85 hours) she used the product, and that Nouryon and its predecessors supplied more than half of all surfactants to Monsanto since 1992. While approval alone may not have been sufficient,[14] Plaintiff presented evidence of several additional circumstances to support an inference of exposure to Nouryon's products. The court finds analogous the line of cases identifying suppliers of raw asbestos and finds persuasive the analysis of Judge Robreno in *Coble v. 3M Co.*, *supra*. By comparison, Plaintiff has presented stronger evidence identifying Nouryon as the supplier of surfactants contained in the Roundup formulas that she used. On this record, a jury could reasonably conclude it is more likely than not that the Roundup products Plaintiff used contained Nouryon surfactants, and that she was thus exposed to a Nouryon surfactant.

Nouryon's reliance on *Cummins v. Firestone Tire & Rubber Co.*, 495 A.2d 963, 971 (Pa. Super. 1985) does not compel a different conclusion. There, the Superior Court affirmed dismissal on preliminary objections where a multi-piece rim assembly exploded and injured plaintiff while in a service garage, and the plaintiff could not identify the manufacturer because the service garage operator remounted the assembly and returned them to the stream of

[14] See *Catasauqua Area Sch. Dist. v. Raymark Industries, Inc.*, 662 F. Supp. 64, 65 (E.D. Pa. 1987)(granting summary judgment on basis that a list of approved products for installation at a high school only showed that the asbestos felt product was approved for installation, not actually installed)..

commerce without observing the brand or manufacturer. *Id.* at 966. In affirming dismissal, Superior Court distinguished *Sindell v. Abbott Laboratories*, 607 P.2d 924 (Cal. 1980), where the California Supreme Court allowed claims against pharmaceutical DES manufacturers that could not be specifically connected to the plaintiff as the manufacturers utilized an identical formula resulting in a fungible product that could not be traced, the product lacked labeling identifying the source, and attempts to identify were hampered by extensive latency period between ingestion and injury. *Cummins*, 495 A.2d at 971-72. The Pennsylvania Superior court distinguished the case as the inability to identify the rim assembly was not the fault of the manufacturers but of the garage operator, the non-fungible/non-identical nature of the rim assembly, and the high possibility that the actual wrongdoer would escape liability. *Id.* at 972.

Here, Plaintiff's allegations and claims overall appear more analogous to *Sindell* than *Cummins*. Plaintiff's injury holds a long latency period rather than being immediately apparent. The specific Roundup products that Plaintiff used followed Monsanto's specific formulas for those products, resulting in fungible Roundup products within each specific product formula. Nouryon specifically developed the surfactants at issue with Monsanto as part of the JDA for use in Roundup. Totten's testimony regarding surfactant "options" and that it is "not possible" to identify whether a Roundup formulation contained a Nouryon surfactant in a given time frame suggests the lack of identification information resulted from the conduct of the manufacturers, though more specifically places that fault upon Monsanto[15] for failing to keep records or place identifying labels on the bottles. Nevertheless, failure to identify did not result from Plaintiff's failure to obtain the necessary information when it was available immediately upon discovering

[15] The jury's verdict attributing only 7.5% liability to Nouryon clearly reflects the relative fault of the parties based upon this testimony.

her injury. Accordingly, Plaintiff presented sufficient evidence identifying her exposure to Nouryon's products, and Nouryon is not entitled to JNOV on this basis.

B. Other Grounds for JNOV

Nouryon contends that it is further entitled to judgment NOV because (1) it is only a supplier of a component of Roundup (the surfactant) that the evidence did not demonstrate to be defective and was never sold directly to a consumer, (2) that Plaintiff failed to establish the Nouryon's surfactants caused her NHL, (3) that Nouryon cannot be liable for any failure to warn, and (4) that Nouryon cannot be liable for any negligent marketing claim. (Nouryon Mot. at ¶¶ 33-61).

Importantly, the jury only found against Nouryon on the allegations of negligence. (*See* Amended Worksheet, Dkt. at 12/18/23). While the jury found Nouryon's surfactants defective under both the consumer expectation and risk-utility tests, it also found that neither of these defects caused Plaintiff's harm, rendering discussion unnecessary. Plaintiff's negligence claims included negligence, negligent design, and negligent marketing. (*See* Short Form Complaint at 5-6, Dkt. at 1/25/23). Pursuant to the Long Form Complaint, Plaintiff's negligence theories further included failing to sufficiently test the surfactants and failing to disclose or failing to ensure Monsanto disclosed the risk of harm associated with exposure to the surfactants when included in Roundup. (*See* Long Form Complaint, Dkt. No. 200500550 at 8/5/22 ¶¶ 210(k)-(o)). Thus, the precise question is whether no two reasonable minds could differ that either Nouryon was not negligent under the theories alleged or that its negligence was not a cause of Plaintiff's injuries.

1. Component Manufacturers and Duty to Warn

Nouryon contends that it cannot be liable on any theory because it only manufactured a "component" chemical, and that manufacturers of components (1) may only be held liable when

the component part itself is inherently defective (2) have no duty to warn for a component where the dangers are associated with the final product assembled by another party, and (3) component part manufacturers have no duty to investigate a part that is safe by itself. (Nouryon Mot. at ¶¶ 34-35). Nouryon largely cites to three cases involving component parts to support this argument. *Jacobini v. V. & O. Press Co.*, 588 A.2d 476 (Pa. 1991); *Wenrick v. Schloemann-Siemag Aktiengesellschaft*, 522 A.2d 52 (Pa. Super. 1987); *Burbage v. Boiler Eng'g & Supply Co.*, 249 A.2d 563 (Pa. 1969).

In this court's view, the weight of authority supports the decision of the court to send the issue of Nouryon's liability to the jury and tips the balance in favor of the jury's verdict. Pennsylvania recognizes that component manufacturers can be liable to the user of the end-product if the component is sold in a defective condition and is not substantially changed. *Burbage v. Boiler Engr. & Supply Co.*, 249 A.2d 563, 566 (Pa. 1969). By contrast, where the product is substantially changed, then "the question then becomes whether the manufacturer could have reasonably expected or foreseen such an alteration of its product." *Davis v. Berwind Corp.*, 640 A.2d 1289, 1297 (Pa. Super. 1994), aff'd, 690 A.2d 186 (Pa. 1997). This "[f]oreseeability is a question for the factfinder unless the inferences are so clear that a court can say as a matter of law that a reasonable manufacturer could not have foreseen the change." *Id.*

In *Burbage*, the Pennsylvania Supreme Court allowed liability upon the manufacturer of a replacement valve component for a boiler. 249 A.2d 563 (Pa. 1969). The court permitted strict liability upon the component manufacturer if the component (1) was "sold in a defective condition" and (2) did not "undergo[] any substantial change subsequent to its original manufacture." *Id.* at 566.

In *Wenrick v. Schloemann-Siemag Aktiengesellschaft*, a plurality of the Pennsylvania Supreme Court affirmed the Superior Court's holding that the manufacturer of an electrical system and switch for an extrusion press was not liable for the unguarded nature of the switch under strict liability design defect. *Wenrick v. Schloemann-Siemag Aktiengesellschaft*, 564 A.2d 1244, 1246 (Pa. 1989). The plaintiff's expert determined the defect was "the unguarded condition of the switch and the proximate location of the switch relative to the steps." *Id.* at 1246. However, the uncontradicted evidence showed that "all of the considerations that went into where the switch would be located were determinations made by" the press manufacturer, not the switch manufacturer. *Id.* at 1247. Since none of the defects resulted from the design of the switch, the court affirmed judgment for the switch manufacturer. *Id.* at 1246.

In *Jacobini v. V. & O. Press Co.*, the Pennsylvania Supreme Court determined a component-die set manufacturer was not strictly liable for injuries deriving from operation of a power press due to lack of causation. 588 A.2d 476 (Pa. 1991). The court held that the die manufacturer's failure to warn of the need for a guard against inserting hands into the machine did not cause the plaintiff's injuries, which resulted from ejection of objects from the machine. *Id.* at 478. The court nevertheless observed in dicta that "limits on a manufacturer's duty to warn are placed at issue where, as in the present case, the manufacturer supplies a mere component of a product that is assembled by another party[.]" *Id.* at 480. However, the court continued that the case did "not require[] a precise application of these principles" as the evidentiary record was inadequate. *Id.* It added that the component-manufacturer "[could not] be expected to foresee every possible risk that might be associated with use of the completed product" where the component was safe on its own. *Id.* at 480.

Federal courts have interpreted *Wenrick* and *Jacobini* as permitting liability against component manufacturers if the use creating the risk is foreseeable. In *Fleck v. KDI Sylvan Pools, Inc.*, the Third Circuit Court of Appeals observed that *Wenrick* and *Jacobini* only applied to "generic" replacement parts as opposed to parts with a specific purpose and use. 981 F.2d 107, 118 (3d Cir. 1992). Thus, the court allowed a failure to warn against the manufacturer of a replacement pool liner due to lack of depth markers and diving warnings as the manufacturer knew the liner would be placed in the pool. *Id.* Further, in *Colegrove v. Cameron Mach. Co.*, Chief Judge Smith keenly observed that "[f]oreseeability must be the crux of the *Wenrick* principle because this concept is present, implicitly or explicitly, in all the cases addressing a component part manufacturer's duty to warn" and forms the policy behind the failure to warn theory. 172 F. Supp. 2d 611, 625, 628 (W.D. Pa. 2001)(*citing Sweitzer v. Dempster Sys., a Div. of Carrier Corp.*, 539 A.2d 880, 882 (Pa. Super. 1988)). The court accordingly held that the manufacturer of a foot switch had a duty to warn about using the unguarded version of the switch around heavy machinery. *Id.* at 629.

The Pennsylvania Superior Court cited the *Colgrove* court's interpretation with approval in *Stephens v. Paris Cleaners, Inc.*, though again found no strict liability for failure to warn on proximate cause grounds as the component-manufacturer only adhered to design specifications established by the manufacturer of the final product. 885 A.2d 59, 70 (Pa. Super. 2005).

The foregoing review of Pennsylvania's law reveals that a component manufacturer has a duty to warn of a danger if that danger results from a foreseeable use of the component to cause the harm. Here, Plaintiff presented evidence that Nouryon and its predecessors developed the subject surfactants specifically for combination with glyphosate in Roundup formulation pursuant to the JDA with Monsanto. (Staley Dep. at 12-14). Plaintiff further presented internal

Nouryon communications discussing scientific articles from 2004 showing endocrine disruption in frogs—a mechanism with particular relevance to the development of NHL. (Nouryon Mot. Ex. B ("Bonilla Dep.") at 37; N.T. 11/15/23 AM at 60 (Allen testimony)). The same internal communications internally acknowledged the suggestion the surfactants "potenitat[e] the activity of glyphosate" and warned against neglecting the suggestion. (Bonilla Dep. at 44).

Nouryon points to language from a footnote in the Superior Court's earlier opinion in *Wenrick* that a "component part manufacturer should not be burdened with the heavy duty of inquiring into every possible use of their part and warning of every possible danger that might be associated with the integration of their part into the completed product." *Wenrick v. Schloemann-Siemag Aktiengesellschaft*, 522 A.2d 52, 58 n.1 (Pa. Super. 1987), *aff'd*, 564 A.2d 1244 (Pa. 1989). This language merely bolsters the conclusion that liability upon a component manufacturer is limited by the foreseeability of the ultimate harm. Further, the expert testimony of the interaction between the surfactants and glyphosate demonstrated that the "defect" consisted of combining the two, and the evidence of Nouyron's JDA with Monsanto presented reasonable basis to conclude that Nouryon both had an active role in enabling that combination and that its surfactants would foreseeably end up combined with glyphosate in Roundup. Accordingly, Nouryon's argument merits no relief.

2. Negligence

"It is axiomatic that in order to maintain a negligence action, the plaintiff must show that the defendant had a duty to conform to a certain standard of conduct; that the defendant breached that duty; that such breach caused the injury in question; and actual loss or damage." *Phillips v. Cricket Lighters*, 841 A.2d 1000, 1008 (Pa. 2003) (citations and quotations omitted). Negligence itself "is the absence of ordinary care that a reasonably prudent person would exercise in the

same or similar circumstances." *Martin v. Evans*, 711 A.2d 458, 461 (Pa. 1998)(citations omitted); *see also Thomas v. Arvon Products Co.*, 227 A.2d 897, 899 (Pa. 1967)("While no absolute standard of duty […] can be prescribed, it is safe to say, in general terms, that every reasonable precaution suggested by experience and the known dangers of the subject ought to be taken." (citations omitted)).

Negligence in products liability "establishes a duty, on the part of manufacturers, which can be viewed on a continuum" that encompasses "a warning of dangers, through a stronger warning if justified by the known risks, through non-marketing or discontinuance of marketing when it becomes or should become known that the product simply should not be used in light of its relative risks." *Lance v. Wyeth*, 85 A.3d 434, 459-60 (Pa. 2014). How a plaintiff frames the duties involved in the case is within her control, as "consistent with her prerogative as master of her own claim." *Id.* at 460.

Pennsylvania law recognizes that the duties imposed by the law of negligence in products liability include duties to exercise reasonable care in the design, warnings, and marketing of a product. *See*, *e.g.*, *id.*; *see also Thomas v. Arvon Products Co.*, 227 A.2d 897, 899 (Pa. 1967) ("a manufacturer of a potentially dangerous substance owes a duty to the user to exercise reasonable care and to give adequate warning of the dangerous nature of the substance"); *Barton v. Lowe's Home Centers, Inc.*, 124 A.3d 349, 360 (Pa. Super. 2015)(imposing a "duty to design and manufacture a safe engine" for a lawnmower).

The Pennsylvania Supreme Court has also recognized the use of Restatement (Second) of Torts, § 388 in cases of negligent failure to warn of toxic substances, under which:

> One who supplies directly or through a third person a chattel for another to use is subject to liability to those whom the supplier should expect to use the chattel with the consent of the other or to be endangered by its probable use, for physical harm caused by the use of the chattel in the

> manner for which and by a person for whose use it is supplied, if the supplier
> (a) knows or has reason to know that the chattel is or is likely to be dangerous for the use for which it is supplied, and
> (b) has no reason to believe that those for whose use the chattel is supplied will realize its dangerous condition, and
> (c) fails to exercise reasonable care to inform them of its dangerous condition or of the facts which make it likely to be dangerous.

Thomas v. Arvon Products Co., 227 A.2d 897, 900 (Pa. 1967) (quotations omitted). The court has further acknowledged that, under this section, "[t]he supplier's duty is to exercise reasonable care to inform those for whose use the article is supplied of dangers which are peculiarly within his knowledge. If he has done so, he is not subject to liability, even though the information never reaches those for whose use the chattel is supplied." *Id.* (citing comment to subsection (c) of Restatement (Second) of Torts § 388).

As explained previously, Plaintiff presented expert testimony from Dr. Allen and Dr. Levy that POEA surfactants increase the toxicity of glyphosate when combined in Roundup. Plaintiff also presented internal documents from Nouryon's predecessor Akzo Nobel indicating awareness of studies showing surfactants increased glyphosate's toxicity.

Plaintiff presented testimony from Aaron Bonilla, a corporate representative from Nouryon, regarding the safety of certain Nouryon surfactant products. (Bonilla Dep. at 2; *see also* Exhibit Bonilla 2-A, Exhibit List, Dkt. at 12/23/23). Bonilla testified to a presentation provided internally to Donna Hillebold (Bonilla's predecessor) at AkzoNobel in 2013. (Bonilla Dep. at 10, 41-44; *see also* Exhibit Bonilla 19, Exhibit List, Dkt. at 12/23/23 ("Bonilla 19")). The presentation states that "[f]rom literature, it is clear that POEA, even with 15 moles of ethoxylation, is quite cytotoxic to human cell lines and is expected to result in adverse effects in cultured cells." (Bonilla Dep. at 41-42; Bonilla 19 at 8). The same presentation, as confirmed by Bonilla's testimony, states that "[i]n literature it is suggested that POEA is responsible for either

potentiating the activity of glyphosate or that POEA itself has endocrine disrupting properties." (Bonilla Dep. at 44; Bonilla 19 at 10). The presentation further states that "[e]vidence in the scientific literature is not conclusive, however the endocrine disrupting potential of POEA to aquatic organisms cannot be neglected." (Bonilla Dep. at 44; Bonilla 19 at 10). The same presentation referenced studies as early as 2004 reporting endocrine effects on frogs. (Bonilla Dep. at 37; Bonilla 19 at 10). Bonilla confirmed that Donna Hillebold expressed in email concern about and reluctance to perform endocrine tests. (Bonilla Dep. at 60; *see also* Exhibit Bonilla 3, Exhibit List, Dkt. at 12/23/23). Bonilla also testified to emails indicating Nouryon removed ethylene oxide from the safety data sheets for surfactant C-6330 following a request from Monsanto. (Bonilla Dep. at 24-27). Bonilla explained that the ethylene oxide and 1,4 dioxane are "steam stripped" to remove residual amounts. (*Id.* at 26-27).

Dr. Allen specifically noted in his testimony that "[e]ndocrine disruption does play a role in the proliferation hallmark" of cancer, with particular relevance to non-Hodgkin's lymphoma since "specifically in non-Hodgkin's lymphoma some of the immune cells begin to […] proliferate and begin to multiply themselves, uncontrolled." (N.T. 11/15/23 (AM) at 60).

Reading this record in the light most favorable to Plaintiff, the jury could reasonably conclude that Nouryon and its predecessors knew or should have known of the risk posed by the combination of glyphosate with its POEA-type surfactants in Roundup. The jury could further reasonably conclude that Nouryon and its predecessors were negligent in failing to inform Monsanto about the risk of the combination, negligent in continuing to design this type of surfactant for use in Roundup despite notice of the risk of interaction, or negligent in allowing this type of surfactant onto the market despite the risk. It was further foreseeable that Nouryon's

surfactants would be used in this manner as the surfactants were developed for specific use in Roundup as part of the JDA with Monsanto.

Nouryon emphasizes that it provided Safety Data Sheets to Monsanto for the various surfactants at issue, that EPA concluded the surfactants were safe at certain percentage levels, that the surfactants themselves were not carcinogenic, and that any "impurities" (such as ethylene oxide and 1, 4 dioxane) were not present in sufficient levels at the time of distribution to present a risk of harm. (Nouryon Mot. ¶¶ 50, 57). These assertions find support in the record, and the jury was free to consider such evidence in reaching its conclusion. Nouryon does not, however, point to evidence that they ever informed Monsanto about the risks posed by interaction. The jury remained free to consider the evidence provided by Plaintiff regarding the increased effect of the surfactants on glyphosate noted in the literature, Nouryon's internal discussions of the potential concern presented by this interaction, and the absence of any communication from Nouryon to Monsanto informing Monsanto about this interaction. Accordingly, as the record indicates a jury could reasonably conclude that Nouryon was negligent, this argument does not warrant relief.

3. Causation

Nouryon further contends that JNOV is warranted for lack of causation evidence. (Nouryon Mot. ¶¶ 37-43). In addition to reiterating its concerns about product identification and liability of component manufacturers, Nouryon contends that (1) plaintiff must show the surfactant itself caused the injury and failed, and (2) Dr. Levy's testimony failed to demonstrate that the surfactants contributed to Plaintiff's injury due to their "impurities" or otherwise. (*Id.*; *see also Id.* at ¶¶ 56-61).

To restate the law of causation for products liability cases: Pennsylvania courts hold that causation in a products liability case (brought either in strict liability or negligence) is met where the product is a "substantial factor" in causing the injury. *See Eckenrod v. GAF Corp.*, 544 A.2d 50, 52 (Pa. Super. 1988); *Sheehan v. Cincinnati Shaper Co.*, 555 A.2d 1352, 1354 (Pa. Super. 1989); *Straw v. Fair*, 187 A.3d 966, 993 (Pa. Super. 2018); *Summers v. Certainteed Corp.*, 997 A.2d 1152, 1164 (Pa. 2010). Pennsylvania courts also recognize that even if a manufacturer's product may be a substantial factor even if it is a "concurring cause," i.e. even if it combines with other contributing factors to cause the harm, even if each alone would be insufficient. *Maya v. Johnson and Johnson*, 97 A.3d 1203, 1220 (Pa. Super. 2014). The law of concurring causes "applies just as forcibly to […] defective products" as to negligence. *Id.* (*quoting Lilley v. Johns–Manville Corp.*, 596 A.2d 203, 215–216 (1991)(Olszewski, J. concurring)). *See also Rost v. Ford Motor Co.*, 151 A.3d 1032, 1048-49 (Pa. 2016)(so long as the expert "opine[s] within a reasonable degree of medical certainty that the exposures at [defendant's business] were sufficient to cause" mesothelioma, "[c]omparison of [plaintiff's] other occupational exposures to asbestos [i]s unnecessary"); *Summers v. Certainteed Corp.*, 997 A.2d 1152, 1164 (Pa. 2010)("the fact that some other cause concurs with the negligence of the defendant in producing an injury does not relieve the defendant from liability unless he can show that such other cause would have produced the injury independently of his negligence" (citations and quotations omitted)); Pa. SSJI (Civ), §§13.20, 16.70 (2020)(Factual Cause; Factual Cause—Products Liability).

Plaintiff presented significant testimony from both Dr. Allen and Dr. Levy regarding the causal relation between Roundup and NHL. As to the impact of Nouryon's surfactants, Dr. Allen specifically testified that "[e]ndocrine disruption does play a role in the proliferation hallmark" of cancer, with particular relevance to non-Hodgkin's lymphoma since "specifically in non-

Hodgkin's lymphoma some of the immune cells begin to […] proliferate and begin to multiply themselves, uncontrolled." (N.T. 11/15/23 (AM) at 60). Dr. Levy explained that scientific literature showed an increased rate of NHL development in persons exposed to Roundup for either two workdays of exposure per year, or ten workdays overall. (N.T. 11/17/23 (AM) at 32-36). He further explained that scientific literature showed POEAs increased Roundup's toxicity compared to glyphosate alone and ultimately concluded that Roundup (rather than glyphosate alone) causes NHL and was a substantial contributing factor of Plaintiff's NHL. (N.T. 11/17/23 (AM) at 64-68).

Dr. Levy confirmed that ethylene oxide and 1,4 dioxane are human carcinogens. (N.T. 11/17/23 at 64-65). Plaintiff presented testimony from Bonilla that Nouryon's surfactants contained 1,4 dioxane and ethylene oxide, which are known carcinogens. (Bonilla Dep. at 17-18, 19). Bonilla added that no traceable amount of ethylene oxide remains at distribution, and that the presence of 1,4 dioxane falls below the threshold established by EPA. (*Id.* at 26-27).

On this record, read in the light most favorable to Plaintiff, the jury could reasonably conclude Nouryon's surfactants increased the toxicity of Roundup in causing NHL. As explained, the jury could have reasonably concluded that Nouryon negligently failed to warn Monsanto about this risk, negligently failed to change the design of the surfactant, or negligently allowed the surfactant onto the market, and that this negligence caused Plaintiff's exposure to the combination and ultimately her NHL. While Dr. Levy's testimony fails to reveal a clear connection between the "impurities" found in the surfactants and NHL specifically, his testimony nevertheless reflects that POEAs—the type of surfactant supplied by Nouryon here—combined with glyphosate to increase Roundup's toxicity and make it a substantial contributing factor to Plaintiff's NHL.

4. Impurities Argument Specific to Nouryon

Nouryon contends that it is entitled to JNOV to the extent that any of Plaintiff's claims are based on "impurities" found in the surfactants. This argument mirrors Monsanto's argument. As explained, Plaintiff presented extensive testimony explaining how Nouryon's surfactants increased Roundup's toxicity, and how Roundup caused her NHL. Thus, this argument need not be addressed as it does not affect the validity of the jury's conclusion that Roundup caused Plaintiff's NHL.[16]

PART THREE – DELAY DAMAGES

Plaintiff has filed a Motion for Delay Damages. Plaintiff has demonstrated that the prerequisites for seeking such an award have been met as Defendants did not make any offers that would have eliminated Plaintiff's right to make this claim. Plaintiff has set forth the amount claimed and how it was calculated. Defendants do not contest those facts. Rather, Defendants contend that Plaintiff is not entitled to delay damages because judgment should not be entered in their favor or the court should overturn the verdict and grant a new trial. As the court has rejected Defendants' post-trial motions and has re-affirmed the jury's determination, Plaintiff's motion will be granted and the monetary judgment will be molded in accordance with the Plaintiff's proposed order.

CONCLUSION

For all the reasons set forth in this opinion, as well as the reasons, the court denies Monsanto's Motion for Post-Trial Relief and Nouryon's Motion for Post-Trial Relief in their

[16] For completeness, the record reflects that Dr. Levy explained the presence of ethylene oxide, 1, 4 dioxane, and arsenic in Roundup and their known carcinogenicity. (N.T. 11/17/23 AM at 62-65). He later testified that Roundup—rather than glyphosate alone—is a cause of NHL. *Id.* at 68.

entirety. The court grants Plaintiff's motion for delay damages. An order setting forth the court's rulings will be filed in conjunction with this Opinion.