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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF SAN FRANCISCO

DEWAYNE JOHNSON,

Plaintiff,
v.

MONSANTO COMPANY,

Defendants.

Case No. CGC-16-550128

PLAINTIFF'S OPPOSITION TO MONSANTO COMPANY'S MOTION FOR DIRECTED VERDICT

Hon. Suzanne R. Bolanos

Department: 504
Hearing Date: August 6, 2018
Hearing Time: 9:00 a.m.
Trial Date: June 18, 2018

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I. INTRODUCTION

Mr. Johnson has produced at trial the same expert testimony that Judge Karnow considered in rejecting Monsanto's Sargon motions and substantially more evidence with respect to liability and punitive damages than that considered by Judge Karnow in ruling on the summary judgment motion. Monsanto's current motion is simply a rehash of its failed motions infused with gross misrepresentations of the record and should likewise be denied. With respect to causation, Monsanto's motion is inappropriate as it attacks the admissibility of Plaintiff's experts and not whether their actual opinions are sufficient to support a jury verdict. There is no dispute that Plaintiff's experts are eminently qualified to offer causation opinions and did in fact opine that glyphosate based herbicides (GBH) causes non-Hodgkin Lymphoma (NHL) and caused NHL in Mr. Johnson. 5/17/2018 Order re: Sargon and Summary Judgment, (SJ Order) at 7. ("credentials of the expert[s] are unassailable").

Plaintiff's experts considered the whole of the scientific data in coming to their opinions that GBHs cause NHL as required by California law. It is essential that the "body of studies be considered as a whole." *Cooper v. Takeda Pharm. Am., Inc.*, (2015) 239 Cal. App. 4th 555, 589–90. Here, in addition to the epidemiology, there is strong biological plausibility that GBHs cause NHL. Under such circumstances, the Federal Judicial Center's Reference Manual on Scientific Evidence (3rd. Ed.) (Reference Manual) instructs:

> … In applying the scientific method, scientists do not review each scientific study individually for whether by itself it reliably supports the causal claim being advocated or opposed. Rather, as the Institute of Medicine and National Research Council noted, "summing, or synthesizing, data addressing different linkages [between kinds of data] forms a more complete causal evidence model and can provide the biological plausibility needed to establish the association" being advocated or opposed. P. 20.

In addition to offering more than sufficient evidence that GBHs cause NHL, Dr. Nabhan and Dr. Sawyer properly conducted "a differential diagnosis to "rule in" and "rule out" other possible causes of a disease in arriving at an opinion that Mr. Johnson's use of GBHs was a substantial cause of Johnson's NHL. *Cooper*, 239 Cal. App. 4th at 578.

The evidence presented at trial is more than sufficient to support an inference that Mr. Johnson's NHL was caused by Monsanto's products, and is the only logical inference. Mr. Johnson was diagnosed

with non-Hodgkin Lymphoma (NHL) after over two years of spraying dangerously high levels of RangerPro with a power washer that covered his face and clothing with the carcinogens in the RangerPro formulation. This exposure is not Mr. Johnson's fault. July 26 Tr. at 3695:2 (Mr. Lombardi stating "I'm not blaming Mr. Johnson"). Defendant agrees that Mr. Johnson "went well beyond what the label requires" in trying to minimize his exposure. July 9 Tr. at 1502:15-16. As a safety conscious employee, Mr. Johnson relied on the product label and safety data sheets for RangerPro. July 23 Tr. at 3230:14-16. Unfortunately, Monsanto not only failed to warn about the risk of NHL, but was grossly inadequate in instructing users about how to minimize exposure to its product. July 26 Tr. at 3661:17-22. Mr. Johnson's use of a hydraulic nozzle, however, created "a dangerous aerosol." *Id.* at 3694:20-22. Unfortunately, Mr. Johnson "didn't know any better" because Monsanto never bothered to tell him. *Id.* at 3695:1.

Had Monsanto informed Mr. Johnson that GBHs cause cancer, he would not have sprayed the product. Mr. Johnson stated "It's just unethical. It's not what you would do. It's wrong. I have children that go to school, and I've been in schools, and people just don't deserve that. They deserve better." July 23 Tr. at 3235:2-5. Mr. Johnson twice called Monsanto asking if the RangerPro was causing his cancer and Monsanto never called him back. P-Exhs. 332, 334. Fearing that RangerPro might be a cause of Mr. Johnson's NHL, Mr. Johnson's treater, Dr. Ofodile, wrote a letter in March 2015 to the school board asking that Mr. Johnson not be required to spray RangerPro at work. *Id.* at 3154:6-16. That letter did not have the desired effect in part because Monsanto has never warned anyone of Roundup's carcinogenic products, and in 2016, Mr. Johnson was forced to simply refuse continued spraying. *Id.* at 3236:4-13.

Mr. Johnson's story is tragic and could have been prevented if Monsanto actually showed a modicum of care about human safety. Unfortunately, as Judge Karnow ruled, the evidence supports the conclusion that "Monsanto has long been aware of the risk that its glyphosate-based herbicides are carcinogenic, and more dangerous than glyphosate in isolation, but has continuously sought to influence the scientific literature to prevent its internal concerns from reaching the public sphere and to bolster its defenses in products liability actions." SJ Order p. 45. As Dr. Kirk Azevedo testified, Monsanto's Vice President told him "we're about making money. So get it straight."' Azevedo Depo. at 50:7-51:25.

II. LEGAL STANDARD

Directed verdicts are disfavored in jury cases and courts have taken a very restrictive view of the circumstances under which it is proper to take a case away from the jury. "In ruling upon a defense motion for a directed verdict, the trial court is guided by the same standard used in evaluating a motion for a nonsuit." *Fariba v. Dealer Services Corp.*, (2009) 178 Cal. App. 4th 156; *quoting Quinn v. City of Los Angeles* (2000) 84 Cal.App.4th 472, 479. "[A] nonsuit or a directed verdict in a jury case may be granted only when disregarding conflicting evidence, giving to the plaintiffs' evidence all the value to which it is legally entitled, and indulging every legitimate inference that may be drawn from the evidence in the plaintiff's favor, it can be said there is no evidence to support a jury verdict in their favor". *Elmore v. American*, (1969) 70 Cal. 2d 578, 583 (emphasis added); *Alpert v. Villa Romano Homeowners Ass'n*, (2000) 81 Cal. App, 4th 1320, 1328; *County of Kern v. Sparks*, (2007) 149 Cal. App. 4th 11, 16; *Carson v. Facilities Develop Co.*, (1984) 26 Cal. 3d 830, 839 (the inferences need not be the only possible inferences, nor even the strongest inferences; it is enough that there is "some substance to plaintiffs evidence upon which reasonable minds could differ."). Furthermore, because a directed verdict deprives plaintiff of the right to have his or her case determined by a jury, it is proper only under very restrictive circumstances. *Campbell v. General Motors Corp.,* (1982) 32 Ca. 3d 112, 118.

III. Monsanto's Motion Fails to Consider the Elements for Product Liability Which do not Require Any Evidence of a Safer Alternative Design

Monsanto's Motion for Directed Verdict claims that Roundup cannot be found to be defective in design because Plaintiff did not prove that there was a safer alternative design. Unfortunately for Monsanto, California's strict product liability law contains no such requirement and Monsanto has cited no case stating that Plaintiff must provide an alternative design. Thus, Monsanto's motion must be denied.

The Supreme Court has repeatedly described two tests for strict product liability design defect:

> Design defects appear in products that, although properly manufactured, are dangerous because they lack a critical feature needed to ensure safe use. (Brown, supra, 44 Cal.3d at p. 1057.) We discussed design defects at length in *Barker*, *supra*, 20 Cal.3d 413, establishing two alternative tests for liability. A product design may be found defective if (1) "the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner" (consumer expectations test)

> (id. at p. 432), or (2) the risk of danger inherent in the product's design outweighs the design's benefits (risk-benefit test) (ibid.).

Webb v. Special Electric Co., Inc, (2016) 63 Cal.4th 167, 180. Here, Plaintiff has requested jury instructions for a design defect claim under the first test, the consumer expectation test. Defendant has requested jury instructions for the risk-benefit test. Under either test, Plaintiff has presented sufficient evidence to submit this claim to the jury. Under the consumer expectation test, Plaintiff is not required to "prove that there was a safer alternative design." *Sparks v. Owens-Illinois, Inc.*, 32 Cal. App. 4th 461 (1995).

If the Court gives Plaintiff's requested consumer expectation jury instruction then "*Monsanto may not defend a claim under the consumer expectations test by relying on the risk-benefit test.*" May 17 Order on Jury Instructions at 5 (emphasis added). Under these circumstances, the benefits of Roundup are not only irrelevant, they are to be excluded:

> …the consumer expectation test applies in 'cases in which the everyday experience of the product's users permits a conclusion that the product's design violated minimum safety assumptions, and is thus defective regardless of expert opinion about the merits of the design.' A plaintiff may show the objective condition of the product, and the fact finder may use its own 'sense of whether the product meets ordinary expectations as to its safety under the circumstances presented by the evidence.' *A defendant may not rebut such a claim with evidence of the design's relative risks and benefits*…")

Arena v. Owens-Corning Fiberglas Corp. (1998) 63 Cal.App.4th 1178, 1186 (quoting Soule 8 Cal 4th at 567, 607) (emphasis added).

A. The Consumer Expectation Test is Applicable in this Case.

Judge Karnow ruled that "Johnson is entitled to an instruction on the consumer expectation test, provided he makes the foundational evidentiary showing discussed in *Saller* during trial and the evidence and argument at trial does not foreclose such an instruction." May 17 Order on Jury Instructions at 5-6. *Saller* was a case involving an allegation that plaintiff's workplace exposure to asbestos caused his cancer and is thus directly on point. *Saller* lays out the necessary foundational evidence needed to apply the consumer expectation test.

> Here, we agree that the consumer expectations test applied to the use of

> asbestos at Standard Oil and that Saller's testimony concerning his expectations about its safety in its ordinary use at Standard Oil were sufficient to require a jury instruction on the issue. The use of asbestos insulation is a product that is within the understanding of ordinary lay consumers. In addition, Saller presented evidence concerning his exposure to the product (in frequent and close proximately to those workers actually using it); the circumstances surrounding his injury (use of asbestos insulation, an apparently innocuous product, frequently produced significant amounts of asbestos-containing dust that he inhaled); and the objective features of the product relevant to an evaluation of its safety (the product was always cut or sawed when used, always produced dust, and was frequently used). Given these circumstances and the widespread use of asbestos in refineries and other industries, the jury could infer that the ordinary consumer of the product, namely refinery workers, would assume that the use of the product was safe, notwithstanding the amount of dust produced.

Saller v. Crown Cork & Seal Co., (2010) 187 Cal. App. 4th 1220, 1236.

Mr. Johnson easily meets these standards. Here, Mr. Johnson gave testimony about his use and exposure to RangerPro. July 23 Tr. at 3254:13-3258:24 (detailing how often and how much he sprayed); 3263:10-11 (Explaining that Mr. Johnson got RangerPro on his face everyday); 3259:6-3262:21 (detailing accidental exposure incident when hose detached.) Mr. Johnson explained the objective features relative to the safety of RangerPro. *Id.* at 3229:9-3230:4. He was specifically told by the RangerPro sales representative that it was "safe enough to drink" and that "you don't have to worry too much about it." *Id.* He was of course never told that RangerPro could cause cancer. *Id.* Monsanto's own expert testified that Mr. Johnson "did a good job" following the label and reducing his exposure. July 30 Tr. at 4903:3-8. The use of glyphosate based herbicides are widespread and the use is dramatically increasing. July 27 Tr. at 3931:16-3935:11. Therefore, the jury could infer that the ordinary consumer of RangerPro would assume that RangerPro was safe notwithstanding the amount of drift created.

Defendant claims that RangerPro is "only available to those with licenses." This is not true. Mr. Johnson was spraying RangerPro for two years before he even got his license.

> Q. But had you been spraying Roundup or Ranger Pro before obtaining, kind of, certification or license?
>
> A. Yes.
>
> Q. Did you need a license or certification in order to spray Roundup or

Ranger Pro?

A. Well, the way that works is that, no, you don't need a license to spray Ranger Pro or Roundup.

July 23 Tr. at 3224:6-17; *Id.* at 3303:15-18. Mr. Johnson purchased RangerPro without a license "A. It was my responsibility to purchase it. I purchased it from a store in Concord called Horizon. Horizon Irrigation & Landscaping." *Id.* at 3226:2-4. Dr. Sawyer confirmed that the RangerPro that Mr. Johnson used has the same ingredients, same concentrations, and same mixing requirements as the Roundup Super Concentrate sold at Home Depot or Lowes. July 26 Tr. at 3607:23-3608:8.

Instead of presenting the elements for the causes of action or tests of product defect that Plaintiff is pursuing, Monsanto attempts to set up a straw man regarding argument of some safer alternative design that does not apply to this case. Monsanto has already admitted, in a Request for Admission entered into evidence in this case, that it did not warn Mr. Johnson of any of the cancer dangers of its glyphosate-based products. July 23 Tr. at 3186:2-13. Knowing that it cannot defeat Plaintiff's failure to warn or design defect claims, Monsanto now attempts to create a test for liability that does not exist here. Plainly, the benefits of Roundup or a safer alternative design are irrelevant.

As discussed below, Plaintiff has presented more than sufficient evidence of the fact that he did not expect Roundup to cause cancer and Monsanto admitted it did not warn of such a danger. July 23 Tr. at 3234:21-25, 3279:1-12 ("Q. Had you seen something, that Ranger Pro could cause non-Hodgkin's lymphoma or cancer, would you have sprayed this product? A. I would never have sprayed that product on school grounds or around any people if I knew it would cause them harm..."). Mr. Johnson also testified that he read the label every time he used the formulation. *Id.* at 3231:3-24. The jury certainly has enough evidence to "use its own sense of whether the product meets ordinary expectations as to its safety under the circumstances presented by the evidence" and whether Monsanto failed to warn. *Arena* 63 Cal.App.4th at 1186 (quoting *Soule* 8 Cal 4th at 567, 607).

Trejo v. Johnson & Johnson is not applicable to this case. (2017) 13 Cal. App. 5th 110, 159. *Trejo* involved a pain reliever which warned about severe allergic reactions, but did not specify the idiosyncratic allergic reaction suffered by Plaintiff (Steven Johnson Syndrome (SJS)). *Id.* at 119. To explain why an ordinary consumer would not expect to have the particular allergic reaction SJS, when

the label warns of severe allergic reactions, Plaintiff repeatedly tried to introduce expert testimony on what an ordinary consumer would reasonably expect. *Id.* at 160 ("the trial court repeatedly sustained objections and admonished plaintiff's counsel not to allow expert testimony related to the consumer expectation test.").

The issue in *Trejo* revolved around the complexity of what a consumer should reasonably expect with respect to safety and not around the complexity of causation generally, holding "[t]hat causation for a plaintiff's injuries was proved through expert testimony does not mean that an ordinary consumer would be unable to form assumptions about the product's safety." *Id.* at 160. The Court noted that "allegations of allergic and/or idiosyncratic reactions" warrant special consideration because of deeply technical issues in the design of the product with respect to allergies and the difficulty for a manufacturer to take account and foresee the multitude of possible and unpredictable allergic reactions unique to certain individuals. *Id.* at 158. The *Trejo* holding is limited to cases where a consumer suffers an individual, rare, idiosyncratic reaction to a particular product. Precluding the application of the consumer expectations test in cases involving unusually rare idiosyncratic reactions reflects an understanding that the injured party typically cannot show that his or her injury was sufficiently common to render the injury-causing product dangerous to an extent beyond that which the ordinary consumer would contemplate. Thus, the plaintiff with a specific allergic reaction would be required to offer technical details regarding the effect of the product upon [the] individual plaintiff's health." *Trejo*, 13 Cal.App.5th at 160. In other words, the design defect is not common to all consumers, but rather, is highly specific to the plaintiff based on their "unusual reaction" to the product. The side effect identified in *Trejo* is excessively rare. *Id.* at 160 ("The prevalence of TEN from all causes is estimated to be only between .4 and 1.2 cases per million users of the drug, and what fraction of that slight probability is due to ibuprofen is unknown and may be zero.")

Here, NHL is not an idiosyncratic and/or allergic reaction. The carcinogenicity of a product is an issue where an ordinary consumer can make assumptions about the product's safety, and in fact the carcinogenicity of pesticides is typically included on product labels. There are even animal studies designed to specifically look at the carcinogenicity of a product. Every consumer who uses glyphosate sufficiently is at an increased risk of NHL and there are currently thousands of individuals alleging that they developed NHL as a result of using glyphosate.

As explained in *Arnold v. Dow Chem. Co.*, injuries from pesticides do not require an overly technical review of the manufacturing process:

> [r]espondents argue that the consumer expectations claim fails for a third, independent reason. *Citing Soule v. General Motors Corp.*, supra, 8 Cal.4th at pages 566-567, respondents urge that when the product at issue and the plaintiff's claims are complex, the consumer expectation test is inapplicable. That case, however, involved a theory of design defect of an automobile, which demanded an understanding of technical and mechanical detail and how safely an automobile's design should perform under the esoteric circumstances of the collision at issue. This case is more like *Sparks v. Owens-Illinois, Inc.*, supra, 32 Cal.App.4th at pages 474-475, in which the First District determined that the product at issue, asbestos-containing block insulation, was within the ordinary experience and understanding of a consumer. Similarly, in *Bresnahan v. Chrysler Corp.* (1995) 32 Cal.App.4th 1559, 1568 [38 Cal.Rptr.2d 446], we found that the alleged technical novelty of the airbag does not preclude resort to the consumer expectations test. We stated that "The consumer expectations test is not foreclosed simply because expert testimony may be necessary to explain the nature of the alleged defect or the mechanism of the product's failure." (Ibid.)

(2001) 91 Cal. App. 4th 698, 727. The Court therefore rejected the very arguments made by Monsanto here and determined that injuries arising from pesticides should use the same consumer expectation test espoused in *Sparks* with respect to asbestos. Thus, Monsanto's Motion for Directed Verdict must be denied.

B. Plaintiff Has Not Failed to Prosecute a Design Defect Claim Based on Risk/Benefit

For the risk-benefit test, there is no requirement for Mr. Johnson to "prove that there was a safer alternative design;" Mr. Johnson must only "demonstrate[] that the product's design proximately caused his injury." *Sparks,* 32 Cal. App. 4th at 472–73. Once a plaintiff produces sufficient evidence for a jury to find that the product caused the injury, the burden then shifts to the Defendant "to establish, in light of the relevant factors, that, on balance, the benefits of the challenged design outweigh the risk of danger inherent in such design." *Id.* Plaintiff has no requirement to demonstrate an alternative design. Rather it is Defendant's burden to demonstrate that there is no "safer alternative design." *Id.* ("In order to satisfy its burden under this so-called "risk-benefit" theory, the defendant manufacturer may-but is not required to-present evidence of the feasibility of a safer alternative design, the financial cost of an improved design, and any adverse consequences to the product or the consumer from the alternative design.")

As CACI 1204 makes clear "[i]f [name of plaintiff] has proved these three facts, then your decision on this claim must be for [name of plaintiff] unless [name of defendant] proves that the benefits of the [product]'s design outweigh the risks of the design." Even if it were Plaintiff's burden to demonstrate that the risks outweighed the benefits, there is sufficient evidence of alternative designs. Dr. Al-Khatib testified that school districts could use steam or vinegar as herbicides. July 30 Tr. at 4145:10-4146:20. Dr. Sawyer testified that there are safer surfactants that can be and are used in glyphosate formulations outside of the United States. July 26 Tr. at 3626:16-20. Finally, there is evidence that "several bay area cities and school districts" stopped using glyphosate altogether after the IARC ruling. P-Exh.291. Additionally, restrictions could be imposed by Monsanto on how much glyphosate can be sprayed and in what manner it can be sprayed. Dr. Sawyer testified that there is a safer wand design that would reduce drift and exposure. July 26 Tr. at 3602:16-3603:13.

C. Comments K and J Only Apply to Pharmaceuticals and Medical Devices.

Comments K and J are inapplicable as a defense, as "Monsanto does not cite—and the Court cannot find—a California case applying comment k outside the medical context, … On the contrary, California courts appear willing to apply comment k only where a product is "available only through the services of a physician," *Hardeman v. Monsanto Co.*, (2016) 216 F. Supp. 3d 1037, 1040.

IV. Plaintiff Has Offered Sufficient Evidence For a Jury to Find that Ranger Pro was a Substantial Cause of Mr. Johnson's NHL.

Each argument offered by Monsanto with respect to causation has already been rejected by Judge Karnow. The issues raised by Monsanto are all foundational issues with respect to the admissibility of the experts' opinions and should not be raised in the context of the sufficiency of the evidence. Once the expert opinion is deemed admissible and presented to the jury, the jury determines the credibility of the expert opinion and not the basis for its admissibility. Here, four highly qualified experts offered admissible opinions that GBHs cause NHL, and two of those experts specifically looked at Mr. Johnson's case and determined that Ranger Pro caused his NHL.

Judge Karnow did indeed make a determination that Plaintiff's experts' opinions are sufficient to support a finding of general and specific causation, holding "Monsanto's motion for summary judgment based on causation turns on the admissibility of Johnson's experts. As discussed above, most of the opinions of Johnson's causation experts are admissible. These suffice as evidence of both general

and specific causation." SJ Order at 38. Plaintiff's experts gave the same testimony at trial that was considered by Judge Karnow with respect to summary judgment. Monsanto goes to great lengths to avoid citing California law or Judge Karnow's directly controlling order. Monsanto also misleadingly cites Judge Chabbria's opinion[1], applying federal law, by omitting the conclusion that "the plaintiffs have presented evidence from which a reasonable jury could conclude that glyphosate can cause NHL at human-relevant doses. Monsanto's motion for summary judgment is denied." *In re Roundup Prod. Liab. Litig.*, No. 16-MD-02741-VC, 2018 WL 3368534, at *36.

Under California law, to create a jury question on cancer causation "[t]he plaintiff must offer an expert opinion that contains a reasoned explanation illuminating why the facts have convinced the expert…that it is more probable than not the negligent act was a cause-in-fact of the plaintiff's injury." *Cooper*, 239 Cal. App. 4th at 578. Furthermore "Under the applicable substantial factor test, it is not necessary for a plaintiff to establish the negligence of the defendant as the proximate cause of injury with absolute certainty so as to exclude every other possible cause of a plaintiff's illness, even if the expert's opinion was reached by performance of a differential diagnosis." *Id.* at 578.

Under California law, causation is not segregated into concepts of "general" and "specific" causation, as Monsanto suggests. Rather, the only causation element that a plaintiff must show is that the defendant's conduct or product was a "substantial factor" in causing the plaintiff's harm. *See* CACI 430 ("A substantial factor in causing harm is a factor that a reasonable person would consider to have contributed to the harm. It most be more than a remote or trivial factor. It does not have to be the only cause of the harm."). The substantial factor standard "is a relatively broad one, requiring only that the contribution to the individual cause be more than negligible or theoretical." *Hernandez v. Amcord, Inc.*, (2013) 215 Cal. App. 4th 659, 673. Causation involves "factual questions for the jury to decide, except in cases in which the facts as to causation are undisputed." *Ortega v. Kmart Corp.*, (2001) 26 Cal. 4th 1200, 1205.

Monsanto's arguments related to causation are premised entirely on misrepresentations, an utter disregard of the opinions of Plaintiff's experts, and the misapplication of the directed verdict standard.

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[1] Judge Chhabria's ruling under federal law is of limited relevance to this case which requires the application of California law. This is particularly true where Judge Karnow considered the same arguments of Monsanto and the same testimony of the experts. Plaintiff does not agree with several aspects of Judge Chhabria's ruling, particularly where it deviates from Judge Karnow's opinion.

Plaintiff's evidence is more than sufficient to establish that his NHL was caused by his exposure to GBHs.

A. California Law Requires Neither a Relative Risk of 2.0 Nor a Low Rate of Idiopathy to Prove Causation.

Monsanto claims that "none of the studies show a statistically significant risk ratio that is above 2.0 as required by California law." This is not true, as several studies show statistically significant doubling of the risk with respect to glyphosate and NHL. Furthermore, as Judge Karnow explained, California law clearly does not require a risk ratio above 2.0, holding "Johnson's experts discuss epidemiological studies just as one factor in their opinion that glyphosate-based herbicides cause NHL…Cooper does not mandate exclusion of these opinions for this purpose even if none of the studies shows a relative risk of greater than 2.0." SJ Order at 10. Judge Karnow appropriately applied controlling law which holds that "[t]here is no such requirement [for a relative risk of 2.0] in California." *Davis v. Honeywell Internat. Inc.,* (2016) 245 Cal. App. 4th 477, 493. Judge Chhabria also rejected Monsanto's arguments, holding "Monsanto argues that the plaintiffs must be able to show a statistically significant odds ratio of greater than 2.0 to survive summary judgment at the general causation stage. Controlling case law does not support that proposition." *In re Roundup Prod. Liab. Litig.,* No. 16-MD-02741-VC, (July 10, 2018) WL 3368534, at *20 (N.D. Cal. July 10, 2018)

The Miller Firm was also lead counsel in the *Cooper v. Takeda* appeal. In *Cooper*, the issue was not whether epidemiology studies showing a doubling of the risk were required to prove specific causation, but rather whether those studies could be used to prove specific causation in the absence of a thorough differential diagnosis; a plausible mechanism of action; and animal carcinogenicity studies. The *Cooper* court determined that a study reporting an odds ratio of 2.0 could be used as evidence of specific causation in the absence of other evidence. *Id.* at 593. The epidemiology in *Cooper* involved a pharmaceutical drug, Actos®, where there were randomized control trials, and there were no issues with respect to exposure assessment. The study investigators could count the actual number of pills each participant was prescribed. The overall odds ratio was about 1.5 in the meta-analysis of ever-never use in *Cooper*, but the Court held that studies which looked at dose-response and found a greater than 2.0 odds ratio in the dose group to which the Plaintiff belonged were admissible for specific causation. *Id.* at 594. ("In Azoulay, the authors found a statistically significant hazard ratio of 2.54 for patients exposed to more than 28,000 mg of Actos®.").

Monsanto cites a Los Angeles Superior Court opinion as authority in violation of California citation rules and that cite should be stricken. Rule 8.1115. To the extent the court considers the Talcum Powder case which is currently on appeal, the case does not help Monsanto. The basis of the ruling was that "[t]he undisputed evidence was *that epidemiology was the only basis* that Yessaian could and did "rule in" talc as a disease agent." *In re Johnson & Johnson Talcum Powder Cases*, No. BC628228, 2017 WL 4780572, at *14 (Cal. Super. Ct. 2017)[2] (emphasis added). Here, in contrast, Mr. Johnson also relies also on strong animal carcinogenicity data, exposure data, and mechanism of action data. Epidemiology is only one part of the causation analysis. As Judge Karnow notes "[i]n the present case, Johnson's experts may, if this case proceeds to trial, rely on relative risk ratios of lower than 2.0 and other considerations in support of their conclusion that Johnson's mycosis fungoides was caused by occupational exposure to Monsanto's products. Nothing in *Cooper* forecloses such an approach." May 17, 2018 Order re: Jury Instructions, p. 11.

Judge Karnow correctly states the current law. A relative risk of 2.0 is only necessary when epidemiology is being offered as the only evidence used for specific causation in the absence of toxicological evidence of carcinogenicity. *Cooper,* 239 Cal. App. 4th 555, 593 (So the question is what, in addition to these studies, is Dr. Smith basing his differential diagnosis on."); *In re Hanford Nuclear Reservation Litig.,* (9th Circ. 2002) 292 F.3d 1124, 1136 (Relative risk of 2.0 only applicable where "there was no scientific evidence of capacity to cause the plaintiffs' injuries.). Other factors also make a relative risk of 2.0 unnecessary such as "Evidence of a pathological mechanism may be available for the plaintiff that is relevant to the cause of the plaintiff's disease" or if the agent is a tumor-promoter than the "relative risk from a study will understate the probability that exposure accelerated the occurrence of the disease." Reference Manual at 614-618. For these reasons a "....threshold increase in risk or a doubling in incidence in a group study in order to satisfy the burden of proof of specific causation is usually inappropriate." Restatement (Third) of Torts: Liability for Physical and Emotional Harm, § 28 cmt. c (4), Specific Causation.

In any event there are several studies showing an odds ratio over 2.0, including De Roos (2003).

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[2] To the extent the Court relies on this unpublished opinion, Plaintiff would point out that this case also stated that if a defendant points to unknown causes as the cause of Plaintiff's cancer then the Court is required to give the CACI 431 concurrent causes instruction. *Id.* at * 21. "Nonetheless, given defendants' arguments that alternate unknown causes were possible causes of Echeverria's cancer, the Court is bound by *Cooper* and denies the motion on the basis of improper instruction…"

While Dr. Neugut testified that the odds ratio for ever using GBHs from all of the studies combined was about 1.5, he further explained that "if you start to look at dose response of people who are really significantly exposed to glyphosate, got exposed in a more dramatic way, for longer periods of time, for higher doses, they're going to have a significantly higher risk." July 18 Tr. at 2617:21-2618-4, 2644:21-2645:1. Dr. Nabhan also reached the same conclusion after his review of the epidemiology studies: "There's a study published by McDuffie and colleagues in 2001. There's another one in 2003 by De Roos and colleagues. There's another one by Eriksson and colleagues that also published in 2008. All of these showed doubling the risk." July 20 Tr. at 2825:9-18 (7/20/2018); *Id.* at 2827:15-2830:5 (explaining that Eriksson and McDuffie showed a dose-response); July 12 Tr. at 1880:3-1884:24, 1894:13-1898:3 (Portier explaining the dose-response relationship in McDuffie and Eriksson showed over a doubling of the risk for use greater than 2 days per year (McDuffie) and 10 days per year (Eriksson)).

Monsanto's argument that because Dr. Nabhan cannot be able to identify the cause of NHL in Mr. Johnson because he cannot identify the cause of NHL in most of his patients has been squarely rejected in California, the 9th Circuit, and by Judge Karnow. In *Cooper,* it was an abuse of discretion where the trial court excluded expert testimony on the basis that "Dr. Smith says that he has a lot of patients in this age group who have bladder cancer, and he can find no cause" 239 Cal. App. 4th at 593. The recent case of *Wendell v. GlaxoSmithKline*, (cited with approval by Judge Karnow, SJ Order at 24) applying substantive California law, is particularly relevant because it involves a rare subtype of t-cell lymphoma. 858 F.3d 1227, 1230, 1236 (9th Cir. 2017). *Wendell* held that:

> the district court erred when it excluded Plaintiffs' experts' opinion testimony because of the high rate of idiopathic [unknown] HSTCL and the alleged inability of the experts to rule out an idiopathic origin or IBD itself. We do not require experts to eliminate all other possible causes of a condition for the expert's testimony to be reliable. Messick, 747 F.3d at 1199. It is enough that the proposed cause "be a substantial causative factor." Id. This is true in patients with multiple risk factors, and analogously, in cases where there is a high rate of idiopathy

Id. at 1237.

B. Dr. Nabhan Properly Performed a Differential Diagnosis and Determined That Mr. Johnson's Exposure to GBHs Was a Substantial Contributing Factor to His Development of NHL

Judge Karnow determined that Dr. Nabhan conducted a proper differential diagnosis. SJ Order at 25. Dr. Chadi Nabhan is a board-certified oncologist specializing in the diagnosis and treatment of lymphoma's and leukemias, including Non-Hodgkin's lymphoma. July 20 Tr. at 2773:10-21; 2776:22-24; 2779:6-12. He has authored over 300 journal articles, abstracts and book chapters relating to cancer with the substantial majority dealing with Non-Hodgkin's lymphoma. *Id.* at 2785:13-2786:4. Dr. Nabhan testified that mycosis fungoides is simply a form of non-Hodgkin's lymphoma. *Id.* at 2780:7-17. As such, it is appropriate to rely upon scientific literature related to NHL generally in reaching causation opinions. Dr. Nabhan explained that NHL is a "large umbrella" and due to the changing nature of classifications and the difficulty in specifically testing each particular subtype, physicians must apply causation evidence to every subtype including mycosis fungoides. *Id.* at 2900.

In reaching his specific causation opinions in this case, Dr. Nabhan reviewed epidemiology, animal studies, toxicology studies, thousands of pages of Mr. Johnson's medical records, correspondence from Mr. Johnson's employer, and relevant deposition transcripts. *Id.* at 2789-2795. Dr. Nabhan also personally met and examined Mr. Johnson. Dr. Nabhan considered the amount of Mr. Johnson's exposure in reaching his opinions. *Id.* at 2831. He considered the amount and duration of exposure as well as the number of reported times that the GBHs would have contacted his skin. *Id.* at 2834-2836.

Next, Dr. Nabhan employed a differential diagnosis in which he considered every possible or plausible cause of Mr. Johnson's NHL. *Id.* at 2841-2842. He considered the known risk factors and causes of NHL including age, race, immunosuppressant therapies, autoimmune diseases, skin conditions, occupation, occupational exposures and viruses. *Id.* at 2842-2852. Dr. Nabhan explained that sun exposure, tobacco, and alcohol are not known causes of NHL and could therefore be excluded. *Id.* at 2852-2853. After properly conducting a differential diagnosis, Dr. Nabhan concluded that Mr. Johnson's only known risk factors were his race (African American) and Roundup exposure. Dr. Nabhan therefore concluded that Roundup was the most substantial contributing factor to Mr. Johnson's NHL. *Id.* at 2853:24-2854:2.

Despite Monsanto's argument to the contrary, Dr. Nabhan did consider whether Mr. Johnson's NHL was idiopathic. Dr. Nabhan testified that because Mr. Johnson was far younger than the typical mycosis fungoides patient this would constitute a "red flag" suggesting to him that there was something

behind the NHL. *Id.* at 2843:2-2844:19. In other words, Mr. Johnson's cancer was not idiopathic. *Id.* at 2997. Dr. Nabhan is "very certain" that if Mr. Johnson had not been exposed to Roundup he would not have developed mycosis fungoides. *Id.* at 2849:9-21.

Under the applicable substantial factor test, "it is not necessary for a plaintiff to establish the negligence of the defendant as the proximate cause of injury with absolute certainty *so as to exclude every other possible cause of a plaintiff's illness,* even if the expert's opinion was reached by performance of a differential diagnosis." *Cooper.,* 239 Cal. App. 4th at 578. In reaching a specific causation opinion, clearly a medical expert "need not exclude all other possibilities before he or she can express an opinion that the defendant's conduct or product caused the plaintiff's harm." *Cooper,* 239 Cal. App. 4th at 580. It is defendant's burden to proffer "the existence of an alternative explanation, supported by substantial evidence and not mere speculation..." to defeat Plaintiff's claims as a matter of law. *Id.* Judge Karnow agreed that Dr. Nabhan was not required to rule out every other possible cause to render a causation opinion. SJ Order at 25.

Under *Wendell*, it is not even necessary for an expert to "rely on animal or epidemiological studies" for a differential diagnosis to be "found reliable and admissible" particularly in case of rare cancers where it would be difficult to conduct studies powerful enough to create statistically significant results. *Id.* 858 F.3d at 1235. In conducting a differential diagnosis one "[a]ssumes the pertinence of all potential causes, then rules out the ones as to which there is no plausible evidence of causation, and then determines the most likely cause among those that cannot be excluded." *Id. Wendell* concluded that "[w]ere, as here, two doctors who stand at or near the top of their field and have extensive clinical experience with the rare disease or class of disease at issue, are prepared to give expert opinions supporting causation, we conclude that Daubert poses no bar based on their principles and methodology." *Id.*

C. The IARC Monograph Supports Causation

Dr. Neugut, an esteemed oncologist and epidemiologist with forty years of experience, testified that "I would say that within the scientific and academic cancer community, IARC is recognized as the main arbiter of -- the prime arbiter of what constitutes a carcinogen or a cancer-causing agent. …I would have trouble naming a second choice." Tr. at 2550:12-17 (7/18/2018). Dr. Portier also described the IARC process in great detail and explained how it supports a general causation opinion. Tr. at 1718:4-

1760:12 (7/12/2018). Dr. Portier rejected Monsanto's arguments that IARC does not consider real world exposure, testifying "Well, of course they do. That's what this chapter is on, and in -- all of the human epidemiology studies are based upon human exposures, which means they're in the real world." *Id.* at 1741:21-24. Dr. Neugut concurs stating "[o]f course it's a real-world carcinogen -- obviously, the epidemiologic studies are relying on how people are really exposed in day-to-day life." 2600:8-2601:21 (7/18/2018).

In fact, the very safety data sheets relied upon by Mr. Johnson require the inclusion of IARC's assessment. (Unfortunately, Monsanto did not include that information while Mr. Johnson was spraying RangerPro.) As explained by Dr. Sawyer "All MSDSes -- that stands for Material Safety Data Sheet -- are required to provide the IARC classification of carcinogenicity, as IARC has been for many years the key agency internationally that determines whether or not a chemical is carcinogenic…" Tr. 3637:2-6. *See also* 29 C.F.R. § 1910.1200, Appendix A. IARC is one "of the most well-respected and prestigious scientific bodies," whose assessments of carcinogenicity of chemicals "are generally recognized as authoritative..." Reference Manual at 20, 565.

Defendant is simply wrong that IARC did not consider the carcinogenicity of glyphosate formulations. IARC explicitly states that it considered human studies looking at "commercial formulations that include glyphosate and other ingredients" and "experimental studies of 'pure' glyphosate and of glyphosate-based formulations." P-Exh. 302. Furthermore, neither Dr. Neugut nor Dr. Nabhan mimicked IARC. Tr. at 2654:2-19 (7/18/2018) (Dr. Neugut reviewed all of the studies in depth after reviewing the IARC monograph); Tr. at 2789:7-2790:18 (7/21/2018) (Dr. Nabhan conducted comprehensive review of the literature.)

D. The Epidemiology Supports Causation

Judge Karnow considered Monsanto's arguments with respect to epidemiology and rejected them, holding that "Johnson's epidemiology experts should not be excluded." SJ Order at 12. In coming to this conclusion, Judge Karnow considered and rejected the exact arguments made by Monsanto in the present motion. Judge Karnow correctly applied California law which holds that it "is generally correct that in many (or even most) instances epidemiological studies provide the best evidence of causation." *Davis*, Cal. App. 4th 477 at 491. However, it is also proper for experts to rely on "other tools to determine causation" in cases of rare cancer. *Id.; Roberti v. Andy's Termite & Pest Control,*

Inc., (2003) 113 Cal. App. 4th 893, 901 (opinion admissible where expert relied upon animal studies with pesticide and examination of plaintiff). Where the "validity of these studies, and both their strengths and their weaknesses, are subject to considerable scientific interpretation and debate" it is not the court's role to resolve these debates. *Cooper*, 239 Cal. App. 4th at 589–90.

Defendant claims that epidemiology alone must be sufficient to establish causation and that experts can't rely on toxicological data. Judge Karnow and Plaintiff acknowledged that "Johnson's experts do not view epidemiological evidence as dispositive on causation…They conceded that confounding and bias may explain the association found in the epidemiological evidence if the epidemiological evidence were viewed in isolation." SJ at 11. However, it would be entirely improper to view the epidemiological evidence in isolation, and Plaintiff's experts did not do so. *Id.* (Dr. Neugut too does not base his conclusion solely on that epidemiological evidence.)

When asked whether it would be scientifically appropriate to just look at the epidemiology and ignore the animal studies and the mechanistic data, Dr. Portier explained that "Under no condition would it be… it's never good to look at just one set of data" and that its "common practice… it's good practice" to look at all the data. July 13 Tr. at 1965:11-1966:7. Dr. Neugut concurs. July 18 Tr. at 2736:25-2737:17. Based solely on the epidemiology data, Dr. Portier concluded that that "there's a demonstrated association" and that "causality is reasonable here." July 13 Tr. at 1964:1-17. Based on all of the data Dr. Portier concluded that "glyphosate is carcinogenic, causing NHL in humans." July 13 Tr. at 1994:19-21. Dr. Neugut concurred, stating that after applying the Bradford-Hill criteria and factoring in all of the evidence that "there is indeed a causal association between glyphosate and NHL." July 18 Tr. at 2646:16-23.

Defendant claims that there are no statistically significant studies that adjust for other pesticides. This is not true. Judge Karnow already determined Defendant's claim to be false, holding "[w]hile Johnson's experts concede the limitations of the epidemiological evidence, there is at least one study that controlled for other pesticides and still found a statistically significant association between glyphosate and NHL." SJ Order at 7; July 18 Tr. at 2700:24-2701:4 (Dr. Neugut explaining that Monsanto's claim is "not true."). That study is De Roos (2003) and it showed a 2.1 statistically significant increased risk after adjustment for over 40 of pesticides. *Id.* at 2736:12-24; July 12 Tr. at 1886:9-1894:12 (Portier explaining methodology and results of De Roos (2003) study). Plaintiff hopes

that Monsanto will stop making this false statement in court filings now that their own expert has conceded that De Roos (2003) does adjust for other pesticides and has a statistically significant finding. July 31 Tr. at 4383:2-13. Judge Karnow further noted that:

> Johnson's experts appreciated the risk the confounders could create an unreliable association between glyphosate exposure and NHL but believed, in light of the studies they reviewed and the other information that they considered, that potential confounders were not the cause of the association. Motion, 6 n.16 (citing evidence), 8:9-9:3. And Monsanto has not identified any pesticides that may, in fact, have confounded the data.

SJ Order at 12-13. Dr. Neugut explained at trial that most errors in epidemiology studies push the relative risk down closer to one meaning that the relative risks reported in the studies are actually underestimates of the true relative risk. July 18 Tr. at 2584:21-2589:14. Dr. Neugut also explained that these errors pushing down the true relative risk are much more of a concern than any potential confounding. *Id.; see also* July 13 Tr. at 1965:3-5 (Portier) ("And whereas most of them did a pretty good job with cofounders, some maybe didn't, but I don't think confounders are a big problem in this set of data.").

Although statistical significance is not required to show causation, there are other statistically significant findings for GBHs and NHL, including the meta-analyses. July 18 Tr.. at 2682:23, 2683:9; 2685:18-20. As Dr. Neugut explains:

> And if you look, all of them are above 1. All of them. That's a phenomenon referred to in causal epidemiology as consistency. They're consistently elevated above 1. Whatever flaws, problems, issues we're all going to raise about these studies, one or the other, no studies are perfect, whatever things each study does, no study is identical. One does something. One – each study does something differently. Each study -- but all the circumstances under which these six studies – some of them control for different things, some of them are done in different populations. Some of them in Scandinavia. Some of them are in America. Some of them in Canada. Some of them are with farmers. Some of them are not. But all of them are consistently above 1, and that's none random.

Id. at 2612:3-18.

Finally, Judge Karnow explained that "Johnson's experts considered the strengths and weaknesses of the AHS and the strengths and weaknesses of the case control study in reaching their

conclusions about epidemiology and causation... This is what was required of them." SJ Order at 13. Further stating that "the absence of dose response in AHS does not foreclose the existence of other data supporting a positive dose response finding." *Id.* at 22. Dr. Neugut persuasively explained why exposure misclassification, loss to follow-up and the exponential increase in GBHs during the enrollment period made the results of the AHS study (with respect to GBHs) are unreliable. July 18 Tr. at 2618:18-2626:13, 2635:8-2640:18; July 13 Tr. at 1954:3-1959:17 (Portier) ("very serious flaws associated" with the AHS study).

E. The Animal Carcinogenicity and Genotoxicity Studies Support Causation.

Again Judge Karnow has decided this issue, holding that "[a]s a general matter, Monsanto suggests that it objects to any consideration of genotoxicity or mechanism testimony. This approach is unsupported by Monsanto's citations and conflicts with the Bradford Hill criteria, which require consideration of biological plausibility." SJ Order at 18. Judge Karnow also admitted Dr. Portier's opinion on animal studies because "he concludes the fact that, according to his analysis, glyphosate causes cancer in mammals (i.e., rodents) renders it biologically plausible, under the Bradford Hill rubric, that glyphosate could cause a specific form of cancer, NHL, in humans." *Id.* at 15; *Roberti,* 113 Cal. App. 4th at 901 (opinion admissible where expert relied upon animal studies with pesticide and examination of plaintiff); *Ruff v. Ensign-Bickford Indus., Inc.*, D. Utah 2001) 168 F. Supp. 2d 1271, 1281 (expert testimony admissible where it is "…based on the genotoxicity and carcinogenicity of these chemicals in animals, the EPA and the International Agency for Research on Cancers classified hydrazines as probable carcinogens posing a significant cancer risk to exposed humans."); July Tr. at 2002:10-2003:10 (Dr. Portier explaining that mechanistic and animal studies support positive epidemiological findings); July 18 Tr. at 2445:6-15 (Dr. Neugut explaining that toxicology studies in animals are applicable to biological plausibility in Bradford-Hill analysis)

It is entirely misleading to suggest that animal studies are not relevant to humans because they use higher dose. Dr. Portier explained the reason why animal studies use high doses stating:

> [t]he reason you do that is because -- what you're interested in, of course, in human populations is much lower exposures. But you're also interested in human risk in the range of 1 in a million to 1 in 100,000 to 1 in 10,000. And we can't use that many animals to get at that type of risk. And so you don't do studies at human exposure levels. You extrapolate them. You take what you see in high doses, and you draw a line or some other technique to get

you into the low region.[3] That's how you estimate human risk.

July 13 Tr. at 1806:22-1807:7.

Here, the animal and mechanistic studies strongly support causation with respect to the biological plausibility and coherence among the different lines of evidence. There is solid evidence that in addition to other tumors "malignant lymphoma is being caused in these mice by glyphosate." July 12 Tr. at 1835:7-9. There is also evidence that GBHs are genotoxic in blood cells and lymphocytes. July 13 Tr. at 1973:16-25. Glyphosate and GBHs have been shown to cause oxidative stress which can operate to promote tumors. *Id.* at 1990:10-1992. GBHs have been shown to promote skin tumors in mice. July 12 Tr. at 1857:22-1860:13.

Finally, there is clearly a jury issue with respect to who has the correct interpretation of the animal data. Dr. Portier thoroughly explained how the EPA and EFSA failed to follow established guidelines in evaluating this data and was joined by 94 other scientists in a published commentary supporting IARC and Dr. Portier's conclusions. July 13 Tr. at 2010:16-2021:2.

F. Plaintiff Has Put Forth Sufficient Evidence of Causation for MF.

Again, Judge Karnow ruled that "I reject Monsanto's argument that there is no scientific basis for Dr. Nabhan to rely on studies that apply to NHL generally in the context of mycosis fungoides. There is a scientific basis for Dr. Nabhan's opinion - mycosis fungoides is a subtype of NHL." *See also Ruff,*168 F. Supp. 2d at 1285 ("that plaintiffs' expert opinion need not include data showing studies of the exact subtype of plaintiffs' NHL to satisfy their general causation burden."). SJ Order at 23.

Dr. Neugut explained that epidemiologists look at all NHL subtypes as a group:

> [E]very disease splits into an absolute panoply of multiple, multiple subtypes. There are more than 60 types of breast cancer. There are more than 60 types of colon cancer. And if you would split and lump into 60 types

[3] Dr. Portier is referencing the Cancer Slope Factor, which Dr. Sawyer did calculate and came to the conclusion that Johnson's exposure levels were with the range of the exposure levels causing cancer in animals. In exchange for not referencing the Cancer Slope Factor at trial, the parties agreed not to "reference, argue or offer testimony that Mr. Johnson's dose/exposure is below or above any threshold reference dose derived from animal studies." July 24, 2018 Email from Sandra Edwards to Department 504. Defendant's argument that "the level of exposure to glyphosate in the real world is 'very low' is actually about even more than 10 million times lower than the quantities that in one day we had to use in animals in order . . . to assess possible carcinogenicity" violates this agreement. Dr. Sawyer would have refuted the defendant's claims by opining that the Cancer Slope Factor demonstrates that the mouse studies, particularly the lymphoma findings, are relevant to Mr. Johnson's exposure levels. (Sawyer Report) P-Exh. 750 at 145-152.

> every disease, you would know absolutely nothing about any disease if you're going to argue that each one has its own spectrum of causes or outcomes. To some degree, it is true that each one has a unique risk factor or a unique prognosis or a unique treatment, and to some degree one can make universal statements or integrated statements across the -- across the integrated group. We talked about non-Hodgkin's lymphoma as a group. We treat them as a group.

July 18 Tr. at 2656:6-21. Dr. Nabhan concurs, explaining that it would be impossible to do epidemiology studies for each of the 70 subtypes of NHL and that a scientist should rely on epidemiology studies that look at NHL as a group. July 20 Tr. at 2807:22-2809:3. In any event, two studies do look specifically at T-cell lymphoma (which is comprised mainly of Mycosis Fungoides). Dr. Nabhan explained that the Eriksson study showed a non-statistically significant odds ratio of 2.29 for T-cell lymphoma. *Id.* at 2828:4-20. Dr. Portier explained that the AHS study, which Defendants rely on exclusively, demonstrated a quadrupling of the risk for T-cell lymphoma and statistically significant tripling of the risk in a lag analysis. July 17 Tr. at 2447:10-2449:19.

G. Plaintiff Has Presented Sufficient Evidence Showing That Mr. Johnson's Exposure to Roundup and Ranger Pro Was a Substantial Factor in Causing His NHL.

1. Plaintiff's Experts Testified That Mr. Johnson Had Sufficient Exposure to Roundup and Ranger Pro To Cause NHL.

Judge Karnow has already ruled that both Dr. Sawyer and Dr. Nabhan appropriately considered Mr. Johnson's exposure in rendering causation opinions. SJ Order at 25, 28. Monsanto does not challenge that Mr. Johnson was continuously exposed to GBHs from June 2012 through the date of his NHL diagnosis in August 2014. Therefore, Monsanto's sole argument is that "there is every reason to believe that Plaintiff's exposure prior to the onset of his disease was not significant." Monsanto's Mot. for Nonsuit at 10. First, Plaintiff's medical experts offered reams of evidence and testimony detailing the basis for their opinions that Mr. Johnson's substantial exposure to GBHs was a cause of his NHL. Testimony from a medical expert that the plaintiff's exposure to a carcinogen is "almost certainly sufficient" to have caused cancer is sufficient to submit the causation question to the jury. *See Sparks v. Owens-Illinois, Inc.*, (1995) 32 Cal.App.4th 461, 477.

Dr. William Sawyer, a forensic toxicologist, undertook his review of the case in order to specifically determine whether Mr. Johnson's exposure was substantial enough to have caused his NHL.

July 26 Tr. at 3601:20-3602:8. In reaching his opinions, Dr. Sawyer spoke with Mr. Johnson by telephone and reviewed pertinent medical records, deposition transcripts, published studies, animal studies, and internal Monsanto documents. *Id.* at 3587-3598. Dr. Sawyer testified that 10% of the total exposure dose would have been absorbed through Mr. Johnson's skin each time that he sprayed the GBHs. *Id.* at 3649:8-20. The majority of the absorption would have occurred within the first hour of his exposure. *Id.* 3673:25-3674:6.

Despite Monsanto's claims to the contrary, Dr. Sawyer did compute Mr. Johnson's dose using the available literature and the dermal absorption rate of 10 percent. *Id.* at 3746:7-19. Dr. Sawyer calculated Mr. Johnson's dose based on days of exposure and miligrams per kilogram per day using a tested model. *Id.* at 3747:2-16. By using this model, Dr. Sawyer was able to specifically compute Mr. Johnson's exposure based on the protective gear he was wearing. *Id.* at 13-19. Dr. Sawyer testified that Mr. Johnson's total exposure was sufficient to have caused his NHL. *Id.* at 3747:13-19; 3791:12-25.

Monsanto's claim that Dr. Sawyer testified that Plaintiff's dose was "less than the average in the peer-reviewed epidemiology studies" is simply not true. After calculating the total exposure levels, Dr. Sawyer opined that Mr. Johnson was "beyond the worst case that I've found in the literature which I used as my basis of calculations." *Id.* at 3674; see also 3596-3597 (testifying that Mr. Johnson was "heavily exposed" at a rate far higher than the individuals in scientific studies). Dr. Sawyer further explained that Mr. Johnson's "Tyvek" suit would have done "very little" in protecting him from exposure to GBHs. The nozzle that he would use would produce a huge aerosol resulting in substantial spray drift. *Id.* at 3663-3664. Furthermore, Mr. Johnson's sweat would have actually created an "immediate diffusion pathway to the skin." *Id.* at 3673:2-11.

When asked whether Mr. Johnson's exposure combined with the 10 percent dermal absorption rate was enough to have caused a carcinogenic response resulting in his NHL, Dr. Sawyer opined: "Yes, absolutely. He is – I can say that emphatically, and base it on the peer-reviewed literature, in that his exposure – his levels of exposure were far higher than that in the literature . . ." *Id.* at 3673:25-3674:16.

Monsanto incorrectly asserts that Plaintiff's experts relied on only "two particular incidents" of exposure in reaching their opinions in this case. Once again, this is a blatant misrepresentation of the

record; Monsanto did not even bother to cite to trial testimony.[4] In fact, Dr. Sawyer did not even factor the two "incidents" into his exposure analysis, lending even more credibility to his opinion that his estimates are actually below Mr. Johnson's true exposure. Based on his experience, education and his review of all of the materials, Dr. Sawyer reached his opinion to a reasonable degree of scientific certainty that Mr. Johnson's NHL was caused by his massive exposure to GBHs. *Id.* at 3601:9-13; 3606. In reaching his opinions, Dr. Sawyer relied on Monsanto's own official studies as it would not have been possible to replicate Mr. Johnson's' exact exposure amount. *Id.* at 3689; 3691-3692; 3790.

Dr. Chadi Nabhan, Plaintiff's expert medical oncologist, also concluded that Mr. Johnson's chronic exposure to GBHs was a substantial contributing factor to his development of myosis fungoides. July 20 Tr. at 2799:4-11. He explained that Mr. Johnson had chronic dermal exposure to GBHs including at least two acute high-level exposures. *Id.* at 2867. The epidemiology supports a dose-response whereby the more exposure a person gets, the more likely they will develop NHL. *Id.* at 3027. Based on this information, he was able to conclude that GBHs were a substantial cause to Mr. Johnson's NHL.

2. There is Sufficient Evidence That Mr. Johnson's Exposure to GHBs Caused His Cancer In 2.25 Years

Latency is measured from the time of first exposure until the time of diagnosis. July 26 Tr. at 3677:4-12. Both Dr. Sawyer and Dr. Nabhan agree that the latency for NHL can be much shorter than two years and can vary based on the individual. July 26 Tr. at 3781; July 20 Tr. at 2857-2858. Plaintiff's experts both provided numerous examples of short latency periods which confirmed their understanding that NHL can be diagnosed within a year of exposure to a carcinogen or other offending hazard. *Id.* at 2855-2859; July 26 Tr. at 3676-3677. The fact that Mr. Johnson received a very high dosage of GBHs

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[4] The consistent misrepresentations in Monsanto's nonsuit motion is alarming. Monsanto cites to Mr. Johnson missing a "whole season of spraying" to support its argument that Plaintiff failed to specify the amount of exposure prior to the onset of his NHL. Def's Mot. at 10. Monsanto is well aware that this occurred *after* Mr. Johnson was diagnosed with cancer. July 23 Tr. at 3306:14-3307:23. Monsanto states that Plaintiff sprayed for "approximately only one year prior to manifesting symptoms of his MF." Def's Mot. at 10. Dr. Nabhan testified that Mr. Johnson sprayed for over two years prior to his first symptoms of mycosis fungoides. There is no testimony to the contrary other than Mr. Lombardi's arguments. Monsanto cites to Dr. Nabhan's testimony that "it was not until April 2014 that he experienced his first high-level exposure to the formulation" Def's Mot. at 10. Dr. Nabhan specifically testified that he did not remember the exact dates. July 20 Tr. at 2969-2970.

for a shorter period of time, his latency would generally be much shorter. July 26 Tr. at 3678-3679. Furthermore, the fact that Mr. Johnson's cancer behaved so aggressively would suggest that you would expect a shorter latency. July 20 Tr. at 3050. Judge Karnow actually excluded the latency opinion of a Monsanto Expert, Dr. Kuzel, because his opinion that Mr. Johnson's latency was too short was speculative. SJ Order at 36.

It is undisputed that Mr. Johnson's first exposure to GBHs was in June 2012 and he was diagnosed with mycosis fungoides in August 2014. Therefore, the latency for Mr. Johnson's cancer is 2.25 years. July 26 Tr. at 3676:8-3677:16. Dr. Nabhan and Dr. Sawyer both discussed the "bell curve" associated with latency periods and both concluded that Mr. Johnson's NHL was caused by his exposure to GBHs. Monsanto cannot cite to any evidence to the contrary. Instead, Monsanto makes the conclusory statement that "Plaintiff introduced no competent evidence on latency" and then proceeds to ignore Plaintiff's evidence on latency. Even if Monsanto disagrees with the opinions of Plaintiff's experts, at this state, "evidence most favorable to the plaintiff must be accepted as true and conflicting evidence must be disregarded." *Miller v. Los Angles County Flood Control Dist.*, (1973) 8 Cal.3d 689, 700.

V. Plaintiff Has Presented Sufficient Evidence for Strict Liability Failure to Warn

A plaintiff alleging a failure to warn strict liability cause of action need prove that the defendant either (1) knew of the risks involved at the time of manufacture and/or distribution, or (2) based on the state of scientific knowledge at the time of manufacture and/or distribution, should have known of the risks. *Webb,* 63 Cal.4th at 180. "Manufacturers have a duty to warn consumers about the hazards inherent in their products. *Johnson v. American Standard, Inc.*, (2008) 43 Cal.4th 56, 64. The California Supreme Court has traditionally imposed strict liability for failure to warn of either known or *reasonably scientifically knowable* risks of a product. *Anderson v. Owens-Corning Fiberglas Corp.* (1991) 53 Cal.3d 987, 1000, 1002 ("[t]he rules of strict liability require a plaintiff to prove only that the defendant did not adequately warn of a particular risk that was known or knowable in light of the generally recognized and prevailing best scientific and medical knowledge available at the time of manufacture and distribution."). When adjudicating failure to warn under strict liability principles, "the reasonableness of the defendant's failure to warn is immaterial." *Carlin v. Superior Court* (1996) 13

Cal.4th 1104, 1112.

A. The NHL Risks of GBHs Were Known and Knowable by Monsanto Before Mr. Johnson Started Spraying RangerPro

Monsanto contends that a warning requirement was not triggered by the prevailing scientific evidence for Roundup carcinogenicity because 1) the 2015 IARC classification of glyphosate as a probable human carcinogen did not render knowable the risk of cancer; 2) the EPA's review and registration of glyphosate militates against a warning; and 3) Mr. Johnson's injury preceded the IARC classification. Monsanto Brief at 18. Such assertions not only sound in abandoned preemption arguments, but are factually inaccurate. It is well-settled that "reasonably scientifically knowable…refers to knowledge obtainable 'by the application of reasonable, developed human skill and foresight….[t]he actual knowledge of the individual manufacturer, even if reasonably prudent, is not the issue….the manufacturer is held to the knowledge and skill of an expert in the field; it is *obliged to keep abreast of any scientific discoveries and is presumed to know the results of all such advances*. *Carlin* 13 Cal.4th at 1113, fn. 3 (emphasis added) (quoting *Anderson, supra,* 53 Cal.3d at 1002, fn. 13). The IARC monograph *reviewed* prevailing epidemiological, toxicological, and mechanistic literature associating Roundup exposure with NHL. Evidence presented at trial demonstrated that the data reviewed by IARC was known years before the agency classified glyphosate, as testified to by Plaintiff's experts.[5] Neugut, July 18 Tr. at 2614: 17-21, 2617:21-25 ("The point that we should walk away with is that overall, there's a statistically significant increased risk in the 1.3, 1.4, possibly 1.5, range. And that's basically what the *case control studies are showing us…*" the case control studies range in time from 1999-2008); Portier, July 12 Tr. at 1897 (discussing doubling of the risk in epidemiological studies from 2001 and 2008); July 12 Tr. at 1965:9-11 (Dr. Portier's review of the epidemiological literature preceding the IARC decision led him to conclude that a casual association is credible); July 20 Tr. at 2826:18-25 (discussing De Roos (2003) "A. So you will see that it says 2.1. So it doubles the risk."); Portier July 13 Tr. at 1981:14-22 (concluding that Roundup is genotoxic after reviewing over 100

[5] Monsanto's awareness of such evidence is discussed in the next section when addressing the negligent failure to warn claim.

mechanistic studies going back to the 1990s).

Indeed, the toxicologist hired by Monsanto, Dr. James Parry, concluded in the late 1990s and early 2000s that Roundup is genotoxic and can cause oxidative stress, a precursor to cancer based on Dr. Parry's review of toxicological data published throughout the 1990s. P-Exh. 217 at 10, 5 (First Parry Report: "These data indicate that Glyphosate produces oxidative damage *in vivo… in vitro* evidence of genotoxic effect for Roundup mixture.); P-Exh. 220 at 11 (Second Parry Report: "These studies provide some evidence that Roundup mixture produces DNA lesion *in vivo*, probably due to the production of oxidative damage."). Dr. Mark Martens, the Monsanto employee who worked closely with Dr. Parry, confirmed Dr. Parry's conclusions. Martens Depo at 65:3-6, 20-25; 72:3-12. Dr. Parry's toxicological findings were also confirmed by Dr. Portier after his review of the animal data spanning from the 1980s to 2010. July 12 Tr. at 1834:16-1837:14, 1863:19-20, 1758:10-11 ("A. glyphosate has the potential to be a promoter of carcinogenesis...[glyphosate] caused the cancer seen in the animals.").[6]

Given that the Court is obliged to take every favorable presumption fairly arising from the evidence as facts proved in favor of the Plaintiff, nonsuit must be denied when Plaintiff has presented a plethora of evidence from which the jury could conclude that Monsanto should have warned of a cancer risk. *Elmore v. American*, (1969) 70 Cal. 2d 578, 583. Indeed, Court is not permitted to weigh the evidence and must disregard conflicting evidence such as the EPA's review of glyphosate. *Stonegate Homeowners Assn. v. Staben* (2006) 144 Cal.App.4th 740, 745 ("evidence most favorable to plaintiff must be accepted as true and *conflicting evidence must be disregarded.*") (emphasis added). Notwithstanding this, even if the Court were to weigh contrary evidence such as the EPA's classification of glyphosate, the evidence viewed in Plaintiff's favor precludes nonsuit because, to date, the EPA has not reviewed long-term carcinogenicity studies on the formulated product, such as the surfactant, as confirmed by Dr. Sawyer. July 26 Tr. at 3614, 3615:7-10, 3615:11-25 ("Q. [EPA] haven't actually

[6] Dr. Martens confirmed that Dr. Parry was a recognized expert in the field and that the studies reviewed by Dr. Parry employed generally acceptable methods. Martens Depo. at 29:7-9, 238:4-17 ("Q. Was [Dr. Parry] an expert in his field? A. Yes… A. the dosage that was used in these studies that you analyzed, they were following standards and practices that scientists use all over the world, correct? A Yes. Q They weren't doing anything abnormal, correct? A No. Q They were following the same practices that scientists follow all over that give us results that we -- that are accepted all over the world, correct? A Yes, insofar they follow the international accepted test guidelines.").

looked at any testing as to carcinogenicity? A. No, it's never been tested."). On this record, nonsuit is wholly inappropriate.

B. Plaintiff Has Presented Sufficient Evidence for a Jury to Conclude that Monsanto was Negligent in Failing to Warn

During trial, Plaintiff marshalled a trove of internal Monsanto documents dating back decades which demonstrate that Monsanto personnel were aware, or at the very least, should have been aware of the association between Roundup exposure and cancer. Indeed, as Monsanto's Medical Sciences Lead, Dr. Daniel Goldstein, conceded at deposition, even prior to IARC, a large body of mechanistic studies had revealed the association between Roundup exposure and the biological precursors to cancer such as oxidative stress, of which Monsanto was aware. P-Exh. 315 at 1-2; Goldstein Depo. at 99:1-24 ("You had been dealing with this issue for a while, fair? A. It had certainly come up before, yes."). The jury heard evidence that the epidemiological studies relied upon by Plaintiff's experts were all discussed inside Monsanto at the time of their publication. P-Exh. 282 at 2 (memorandum by Donna Farmer, John Acquavella and Daniel Goldstein stating that "[t]here are now six published studies that *arguably associate glyphosate and other pesticides with lymphopoietic cancers*…") (emphasis added); Goldstein Depo at 92:22-96:3 (discussion of email from Dr. John Acquavella regarding association between Roundup and cancer in De Roos (2003) and Hardell (2002)); P-Exh. 309 at 1 (Dr. Acquavella discussing the results of the McDuffie (2001) paper which found elevated risks of NHL associated with Roundup exposure; P-Exh. 312 at 1-3 (discussion of results of McDuffie (2001)); P-Exh. 313 at 1-2 (same, Donna Farmer and John Acquavella celebrating the fact that the reference to glyphosate carcinogenicity was removed from the paper's abstract); P-Exh. 316 at 1-2 (email regarding "awareness files" sent to Dr. Goldstein and Dr. Farmer, attaching the Eriksson (2008) paper at the time of its publication; the study showed an association between Roundup exposure and NHL; P-Exh. 513 at 1 (Dr. Farmer stating that Monsanto had been aware of the Eriksson (2008) publication for some time). Significantly, Dr. Heydens admitted that the body of evidence prior to IARC demonstrated that Roundup had "vulnerabilities" in the areas of epidemiology, genotoxicity and mode of action. P-Exh 294. Dr. Heydens also admitted in 2015 that the surfactant in the Roundup formulation "played a role" in the

tumor promotion study of George, et al. (2010), discussed at length by Dr. Portier as a basis for his conclusion that "glyphosate has the potential to be a promoter of carcinogenesis." P-Exh. 366 at 3; July 12 Tr. at 1863:3-20. And, the report submitted to Monsanto by James Parry (discussed above) is also further evidence that Monsanto knew or should have known that Roundup causes cancer, particularly since Dr. Parry's conclusions were in regard to the formulated product. P-Exh. 217 (First Parry Report); P-Exh. 220 (Second Parry Report); Martens Depo at 65:3-6, 20-25; 72:3-12.

Furthermore, Monsanto recognized the impact of the prevailing scientific evidence of Roundup carcinogenicity on regulatory decisions at least five years prior to the IARC classification. P-Exh. 373 at 5 (internal 2010 Monsanto document acknowledging that regulators were growing "increasingly more concerned" as a result of literature indicating an association between Roundup exposure and health risks.) In the same document, Monsanto identifies toxicological studies which have concluded that Roundup poses risks of biological precursors to cancer. *Id.* at 9-10. Monsanto should have known that Roundup can be carcinogenic when its own scientists admit that the formulation – containing the surfactant POEA – used by Mr. Johnson is "hazardous." P-Exh. 383 at 2 ("there are non-hazardous formulations, so why sell a hazardous one?"). Indeed, lead Monsanto toxicologist, William Heydens, admitted in 2015 that the Roundup formulation contains other known carcinogens such as NNG and formaldehyde. P-Exh. 357 at 1. Plaintiff's experts testified regarding this aspect of the formulation. July 18 Trns at 2603:18-25 (Dr. Neugut confirming that formaldehyde is an IARC Class 1 carcinogen); July 26 Tr. at 3609:21-3610:5 (Dr. Sawyer testifying that the presence of 1,4-Dioxane, ethylene dioxide and NNG contribute to the carcinogenicity of the formulation: "In fact, ethylene oxide is one of the most potent carcinogens known to man."). Monsanto's knowledge regarding the carcinogenic formulation is thus substantiated by Plaintiff's competent expert testimony. Despite such knowledge, Monsanto refused to conduct a proper long term carcinogenicity study on the formulation, which is why Dr. Farmer "cannot say that Roundup does not cause cancer….we have not done carcinogenicity studies with 'Roundup.'" P-Exh. 305 at 1. Such statements evince that Monsanto, at the very least, should have known that its product could cause cancer.

Monsanto also argues that Plaintiff has not presented evidence regarding the applicable standard

of care. However, this is a misstatement of what is required under the law. General negligence, unlike the medical standard of care, does not require the applicable standard of care to be establish by competent expert testimony. *Scott v. C.R. Bard, Inc.* (2014) 231 Cal.App.4th 763, 787. The *Anderson Court* made it clear that the applicable standard of care is simply what reasonably prudent manufacturer would have known and warned about." *Anderson,* 53 Cal.3d at 1002. It is worth noting that Monsanto's citation to *Stephen v. Ford Motor Co.*, (2005) 134 Cal. App. 4th 1363, 1367 is misguided. Stephen is not authority for the proposition that a negligent failure to warn case requires expert testimony regarding the applicable standard of care. Instead, the *Stephen* court merely reiterated the trial court's finding that "[plaintiff] did not have any expert testimony to show the tire failed as the result of a design defect…" Here, CACI 400 governs, namely the Court will instruct the jury on what the standard of care is and that nothing in this case is so outside common experience that it would require expert testimony; in fact, expert testimony would be prohibited because it would invade the province of the jury to decide the ultimate issue in the case. *Ramirez v. Plough, Inc* (1993) 6 Cal.4th 539, 546) ("The formulation of the standard of care is a question of law for the court. Once the court has formulated the standard, its application to the facts of the case is a task for the trier of fact if reasonable minds might differ as to whether a party's conduct has conformed to the standard."). If Plaintiff proves that Roundup causes cancer, the jury certainly does not need expert testimony to come to the conclusion that defendant's failure to warn of cancer, while representing it as safe, was unreasonable under the circumstances.

Because Plaintiff has presented sufficient evidence that Monsanto was aware of a cancer risk in light of the prevailing scientific literature and its own admissions (discussed above), the trier of fact could properly find that Monsanto was negligent in failing to warn and nonsuit must be denied accordingly.

C. There is Sufficient Evidence that Monsanto's Failure to Warn Caused Plaintiff's Injury

On the stand, Mr. Johnson testified clearly and unequivocally that he would never have used Roundup had he known it would cause his NHL. July 23 Tr. at 3234:21-25, 3279:1-12 ("Q. Had you seen something, that Ranger Pro could cause non-Hodgkin's lymphoma or cancer, would you have

sprayed this product? A. I would never have sprayed that product on school grounds or around any people if I knew it would cause them harm… Q. And if Monsanto had told you at that time that Ranger Pro could have caused cancer, would you have kept spraying their product? A. Absolutely not… Q. Even if Monsanto had said, 'Mr. Johnson, we're not entirely sure, but your cancer might be related to your Ranger Pro exposure," would you have continued to spray the product? A. If they said it might be? Q. Even if they said "We're not entirely, but it might be," would you keep spraying? A. No."). Mr. Johnson also testified that he read the label *every time* he used the formulation. *Id.* at 3231:3-24.

Mr. Johnson's conduct and state of mind *after* his diagnosis are simply irrelevant and cannot be used by Monsanto to claim that a warning would not have been heeded. In fact, when Mr. Johnson was asked by his employer *after diagnosis* whether Mr. Johnson knew that Roundup may be carcinogenic, Mr. Johnson responded: "No, I didn't know that." July 23 Tr. at 3235:21. Similarly, Dr. Ofodile's (Mr. Johnson's treating physician) letter to the school board requesting that Mr. Johnson not be exposed occurred after Mr. Johnson's diagnosis, when the opportunity to heed a warning was long moot. July 23 Tr. at 3154:8-13. Importantly, the letter from Dr. Ofodile was in part prompted by the cautionary principle of preventing repeated exposure to substances that may have contributed to an existing cancer: "My understanding is that, you know, it is okay and advisable to avoid something that could potentially be -- can exacerbate a condition, even if it's not been conclusive. So, you know, if I had a patient that was exposed to something and I thought may be causing it, my recommendation is to avoid it rather than waiting to see whether or not it truly does cause it later on." *Id.* at 3155:17-25.

Monsanto also suggests that Mr. Johnson's concern for his health after his back-pack leaked, soaking him in Roundup, somehow indicates that a warning would not have been heeded. Monsanto Brief at 20. This makes little sense given that Mr. Johnson would not have even used Roundup, much less been exposed to substantial amounts, if Monsanto had properly warned. Moreover, Mr. Johnson's general health concerns following exposure to a chemical are materially different to knowledge that the product causes a specific type of cancer. For the same reasons, Mr. Johnson's decision to use protective clothing is irrelevant to whether he knew that Roundup could cause mycosis fungoides.

VI. Plaintiff Has Offered Sufficient Evidence to Support a Claim for Punitive Damages.

Plaintiff herein incorporates by reference the briefing with respect to punitive damages contained in Plaintiff's Opposition to Defendant's Motion for Nonsuit. Plaintiff also incorporates by reference Plaintiff's supplemental trial brief on punitive damages which is attached hereto as Appendix A. The evidence in this case supports a claim for punitive damages. Moreover there is no deprivation of Monsanto's constitutional rights.

VII. CONCLUSION

For the foregoing reasons, Monsanto's Motion for Directed should be denied.

DATED: August 6, 2018

Respectfully submitted,

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APPENDIX A –

PLAINTIFF'S SUPPLEMENTAL BRIEF REGARDING PUNITIVE DAMAGES

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SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF SAN FRANCISCO

DEWAYNE JOHNSON, Plaintiff, v. MONSANTO COMPANY, Defendant.	Case No. CGC-16-550128 **SUPPLEMENTAL BRIEF REGARDING PUNITIVE DAMAGES** Judge: Hon. Suzanne R. Bolanos Location: Department 504

SUPPLEMENTAL BRIEF REGARDING PUNITIVE DAMAGES

The Court raised two issues during the Wednesday, August 1, 2018 conference regarding punitive damages. The first involves who qualifies as the "officers, directors, or managing agents" for Monsanto for the purposes of inferring punitive intent. *See* CACI 3940. The second dealt with whether Plaintiff presented evidence, when viewed in the most favorable light,[7] to prove malice, i.e., "a willful and knowing disregard of the rights or safety of another." *Id.*

1. First Issue: Drs. Farmer, Heydens, Goldstein, and Martens and Mr. Jenkins Qualify as "Officers, Directors, or Managing Agents" and the Issue Should be Put to the Jury

California law broadly construes "officers, directors, or managing agents" for the purposes of inferring punitive intent. *See, e.g.*, *Egan v. Mutual of Omaha Ins. Co.* (1979) 24 Cal.3d 809, 822

[7] "A nonsuit is proper only if there is no substantial evidence to support a jury verdict in the plaintiff's favor. In determining whether the plaintiff's evidence is sufficient, the court may not weigh the evidence or determine the credibility of witnesses. The evidence favorable to the plaintiff must be accepted as true and any conflicting evidence disregarded." *Hoch v. Allied-Signal, Inc.* (1994) 24 Cal.App.4th 48, 58.

("[P]rior cases have not ascribed to … the narrow interpretation proposed by Mutual[.]"). "Managing agents" are employees who "exercise[] substantial discretionary authority over decisions that ultimately determine corporate policy." *Davis v. Kiewit Pacific Co.* (2013) 220 Cal.App.4th 358, 366 (quoting *White v. Ultramar, Inc.* (1999) 21 Cal.4th 563, 573). "[T]o demonstrate that an employee is a true managing agent … a plaintiff seeking punitive damages would have to show that the employee exercised substantial discretionary authority over significant aspects of a corporation's business." *White*, 21 Cal.4th at 577. "The scope of a corporate employee's discretion and authority under our [managing agent] test is therefore a question of fact for decision on a case-by-case basis." *Id.* at 567. "*If there exists a triable issue of fact regarding whether a corporate employee is a managing agent* under the *White* test, that factual question must be determined by the trier of fact and not the court[.]" *Davis*, 220 Cal.App.4th at 366 (emphasis added). Furthermore,

> When the entire organization is involved in the acts that constitute malice, there is no danger a blameless corporation will be punished for bad acts over which it had no control, the primary goal of the 'managing agent' requirements. There is no requirement that the evidence establish that a particular committee or officer of the corporation acted on a particular date with 'malice.' *Corporate defendant cannot shield itself from liability through layers of management committees and the sheer size of the management structure.* It is enough if the evidence permits a clear and convincing inference that within the corporate hierarchy authorized persons acted despicably in 'willful and conscious disregard of the rights or safety of others.' (See Civ.Code, § 3294, subd. (c)(1).)"

Romo v. Ford Motor Co., 99 Cal 1115, 122 Cal.2d 139 (2002) *overruled in part on other grounds* (emphasis added).

Here, the evidence of Monsanto's corporate malice was presented through the testimony of five Monsanto-company witnesses: Dr. Donna Farmer, Dr. William Heydens, Dr. Daniel Goldstein, Dr. Mark Martens, and Daniel Jenkins. By all accounts, these four employees were "officers, directors, or managing agents" because they possessed considerable discretion in managing the safety, science, and testing of the Roundup (and Ranger Pro) product. Indeed, Monsanto relies on the testimony of these five witnesses to prove the company's "state of mind" regarding the state of science and, thus, their state of mind regarding malice must, by definition, also impute to Monsanto.

Dr. Farmer testified[8] that she has been working at Monsanto for 25 years and that "I have been one of the spokesperson[s] for the safety of Roundup when it comes to the toxicology." Farmer Tr. 14:11-13; 15:5-7. She explained, "I have been involved with glyphosate since 1996, so as this indicated, I had a lot of knowledge. And so based on that in-depth knowledge for over those many, yes, I was asked to be -- help defend glyphosate." *Id.* at 19:3-8. And, as described in admitted exhibit 536, her job was to "[d]efend and maintain the global glyphosate businesses[.]" Exh. 536. Thus, by her own testimony and internal documents, she speaks for Monsanto, was asked to defend glyphosate, and sought to maintain Monsanto's global businesses.

Dr. Heydens is Dr. Farmer's boss. Farmer Tr. at 152:16-19. Dr. Heydens testified that he is the "product safety assessment strategy lead" and is responsible for working "with other scientists as we get new products that come in that would need to be tested for safety to work on, devise the overall testing strategy and sets of studies that we would do to support the safety of that product." Heydens Tr. at 289:23-290:9. Dr. Heydens is also lead of Monsanto's "product safety center" where he oversaw "the group of scientists … responsible for demonstrating the safety of Monsanto's biotechnology portfolio." *Id.* at 301:13-18.

Dr. Goldstein testified that he is Monsanto's Director of Medical Toxicology, and that "in terms of, you know, line responsibility for human toxicology issues, that has resided with me for most of the last 19 years." Goldstein Tr. at 297:7-16; 298:15-24. In his senior role at the company, he testified that "I have final sign-off on any materials coming into all of our manufacturing facilities around the globe." *Id.* at 302:9-303:20.

Dr. Martens testified that he was Monsanto's Director of Toxicology in Europe and Africa starting in 1992 through 2004. Martens Tr. at 18:9-18. Indeed, Dr. Martens confirmed that, within Monsanto, he was at the same level as Dr. Farmer, but in Europe. *Id.* at 35:19-22.

Daniel Jenkins was Monsanto's U.S. Agency Lead in Regulatory Affairs, and represented Monsanto before various federal agencies. Jenkins Tr. at 36:6-10; *see* Exh. 400 at 2. He was responsible for interfacing with regulatory agencies regarding glyphosate data and making strategic

[8] All testimony cited was played to the jury.

decisions about how interact with the EPA and other regulators. *Id.*

Clearly, these five Monsanto witnesses possess sufficient discretion in conducting Monsanto's business and, thus, qualify as "officers, directors, or managers." At the very least, this testimony, when viewed a light most favorable to Plaintiff, creates a triable issue of fact to be decided by the jury.

2. Second Issue: There Is Sufficient Evidence of Malice to Put the Issue to the Jury

The law regarding "malice" is well-settled:

> Under the statute, "malice does not require *actual* intent to harm. *Conscious disregard for the safety of another may be sufficient* where the defendant is aware of the probable dangerous consequences of his or her conduct and he or she willfully fails to avoid such consequences. Malice may be proved either expressly through direct evidence or by implication through indirect evidence from which the jury draws inferences.

Pfeifer v. John Crane, Inc. (2013) 220 Cal.App.4th 1270, 1299 (emphasis added) (quoting *Angie M. v. Superior Court* (1995) 37 Cal.App.4th 1217, 1228). And, the law is clear that "the underlying facts supporting a punitive damages award are for the jury to decide" unless there is no conceivable way a jury could find in favor of Plaintiff. *Romo v. Ford Motor Co.* (2003) 113 Cal.App.4th 738, 754. Indeed, this is especially true in this type of case: "[i]n the field of strict products liability, the existence of 'malice'-in the sense of 'conscious disregard for the safety of others'-has been held to be a question of fact for the jury to determine." *West v. Johnson & Johnson Products, Inc.* (1985) 174 Cal.App.3d 831, 867–868. "'Reviewing courts have repeatedly reversed judgments on directed verdicts where the resisting party produced sufficient evidence to support a jury verdict in his or her favor.'" *Hilliard v. A. H. Robins Co.*, (1983) 148 Cal. App. 3d 374, 395 (quoting *Grimes* v. *Elite Ins. Co.* (1978) 82 Cal.App.3d 130, 136).

Thus, this question before this Court is a simple one—is there sufficient evidence, when viewed in a light most favorable to Plaintiff, for the jury to conclude that Monsanto acted with conscious disregard for the safety of Mr. Johnson by failing to warn of the risks associated with Roundup? As demonstrated below, there is a mountain of evidence from which they jury could draw upon to answer this question. Specifically, the evidence and testimony before the jury shows:

1. Starting in the late 1990s, Monsanto was aware that Roundup, as formulated, was genotoxic

and caused oxidative stress—a consequence of mounting science and its own internal expert, Dr. James Parry concluding as much. Indeed, Dr. Parry recommended that Monsanto conduct a series of studies to examine this risk to human health, but Monsanto refused to conduct all but one of them. Despite knowing of Dr. Parry's opinion about the state of the science, Monsanto took no action to warn consumer and even refused to disclose Dr. Parry's reports to the EPA. To this day, Monsanto has never conducted those studies and has never warned.

2. By 2002, Monsanto was aware that the "results from epidemiologic studies have begun to affect our freedom to operate" and that "[t]here are now six published studies that arguably associate glyphosate and other pesticides with lymphopoietic cancers[.]" Exh. 282. Monsanto, however, did not warn of this known risk. Indeed, Monsanto never performed or conducted its own epidemiological study to examine the issue.
3. Monsanto repeatedly "combated" science showing a link between Roundup and NHL that emerged during the 2000s, including an epidemiological study, (Eriksson 2008) that showed a double of the risk of NHL.
4. In October 2014, Monsanto learned that IARC would be reviewing glyphosate, and acknowledged that it was vulnerable in the science. So, in February 2015, before IARC had reached a conclusion regarding the carcinogenicity of glyphosate, Monsanto conspired to "orchestrate outcry" about the decision, even before seeing the basis of IARC's conclusion. That Monsanto had decided to attack IARC, regardless of its scientific basis, reflects a conscious disregard for the safety of human health, including Mr. Johnson's health.
5. In November 2014, Mr. Johnson specifically asked Monsanto if Roundup exposure could be related to this progressing cancer. Monsanto never called him back and never told him about the numerous studies linking Roundup exposure to NHL. Then, again, in March 2015, Mr. Johnson reached out looking for answers. This call was *after* the IARC classification. And yet still Monsanto did not call Mr. Johnson back or tell him about the existing science. This shows, unquestionably, a reckless disregard for Mr. Johnson's health.

6. On numerous occasions, prior to and after the IARC classification, Monsanto ghost-authored publications with the explicit aim of influencing scientists and regulators. This demonstrated malice toward honest science and, in turn, reflects a conscious disregard for public health.
7. Despite including the IARC warning on the Roundup Material Safety Data Sheet, Monsanto has never including a similar warning on its consumer-directed label. This, on its face, shows reckless disregard for human health, including Mr. Johnson's health, and proves that this recklessness is ongoing. There is no reason why Monsanto cannot include the IARC description on the consumer-directed label.
8. Monsanto conspired with two EPA officials, in particular Jess Rowland (the original author of the OPP report and the individual who spread the false "virus" story about the Kumar study) to stop or halt the ATSDR's investigation and hazard assessment of glyphosate out of fear that the agency was "IARC-like." Preventing an independent government investigation shows reckless disregard for human health, including Mr. Johnson's health.
9. In the 1980s, the EPA concluded that glyphosate was a Class C oncogene, i.e., that it could induce tumors. Monsanto, however, stonewalled the EPA, even after it specifically requested that Monsanto redo the mouse study to see if the tumors were still a problem. Monsanto refused to conduct the study and, to this day, has never done it. This reflects a conscious disregard for human safety.
10. Following the IARC classification, Monsanto grew concerned that its sales of Roundup to municipalities and school district would be reduced. Indeed, a Monsanto employee even created a cost-estimate noting that several school districts had stopped using Roundup. Then, when one of Monsanto's primary distributors commented that California's were nothing more than liberals and morons, the Monsanto employee forwarded the email to fellow employees stating that he like the analogy. This attitude toward Californians and the use of known carcinogen on schools evinces clear evidence of a reckless disregard for human health, including Mr. Johnson's health. This placement of profits before safety was underscored by a former sales representative who stated that Monsanto "was about making money, so get it

straight." Azevedo Tr. at 51:23-51:24.

The basis of these inferences stems from the testimony and documents that are already in evidence. Below, Plaintiff describes how this evidence supports these inferences, especially when viewed in a light most favorable to Plaintiff—as required at this stage in the litigation:

- **Exh. 209:** 2001 PowerPoint (Martens Tr. at 171:20-173:17) prepared by Monsanto employ Mark Martens, describing a 1998 study that found Roundup to be genotoxic, explaining "[t]his *in-vivo genotoxicity finding was cause of concern*[.]" Exh. at 15; Marten Tr. at 176:13-16 ("So now these are your thoughts that the genotoxicity finding in vivo was of concern, correct? A Yes."). The presentation concludes that "[s]urfactants are biologically not "inert", they can be toxic and this must be addressed[.]" *Id.* at 27.

- **Exh. 215:** Dec. 27, 1998 Email from Dr. Farmer, discussing the results of a the Lioi paper finding that Roundup is genotoxic, wherein she concedes, "*It is a real concern that these papers may create an even bigger problem for us than the Peluso paper.* Therefore we do some things quickly!" Exh. 215 at 2. Dr. Farmer documents that they agree to enlist Dr. James Parry to "support glyphosate, glyphosate-based ***formulation*** gentox issues." *Id.*

- **Exh. 216:** Jan. 27, 1999 email from Dr. Farmer conceding "[t]here is a concern that the papers by Lioi et al, may present an even bigger problem because the studies are with glyphosate and are on [] more standard endpoints." And yet, in the same email, Dr. Farmer drafts a press release stating that "[s]everal genotoxicity studies have been conducted on glyphosate … None of these studies have shown any adverse findings. Based on all these results, we are confident that glyphosate herbicide products are not genotoxic and therefore to not present a mutagenic or carcinogenic risk to humans and animals." *Id.* at 1. This is evidence of deliberate deception.

- **Exh. 217:** Feb. 11, 1999 report by Dr. Perry, commissioned by Monsanto, concluding that glyphosate and glyphosate-based formulations are genotoxic and cause oxidative stress. Dr. Parry recommends that Monsanto conduct extensive testing on glyphosate-formulated products, raising concern about a potential synergistic effect between glyphosate and the surfactant.

- **Exh. 218:** Apr. 17, 1999 email by Dr. Farmer acknowledging that "Dr. Parry concluded … that glyphosate is capable of producing genotoxicity both in vivo and in vitro by a mechanism based upon the production of oxidative damage." *Id.* at 3. Monsanto then has Dr. Parry sign a "secrecy agreement." *Id.* at 1. Monsanto gives Dr. Parry more data to consider.

- **Exh. 220:** Sept. 1999, Dr. Parry's second and more detailed report, after considering all the Monsanto's data, concludes again that glyphosate and glyphosate are genotoxic and cause oxidative stress, and then requests that Monsanto conduct comprehensive testing on the formulated products because it might be causing damage in humans exposed to the product.

- **Exh. 219:** Sept. 1, 1999 email from Monsanto executive to Drs. Farmer and Heydens, responding to Dr. Parry's report: "Has he ever worked with industry before on this sort of project?" *Id.* at 1. The email goes on to state "I do not see that he has stuck his neck out on anything at all controversial, and therefore, there is little value in the write-up as written that could be useful. Hope it didn't cost much." *Id.* at 2.

- **Exh. 270:** Sept. 2, 1999 email from Dr. Farmer where she explains "I agree we need someone else to interface with Perry ... right now the only person think that can dig us out of this

"genotox hole" is the Good Dr. Kier … I am concerned about leaving Perry out there with this as the final project/his final impressions[.]" *Id.* at 1. P

- Pursuant to Monsanto's Admission No. 26, Monsanto never sent the Parry reports to the EPA.

- **Exh. 221/268:** Sept. 16, 1999 email from Dr. Heydens explaining "We want to find/develop someone who is comfortable with the genetox profile of glyphosate/Roundup and who can be influential with regulators and Scientific Outreach operations when genetox issues arise. My read is that Parry is not currently such a person, and it would take quite some time and $$$/studies to get him there. *We simply aren't going to do the studies Parry suggests.*" *Id.* at 1 (emphasis added). Dr. Heydens then explains that in the area of genotoxicity "[w]e have not made much progress and are currently very vulnerable in this area." *Id.* at 2.

- **Exh. 267:** In a Mar. 8, 2000 email from a Monsanto to Dr. Farmer, it describes a genotoxicity test being performed on the POEA surfactant, which showed the surfactant "produced a marginal response … which was judged to be … [a] test article-related effect." Id. at 5. Dr. Farmer then states that considered results "equivocal but test-related" and asks Dr. Heydens if they should send the results to Dr. Parry. Id. at 4. Ultimately, Dr. Farmer states, "I agree we don't send samples to Dr. Parry until we get this sorted out." Id. at 1.

- **Exh. 269:** In a Feb. 16, 2001 email from Mark Martens to Drs. Farmer and Heydens, Dr. Martens described his meeting with Dr. Parry about Monsanto's new study results. Prior to the meeting, Monsanto had published the Williams 2000 paper on genotoxicity, which was ghostwritten by Dr. Heydens. In the email, Dr. Martens explains "Prof Parry found the tone of the Williams et al CANTOX paper to be very dismissive of other researchers work, and over defensive in its attitude." *Id.* at 2. Additionally, Dr. Martens explained that "[t]here was considerable discussion of the capacity of surfactants to cause inflammatory responses, and consequent oxidative stress." *Id.*

- **Exh. 258:** Nov. 18, 2019 email from Dr. Farmer indicating that she ghost authored a portion of an article.

- **Exh. 261:** Series of emails in Nov. 2015, whereby Monsanto attempts to get Dr. Acquavella to be a ghost writer for an Intertek manuscript involving epidemiology, and Dr. Acquavella refuses, stating "we call that ghostwriting and it is unethical."

- **Exh. 271/536:** Dr. Farmer's performance review from 2004, describing her role within the "Product Safety Center" was to "Secure the Base" and the primary activity was to "Defend and maintain the global glyphosate businesses." Additionally, the second goal is to "Earn Our Freedom to Operate" by minimizing impact of regulatory decisions. *Id.* at 1. In this same document, Dr. Farmer states that her objective is to "[d]efend against results of AHS and other epidemiological studies." She also states that she seeks to "minimize impact" of "EPA policies on glyphosate, glyphosate-based products, and glyphosate co-formulants." *Id.* at 5.

- **Exh. 282:** June 11, 2002 memorandum, prepared by Drs. Farmer, Goldstein, and Acquavella where they are discussing the current state of science and state "[a]llegations based on *results from epidemiologic studies have begun to affect our freedom to operate* … localities have cited epidemiologic findings to ban "non-essential use" of pesticides, usurping federal regulations that are based on toxicologic data. *There are now six published studies that arguably associate glyphosate and other pesticides with lymphopoietic cancers*[.]" *Id.* at 2 (emphasis added). The memorandum further states, "[n]umerous other studies are ongoing in the U.S., Canada, and Europe. Experience has shown that these studies will associate widely used pesticides with a number of diseases. *The stage is set, therefore, for more allegations about human effects associated with glyphosate and other pesticides.*" *Id.* at 3 (emphasis added).

- **Exh. 288:** Mar. 10, 2015 email from Monsanto's IARC observer, Tom Sorahan, to Drs. Heydens and Farmer stating that the IARC working group unanimously decided to classify glyphosate as a class 2A carcinogen. This was three weeks before Mr. Johnson's second call to Monsanto seeking information about Roundup's cancer risks.

- **Exh. 289:** Sept. 2015 email exchanges between Monsanto's manager over distribution for the western United States, Steven Gould, and the President of Horizon distributors indicating that Monsanto would be mustering a response to the IARC classification. Mr. Johnson testified that his training about the safety of Roundup and Ranger Pro was provided by Horizon, where was told that it was "safe enough to drink." Trial Tr. 329:9-24.

- **Exh. 290:** Sept. 2015 email exchanges between Steven Gould and Greg Fernald of the California distributor Wilbur Ellis, wherein Mr. Fernald responds to the IARC classification and California's move to classify glyphosate as a substance known to cause cancer with "[w]e are being overrun by liberals and morons ... sort of like a zombie movie, so we just have to start taking them out one at a time, starting with the elections next year." *Id.* at 1. In response, Mr. Gould forwards this email to another Monsanto employee and remarks "I liked this analogy from Greg." *Id.*

- **Exh. 291:** Sept. 2015 cost-estimate prepared by Mr. Gould about the impact of IARC on the sale of Roundup products to municipalities and school districts. *Id.* at 1. Mr. Gould specific indicates that "[s]chool districts are another big risk with the healthy schools act and increased attention. They frequently use PROM AX and PRO Concentrate today." *Id.* Indeed, Mr. Gould notes that "[c]ustomers that I am aware have already stopped using Glyphosate since the IARC ruling: Irvine Unified School District and several bay area cities and school districts." *Id.*

- **Exh. 292:** Feb. 23, 2015 plan, prepared by Monsanto employees and edited by Dr. Goldstein, Goldstein Tr. at 136:5-11, wherein Monsanto lays out its plan to deal with an adverse IARC ruling. On this document is Dr. Heydens and Daniel Jenkins. In this document, which predates any conclusion by IARC and is during the period Mr. Johnson was actively using Roundup and Ranger Pro, it shows Monsanto's intent to "neutralize impact of decision" and "[p]rotect the reputation and F[reedom] T[o] O[perate] of Roundup by communicating the safety of glyphosate … Amplify science-based information … Provide cover for regulatory agencies … Inform/ Inoculate/ Engage Industry Partners[.]" Id. at 5. Indeed, this documents specifies that Monsanto, before even seeing the IARC decision or is scientific basis, plans to "Orchestrate Outcry with IARC Decision" and "respond[] with strong reactive statement[.]" *Id.* at 5-6.

- **Exh. 294:** Oct. 15, 2014 email from Dr. Heydens raising concern about the anticipated IARC evaluation of glyphosate, acknowledging that "we have vulnerability in the area of epidemiology, we also have potential vulnerabilities in the other areas that IARC will consider, namely, exposure, genetox, and mode of action … If there is a force working against glyphosate, there is ample fodder to string together[.]" *Id.* at 1.

- **Exh. 305:** Sept. 29, 2009 email from Dr. Farmer where she openly admits "*you cannot say that Roundup does not cause cancer .. we have not done carcinogenicity studies with 'Roundup'*[.]" Id. at 1 (emphasis added).

- **Exh. 311:** Aug. 24, 2000 memorandum from John Acquavella, sent to Drs. Heydens, Farmer, and Goldstein, wherein he discloses the results of an unpublished study from Canada, showing 4.0 statistically significant "glyphosate/HD result in British Columbia[.]" *Id.* at 2.

- **Exh. 312/313:** Nov. 2001 email exchanges between Drs. Farmer, Heydens, Goldstein, and

Acquavella, wherein they praise Dr. Acquavella for leveraging his relationship with an author to get the negative NHL results for glyphosate removed from the abstract for the McDuffie article. Id. In one email, Dr. Farmer exclaims: "the fact that glyphosate is no longer mentioned in the abstract is a huge step forward - it removes it from being picked up by abstract searches!" Exh. 312 at 1.

- **Exh. 314:** Sept. 2003 email exchange among Monsanto employees discussing the results of the De Roos 2003 paper, and warning "I'm afraid this could add more fuel to the fire for Hardell et al." *Id.* at 1.

- **Exh. 321:** Feb. 2015 email from Dr. Goldstein urging financial support for the American Council on Science and Health (ACSH), because "[w]hile I would love to have more friends and more choices, we don't have a lot of supporters and can't afford to lose the few we have." Id. at 1. The ACSH is one of the industry front groups that was used to combat science relating to tobacco and lung cancer using, specifically, the issue of confounders. Trial Tr. 3902:19-3903:14.

- **Exh. 326:** Series of emails from Dec. 2014 and Jan. 2015 between Dr. Goldstein and other Monsanto employees discussing the reports of a Monsanto employee who got cancer following exposure to chemicals, and Dr. Goldstein decided not report it to the EPA.

- **Exh. 332:** Nov. 11, 2014 email to Dr. Goldstein reporting a conversation with Mr. Johnson, wherein Mr. Johnson expressed concern and fear that his cancer may have been caused by his exposure to Roundup or Ranger Pro, and documenting at least one major exposure incident. Dr. Goldstein never called Mr. Johnson back, despite staying that he would, and had Dr. Goldstein called him back, he would have told Mr. Johnson to keep using the pesticides. Tr. 56:18-57:12.

- **Exh. 334:** Mar. 29, 2015 report, sent to Dr. Goldstein, wherein Mr. Johnson, once again, reports concerns about this escalating cancer and whether he should be continuing to use the Roundup and Ranger Pro products. *Id.* at 1. The document states, "[t]he caller's level of fear is rising over his continued use of Ranger Pro. He states he continues to get unexplained rashes and nodules over his body." *Id.*

- **Exh. 336:** May 11, 2015 email from Dr. Heydens to several Monsanto employees including Dr. Farmer, indicating plans to deal with IARC classification, including the creation of a "[m]anuscript to be initiated by MON a ghostwriters." *Id.* at 1. The document explains that it "would be more powerful if authored by non-Monsanto scientists." *Id.* at 1.

- **Exh. 357:** Mar. 17, 2015 email from Dr. Heydens summarizing various issues Monsanto faced in the 1980s including "[l]ow level presence of formaldehyde (carcinogen by inhalation) in Roundup" and "[l]ow level presence of NNG (N-nitroso-glyphosate) in Roundup - many N--Nitroso compounds are carcinogenic" and "EPA seriously questioned if glyphosate produced tumors in the chronic mouse study- glyphosate was put in Category D for carcinogenicity for several years[.]" *Id.*

- **Exh. 362:** This document contains an email from Dr. Heydens, dated February 19, 2015 regarding "IARC Planning." *Id.* at 1. Dr. Heydens discusses the studies that Monsanto plans to publish in response to a potentially adverse IARC classification of glyphosate. *Id.* at 2. Dr. Heydens states: "…we would be keeping the cost down by us doing the writing and they would just edit & sign their names so to speak. Recall that is how we handled Williams Kroes & Munro, 2000." *Id.* The Williams article referenced was used, repeatedly, to influence regulators and scientists. *See* Exh. 373.

- **Exh. 363, 366, 368, 369, 371, 373, 394:** Jan. 2015 emails between Drs. Heydens and Farmer

with Ashley Roberts and others showing that Dr. Heydens and Dr. Farmer personally drafted or reviewed portions of the Interteck manuscripts, which contained a false disclosure statement that Monsanto had not written nor seen drafts prior to publication.

- Exh. 373: A December 2010 email from Dr. Heydens to Dr. Saltmiras related to glyphosate genotoxic activies, with an attached PowerPoint presentation. Id. at 1. In the presentation,

- **Exh. 378:** May 26, 1999 email from Dr. Heydens describing Monsanto's scientific outreach planning, which involves maintaining a cohort of "outside scientific experts who are influential at driving science, regulators, public opinion, etc. We would have they people directly or indirectly/behind-the-scenes work on our behalf." *Id.* at 1. Additionally, this plan includes "[g]et[ing] our data out there so it can be referenced and used to counter-balance the negative stuff. In some cases, we may want to publish specific work in certain world areas to help out in that region. We may use our experts as authors[.]" *Id.* Dr. Heydens explains that the overall agenda is to "get 'people to get up and shout Glyphosate is Non-toxic[.]'" *Id.*

- **Exh. 379:** Feb. 12, 2015 email with attached plan from an Monsanto employee to Drs. Heydens and Farmer. The plan, which predates any IARC announcement or conclusion, states, "This component represents the orchestrated outcry that could occur following the March 3-10 /ARC monograph expert meeting. The following reactive communications efforts would be deployed if glyphosate receives an unfavorable 28 classification. A series of positive communication efforts already[.]" *Id.* at 2. The first statement Monsanto planned to make, before even seeing IARC's scientific evaluation, was that "[w]e disagree with the decision made by IARC." *Id.*

- **Exh. 383:** Jan. 2010 email exchanges between various Monsanto employees and Dr. Heydens discussing the toxicity of the surfactant POEA – the same chemicals used in the Roundup and Ranger Pro that Mr. Johnson used. *Id.* at 1-2. At one point, an employee remarks "*there are non-hazardous formulations so why sell a hazardous one.*" *Id.* at 2 (emphasis added). In response, Dr. Heydens explains that "[t]here is still a strong sentiment in STL that we need to continue to defend tallowamines even though we prepare to switch over because of their impending demise. Reasons to do so: "domino effect" on etheramines … Second … they are very worried about this coming across the Atlantic to their part of the American hemisphere." *Id.* at 1.

- **Exh. 391:** May 11, 2015 email from Dr. Heydens to various Monsanto employees including Dr. Farmer, with an attachment titled "Proposal for Post-IARC Meeting Scientific Projects[.]" *Id.* at 2. The plan outlines stresses the need to combat IARC because of the "Severe stigma attached to Group 2A Classification … Provide additional support ('air cover') for future regulatory reviews" and "Litigation support." *Id.* The first plan is "Publication on Animal Carcinogenicity Data" and the plan specifies putting Dr. Griem as an author, but that "[m]ajority of writing can be done by Monsanto, keeping OS$ down[.]" *Id.* at 6. Another plan was to "[p]ublish comprehensive evaluation of carcinogenic potential by credible scientists" and questioned "[h]ow much writing can be done by Monsanto scientists to help keep costs down[.]" *Id.* at 8. The third plan sought to "[c]ounter IARC's claim of strong evidence of DNA damage/oxidative stress" because it "[c]ould be important for future litigation support[.]" *Id.* at 9.

- **Exh. 402:** Series of emails in June 2015 between Mr. Jenkins and Dr. Heydens about the anticipated review of glyphosate by the Agency for Toxic Substances and Disease Registry (ATSDR) within the Center for Disease Control (Dr. Portier used to be the Director of ATSDR). *Id.* at 1-3. Prior to the email exchange, Mr. Jenkins had asked the EPA to help stop the ATSDR evaluation. Following up, in the email, Mr. Jenkins recounts a conversation with the EPA OPP director, Jack Housenger: "ATSDR Director and Branch Chief have promised Jack Housenger (Director of the US Office of Pesticide Programs) to put their report 'on hold'

until after EPA releases its preliminary risk assessment." *Id.* at 2. Dr. Heydens responds, "at least they know they are being watched, and hopefully that keeps them from doing anything too stupid ..." *Id.* at 1. In response, Mr. Jenkins stated, "Mary Manibusan told me yesterday that EPA has had several issues in the past with ATSDR coming to different conclusions…. She describes ATSDR as being VERY conservative and IARC like in this regard as well as the fact that they are hazard based. Makes me very nervous[.]" *Id.*

- **Exh. 404:** Email from Mr. Jenkins to Dr. Heydens relating a conversation Mr. Jenkins had with Jess Rowland, the original author of the CARC report. The email explains "So ... Jess called me out of the blue this morning: "We have enough to sustain our conclusions. Don't need gene tox or epi. The only thing is the cherninova study … I am the chair of the CARC and my folks are running this process for glyphosate in reg review. … Also, Jess called to ask for a contact name at ATSDR. I passed on Jesslyn's email. He told me no coordination is going on and he wanted to establish some saying 'If I can kill this I should get a medal.'" *Id.* at 1-2.

- **Exh. 445:** This document contains internal communications between Monsanto employees third party Monsanto consultants regarding genotoxicity publications to be authored by Monsanto. On July 12, 2012, Dr. Saltmiras (Toxicology Manager) writes to Dr. Heydens: "We (Monsanto) have a signed master contract with [David Kirkland]. This will enable him to coauthor the genotoxicity review paper with Larry Kier…" *Id.* at 12. Monsanto employees proceed to discuss the issue of obtaining the executive board's approval for the project. *Id.* at 10-12. On July 13, 2012, Dr. Heydens confirm that Dr. Saltmiras embarked on the Genetox publication work with Larry Kier as agreed by the Board." *Id.* at 8. It was agreed that Dr. Saltmiras would not appear as co-author. *Id.* at 2.

- **Exh. 513:** On October 14, 2008, a third parry, Nasser Dean, send the conclusions of the 2008 Eriksson study to Dr. Farmer. *Id.* at 1-2. The study associated Roundup exposure with an increased risk of NHL. *Id.* at 1. On the same day, Dr. Farmer responds to Mr. Dean and other Monsanto personnel, stating: "We have been aware of this paper for awhile… Here is their bottom line…how do we combat this?" *Id.*

- **Exh. 556:** The first email dates to 2016 and is between employees of industry group, CropLifeAmerica ("CLA"), discussing "significant public concern regarding glyphosate use and exposure…" and the NTP's "additional investigations into the potential toxicity of glyphosate and its formulations…" *Id.* at 7. The CLA personnel proceed to consider submitting statements to the NTP in hopes of dissuading the agency's investigation of Roundup. *Id.* at 6. CLA subsequently contacts Monsanto's Drs. Farmer and Goldstein regarding the NTP's potential investigation. *Id.* at 4. Monsanto confirms its intention to initiate a response. *Id.* at 3-4. On July 1, 2016, Janet Collins from CLA responds to Drs. Farmer, Goldstein and Heydens with the following regarding the potential NTP investigation: "This is something that is going to need some communication at the 'Hill' level." *Id.* at 1.

- Monsanto's 1983 mouse study observed three very rare kidney tumors in the high dose group. In response, Monsanto attempted to cast doubt on the results, as confirmed by the testimony of Monsanto's expert, Dr. Warren Foster. Trial Tr. at 4653:4-11. Indeed, the EPA responded to Monsanto that "[o]ur viewpoint is one of protecting the public health when we see suspicious data. It is not our job to protect [Monsanto] from false positives…" *Id.* Based on the results, the EPA classified glyphosate as a "Class C Oncogen," likely to cause tumors. *Id.* 4654:3-22. Despite the results, Monsanto hired a consultant, Dr. Kuschner, to re-review the slides and Dr. Kuschner concluded that the ostensible presence of a tumor in the control group rendered the results insignificant. *Id.* at 4657:9-13. However, the EPA's Scientific Advisory Panel disagreed and asked Monsanto to re-do the study, which, as Dr. Foster testified, Monsanto never did. *Id.* at 4656:24-4662:3. Dr. Foster testified that he would agree with the EPA's original conclusion if statistical significance had not been affected by Dr. Kuschner's

speculation regarding an unconfirmed tumor in the control group. *Id.* at 16-4654:9.

CONCLUSION

For the foregoing reasons, the issue of punitive damages should be submitted to the jury, as there is sufficient evidence from which the jury could conclude, when viewed in a light most favorable to Plaintiff, that Monsanto acted with malice, i.e., conscious disregard for human safety.

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Respectfully submitted,

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