

CERTIFIED FOR PARTIAL PUBLICATION*

IN THE COURT OF APPEAL OF THE STATE OF CALIFORNIA
FIRST APPELLATE DISTRICT
DIVISION ONE

DEWAYNE JOHNSON,
Plaintiff and Respondent,
v.
MONSANTO COMPANY,
Defendant and Appellant.

A155940, A156706

(City and County of San
Francisco Super. Ct.
No. CGC-16-550128)

Respondent Dewayne (Lee) Johnson was a grounds manager for a school district and a heavy user of herbicides made by appellant Monsanto Company. He sued Monsanto after contracting non-Hodgkin's lymphoma, and a jury awarded him compensatory and punitive damages. On appeal, Monsanto argues that Johnson failed to establish the company's liability, the trial court prejudicially erred in some of its evidentiary rulings, federal law preempts Johnson's claims, and the award of both compensatory and punitive damages was excessive. We reject most of these arguments and affirm,

* Pursuant to California Rules of Court, rules 8.1105(b) and 8.1110, this opinion is certified for publication with the exception of parts II.A., II.B., and II.D. In particular, part II.A.4., regarding preemption, is not certified for publication because our rulings turn on the lack of a developed factual record and consequently provide little guidance to parties in future cases. (Cal. Rules of Court, rule 8.1105(c).)

except in the published portion of our opinion we conclude that the jury's awards of future noneconomic damages and punitive damages must be reduced.

I.
FACTUAL AND PROCEDURAL
BACKGROUND

A. Roundup Products.

Monsanto manufactures two herbicides that are the subject of this lawsuit: Roundup Pro and Ranger Pro, which we sometimes refer to collectively as "Roundup products." The first experimental-use permit was granted for Roundup in 1974, and the product came on the market in 1976.

Roundup Pro can be purchased from ordinary retail outlets, and it is premixed and ready to spray. Ranger Pro, by contrast, can be purchased only from a certified dealer, and it is mixed by the user. The principal ingredient of both products is glyphosate. Roundup Pro contains about 41 percent glyphosate, and Ranger Pro contains about 51 percent glyphosate. Roundup products also contain water as well as surfactants, which are "surface-acting molecule[s]" that help the herbicide spread out and stay on leaf surfaces longer so that the glyphosate can penetrate more easily. One such surfactant used in Roundup products in the United States is polyethoxylated tallow amine (POEA), a class of surfactant. POEA has apparently been banned in at least some parts of Europe, though a Monsanto witness claimed this was "due to political reasons and is not supported by the scientific data."

Between 1997 and 1999, four papers were issued that studied "the genotoxicity of glyphosate and/or Roundup." Genotoxicity refers to the possibility of a chemical agent damaging genetic information within a cell, causing mutations that can lead to cancer. A toxicologist who worked for Monsanto at the time noted that these studies were inconsistent with

“existing results” regarding glyphosate’s genotoxicity and believed the studies “needed attention” because they represented “a new type of finding.”

Monsanto consulted with a genotoxicity expert to review the four studies. In February 1999 the expert reported that there was evidence of a possible genotoxic effect for both glyphosate and Roundup. The expert ultimately wrote three reports for Monsanto and recommended that further tests be conducted.

The evidence at trial was mixed as to whether Monsanto adequately followed up on the expert’s recommendation, and the parties have continued to argue this point through oral argument in this court. In September 1999, a Monsanto toxicologist wrote an internal email stating that Monsanto “want[s] to find/develop someone who is comfortable with the genotox profile of glyphosate/Roundup and who can be influential with regulators and Scientific Outreach operations when genotox[] issues arise. My read is that [the expert who wrote the 1999 reports] 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 that [the expert] suggests.” Referring to the potential genotoxicity of glyphosate and Roundup, the email also stated, “We have not made much progress and are currently very vulnerable in this area.” Although some additional testing was ultimately done, the parties dispute its extent and adequacy. Monsanto has consistently defended itself by claiming that the “regulatory consensus” is that glyphosate is safe.

B. Johnson’s Heavy Use of Roundup Products and Cancer Diagnosis.

Johnson began working for the Benicia Unified School District in June 2012. He started as a delivery driver but quickly became the district’s grounds integrated pest manager. As part of his duties he sprayed Roundup products to control weeds on school properties.

Johnson obtained a qualified-applicator certificate, and as part of his instruction he learned rules and regulations about mixing herbicides. He also learned how to use Ranger Pro specifically and was certified to use it. Johnson reviewed the Ranger Pro label each time he used the product to ensure he was mixing the product correctly based on the types of weeds he planned to spray. Although the label cautioned that the product was an eye irritant, it did not say anything about the product being possibly linked to cancer. An expert at trial testified that the Ranger Pro label instructs users not to use the product in a way that it would come into contact with workers, either directly or through “drift.”¹ The expert noted that Johnson followed those instructions by spraying early in the morning, when people were not around and winds tended to be calm.

At first, Johnson used Roundup Pro, but he eventually switched to Ranger Pro, which he understood to be more potent and better suited for larger areas. He would pour bottles of Ranger Pro into a 50-gallon drum, mix the product with water and an antifoam agent, and then apply the mix from a truck-mounted sprayer onto hillsides, school perimeters, parking lots, sports fields, and other large areas. Johnson wore a full-body protective Tyvek suit, chemical-resistant rubber gloves and boots, eye goggles, and a paper mask when he was spraying Ranger Pro. Still, about 80 percent of the time some of the spray would drift to his face, cheeks, ears, and neck, depending on how windy it was. During the school year, Johnson sprayed for two to three hours per week day, spraying up to 150 gallons of Ranger Pro. He also occasionally sprayed on weekends, and on summer days he sometimes sprayed for four or five hours, when his crew would “go hard” because “it was the time to do it.”

¹ An expert for Monsanto explained that “drift” is “off-target movement of a[n] herbicide.”

Johnson did not use Roundup products before he worked for the school district, and he did not use other chemicals while employed there.

In April 2014, Johnson had a “pretty bad exposure” to Ranger Pro. While spraying at a school, the hose to his truck became caught in a gap in the sidewalk, broke, and started “shooting fluid everywhere.” Ranger Pro got inside his protective gear and onto his clothes down to his waist, soaking his skin, face, neck, and head. He cleaned himself as best he could at a sink at the maintenance yard.

Johnson saw his physician in late July 2014 and reported that he had started to develop a rash the previous month or so. He was prescribed a topical cream. His condition did not improve, his skin “really got crazy and out of whack,” and the rash started to spread. He went to Kaiser’s dermatology department in August and was referred to a dermatologist who saw Johnson in October 2014. Johnson was diagnosed that month with non-Hodgkin’s lymphoma, a type of cancer that affects lymph nodes but also may affect other organs, including the skin. Non-Hodgkin’s lymphoma is a “large umbrella” type of cancer, with at least 60 subtypes or classifications. Johnson suffers from the mycosis fungoides classification, one of the rarest forms of the disease.

In November 2014, as his skin continued to get worse, Johnson called a Monsanto hotline at a number he got from a bottle of Roundup. He wanted to find out if his skin condition could be related to his large exposure to Ranger Pro. He spoke with “a very nice lady” and told her about the hose break he experienced earlier in the year. He specifically asked the representative whether Roundup products could cause cancer. The woman took a statement from Johnson and told him that someone would get back to him, but no one ever did.

Johnson also noticed something on the skin around his thigh that concerned him, and a dermatologist in January 2015 diagnosed him with squamous cell cancer, the second most common type of skin cancer. The dermatologist removed the cancer. Johnson continued to suffer new lesions, and his condition worsened. He eventually developed nodules, plaques, and painful lesions all over his body.

Johnson increasingly suspected a connection between Roundup products and his cancer. When he raised his suspicion with his supervisor, he was told it “takes, like, two years for you to get cancer from that stuff,” and the supervisor expressed surprise that Johnson did not previously know the products caused cancer.

Johnson continued to spray Ranger Pro after his cancer diagnosis, but he started to use a canister mask to provide a full-face respirator. He was again directly exposed to the herbicide when he was carrying it in a backpack while spraying, and it leaked onto his back. Johnson panicked, and he went to the doctor immediately.

Johnson told his dermatologist that he had again been exposed to Ranger Pro, and the following month he told her he felt “a little foolish” continuing to use the spray and asked her if it was safe to continue to do so with his skin condition. Around this time, Johnson again called Monsanto to ask if there was a possible connection between his skin condition and Roundup products, and he left a message about his rising concerns about continuing to use Ranger Pro. He said he had used Ranger Pro for two to three years and asked whether it was safe to continue to use it. Johnson did not receive answers to his questions, and no one called him back.

Johnson’s dermatologist eventually wrote to Johnson’s employer and asked that he not be exposed to any airborne environmental allergens

because the exposure could worsen his condition. The school district did not take action until Johnson refused to continue spraying Roundup products. Johnson last used Roundup products in January 2016, right before he left his job.

Before Johnson's diagnosis, he "could do anything [he] wanted to do," whereas after the diagnosis his activity level "changed dramatically" and he had trouble remembering things. And whereas Johnson previously had "perfect skin . . . like 100 percent beautiful skin," after the diagnosis he had painful lesions and plaques.

Johnson filed this product liability lawsuit in January 2016, and trial began in June 2018.

C. Proceedings in the Trial Court.

Johnson sought recovery based on the theories that Roundup products had a design defect and that Monsanto provided inadequate warnings (seeking recovery both in strict liability and for negligently failing to warn). The main issues litigated at trial were whether Roundup products caused Johnson's illness and, if so, the degree to which Monsanto was aware of its products' carcinogenicity. A number of experts testified on these issues.

Much of the testimony focused on a study prepared by the International Agency for Research on Cancer (IARC), an agency of the World Health Organization that researches suspected cancer risks. The organization is composed of independent scientists who are not paid for their work. They evaluate compounds that have a possible link to cancer. About 10 percent of the substances it studies are classified as "known" human carcinogens, about 10 percent are "probable" human carcinogens, about 30 percent are "possible" human carcinogens, and the rest are not included in those three classifications "because there's just not enough data to make a decision." The

IARC's work is "very transparent," and "many independent folks can come and review the process of what [it] actually do[es]." The IARC is recognized in the "scientific and academic cancer community" as "usually the main arbiter of what a cancer-causing agent is." One witness testified that to him it was "the number one arbiter in the world of whether something is actually carcinogenic and what the level of probability is that it is a carcinogen or not," and another testified he could not "think of any more reputable source that is impartial, non-biased, and unpaid."

Dr. Christopher Portier, who has served as the director of the environmental toxicology program at the National Institute of Environmental Health Sciences and has studied cancer, testified for Johnson as an expert in cancer risk assessment. The IARC asked Portier in 2014 to serve as a specialist on the panel that reviewed whether glyphosate and four other pesticides caused cancer. An IARC working group prepared a book (referred to as the "Monograph") that summarized the work it did on classifying glyphosate. Members of the working group in March 2015 voted unanimously to classify glyphosate as "probably carcinogenic to humans."

At the time of trial, the Environmental Protection Agency (EPA) had not come to a final conclusion on whether to classify glyphosate as carcinogenic, but it was proposing to list the substance as not a human carcinogen. Dr. Portier disagreed with the EPA's position that there was inadequate information to assess the carcinogenic potential of glyphosate, because "[t]he evidence to [him] is so overwhelming." Dr. Portier responded to an EPA request for public comment on the agency's draft proposal and went through the EPA's document "page by page and discussed what [he] was seeing that they were doing inappropriately." According to Dr. Portier,

“[T]his was just so amazingly wrong in the way they [the EPA] were doing it, not following their own guidelines, I just felt I had to say something about it.”

Dr. Alfred Neugut, a board-certified medical oncologist and cancer epidemiologist who also is a professor at Columbia University, testified for Johnson as an expert in the areas of medical oncology and cancer epidemiology (the study of causes of human diseases). As part of his work as an expert in this case, Neugut reviewed six studies addressing a possible connection between glyphosate and non-Hodgkin’s lymphoma to produce a “combined risk ratio” based on the most “most conservative numbers” from each of the individual studies. Whereas a risk ratio of one would mean there was no connection between glyphosate and the disease, and a ratio below one would mean that glyphosate provided protection from lymphoma, Neugut found that there was a risk ratio of 1.3, “meaning that there was a 30-percent increased risk of non-Hodgkin’s lymphoma in the context of glyphosate exposure.” Neugut testified that such a percentage was a “statistically significant increased risk.” He opined that exposure to glyphosate causes non-Hodgkin’s lymphoma “to a reasonable degree of scientific certainty.”

Dr. Chadi Nabhan, a hematologist and medical oncologist who specializes in both Hodgkin and non-Hodgkin’s lymphomas, testified for Johnson as an expert in the diagnosis and treatment of non-Hodgkin’s lymphoma. Nabhan evaluated whether glyphosate causes non-Hodgkin’s lymphoma generally and whether Roundup products caused Johnson’s illness specifically. Based on his review of various studies, including the Monograph, Nabhan concluded that to a reasonable degree of medical certainty, glyphosate “absolutely can cause non-Hodgkin[’s] lymphoma.” Nabhan also reviewed thousands of Johnson’s medical records, spoke with Johnson, and examined him. He opined that Roundup products were a

substantial contributing factor in the development of Johnson's non-Hodgkin's lymphoma.

Dr. William Sawyer, a forensic toxicologist, testified for Johnson as an expert in toxicology and forensic toxicology. He had followed peer-reviewed literature on glyphosate since the mid-1990s, and he testified that, to a reasonable degree of scientific certainty, glyphosate is a known carcinogen and Roundup products can cause non-Hodgkin's lymphoma. He also testified that the additives to glyphosate used in Roundup products increase and enhance glyphosate's carcinogenicity. As for Johnson specifically, Sawyer opined that Johnson's heavy exposure to Roundup products caused his non-Hodgkin's lymphoma. Sawyer expressed his view that Roundup products should include "proper warnings" to inform consumers "that they were dealing with a carcinogen," and that the product should be "used in a limited fashion without producing what we call aerosol, that is aerosol that drifts and gets all over the body." He believed that Roundup products could be used safely so long as they were used with appropriate warnings and proper equipment.

Dr. Charles Benbrook, a scientist who works on pesticide regulation, spent about 16 years studying the effects of glyphosate. He was asked in connection with this litigation to look at the relationship between non-Hodgkin's lymphoma and glyphosate, and he agreed to testify for Johnson as an expert in pesticide regulation and pesticide risk assessment. He explained the EPA's process to test a new pesticide and the differences between an IARC analysis and an EPA risk assessment. He pointed out that the IARC relies only on scientific studies in peer-reviewed journals "where all the data is available, the methods are available, the science is transparent, . . . full[y] explained." And he explained that the EPA, by contrast, mostly bases its risk

assessments on studies conducted by the companies seeking pesticide registration, and these studies are conducted only on the active ingredient, as opposed to the full product.

Monsanto presented its own experts. Dr. Kassim Al-Khatib, a professor at the University of California at Davis who studies weeds and served as the director for the University's statewide integrated pest-management program, testified as an expert in the areas of weed science, drift, and the use and application of glyphosate-based herbicides. He testified that when applying herbicide to a large area, it is unnecessary to spray the entire area and one should instead target weeds individually. He opined that because Johnson sprayed correctly, the drift he experienced would have been "insignificant."

Dr. Loreli Mucci, a cancer epidemiologist who works as an associate professor of epidemiology at the Harvard School of Public Health and is the leader of the cancer epidemiology program at Harvard's cancer center, testified for Monsanto as an expert in cancer epidemiology. She explained why, in her view, the connections between the use of glyphosate and non-Hodgkin's lymphoma could be less pronounced than some studies suggest. Mucci also highlighted a 2005 "De Roos study" that found no observed association between non-Hodgkin's lymphoma and glyphosate. She further testified about a study published in 2018 in the Journal of the National Cancer Institute that showed no evidence of a positive association between exposure to glyphosate and non-Hodgkin's lymphoma.

Dr. Warren Foster, a professor at McMaster University in Ontario who works in the department of obstetrics and gynecology and conducts animal studies, testified for Monsanto as an expert in toxicology and the design, evaluation, and interpretation of long-term rodent carcinogenicity studies.

He reviewed 12 long-term rodent studies regarding glyphosate. Foster worked at Health Canada, a Canadian government agency that is responsible for environmental contaminants, and was familiar with the Canadian standards for animal testing. Foster opined that it would have been infeasible for Monsanto to conduct long-term carcinogenicity glyphosate testing on rodents because the animals could not survive the detergent ingredients that would be included.

Finally, Dr. Timothy Kuzel, the chief of the division of hematology, oncology, and cell therapy at Chicago's Rush University and a physician who treats non-Hodgkin's lymphoma patients, testified for Monsanto as an expert in mycosis fungoid cutaneous T-cell lymphoma, non-Hodgkin's lymphoma, and oncology. He testified that some forms of non-Hodgkin's lymphoma are associated with a specific gene mutation. Kuzel opined that Johnson's rash probably started in fall 2013. (One disputed issue was whether the time between Johnson's use of Roundup products and the onset of his cancer was a sufficient latency period to develop non-Hodgkin's lymphoma.) He said he has never seen evidence that using glyphosate-based herbicides could worsen a case of lymphoma.

The jury also heard testimony from Monsanto employees. As discussed in more detail below in the discussion on punitive damages, Johnson argued that the company and its employees were hostile to research about the possible connection between glyphosate and cancer.

Johnson and his wife also testified at trial.

D. The Jury's Verdict and Post-trial Proceedings.

The jury reached a verdict on the third day of deliberations and ruled in Johnson's favor on all three theories of liability: that Monsanto failed to adequately warn of its products' potential dangers (finding liability both in

strict liability and for negligently failing to warn) and that its products had a design defect. It awarded Johnson around \$39.3 million in compensatory damages and \$250 million in punitive damages.

After judgment was entered, Monsanto filed a motion for a new trial on multiple grounds, including that the jury's award of damages was excessive (Code Civ. Proc., § 657, subd. (5)). It also filed a motion for judgment notwithstanding the verdict, arguing that Johnson was not entitled to punitive damages.

The trial court issued a tentative ruling indicating its intent to grant Monsanto's motions on the issue of punitive damages. The tentative ruling explained why Johnson had not presented clear and convincing evidence of malice or oppression to support the award (Civ. Code, § 3294, subd. (a)). The court emphasized that worldwide regulators continued to conclude that glyphosate-based herbicides were safe and not carcinogenic. As for Johnson's claims that Monsanto refused to conduct studies recommended by the genotoxicity expert it had hired in the late 1990s, the court noted that Monsanto ultimately conducted all but one of the tests and publicly released the results. And as for Johnson's claim that Monsanto ghost wrote articles, the court stated that Monsanto employees were listed as contributors to the articles, and there was no evidence that the articles contained material scientific misstatements. Finally, the court stated that there was no evidence that Monsanto scientists who were involved in evaluating glyphosate products were managing agents, which meant no malice or oppression could be imputed to a Monsanto officer, director, or managing agent of the corporation for purposes of Civil Code section 3294.

Ultimately, however, the court decided not to adopt its tentative ruling and denied Monsanto's post-trial motions on the issue of punitive damages.² Its final order concluded that although no specific managing agent had authorized or ratified malicious conduct, Johnson had proved by clear and convincing evidence that the company as a whole acted maliciously. The court concluded that the jury could have found that Monsanto's decision to continue marketing Roundup products notwithstanding a possible link with non-Hodgkin's lymphoma constituted corporate malice for purposes of punitive damages. The court compared this case to ones where a defendant had failed to adequately test a product and where there was a reasonable disagreement among experts, and stressed that a jury is entitled to reject a defendant's expert in reaching a verdict on punitive damages. Although the trial court's final order concluded that sufficient evidence supported an award of punitive damages, it further concluded that due process required that the punitive damages award equal the amount of the compensatory damages award. The court thus denied Monsanto's motion for judgment notwithstanding the verdict and denied the motion for new trial on the condition that Johnson accept the reduced award of punitive damages.

Monsanto appealed, and Johnson cross-appealed to challenge the reduction of punitive damages. (No. A155940.) Monsanto separately appealed from the trial court's order awarding costs. (No. A156706.) This court consolidated the appeals on the parties' stipulation. The court also granted Johnson's motion for calendar preference.

² In urging this court to strike the award of punitive damages (*post*, § II.C.3.a.), Monsanto essentially asks this court to adopt the reasoning set forth in the trial court's tentative decision. But "[t]he trial court's tentative opinion has no relevance on appeal." (*Wilshire Ins. Co. v. Tuff Boy Holding, Inc.* (2001) 86 Cal.App.4th 627, 638, fn. 9.)

II. DISCUSSION

A. Monsanto Has Not Established Reversible Error in the Liability Phase of Trial.

Monsanto argues that Johnson failed to prove liability, that insufficient evidence supports the jury's findings on causation, and that Johnson's causes of action were, in any event, preempted by federal law. None of these arguments are persuasive.

1. Monsanto Was Liable on the Failure-to-Warn Claims Because Substantial Evidence Was Presented that Roundup's Risks Were "Known or Knowable" to Monsanto.

"California recognizes failure to warn as a species of design defect products liability. [Citation.] Under the failure to warn theory, a product may be defective even though it is manufactured or designed flawlessly. [Citation.] '[A] product, although faultlessly made, may nevertheless be deemed "defective" under the rule and subject the supplier thereof to strict liability if it is unreasonably dangerous to place the product in the hands of a user without a suitable warning and the product is supplied and no warning is given.'" (*Saller v. Crown Cork & Seal Co., Inc.* (2010) 187 Cal.App.4th 1220, 1238.)

Johnson's trial attorney argued to the jury that Monsanto had studies dating from the 1990s onward that linked glyphosate and cancer but acted irresponsibly to "combat" the information rather than to consider the health risks and warn its users of them. Jurors found in favor of Johnson on this cause of action when they found, consistent with CACI No. 1205, that (1) Monsanto manufactured, distributed, or sold Roundup products; (2) the products had potential risks that were "known or knowable in light of the scientific and medical knowledge that was generally accepted in the scientific

community at the time of the manufacture, distribution and sale” of the products; (3) the potential risks presented a substantial danger when the products were used (or misused in an intended or reasonably foreseeable way); (4) ordinary consumers would not have recognized the potential risks; (5) Monsanto failed to adequately warn of the potential risks; (6) Johnson was harmed; and (7) the lack of sufficient warnings was a substantial factor in causing Johnson’s harm. Monsanto challenges the jury’s findings on the second element (that the potential risks were known) and the seventh element (that the lack of warning caused Johnson’s harm, discussed below, § II.A.3.).

We begin with Monsanto’s argument that “it was not known or knowable to Monsanto at the time of manufacture or distribution that glyphosate causes cancer.” (E.g., *Anderson v. Owens-Corning Fiberglas Corp.* (1991) 53 Cal.3d 987, 1003 [“knowability” relevant to failure-to-warn theory of strict liability].) Multiple courts have articulated the “known or knowable” standard. “The 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.” (*Id.* at p. 1002.) “The manufacturer’s duty, per strict liability instructions, to warn of *potential* risks and side effects [envelops] a *broader* set of risk factors than the duty, per negligence instructions, to warn of facts which made the product ‘*likely to be* dangerous’ for its intended use. A ‘potential’ risk is one ‘existing in possibility’ or ‘capable of development into actuality,’ while a product ‘likely’ to be dangerous will ‘in all probability’ or ‘probably’ be dangerous.” (*Valentine v. Baxter Healthcare Corp.* (1999) 68 Cal.App.4th 1467, 1483, fns. omitted.) Our Supreme Court has stated that

warnings need not be given “based on every piece of information in a manufacturer’s possession” and may not be required “based on a single isolated report of a possible link” between a product and injury or “a possible risk, no matter how speculative, conjectural, or tentative.” (*Finn v. G. D. Searle & Co.* (1984) 35 Cal.3d 691, 701.) “[W]hen a plaintiff’s claim is based on an allegation that a particular risk was ‘reasonably scientifically knowable,’ an inquiry may arise as to what a reasonable scientist operating in good faith should have known under the circumstances of the evidence.” (*Carlin v. Superior Court* (1996) 13 Cal.4th 1104, 1115.)

The Advisory Committee on Civil Jury Instructions has provided guidance on the meaning of the phrase “generally accepted in the scientific community” for purposes of CACI No. 1205: “A risk may be ‘generally recognized’ as a view (knowledge) advanced by one body of scientific thought and experiment, but it may not be the ‘prevailing’ or ‘best’ scientific view; that is, it may be a minority view. The committee believes that when a risk is (1) generally recognized (2) as prevailing in the relevant scientific community, and (3) represents the best scholarship available, it is sufficient to say that the risk is knowable in light of the ‘the generally accepted’ scientific knowledge.” (Directions for Use, CACI No. 1205 (2019 ed.) p. 717.) Monsanto argues that Johnson’s evidence fell short of meeting this formulation of the standard.

Monsanto’s argument, as we understand it, is that even if some studies linked glyphosate and non-Hodgkin’s lymphoma, they did not trigger a duty to warn because they expressed only a “minority view.” The company argues that a cancer risk was not known or knowable “based on a *unanimous scientific consensus*.” (Italics added.) As a legal matter, we think Monsanto places undue emphasis on whether a cancer link was a majority or minority

position, to the exclusion of any consideration of the *quality* of the studies. True, Monsanto was under no obligation to warn of a “speculative, conjectural, or tentative” risk based on a “single isolated report of a possible link.” (*Finn v. G. D. Searle & Co.*, *supra*, 35 Cal.3d at p. 701.) But it was obligated to “warn of *potential* risks and side effects,” that is, risks that were “‘existing in possibility’ or ‘capable of development into actuality.’” (*Valentine v. Baxter Healthcare Corp.*, *supra*, 68 Cal.App.4th at p. 1483.) Although evidence was presented that some scientists criticized the studies finding a link between Roundup and non-Hodgkin’s lymphoma or disagreed with the studies’ conclusions, it was the jury’s decision how much weight to give this evidence.

Furthermore, Monsanto falls short of establishing error even if we were to agree that the proper focus is on whether the link between glyphosate and cancer was a “minority” view. The company claims—without citation to the record—that it was “undisputed” at the time Johnson was exposed to Roundup products that the “‘best scholarship available’” was “unanimous” there was no causal link between glyphosate and non-Hodgkin’s lymphoma (presumably, this is Monsanto’s characterization of various regulatory bodies’ assessment of glyphosate). This claim simply ignores the testimony about the four studies dating back to the 1990s finding evidence of glyphosate’s toxicity.

Monsanto also argues that the Monograph’s findings that glyphosate is a probable human carcinogen were a “minority” view, but the evidence it cites to support the argument is underwhelming. The company first cites the trial court’s order denying its motion for judgment notwithstanding the verdict and motion for new trial, which stated only that various regulatory and public health agencies worldwide had rejected claims about the

carcinogenicity of glyphosate-based herbicides, not that these rejections represented the “majority” view. It next cites an excerpt from an October 2015 Environmental Protection Agency (EPA) cancer-assessment document stating that “[t]he epidemiological evidence at this time is inconclusive for a causal or clear associative relationship between glyphosate and [non-Hodgkin’s lymphoma].” And it cites a September 2016 EPA glyphosate issue paper weighing what descriptor to assign the chemical for its risk of carcinogenic potential. The paper noted there was “not strong support for the ‘suggestive evidence of carcinogenic potential’ cancer classification descriptor based on the weight-of-evidence,” and also noted that “due to conflicting results and various limitations identified in studies investigating [non-Hodgkin’s lymphoma], a conclusion regarding the association between glyphosate exposure and risk of [non-Hodgkin’s lymphoma] cannot be determined based on the available data.” Finally, Monsanto cites to an excerpt from an opinion from the European Chemicals Agency stating that under the “weight of evidence approach, no classification for carcinogenicity” was warranted. (Bold omitted.)

None of this evidence establishes that the findings about glyphosate’s potential link to cancer necessarily reflected a minority view. Again, experts testified that the IARC is a reliable and respected source of classifying whether substances cause cancer and is “usually the main arbiter of what a cancer-causing agent is.” When one expert was asked whether he would consult with the EPA on whether an agent caused cancer, he responded, “It never crossed my mind.” An IARC working group voted unanimously to classify glyphosate as a probable human carcinogen. True, Monsanto can point to various statements that such a classification was not warranted because the evidence was inconclusive. But these statements do not

undermine the strength of the Monograph or render it a “minority” position. Under strict liability failure-to-warn standards, Monsanto 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 v. Superior Court, supra*, 13 Cal.4th at p. 1113, fn. 3.) Monsanto cannot avoid liability “merely because its failure to warn of a known or reasonably scientifically knowable risk conformed to an industry-wide practice of failing to provide warnings that constituted the standard of reasonable care” (*id.* at pp. 1112–1113), nor can it avoid liability simply because its “‘own testing showed a result contrary to that of others in the scientific community.’” (*Id.* at p. 1112.)

As Monsanto acknowledges, we review the judgment for substantial evidence, that is, “[w]here findings of fact are challenged on a civil appeal, we are bound by the “elementary, but often overlooked principle of law, that . . . the power of an appellate court begins and ends with a determination as to whether there is any substantial evidence, contradicted or uncontradicted,” to support the findings below. [Citation.] We must therefore view the evidence in the light most favorable to the prevailing party, giving it the benefit of every reasonable inference and resolving all conflicts in its favor in accordance with the standard of review so long adhered to by this court.’” (*Bickel v. City of Piedmont* (1997) 16 Cal.4th 1040, 1053.) Viewing the evidence in the light most favorable to Johnson, we must conclude that substantial evidence supported the jury’s conclusion that the cancer risk of glyphosate was known or knowable to Monsanto.

As for the jury’s finding that Monsanto also was liable for *negligently* failing to warn of the potential risks of glyphosate, Monsanto’s only appellate argument is that this claim necessarily fails because the claim under strict

liability fails. (*Valentine v. Baxter Healthcare Corp.*, *supra*, 68 Cal.App.4th at p. 1482 [defense verdict on strict liability failure-to-warn claim precluded liability under negligent failure-to-warn theory].) Because we find that substantial evidence supports the verdict under a strict liability failure-to-warn theory, we affirm the verdict under a negligent failure-to-warn theory as well.

2. Monsanto Was Liable on the Design Defect Claim Under the Consumer-expectations Test.

Our affirmance on Johnson’s failure-to-warn theories of recovery is alone sufficient to uphold the judgment. (*Jones v. John Crane, Inc.* (2005) 132 Cal.App.4th 990, 1001.) We nonetheless exercise our discretion to consider, and reject, Monsanto’s separate claim that the jury improperly found the company liable under Johnson’s design defect claim.

a. Additional Background.

Johnson received safety training to become certified in applying Ranger Pro spray. The store representative who trained him told him, “Oh, don’t worry. It’s safe enough to drink. But don’t drink it, you know. And, you know, be careful. It’s not something to play with. But you don’t have to worry too much about it.”

Monsanto objected to instructing the jury on the consumer-expectations test for design defect. Counsel argued there “was no factual foundation about what an ordinary consumer would expect. There was no testimony about that from anybody.” Johnson’s counsel countered that Johnson had testified about his expectations and that expert testimony on consumer expectations is disallowed when proceeding under a consumer-expectations theory. The trial court allowed the jury instruction on the consumer-expectations theory even

though it thought that the evidence presented to support this theory was “thin.”

Jurors concluded that (1) an ordinary consumer can form reasonable minimum safety expectations about Roundup products, (2) Roundup products failed to perform as safely as an ordinary consumer would have expected when used (or misused in an intended or reasonably foreseeable way), and (3) the Roundup products’ design was a substantial factor in causing harm to Johnson. (See CACI No. 1203.) With the exception of causation, discussed below (*post*, § II.A.3.), Monsanto does not claim that the jury’s findings were unsupported by the evidence. Instead, it argues that this theory of design defect was “ill-conceived” and that Johnson was “effectively attempting to jam a round peg into a square hole.”

b. Analysis.

“A design defect exists when the product is built in accordance with its intended specifications, but the design itself is inherently defective.” (*Chavez v. Glock, Inc.* (2012) 207 Cal.App.4th 1283, 1303.) A manufacturer is liable where the design of its product “causes injury while the product is being used in a reasonably foreseeable way.” (*Soule v. General Motors Corp.* (1994) 8 Cal.4th 548, 560 (*Soule*)). Our Supreme Court has recognized two tests for proving a design defect. (*McCabe v. American Honda Motor Co.* (2002) 100 Cal.App.4th 1111, 1120.) The first one, “[t]he ‘consumer expectation test[,]’ permits a plaintiff to prove design defect by demonstrating that ‘the product failed to perform as safely as an ordinary consumer would expect when used in an intended or reasonably foreseeable manner.’” (*Ibid.*, quoting *Barker v. Lull Engineering Co.* (1978) 20 Cal.3d 413, 426–427.) The test is “rooted in theories of warranty [and] recognizes that implicit in a product’s presence on the market is a representation that it is fit to do safely

the job for which it was intended.” (*McCabe*, at p. 1120.) “The purposes, behaviors, and dangers of certain products are commonly understood by those who ordinarily use them. By the same token, the ordinary users or consumers of a product may have reasonable, widely accepted minimum expectations about the circumstances under which it should perform safely. Consumers govern their own conduct by these expectations, and products on the market should conform to them.” (*Soule*, at p. 566.)

The second test for proving a design defect is the “risk-benefit test,” under which a product that meets consumer expectations is nonetheless defective if the design includes an excessive preventable danger. (*McCabe v. American Honda Motor Co.*, *supra*, 100 Cal.App.4th at pp. 1120–1121.) “The consumer expectations test is not suitable in all cases. It is reserved for those cases where ‘the circumstances of the product’s failure permit an inference that the product’s design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers.’ [Citation.] If the facts do not permit such an inference, the risk-benefit test must be used.” (*Johnson v. United States Steel Corp.* (2015) 240 Cal.App.4th 22, 32–33.)

Monsanto argues that the proper test to have been used in this case was the risk-benefit test, but it fails to point to anywhere in the record where it requested instructions on this test. It also does not cite to evidence in the record supporting the elements required to establish a defense under the test, i.e., that (1) a safer alternative design of Roundup products was infeasible, (2) the cost of a different design would have been prohibitive, or (3) any different design of Roundup products would have been more dangerous to the consumer. (*West v. Johnson & Johnson Products, Inc.* (1985) 174 Cal.App.3d 831, 864.) It simply maintains that the consumer-expectations test “does not apply as a matter of law.”

Even setting aside these briefing deficiencies, we are unpersuaded by Monsanto's substantive argument that it could not be found liable under the consumer-expectations test because Johnson relied on the testimony of several experts. True, "the consumer expectations test is reserved for 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*. It follows that where the minimum safety of a product is within the common knowledge of lay jurors, expert witnesses may not be used to demonstrate what an ordinary consumer would or should expect. Use of expert testimony for that purpose would invade the jury's function (see Evid. Code, § 801, subd. (a)), and would invite circumvention of the rule that the risks and benefits of a challenged design must be carefully balanced whenever the issue of design defect goes beyond the common experience of the product's users." (*Soule, supra*, 8 Cal.4th at p. 567, fn. omitted.) Although knowing when the consumer-expectations test applies is not always obvious, "[t]he crucial question in each individual case is whether the circumstances of the product's failure permit an inference that the product's design performed below the legitimate, commonly accepted minimum safety assumptions of its ordinary consumers." (*Id.* at pp. 568–569, fn. omitted.) Stated differently, "the consumer expectations test is appropriate only when the jury, fully apprised of the circumstances of the accident or injury, may conclude that the product's design failed to perform as safely as the product's ordinary consumers would expect." (*Id.* at p. 569, fn. 6.) The question we ask is, "Is the alleged defect readily apparent to the common reason, experience, and understanding of the product's ordinary consumers?" (*Morson v. Superior*

Court (2001) 90 Cal.App.4th 775, 791.) We conclude, consistent with the jury's verdict, that it is.

Application of the consumer-expectations test is not precluded when expert testimony is presented, as it was here, for an issue other than the expectation of a reasonable consumer. (*Soule, supra*, 8 Cal.4th at p. 569, fn. 6.) As one court has put it, "Under *Soule* the consumer expectations test can be applied even to very complex products, but only where the circumstances of the product's failure are relatively straightforward." (*Morson v. Superior Court, supra*, 90 Cal.App.4th at p. 792.) The fact that expert testimony may be required to establish legal causation for a plaintiff's injury, as it was required here, "does not mean that an ordinary user of the product would be unable to form assumptions about the safety of the product[]." (*Jones v. John Crane, Inc., supra*, 132 Cal.App.4th at p. 1003.)

We find two cases instructive. In *Jones v. John Crane, Inc.*, the plaintiff worked for the Navy as a fireman's apprentice and was exposed to asbestos products, including packing materials for valves and pumps. (132 Cal.App.4th at p. 996.) He sued the manufacturer of those products after he contracted lung cancer. (*Ibid.*) A jury found in the plaintiff's favor on his design defect claim under the consumer-expectations test. (*Id.* at p. 1001.) On appeal, the asbestos company argued that the consumer-expectations test was inapplicable because experts were called to testify about whether any defect in asbestos caused the plaintiff's injury, but Division Three of this court disagreed. (*Id.* at pp. 1001–1003.) The court noted that there was "nothing complicated or obscure about the design and operation of the products, nor are there any esoteric circumstances surrounding the manner in which [plaintiff] was exposed to the asbestos fibers." (*Id.* at p. 1003) It held that the jury reasonably could have found

that people working with the asbestos company's products did not expect to develop lung cancer, and "[t]he fact that expert testimony was required to establish legal causation for plaintiffs' injuries does not mean that an ordinary user of the product would be unable to form assumptions about the safety of the products." (*Ibid.*) Likewise, while causation was the subject of lengthy expert testimony here, there was nothing complicated or technical about the way Johnson applied Roundup products, and the jury could conclude that he could reasonably expect that using them would not lead to cancer.

In *West v. Johnson & Johnson Products, Inc.*, a woman sued after she suffered toxic shock syndrome (TSS) from using tampons during her menstrual cycle. (174 Cal.App.3d at pp. 841–843.) Expert testimony was presented at trial about the plaintiff's diagnosis and whether her tampons caused her TSS. (*Id.* at pp. 848–849.) On appeal from a jury verdict for plaintiff, the defendant argued, as Monsanto argues here, that the consumer-expectations test is inappropriate in cases that require the presentation of expert testimony. (*Id.* at p. 865.) The appellate court disagreed. The court first noted that the defendant, like Monsanto, had not requested jury instructions on the alternate risk-benefit test and that it had not provided any evidence to meet its burden under that standard to show that a safer alternative design was infeasible, or that the cost of a different design would have been prohibitive, or that a different tampon design would have been more dangerous to the consumer. (*Id.* at p. 864.) But in any event, the court ruled that reliance on expert testimony on some issues did not preclude the plaintiff from proceeding on a consumer-expectations theory. (*Id.* at pp. 864–866.) The plaintiff had been using the brand of tampon in question for five years, and she "could reasonably expect, and had every right to expect, that

use of the product would not lead to a serious (or perhaps fatal) illness.” (*Id.* at p. 867.)

Monsanto’s reliance on *Morson v. Superior Court*, *supra*, 90 Cal.App.4th 775, is misplaced. In *Morson*, the plaintiffs alleged that manufacturers of latex gloves failed to adequately warn them of the possibility of contracting allergies from the gloves. (*Id.* at pp. 778–779.) The court held that the consumer-expectations test was inapplicable because expert testimony would be necessary to understand the nature of the alleged injuries. (*Id.* at p. 779.) The court noted that the plaintiffs’ theory of design defect was a “complex one,” because they were “seeking to prove that their conditions were caused by more than a natural allergy to a natural substance, such that a product defect or a wrongdoing by a defendant could have been causative factors.” (*Id.* at pp. 793–794.) The court ultimately concluded that “[t]he alleged creation or exacerbation of allergies by a product, such as by the presence of certain levels of proteins on the surface of latex gloves, to which the user is exposed, are not subjects of commonly accepted minimum safety assumptions of an ordinary consumer.” (*Id.* at p. 795.) Monsanto is thus correct that a key factor in deciding whether to apply the consumer-expectations test is “the complexity of the alleged circumstances of the plaintiff’s injury.” But we disagree that the expectation of average consumers about contracting unusual allergies from using latex gloves is comparable to their expectations about contracting cancer from using herbicides.

We likewise disagree that this case is similar to *Trejo v. Johnson & Johnson* (2017) 13 Cal.App.5th 110, as Monsanto claims. In *Trejo*, the plaintiff suffered a rare skin disease after taking Motrin, an over-the-counter ibuprofen medication. (*Id.* at p. 116.) The plaintiff won a jury trial, but on

appeal the court concluded that the plaintiff's design defect claims were preempted. (*Id.* at p. 117.) As a separate ground to reverse, the court also held that the consumer-expectations test should not have been applied because the plaintiff had "an 'idiosyncratic' side effect" that required expert testimony to explain. (*Id.* at pp. 117, 160.) The court noted that the trial court had repeatedly sustained objections and admonished the plaintiffs' counsel not to solicit expert testimony about the consumer-expectations test. (*Id.* at p. 159.) When proceeding on this theory, a plaintiff should present non-expert testimony about the features of the product, according to *Trejo*. (*Id.* at p. 160.)

Here, Johnson presented such non-expert testimony when he testified that he received safety training to become certified in applying Ranger Pro spray and was told "you don't have to worry too much about it." And Monsanto directs us to no expert testimony (admitted with or without objection) about Johnson's expectations. Instead, it points to the expert testimony that was presented on the issue of causation. Again, both sides provided abundant expert testimony about whether Roundup products caused Johnson's cancer. But unlike expert testimony needed to explain the "idiosyncratic reactions" to the products at issue in *Morson v. Superior Court*, *supra*, 90 Cal.App.4th at page 795, and the "unusual reaction" that the plaintiff suffered in *Trejo v. Johnson & Johnson*, *supra*, 13 Cal.App.5th at page 160, here it was not necessary to explain a cancer diagnosis following the application of herbicide, something within a layperson's experience. The trial court did not err in allowing Johnson to proceed on a consumer-expectations theory.

3. Substantial Evidence Supports the Jury's Causation Finding.

Monsanto contends that the judgment must be reversed because there is no substantial evidence of causation. More precisely, it argues that Johnson failed to meet his burden to show that Roundup products were a substantial factor in bringing about his injury. (See *Whiteley v. Philip Morris, Inc.* (2004) 117 Cal.App.4th 635, 696.) We conclude otherwise.

“The law is well settled that in a personal injury action causation must be proven within a reasonable medical probability based upon competent expert testimony. Mere possibility alone is insufficient to establish a prima facie case. [Citations.] That there is a distinction between a reasonable medical ‘probability’ and a medical ‘possibility’ needs little discussion. There can be many possible ‘causes,’ indeed, an infinite number of circumstances which can produce an injury or disease. A possible cause only becomes ‘probable’ when, in the absence of other reasonable causal explanations, it becomes more likely than not that the injury was a result of its action.” (*Jones v. Ortho Pharmaceutical Corp.* (1985) 163 Cal.App.3d 396, 402–403.)

“ ‘Legal causation is generally a question of fact to be determined by the jury . . . unless, as a matter of law, the facts admit of only one conclusion.’ ” (*Whiteley v. Philip Morris, Inc., supra*, 117 Cal.App.4th at p. 694.)

In our view, Johnson presented abundant—and certainly substantial—evidence that glyphosate, together with the other ingredients in Roundup products, caused his cancer. Expert after expert provided evidence both that Roundup products are capable of causing non-Hodgkin’s lymphoma (general causation) and caused Johnson’s cancer in particular (specific causation). As we have mentioned, they testified that the IARC, a highly respected agency of the World Health Organization, had classified glyphosate as a probable human carcinogen. They further testified that to a reasonable degree of

medical certainty, exposure to glyphosate causes non-Hodgkin's lymphoma. And two experts opined that Roundup products were a substantial contributing factor in the development of Johnson's non-Hodgkin's lymphoma given his heavy use of the product.

In arguing that Johnson failed to establish causation, Monsanto focuses narrowly on two aspects of Johnson's expert testimony. Oncologist Nabhan opined that to a reasonable degree of medical certainty, glyphosate causes non-Hodgkin's lymphoma, and Roundup products were a substantial contributing factor in the development of Johnson's development of the disease. On cross-examination, however, Nabhan acknowledged that he was unable to identify a cause in the majority of cases of mycosis fungoides (the type of non-Hodgkin's lymphoma Johnson suffers). When asked if Johnson could have developed mycosis fungoides even if he had not been exposed to glyphosate, Nabhan answered, "I do not believe so." Monsanto's counsel tried to impeach Nabhan with his deposition testimony that answered the same question, and Johnson's counsel objected that the deposition excerpt was "not a full, complete, accurate description of what his actual testimony [was]. [Monsanto's attorney] just wants to read the one particular question and answer. However, the next question[] [i]s directly related to the subject where [Nabhan] further explains exactly what his position is." The trial court overruled the objection, and Monsanto's attorney asked Nabhan whether, at his deposition, he had testified, "Mr. Johnson could well be someone who would have developed mycosis fungoides when he did, whether he was exposed to glyphosate or not for all [I] know." Nabhan explained his prior statement at trial: "Yes. You can't play crystal ball. You can't really tell if somebody—I can't tell if I'm going to develop cancer today or not. I mean, how could you actually tell?" On appeal, Monsanto mischaracterizes

Nabhan’s deposition testimony as a concession that glyphosate might not have caused his non-Hodgkin’s lymphoma. When the testimony is read in context, however, it is clear what Nabhan was saying: He believed it was theoretically possible for Johnson to have developed non-Hodgkin’s lymphoma without having been exposed to glyphosate, but that is not what he thought actually happened.

Monsanto also faults Nabhan for “not properly rul[ing] out the possibility of an unknown cause” of Johnson’s non-Hodgkin’s lymphoma, but Monsanto again mischaracterizes Nabhan’s testimony. Nabhan repeatedly acknowledged on cross-examination that most of the time (in 80 to 90 percent of cases) the cause of a particular patient’s non-Hodgkin’s lymphoma is unknown. But he also emphasized that here, unlike in the majority of cases, he could rule out unknown causes because Johnson had been exposed to a “known carcinogen causing non-Hodgkin’s lymphoma.” When pressed on how frequently non-Hodgkin’s lymphoma is idiopathic (of unknown origin), Nabhan explained that “I have cared for patients—hundreds of patients of non-Hodgkin’s lymphoma where I’ve told them I don’t know why the disease happens, so, I mean, I know that for sure. . . . But there are situations that are different. There are scenarios where you are able to identify a particular cause, and I think it’s your obligation if there’s a particular cause that you believe is substantially contributing to the disease to eliminate this, because you can modify a risk factor. . . . I mean, I never said that every non-Hodgkin’s lymphoma is caused by Roundup.”

This case is thus distinguishable from the federal cases upon which Monsanto relies, where the experts were unable to expressly rule out the possibility of idiopathic causes and there were other reasons to question their conclusions. (*Hall v. Conoco Inc.* (10th Cir. 2018) 886 F.3d 1308, 1311, 1314

[insufficient connection between benzene and plaintiff's leukemia]; *Milward v. Rust-Oleum Corp.* (1st Cir. 2016) 820 F.3d 469, 475–476 [expert failed to use scientifically reliable method to rule in benzene as a possible cause of plaintiff's leukemia]; *Tamraz v. Lincoln Elec. Co.* (6th Cir. 2010) 620 F.3d 665, 669–670, 675 [expert's testimony on connection between manganese exposure and plaintiff's condition based on multiple levels of speculation, meaning expert ignored the essential but difficult task of ruling out idiopathic causation]; *Kilpatrick v. Breg, Inc.* (11th Cir. 2010) 613 F.3d 1329, 1343 [expert “clearly testified that he could not explain why potentially unknown, or idiopathic alternative causes were not ruled out”]; *Bland v. Verizon Wireless, L.L.C.* (8th Cir. 2008) 538 F.3d 893, 897–898 [where majority of cases of exercise-induced asthma have no known cause, treating physician could not link Freon to plaintiff's exercise-induced asthma because doctor “failed to eliminate scientifically other possible causes”]; *Black v. Food Lion, Inc.* (5th Cir. 1999) 171 F.3d 308, 313 [because fibromyalgia has no known cause and expert said she did not find the cause of plaintiff's condition but only identified a possible contributing factor, expert opinion “include[d] conjecture, not deduction from scientifically-validated information”].)

We likewise reject Monsanto's related argument that forensic toxicologist Sawyer's testimony was “unreliable, speculative, and legally insufficient to support a finding of causation” because he made “no attempt” to take into account that at least 80 percent of non-Hodgkin's lymphoma cases are idiopathic. Sawyer opined that exposure to Roundup products caused Johnson's non-Hodgkin's lymphoma because Johnson's “use of the product was extraordinarily heavy,” and this exposure was “far more” than subjects of other studies. Sawyer was not obligated to “affirmatively negate every other possible cause” of Johnson's disease before he could opine on

causation. (*Cooper v. Takeda Pharmaceuticals America, Inc.* (2015) 239 Cal.App.4th 555, 584 (*Cooper*)). “Bare conceivability of another possible cause does not defeat a claim; the relevant question is whether there is ‘substantial evidence’ of an alternative explanation for the disease” (*id.* at p. 586), and here Monsanto does not point to any such evidence.

Contrary to Monsanto’s argument, a conclusion that Johnson sufficiently established causation is consistent with *Cooper*. In *Cooper*, an expert testified for the plaintiff that he believed the defendant’s diabetes medication was a substantial factor in causing the plaintiff’s bladder cancer. (239 Cal.App.4th at p. 561.) After a jury reached a verdict for the plaintiff, the trial court struck the expert’s testimony and granted defendant’s request for judgment notwithstanding the verdict because, although the expert had identified many possible causes of bladder cancer, he did not adequately consider them and rule them out as to the plaintiff. (*Id.* at p. 573.) The Court of Appeal reversed and directed the trial court to reinstate the jury verdict. (*Id.* at p. 597.) The court noted that in California, a plaintiff need not definitively exclude all possible causes of harm before expressing an opinion that a defendant’s conduct or product caused a plaintiff’s harm. (*Id.* at p. 580.) *Cooper* also observed that experts may testify that “the results of . . . individual studies considered as a whole, including . . . meta-analyses,” may inform their opinion on whether a product caused harm. (*Id.* at p. 589.) In highlighting the reliability of the expert’s testimony, *Cooper* further noted that the expert relied on epidemiological studies showing hazard ratios for developing bladder cancer that ranged from 2.54 to 6.97. (*Id.* at p. 593.) “[A] relative risk greater than 2.0 is needed to extrapolate from generic population-based studies to conclusions about what caused a specific person’s disease. When the relative risk is 2.0, the alleged cause is responsible for an

equal number of cases of the disease as all other background causes present in the control group. Thus, a relative risk of 2.0 implies a 50% probability that the agent at issue was responsible for a particular individual's disease. This means that a relative risk that is greater than 2.0 permits the conclusion that the agent was more likely than not responsible for a particular individual's disease.' ” (*Id.* at pp. 593–594, italics omitted.)

Here, Nabhan testified that he reviewed glyphosate studies and that “there are several studies that I looked at that doubled the risk of developing non-Hodgkin[s] lymphoma.” He pointed to one study with a risk estimate of 2.1, and another one that showed double the risk for people who were exposed to glyphosate for more than two days per year. Yet another study showed that exposure to glyphosate more than ten days per year results in a risk factor of 2.36, “so more than double the risk.” Another expert noted that Johnson’s level of exposure to Roundup products was “beyond the worst case” contained in the literature based on how much product he applied. This is substantial evidence of causation under *Cooper*. (See also *Davis v. Honeywell Internat. Inc.* (2016) 245 Cal.App.4th 477, 493 [no requirement in California that plaintiff show that exposure to a product more than doubled plaintiff’s risk of contracting disease in order to establish causation].)

Oncologist Neugut’s testimony does not undermine the jury’s verdict, as Monsanto claims. Neugut testified on direct examination that he examined six studies, five of which were case-control studies, meaning they were studies that looked at people with lymphoma and a control group of people who did not have lymphoma. He created a “Forest plot” to show to the jury the association between exposure to glyphosate and lymphoma. Neugut explained that if the association between the substance and the disease was random, the studies would be “randomly distributed around 1. Half should

be above. Half should be below. That's what random means." Instead, all the studies were "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. . . . [¶] But all of them are consistently above 1, and that's non-random." Neugut further explained that when the studies were combined, "the risk ratio was 1.3, meaning that there was a 30-percent increased risk of non-Hodgkin's lymphoma in the context of glyphosate exposure, with a . . . statistically significant 95-percent confidence interval." According to Neugut, it is "extremely difficult" to get a statistically significant outcome in any individual study, and he acknowledged that "none of them [the studies] are statistically significant on their own." But combining the studies reveals "the fact that they're all consistently positive together," which "leads to a statistically significant positive exposure."

Twice on cross-examination, Monsanto's attorney asked Neugut to confirm that each individual study on the Forest plot was not statistically significant, which Neugut did. Neugut stressed again, though, that "across the board, as I said, to a greater or lesser degree, they all [the studies] are positive by being to the right of one and thus I considered them on a whole positive with showing risk ratios greater than one. And the metaanalysis shows a cumulative risk ratio that's greater than one as well." On appeal, Monsanto contends that Neugut "conceded" that none of the studies he considered showed a relative risk greater than 2.0, which Monsanto characterizes as a concession that the studies lacked a "statistically significant result." But Monsanto sidesteps Neugut's main point: Taken together, the studies he considered showed a connection between glyphosate

and non-Hodgkin's lymphoma. Although studies reporting relative risk estimates under 2.0 might not on their own establish causation, "they may be combined with other evidence to provide proof of causation." (*Johnson & Johnson Talcum Powder Cases* (2019) 37 Cal.App.5th 292, 326 (*Echeverria*).

It was the jury's duty to determine the experts' credibility and to weigh their testimonies against contradictory evidence. (*Echeverria, supra*, 37 Cal.App.5th at p. 330.) "We may not reweigh the evidence, make credibility determinations, or disregard reasonable inferences that may be drawn in favor of the verdict. Substantial evidence supported the jury's finding" that Roundup products were a substantial factor in causing Johnson's non-Hodgkin's lymphoma. (*Id.* at p. 332.)

4. Federal Law Does Not Preempt Johnson's Causes of Action.

Monsanto next renews its claim, rejected below on summary judgment, that Johnson's causes of action were preempted under the Federal Insecticide, Fungicide, and Rodenticide Act (FIFRA, 7 U.S.C. § 136 et seq.). Monsanto devoted only a small portion of its opening brief to the issue, but after filing its brief, sought to augment the record with additional EPA records it considered pertinent. The records provoked additional motions and briefing. After considering these materials and arguments, we conclude that Monsanto has failed on the record before us to establish that Johnson's failure-to-warn causes of action were preempted. Furthermore, and regardless of this conclusion, we also conclude that Johnson's design defect claim based on the consumer expectations test was not preempted and provides an independent basis to support the jury's liability determination.

a. General Preemption Principles and the Federal Statute.

The Supremacy Clause provides that federal laws are the supreme law of the land, and any state laws that conflict with them are preempted.

(Mutual Pharmaceutical Co., Inc. v. Bartlett (2013) 570 U.S. 472, 479–480 (*Bartlett*)). “There are four species of federal preemption: express, conflict, obstacle, and field.” (*Viva! Internat. Voice for Animals v. Adidas Promotional Retail Operations, Inc.* (2007) 41 Cal.4th 929, 935.) Only the first two are implicated here. Express preemption arises when Congress explicitly defines the extent to which its enactments preempt state law. (*Id.* at p. 936.) Conflict preemption occurs when it is impossible to simultaneously comply with both state and federal law. (*Ibid.*)

Two principles guide preemption jurisprudence: First, Congress’s intent is paramount, and second, especially in cases where Congress has legislated in a field that states traditionally have occupied, courts assume that Congress did not intend to preempt state powers unless that was Congress’s clear and manifest purpose. (*Wyeth v. Levine* (2009) 555 U.S. 555, 565 (*Wyeth*)). Even where Congress has not expressly preempted state law, state law may be impliedly preempted where it is impossible for a party to comply with both state and federal requirements. (*Id.* at p. 568; *Bartlett, supra*, 570 U.S. at p. 480.) But only a federal rule that holds “the force of law” will preempt a conflicting state requirement; a federal agency’s “mere assertion” of preemption will not. (*Wyeth*, at p. 576.)

To identify Congress’s purpose, we first look to the federal statute. FIFRA is a comprehensive statute that regulates the use, sale, and labeling of pesticides; regulates pesticides produced and sold in both intrastate and interstate commerce; provides for review, cancellation, and suspension of registering pesticides; and gives the EPA enforcement authority. (See *Bates v. Dow Agrosciences LLC* (2005) 544 U.S. 431, 437 (*Bates*)). Section 136v of FIFRA governs the preemption analysis.

Subdivision (a) of the section is relevant to the preemption analysis of Johnson’s design defect claim, and it provides that “[a] State may regulate the sale or use of any federally registered pesticide or device in the State, but only if and to the extent the regulation does not permit any sale or use prohibited by this Act.” (7 U.S.C. § 136v(a).) Thus, under this provision’s express language, a state may not permit a pesticide that is banned under FIFRA, but it may ban a pesticide that is otherwise permitted under FIFRA. As we discuss further below, courts have consistently held that this language means that state-law design defect claims are not preempted. These courts have reasoned that if states are permitted to ban pesticides altogether, they must be authorized to regulate a pesticide’s defective design. (*Bates, supra*, 544 U.S. at p. 446; see e.g., *In re Roundup Products Liability Litigation* (N.D.Cal. 2019) 364 F.Supp.3d 1085, 1087–1088 [“if California can stop Monsanto from selling Roundup entirely, surely it can impose state-law duties that might require Monsanto to seek EPA approval before selling an altered version of Roundup in California”].) Both the federal government and the State of California (through the Department of Pesticide Regulation) regulate pesticides in the state. (*Caltec Ag Inc. v. Department of Pesticide Regulation* (2019) 30 Cal.App.5th 872, 881.)

Subdivision (b) of section 136v (section 136v(b)) implicates a different analysis for state-based failure-to-warn claims. It provides that a “State shall not impose or continue in effect any requirements for labeling or packaging in addition to or different from those required under this Act.” (§ 136v(b).) A manufacturer wanting to register a pesticide must submit to the EPA a proposed label and data supporting statements in the label. (7 U.S.C. § 136a(c)(1)(C) & (F).) The EPA will register the pesticide if it determines, among other things, that its label complies with FIFRA’s

prohibition on misbranding. (7 U.S.C. §§ 136a(c)(5)(B), 136(q).) A pesticide is “misbranded” if its label contains statements that are “false or misleading in any particular” (7 U.S.C. § 136(q)(1)(A)) or if it omits necessary warnings or cautionary statements (*id.*, § 136(q)(1)(F) & (G)). Manufacturers have a continuing duty to adhere to FIFRA’s labeling requirements (7 U.S.C. § 136j(a)(1)(E)), and they may seek approval to amend labels (7 U.S.C. § 136a(f)(1)).

The jurisprudence on whether the provisions of section 136v(b) preempt state law failure-to-warn claims has been uneven. As of 2000, “the overwhelming majority of . . . courts,” including our Supreme Court, held that they did. (*Etcheverry v. Tri-Ag Service, Inc.* (2000) 22 Cal.4th 316, 320–321 (*Etcheverry*)). These courts held that section 136v(b)’s prohibition against any labeling “requirement” that was “in addition to or different from” FIFRA was couched in sweeping terms that preempted all state law claims based on a lack of adequate warning. (*Id.* at p. 325, citing § 136v(b).) After *Etcheverry*, California courts held that labeling claims were preempted, but common-law claims not implicating labeling requirements were not. (*Etcheverry*, at p. 336; *Arnold v. Dow Chemical Co.* (2001) 91 Cal.App.4th 698, 728–729.)

Not all courts agreed with *Etcheverry*’s reasoning, however, and in 2005 *Bates* resolved the conflict. (*Bates, supra*, 544 U.S. at p. 437.) In *Bates*, the EPA granted a manufacturer permission to sell a new pesticide whose label said that it was recommended in all areas where peanuts are grown. (*Id.* at pp. 434–435.) A group of Texas peanut farmers sued the manufacturer under state consumer-protection law alleging that applying the pesticide severely damaged their crops. (*Ibid.*) Meanwhile, the manufacturer applied for, and the EPA approved, a supplemental label only for Texas and two other states where peanut farmers experienced crop damage that warned not to apply the

pesticide to soils with a pH of 7.2 or greater. (*Id.* at p. 435.) The district court dismissed the farmers’ lawsuit after it concluded that their claims were expressly preempted by FIFRA’s prohibition against states imposing requirements for labeling or packaging in addition to or different from those required under the statute. (*Bates*, at p. 436, citing § 136v(b).) The court of appeals affirmed the dismissal, concluding that FIFRA preempts any state-law claim where a judgment would induce a defendant to alter its product’s label. (*Bates*, at p. 436.)

The Supreme Court reversed. It noted that states “have ample authority to review pesticide labels to ensure that they comply with both federal and state labeling requirements. Nothing in the text of FIFRA would prevent a State from making the violation of a federal labeling or packaging requirement a state offense, thereby imposing its own sanctions on pesticide manufacturers who violate federal law. The imposition of state sanctions for violating state rules that merely duplicate federal requirements is equally consistent with the text of § 136v.” (*Bates, supra*, 544 U.S. at p. 442.) Although FIFRA bars states from imposing “requirements for labeling or packaging in addition to or different from those required under this Act” (§ 136v(b)), the court rejected the premise that an occurrence (such as an adverse jury verdict) that “merely motivates an optional decision” to change a pesticide label was not a “requirement” under the law. (*Bates*, at p. 445.) The court held that “[f]or a particular state rule to be pre-empted, it must satisfy two conditions. First, it must be a requirement ‘*for labeling or packaging*’; rules governing the design of a product, for example, are not pre-empted. Second, it must impose a labeling or packaging requirement that is ‘*in addition to or different from* those required under [section 136v(b)].’” (*Id.* at p. 444.)

Bates acknowledged that a failure-to-warn claim is premised on state common-law rules that qualify as “ ‘requirements for labeling or packaging’ ” under section 136v(b) because it alleges an inadequate warning. (*Bates*, *supra*, 544 U.S. at p. 446.) But it does not automatically follow that FIFRA preempts such claims since section 136v(b) prohibits only state-law labeling and packaging requirements that are “ ‘in addition to or different from’ ” FIFRA’s packaging and labeling requirements. (*Bates*, at p. 447.) “Thus, a state-law labeling requirement is not pre-empted by § 136v(b) if it is equivalent to, and fully consistent with, FIFRA’s misbranding provisions.” (*Ibid.*) Under the U.S. Supreme Court’s interpretation, section 136v(b) “retains a narrow, but still important, role. In the main, it pre-empts competing state labeling standards—imagine 50 different labeling regimes prescribing the color, font size, and wording of warnings—that would create significant inefficiencies for manufacturers. The provision also pre-empts any statutory or common-law rule that would impose a labeling requirement that diverges from those set out in FIFRA and its implementing regulations. It does not, however, pre-empt any state rules that are fully consistent with federal requirements.” (*Bates*, at p. 452.) The court cautioned, however, that “a state-law labeling requirement must in fact be equivalent to a requirement under FIFRA in order to survive pre-emption.” (*Id.* at p. 453.) “For example, a failure-to-warn claim alleging that a given pesticide’s label should have stated ‘DANGER’ instead of the more subdued ‘CAUTION’ would be pre-empted because it is inconsistent with 40 C.F.R. § 156.64 (2004), which specifically assigns these warnings to particular classes of pesticides based on their toxicity.” (*Ibid.*) “[A] manufacturer should not be held liable under a state labeling requirement subject to § 136v(b) unless the manufacturer is also liable for misbranding as defined by FIFRA.” (*Id.* at p. 454.)

b. Trial Court Proceedings.

Monsanto moved in the trial court for summary judgment, arguing among other things that FIFRA expressly and impliedly preempted all of Johnson's causes of action. As for Johnson's "warnings-based claims," Monsanto noted that the EPA had found glyphosate to be non-carcinogenic and argued that FIFRA impliedly and expressly preempted the claims because the EPA would have rejected any attempt to add a cancer warning to Roundup products. Monsanto relied on *Bates's* holding that state labeling requirements are preempted when they diverge from FIFRA's labeling requirements. (*Bates, supra*, 544 U.S. at p. 454.) Monsanto contended that holding it liable for failing to warn of the dangers of glyphosate would directly contradict the EPA's prior approvals of labels for Roundup products. As for Johnson's design defect claims, Monsanto argued that they were impliedly preempted because they would compel Monsanto to stop selling Roundup products or would require a change in formulation. In advancing this argument, Monsanto did not cite *Bates* and instead relied on cases analyzing different federal statutes.

The trial court rejected these arguments and denied Monsanto's motion. The court noted that under both FIFRA and California law, a pesticide must provide adequate warnings to protect health. (7 U.S.C. § 136(q)(1)(G); *Conte v. Wyeth* (2008) 168 Cal.App.4th 89, 101–102.) Because of this consistency, the court concluded, there was no express preemption under *Bates*. And the claims were not impliedly preempted, the court concluded, because FIFRA bars states only from imposing inconsistent labeling requirements. Because states retain the power under FIFRA to ban a pesticide that the EPA has approved, the fact that the EPA had approved the label for Roundup products did not mean the warnings claims were

preempted. As for Johnson’s design defect claims, the trial court faulted Monsanto for relying on inapposite authority and concluded that the claims were not preempted under *Bates*. Finally, the court also granted Johnson’s motion for summary adjudication on Monsanto’s affirmative defenses that were based on preemption. The jury was thus not asked to consider questions of preemption.

c. Analysis.

Monsanto renewed its preemption argument in its opening brief, although it gave little attention to it. To the extent it pursues its argument that FIFRA preempts Johnson’s design defect claim, we agree with the trial court that the argument is foreclosed by *Bates, supra*, 544 U.S. at pages 434–435, 448, and 451–453. Therefore, we need not further address it.

Monsanto also maintained in its opening brief, for the first time on appeal, that Johnson’s failure-to-warn causes of action were preempted under *Bates* because the causes encompassed “a more expansive warning obligation” than that required under FIFRA. Even if this argument was not forfeited, it lacks merit. As we mentioned, the jury was instructed that it could find Monsanto liable for failing to warn if jurors found that Roundup products had “potential risks that were known or knowable” at the time of their manufacture, distribution, or sale, and that such risks presented “a *substantial danger* to persons using” the products (or misusing them in an intended or reasonably foreseeable way). (Italics added.) Monsanto omits the “substantial danger” portion of the instruction and contends that the jury was instructed that it could find the company liable if it found that Roundup products had only “potential risks.” It then argues that this is a more expansive warning obligation than what is required under FIFRA.

But in support of its argument, Monsanto relies on a part of FIFRA governing the registration of pesticides that provides that the EPA administrator shall register a pesticide if it determines that the pesticide, “when used in accordance with widespread and commonly recognized practice . . . will not generally cause unreasonable adverse effects on the environment.” (7 U.S.C. §§ 136(b), 136a(c)(5)(D).) Monsanto argues that FIFRA thus requires warnings only about those risks associated with “‘widespread and commonly recognized’ practices.” We are not persuaded. FIFRA’s misbranding provisions are set forth elsewhere in the statute, and Monsanto fails to argue, let alone establish, that they are inconsistent with California law. (See 7 U.S.C. § 136(q)(1)(G) [pesticide misbranded where label does not contain warning that “is adequate to protect health”], 40 C.F.R. § 156.70(b) [where “acute hazard may exist to humans,” label must bear precautionary statements]; see also *Bates, supra*, 544 U.S. at p. 454 [“To survive pre-emption, the state-law requirement need not be phrased in the *identical* language as its corresponding FIFRA requirement”].)

We also reject Monsanto’s short, related argument that FIFRA expressly preempts Johnson’s failure-to-warn claims. Again, FIFRA preempts such claims only if state-law labeling requirements are inconsistent with FIFRA’s misbranding provisions. (*Bates, supra*, 544 U.S. at pp. 444–446.) California’s requirement that products contain adequate warnings is wholly consistent with FIFRA’s requirements that labels include necessary warnings and cautionary statements. (7 U.S.C. § 136(q)(1)(F) & (G); *Saller v. Crown Cork & Seal Co., Inc., supra*, 187 Cal.App.4th at p. 1238.)

We recognize that Monsanto is required to seek and obtain EPA approval before changing labels for its Roundup products, and that the EPA repeatedly approved Monsanto’s labels, which do not include a cancer

warning. (7 U.S.C. § 136a(f)(1).) But *Bates* informs us that the existence of these requirements and actions are not enough, standing alone, to preempt state failure-to-warn claims. (*Bates, supra*, 544 U.S. at pp. 450–451.) Under FIFRA, registration of a pesticide is prima facie evidence that the pesticide and its labeling is consistent with FIFRA, but “[i]n no event shall registration . . . be construed as a defense for the commission of any offense” under FIFRA. (7 U.S.C. § 136a(f)(2).) Multiple federal courts have held that the EPA’s registration of Roundup products does not have the force of law so as to preempt state failure-to-warn claims when those claims are premised on requirements consistent with FIFRA. (E.g., *Hardeman v. Monsanto Co.* (N.D.Cal. 2016) 216 F.Supp.3d 1037, 1038–1039; *Carias v. Monsanto Co.* (E.D.N.Y. 2016) 2016 U.S. Dist. LEXIS 139883, pp. *5–*6; *Hernandez v. Monsanto Co.* (C.D.Cal. 2016) 2016 U.S. Dist. LEXIS 126930, p. *19; *Sheppard v. Monsanto Co.* (D.Hawaii 2016) 2016 U.S. Dist. LEXIS 84348, pp. *22–*23.)

Even though the federal and California statutory schemes are consistent and multiple federal courts have rejected Monsanto’s preemption arguments, Monsanto insists in its opening brief that “impossibility preemption” nonetheless bars Johnson’s failure-to-warn claims because there is “clear, indeed dispositive, evidence that [the] EPA would have rejected a cancer warning had Monsanto proposed one.” Monsanto reasons that the agency “would not possibly have required a cancer warning” because it repeatedly determined that glyphosate was not unsafe. But just because the EPA has not previously required a cancer warning does not establish that the agency would necessarily disallow one.

Since Monsanto appealed, the U.S. Supreme Court has clarified that the question whether a federal agency would not have approved a label

change (thus preempting a state-law failure-to-warn claim) is for a judge, not a jury. (*Merck Sharp & Dohme Corp. v. Albrecht* (2019) ___ U.S. ___ [139 S.Ct. 1668, 1672] (*Albrecht*)). But evidence about whether the EPA might have approved a cancer warning was largely presented for the first time on appeal, and we, as a reviewing court, are not in the best position to evaluate it. As we have mentioned, after Monsanto filed its opening brief it submitted materials that it claims shows that the EPA currently would reject a cancer warning on the labels of Roundup products. For example, in Monsanto’s combined appellant’s reply brief/cross-respondent’s brief, it cites an April 2019 EPA “Proposed Interim Registration Review Decision” regarding registration requirements for glyphosate. The document states, as Monsanto witnesses testified below, that the EPA has not found human-health risks from exposure to glyphosate. Then, after completing its appellate briefing, Monsanto filed a notice of new authority (Cal. Rules of Court, rule 8.254) and directed the court to an August 7, 2019 EPA letter to a “Registrant” declining to approve a label that included a warning about glyphosate under Proposition 65, California’s Safe Drinking Water and Toxic Enforcement Act of 1986 (Health & Saf. Code, § 25249.5 et seq.). The letter states that since the EPA has determined that glyphosate is not likely to be carcinogenic to humans, any such warning would be “false and misleading” under FIFRA. (7 U.S.C. § 136(q)(1)(A).) Lastly, Monsanto sought judicial notice of an amicus brief the United States has filed in its support in the Ninth Circuit. (*Monsanto Company v. Hardeman* (9th Cir. No. 19-16636).) In that case, the federal government has taken the position that FIFRA preempts state tort claims that would subject pesticide manufacturers to what it characterizes as “inconsistent and additional product labeling requirements.” Monsanto argues that this additional information shows not only that the EPA

previously approved labels for Roundup products without cancer warnings, but also constitutes clear evidence that the agency would not approve cancer warnings for Roundup labels in the future.

In arguing that Johnson’s failure-to-warn causes are preempted because the EPA would not require a cancer warning, Monsanto relies on *Wyeth, supra*, 555 U.S. 555, a case involving the approval of a drug label by the Food and Drug Administration (FDA). In *Wyeth*, a Vermont jury found a drug manufacturer liable for failing to adequately warn of the danger that an injectable form of an antihistamine could cause irreversible gangrene if administered in a certain way. (*Id.* at pp. 558–559.) The manufacturer appealed and argued that the claim was barred because the FDA had approved the drug’s labeling under the Federal Food, Drug, and Cosmetic Act (21 U.S.C. § 301 et seq., FDCA). (*Wyeth*, at pp. 558–559.) The manufacturer argued that it thus would have been impossible to provide stronger warnings without violating federal law. (*Id.* at pp. 568–569.) The U.S. Supreme Court disagreed and held that the FDA’s approvals did not provide the manufacturer with a complete defense to the state tort claims. (*Id.* at pp. 558–559.) The court held that “absent clear evidence that the FDA would not have approved a change to [the manufacturer’s] label,” it would not conclude that it was impossible to comply with both federal and state requirements. (*Id.* at p. 571.) The trial court in these proceedings concluded that *Wyeth* does not apply here. It reasoned that “[a] fundamental premise of *Wyeth* and its progeny is that the state cannot outlaw the sale of a prescription drug that has been approved by the FDA.” By contrast here, FIFRA’s express preemption provision is limited to requirements for labeling or packaging that are in addition to or different from those required under FIFRA.

As the trial court observed, it does not appear that any court has yet applied the *Wyeth* line of cases to FIFRA. But such an application would mean that “ ‘clear evidence’ is evidence that shows the court that the [company] fully informed the [EPA] of the justifications for the warning required by state law and that the [EPA], in turn, informed the [company that it] would not approve a change to the . . . label to include that warning.” (*Albrecht, supra*, ___ U.S. ___ [139 S.Ct. at p. 1672].)³

We agree with Monsanto that *Wyeth*’s reasoning is applicable under FIFRA. That is, a defendant may establish a preemption defense to a state failure-to-warn claim by providing clear evidence that the EPA would not have approved a label change. (*Wyeth, supra*, 555 U.S. at p. 571.) At the same time, we agree with Johnson that when Congress has expressly identified the intended scope of preemption, courts should infer that “Congress intended to preempt no more than that absent *sound* contrary evidence.” (*Viva! Internat. Voice for Animals v. Adidas Promotional Retail Operations, Inc., supra*, 41 Cal.4th at p. 945, italics added.) But even where there is an express preemption clause, that clause “does not ‘entirely foreclose[] any possibility of implied pre-emption.’ ” (*Id.* at p. 944, quoting *Freightliner Corp. v. Myrick* (1995) 514 U.S. 280, 288.) This is consistent with *Bates*, which “emphasize[d] that a state-law labeling requirement must in fact be equivalent to a requirement under FIFRA in order to survive pre-emption.” (*Bates, supra*, 544 U.S. at p. 453.) And, as we discussed earlier, it noted that if a failure-to-warn claim alleged that a given pesticide should have stated “DANGER” instead of “CAUTION” as required under a federal regulation, the claim would be preempted. (*Ibid.*) In other words, it would be

³ We asked for, and received, supplemental briefing on whether and how *Wyeth, supra*, 555 U.S. 555, should apply in this case.

impossible under those circumstances to comply with both state and federal law. Although Monsanto does not point to any federal regulation that a cancer warning would violate, it has pointed to evidence that arguably would support an impossibility defense.

Both sides take the position that this court should decide in the first instance whether FIFRA preempts Johnson's failure-to-warn causes of action based on the record and additional evidence the parties have presented to this court. On the record before us, we cannot conclude that Monsanto has established a preemption defense based on the notion that the EPA would not have approved a label change that warned of the Roundup products' potential link to cancer. *Albrecht* emphasized that although the question of impossibility preemption is one for the court and not for a jury, "sometimes contested brute facts will prove relevant to a court's legal determination about the meaning and effect of an agency decision." (*Albrecht, supra*, __ U.S. __ [139 S.Ct. at p. 1680].) The legal determination may involve questions of whether all material information was submitted to the agency (here, the EPA) and the nature and scope of the agency's determination. (*Ibid.*) These do not strike us as factual determinations best made for the first time on appeal, especially since the EPA's position on glyphosate labeling appears to be evolving. Moreover, even if the EPA has taken or could take action regarding glyphosate making it impossible to comply with both its labeling determination and state requirements, a California court may need to consider the effect of Proposition 65, which was not litigated below in connection with preemption or addressed in the parties' appellate briefs.⁴ Even before *Bates* concluded that failure-to-warn claims are not

⁴ In response to our request for supplemental briefing, the Attorney General asked to submit a proposed amicus brief to address the "parallel state-law warning requirements like those of Proposition 65." We denied the

necessarily preempted, *Etcheverry* held open the possibility that FIFRA may not preempt failure-to-warn claims not involving product labels (e.g., point-of-sale warnings required under Proposition 65). (See *Etcheverry, supra*, 22 Cal.4th at p. 337 [“Where off-label statements address matters outside the scope of the label, an action may well lie.”].)

“Impossibility pre-emption is a *demanding defense*.” (*Wyeth, supra*, 555 U.S. at p. 573, italics added.) This was illustrated recently when the Second Appellate District decided *Risperdal & Invega Cases* (2020) 49 Cal.App.5th 942. There, the trial court granted summary judgment to a drug manufacturer on preemption grounds in a case where plaintiffs alleged inadequate warnings on an antipsychotic medication, but the appellate court reversed. (*Id.* at pp. 946, 954.) The court acknowledged that under *Albrecht, supra*, ___ U.S. ___ [139 S.Ct. 1668], the issue is decided as a matter of law. (*Risperdal & Invega Cases*, at pp. 953–954.) But after considering all the evidence that it would have been impossible to comply with both state and federal law—including the FDA’s denial of a citizens petition asking that the drug be removed from the market—the court concluded that the defendant had not submitted clear evidence “that it fully informed the FDA and, in turn, the FDA rejected a proposed label change.” (*Id.* at p. 960.) In other words, despite a more developed record in the trial court, the appellate court concluded that the defendant had not met its high burden to demonstrate impossibility preemption.

We reach a similar conclusion that Monsanto has not, on the record before us, established that FIFRA preempts Johnson’s failure-to-warn claims. We look to “the substance of state and federal law and not on agency

request because the issues it discusses are not properly before us in this case. The parties did not litigate Proposition 65’s effect on preemption below, nor did they raise the issue in their appellate briefs.

proclamations of pre-emption.” (*Wyeth v. Levine, supra*, 555 U.S. at p. 576.) The “‘possibility of impossibility [is] not enough.’” (*Albrecht, supra*, __ U.S. __ [139 S.Ct. at p. 1678].) Here, despite the supplemental information provided by Monsanto, it has established no more than a *possibility* of impossibility. It is no doubt true that the EPA currently takes the position that glyphosate is not harmful to humans and that a cancer warning on glyphosate is unnecessary. But that opinion, in the abstract, is not binding on this court. (*Bates, supra*, 544 U.S. at pp. 448–449 & fn. 24 [rejecting statutory interpretation advanced by United States and noting that it took a contrary position just five years earlier in *Etcheverry, supra*, 22 Cal.4th at p. 330].) Monsanto has not pointed to anything that holds the force of law necessary to preempt a conflicting state requirement. (*Wyeth v. Levine*, at p. 577.) And although it asks us to apply *Albrecht*, that case requires that in order to prevail on an impossibility defense, a manufacturer must show that it “fully informed [the federal agency] for the justifications for the warning required by state law and that the [agency], in turn, informed the . . . manufacturer that the [agency] would not approve changing the . . . label to include that warning.” (*Albrecht, supra*, __ U.S. __ [139 S.Ct. at p. 1678].) Monsanto has made no such showing here.

Finally, as mentioned above, reversal would not be warranted even if we were to conclude that FIFRA preempted Johnson’s failure-to-warn causes of action. This is because such a conclusion would have no effect on Johnson’s design defect claim, which provides an independent basis to affirm the jury’s liability determination and is not preempted. (*Etcheverry, supra*, 22 Cal.4th at p. 336; *Arnold v. Dow Chemical Co., supra*, 91 Cal.App.4th at pp. 728–729.) We are not persuaded by Monsanto’s argument that Johnson did not have a true design defect claim because he focused solely on inadequate

labeling of Roundup products. Monsanto first raised this argument in its supplemental briefing in response to the court's question whether we could affirm the jury's verdict based solely on the design defect cause of action even if we concluded that Johnson's failure-to-warn causes of action was preempted. It argued that the two causes of action were presented in an "inseparable manner" and based primarily on Monsanto's failure to warn. And Monsanto's counsel raised the issue again at oral argument.

Even putting aside that the jury made findings on both causes of action, we cannot conclude that the design defect claim was based solely on the products' lack of a warning on its label. Although we accept that inadequate labeling was the core of Johnson's design defect claim, it was not the claim's exclusive basis. In closing argument, for example, Johnson's attorney argued that "it's the design itself that's the problem. And we know, because we heard testimony about it, there's other types of surfactants they could use that are not as problematic. [¶] We saw a slideshow from Monsanto's own employee saying, 'This stuff is toxic, POEA.' There's no reason why they have to use POEA in this country. There's no reason for it." We reject Monsanto's belated argument that Johnson did not maintain a separate design defect cause of action. (See also *Bates, supra*, 544 U.S. at p. 445 [rejecting argument that design defect claim was preempted because a verdict might induce company to alter its label].)

Finally, we see no reason why Johnson's compensatory damages would be any less were we to affirm solely on the design defect cause of action, and Monsanto's conduct still supports an award of punitive damages, as we discuss below.

There is no basis to reverse the judgment based on preemption.

B. Monsanto Has Not Established That the Trial Court Erred in Admitting or Excluding Evidence.

1. Additional Background.

Monsanto sought to admit various documents from the EPA and foreign regulatory bodies concluding that glyphosate is “safe” and does not cause cancer. Its appellate briefing, however, makes it difficult to identify the specific documents and trial court rulings at issue. We do our best to summarize the relevant proceedings below.

During the trial, Monsanto submitted a motion seeking to introduce foreign regulatory decisions to support its position that glyphosate’s safety is “in the mainstream of scientific opinion.” The motion was submitted with an exhibit that included excerpts from eight foreign regulatory decisions. The motion did not rely on an exception to the hearsay rule, and Monsanto does not indicate in its appellate briefing how the trial court ruled on it.

In its opening brief, Monsanto states that “the trial court excluded as hearsay several EPA and foreign regulatory agency reports that Monsanto offered to show contrary conclusions on the carcinogenicity of glyphosate,” and cites to various portions of the trial transcript. But these cited excerpts shed little light on Monsanto’s appellate arguments. One excerpt is to a discussion with the trial court shortly after trial began about the countries whose regulatory agencies Monsanto wanted to cite during trial, but the excerpt does not include references to specific documents, let alone the trial court’s ruling on those documents. Another excerpt shows that Monsanto’s counsel cross-examined expert Portier about statements in an opinion from the European Chemicals Agency. Monsanto then sought to have the document admitted into evidence, but the trial court sustained Johnson’s hearsay objection and directed Monsanto’s counsel that “if you have any case

law you'd like me to look at with respect to documents listed in [Portier's] report," provide it to the court. Yet another excerpt reveals that during further cross-examination of Portier, Monsanto sought to admit a 227-page September 2016 "Glyphosate Issue Paper" by the EPA's Office of Pesticide Programs. The trial court ruled that Monsanto could publish relevant portions of the paper to the jury but that the court would not admit the entire hearsay document, and Monsanto's attorney said Monsanto wanted to brief the issue of the "government exceptions records." Later that day, Monsanto argued to the court that "documents" that showed Monsanto's action were "in conformity with the general acceptance in the regulatory and scientific communities" should be "published to the jury so we can look at it as it's being read." The trial court said that it "ha[d not] heard yet a hearsay exception for allowing these documents which are not in evidence to be published to the jury," and Monsanto said it would file a brief later that day on the issue.

Monsanto thereafter filed another trial brief, this time in support of admitting various EPA documents under the official-records exception to the hearsay rule. Monsanto submitted with its motion excerpts from (1) the September 2016 EPA glyphosate issue paper counsel had shown to Portier, and (2) a December 2017 EPA document titled "Revised Glyphosate Issue Paper: Evaluation of Carcinogenic Potential." It also submitted a previous request for judicial notice of more than 30 EPA documents and materials from the Federal Register.

In the middle of trial (before Johnson rested), the court held an afternoon session to rule on outstanding motions in limine, including the motion for admission of the EPA documents. The court noted that the motion mentioned only two EPA documents, but it had been provided with "volumes

and volumes of them.” It stated that many of the documents given to the court were outdated, were drafts, and contained the opinions of many individuals, all of which meant they did not meet the public-records exception to the hearsay rule. (Evid. Code, § 1280.) Monsanto then argued that the documents went to Monsanto employees’ state of mind, to show it was reasonable for them to conclude that the “generally accepted science” indicated glyphosate was safe. Counsel argued that if the court rejected the hearsay exception, that Monsanto wanted the documents admitted “not for the truth of the matter. That is not for the truth of the matter in the documents regard[ing] . . . whether glyphosate causes cancer. The relevant thing for that purpose is what people believed, what people reported.” After further questioning by the court, counsel focused on the two glyphosate issue papers submitted with its brief. Over Johnson’s objection, the trial court said it was open to admitting the two documents to show state of mind and asked Monsanto’s counsel to draft a limiting instruction.

Ultimately two documents—the September 2016 EPA glyphosate issue paper and a September 1993 EPA “Reregistration Eligibility Decision” on glyphosate—were admitted for the limited purpose of showing Monsanto’s state of mind regarding the science on glyphosate.

2. Analysis.

On appeal, Monsanto argues that the judgment should be reversed and the matter remanded for a new trial “because the trial court abused its discretion by excluding EPA and foreign regulatory documents offered by Monsanto while admitting the IARC document offered by Plaintiff.” (Bold omitted.) We disagree.

True enough, “a writing made as a record of an act, condition, or event” is admissible “to prove the act, condition, or event” if (a) the writing was

made by and within the scope of a public employee's duty, (b) the writing was made at or near the time of the act, condition, or event, and (c) the sources of information and method and time of preparation were such as to indicate its trustworthiness. (Evid. Code, § 1280.) But although Monsanto contends that unspecified regulatory reports it offered "easily satisfied" section 1280's requirements, it does not demonstrate how any individual document met those requirements. For example, Monsanto lists four documents (the 2017 EPA revised glyphosate issue paper discussed above and three foreign regulatory documents) as "[j]ust some of the excluded evidence" that should have been admitted, without explaining how any of them satisfy a hearsay exception. And with respect to the three foreign regulatory documents, Monsanto does not even direct this court to anywhere in the record where it sought admission under section 1280, let alone how (or whether) the trial court ruled on the request(s).

Monsanto's reliance on *People v. ConAgra Grocery Products Co.* (2017) 17 Cal.App.5th 51 is misplaced. There, the court held only that it could find no abuse of discretion in the trial court's decisions to admit various government documents during testimony by experts who had helped draft them. (*Id.* at pp. 138–140.) The case does not stand for the broad proposition that regulatory documents are generally admissible, especially here where Monsanto's appellate briefing falls far short of establishing that the trial court abused its discretion. Monsanto has not established error.

C. A Portion of the Award of Compensatory Damages Should Be Reduced, and as a Consequence, the Award of Punitive Damages Should Be Reduced.

1. Additional background.

a. Closing arguments.

Toward the beginning of Johnson's attorney's closing argument, counsel faulted Monsanto for not putting cancer warning labels on Roundup products and argued that this was a "choice that reflects reckless disregard for human health. It is a choice that Monsanto made and today is their day of reckoning." Counsel continued, without objection: "Every single cancer risk that has been found has this moment, every single one, where the science finally caught up, where they couldn't bury it anymore, where the truth got shown to 12 people sitting in a jury box making a true and honest decision, and that is this day. This is the day Monsanto is finally held accountable, and this is the beginning of that day. Because after this trial is over, after you return a verdict that says, 'Monsanto, no more. Warn. Call people back. Do the studies that you needed to do for 30 years, studies that the EPA asked them to do in the '80s. Do your job.' [¶] And if you return a verdict today that does that, that actually changes the world. I mean, it's crazy to say that; right? I told you all at the beginning of this trial that you were part of history, and you really are, and so let me just say thank you."

After laying out the evidence and arguing that Johnson had established causation, Johnson's attorney turned to damages. He explained that the parties had stipulated to the amount of economic damages (\$819,882.32 in past economic loss and \$1,433,327 in future economic loss). The "hard part," according to Johnson's attorney, would be determining noneconomic damages. Counsel stressed that Johnson had suffered tremendous physical and emotional pain and sometimes could not leave his bedroom for several

days after chemotherapy. He then requested noneconomic damages as follows: “What is that worth? I mean, how do you put a price tag on—I wish that upon no one. My wors[t] enemy, I would not wish that upon them. So it’s a hard thing to do . . . and I think the—the cleanest way is to think about his life expectancy; right?”

“What we know is that he’s had four years of this, since 2014 he was diagnosed, and he will live between 2 more to 33 years.

“The number’s simple: A million dollars per year. For all that suffering, all that pain, it’s a million dollars per year.

“And if he lives for only two years, then the remaining years that he doesn’t get to live is also a million dollars.

“So it doesn’t matter if he dies in two years or dies in 20. It’s because he deserves that money. And so the noneconomic damages are \$37 million.” Counsel stated that a reasonable total amount for economic and noneconomic damages would be \$39,253,209.23.

Still later in his argument, Johnson’s counsel devoted significant time to explaining why the jury should award punitive damages. At one point during the morning session counsel referred to a Monsanto representative in the courtroom and said that “she’s sitting over there in that corner. On her cell phone is a speed dial to a conference room in St. Louis, Missouri. And in that conference room, in that board room, there’s a bunch of executives waiting for the phone to ring. Behind them is a bunch of champagne on ice.” Monsanto’s attorney objected to the argument as “complete fantasy,” and the trial court sustained the objection. Johnson’s attorney then argued that the jury should impose punitive damages in an amount “that tells those people—they hear it, and they have to put the phone down, look at each other, and say, ‘We have to change what we’re doing.’ [¶] Because if the number comes

out and it's not significant enough, champagne corks will pop. 'Attaboys,' are everywhere." The trial court again sustained an objection by Monsanto's attorney and cautioned Johnson's counsel not to engage in speculation.

After a lunch break, Monsanto moved for a mistrial based in part on Johnson's statements regarding punitive damages that were meant to "inflame the jury" and were "a pure product of [Johnson's attorney's] fantasy." Monsanto's attorney also objected on due process grounds to Johnson's attorney arguing that the jury could be part of history and send a message, because the argument was "not tied to the plaintiff[] or plaintiff's damages." The trial court told Johnson's counsel that his comments about "champagne in the board room were very inflammatory and prejudicial, and I told you [at sidebar] that you shouldn't make those comments because, among other things, it might lead to something like this, a mistrial." The trial court took the matter under submission and allowed closing arguments to continue.

The following morning, the trial court stated "the principal area of concern" that it had was the comment about suggesting to the jury that they should "send a message with the amount of punitive damages that they award." Johnson's counsel disagreed with that characterization of his closing argument. The court reiterated, "[T]he one [comment] that I think was really inappropriate and the one that I'm most concerned about with regard to the jury's deliberations were the arguments about changing the world, being a part of history, et cetera, with regard to punitive damages." (Again, this argument was made without objection and came long before counsel argued specifically about punitive damages.) The court did not grant the motion for nonsuit but instead elected to instruct the jury before their deliberations as follows: "Yesterday during closing arguments, you heard discussion from

plaintiff's counsel about the purpose of punitive damages and a reference to changing the world or something to that effect, and I want to remind you and tell you again, as I instructed you yesterday, as to the purpose of punitive damages. [¶] The purpose of punitive damages is explained in great detail in Instruction Number 25, which I read to you yesterday. I'm not going to read the entire instruction to you again, but I want to remind you that if, in fact, you find liability in this case and if you decide to award punitive damages, the purpose of punitive damages is only to punish Monsanto for any crime that was visited upon Mr. Johnson. And you'll see at the conclusion of the instruction there, 'Punitive damages may not be used to punish Monsanto for the impact of its alleged misconduct on persons other than Mr. Johnson.' [¶] So keep that in mind during your deliberations. If you have any questions about the proper purpose of punitive damages, should you reach that discussion, refer back to the instruction, and you may, of course, send questions to me as well through the bailiff."

b. The jury's award of damages.

The jury awarded Johnson approximately \$39.3 million in compensatory damages, the amount Johnson requested. The verdict form listed the stipulated amounts of past and future economic losses, and the jury awarded \$4 million for past noneconomic losses and \$33 million for future noneconomic losses (which is consistent with counsel's argument that Johnson was entitled to \$1 million for each year since his diagnosis and \$1 million for each year he was expected to live, up to the maximum estimated life expectancy of 33 additional years). The jury also awarded Johnson \$250 million in punitive damages.

c. Motion for a new trial.

As we have mentioned, Monsanto filed a motion for a new trial and a motion for judgment notwithstanding the verdict, arguing that Johnson was not entitled to punitive damages. In a tentative ruling, the trial court indicated it would grant Monsanto's motions because Johnson had not presented clear and convincing evidence of malice or oppression. (Civ. Code, § 3294, subd. (a).) The trial court also asked that the parties be prepared to address five topics at the hearing on Monsanto's motion, including future noneconomic damages, asking: "Is the \$33 million award for future noneconomic damages based on [Johnson's] argument to award \$1 million for each year of lost life expectancy? If so, is this award improper as a matter of law?"

The trial court held a hearing on the motions the same day it issued its tentative ruling. Not surprisingly, Monsanto's counsel argued that the \$33 million award was improper as a matter of law. The trial court noted that Johnson had presented evidence that he would live no more than two years, shortening his life expectancy by 33 years, and the court and Monsanto's counsel discussed whether that meant Johnson was entitled to no more than \$2 million in future noneconomic damages. Johnson's attorney, by contrast, argued that Johnson was permitted to seek both \$1 million for each year of his expected remaining life as well as for the loss of enjoyment of 33 years of his life. The parties also argued at length about whether Johnson was entitled to punitive damages. At the close of the hearing, the court asked that both parties submit proposed orders.

Around two weeks after the hearing, the trial court adopted an order that does not appear to have been submitted by either party. Although the

parties had discussed future noneconomic damages at the hearing, the court's order did not address them and the award thus remained the same.

The court did, however, address punitive damages. It reversed its position from its tentative opinion and concluded that Johnson had in fact shown by clear and convincing evidence that the company as a whole acted maliciously. It also stated that the jury could have found that Monsanto's decision to continue marketing glyphosate-based herbicides despite a possible link with non-Hodgkin's lymphoma constituted corporate malice for purposes of punitive damages. The court explained that malice does not require the intent to harm, and that conscious disregard for another's safety may be sufficient where the defendant is aware of its conduct's probable dangerous consequences and willfully fails to avoid such consequences. (*Pfeifer v. John Crane, Inc.* (2013) 220 Cal.App.4th 1270, 1299.)

Still, the trial court reduced the amount of the award on federal due process grounds. Relying on *State Farm Mut. Auto. Ins. Co. v. Campbell* (2003) 538 U.S. 408, the court noted that the Fourteenth Amendment limits punitive damages. After analyzing Monsanto's degree of reprehensibility and the disparity between the compensatory damages award and the punitive damages award (*Simon v. San Paolo U.S. Holding Co., Inc.* (2005) 35 Cal.4th 1159, 1172 (*Simon*)), the court reduced the award of punitive damages to \$39,253,209.35, the same amount as the compensatory damages awarded by the jury. Johnson accepted the reduction of punitive damages. Monsanto thereafter appealed, which permitted Johnson to challenge the reduction of punitive damages on cross-appeal. (*Miller v. National American Life Ins. Co.* (1976) 54 Cal.App.3d 331, 345.)

2. The Evidence Does Not Support the Entire Award for Future Noneconomic Damages.

Monsanto does not challenge the jury's award of \$4 million in past noneconomic losses. But it does argue that the \$33 million in future noneconomic damages are not supported by the evidence of Johnson's life expectancy. We agree that this portion of the award should be reduced.

“The amount of damages is a fact question, first committed to the discretion of the jury [Jurors] see and hear the witnesses and frequently . . . see the injury and the impairment that has resulted therefrom. As a result, all presumptions are in favor of the decision of the trial court [citation]. The power of the appellate court differs materially from that of the trial court in passing on this question. An appellate court can interfere on the ground that the judgment is excessive only on the ground that the verdict is so large that, at first blush, it shocks the conscience and suggests passion, prejudice or corruption on the part of the jury.” (*Seffert v. Los Angeles Transit Lines* (1961) 56 Cal.2d 498, 506–507 (*Seffert*)). “‘An appellate court . . . cannot weigh the evidence and pass on the credibility of the witnesses as a juror does. To hold an award excessive it must be so large as to indicate passion or prejudice on the part of the jurors.’” (*Id.* at p. 507.) Put another way, “We review the jury's damages award for substantial evidence, giving due deference to the jury's verdict.” (*Bigler-Engler v. Breg, Inc.* (2017) 7 Cal.App.5th 276, 300.) “There is no fixed standard by which we can determine that an award is excessive. We usually defer to the jury's discretion unless the record shows inflammatory evidence, misleading instructions, or improper argument by counsel that would suggest the jury relied on improper considerations.” (*Mendoza v. City of West Covina* (2012) 206 Cal.App.4th 702, 720–721.)

We first recognize that there was overwhelming evidence that Johnson has suffered, and will continue to suffer for the rest of his life, significant pain and suffering. Both Johnson and his wife testified that after his diagnosis, he had trouble sleeping, he was in a lot of pain, and he was “very depressed, especially when he was getting [chemotherapy] treatments.” After one round of chemotherapy, Johnson stayed in bed for an entire month and hardly ate or drank, and he was unable to help his wife with housework as he previously did. He suffered painful lesions on different parts of his body and testified that “I’ve had it bad everywhere.” The lesions were so painful that it was sometimes difficult for him to put on shoes or wear certain clothes, and he told his family he would wear a loose bedsheet if he could because he did not want anything to touch his skin. Johnson was also embarrassed by the lesions because people stared at his skin when he went out, so he wore a hat and glasses to cover up. He avoided going to swimming pools because he did not want people to worry that his skin condition was contagious. Cancer also affected Johnson’s memory and gave him permanent neuropathy in his feet and hands. The neuropathy in his hands prevented Johnson from playing golf, and he also was unable to play sports with his children. He tried to stay positive for his two sons, but he cried at night after the children went to bed. Johnson was scheduled to have another round of chemotherapy about a month after he testified, and he explained that “I’m getting to the point where I’m really tired of going through the whole thing of chemo and all of that, because it really takes everything out of you.” For these reasons, we cannot say that the award of future noneconomic damages, though large, shocked the conscious. (*Seffert, supra*, 56 Cal.2d at pp. 506–507; *Rodriguez v. McDonnell Douglas Corp.* (1978) 87 Cal.App.3d 626, 654–655 [“The fact that an award may set a precedent by its size does not in and of itself render it

suspect.”], disapproved on another ground by *Coito v. Superior Court* (2012) 54 Cal.4th 480, 499.)

Nor can we agree with Monsanto’s argument that the award on its face indicates jurors’ passion, prejudice or corruption. (*Seffert, supra*, 56 Cal.2d at pp. 506–507.) As Johnson notes, jurors deliberated for three days, and they asked three questions during deliberations, signs that they “carefully consider[ed] all of the issues in arriving at [their] verdict,” as the trial court characterized their service. (E.g., *People v. Jurado* (2006) 38 Cal.4th 72, 134 [five days’ deliberation on penalty phase strongly implied a verdict based on “a full and careful review of the relevant evidence and of the legitimate arguments for and against the death penalty”].) And although the amount of punitive damages awarded (\$250 million) was high, it was two thirds of what Johnson requested in exemplary damages (\$373 million), another sign that that jurors were not swayed by passion or prejudice in calculating damages. (Cf. *Buell-Wilson v. Ford Motor Co.* (2006) 141 Cal.App.4th 525, 553 [jury’s award of 13 times the amount counsel requested in noneconomic damages and three times what was requested for loss-of-consortium damages indicated jurors acted out of passion or prejudice], disapproved on another ground by *Kim v. Toyota Motor Corp.* (2018) 6 Cal.5th 21, 38, fn. 6.)

True enough, the trial court’s order reducing the award of punitive damages stated, “In a case such as this where there is a *punitive element* to the compensatory damages award, the law supports only a one to one ratio for punitive damages.” (Italics added.) The court was relying on the principle that when considering the proper ratio between compensatory and punitive damages the court may consider whether a substantial compensatory award for emotional distress “may be based in part on indignation at the defendant’s act and may be so large as to serve, itself, as a

deterrent.” (*Simon, supra*, 35 Cal.4th at p. 1189, citing *State Farm Mut. Auto Ins. Co. v. Campbell, supra*, 538 U.S. at pp. 425–426.) The court’s statement was not, as Monsanto characterizes it, “tantamount to a decision that the jury was improperly inflamed.” Monsanto’s reliance on *California Shoppers, Inc. v. Royal Globe Ins. Co.* (1985) 175 Cal.App.3d 1 is misplaced. That case involved a blatant and improper appeal to passion when plaintiff’s counsel improperly argued to the jury that compensatory damages should be high to justify substantial punitive damage award and that the compensatory award should be high so it would “hold up all the way to the Supreme Court.” (*Id.* at pp. 67–68.) There was no such improper appeal to passion here when Johnson’s counsel requested \$37 million in noneconomic losses. Even though counsel was admonished for his separate argument regarding *punitive* damages, we have no reason to believe the jury did not follow the trial court’s curative instruction.

We agree with Monsanto, though, that the award of future noneconomic damages is not supported by evidence of Johnson’s life expectancy. The jury was instructed under CACI No. 3905A that to recover for “future pain, mental suffering, loss of enjoyment of life, disfigurement, physical impairment, inconvenience, grief, anxiety, humiliation and emotional distress, Mr. Johnson must prove that he is *reasonably certain to suffer that harm.*” (Italics added.) Jurors were further instructed that if they decided Johnson had suffered damages that will continue for the rest of his life, they “must determine how long he will probably live. According to National Vital Statistics Report published by the National Center for Health Statistics, a 46-year-old male is expected to live another 33 years. This is the average life expectancy. Some people live longer and others die sooner.” In other words, jurors were told to award noneconomic damages that Johnson

was reasonably certain to suffer for the rest of his life, however long they determined that might be. As one treatise has put it, “[D]amages for future pain and suffering are based upon plaintiff’s probable life expectancy in his or her injured condition. . . . [C]ompensation for pain and suffering is recompense for pain and suffering *actually experienced*, and to the extent that premature death terminates the pain and suffering, compensation should be terminated.” (2 Stein on Personal Injury Damages (3d ed. 1997) Pain and Suffering, § 8:25, pp. 8-46 to 8-47, fn. omitted.)

Johnson’s attorney argued to the jury that Johnson was entitled to \$1 million per year of his pain and suffering. Although there was conflicting evidence about how long Johnson would survive, counsel argued that he would not live another two years “absent a miracle.” It follows that Johnson was entitled to future noneconomic damages measured by a life expectancy that was reasonable and realistic, not a life expectancy based on the hope that he might miraculously live for dozens of more years.

Johnson argues on appeal that under California law he was entitled to damages for a “shortened life expectancy.” But the jury instructions did not authorize such damages, which have not been recognized as recoverable in California. Johnson relies on, *Buell-Wilson v. Ford Motor Co.*, *supra*, 141 Cal.App.4th 525. There, a jury awarded the plaintiff about \$105 million in noneconomic damages to a catastrophically injured plaintiff, or 13 times what her attorney had argued to jurors was fair and reasonable. (*Id.* at pp. 548, 553.) The trial court reduced that award to \$65 million, but the appellate court concluded that even the reduced amount was excessive and the result of passion and prejudice. (*Id.* at pp. 548–549.) At one point the court cited to a previous version of CACI No. 3905A that apparently defined noneconomic damages as including “a shortened life expectancy” (*Buell-*

Wilson, at p. 549), language that does not appear in the current version of the instruction. But when the court analyzed why the award of noneconomic damages should be reduced, it looked to the amount of the award versus the plaintiff's projected life span, and how much she would be entitled to *each year of her remaining life*. (*Id.* at p. 550.)

Bigler-Engler v. Breg, Inc., *supra*, 7 Cal.App.5th 276, likewise does not help Johnson. There, a high school student suffered a painful knee wound, had to undergo nine procedures to clean and close it, and was left with a large scar after using a medical device that her doctor prescribed for use after arthroscopic surgery. (*Id.* at pp. 286–289.) A jury awarded her \$2,127,950 in noneconomic damages, which the appellate court concluded was excessive. (*Id.* at pp. 300–301.) The court acknowledged that the plaintiff had suffered a serious injury that involved substantial physical pain as well as emotional distress, anxiety, and embarrassment. (*Id.* at p. 302.) By the time of trial, though, the plaintiff had improved dramatically, her daily activities had mostly returned to normal, and her scar was small and less noticeable than before. (*Ibid.*) When weighing these factors, the court noted that “[t]here was no suggestion of the prospect of suffering a significant future disability, *shortened life expectancy*, inability to succeed professionally, or a distrust of doctors or other fiduciary advisors.” (*Ibid.*, italics added.) Johnson points to the court's reference to an absence of a shortened life expectancy and reasons that if the absence of a shortened life expectancy warranted a reduction of the plaintiff's damages in that case, then the presence of a shortened life expectancy here justifies a higher award. But the lack of a shortened life expectancy was simply one of several factors *Bigler-Engler* considered, including the fact that an award for future noneconomic damages amounting to about \$100 per day for the 58 years of the plaintiff's life expectancy was

disproportionate to her expected future suffering. (*Ibid.*) In other words, the court looked to what the plaintiff would actually suffer *over the course of her remaining life* when it reduced the award to \$650,000. (*Id.* at p. 306.)

Other cases upon which Johnson relies include the term “shortened life expectancy” or similar phrases, but do not stand for the proposition that a plaintiff is entitled under California law to recover for noneconomic damages beyond a life expectancy measured in relation to the plaintiff’s injured condition. (*Loth v. Truck-A-Way* (1998) 60 Cal.App.4th 757, 763–764 [availability of damages for “loss of enjoyment of life” under California law analogous to recovery for pain and suffering]; *James v. United States* (N.D.Cal. 1980) 483 F.Supp. 581, 586 [plaintiff able to establish proximate cause where evidence showed that delayed cancer diagnosis led to shortened life expectancy].)

Johnson’s reliance on out-of-state cases to argue that damages are allowed for loss of enjoyment of life beyond a plaintiff’s expected shortened lifespan is unhelpful because their holdings do not reflect California law. (*Castro v. Melchor* (2018) 142 Haw. 1, 11–12, 15 [414 P.3d 53, 63–64, 67] [case presented narrow question of whether estate of stillborn fetus may recover damages for loss of enjoyment of life; “consciousness” not required to recover such losses under state law because “Hawai’i case law is unique” in this regard]; *Dickhoff v. Green* (Minn. 2013) 836 N.W.2d 321, 336 [calculation of “loss of chance” damages where delayed diagnosis leads to reduced life expectancy]; *Bauer ex rel., Bauer v. Memorial Hosp.* (2007) 377 Ill.App.3d 895, 919–920 [879 N.E.2d 478, 500–501] [Illinois and other states allow recovery for decreased life expectancy].) In fact, at least one state’s legislature apparently changed its law in response the holding of a case cited by Johnson. (See *Illinois. Cent. R. Co. v. Young* (Miss.Ct.App. 2012) 120 So.3d

992, 1009, fn. 13 [after Mississippi Supreme Court allowed damages for loss of enjoyment of life of person killed in car accident (*Choctaw Maid Farms, Inc. v. Hailey* (Miss. 2002) 822 So.2d 911, 923), law was changed to deny recovery for loss of enjoyment of life caused by death].)

We accept that there may be valid policy arguments to support allowing the recovery of damages for a shortened life expectancy. (See, e.g., *DePass v. United States* (7th Cir. 1983) 721 F.2d 203, 208 (dis. opn. of Posner, J.) [“Although few reported cases . . . deal with the specific question whether a reduction in life expectancy is compensable, the trend is toward allowing recovery in such cases. [Citations.] As it should be. A tortfeasor should not get off scot-free because instead of killing his victim outright he inflicts an injury that is likely though not certain to shorten the victim’s life.”]; *Estate of Otani v. Broudy* (Wash. 2004) 92 P.3d 192, 200–201 (dis. opn. of Sanders, J.) [“M]any jurisdictions have recently begun to recognize that in a personal injury action the shortening of a person’s life expectancy is a cognizable injury. ¶ . . . ¶ It is logical to recognize, as those courts do, that life itself has value and a defendant should be required to pay damages for wrongful conduct that reduces a person’s life expectancy. To be sure, what is more valuable than life itself?”]; see also Kevin G. Burke, *A New Remedy for a Life Cut Short*, 40 TRIAL 64, 65 (March 2004).) But our holding rests on California law as was reflected in CACI No. 3905A, which was given to the jury without any objection to the part requiring Johnson to prove he was “reasonably certain to suffer” the harm for which compensation was sought.⁵ By limiting future noneconomic damages to those Johnson was reasonably

⁵ The lack of objection below to the jury instruction is an indication that both parties understood it to be an accurate summary of the law. We reject Johnson’s argument that Monsanto forfeited its challenge to the jury’s award by not objecting below since the question presented is a legal one.

certain to suffer, the instruction disallowed damages for years beyond his expected life expectancy at the time of trial.

In sum, the evidence supported an award of \$1 million per year for Johnson's pain and suffering. There is no dispute that Johnson was entitled to \$4 million for his suffering up to the time of trial in the summer of 2018. Although the evidence showed that Johnson had about two years of his life remaining after trial, his attorney represented at oral argument in June 2020 that Johnson was still living. Instead of reducing the award to \$2 million for the two years of future suffering he was expected to endure, we conclude that \$4 million is an appropriate award under the circumstances, given that further legal challenges may follow before the award becomes final. The jury's total noneconomic damages award is thus reversed and remitted to \$8 million (\$4 million in past noneconomic loss, plus \$4 million in future noneconomic loss), plus the other compensatory damages awarded, resulting in a total reduced award of \$10,253,209.32 to compensate for economic loss. (*Behr v. Redmond* (2011) 193 Cal.App.4th 517, 533 [where evidence is sufficient to sustain some but not all damages, court will reduce judgment to amount supported by evidence].)

3. Johnson Was Entitled to Punitive Damages, but They Should Be Reduced Commensurate with the Reduction of Future Noneconomic Damages.

Monsanto contends that the award of punitive damages must be stricken because there was no evidence, much less clear and convincing evidence, that Monsanto acted with malice and oppression. In his cross-appeal, Johnson argues that the jury's full award of punitive damages should be reinstated. We conclude that sufficient evidence supports the award of punitive damages but that the amount should be reduced to correspond with our reduction of future noneconomic damages.

a. Monsanto's Appeal.

Punitive damages are available where the plaintiff proves "by clear and convincing evidence that the defendant has been guilty of oppression, fraud, or malice." (Civ. Code, § 3294, subd. (a).) "Malice" includes "despicable conduct which is carried on by the defendant with a willful and conscious disregard of the rights or safety of others." (Civ. Code, § 3294, subd. (c)(1).)

"Whether to award punitive damages and how much to award were issues for the jury and for the trial court on the new trial motion. All presumptions favor the correctness of the verdict and judgment." (*Stevens v. Owens-Corning Fiberglas Corp.* (1996) 49 Cal.App.4th 1645, 1658.) We review the evidence supporting awards of punitive damages for substantial evidence. (*Stewart v. Union Carbide Corp.* (2010) 190 Cal.App.4th 23, 34.) "As in other cases involving the issue of substantial evidence, we are bound to 'consider the evidence in the light *most favorable to the prevailing party*, giving him the benefit of *every reasonable inference*, and *resolving conflicts* in support of the judgment.'" (*Shade Foods, Inc. v. Innovative Prods. Sales & Mktg., Inc.* (2000) 78 Cal.App. 4th 847, 891.) We are mindful that in light of the heightened burden of proof under Civil Code section 3294, subdivision (a), "we must review the record in support of these findings in light of that burden. In other words, we must inquire whether the record contains 'substantial evidence to support a determination by clear and convincing evidence.'" (*Shade Foods*, at p. 891.) "However, as with any challenge to the sufficiency of the evidence, it is the appellant's burden to set forth not just the facts in its favor, but all material evidence on the point. 'Unless this is done the error is deemed to be waived.'" (*Stewart*, at p. 34.)

Although we do not go so far as to conclude that Monsanto has waived the issue, we conclude that it has not met its appellate burden to show error

and that substantial evidence supports the award of punitive damages. Johnson argued that Monsanto and its employees discounted legitimate questions surrounding glyphosate's genotoxic effect, failed to conduct adequate studies, surreptitiously contributed to and promoted articles reporting on glyphosate's safety, and lobbied regulators to conclude that glyphosate is safe. On appeal, the company first accurately summarizes the heavy burden a plaintiff must meet in order to establish punitive damages. But then, rather than focusing on the sufficiency of the evidence, it raises legal points in criticizing the trial court for not adopting its tentative ruling.

For example, Monsanto criticizes the trial court's final order for noting, "Punitive damages have been upheld where a defendant has failed to conduct adequate testing on a product," and citing *West v. Johnson & Johnson Products, Inc., supra*, 174 Cal.App.3d at page 869. In upholding the award of punitive damages in *West* to a woman who suffered TSS from using defendant's tampons, the appellate court noted that defendant's product testing had been inadequate both before the tampons were marketed and after the company began receiving complaints about them. (*Id.* at pp. 841, 843, 869.) Because adequate testing would have revealed an association between tampon use and infection, there was substantial evidence that defendant had acted "in conscious disregard of the safety of others." (*Id.* at p. 869.) Monsanto suggests that this "failure to test" theory is no longer valid because *West* was decided before the definition of "malice" required for punitive damages was amended to add the terms "despicable" and "willful." (Civ. Code, § 3294, subd. (c)(1); see Historical and Statutory Notes, 12 West's Ann. Civ. Code (2016 ed.) foll. § 3294, p. 160.) And Monsanto stresses that a plaintiff must show more than negligence to recover punitive damages and instead must show that a defendant willfully and consciously ignored the

dangers inherent in a product's design. (E.g., *Butte Fire Cases* (2018) 24 Cal.App.5th 1150, 1159–1161, 1172–1173.) But while Monsanto correctly summarizes the current standard, the jury was instructed on this standard and we see no reason to conclude that the jury failed to apply it.

Monsanto also challenges the trial court's statement that "[p]unitive damages have also been upheld where 'there was a "reasonable disagreement" among experts,' " citing *Buell-Wilson v. Ford Motor Co.*, *supra*, 141 Cal.App.4th at pages 559–560. Monsanto repeats its claim that "the overwhelming consensus of independent, expert regulators is that exposure to glyphosate does not pose a carcinogenic risk to humans." Again, the jury rejected the notion that there is "consensus" on this point, and it is not our role to reweigh the evidence in support of punitive damages.

Although the jury could have accepted Monsanto's characterization of its conduct as simply demonstrating advocacy for a "well-supported belief that its products were safe," we reject the argument that the jury was required to do so. To begin with, substantial evidence was presented from which the jury could infer that Monsanto acted with a conscious disregard for public safety by discounting legitimate questions surrounding glyphosate's genotoxic effect and failing to conduct adequate studies. Johnson presented evidence that in 1983 a study showed a causal association between glyphosate and kidney tumors in male mice. The EPA drafted a determination that glyphosate was a possible carcinogen. Monsanto objected to the draft, sought and obtained permission to reexamine the tested kidneys, and found an undiscovered tumor in the control group. Based on this discovery, Monsanto questioned the validity of the study, and the EPA recommended that a new one be conducted. The EPA designed a new mouse study in consultation with Monsanto, but Monsanto did not conduct the

study. Monsanto stated in a document dated March 13, 1985, that “Monsanto is concerned that even the initiation of formal regulatory action would have serious negative economic repercussions, which we believe are not justified by the scientific evidence.”

Studies conducted by others in 1993 and 1997 also showed a link between glyphosate and tumors in mice. And in 1999, a genotoxicity expert recommended to Monsanto that further tests be conducted. As we have mentioned, one disputed issue at trial, and which the parties continue to debate, is whether all of these tests were conducted and done adequately. Monsanto maintains that it conducted all but one of the recommended tests, and cites to the testimony of a Monsanto employee who said the studies were done in a Monsanto lab instead of the independent expert’s lab. And Monsanto contends that after it conducted the tests, the independent expert “concluded that glyphosate is not genotoxic, and changed his opinion about the need for some of the studies he initially proposed,” but cites an internal Monsanto email describing a meeting with the expert. By contrast, Johnson expert Portier testified that only one of the expert’s recommendations was followed. The conflicting testimony highlights that the adequacy of the testing was a question for the jury.

In any event, as the use of glyphosate-based herbicides increased from the late 1980s to the early 2000s, when glyphosate became the top-used herbicide, so did the studies showing the compound’s potential genotoxicity. Johnson’s expert in pesticide regulation and pesticide risk assessment testified that in 1999 and 2001, “several peer-reviewed papers had come out using a variety of the different genotox assays,” and “by 2005 there were a boat load” of studies. When met with new information about possible cancer risks, Monsanto would push back. For example, in a 2008 internal email sent

in response to a press release about a scientific paper that had concluded glyphosate increased cancer risks, a high-level Monsanto scientist wrote, “We have been aware of this paper for a[]while and knew it would only be a matter of time before the activists pick[ed] it up. I have some epi experts reviewing it. . . . [¶] Here is their bottom line . . . how do we combat this?”

In addition to the evidence that the company discounted questions about glyphosate’s safety and failed to adequately test its products, other evidence was presented upon which the jury could have inferred that Monsanto acted with a conscious disregard for public safety. This included evidence that Monsanto employees surreptitiously contributed to articles reporting that glyphosate was non-carcinogenic. One such article was touted for “future product defense against claims that glyphosate is mutagenic or genotoxic.” Monsanto asserts that there was no evidence that the publications contained scientific misstatements, but the jury could have concluded that, regardless of any misstatements, it was improper to conceal the contributors’ connection to Monsanto. Even if the evidence did not require an inference that Monsanto was more concerned about defending and promoting its product than public health, it supported such an inference.

Similarly, the jury could have inferred that Monsanto’s actions in attempting to influence regulatory agencies evinced an indifference to public safety. Johnson presented evidence that Monsanto lobbied to prevent the IARC from concluding that glyphosate has any genotoxicity, and it worked to minimize the adverse impact of the conclusion after it was reached. Months before the Monograph was approved, Monsanto recognized that glyphosate had “vulnerabilities” in areas the IARC would consider, “namely, exposure, genotox and mode of action.” Shortly after the IARC announced that glyphosate was probably carcinogenic, representatives of Monsanto met with

staff from the EPA, U.S. Department of Agriculture, U.S. Trade Representative and U.S. Department of State; key members of Congress; the Senate Agricultural Committee; and the Department of Health and Human Services. Monsanto claimed that these meetings were to provide “proper context of the [IARC] classification for governments and regulators around the world.” But the jury could have inferred that these meetings were intended primarily to protect Monsanto’s bottom line.

The jury could also have found that punitive damages were warranted, at least in part, because Monsanto failed to return Johnson’s calls. Johnson twice called Monsanto because “it was a very scary, confusing time, and [he] didn’t know what was happening.” Once he was told that someone from the company would call him back, but no one did. While this evidence on its own might not warrant a finding of corporate malice, the jury was within its province to consider it along with other evidence in evaluating the egregiousness of Monsanto’s actions. The jury could have believed that Monsanto’s disinterest in Johnson’s specific concerns aligned with the lack of evidence showing that Monsanto employees cared about the public safety.

Taken together, the evidence amounted to substantial evidence that Monsanto acted with a willful and conscious disregard of others’ safety. (Civ. Code, § 3294, subd. (c)(1).) The collective evidence in this case is a far cry from the facts in *Cruz v. HomeBase* (2000) 83 Cal.App.4th 160, cited by Monsanto, where the evidence showed that a store’s agents lacked actual knowledge that a security guard mistreated a customer, even though they had received a report that could have prompted a further investigation. (*Id.* at pp. 163–164, 166, 168.) The evidence here is also far different from the facts in recently decided *Echeverria, supra*, 37 Cal.App.5th 292, cited by Monsanto in its reply brief and again at oral argument. In *Echeverria*, a

woman developed ovarian cancer after years of using baby powder containing talc. (*Id.* at pp. 296–297.) She sued two companies, an initial and subsequent manufacturer of the talc, and the jury found both liable for compensatory and punitive damages. (*Id.* at p. 297.) The companies filed separate motions for judgment notwithstanding the verdict as to both liability and punitive damages, as well as a joint motion for a new trial. (*Ibid.*) The trial court granted the motions. (*Ibid.*) The appellate court affirmed the granting of the motion for judgment notwithstanding the verdict as to the original manufacturer because no concerns were raised about talc until 15 years after the company stopped making it. (*Id.* at pp. 315–316.) And although it reversed the granting of the judgment notwithstanding the verdict as to the subsequent manufacturer because there was sufficient evidence of causation, it affirmed the rejection of the claims for punitive damages. (*Id.* at p. 337.)

Echeverria's conclusion that punitive damages could not be sustained in that case is inapplicable here. In *Echeverria*, the court acknowledged there was some evidence that might otherwise support an award for punitive damages, in that evidence suggested that the subsequent manufacturer had known of a *possible* link between talc and cancer and the company had “focused solely on avoiding such a conclusion.” (*Echeverria, supra*, 37 Cal.App.5th at p. 333.) But the court concluded that, notwithstanding this evidence, malice could not be shown because it was “*undisputed* that there has not been direct, conclusive evidence establishing genital talc use causes ovarian cancer” and studies had “resulted in conclusions that *fall short of a declaration* that perineal use of talc is carcinogenic.” (*Id.* at p. 333, italics added.)

The jury here could have reasonably concluded that Monsanto, like the subsequent manufacturer in *Echeverria*, worked to avoid a determination that its products might be shown to cause cancer. But here, unlike in *Echevarria*, there *was* evidence of studies that had concluded that the product increased cancer risks. And while both cases involved IARC determinations, these determinations were different. In *Echevarria*, the IARC concluded that there was “‘limited evidence’ of carcinogenicity in humans and in experimental animals,” meaning “‘[a] *possible association* ha[d] been observed between exposure to talc and ovarian cancer for which a causal interpretation is considered by the working group to be credible, *but chance, bias, and confounding could not be ruled out with reasonable confidence.*’” (*Echeverria, supra*, 37 Cal.App.5th at p. 298, italics added.) By contrast, the IARC concluded that glyphosate was “probably carcinogenic to humans”—a classification given to only 10 percent of the substances it studies—and we have had no hesitation upholding the jury’s causation findings.

We acknowledge, as the trial court impliedly did when it changed positions on the issue of punitive damages, that the question whether those damages can be sustained is a close one. One reason it is close is because, notwithstanding the IARC’s determination, no evidence was presented of a regulatory body concluding that glyphosate or Roundup products cause cancer. But in light of all the evidence—including the evidence from which the jury could have inferred that Monsanto discounted legitimate questions surrounding glyphosate’s genotoxic effect, failed to conduct adequate studies, was indifferent to Johnson’s specific concerns, and otherwise acted to promote its products without sufficient regard to public safety—we agree with the trial court that “[t]he jury could find that the decision by Monsanto to

continue marketing GBH's [glyphosate-based herbicides] notwithstanding a possible link with NHL [non-Hodgkin's lymphoma] constitutes corporate malice for purposes of punitive damages."⁶ Ultimately, we must agree with Johnson and the trial court that the determination of whether to award punitive damages was a question for the jury, and we will not disturb its finding given that it is supported by sufficient evidence. "The trial court's approval of the punitive damage award by denying [Monsanto] a new trial is not binding on appeal, but we must give it significant weight. We may reverse the award as excessive only if the entire record, viewed most favorably to the judgment, indicates the award was the result of passion and prejudice." (*Stevens v. Owens-Corning Fiberglas Corp.*, *supra*, 49 Cal.App.4th at p. 1658.) We reject Monsanto's challenge to the award because we must view the jury's verdict in the light most favorable to Johnson.

b. Johnson's Cross-appeal.

Johnson also challenges the final award of punitive damages, arguing that the trial court should not have reduced the award. The trial court weighed the federal due process constraints on punitive damages, a question we review *de novo*. (*Simon*, *supra*, 35 Cal.4th at p. 1172.) That is, we "mak[e] an independent assessment of the reprehensibility of the defendant's conduct, the relationship between the award and the harm done to the plaintiff, and the relationship between the award and civil penalties

⁶ Focusing on this single sentence of the court's order, Monsanto argues that the reference to only a "possible" cancer link fell short of establishing that it acted "willful[ly] and [with] conscious disregard of the rights or safety of others." (Civ. Code, § 3294, subd. (c)(1).) But the trial court's order elsewhere made clear the court was following this standard, as when it concluded that "the jury could conclude that Monsanto acted with malice by *consciously disregarding a probable* safety risk of GBHs and continuing to market and sell its product without a warning." (Italics added.)

authorized for comparable conduct.” (*Ibid.*) We agree with the trial court that although substantial evidence supported the award of punitive damages, a reduction was appropriate under the facts of this case. And because we have concluded that the award of future noneconomic damages must be reduced, it follows that the award of punitive damages must be reduced as well.

We first reject Johnson’s brief argument that the trial court provided an inadequate explanation for reducing the award of punitive damages. True enough, when the trial courts grants a motion for new trial, “the court shall specify the ground or grounds upon which it is granted and the court’s reason or reasons for granting the new trial upon each ground stated.” (Code Civ. Proc., § 657; see also *Neal v. Farmers Ins. Exchange* (1978) 21 Cal.3d 910, 930–931 [§ 657 applies to granting motion for new trial conditioned on plaintiff accepting reduction in punitive damages].) But as our Supreme Court has repeatedly stated, “ ‘To avoid overtaxing our already burdened trial courts, it will be sufficient [under Code of Civil Procedure section 657] if the judge who grants a new trial furnishes a concise but clear statement of the reasons why he [or she] finds one or more of the grounds of the motion applicable to the case before him [or her]. No hard and fast rule can be laid down as to the content of such a specification, and it will necessarily vary according to the facts and circumstances of each case.’ ” (*Neal*, at pp. 931–932, quoting *Mercer v. Perez* (1968) 68 Cal.2d 104, 115.) In *Neal*, the court found it sufficient for the trial court to refer to aspects of the trial that in its view led to the jury inflating the award of punitive damages and to analyze the guidelines for the assessment of damages in light of an alleged excessive amount. (*Neal*, at p. 932.) Here, the trial court analyzed the factors for reducing what it considered to be an unconstitutionally excessive award.

Although the trial court might ideally have provided more detail, its order met the requirements of section 657.

As for the merits, Johnson argues that the trial court improperly reduced the amount of punitive damages to be the same as compensatory damages. The trial court analyzed the three factors for determining the constitutional upper limit of punitive damages set forth in *State Farm Mut. Auto. Ins. Co. v. Campbell*, *supra*, 538 U.S. 408: (1) the degree of reprehensibility of defendant’s misconduct, (2) the disparity between the harm plaintiff suffered and the punitive-damages award, and (3) the difference between the punitive damages awarded by the jury and awards authorized in comparable cases. (*Id.* at p. 518; see also *Simon*, *supra*, 35 Cal.4th at p. 1172.) The court concluded that where, as here, “there is a punitive element to the compensatory damages award, the law supports a one to one ratio for punitive damages.” We agree with Johnson to the extent he argues that there is no fixed formula that requires a court to set punitive damages equal to compensatory damages. (*Bullock v. Philip Morris USA, Inc.* (2011) 198 Cal.App.4th 543, 569 [no “emerging consensus” to trigger 1:1 upper limit on punitive damages where compensatory damages are in six-figure range].) But we find no error for the trial court to determine *in this case* that a 1:1 limit was appropriate.

Given that we have reduced the award of future noneconomic damages and also agree with the trial court that a 1:1 ratio was appropriate, we further reduce the award so that it maintains a 1:1 ratio with the reduced compensatory damages. “To state a particular level beyond which punitive damages in a given case would be grossly excessive, and hence unconstitutionally arbitrary, ‘ “is not an enviable task. . . . In the last analysis, an appellate panel, convinced it must reduce an award of punitive

damages, must rely on its combined experience and judgment.”’ [Citation.] The high court’s due process analysis does not easily yield an exact figure: we must attempt to arrive at such a number using imprecisely determined facts and ‘applying guidelines that contain no absolutes.’ [Citation.] An appellate court should keep in mind, as well, that its constitutional mission . . . is not to find the ‘right’ level in the court’s own view. While we must . . . assess independently the wrongfulness of a defendant’s conduct, our determination of a maximum award should allow some leeway for the possibility of reasonable differences in the weighing of culpability. In enforcing federal due process limits, an appellate court does not sit as a replacement for the jury but only as a check on arbitrary awards.” (*Simon, supra*, 35 Cal.4th at p. 1188.)

We recognize that we could remand to the trial court to reassess the constitutionally allowed maximum award. (*Simon, supra*, 35 Cal.4th at p. 1187.) But given the time-sensitive nature of this case “we believe the better course is for this court itself to determine the maximum punitive damages award that satisfies the constraints of due process and to order the judgment reduced accordingly,” without the need for a remittitur. (*Ibid.*)

D. Johnson Was Properly Awarded Costs.

The parties stipulated below to a costs award to Johnson of \$519,772.18, and Monsanto separately appealed from that order in A155940. It argues that if the court reverses the judgment or remands for a new trial, the court should also vacate the costs award. Although we have concluded that a reduction in the damages awarded is appropriate, we do not otherwise reverse the judgment. It follows that the award of costs stands.

III.
DISPOSITION

In A155940, the judgment as to Johnson's future noneconomic compensatory damages is reversed. The jury's future noneconomic compensatory damages award is reduced to \$4 million, which results in a total reduced award of \$10,253,209.32 in compensatory damages. The judgment is further modified to reduce the award of punitive damages to \$10,253,209.32.

In A156706, the order awarding costs is affirmed.

Each side shall bear its own costs on appeal.

Humes, P.J.

WE CONCUR:

Banke, J.

Sanchez, J.

Johnson v. Monsanto Company A155940 & A156706

Trial Court: The Superior Court of the City and County of San Francisco

Trial Judge: Hon. Suzanne R. Bolanos

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