

IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF COLORADO
Judge Philip A. Brimmer

Civil Action No. 08-cv-01128-PAB-BNB

OLEA McCALL,
GARY McCALL,
TAMMY McCALL, and
LILLY McCALL,

Plaintiffs,

v.

SKYLAND GRAIN LLC, a Kansas limited liability company,

Defendant.

ORDER

This case involves defendant's alleged misapplication of herbicide to plaintiffs' wheat crop. Plaintiffs seek to admit the expert opinion of Mr. Bradley Walker in support of their claims. Defendant Skyland Grain LLC ("Skyland") filed a motion to exclude Mr. Walker's testimony pursuant to Federal Rule of Evidence 702 [Docket No. 79]. On May 7, 2010, the Court held a hearing on the fully-briefed motion. The motion is ripe for disposition.

I. FEDERAL RULE OF EVIDENCE 702

Federal Rule of Evidence 702 provides that

[i]f scientific, technical, or other specialized knowledge will assist the trier of fact to understand the evidence or to determine a fact in issue, a witness qualified as an expert by knowledge, skill, experience, training, or education, may testify thereto in the form of an opinion or otherwise, if (1) the testimony is based upon sufficient facts or data, (2) the testimony is the product of reliable principles and methods, and (3) the witness has applied the principles and methods reliably to the facts of the case.

Fed. R. Evid. 702. As the rule makes clear, while required, it is not sufficient that an expert be qualified based upon knowledge, skill, experience, training, or education to give opinions in a particular subject area. Rather, the Court must “perform[] a two-step analysis.” *103 Investors I, L.P. v. Square D Co.*, 470 F.3d 985, 990 (10th Cir. 2006). After determining whether the expert is qualified, the specific proffered opinions must be assessed for reliability. See *id.*; Fed. R. Evid. 702 (requiring that the testimony be “based upon sufficient facts or data,” be the “product of reliable principles and methods,” and reflect a reliable application of “the principles and methods . . . to the facts of the case”).

Rule 702 “imposes on the district court a gatekeeper function to ‘ensure that any and all scientific testimony or evidence admitted is not only relevant, but reliable.’” *United States v. Gabaldon*, 389 F.3d 1090, 1098 (10th Cir. 2004) (quoting *Daubert v. Merrell Dow Pharmaceuticals, Inc.*, 509 U.S. 579, 589 (1993)). To execute that function, the Court must “assess the reasoning and methodology underlying the expert’s opinion, and determine whether it is both scientifically valid and applicable to a particular set of facts.” *Dodge v. Cotter Corp.*, 328 F.3d 1212, 1221 (10th Cir. 2003) (citing *Daubert*, 509 U.S. at 592-93). When assessing reliability, “the court may consider several nondispositive factors: (1) whether the proffered theory can and has been tested; (2) whether the theory has been subject to peer review; (3) the known or potential rate of error; and (4) the general acceptance of a methodology in the relevant scientific community.” *103 Investors I*, 470 F.3d at 990 (citing *Daubert*, 509 U.S. at 593-94). These considerations are not exhaustive. Rather, “the trial judge must have

considerable leeway in deciding in a particular case how to go about determining whether particular expert testimony is reliable.” *Kumho Tire Co. v. Carmichael*, 526 U.S. 137, 152 (1999). Ultimately, the test requires that the expert “employs in the courtroom the same level of intellectual rigor that characterizes the practice of an expert in the relevant field.” *Kumho Tire Co.*, 526 U.S. at 152.

While plaintiffs, as the proponents of the challenged testimony, have the burden of establishing admissibility, their proffer is tested against the standard of reliability, not correctness; they need only prove that “the witness has sufficient expertise to choose and apply a methodology, that the methodology applied was reliable, that sufficient facts and data as required by the methodology were used and that the methodology was otherwise reliably applied.” *United States v. Crabbe*, 556 F. Supp. 2d 1217, 1221 (D. Colo. 2008).

In sum, expert testimony must be excluded if the expert is unqualified to render an opinion of the type proffered, if the opinion is unreliable, if the opinion will not assist the trier of fact, or if the opinion is irrelevant to a material issue in the case.

II. DISCUSSION

This case arises out of defendant’s application of herbicide to certain of plaintiffs’ wheat fields near Walsh, Colorado in late October 2006. Plaintiffs planted Clearfield Protection Wheat, which is resistant to Beyond herbicide, a BASF product. They hired defendant to apply Beyond to their fields. On October 23, 2006, Skyland applied a herbicide mixture to Sections 11 and 24 of McCall farmland. Then, on the 30th of October, Skyland did the same to Section 13. About two weeks later, the wheat in

these sections began to yellow. Plaintiffs informed Skyland, a crop consultant from Crop Quest, and BASF, all of which sent representatives to inspect the fields and take samples. Tests revealed the presence of glyphosate,¹ to which Clearfield Protection Wheat is not resistant. Plaintiffs contend that, by late December 2006, the wheat fields treated by Skyland had suffered severe damage. In an attempt to save the wheat on Sections 11 and 13, plaintiffs provided additional irrigation. They destroyed the wheat on Section 24, replacing it with milo.

In support of their claim that Skyland Grain mistakenly applied glyphosate, plaintiffs have proffered the expert testimony of Mr. Bradley Walker. Mr. Walker is an agricultural consultant who evaluates crops and farm management practices. Plaintiffs seek to have Mr. Walker testify that “(1) McCalls’ winter wheat crop was damaged by Skyland’s chemical application; (2) Skyland erroneously applied glyphosate to McCall[s]’ crop; and (3), but for Skyland’s improper chemical application[, the] McCalls’ fields would have yielded 120 bushels of wheat an acre.” Docket No. 90-1. The first and second opinions, as stated in Mr. Walker’s direct testimony, see Docket No. 90-1, overlap. His report and supporting materials can be read, however, to more clearly delineate the first two opinions as: (1) the McCalls’ wheat fields were damaged by glyphosate and (2) that damage was the result of Skyland Grain’s misapplication of glyphosate instead of Beyond herbicide.

¹In his expert report, Mr. Walker explains that glyphosate “is a non-selective herbicide that will kill most plants, including wheat” and “is the active ingredient in Round-up.” Docket No. 82-2 at 9. It is in the family of herbicides known as Amino Acid Derivatives. See *id.* Glyphosate kills plants by “inhibit[ing] aromatic amino acid synthesis, an essential plant function.” *Id.*

A. Opinion 1: Glyphosate damaged the fields

_____Defendant argues that Mr. Walker, in reaching the conclusion that glyphosate damaged the McCalls' wheat crop, failed to apply a reliable methodology. More specifically, defendants argue that Mr. Walker started with the premise that glyphosate damaged the crops, worked backwards from there and, as a result, did not explore alternative causes of the damage.

The record, however, reveals that Mr. Walker applied a methodology that can be “characterized as a process of reasoning to the best inference.” *Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1237 (10th Cir. 2004). The Tenth Circuit discussed this methodology in *Bitler*:

Unlike a logical inference made by deduction where one proposition can be logically inferred from other known propositions, and unlike induction where a generalized conclusion can be inferred from a range of known particulars, inference to the best explanation – or “abductive inferences” – are drawn about a particular proposition or event by a process of eliminating all other possible conclusions to arrive at the most likely one, the one that best explains the available data.

Bitler, 400 F.3d at 1237 n.5. This methodology can be reliable if (1) the “best inference” is “in the range of possible causes,” i.e., “there must be some independent evidence that the cause identified is of the type that could have been the cause,” (2) there are “objective reasons for eliminating alternative causes,” and (3) other possible causes have been “eliminate[d] . . . as highly improbable,” and it has been “demonstrate[d] that the cause identified is highly probable.” *Id.* at 1237-38. Mr. Walker’s methodology satisfies these standards.

First, while there is a dispute here regarding whether and how glyphosate could

have found its way onto the McCalls' fields, there is no dispute that glyphosate, if it was applied, can cause damage to Protection wheat. Moreover, Mr. Walker relied upon tests revealing the presence of glyphosate on the damaged wheat fields. See Docket No. 82-2 at 16. In addition to recognizing that glyphosate *can* cause such damage and determining that there was at least some evidence of its presence, Mr. Walker applied his experience inspecting crops and advising clients on farm management to the visual inspection of the crops and photographs of the crops.²

Mr. Walker recognized that Beyond may cause yellowing of wheat crops. Based on the Beyond label, however, Mr. Walker expected such yellowing to be temporary. See Docket No. 90-1 at 2-3. In the McCalls' fields, however, he saw indications of damage as late as April of 2007. Mr. Walker "saw no purpling and purpling is what [he] expect[s] to see from a Beyond application," Docket No. 90-1 at 9, ¶ 14.³ Mr. Walker also relied, in his report and at the hearing, on a test conducted by the North Dakota

²Mr. Jim Daniel, one of defendant's proffered experts, testified at his deposition that, to determine whether the crop suffered glyphosate damage, he would have done nothing other than "make a visual observation" and test the wheat to determine if glyphosate was present. Docket No. 82-5 at 50 l. 23 - 51 l. 16; *but see* Docket No. 82-5 at 89, ll. 7-9 (where Mr. Daniel said that Mr. Walker "does not have enough information to make the statement that glyphosate caused damage").

³As will be discussed below in regard to Mr. Walker's opinion about the potential source of the glyphosate, Mr. Walker also considered the possibility that the McCalls' application of glyphosate to the fields during the summer of 2006 as a potential cause. There was not evidence of damage immediately after that application such as occurred after the October 2006 herbicide application.

Defendant also challenges Mr. Walker's opinion regarding the half-life of glyphosate, *i.e.*, how long it would remain detectable on the plants. This challenge goes to the accuracy of his view rather than its methodology. Mr. Walker has explained the basis for his opinion that glyphosate disappears more quickly than Skyland contends and testified that he believes Skyland is relying on outdated literature in support of its position.

State Seed Department on a sample wheat seed of the variety planted in one of the affected fields which indicated a 99.7% tolerance to Beyond herbicide. See Docket No. 82-2 at 20.⁴

Mr. Walker assessed potential causes unrelated to chemical applications, such as the McCalls' farm management program and the state of the soil. See Docket No. 82-2 at 16-19; see *Windham v. Circuit City Stores, Inc.*, 420 F. Supp. 2d 1206, 1212 (D. Kan. 2006) (admitting expert testimony regarding the cause of a fire where the expert "stated that the evidence was not consistent" with defendant's theory and "gave specific reasons for eliminating other possible sources of the fire"). Mr. Walker's experience and training in agronomy enable him to assess each of these potential causes. See *Bitler*, 400 F.3d at 1238 ("We see no abuse of discretion . . . in the district court's admitting expert testimony that employs an expert's physical investigation, professional experience, and technical knowledge to establish causation in this case.").

By going through these steps, Mr. Walker was able to determine that certain other potential causes of the damage were unlikely. Mr. Walker opines that glyphosate is the likely cause of the damage to the McCalls' wheat crop, though he admits that he "cannot completely eliminate as a potential cause an improper application of Beyond." Docket No. 90-1 at 3.⁵ That he cannot categorically rule out a single alternative cause

⁴Furthermore, Mr. Walker cited a test conducted by Mr. Jim Sipes, President of Sipes Seeds Inc., who attempted to duplicate the damage by applying the "exact same herbicide mixture" to Protection wheat. The application caused no damage, as witnessed by Mr. Mike Hofer of BASF. See Docket No. 90-2 at 5-6.

⁵Neither side has adequately explained why the damage to the fields occurred only in certain spots if the application of the herbicide, regardless of the type of herbicide applied, was uniform.

does not render his opinion inadmissible. See *Newman v. State Farm Fire and Cas. Co.*, 290 F. App'x 106, 113-14 (10th Cir. 2008) (unpublished) (“Neither Rule 702 nor *Daubert* ‘require a finding that an expert’s proffered testimony reach absolute certainty with regard to the likely truth of a conclusion.’”) (quoting *Bitler v. A.O. Smith Corp.*, 400 F.3d 1227, 1236 n.2 (10th Cir. 2004)). Furthermore, “[w]hile . . . an expert employing the ‘differential’ or ‘inference to the best explanation for the cause of an accident’ methodology must ‘eliminate other possible sources as highly improbable and must demonstrate that the cause identified is highly probable,’ . . . an expert is not required to exclude each and every possible alternative cause before such an approach is considered ‘reliable’ under *Daubert*.” *U.S. Aviation Underwriters, Inc. v. Pilatus Business Aircraft, LTD*, No. 01-CV-02056-JLK, 2006 WL 2844173, at *3 (D. Colo. Sep. 29, 2006) (quoting *Bitler*, 400 F.3d at 1238).

In sum, the Court is satisfied that Mr. Walker’s first opinion is based upon a sufficiently reliable methodology, that he is qualified to offer it, and that it will assist the jury.

B. Opinion 2: Skyland applied the glyphosate

Defendant argues that Mr. Walker has no basis to offer an opinion regarding how glyphosate could have gotten into the spray mixture applied to the McCalls’ fields. Mr. Walker no longer contests that point, admitting that he “cannot opine to a reasonable degree of probability how the glyphosate got into the chemical mixture which Skyland applied.” Docket No. 90-1 at 3. That, however, does not mean, as defendant argues, that there is “no evidence that anything other than the mixture shown on Skyland’s

spray sheets was applied.” Docket No. 79 at 17 (citation omitted). As discussed above, Mr. Walker may offer his opinion that the damage he observed on the McCalls’ fields was caused by glyphosate and would not have been caused by the proper application of the mixture documented by Skyland.

Furthermore, he has also stated that it is “clear the injury was caused by the Skyland application” because of the “timing of . . . the injury” as well as an elimination of drift as a cause. Docket No. 90-1 at 8 (“Adjacent field spraying was investigated and the damage pattern does not support a drift explanation.”); see Docket No. 90-2 (“Walker Aff.”) at 8, ¶ 12 (“I did obtain and review the spray records from Double C Farms in SW/4 15-31-42 on 10/23/06. The field was sprayed [by] Skyland Grain with glyphosate and 2-4,D. The field was more than a mile away from the damaged fields of [the] McCalls. The nearest McCall wheat field . . . was not damaged and it was not sprayed with Beyond by Skyland Grain. In addition, I investigated and noted in my reports all of the applications made by Olea McCall.”). Mr. Walker inquired of Olea McCall regarding prior applications of herbicides to the damaged fields,⁶ including an application of glyphosate during the summer of 2006, and discounted this as a source of the glyphosate due to the location of those applications and the lack of any damage to the wheat prior to defendant’s application. Moreover, as discussed above, Mr. Walker eliminated other potential causes of the damage unrelated to herbicide

⁶Defendant challenges Mr. Walker’s reliance on Mr. McCall’s oral reports. Mr. Walker asserts that, as an agronomist, he regularly relies on the oral reports of his clients. See Docket No. 90-1 at 8, ¶ 11. Furthermore, Mr. McCall will be available at trial for cross examination regarding his statements to Mr. Walker. The reliability of that underlying data can be challenged in that manner and goes to the weight to be afforded Mr. Walker’s conclusions, not their admissibility.

application. In short, defendant is correct that Mr. Walker cannot speculate at trial regarding how glyphosate might have been introduced to the Skyland spray mixture. And defendant is free to submit its own evidence regarding the manner and substances used to spray the fields. Mr. Walker, however, will be permitted to offer his opinion that the damage was most likely caused by the application of herbicide in October of 2006.

C. Opinion Three: The damaged fields would have achieved 120 bushels per acre

Mr. Walker states that he “regularly perform[s] analysis of Eastern Colorado farmer[s]’ farm management programs and undertake[s] analysis to predict yields of fields based on the farmer’s management practices and environmental conditions.” Docket No. 90-1 at 1; see *id.* (“I regularly evaluate growing crops, including wheat crops, for injury including injuries by chemical applications.”). Mr. Walker states that he used two methods to reach his conclusion that the McCalls would have achieved 120 bushels per acre but for the damage to their fields, and a third method to confirm the results of the first two methods.

1. Method 1

In his first method, Mr. Walker compared the yield of Clearfield Protection Wheat achieved by the McCalls on Section 14, which was not sprayed by defendant. See Docket No. 82-2 at 16. Olea McCall reported a yield of 100 bushels per acre of the Protection wheat on the unsprayed field. That wheat, however, was planted later than the wheat on the sprayed field. Mr. Walker estimated that if the wheat had been planted at the same time as the damaged wheat, it would have yielded an additional 20%, or 120 bushels per acre.

Defendant challenges the comparison of the two adjoining McCall fields, arguing that Mr. Walker compared two different varieties of wheat and citing *Harsh v. Cure Feeders*, 116 P.3d 1286 (Colo. App. 2005).⁷ In *Harsh*, the Colorado Court of Appeals relied upon the Colorado Supreme Court’s approval of a crop damage calculation based upon “the average yield of the same crop on similar land in the agricultural neighborhood in the same season and locality.” *Harsh*, 116 P.3d at 1289 (quoting *Bloxsom v. San Luis Valley Crop Care, Inc.*, 596 P.2d 1189, 1192 (Colo. 1979)) (additional internal quotation marks omitted). The unaffected field, however, had both Protection and Jagalene wheat, and Mr. Walker based his calculation on the yield achieved by the Protection wheat – 100 bushels per acre – as reported by Mr. McCall. If it wishes, defendant can seek to challenge the accuracy of that oral report at trial. Plaintiff, however, has satisfied the Court that the methodological approach of comparing adjacent fields of the same crop managed by the same farmer is reliable.

With that said, the Court takes the opportunity to note that Mr. McCall provided extra irrigation to certain damaged crops. In *Harsh*, the court stated that “because only a part of the crop in a portion of the field was damaged, plaintiff was compelled by either his obligation to mitigate damages or his farming method, or both, to continue to farm the entire field in the same manner.” *Harsh*, 116 P.3d at 1289 (“[T]he damaged and undamaged portions of the field were treated identically.”); *cf. id.* at 1287 (“[Plaintiff] continued to irrigate, fertilize, and apply chemicals to both the damaged and

⁷Jurisdiction in this case is based on diversity of citizenship under 28 U.S.C. § 1332(a)(1). The parties assume that Colorado law applies to the calculation of damages and, therefore, so will the Court. See *Grynberg v. Total, S.A.*, 538 F.3d 1336, 1346 (10th Cir. 2008).

undamaged portions of the field in the same manner.”). Ensuring that the fields were, at a minimum, treated equally protects against the risk that, if a damaged field was not tended to sufficiently, damages could be overstated upon comparison to an undamaged, adequately-tended field. Here, however, Mr. McCall’s extra efforts to revive the damaged field only further *mitigated* the damages.

Defendant also challenges the twenty percent additional yield based on the fact that the wheat in the field was planted later. Mr. McCall testified at the hearing that he planted the Protection wheat on the untreated field seven to ten days later than on the fields treated by defendant. At the hearing, Mr. Walker explained that he added twenty percent additional yield because the “field was planted later,” because his examination of the later-planted wheat showed it to be “further behind,” and because the field would have yielded less because of the “hot, dry winds” in the area. Mr. Walker, however, never explained what methodology he used to reach the twenty percent number. He simply pointed out that he had reason to believe the untreated field would have yielded more if it had been planted at the same time as the treated field. The Court is not required to take his word for it. See Fed. R. Evid. 702 advisory cmt. notes (“The trial court’s gatekeeping function requires more than simply ‘taking the expert’s word for it.’”); *General Elec. Co. v. Joiner*, 522 U.S. 136, 146 (1997) (“[N]othing in either *Daubert* or the Federal Rules of Evidence requires a district court to admit opinion evidence that is connected to existing data only by the *ipse dixit* of the expert.”). Therefore, the Court will not permit him to testify to the additional twenty percent yield. For the reasons stated above, however, that does not prevent Mr. Walker from offering his opinion that

the fields sprayed by defendant would have yielded at least as much Protection wheat as the nearby field that was not sprayed.

2. Method 2

In determining appropriate wheat fields to compare to plaintiffs' fields for the purpose of a damages calculation, Mr. Walker defined the "agricultural neighborhood" to include three farmers who achieved excellent yields in the range of 110 to 130 bushels per acre in Prowers County, which is just to the north of Baca County, where Walsh is located. Mr. Walker contends that, like these farmers, the McCalls implemented excellent management techniques and, therefore, should be compared with them rather than county averages for wheat yields per acre. Mr. Walker does not specifically compare "Olea McCall's farm management program," Docket No. 90-1 at 6, with those of the other three farmers other than to assert that they were all excellent. See, e.g., Docket No. 79-6 at 99 (Walker Depo.) ("I examined all factors that affect crop growth and felt that the McCalls did an excellent job and it should have been an exceptional year."). Moreover, Mr. Walker does not adequately account for what effect, if any, the different varieties planted by the three farmers might have on yields. The methodology employed does not appear to have involved making a point by point comparison of management techniques, soil, and wheat varieties and then determining the yields achieved by comparable farmers. Rather, Mr. Walker appears to have simply identified high-yield farmers in a nearby county and then asserted that they, like the McCalls, were excellent managers.

Because Mr. Walker has failed to adequately articulate the points of comparison, the Court is not satisfied that the three area fields represent "the same crop on similar

land in the agricultural neighborhood in the same season and locality.” *Harsh v. Cure Feeders*, 116 P.3d 1286, 1289 (Colo. App. 2005) (quoting *Bloxsom v. San Luis Valley Crop Care, Inc.*, 596 P.2d 1189, 1192 (Colo. 1979)). While there may be a factual basis supporting Mr. Walker’s opinion, it has not been supplied to the Court and, as noted above, the Court need not accept Mr. Walker’s *ipse dixit*. Therefore, the Court will not permit Mr. Walker to offer this calculation as part of plaintiff’s direct case.⁸

3. Method 3

In his third method, Mr. Walker looked at the results of the Colorado State University Wheat Variety Trial in Walsh, Colorado from 2000 to 2008. See Docket 82-2 at 22. The year 2007 was a bumper wheat crop in that part of Colorado due to the heavy snow pack. Consequently, the average yields for 2007 were 212.8 percent higher than the average yield over the Trial period. See *id.* Mr. Walker then applied that percentage to the irrigated wheat yield the McCalls had insured (56.4 bushels per acre) to achieve an expected yield of 119.6 bushels per acre. See *id.* Mr. Walker asserts, however, that the third method “was done to test the reasonableness of his results from methods 1 and 2.” Docket No. 82 at 10. The *Harsh* court stated that “in order to establish the value [of crops] at the time of the destruction courts are compelled to resort to several methods of computation, and either, or all combined, may afford a fair basis.” *Harsh*, 116 P.3d at 1288 (citations omitted). Yet those methods, whether advanced individually or in combination, still must meet the reliability

⁸With that said, if defendant chooses to argue that no farmer in southeast Colorado achieved yields over 100 bushels per acre for any variety of wheat that season, Mr. Walker’s testimony regarding the three farmers in Prowers County could become relevant to rebutting that point.

threshold set by Rule 702 as defined in *Daubert*. Here, plaintiffs conceded at the hearing that this third method is “probably not recognized” as a reliable approach to calculating yield loss. Nor have they explained how its reliability is heightened by combining it in some way with the other two methods. In short, plaintiffs have not met their burden of demonstrating that this is a reliable opinion. Therefore, the Court will exclude this third method of calculating damages.

III. CONCLUSION

For the foregoing reasons, it is

ORDERED that defendant’s motion to exclude the testimony of Bradley Walker pursuant to Federal Rule of Evidence 702 [Docket No. 79] is **GRANTED** in part and **DENIED** in part.

DATED June 22, 2010.

BY THE COURT:

s/Philip A. Brimmer
PHILIP A. BRIMMER
United States District Judge