

**UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
SOUTHEASTERN DIVISION**

BADER FARMS, INC. and)	
BILL BADER)	
)	
Plaintiffs,)	MDL No. 1:18md2820-SNLJ
)	
v.)	Case No. 1:16cv299-SNLJ
)	
MONSANTO CO. and)	
BASF CORP.,)	
)	
Defendants.)	

MEMORANDUM and ORDER

Several motions are now pending in this matter, which is part of the In re Dicamba Herbicide Multidistrict Litigation (the “MDL”). This matter is going to trial in January 2020. The MDL, which involves a putative class-action complaint related to crop damage to soybeans, is at the class certification stage, and numerous motions to exclude expert testimony have been filed related to class certification. Dr. Ford Baldwin is named as an expert for plaintiffs in both the MDL and in this matter. Motions to exclude Baldwin’s testimony have been filed both the MDL and in this matter. Thus, the Court is filing this memorandum in Bader concurrently with the order addressing Daubert motions in the MDL, before addressing the other motions pending in Bader.

The Bader plaintiffs claim their peach orchard was destroyed beginning in 2015 after defendants Monsanto Company (a company that sells crop seed and herbicide) and BASF Corporation (a company that sells herbicide) conspired to develop and market dicamba-tolerant seeds and dicamba-based herbicides. Plaintiffs claim both defendants

conspired to create an “ecological disaster,” where Monsanto released its dicamba-tolerant seed in 2015 and 2016 with no corresponding dicamba herbicide. As a result, farmers illegally sprayed an old formulation of dicamba herbicide that was unapproved for in-crop, over-the-top, use and was “volatile,” or prone to drift. Drifting dicamba would cause damage to neighboring, non-tolerant crops, forcing neighboring farmers to plant Monsanto’s dicamba-tolerant seed defensively, and that increased demand for both defendants’ new dicamba herbicide during the 2017 growing season.

Numerous lawsuits have been filed against defendants based on these circumstances, and the cases filed in federal court have been consolidated into the In re Dicamba Herbicides Multi-District Litigation, 1:18-MD-2820-SNLJ (E.D. Mo.) (the “MDL”). The present case was filed on November 23, 2016 and was consolidated into the MDL. Numerous MDL plaintiffs have joined the Master Crop Damage complaint, which focuses on soybean growers in several states. The Bader plaintiffs, although part of the MDL, did not join in the Master Crop Damage Complaint; the Bader case is following its own Case Management Order and is set for trial in January 2020.

I. Legal Standard

Defendants seek to exclude the expert reports of plaintiffs’ expert Ford Baldwin. To be admissible, Federal Rule of Evidence 702 requires the expert testimony (1) help the trier of fact determine facts at issue; (2) be based on sufficient facts or data; and (3) be the product of reliable principles and methods. In addition, the expert must have reliably applied those principles and methods to facts of the case. This Court must act as a “gatekeeper” in determining the admissibility of expert testimony and must “make a

preliminary assessment of whether the proffered expert's methodology is both scientifically valid and applicable to the case.” *Bland v. Verizon Wireless, (VAW) LLC*, 538 F.3d 893, 896 (8th Cir. 2007); see also *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 597 (1993).

II. Baldwin's Opinions

Plaintiffs' expert Dr. Ford Baldwin is a weed scientist who worked with herbicides and studied off-target movement for more than 40 years. He is Professor Emeritus in weed science at the University of Arkansas and holds a B.S.A. in Agronomy (Crop Science), an M.S. in Agronomy (Weed Science), and a Ph.D. in Agronomy (Weed Science). He has served as an expert witness and consultant for many companies, including the defendants here. As a weed scientist for the University of Arkansas for 28 years, Dr. Baldwin's focus was on studying herbicides, including as part of genetically modified crop systems, and off-target movement of those herbicides. He investigated drift complaints and conducted applied research.

Baldwin opines that plaintiff Bader Farms has experienced symptomology to its peach trees consistent with the damage caused by dicamba exposure to sensitive broadleaf crops. He states that the symptomology began in 2015, which is the same growing season as the XtendFlex cotton seed was launched, and that it has worsened each year through the present. That fact, coupled with Bader Farms' location in proximity to Xtend crops, allows Baldwin to conclude to a reasonable degree of certainty that (1) Bader Farms' peaches and orchards were damaged (2) by dicamba sprayed over the top from 2015 through the present (3) of Xtend cotton and soybean seed (4) which are part of the dicamba tolerant system commercialized by Monsanto and BASF (5) which caused and will continue to cause substantial yield loss. Baldwin also states that the rapid

decline in peach production is the direct result of multiple years of exposure to dicamba sprayed over the top of Xtend crops, which would not have occurred without the release of the Xtend seed. The multiple exposures to dicamba has resulted, he says, in a continuous weakening of the peach trees, causing a decline in the health of the trees and their ability to bear fruit.

Baldwin was not retained in this matter until January 2017, so Baldwin did not inspect the orchards in 2015 and 2016. Baldwin's opinions with respect to 2015 and 2016 are based on information from plaintiff Bill Bader about the damage he observed and knowledge of neighboring farmers who planted Xtend seed and herbicide applications made nearby; conversations about Dr. Kevin Bradley regarding his observations of damage to Bader Farms in 2016; Baldwin's own knowledge, experiences, and personal observations he made about the presence of dicamba injury to vegetation and rampant damage reported in the Missouri Bootheel, including the area around Bader Farms; Baldwin's inspection of Bader Farms in February 2017; and Baldwin's knowledge that "dicamba is one of the...most volatile postemergence herbicides on the market."

Baldwin submitted a supplemental report regarding his July 20, 2019 inspection of Bader Farms. That report also include a map reflecting seed sales by year from 2015 to 2018. In his later rebuttal report, Baldwin addressed the alternate causes of peach tree damage that have been offered by defendants.

Baldwin's opinion includes information on the background and characteristics of dicamba herbicide; dicamba toxicity to broadleaf species and propensity for off-target movement by drift, volatility, and temperature inversions; historical uses of dicamba showing that dicamba use increased with the release of Xtend seed; the increase in

complaints of dicamba injury following introduction of Xtend seed; the foreseeability of injury to broadleaf species given what defendants' own research and general scientific community knew about dicamba, the difficulty following the label and using the product in-crop; the current research and testing of the defendants' new dicamba; and Baldwin's observations at Bader Farms.

III. Discussion

Defendants first seek to exclude Baldwin's opinion because he is not qualified to offer his causation opinions. They also seek to exclude his opinions on yield loss, the source of dicamba that damaged the peach trees, product labeling, and volatility and "atmospheric loading." Finally, defendants maintain plaintiffs should not be permitted to use Baldwin to narrate documents or speculate about defendants' motives, intent, or states of mind.

A. Causation

Defendants first argue that Baldwin's opinion should be excluded because he is not a peach expert, knows little about stressors to peach trees (such as insects or low temperatures), and had never even seen dicamba damage on peach trees before. Critically, defendants say, Baldwin knew nothing about *armillaria tabescens*, which is a fungus present in Bader's fields that causes dicamba-like symptomology and can itself kill an orchard. Baldwin learned about the fungus from reading defendants' experts' reports.

Plaintiffs respond that they do not offer him as a peach expert, but that Baldwin's qualifications as an expert in dicamba are beyond reproach, and he has worked with a broad range of crops. As for peach trees' susceptibility to dicamba, plaintiffs point out that the scientific studies show that peaches are "indisputably sensitive," although

plaintiffs concede that few studies exist. Further, Baldwin’s use of soybean research as the basis for many of his conclusions—the use of a “bioindicator” (soybeans) for another plant (peach trees)—is a common practice. Furthermore, defendants’ own experts admitted that some of plaintiffs’ peach trees exhibited either curling or cupping, which are symptoms they agree mimic dicamba exposure. Finally, Baldwin’s assessment is consistent with that of two other scientists who also have conducted research on dicamba exposure to peach trees, although their work has not yet been peer-reviewed. All in all, it appears that defendants’ objections are based on the paucity of research on the topic of peach trees and dicamba. But the novelty of a product cannot be used as a shield, and the presence or absence of peer reviewed literature is not dispositive. The focus remains on reliability. *Daubert*, 509 U.S. at 594. The Xtend system is utterly new. Previously, no one recommended spraying dicamba over the top of crops during the growing season because sensitive crops (including peach trees) were too vulnerable to it. The lack of scientific literature about the effects of dicamba on peach trees is therefore not surprising. See also *Lauzon v. Seneco Prods.*, 270 F.3d 681, 691 (8th Cir. 2001).

Defendants’ claim that Baldwin failed to consider the alternate cause of the *armillaria tabescens* fungus, which defendants’ experts say is the cause of a good part of the damage to the orchards, is more problematic. Baldwin’s response, essentially, is that he did not have to rule out alternative causes because of the overwhelming evidence of dicamba exposure. The general rule is that consideration of alternate causes is just one of the factors a court may consider in determining whether to admit expert testimony and that the failure to consider alternate causes goes to the weight and not the admissibility of the testimony. *Lauzon*, 270 F.3d at 693-94. In this instance, the Court will leave the matter to the jury.

Next, defendants argue that Baldwin's causation opinion should be excluded because he followed no methodology to arrive at his opinion. Instead, defendants say, Baldwin started with the conclusion that dicamba had caused Bader's peach symptomology rather than following any methodology to arrive there. In support, defendants point to an affidavit Baldwin wrote in 2017 that was based on Baldwin's February 14, 2017 visit to Bader Farms. In that affidavit, Baldwin wrote

I visited Bader Farms and conducted an inspection of its peach trees, row crops, and other vegetation. In my opinion, Bader Farms has suffered extensive injury from dicamba exposure. The peach trees and other crops at Bader Farms show clear signs of dicamba damage.

[#217-6, Baldwin Aff.] However, Baldwin admitted in his deposition that he had not inspected growing row crops or leaves on the peach trees because he first inspected Bader Farms on February 14, 2017, well after the 2016 growing season and before the 2017 season began. On the other hand, Baldwin also made clear that had visited the area surrounding Bader Farms in Summer 2016 and was familiar with widespread dicamba damage in the area. But he was not retained by the Bader plaintiffs until January 2017, after the 2016 growing season. As explained above, Baldwin's opinions are not based only on his personal observations and the visit to Bader farms in the winter of 2017. Numerous other sources of information support Bader's opinions pertaining to the 2015 and 2016 seasons. Defendants are free to cross-examine Baldwin on these matters, but the Court will not exclude Baldwin's causation opinion.

Similarly, as with the *armillaria tabescens* fungus, defendants criticize Baldwin on how he ruled out other possible causes of Bader's peach tree symptomology. They complain, in particular, that Baldwin failed to conduct testing on the peach trees for the presence of dicamba. However, peer-reviewed studies and defendants' own documents

agree that such testing is typically futile, and even if such testing were advisable, “a differential expert opinion can be reliable even with less than full information.” Johnson v. Mead Johnson & Co., LLC, 754 F.3d 557, 564 (8th Cir. 2014) (internal quotation omitted). In any event, and as noted, experts are not required to rule out all possible causes when offering a differential causation opinion. *Id.* at 563; Lauzon, 270 F.3d at 693-94.

B. Yield Loss

Baldwin opines that the symptomology on plaintiffs’ peach trees in 2015-2019 “has resulted in massive and increasing yield loss since 2015 [which] will continue and accelerate due to the exposures already experienced.” Unlike with soybeans, peach trees are not harvested and cut down and replanted the next season, so Baldwin opines that the damage is cumulative. Baldwin explains that multiple exposures to dicamba “weakens the tree, making it more susceptible to death or damage from drought, insects, diseases, and even other herbicides.”

However, defendants point out that Baldwin states in a supplemental report that Bader’s production for 2019 will be better than its 2018 production. Defendants suggest that this about-face shows that Baldwin’s yield-loss opinions are speculation. Baldwin observes however that the reason 2019 yields appear improved is because the unusually wet spring weather delayed application of dicamba to surrounding fields. That delay allowed the early peach crop to grow more successfully than in 2018, though the 2019 yield was still lower than it should have been. In any event, Baldwin does not seek to quantify the degree or amount of yield loss, only that it can occur and, scientifically, why. The Court will not exclude Baldwin’s testimony on this matter.

C. Source of dicamba

Next, defendants argue that, for Baldwin's causation theory to be relevant, the alleged dicamba must have come from application of dicamba over the top of Xtend crops. Defendants explain that, because Baldwin cannot determine whether symptomology was caused by dicamba applied to corn or by dicamba applied to Xtend soybeans or cotton, his testimony must be excluded.

Baldwin's report states that the "uniformity" of symptomology on Bader's peach trees, as well as on other trees and vegetation on and around Bader Farms, indicates that the dicamba did not come from a particular, definable source. Rather, it is "indicative of air mass loading damage from volatilization." Thus, Baldwin concludes that the increase in spraying of dicamba, beginning in 2015 with release of the DT cotton seed and continuing into 2016 with DT soybeans, resulted in increased levels of dicamba in the air. The dicamba spread to Bader's peach trees, according to Baldwin, through volatilization, temperature inversion, and (to a lesser extent) spray drift. The physical properties of dicamba combined with Baldwin's understanding of where dicamba was used relative to Bader's peach orchard suffice to support Baldwin's conclusion. Facts that the defendants push—such that in 2016 one Bader neighbor allegedly sprayed dicamba on corn (which is apparently not susceptible to dicamba)—do not require exclusion of Baldwin's testimony. Again, this purported failure to consider alternative causes to the damage to the trees is in general just one of the factors to consider in determining whether to admit expert testimony, and that failure goes to the weight and not the admissibility of the testimony. *Lauzon*, 270 F.3d at 693-94. This matter, too will be left to the jury.

D. Labeling

In his report, Baldwin criticizes defendants' product labels for being deficient, confusing, and inadequate. Defendants argue that this testimony should be excluded for several reasons.

First, defendants say Baldwin is not qualified to offer opinions regarding the adequacy of pesticide labeling, which is governed by FIFRA and detailed federal regulations. In addition, defendants argue that Baldwin performed no work in reaching his opinions on the labels, and thus he has no reliable basis for his opinions. As a weed scientist, though, Baldwin has spent his career instructing farmers on proper application of pesticides. Baldwin may be able to assist the trier of fact in some ways with respect to the defendants' labels, such as defining terms. The Court agrees, however, with the defendants' third argument—that his opinions should be excluded to the extent they address an ultimate factual issue for the jury to decide. Although experts may in some circumstances opine on an ultimate fact, “courts must guard against ‘invas[ing] the province of the jury on a question which the jury was entirely capable of answering without the benefit of ... expert opinion.’” *Robertson v. Norton Co.*, 148 F.3d 905, 908 (8th Cir. 1998) (quoting *Walton v. Sherwin-Williams Co.*, 191 F.2d 277, 285 (8th Cir. 1951)). Apparently conceding this point, plaintiffs insist that Baldwin will not seek to rewrite the label, criticize the label language therein, or in any way seek to edit the language contained on the label. The Court will take up these matters before trial in a motion in limine as appropriate, because certainly there is a fine line Baldwin must walk with respect to his labeling opinions. But it is not necessary to do so now.

E. Volatility and atmospheric loading

Defendants incorporate their arguments regarding volatility and atmospheric loading from their motion to exclude Baldwin's opinions in the MDL. That motion

discusses at length the finer points of Baldwin's understanding of dicamba's chemical and physical properties. However, it ultimately seeks to exclude the opinion that defendant's herbicides "volatize in sufficient amounts to cause uniform, class-wide symptomology." The Court holds that Baldwin is qualified to opine as to dicamba's chemical and physical properties and as to its ability to move off-target. Baldwin's opinion regarding uniform, class-wide damage is not relevant to the Bader Farms case.

F. Defendants' documents

Finally, defendants argue that plaintiffs may not be permitted to use Baldwin as a mouthpiece to narrate defendants' documents or speculate about defendants' motives, intent, or states of mind. Plaintiffs respond they have no intention of having Baldwin narrate documents or draw legal conclusions, but they also point out that Baldwin has been deposed (over plaintiffs' objection) as a fact witness, and that he may reasonably be asked to explain certain aspects of defendants' documents. The Court agrees with plaintiffs that these matters are better taken up as part of a motion in limine. They do not call for exclusion of Baldwin's testimony at this stage.

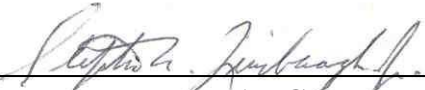
IV. Conclusion

For the foregoing reasons, the Court will deny the defendants' motion to exclude.

Accordingly,

IT IS HEREBY ORDERED that the defendants' motion to exclude the expert testimony of Dr. Ford Baldwin [#216] is DENIED.

So ordered this 27th day of November, 2019.



STEPHEN N. LIMBAUGH, JR.
UNITED STATES DISTRICT JUDGE