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UNITED STATES DISTRICT COURT
EASTERN DISTRICT OF MISSOURI
SOUTHEASTERN DIVISION

BADER FARMS, INC.,
Plaintiffs,

vs.

Cause No. 1:16CV299

SNLJ

MONSANTO CO., AND BASF CORPORATION,
Defendants.

=====

TRIAL DAY 9
VOLUME 9B - Pages 1278 - 1439

BEFORE THE HONORABLE STEPHEN N. LIMBAUGH, JR.
UNITED STATES DISTRICT JUDGE

FEBRUARY 6, 2020

=====

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23 Official Court Reporter
24 United States District Court
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I N D E X

FEBRUARY 6, 2020

Trial Continued:

DR. FORD BALDWIN:
DIRECT EXAMINATION CONTINUED

BY MR. RANGLES
CROSS-EXAMINATION BY MR. MILLER

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the 1 (Proceedings resumed in open court outside
2 presence of the jury.)

3 THE COURT: Any preliminary matters?

4 MR. RANGLES: No, Your Honor. Thank you.

5 THE COURT: Bring the jury in.

6 (Jury in.)

7 (Proceedings resumed in open court.)

8 THE COURT: Please be seated.

9 Mr. Randles.

10 MR. RANGLES: Thank you, Your Honor.

11 Good afternoon.

12 DR. FORD BALDWIN,

13 being previously sworn, testified as follows:

14 DIRECT EXAMINATION CONTINUED

15 BY MR. RANGLES:

16 Q. Good afternoon, Dr. Baldwin.

17 A. Yes, sir.

18 Q. We were just changing to a new subject when we
broke for

19 lunch. I want to talk to you in a summary fashion
about the

20 way the release of the Xtend system changed the use of
21 dicamba in farming. And then we'll get into more
detail as
22 we reach issue by issue; all right?

23 Did the release of the Xtend system have an
effect on
24 how many acres would be sprayed with dicamba?

25 A. Absolutely.

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1 Q. And what was that effect?

2 A. Well, that effect is we talked about the earlier
uses,

3 the effect of the Xtend system and the Xtend crops
means that

4 you're spraying all of a sudden or potentially going to
spray

5 soybean and cotton. And, you know what, there's
roughly 80

6 million acres of soybeans in the US and, what, 13
million

7 acres of cotton, whatever, so, I mean, it -- it greatly

8 expanded the use.

9 Q. And I think you'll recall hearing Dr. Carey
testify, but

10 about 60 million acres are covered with Xtend seed so
far.

11 Do you remember that testimony?

12 A. I do.

13 Q. And from your testimony, if you add cotton and
soybean

14 together, they're another about two-thirds of the way
to all

15 of the acres of cotton and soybean more or less; right?
60

16 million to 93 million?

17 A. That would be close.

18 Q. Yeah. And is the use continuing to expand?

19 A. It is expanding, especially in certain areas.

20 Q. Okay. Did the release also have an effect on the
21 spraying of a higher rate of dicamba than used to be
sprayed?

22 A. It did.

23 Q. And can you tell the jurors what that effect was?

24 A. I think there's been some discussion on that, but
when

25 it was used in corn, used in cereal crops, even used as
a

1285

1 burndown it's rarely ever used alone. It's rarely
ever what

2 we would call a foundation herbicide where that's the
primary

3 herbicide you're depending on in that use.

4 And because of that the use rates would be more

as
one
planting.

5 typically in the quarter pound active ingredient rate
6 opposed to, you know, the rates now. You can use it at
7 pound per acre if you're using it prior to crop

active per
8 And then the in-crop use rates are a half a pound
9 acre, and two of those are allowed. So, I mean, it's
10 greatly expanded the amount of dicamba use per acre.

which
11 Q. Has it also had an effect on the time of year in
12 the dicamba is being sprayed?

13 A. Well, very much so. I mean --

14 Q. Explain to the jurors what that effect is.

used in
spring.
15 A. Yeah. I mean, as we discussed before, when it's
16 cereals, it's used strictly in the fall to very early

corn
the
still
17 When it's used in corn, it's used fairly early in the
18 growing season, which is usually a little bit ahead of
19 soybeans in a lot of areas. So most of those are
20 relatively cool conditions.

and you
June,
planted,
21 Where when you put it into cotton and soybean
22 shift that use to -- I mean, May, but also June -- May,
23 July depending on the area, how soon the crop gets

24 and that sort of thing, so the potential for
application

25 under -- well, not just the potential, I mean, the

1286

1 application is just naturally going to occur under much
2 higher temperatures.

3 Q. And we'll go into more detail as we go, but do the
4 following things affect off-target movement, higher
5 temperatures?

6 A. Higher temperatures can affect it.

7 Q. Greater number of acres being sprayed?

8 A. Yes. The more acres you spray the more
opportunity you

9 have for something to move off target.

10 Q. Time of day when you apply it?

11 A. Time of day can have an effect.

12 Q. And we're going to talk about a larger one later
when we

13 talk about labels and such. Temperature inversions, do
they

14 affect it?

15 A. Temperature inversions affect it very much so.

16 Q. And you also indicated there are other conditions
in the

17 summer that can effect off-target movement like if it's

dry and 18 really dry. Can you explain to our jurors why really
19 dusty conditions might also contribute to off-target
20 movement?

of 21 A. Well, I mean, it can move in blowing dust, and all
Xtend 22 this is being done by -- these labels are -- and the
application. 23 crops are only for ground application, no aerial
the 24 And if the field is dusty when the application is made,
it's 25 spray boom is behind the wheels on the sprayer. So

1287

then 1 just moving through the field stirring up dust, and
2 that dust is actually being sprayed, and that -- that's
move off 3 just -- I mean, that's not the top way that it would
off 4 target, but it is just simply another way it can move
5 target.

rains and 6 Q. Let's go to another extreme. What about heavy
dicamba? 7 water flow, can that have an effect on movement of

think 8 A. Well, we know that dicamba is very soluble, and I

will 9 it's already been alluded to that it can move and it
10 move and run off water if the runoff water is going
somewhere 11 where you don't want it.

12 Q. Now, did there come a time when you were and other
13 members of the scientific community you consult with
became 14 aware that Monsanto intended to release cotton seeds
without 15 an accompanying herbicide in 2015?

16 A. Well, that's correct.

17 Q. In terms of the risk of off-label spraying what
was 18 being discussed in the scientific community at that
time?

19 MR. MILLER: Objection, Your Honor, as to
what 20 others were discussing.

21 MR. RANGLES: I'm just asking about the
general 22 nature of the conversations. I'm not asking for any
23 particular who said what.

24 MR. MILLER: As long as we stick to that, no
25 problem, Your Honor.

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1 THE COURT: Okay.

2 BY MR. RANGLES:

3 Q. Okay. If you could tell us just generally what
the --
4 how the subject was being addressed in the general way
in the
5 scientific community prior to the release of the '15
seeds.

6 A. That given the weed problems that were out there
that
7 off-label spraying would be inevitable.

8 Q. Now, when you say the "weed problems," I actually
want
9 to back up and address that a little bit. The jury has
heard
10 testimony that these seeds -- the cotton seeds were as
I
11 believe they said triple action or something you could
use
12 dicamba, glufosinate and glyphosate, and I think they
said
13 that the -- and you tell me if I'm right -- that the
soybean
14 seeds could use dicamba and glyphosate. Do I have that
15 correctly?

16 A. That's correct. Hopefully we'll deal with them
one at
17 a time.

18 Q. Oh, yeah, we will. So in terms of the cotton
seeds
19 when you said that the spraying would be inevitable,
what
20 does the usability of the different herbicides -- how

does

21 that affect your opinion on that?

22 A. Well, in the case of cotton what you said is true
that

23 you could use glyphosate, which was Roundup,
glufosinate,

24 which is Liberty, and, obviously, the seed were also
tolerant

25 to dicamba. There was already a cotton on the market
that

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1 was what we called a Roundup Liberty stacked trait
cotton.

2 And so farmers could use not in Monsanto's
varieties,

3 but farmers could plant varieties of cotton where they
could

4 use glyphosate and glufosinate, and they were being
quite

5 successful in that area.

6 And when the -- when the Xtend cotton came out
in

7 2015, they could have continued to do that. I mean,
it

8 could have been marketed in such a way to, you know,
hey,

9 until we get our dicamba label use it as a glyphosate
10 glufosinate stacked trait cotton.

11 And any farmer -- I don't get a lot of calls in

the 12 cotton, but any farmer that called me that was exactly
13 way that I recommended it is just use it as a
14 glyphosate/glufosinate only technology.

15 Q. So just so we're clear, the '15 cotton with its
16 resistance to glufosinate and glyphosate, that wasn't
the 17 unique trait of that cotton, was it?

18 A. Well, it was unique to -- to the Deltapine
varieties 19 that Monsanto had, but it was not unique to cotton
20 production.

21 Q. So Liberty already had one that could tolerate
those two 22 at that time legal herbicides; right?

23 A. That's true.

24 Q. What was new about the cotton was the tolerance to
25 dicamba; is that right?

1290

cotton 1 A. And it put those technologies in some very good
2 varieties, some very good germplasm that Deltapine had
or 3 Monsanto's cotton brand.

4 Q. But in terms of the soybeans what -- the 2016
5 dicamba-tolerant soybeans what herbicides could be used

with

6 that?

7 A. Okay. The soybean was different because you
couldn't

8 use the glufosinate trait in it, and there was a
variety or a

9 technology out there called LibertyLink, which -- which
you

10 could spray -- if you planted that variety, the
varieties

11 that were tolerant to Liberty, then you could spray
Liberty

12 over the top of them, but -- but what happened when the
weeds

13 developed resistance to Roundup and then -- in the part
of

14 the country we're dealing with they quickly developed

15 resistance to the only post emergence alternative that
we

16 had.

17 So at that point LibertyLink was the only
choice.

18 If you had -- if you were going to control wheat --
Palmer

19 amaranth that you've heard so much, the pigweed that
was so

20 devastating -- if you were going to control it at that
time,

21 you had to plant the LibertyLink technology.

22 So when a person chose to plant Xtend soybean
instead

23 of LibertyLink they pretty much were going to be

dependent on

24 controlling pigweed with dicamba in that technology.

25 Q. So if -- if a farmer planted the dicamba-tolerant

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1 soybeans, he could not spray glufosinate over it;
correct?

2 A. That is correct. He could spray Roundup and
dicamba,

3 but the Roundup was already ineffective.

4 Q. And the pigweeds were already resistant to
glyphosate,

5 Roundup; right?

6 A. That's correct.

7 Q. So if a farmer planted the dicamba-tolerant
soybeans in

8 2016, and he wanted to control his pigweed with a
herbicide,

9 what was his option?

10 A. Well, if he was in -- if he had a Palmer amaranth

11 problem in the area that we're talking about around
Bader

12 Farms, the Bootheel of Missouri and Northeast Arkansas,

I

13 mean, that was a very rampant problem, and it was a
problem

14 that could be bad enough that the fields couldn't be

15 harvested, he could use some soil applied herbicides in

a

and 16 system, but there's always a need for post emergence,
he 17 there was no post emergence alternative to dicamba if
18 planted that technology that would work.

hand 19 And so if he planted it, he was either going to
spray 20 weed it or basically live with the weed pressure or
21 dicamba over it.

'16, 22 Q. So, as the seeds were being released in '15 and
that 23 were you and others in the scientific community warning
going to 24 off-label spraying and damage to sensitive crops was
25 occur?

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1 A. Yes.

you have 2 Q. And once the damage started in '15 and '16, did
trying to 3 some involvement with the Arkansas Plant Board in
4 sort this out?

I was 5 A. It seems like almost on a weekly basis, but, yes,
of 6 very involved, especially in starting in '16 after both

7 the technologies came out there was still no herbicide
8 labels, yes, I got very involved with our plant board
at that
9 point in time.

10 Q. And did you -- long before you met Bill Bader were
you
11 walking fields to try to figure out what was dicamba
damage
12 in Northeast Arkansas and Southeast Missouri?

13 A. I was.

14 Q. And did you spend a good portion of 2016 doing
that?

15 A. I did.

16 Q. Can you describe for the jury what the -- and
they've
17 heard a little bit about this, but what was the
atmosphere in

18 the agriculture community in Northeast Arkansas and
Southeast

19 Missouri by about the middle of the summer of 2016 over
this
20 dicamba issue?

21 A. Well, it was a bigger issue in Missouri than it
was in

22 Arkansas. We had it. I think our plant board number
of
23 complaints were roughly 23 or something in 2016, which
was

24 up, but it wasn't anything like was happening in
Missouri.

25 Ours was more in pockets where people were using it,
but --

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just 1 but in Missouri and in Arkansas, I mean, everybody is
2 like, What's going on?

3 Even the farmers that were using it were saying
4 what's wrong? I mean, what's happening? We didn't
expect

5 this. And, obviously, the people that were being
affected
6 were very much wanting to know what was going on. So,
I
7 mean, it was a big deal.

8 Q. Were you attending meetings about this in 2016?

9 A. The meeting -- of course, I was attending plant
board
10 meetings, but the other meeting I did attend was the
one
11 that's been alluded to several times, and that was the
12 Portageville meeting. I called it a town hall
meeting. I
13 don't know what they called it.

14 But I actually had -- had spoken at a field day
in
15 the Midwest and was just able to attend that meeting on
my
16 way home, because I wanted to see what the Missouri
people
17 were saying about their situation.

but 18 Q. And there's already been testimony to that effect,
19 Bill Bader was there. Did you meet Bill Bader at that
20 meeting?

was. 21 A. I don't recall meeting him. I figured out who he
22 I mean, I don't remember whether he spoke up, or some
way I 23 figured -- I knew who he was, but that was the extent
of it.

24 Q. And Boyd Carey was there?

said I 25 A. You know, I didn't know him at the time, but he

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There 1 was there, so I'm going to assume he was there too.

know 2 were several Monsanto people there. I mean, I didn't

3 them all, but there were people there from the company.

Monsanto 4 Q. Might as well be clear. You've known a lot of

5 people for a lot of years; right?

through 6 A. Oh, absolutely. I mean, I don't know many left
7 anymore, but I've worked with Monsanto very closely

8 my whole career, and, yes, I've known a lot of Monsanto
9 people through the years.

of the 10 Q. And the jury has already heard the general nature
Bradley. 11 presentations from the Missouri Plant Board from Dr.
was 12 Did you go up and have a visit with Dr. Bradley when it
13 over?

14 A. Well, Dr. Bradley presented, and, of course, he
of his 15 presented on soybeans. I don't remember every detail
me 16 talk, but the one thing he presented on that interested
17 very much was he took the talk outside of soybeans and
18 started showing pictures of trees and other vegetation.

19 And that was in -- and I had noticed that in
some of 20 my field inspections that we may talk about later, but
that 21 was one thing that I won't say totally caught me off
guard, 22 but I think at the time most of us were thinking that
the 23 dicamba off-target issue was going to be a soybean
issue. 24 That part of it was very much expected.

25 But I had started noticing tree damage of just
a

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1 different species. And Kevin presented a lot of

pictures of

2 different kind of trees and vegetation. And some of
the

3 pictures he presented were from peaches. And I think
that

4 the testimony would indicate they were from Bader
Farms. I

5 don't remember whether he said that or not, but --

6 Q. And at that time Bader Farms didn't really mean
anything

7 to you, did it?

8 A. No, not really. I mean, you asked if Kevin and I
had a

9 discussion. It was just mainly about trees in general

10 comparing notes about, you know, did you see this
coming.

11 And we basically just had a general discussion about

really

12 just vegetation other than soybeans, because there was

no

13 surprise with the soybeans.

14 Q. Now, I would like to -- you've alluded to it, so I
just

15 want to deal with it here. You talked about being out
in

16 the fields a lot in 2016 looking at damage. Can you
give

17 the jury a feel for how extensive that experience was
and how

18 it compared to anything else you'd ever seen?

19 A. Well, it wasn't anything like 2017 that we'll talk
about

20 later. I recall seeing a few fields in Arkansas in
some of
21 those pockets, but where I got close to Bader Farms I
got
22 invited -- I didn't get invited -- I got retained by an
23 attorney actually here in Cape that asked me to go look
at
24 the soybeans on four farms, and it turns out now that I
know
25 where Bader Farms is then it was in fairly close
proximity.

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1 They were all in that area between Kennett and Malden
and
2 sort of Campbell area.
3 And he just asked me to go look at them, give
him an
4 opinion on whether it was dicamba that it was affecting
the
5 soybeans in question. He didn't ask me to make any
6 investigation of where it came from, just go look and
report
7 back to him, and I did that.
8 Q. And the jury has already heard a fair bit about
the
9 geography of Dunklin County and Crowley's Ridge. I'm
not
10 going to go back into that in any detail, but based on
your

11 observations and your research what are the dominant
crops in

12 Dunklin County?

13 A. Well, the two dominant crops are cotton and
soybean.

14 Q. Now, I want to ask you a couple of general
questions.

15 Then we're going to get into more detail year by year;
all

16 right?

17 Dr. Baldwin, do you have an opinion as to what
the

18 cause of the damage to the peach trees on Bader Farms
is?

19 A. I have an opinion on that.

20 Q. What is your opinion?

21 A. My opinion is those -- the peach trees on that
farm are

22 being exposed to just chronic exposure to dicamba
several

23 times or numerous times per year at different durations
over

24 the course of the years that we've been talking about.

25 Q. And do you believe that dicamba is -- dicamba is
being

1297

1 sprayed over the top of Xtend seeds during the growing

2 season?

3 A. I absolutely do.

4 Q. And do you have an opinion about what the
prospects for
5 the peach business of Bader Farms is if this dicamba-
tolerant
6 system continues to be used in Dunklin County?

7 A. If it -- if it continues to be used as is, then I
--
8 there's no doubt in my mind that he cannot be
successful
9 growing peaches with the technology being used as it
10 currently is being used.

11 Q. And these opinions that you just stated, do you
hold
12 them to a reasonable degree of scientific certainty?

13 A. A very high degree of scientific certainty.

14 Q. I want to try to walk through now a little bit
15 chronologically, and we've done a lot of this.

16 MR. RANGLES: Your Honor, I would like to
show to
17 the -- we'll start in 2015. I would like to show to
the
18 witness and Court and counsel an objection that I don't
19 believe there is a further objection -- an exhibit that
I
20 don't believe there's a further objection to, but I
believe
21 it's Plaintiff's Exhibit 207.

22 (Plaintiff's Exhibit No. 207, Map, was
identified.)

23 MR. MILLER: Same objection, Your Honor.

24 THE COURT: Overruled. It's been admitted
25 already, hasn't it?

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formally 1 MR. RANGLES: I don't think it's been
2 admitted, but we've reached accord on their maps and
our 3 maps.

4 MR. MILLER: Right. And we reserved the
5 objections, and they're reserved.

We 6 MR. ANDERSON: The same for BASF, Your Honor.
7 understand that Your Honor has overruled the
objections.

8 THE COURT: Right. It's overruled and
admitted 9 then.

10 (Plaintiff's Exhibit No. 207, Map, was
received.)

11 BY MR. RANGLES:

12 Q. Now, Dr. Baldwin, I'm going to ask you a question
that 13 is going to cover Plaintiff's Exhibit 207, 8, 9 and 10.

14 These are -- you've seen these maps before, haven't
you?

15 A. I have.

16 Q. And we sat down together and made these maps;
correct?

17 A. That's correct.

18 Q. Can you tell the jurors what the basis of these
maps is?

19 What information you used to form -- can you tell us
what the

20 basis of these maps are?

21 A. Well, we requested the -- the -- of course, I
would have

22 liked to have information on all the fields that had
dicamba

23 applied to them. That was not -- we didn't get that,
but we

24 requested seed sales and seed sales information in a
15-mile

25 radius around Bader Farms and ultimately received that

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1 information and took the shipping addresses out of the
people

2 that received seed and used Google maps and applied
that on

3 the map that each one of those -- of course, the green
--

4 Q. Well, just a second.

5 A. There you go.

6 MR. RANGLES: It's in evidence now, Your
Honor.

7 May we publish it to the jury?

8 THE COURT: Yes.

9 MR. RANGLES: Thank you, Your Honor.

10 BY MR. RANGLES:

11 Q. So what's this green dot?

12 A. I call them balloons, but the green dot is the
Bader

13 Farms peach shed.

14 Q. Okay. And what are these other -- you call them
15 balloons. What are the yellow balloons?

16 A. Well, they're -- that's just the plotting on
Google maps

17 from the addresses that we received where seed were
sold at.

18 If there was -- if there was not an exact address -- if
it

19 was P.O. Box, for example, we used the town of the
shipping

20 address, but each one of those dots or balloons also
just

21 recommends -- I mean represents one shipment. If there
were

22 multiple shipments, there's still just one dot.

23 Q. So even if there were multiple shipments, you just
still

24 had one dot here?

25 A. That's correct.

we
farmer

1 Q. And we're not -- you're not suggesting to the jury
2 know for sure that the dot is the exact field that a
3 would have planted in; right?

through
the

4 A. No. The fields would have been just distributed
5 the area that those dots represent, that would just be
6 shipping addresses.

have

7 Q. And is it your experience that farmers generally
8 their headquarters near where they plant?

they're

9 A. Well, I mean, that would make sense. I mean,
10 going to put -- a lot of these guys are spread out.
11 no question about that, but their farm headquarters are
12 generally somewhat central to their operation.

There's

like

13 Q. And that's a fair point. Dunklin County much
14 Northeast Arkansas is home to a number of very large
15 farms;
16 correct?

clear,

16 A. That's correct.
17 Q. Okay. And this is the '15 map, so just so we're
18 and so this is cotton sales?

19 A. That's only cotton.

you? 20 Q. Now, in 2015 you hadn't met Bader Farms yet, had

21 A. No, I had not.

22 Q. Had you visited with Bill Bader about what was
happening

23 with his farm and what he saw in 2015?

24 A. I had.

25 Q. Is what you have gathered from him consistent with
what

1301

1 you saw after the '16 season and then further forward?

2 A. Yeah. I think, you know, obviously, I didn't see
the

3 farm in '15. So, I mean, my opinions about the farm

4 basically come from the gathering of all the
information that

5 I've done through the years and just kind of, you know,
back

6 calculated or backtracked from there if that makes any
sense.

7 Q. Okay.

8 MR. RANGLES: Your Honor, we would like to
now put

9 up 2008, the map for '16.

10 MR. MILLER: Same objection, Your Honor.

11 MR. ANDERSON: Same objection, Your Honor.

12 THE COURT: You introduced these all four at
once,

13 so no need to object further.

14 MR. MILLER: I'm sorry, I didn't realize
that, Your

15 Honor. I apologize.

16 BY MR. RANGLES:

17 Q. Dr. Baldwin, is this our map for '16?

18 A. It is.

19 Q. Once again, we have a little green balloon there?

20 A. Yes.

21 Q. And we switched to red balloons. I'm not sure
why, but

22 this would represent cotton and soybean shipments?

23 A. That is cotton and soy, and, again, just it
represents

24 one shipment of either. And we didn't try to do
separate

25 ones for cotton and separate ones for soy. That's
just a

1302

1 shipment of an Xtend crop one time.

2 Q. Okay. Now, I want to ask you a question about --
and

3 we can take that down for now. I want to ask you a
question

4 about the end of the '16 season and beginning of the
'17

5 season.

6 All right. The spraying -- it's undisputed in
this
7 case that any dicamba spraying for '15 and '16 would
have
8 been off-label in the older formulations, but on '17
the
9 newer dicamba formulations were coming online. What
'17
10 messages were you hearing from the companies about how
would be different?
11
12 A. Well -- and, obviously, when '16 blew up much
worse than
13 '17 -- I mean, then '15 did in terms of numbers of
14 complaints, and, you know, we talked about the town
hall
15 meeting. I think you even talked about a compliance
16 advisory at one time being issued. Ask me that again.
I
17 lost my train of thought.
18 Q. That's fine. What messages were you hearing from
the
19 companies about how it would be different with the new
20 formulations?
21 A. Well, I mean, obviously, the message was, well,
these
22 are the older more volatile formulations. If farmers
did
23 spray off label, this wouldn't be any big surprise.
And at
24 that time we held out hope that these new formulations
were

25 going to be better.

1303

1 I mean, they never advertised them or never
talked
2 about them as being nonvolatile. They just talked
3 being low volatile. And the question in our mind is,
okay,
4 we're hopeful. We don't know how much lower
volatility is
5 low enough when we put it out in the real world, but
there
6 was still some optimism.
7 They had a valid point that these all were the
older
8 higher volatility formulations. That's all that was
9 available. So that was what the general discussions
was
10 around that these new formulations are going to fix the
11 problem and everything will move up.
12 Q. Okay. Before we get to the '17 growing season
let's
13 start with the winter of '17. Did you make an
inspection of
14 Bader Farms after you became involved in this case in
15 February of 2017?
16 A. I did.

Bader 17 Q. And what did you observe as you were heading into
18 Farms?

19 A. Well, as I was heading into Bader Farms -- I went
up
20 there from the south. I live, obviously, in Arkansas.
And
21 so I just kind of took it -- in fact, Bader Farms is
almost
22 due north of my house the way the crow flies, so to
speak, so
23 I just took a southern route up there.

24 And when I crossed over there out of Piggott,
25 Arkansas and crossed -- started through the -- that
portion

1304

1 of Dunklin County into the Bootheel where there's
essentially
2 just nothing but flat farmland, and as I got closer and
3 closer and my GPS was telling me I was getting closer
and
4 closer to Bader Farms, and now I'm looking at Crowley's
5 Ridge, and I just said to myself right then if Bader
Farms is
6 setting where I think it's setting, then it's going to
be
7 very, very difficult for him to live in -- in a world,
so to
8 speak, that's going to have high uses of dicamba south

of him

9 or that was the direction I was coming from at the
time.

10 Q. Well, why did the -- why did the question about
whether

11 it was on the ridge strike you as problematic for him?

12 A. Well, as I was approaching from the south -- I
mean, the

13 first place our general southern -- our generally
prevailing

14 winds are typically from a southerly direction, so I'm

15 saying, okay, they're going to be blowing right toward
where

16 I'm looking.

17 And also it is setting up on the ridge, which
makes

18 it, you know, just things were blowing, they want to
rise. I

19 mean, he's sitting up higher than everything else. I
mean, I

20 felt like that -- there was a certain part -- degree of
21 vulnerability with that as well.

22 Q. So in your experience if you're on high ground
near a

23 bunch of lower ground, are you at -- does that present

a

24 special risk for getting hit with herbicide movement?

25 A. I mean, just based on our experience -- you know,

this
Ridge
to
somewhat.

1 Crowley's Ridge runs all the way through Arkansas, so
2 wasn't my first experience with herbicides on Crowley's
3 or around Crowley's Ridge, but there just seems to be
4 something about Crowley's Ridge, which I don't know how
5 explain it, but it does seem to increase the risk

'17.

6 Q. Okay. Now, you looked at the farm in February of

7 What were your overall impressions at that time?

8 A. Well, I mean, obviously it's in the wintertime.

And I

9 went up there mainly to meet Mr. Bader and just have a

look

-- a
10 around, look at the farm. That type of a preliminary

11 preliminary visit was my -- was my initial intent.

12 Q. And we're going to move into the growing season
for '17.

13 The jury has already seen the 2017 growing compliance

14 advisory a couple of times, so we're not going to put
it back

15 up, but about the time of that compliance advisory did
you

16 make a second inspection of Bader Farms in August of
2017?

17 A. I made a second inspection in the summer of 2017.

I

18 did.

19 Q. And when you were there, first of all, I would
like you
20 to tell the jurors what you saw with respect to the
peach
21 trees.

22 A. What I saw in the terminals on the peach trees --
23 and excuse me -- in my opinion was auxin herbicide
injury.

24 And I had already seen Kevin Bradley's photos that in
2016 of
25 that when he went up there.

1306

1 I had already seen a lot -- when I inspected
those
2 four farms that I talked about earlier in 2016, I had
seen a
3 lot of tree damage on other types of trees that left me
no
4 doubt that it was associated -- that tree damage was
5 associated with dicamba. And then I also saw damage
on
6 other indicator plants actually around Bader Farms.

7 Q. Did you -- did you see damage on soybeans around
Bader
8 Farms?

9 A. There was damage. Of course, there was soybean
damage
10 everywhere, including on Bader Farms.

you 11 Q. So, as you were driving around to Bader Farms, did

12 see dicamba damage on soybeans?

13 A. Well, in 2017 I mean, essentially in eastern -- in
14 Northeast Arkansas and the Bootheel of Missouri if it

was a 15 non Xtend soybean, it had injury on it. I mean, it
was just

16 that simple. I mean, if you're driving through it, I
mean,

17 at highway speeds, there was no challenge to pick out
the

18 Xtend from the non Xtend fields. And at that time
there was

19 still a lot of non Xtend soybeans being planted. So,
I

20 mean, I was looking at soybean damage in 2017
everywhere

21 before I ever went to Bader Farms.

22 Q. Now, I want to show to the witness and the Court
and

23 counsel Plaintiff's Exhibit 2019.

24 MR. MILLER: Same objection, Your Honor.

25 THE COURT: The objection is overruled.

1307

1 MR. ANDERSON: Same objection, Your Honor.

2 MR. RANGLES: Then I move this into evidence
based

3 on what we discussed.

4 THE COURT: Do you want to have it identified
5 first?

6 MR. RANGLES: I will, Your Honor. I
certainly

7 will.

8 BY MR. RANGLES:

9 Q. Can you see that on your screen there?

10 A. Yes, sir.

11 Q. All right. What is the name of the document
we're
12 looking at?

13 A. It's called the Dicamba Dilemma: Where Do We Go
From
14 Here?

15 (Plaintiff's Exhibit No. 2019, Dicamba
Dilemma, was
16 identified.)

17 BY MR. RANGLES:

18 Q. And who was the author of this?

19 A. The author was Dr. Kevin Bradley.

20 Q. Now, is this a document you're familiar with?

21 A. I am familiar with it.

22 Q. Is this a document -- well, first of all, I would
like
23 for you to tell the jury how the information in this
document
24 was obtained by Dr. Bradley?

the 25 A. Okay. You know, the document came about because

1308

1 amount of damage -- I don't like to use words like
exploded,

2 but proliferated just in a very, very short period of
time.

3 I mean, we went from not seeing hardly any damage
especially

4 on soybean to just within a two-week period essentially
every

5 field you looked at if it was a non Xtend field it was

6 damaged. And we were getting it in -- and that was
true in

7 the Bootheel as well.

8 And we were getting all kinds of questions
about --

9 from the media as well as others to, you know, what
about

10 this? I mean, how do you put it in perspective? And
that's,

11 in essence, what Kevin was trying to do here, is put
the

12 number of -- the plant boards and the departments of ag
all

13 of a sudden were overwhelmed. And they -- he was
trying to

14 put some kind of -- put it into some kind of
perspective

was. 15 about how Xtend seed the damage at that particular time

others 16 Q. So did he conduct a survey of the regulators and
17 to determine what the best estimate was?

Honor. 18 MR. ANDERSON: I object to foundation, Your

do I 19 THE COURT: Well, that's what he's trying to
20 think, so I'll overrule it.

did. 21 MR. ANDERSON: You're asking what Dr. Bradley

22 This is Dr. Baldwin.

23 BY MR. RANGLES:

24 Q. Are you familiar with his methodology?

25 A. I am familiar with his methodology.

1309

1 THE COURT: Overruled.

2 BY MR. RANGLES:

weed 3 Q. Did he contact state regulators and other folks,
this 4 scientists, and others who would be knowledgeable in
5 industry to arrive at this data?

official 6 A. Yeah. The first type of data he presented was

that 7 complaints or at least official alleged complaints at

8 time, and, you know, there's kind of a difference
between an
9 alleged complaint and a confirmed complaint, because it
takes
10 the plant boards time to investigate. But he -- he got
that
11 information directly from the agencies based on the
number of
12 complaints they had received at the time that he put
this
13 together.

14 Q. And the information he compiled in 2017, is it the
type
15 of information relied on by experts in the weed science
field
16 to reach judgments about these sorts of issues?

17 A. Yeah. I mean, there's already been discussion to
that,
18 but, I mean, there have been -- at least I know of one,
but I
19 think there have been more by now peer-reviewed
articles that
20 had relied on this information. Obviously, it was in
one of
21 the EPA documents, so one would have to -- have to
believe
22 that they relied on it. It really was the only
information
23 out there that -- that tried to put this thing in
24 perspective.

25 Q. And you've anticipated my question. Is there any
other

1310

2017 1 information as broad reaching and as widely cited for

Dr. 2 dicamba complaints and damage as this compilation by

3 Kevin Bradley?

4 A. Not to my knowledge.

5 Q. And is widely relied on in the field?

6 A. Yes, sir.

admission of 7 MR. RANGLES: Your Honor, I move for

8 Plaintiff's 2019.

9 THE COURT: It's admitted over objections.

Dilemma, was 10 (Plaintiff's Exhibit No. 2019, Dicamba

11 received.)

12 BY MR. RANGLES:

13 Q. All right. Let's turn to the second page.

14 MR. RANGLES: And may we publish, Your Honor?

15 Thank you, Your Honor.

16 BY MR. RANGLES:

looking 17 Q. All right. Would you tell the jurors what we're

18 at on this slide?

explained it a 19 A. Okay. That -- that is the first one. I

20 while ago. That's -- it just says, "Official Dicamba
Related
21 Injury Investigations As Recorded by State Departments
of
22 Agriculture."

23 In other words, that information came from the
state
24 departments to Kevin. And as of October 15th, 2017,
which
25 was pretty much, you know, the season was over by then.
And

1311

1 those numbers are broken down by states. And then
it's

2 totaled down there at 2,708 at that point in time.

3 Q. Okay. And if we look here, we have Arkansas way
out in

4 front with 986; right?

5 A. Arkansas set the curve in 2017, it did.

6 Q. And then as I'm looking here, it looks like
Missouri is

7 second with 310?

8 A. Missouri would be second.

9 Q. Okay. Now, let's -- before I move on, why did we
see

10 such a large number of complaints in Arkansas and in
Missouri

11 in 2017?

12 A. Well, one, the acreage of Xtend crops continued to
13 expand, but, two, that was the first year we had
labeled
14 herbicides to use. So, I mean, you know, not
everybody is
15 going to plant and spray off label. So this was going
to be
16 the introductory year. The herbicides got registered
in --
17 toward the end of 2016. So there was just a lot more
18 spraying took place, and especially not only this area
but
19 nationwide in 2017. I mean, that's when the
technology
20 really started coming into its own, so to speak.

21 Q. Have you heard Northeast Arkansas and Southeast
Missouri
22 referred as to the epicenter of the damage in '17?

23 A. I've heard that referred to.

24 Q. Would you agree with that assessment?

25 A. I think the damage -- I mean, the complaint
numbers

1312

1 pretty much speak to themselves. I would also include
West
2 Tennessee in that, because they're basically right
across the
3 river. Their complaint numbers weren't as high, but

we just

4 kind of lumped Arkansas -- the eastern tier counties in
5 Arkansas, Northeast Arkansas, the Bootheel of Missouri
and
6 West Tennessee sort of all together.

7 Q. So if you essentially drew a circle over the
region you

8 just described -- let's see if I can do it without
messing

9 things up. If you did something like that, are you
talking

10 about the epicenter?

11 A. That's pretty accurate, yes, sir.

12 Q. I'll see if I can get rid of that. Let's go to
the

13 next page. Now, can you tell us what this slide is
14 demonstrating?

15 A. That slide if you just read it at face value,
"Estimates

16 of Dicamba Injured Soybean Acreage in the U.S. As
Reported by

17 State Extension Weed Scientists." So -- so that -- it
is an

18 estimate. It states that.

19 But -- but, again, the weed scientists -- and I
know

20 in our case I think it's a little broader than that,
because

21 in our case in Arkansas, yes, the weed scientists,
including

22 myself, were involved in that estimate, but also our

soybean

23 agronomist was involved in that estimate, so it's
probably a
24 little broader within the states, but, I mean, those
guys
25 were out in the field every day and know what's going
on, and

1313

1 it is what it is. It's an estimate.
2 Q. Yes. And the total for the nation listed 3.6
million
3 acres down there; is that correct?
4 A. That's correct.
5 Q. And this as of 2017. And you said these are just
6 estimates. In all fairness they are just estimates.
Did
7 you do anything in Arkansas to try to confirm the
validity of
8 the claims being made?
9 A. Well, yeah, I mean, in Arkansas we -- we had a
pretty
10 good idea of how many Xtend beans were planted, an
estimate
11 of it in the area in question. Most of that 900,000
acres
12 would have been in Eastern Arkansas. And, you know,
we had
13 some idea of -- of how many Xtend acres were being
planted.

fields 14 We basically almost had to assume just by looking at
15 that there just essentially were no -- no non dicamba
16 soybeans that weren't affected.

is 17 So there was some of that -- that type of logic
we're a 18 what went into the estimate. Keep in mind, I mean,
19 state that grows probably in 2017 the soybean acreage
in 20 Arkansas was probably around 3.6 million.

first 21 So, I mean, at one time we were actually -- the
22 time we estimated that we estimated it as high as a
million.

you're 23 And they cut it back some for purposes of this, but
24 still talking about 900,000 acres out of roughly 3.6
million.

down 25 Q. So those of you who were getting this information

1314

planted 1 in Arkansas you combined your knowledge of the acres
2 of Xtend and non Xtend and the experience weed
scientists had
3 had looking at the fields and driving fields; is that
fair?

4 A. That's correct.

5 Q. Let's go to the next slide. Now, this is the
complaints
6 in Missouri as of October 26th of 2017. And it says
total
7 310 complainants, 335 complaints across 52 counties.
But as
8 you look at this map, do you notice anything about how
the
9 complaints are centered?

10 A. Well, I mean, the bulk of the complaint numbers
were in
11 the Bootheel, as one would have expected, because, two
-- I
12 mean, first, you know, they're growing two Xtend crops
in the
13 Bootheel compared to the -- to the other parts of
Missouri
14 that doesn't grow cotton.

15 Q. Okay. And Dunklin County is the one down at the
bottom
16 that says 24; right?

17 A. It is.

18 Q. Can we go to I believe it's the last slide.

19 What is this slide trying to communicate to us?

20 A. Well, he titled it, but it's not really about the
21 soybean acreage. It's about the adoption of the
technology,
22 but the point that I get out of this he was making is
-- is
23 he -- if you skip down there to the second part, he --
he

Xtend 24 was -- essentially said there were 306,000 acres of non
those 25 soybean in the Bootheel and estimated that 200,000 of

1315

thirds 1 acres were estimated to be injured with dicamba or two-
2 of the non Xtend soybean.

know, 3 Q. Okay. So -- and we can take this down now. You

what 4 based on what you were seeing, what you were hearing,

Bradley, 5 was being reported by weed scientists like Dr. Kevin

terms of 6 how would you characterize what happened in '17 in

7 the scope of the damage?

never 8 A. Well, it was absolutely unprecedented. We had

9 seen anything like this ever.

there 10 It was a situation that -- that unless you were

magnitude 11 and unless you lived in it you can't visualize the

space of 12 of the affected fields. It would, you know, in the

to, but 13 the 1st of July you could walk all of them you wanted

14 you could pick them out from the road. I mean, the

Xtend

15 soybeans were, you know, much taller than the non Xtend
16 soybeans. The symptomology was very evident.

state

17 I mean, normally most drift situations that

call it

18 regulatory agencies have to deal with we would just

to

19 localized. I mean, it would just move from this field

that

20 that field or it moved and hit somebody's garden, or

21 type of thing. We had never seen broad acre uniform

22 landscape damage like this ever.

23 Q. So this was unique both in terms of scope, acres

24 damaged, numbers of complaints and the ability of state

25 regulators to react to it?

1316

and

1 A. Well, they couldn't react to it. I mean, it --

2 also the uniformity of it, which I guess we'll get into

of it

3 later, but that, you know, that was an important part

4 as well.

Okay.

5 Q. Let's show Plaintiff's Exhibit 2009 in evidence.

6 We'll blow this up a little bit.

7 Doctor, is this the 2017 map we discussed?

8 A. It is.

9 Q. Do you see Bader Farms in the green dot here?

10 A. We do.

11 Q. And now we're at blue dots. What do you notice
about
12 '17 and these shipments compared to the prior two
years?

13 A. Well, it basically just is a visual that says the
14 technology was being very rapidly adopted, and I don't
think
15 anybody will argue with that. I don't think the
companies
16 will argue with that.

17 Q. Now, looking at this map leads me to ask you a
question
18 about something called atmospheric loading. Would you
tell
19 our jurors what atmospheric loading is?

20 A. Basically it's a situation where the environmental
21 conditions and the amount of spray that's taking place
in a
22 given area simply put more herbicide in the atmosphere
than
23 the atmosphere can get rid of.

24 And we can talk about that some more, but you
25 essentially see it when large numbers of acres are
being

1 sprayed in a short period of time and pretty much being
2 sprayed into stable air or in temperature inversion
3 conditions that essentially traps it and makes it move
4 laterally, and it can't exhaust out in the atmosphere
like it normally would be expected to do.

5
6 Q. Now, is atmospheric loading a new idea in weed
science?

7 A. Not at all. I mean, there's different names for
it. I mean, some people call it air mass loading. I mean,
there's a lot of different names for it, but it's not a new
concept by any means. It's just something you don't see very
often.

10 Q. Can you give the jurors an example or two of when
it has been documented in the past by weed science field?

11 A. There was one situation I related to some, because
I felt like that situation dealt with both drift and
back volatility. And it happened in the State of Washington
2,4-D, in the mid seventies on grapes. And it happened with
17 with the herbicide 2,4-D.

18 It didn't have anything to do with dicamba, but
they were just getting a lot of mysterious 2,4-D injury on
19

grapes

20 in the State of Washington. And they described it two
21 different ways. They described a localized drift,
which are
22 a localized effect, which meant they could usually
figure out
23 where it came from. I mean, it affected this orchard
very
24 close to a spray application.

25 But then they described another type of damage
caused

1318

1 more regional in nature and described it as having no
2 patterns being perfectly uniform, being long distances
away
3 from any known spray application and being unable to
4 determine the source of where it came from. And there
was a
5 lot -- they figured out a lot of things about it
through the
6 years, but that's one that -- one of the earliest ones
I
7 think that relates to a lot to what our situation is
here.

8 Q. And I would like to show Dr. Baldwin and the jury
9 Plaintiff's Exhibit 608, which is in evidence, Your
Honor.

10 I'd like to show slide 36. If we could go off the top
part.

11
before, but

And, Dr. Baldwin, I know you've seen this

12
Dr.

just a reminder to our jury this is the presentation of

13
looked

Stanley Culpepper that he gave in Georgia, and you've

14
at this before, haven't you?

15
A. I have.

16
treat

Q. And he asked the question of what happens when we

17
and it

huge acres during the same time and in the same area,

18
shows a lot of question marks. Do you see that?

19
A. I do.

20
can see

Q. And is atmospheric loading one of the things you

21
when that happens?

22
fog or

A. Well, I'm not sure what -- whether that's ground

23
the

what he's showing there, but treating huge acreages at

24
it

same time in the same area it is one of the things that

25
takes for that to happen.

1319

was

1
And what he was saying was the same question I

2
raising in a lot of the articles I was writing at the

time,

3 We're not going to know what's going to happen with
this

4 technology until we put it out in the field and
basically

5 load the area with it, spray a lot of it at one time
and see

6 what happens. And I think he's raising the same
question

7 here. You can do all the lab and the small plot work
you

8 want to, but until you put it out there and in the real
world

9 and start spraying large acreage with it you don't know
what

10 you're going to get.

11 Q. And I want to -- we can take that down. Now,
you're

12 not suggesting that laboratory work doesn't have its
place;

13 right?

14 A. It absolutely has a place.

15 Q. But in terms of learning what will happen in the
real

16 world when you're talking about millions of acres being

17 sprayed, do you believe you can really replicate that
in a

18 laboratory?

19 A. There's a lot of things that go on in the real
world you

20 can't replicate in a laboratory. Acre sprays is one
of

21 them.

22 Q. And, likewise, do you believe that a couple of
very
23 small acreage demonstrations can tell us what would
happen
24 with this widespread use in the real world?

25 A. Obviously, it didn't.

1320

1 Q. Can you tell the jury what landscape damage --
what that
2 phrase means?

3 A. What it means -- I mean, you can call it landscape
4 damage. You can call it broad acre damage, but with
this
5 technology when the damage started occurring it
affected huge
6 acreages all at one time. I mean, all in a very short
time
7 frame, let me put it that way.

8 And so, one, there's the broad acre aspect of
it. I
9 mean, it essentially in 2017 West Tennessee, Eastern
Arkansas
10 and the Bootheel of Missouri all had damages that
showed up
11 essentially within a very short period of time, a
period of a
12 week, two weeks at the most. So that's one aspect of

it.

spray 13 The other part of it is uniformity. Typically
pretty 14 drift leaves a track. It leaves a pattern you could
all 15 much always tell where it came from. It may not affect
pattern, so 16 plants in a field the same way. It would leave a
of 17 to speak. Where in this situation all of a sudden all
perfectly 18 the soybean fields that were being affected were
19 uniform. You couldn't have even have sprayed them as
20 uniform as they were uniformly affected.

have 21 Another thing about them was they tended to all
me 22 relatively the same degree of symptomology, which tells
vast 23 that they're getting a somewhat similar dose across
24 acres.

the 25 And so between the large acres, the uniform to

1321

field 1 symptomology a lot of these fields weren't close to a
miles 2 that was being sprayed. Some of them were a mile or

I 3 away from any known fields that were being sprayed. So
visual, 4 don't have -- I don't know how to make that any more
5 but that's what it means to me.

with 6 Q. That's -- you raised something I just want to deal
when 7 before we return to that and landscape damage, which is
in 8 you're dealing with movement of volatiles, particularly
there 9 temperature inversions or with atmospheric loading, is
or 10 any way to scientifically tell it came from this field
11 that field over there?

looks 12 A. I mean, once you load the air up, and you get that
it came 13 uniform damage that I'm talking about where every field
start 14 the same, there's no way that you can tell what field
air mass 15 from, because it didn't just come from one field to
16 with. You've got a lot of acres contributing to an
17 load.

18 And whether that's spray particles that are
volatiles that 19 collecting in an air mass loader, whether it's
no 20 are collecting in an air mass load, I mean, no, there's
21 way to figure out where they came from.

here 22 Q. And during your inspections of Bader Farms and
see 23 specifically talking about '17, but in general did you
24 landscape damage in the peach orchards?
you 25 A. I did. I mean, the -- yes. I mean, in terms of

1322

in that 1 could find symptomology in the top of the peach trees
most of 2 orchard and any orchard that I went in, and that was
3 them.

one of 4 The other thing was that you could find it --
was a 5 the plants that sticks out to me very much in my mind
and it 6 Catalpa tree that had been cut I guess some years ago,
to a 7 had sprouted back up and was growing sprouts right next
8 peach tree, and it had the most classic dicamba
symptoms when 9 you draw up leaf cupping that you've heard so much
about, 10 this being one of the primary symptoms of dicamba. It
had 11 the most textbook leaf cupping that I'd ever seen.

12 There were several other instances with Kudzu.

I

13 don't know what -- whether you know what Kudzu is or
not, but

14 most people around do. It's just a very viny plant.

It

15 tends to grow up into trees.

16 Kudzu There was one situation in particular where the

17 was growing completely up in the top of the tree right
across

18 from one of the orchards. The Kudzu damage was severe
--

19 more than I would have thought if you would have
sprayed it

20 with dicamba. It was classic dicamba symptom. The
tree

21 itself was affected, and it was affected perfectly
uniform

22 around.

23 Normally when something just drifts across a
tree,

24 for example, it's going to hit it from one side, and it
would

25 be much more -- it would be much worse on one side than
the

1323

1 And other. This was perfectly uniform all the way around.

2 in that told me a lot -- a lot of things I needed to know

tell me 3 addition to what I was seeing on the peach trees to

4 what I was looking at.

5 Q. Now, can landscape damage be caused by mites?

6 A. No.

7 Q. Can it be caused by deer?

8 A. No.

9 Q. Can it be caused by Armillaria?

10 A. Not in my opinion, no.

11 Q. Can it be caused by drought?

12 A. I mean, I guess if a drought was severe enough
across

13 the landscape, perhaps, it could be. I didn't see any
14 indication that that would be the case here.

15 Q. So is landscape damage a hallmark in your mind of
16 off-target movement of herbicide?

17 A. I mean, it is one.

18 MR. RANGLES: Your Honor, I'd like to show
for the

19 jury Plaintiff's Exhibit 2010 in evidence.

20 BY MR. RANGLES:

21 Q. Now, we're in 2018, Dr. Baldwin. This is our
2018 map.

22 And the same methodology to put it together; right?

23 A. It is.

24 Q. And what does this show you about the market
penetration

25 of the Xtend seeds around Bill Bader?

1324

I 1 A. I mean, it is just continuing to take the market.
2 mean, I'm guessing by 2018 almost all of the acres in
the 3 Bootheel were in Xtend cotton and Xtend soybean. I
mean, 4 the market penetration has been that extensive.

Bader 5 Q. Okay. And did you conduct two inspections of
6 Farms in 2018?

7 A. I did.

8 Q. And they were both in July, I believe?

9 A. They were both in July.

and 10 Q. Okay. Let's show for the witness and the Court
11 counsel Plaintiff's Exhibit 2174.

peach 12 Dr. Baldwin, is this a photo that you took of a
13 tree during your first inspection?

14 A. It is.

15 (Plaintiff's Exhibit No. 2174, Photo, was
16 identified.)

17 BY MR. RANGLES:

you saw 18 Q. Is it a true and accurate representation of what

19 when you were at Bader Farms?

20 A. It is on a lot of different trees.

admission 21 MR. RANGLES: Your Honor, I'll move the
22 of Plaintiff's 2174.

a 23 MR. MILLER: Same objection, but I just want
24 clarification, first inspection in 2018; right?

25 MR. RANGLES: Did I say that wrong?

1325

1 MR. MILLER: I think you just said first
2 inspection.

3 MR. RANGLES: Oh, I'm sorry. I meant first
4 inspection in 2018. I'm sorry if I misspoke.

5 THE WITNESS: No. I understood.

6 THE COURT: The objection is overruled. Its
7 admitted.

8 (Plaintiff's Exhibit No. 2174, Photo, was
9 received.)

this. 10 MR. RANGLES: Okay. If we could publish

11 BY MR. RANGLES:

about 12 Q. And, Dr. Baldwin, for ease of view let's look at
13 the top third of this. What are we looking at there,

Doctor?

14 A. In my opinion you're looking at classic auxin
15 symptomology in the top of that tree. I mean, the --
an
16 elongated leaf like a peach tree can't cup in the
traditional
17 manner that a more rounded leaf would cup, but the
tight
18 roll, the way they're wadded up, the way it's in the
very
19 terminal of the tree.

20 Also, it's ahead -- it's very typical of what I
saw
21 from the photographs of some dicamba research that we
may
22 talk about later, but, I mean, there's no question in
my mind
23 whatsoever that is auxin herbicide symptomology, and in
this
24 particular case it can't be coming from anything other
than
25 dicamba.

1326

1 Q. And I want to ask you, you said classic
symptomology.

2 Is dicamba symptomology hard to spot from an
experienced
3 investigator?

4 A. Well, I mean, it will present differently on

different

no, 5 things, but once you figure out what you're looking at,

6 it's not hard to spot.

of

7 Q. Have you heard the phrase unmistakable fingerprint

8 dicamba?

9 A. I have.

10 Q. Is that phrase used in the scientific community?

11 A. It has. I mean, it's been used in soybean more
than

12 I've heard it in other things. I mean, the tree
situation

13 with dicamba has kind of been a learn as you go. I
mean,

14 you -- you basically take a lot of the symptomology
around

15 soybean fields with trees that are also damaged, and
you know

16 it doesn't take you long to start putting two and two
17 together what you're looking at. And but this
symptomology

18 on peach has also been verified by a couple of other

19 researchers that are actually spraying the herbicide on

20 peaches to know what they're looking at.

21 Q. Yeah. And I think we're going to get to that in
just a

22 moment. I think that comes up, well, in your second

23 inspection. Now, in your second inspection -- and
would you

and 24 pull up 2119, Plaintiff's, for the witness, counsel,
25 court.

1327

1 In your second inspection in 2018 were you
joined by

2 Dr. Jason Norsworthy from the University of Arkansas?

3 A. I was joined by several people on -- he -- Jason
was one

4 of them, but I was -- I was joined by several people on
that
5 visit.

6 Q. Why don't you tell us who all was with you on that
7 visit.

8 A. I'll do my best. From the way this visit came
about is

9 Dr. Norsworthy and a lady named Susie Nichols, who is
our

10 director of our pesticide division at our plant board,
was

11 hosting a couple of people from EPA to come down and
look at
12 damage that was occurring in our area.

13 And when I found out they were coming -- they
were

14 asking me suggestions on places to go, and I actually
15 suggested Bader Farms as being one of them. So that

sets

16 the background for why we were there.
17 But two weed scientists from Arkansas were
there, Dr. Norsworthy and Dr. Tom Barber. Ms. Nichols, that --
18 from our regulatory agency that -- that I just mentioned.
Ruben
19 Barris from EPA. I think he was the -- I think the
head of
20 herbicide registration. I could stand corrected on
that, but
21 he was there. There was another EPA person there that
I did
22 not know the name, Rosenblat. There were Jim Heiser
from
23 the Delta Center here in Missouri was a weed scientist
that
24 was there.
25

1328

1 And there were also a couple of people from the
2 Missouri Department of Ag. Paul Bailey was one of
them. I
3 don't recall the other gentleman's name, but that's the
group
4 that was there.

5 Q. Okay. And this is a short 15 second or so video.
Was
6 this taken by Dr. Norsworthy when you were there?

7 A. It was taken by Dr. Norsworthy.

8 (Plaintiff's Exhibit No. 2119, Video, was
9 identified.)

10 BY MR. RANGLES:

11 Q. Were you standing right with him when he took
this?

12 A. I was there.

13 Q. Is this a fair and accurate representation of what
you
14 saw at the time?

15 A. It is.

16 MR. RANGLES: Your Honor, I move for the
admission

17 of Plaintiff's 2119.

18 MR. MILLER: Same objections, Your Honor.

19 MR. ANDERSON: Same objection, Your Honor.

20 THE COURT: Overruled and admitted.

21 (Plaintiff's Exhibit No. 2119, Video, was
22 received.)

23 MR. RANGLES: Let's play that now for the
jury.

24 BY MR. RANGLES:

25 Q. Let's pause it up toward the top. Now, Doctor,
one of

1329

1 the things I wanted to ask you about your prior photo
and

2 about this photo, the kinds of symptomology we're
seeing did
3 you see in a widespread way in Bader Farms?
4 A. Actually, 2000 -- of the years that I've been
there 2018
5 was the worst. It was more severe in 2018 than it was
in
6 2017. And we'll get to 2019 later, but it was. I
mean,
7 that was typical of any orchard that I went in. That's
a
8 different plant than the picture I took.
9 And he really scanned the tree to show that
it's
10 going to present the most in the newest foliage. I
mean, a
11 lot of the somewhat -- I wouldn't call it cupping but
canoe
12 shape or some of what you saw in the lower leaves was
pretty
13 normal. I mean, peaches do that, but when you get up
in the
14 top of the tree, the tight rolls, the I call it kind of
flag
15 shape growth in some places, but then the extreme
twists of
16 the roll of the leaves. There's no doubt -- there's no
doubt
17 in my mind that is auxin symptomology. And nobody that
was
18 there on that visit -- the experts that were there
questioned

19 that whatsoever.

20 MR. MILLER: Objection, Your Honor, I ask
that be

21 stricken.

22 THE COURT: I'll sustain the objection.

23 MR. MILLER: I ask that it be stricken.

24 THE COURT: The answer is stricken.

25 BY MR. RANGLES:

1330

1 Q. If you go to the top of the tree --

2 A. Okay.

3 Q. -- what are we seeing at the very top?

4 A. Just the same symptomology that was described
before.

5 Just the tight roll and the tight twists right up there
in

6 the very terminal part of the growth.

7 Q. Now, have you compared your observations and
photos from

8 Bader Farms with photos of dicamba peach damage
reported in

9 the scientific literature?

10 A. Well, I actually -- before I went to Bader Farms
the

11 first time, the Valentine's Day visit that we talked
about, I

12 already had a study from Dr. Prostko with the

University of

13 Georgia that had some data, and it also had
photographs.

14 And because of the damage I felt was so severe
in '18

15 I actually sent a series of photos like we've looked at
to

16 Dr. Prostko. And I didn't lead him in any way. I just
17 simply asked him what he thought about them.

18 Q. Okay. And I don't want to get into his opinion.

19 A. Okay.

20 Q. But are you satisfied yourself that the symptoms
we're

21 seeing are consistent with what he saw in his research?

22 A. Yeah. He sent me photographs back, and they
matched

23 perfectly.

24 Q. Okay. Now, in his opening Mr. Miller said that
the

25 hallmark of dicamba damage on peach trees is tip
dieback. Do

1331

1 you remember that?

2 A. I do.

3 Q. Now, is it always -- do you always see tip dieback
in

4 dicamba damage?

5 A. In my opinion, no.

6 Q. Has that been researched by Dr. Prostko?

7 A. It has.

8 Q. What did his research find about tip dieback?

9 A. Well, looking at his data, the study that he rated
for
was
the
10 peach dieback, as I recall, he sprayed three -- what he
11 doing -- the reason he was conducting his research was
12 technology was coming. He wanted to get ahead of it.

13 MR. MILLER: I'm sorry to interrupt, Your
Honor. I
14 just want to object to him testifying somebody else's
15 research. He can rely on it, but he can't talk about
what
16 somebody else did since we can't delve into that.

17 MR. RANGLES: Well, we can talk about the
18 methodology and the findings the scientists regularly
rely
19 on.

20 THE COURT: He can talk about the methodology
and
21 the findings.

22 BY MR. RANGLES:

23 Q. So what was -- what was his methodology in the
study?

24 A. He was spraying both dicamba and also 2,4-D on one
side
25 of a peach tree to simulate a drift that would have

come and

1332

1 hit that side of the tree. And then he was taking --
his
2 dicamba rates actually were a 1 percent rate, a one-
tenth of
3 a percent rate and a one-hundredth of a percent rate
volume
4 by -- not -- I misspoke. It was a 1 percent volume by
5 volume. A tenth of a percent volume by volume meaning
the
6 volume of dicamba to the volume of water and a one-
hundredth
7 percent volume to volume.

8 Q. What did he find at those different rates?

9 A. Well, what he found at the different rates -- I
said all
10 that to say his highest rate was actually a one and a
half
11 times a normal use rate. Yeah, he slammed the whole
side of
12 the tree when he sprayed it with one and a half times
of
13 actual use rate.

14 And he -- he actually rated for tip dieback in
the --
15 I want to think like December of that year, but it was
over
16 in the winter. And he took a tip dieback rating from

each

17 of those rates. And he had severe tip dieback when he
18 sprayed it with one and a half tenths of -- I mean,
mean one
19 and a half times of use rate. He found some dieback at
20 the -- at the middle rate. He found no tip dieback
relative
21 to the untreated or the unsprayed trees at his lowest
dicamba
22 rate, but he still rated those lowest rate for both
damage,
23 and then he also did later a vigor rating from those
three
24 rates.

25 Q. Okay. I'm going to tackle what you just said. So
at

1333

1 the lowest rating of the spray he didn't get tip
dieback; is

2 that right?

3 A. His data showed the tip dieback equal to the --
equal to

4 the untreated control, which would stand to reason
didn't

5 have any.

6 Q. But did he still find damage to the tree?

7 A. He found significant damage to the tree, and then
he

rated 8 also found a significantly lower vigor rating when he
9 for vigor of the next year.

10 Q. Well, what's the vigor rating mean?

had 11 A. He was just apparently looking at the trees that

determined 12 been sprayed the year before and assigning what he

data 13 to be a visual vigor rating as I would interpret his

14 compared to an untreated tree.

showing 15 Q. So the status of the tree a year later was still

what 16 effects from the dicamba from the prior year. Is that

17 you're telling us?

the 18 A. He gave it a vigor rating that was different from

19 untreated control.

in 20 Q. Let's go to 2019. Did you perform an inspection

21 2019 of Bader Farms?

22 A. I did.

your 23 Q. Let's show to the witness and Court and counsel
24 Plaintiff's Exhibit 2142. Is this a photo you took in

25 2019 inspection?

1 A. It is.

2 (Plaintiff's Exhibit No. 2142, Photo, was
3 identified.)

4 BY MR. RANGLES:

5 Q. Is it a true and accurate representation of what
you saw
6 at the time?

7 A. It is.

8 MR. RANGLES: Your Honor, I offer Plaintiff's
2142.

9 MR. MILLER: Same objections, Your Honor.

10 MR. ANDERSON: Same objection.

11 THE COURT: Overruled and admitted.

12 (Plaintiff's Exhibit No. 2142, Photo, was
13 received.)

14 MR. RANGLES: All right. And let's publish
that
15 for the jury. Let's see if we can get it a little bit
16 bigger.

17 BY MR. RANGLES:

18 Q. What are we seeing here in the top of this peach
tree,
19 Doctor?

20 A. I mean, basically you're seeing the same -- in the
top
21 you're seeing the same symptomology that I showed from
2018.

22 I made the comment earlier that -- that I thought 2018

was

23 the worst of the years I looked at, and there's some
reasons
24 why that 2019 was a little less. But that -- I mean,
no
25 doubt I'm still looking at auxin herbicide
symptomology.

1335

1 Q. And did you also look at some other plants --
2 A. I did.
3 Q. -- during your inspections? Let's show for the
Court
4 and counsel and the witness Plaintiff's Exhibit 2150.
5 Is this a photo you took on your 2019
inspection?

6 A. I did.
7 (Plaintiff's Exhibit No. 2150, Photo, was
8 identified.)

9 BY MR. RANGLES:

10 Q. Is this a true and accurate representation of what
you
11 saw?

12 A. It is.

13 MR. RANGLES: Your Honor, I offer Plaintiff's
14 Exhibit 2150.

15 MR. MILLER: Same objections, Your Honor.

16 MR. ANDERSON: Same objections.

17 THE COURT: Overruled and admitted.

18 (Plaintiff's Exhibit No. 2150, Photo, was
19 received.)

blow it 20 MR. RANGLES: Can you put that up and maybe
21 up just a little bit here in the foreground.

22 BY MR. RANGLES:

23 Q. What are we looking at here, Doctor?

24 A. A sycamore tree.

25 Q. And what are you seeing on the sycamore tree?

1336

tree 1 A. Dicamba symptomology. Sycamore was one of the
it 2 species that we figured out real quickly by looking at
probably -- 3 around a lot of soybean fields in different areas
to be 4 well, it for sure started in 2017 -- that that tended
it 5 one of the more sensitive tree species to dicamba, and
6 presents that very characteristic.

lot. 7 It can cup up it, but it tends to cup down a

Some 8 You see some -- a lot of leaves that are just hanging.

9 people call them parachutes. Some people say that
they look
10 like umbrellas, but I've seen dicamba on sycamore from
11 Illinois to Bader Farms, and it presents basically the
same
12 way.

13 Q. And given this is 2019 you're confident this can't
be
14 drought; right?

15 A. No. I'm confident that it is dicamba.

16 Q. And we'll return to the 2019 range in a moment.

17 THE COURT: Is this a good time to take a
quick
18 break?

19 MR. RANGLES: Absolutely, Your Honor.

20 THE COURT: All right. We'll take about a
10-minute
21 recess. Remember the admonition, and we'll call you
back in
22 shortly.

23 You may step down.

24 THE WITNESS: Oh, sure.

25 (Jury out.)

1337

1 (Witness steps down from the witness stand.)

2 (Proceedings stood in temporary recess.)

the 3 (Proceedings resumed in open court outside
4 presence of the jury.)

comes in 5 MR. MILLER: Your Honor, before the jury
6 two matters. One, I have a proposed limiting
instruction.

7 THE COURT: Okay. Also, why are you
objecting to 8 photographs that he took himself?

9 MR. MILLER: Well, just because we're
objecting to 10 his expert testimony. So, again, I don't want to
waive 11 anything.

12 THE COURT: Okay. Well --

13 MR. MILLER: I mean, as far as -- I'm not
objecting 14 to that they are reasonably accurate in terms of -- of
what 15 he saw.

16 THE COURT: Okay.

17 MR. MILLER: I'm simply objecting on that
basis.

18 MR. ANDERSON: There's also just no
foundation that 19 there's no testimony that we're aware of where the
photograph 20 is from.

21 MR. RANGLES: Bader Farms.

22 THE COURT: Yeah. I thought, yeah, that was

all

23 about -- yeah, that's pretty clear.

24 MR. RANGLES: I think we were clear on that.

25 THE COURT: Yeah. That was pretty clear.

1338

1 When do you want me to read this?

2 MR. MILLER: I would propose, Your Honor,

before

3 Mr. Randles starts up again just when the jury gets

back in

4 the box.

5 And, again, we're reserving our -- we still

make

6 our objection, Your Honor, that we believe the evidence

7 should not come in at all, but at Your Honor's

invitation we

8 are submitting this limiting instruction.

9 MR. RANGLES: And the illegal use of dicamba

is not

10 factually right, because he's talking about in '17 when

the

11 new products were out.

12 MR. MILLER: Mr. Hohn.

13 MR. HOHN: This is October. He's talking

about '15

14 and '16.

15 MR. MILLER: I thought he talked about '15

and '16

16 too. I mean, the chart is '17 --

17 THE COURT: See if you can work this out.

18 MR. MILLER: I'm sorry?

19 THE COURT: Can you work it out maybe?

20 MR. MILLER: Sure. Sure.

21 The other thing, Your Honor, and I apologize
if I
22 did not follow the -- what the Court's usual ruling is
here
23 or usual procedure, and I know some courts still make
you do
24 it and some don't. The reason I did get up and object
to Mr.
25 -- or, excuse me, Dr. Baldwin's testimony as an expert
is he

1339

1 wasn't proffered as an expert yet, so I just want to
make it
2 clear, and I don't know if Mr. Randles wants to do that
3 officially here. I'm assuming that's being done.

4 THE COURT: Well, yeah, there was all sorts
of
5 testimony that he is an expert. He's stated that he
was.
6 He gave all his credentials.

7 MR. MILLER: I understand, Your Honor.

8 THE COURT: I recognized him as an expert.

9 MR. MILLER: And I'm merely as a result,
therefore,

10 Your Honor, renewing our objection to any of his expert

11 testimony for the reasons we have previously stated in
our

12 Daubert motions and various pretrial motions.

13 MR. ANDERSON: BASF joins as well.

14 THE COURT: Right. Do you want to try to
work this

15 out?

16 MR. MILLER: Yes.

17 (A discussion was held off the record.)

18 THE COURT: This is off the record.

19 (A discussion was held off the record.)

20 THE COURT: All right. With this change
deleting

21 "and illegal use" is there any objection to limiting

22 instruction?

23 MR. RANGLES: I have no objection.

24 THE COURT: And I'll read it before we resume
the

25 testimony; is that right too?

1340

1 MR. MILLER: I'm sorry, Your Honor?

2 THE COURT: I'll read it now then?

3 MR. MILLER: Yes. Thank you, Your Honor.

4 MR. RANGLES: May I stand here, Your Honor,
or
5 would you like me to sit while you're reading the
6 instructions?

7 THE COURT: What's that?

8 MR. RANGLES: May I stand, or would you like
me to
9 sit while you read the instruction?

10 THE COURT: It won't take long.

11 MR. RANGLES: I didn't want to distract
attention
12 from the Court.

13 THE COURT: That's right.

14 (A discussion was held off the record.)

15 (Jury in.)

16 THE COURT: Please be seated.

17 Ladies and gentlemen, I'm going to read to
you a
18 limiting instruction at this time.

19 Plaintiff has introduced certain documents
and
20 reports regarding unconfirmed incidents of off-target
21 movement of dicamba that the witness Dr. Ford Baldwin
relied
22 on in forming his opinions.

23 I instruct you that those documents are not
24 evidence of and you should not consider them evidence

of the

25 truth of the information contained in those documents.

1341

1 And with that you may proceed.

2 MR. RANGLES: Thank you, Your Honor.

3 BY MR. RANGLES:

4 Q. Dr. Baldwin, I'd like to show you and the Court
and

5 counsel one more photo from the 2019 visit. It's 2121,
Your

6 Honor.

7 Dr. Baldwin, did you take this photo?

8 A. I did.

9 (Plaintiff's Exhibit No. 2121, Photo, was
10 identified.)

11 BY MR. RANGLES:

12 Q. And is it a fair and accurate representation of
what you

13 saw during that 2019 visit?

14 A. It is.

15 MR. RANGLES: Your Honor, I offer Plaintiff's
2121.

16 MR. MILLER: Same objection, Your Honor.

17 MR. ANDERSON: Same objections.

18 THE COURT: Overruled and admitted.

19 (Plaintiff's Exhibit No. 2121, Photo, was
20 received.)

21 BY MR. RANGLES:

22 Q. If we could show that part just slightly past the
middle
23 here.

24 Can you tell us what we're looking at here, Dr.
25 Baldwin?

1342

1 A. Just classic up cupping on those Catalpa sprouts
that
2 are very classic dicamba injury symptomology.

3 Q. Did something happen in 2019 that altered the
rhythm of
4 the planting and spring cycle in the Bootheel?

5 A. It did.

6 Q. What happened?

7 A. We had the wettest spring on record, I mean,
nationwide
8 but especially in this area growers had a very, very
9 difficult time getting a crop established.

10 It -- it rained incessantly during the spring,
and I
11 think in most areas pushed the planting dates back
probably a
12 month. You know, consequently that pushed the spray
dates

or a 13 back about the same amount of time compared to say 2018
14 more normal year.

15 The other thing that was happening even whether
16 people were getting in the field to spray we were still
get 17 getting rain along. And we know that when -- when you
ceases 18 rainfall and dicamba has been applied, the volatility
19 pretty much immediately.

20 So there were just those things combined to --
to -- 21 I don't want to say lighten the load, but to make the
22 potential exposure on Bader Farms to dicamba probably a
month 23 later in 2019 than would have been normal in like 2017
or 24 2018.

25 Q. And you've heard Bill Bader testify that his early

1343

1 harvest in 2019 was pretty good; right?

2 A. I mean, I actually predicted that. When I talked
to 3 counsel some earlier in the year, I expressed the fact
that 4 hopefully the delay in the planting of Xtend crops, the
5 delay -- the start of the spray season hopefully might

give

to 6 him enough of a running start in 2019 to have a chance

borne 7 make a better peach crop, and I think that that was

8 out.

9 Q. And you wrote a report actually between the early
10 harvest and secondary harvest predicting what occurred,
11 didn't you?

visit 12 A. I did. I mean, it was -- it was obvious on the

the 13 that most of the symptomology that I was looking at on

host of 14 trees -- and I looked at the symptomology on a whole

you 15 other trees and plants that we haven't talked about,

That 16 know, in addition just to Kudzu and the sycamore tree.

17 symptomology appeared to be fairly recent.

I 18 And you could just tell a distinct difference.

know 19 mean, his early crop -- I don't know what -- I don't

20 what a good peach crop is for him, but I know they were
21 picking a lot of peaches, and they were picking a lot

was 22 peaches off of the earlier maturing varieties, but it

varieties, 23 obvious when I was there that the later maturing

24 it was going to be a totally different story, and my
25 understanding is that it was.

1344

started 1 Q. So, yeah, you predicted that once the spraying
2 the harvest was going to fall off; right?

3 A. I did.

4 Q. And is it your understanding that's what happened?

5 A. I do.

6 Q. Now, if Bader Farms was being damaged by
environmental 7 conditions, disease, natural causes, would the delay in
the 8 spring have had any effect?

9 A. I'm not sure I understand your question.

10 Q. What I'm getting at is did you find the difference
the 11 between the early harvest and the late harvest given
the 12 delay in the spring consistent with your opinion about
13 problem being dicamba or being inconsistent?

14 A. No. It actually cemented a lot of things together
for 15 me, because the first thing it did was eliminated
drought. 16 And -- and I was being told or reading other reports
that --

to 17 that, you know, a lot of that leaf cupping is just due
-- 18 drought, but it certainly wasn't due to drought in 2017
19 so, I mean, 2019, I'm sorry.
-- and 20 So that cemented that right off the bat. And
spray 21 it was much more plausible to me knowing about the
the 22 season looking at the trees that that big difference in
likely due 23 early and the late crop would have been much more
absolutely 24 to dicamba than a disease or some other malady, it
25 did.

1345

see 1 Q. Once the spray started in earnest in 2019, did you
harvest, 2 the damage to the peach trees again and the reduced
3 and those sorts of things?
started in 4 A. Yeah, I mean, I think once the spray season
because the 5 earnest, farmers had a lot of catching up to do,
6 crop was late, and they were playing catch up.
that 7 So -- so there's no doubt in my mind that --

8 atmospheric

what I was looking at later was the same type of

9 damaging

loading or air mass loading that I had felt like was

10 the orchard earlier.

11 Q. Now, one of the things -- when we're talking about

12 volatility, I forgot to ask you how long can dicamba

13 volatilize after being sprayed?

14 mean,

A. Well, there's different data out there on that. I

15 still

some studies carried it out to 72 hours, and they were

16 hours,

finding it. Other studies have been carried out to 96

17 and they were still finding some emissions off of those

18 plots.

19 but

I'm not aware of any that have been carried out

20 longer than that, perhaps. Perhaps, there have been,

21 place

most people are going to find some kind of a stopping

22 somewhere.

23 but

Q. We've mentioned in passing temperature inversions,

24 now it's time for us to delve into them. What is a

25 temperature inversion?

1 A. Well, a temperature inversion -- I mean, normal
2 temperature -- I mean, normal air -- what we would call
3 unstable air, the warmest temperatures at the ground
level,
4 and it cools as it rises. I mean, I think the figure
you
5 commonly hear is it cools by about five degrees for
every
6 thousand feet that you go up in altitude.

7 But what happens in the summertime when the
ground
8 heats up and then it cools up when the sun goes down or
you
9 start getting over late in the afternoon, the ground
cools a
10 little quicker than the air above it. So what happens
is
11 you get some cool air trapped at the ground line.

12 And so you just -- you just are talking about
an
13 inversion in temperatures or a blip, so to speak. And
then
14 you get a layer of cool air. And then you get up to
the
15 inversion level. And then the normal, you know, normal
16 degrees drop per thousand feet or whatever takes place
again.

17 Q. Now, have there been studies to try to determine
how
18 frequent temperature inversions are in the summer in
the
19 Southeast Missouri?

20 A. There has been.

21 Q. Okay. Did Kevin Bradley conduct the study?

22 A. He did.

23 Q. What did he conclude about the frequency of
inversions

24 in Southeast Missouri in the summer?

25 A. June and July it's -- I mean, it wasn't 100
percent,

1347

1 but, I mean, most -- most days in June and July there's
the

2 potential for temperature inversion. Some of those
same

3 studies have been done in Arkansas, but, I mean, you
can -- I

4 mean, you can figure it out pretty easy in the
summertime in

5 the Delta if the wind lays before dark, you can just
about be

6 guaranteed that you're going to have a temperature
inversion

7 that lasts throughout the evening.

8 And then when things start warming back up and
air

9 starts moving and the wind starts blowing the next
morning,

10 it goes away.

11 Q. Now, did Dr. Norsworthy conduct a study about

12 temperature inversions in the area of the Delta area
there in

13 northeast Arkansas?

14 A. He did.

15 Q. And what did he conclude?

16 A. He found -- he found in June and July this past
year it

17 was almost 100 percent, I mean, as far as 100 percent
of the

18 nights. In other words, based just every night in
June and

19 July we had a temperature inversion.

20 And they don't always have to be at night.
They're

21 much more frequently at night, but you can have
temperature

22 inversions in the daytime. You can have them set in
23 different hours at different times before dark.

24 Q. I want to show the witness and Court and counsel
the
25 Plaintiff's Exhibit 218. Dr. Baldwin, can you tell

1348

1 Court what this is?

2 A. That's just an XtendiMax with VaporGrip technology
3 label, herbicide label.

4 (Plaintiff's Exhibit No. 218, Label, was

5 identified.)

6 BY MR. RANGLES:

7 Q. Would it be helpful to use the labels discussion
on
8 temperature inversions to explain it to the jury?

9 A. Well, most all labels -- I mean, you've heard some
labels
10 testimony about that already. Most all herbicide
11 have a precaution about spraying into a temperature
12 inversion, because --

13 Q. Dr. Baldwin, you're actually getting ahead of me.
I'm
14 trying to get this document in.

15 A. I'm sorry.

16 MR. RANGLES: Your Honor, I would like to
offer
17 Plaintiff's Exhibit 218.

18 MR. MILLER: No objection, Your Honor.

19 MR. ANDERSON: No objection.

20 THE COURT: Admitted.

21 (Plaintiff's Exhibit No. 218, Label, was
received.)

22 MR. RANGLES: Okay. Let's put that up for
the
23 jury.

24 BY MR. RANGLES:

25 Q. Dr. Baldwin, in fairness, there has been
modifications

out 1 to the labels during the time these products have been
2 and slight variations in the labels; correct?

3 A. There have been.

4 Q. But the temperature inversion language is pretty
5 standard, isn't it?

as a 6 A. Pretty standard language on their labels as well
7 lot of other herbicide labels.

8 Q. Let's go to page 4. Now, Doctor, I want to read
9 through a little bit of this. And this is on the
official

10 label. "Do not apply this product during a temperature
11 inversion as the off-target movement potential is
high."

12 And that's what you were just talking about;
correct?

13 A. That's correct.

14 Q. And it goes on to say "In general, temperature
15 inversions are more likely during the nighttime hours.

16 Application of this product may only occur one hour
after

17 sunrise through two hours before sunset." Did I read
that
18 correctly?

19 A. That is correct.

droplets 20 Q. And then it explains the phenomena of suspended

21 can create a cloud which can move as it says here in
22 unpredictable directions, and do you agree with that?

23 A. I do.

point 24 Q. And it gives your explanation in the next bullet

to 25 about essentially when they occur and what causes them

1350

1 occur.

point 2 Then it goes on to say in that third bullet

However, 3 "Their presence can be indicated by a ground fog.

identified 4 if the fog is not present, inversions can also be

aircraft 5 by the movement of smoke from a ground source or

laterally in a 6 smoke generator. Smoke that layers and moves

an 7 concentrated cloud under low-lying conditions indicates

8 inversion while smoke that moves upward and rapidly

9 dissipates indicates good vertical air mixing."

air can 10 Is that a pretty good description of what the

11 do and particles in the air in an inversion?

12 A. Yes.

13 Q. Now, as this indicates in that first bullet point,
it
14 can form a cloud that can move in unpredictable
directions,
15 and you agree with that?

16 A. I do.

17 Q. So if volatiles are moving into a temperature
inversion,
18 I think you said earlier they may not even all be from
the
19 same location; is that true?

20 A. That could be true.

21 Q. And there's no way to identify where they
originated, is
22 there?

23 A. That's true.

24 Q. Okay. So if you're not supposed to spray into a
25 temperature inversion I want to talk about some of the
label

1351

1 restrictions. We can take this down now. You're not
2 supposed to spray when a temperature inversion is
present;
3 right?

4 A. That is correct.

5 Q. And we know that, as you indicated, there might be

one

right? 6 most days and nights in the southern part of Missouri;

7 More at night, but --

8 A. That time of the year, that's correct.

rain; is 9 Q. You're not supposed to spray if it's about to

10 that right?

11 A. Are you talking about according to this label?

12 Q. Yes, the label restrictions.

spraying 13 A. There are label statements on there about not

14 so many hours in front of I think what maybe a runoff
15 producing rain or a rain.

of 16 Q. You're not supposed to spray before a certain time

17 day and after a certain time of day; correct?

18 A. That is correct.

19 Q. There are wind limitations; right?

20 A. That is correct.

a 21 Q. You're not supposed to spray if the wind is below

22 certain amount or above a certain amount; correct?

23 A. That's correct.

weeds 24 Q. And the herbicides are only guaranteed to work on

25 four inches or less; is that correct?

1 A. That's correct.

2 Q. And how much in a day can these weeds grow?

3 A. Well, Palmer amaranth is the 2000-pound gorilla,
so to
4 speak. I mean, that's the target weed that's driving
most of
5 these technology changes.

6 And it will give you a four- or five-day grace
period
7 when it first emerges out of the ground, but once it
gets its
8 root system under its feet under it, so to speak, it's
going
9 to grow two to four inches a day in summertime
conditions.

10 Q. So in the Bootheel of Missouri and Northeast
Arkansas

11 given that the weeds can grow as much as two or four
inches a
12 day, and above four there's no guaranty of herbicide,
and
13 given these other environmental -- these restrictions
on the
14 label, if you've got to spray a thousand acre farm or
more,

15 can you get it sprayed according to the label?

16 A. I mean, it's -- it's very difficult. I mean,
everybody

17 acknowledges. I mean, there's been a lot of testimony
on

18 this already that it is a very difficult label to
follow and
19 be able to spray. I mean, everything in agriculture
happens
20 in very short periods of time. I mean, farmers have
lots
21 and lots of equipment, so things happen in very short
order.
22 And when you you've got a thousand or thousands
of
23 acres to spray within the windows that the new labels
allow
24 that's very difficult to do, if not impossible.
25 Q. I want to just briefly touch on the studies
regarding

1353

1 peaches. And we've already talked about Prostko,
correct,
2 the Prostko study on peach trees?
3 A. We have.
4 Q. And are there other scientific studies reported
that
5 confirm the dicamba injury to peach trees?
6 A. The one that would come to mind would be the Kevin
7 Bradley study, or I think the primary author on that
study is
8 Dentalman (Phonetic), who's an associate of Kevin
Bradley's.

9 Q. But compared to the research of dicamba on
soybeans,
10 reported
11 compared to that body of work, is there very much
scientific studies in the literature on damaged peach
trees?

12 A. There's not. I mean, until we started spraying
dicamba
13 in the summertime there wasn't a lot of reason to do
research
14 in a lot of these other areas. I mean, research is
very
15 much playing catchup at this point.

16 Q. Well, and that's actually where I wanted to go.
Has
17 the EPA required these Defendants as part of their
18 conditional two-year re-registration to conduct study
-- more
19 studies on the effects of dicamba on sensitive crops?

20 A. They have.

21 Q. And does that include fruit trees?

22 A. That would be my interpretation of it is that it
does.

23 Q. The jury has already heard a little bit about dose
24 response in some of the video testimony, and you were
here
25 when they heard that, but I want to talk about the
notion of

1 dose over time; all right?

2 Now, when a soybean is planted, about how long
is the

3 lifespan of that soybean plant?

4 A. Well, I mean you're going to -- most soybeans are
going

5 to be planted in -- I mean, they differ for varieties,
but

6 they're going to be planted in anywhere from April
until

7 July, and they're going to be harvested in anywhere
September

8 to October. So --

9 Q. So one season?

10 A. Yeah. Oh, one season for sure. I mean, it's an
11 annual plant, so, yes, it only grows one year.

12 Q. So even if the soybean plant get hits by dicamba,
that

13 soybean plant is going to be gone the next year; right?

14 A. That's correct.

15 Q. How does it differ with an orchard?

16 A. Well, obviously, peach trees are perennial plants
so

17 they're going to be there year after year hopefully.
So --

18 so, I mean, a soybean plant only has an opportunity to
be hit

19 in any given year. That doesn't mean it can't be hit
20 multiple times in that year, and there's a lot of
research

21 being done there.

hit year 22 But a peach plant has the opportunity to get

times 23 after year after year, and not only that but multiple

currently 24 year after year the way -- the way the herbicide is

25 being used.

1355

these 1 Q. So what is the long-term effect on a peach tree of

a 2 repeated exposures, sometimes multiple exposures within

3 year, but exposures year after year?

Honor. 4 MR. ANDERSON: Object to foundation, Your

He's 5 MR. MILLER: Same objection, Your Honor.

6 admitted he's not a peach tree expert, Your Honor.

ruled on 7 MR. RANGLES: Well, Your Honor has already

8 this.

9 THE COURT: But I'll overrule that objection.

10 MR. RANGLES: Okay.

research on 11 MR. ANDERSON: Well, he said there's no

12 it, Your Honor, so there's no foundation.

13 MR. RANGLES: That's not what he said.

14 THE COURT: Overruled.

15 BY MR. RANGLES:

16 Q. Let's back up. Did Prostko rate peach trees the
year
17 after of exposure based on their vigor?

18 A. He did.

19 Q. When you have repeated exposure to dicamba from
peach
20 trees year after year, what effect do you see?

21 MR. ANDERSON: Objection, Your Honor.
There's no
22 evidence about multiple treatments from Prostko.

23 THE COURT: Overruled.

24 BY MR. RANGLES:

25 Q. Go ahead.

1356

1 A. It's going to act as a stressor just like other
types of
2 things can act as a stressor, but any time you're

stressing a
3 tree year after year after year it can't help but have
an

4 effect.

5 Q. And does it weaken the tree over time?

6 A. It is going to weaken the tree over time.

7
environmental

Q. And is a weakened tree more susceptible to

8 impacts?

9
yes, to

A. A weakened tree is going to be more susceptible,

10 environmental impact among other things.

11 Q. And including diseases?

12
testimony.

A. That would be my -- yes, that would be my

13
14
you --

Q. I want to ask you about a subject that was raised
yesterday in the questioning of Bill Bader. And would

15 on the subject of analytical testing.

16 A. Yes, sir.

17 Q. The subject was analytical testing?

18 A. Yes, sir.

19
to see

Q. Pulling samples and testing from the peach trees

20 if dicamba is found in it; right?

21 A. That's correct.

22
23
this

Q. That's what I'm talking about. Now, you made the

24 decision not to test the samples of the peach tree in

25 case, didn't you?

A. I did.

1 Q. Why?

2 A. For two reasons. One of them being previous
experience

3 in just either pulling random samples or seeing random
4 samples being pulled when you had no idea exactly when
a

5 herbicide exposure may have occurred.

6 The other reason was more scientific in that
there's

7 a lot of work been done on soybean that especially even
at

8 higher rates after about seven days even though the
soybean

9 plants are showing pretty consistent symptomology they
don't

10 find it in the sample. After about 14 days they're not
11 finding it at all.

12 So, you know, not knowing exactly when the
exposures

13 occurred, when I would be up there to be able to pull
random

14 samples, I knew before I ever pulled them at those low
15 residue rates that are low chronic exposure rates that
are

16 occurring there was a very low probability that dicamba
would

17 be found in the plants, and I would basically be stuck
with a

18 bunch of false negative samples is what it would amount
to.

19 Q. And Prostko in his studies directly sprayed
dicamba on

20 the trees. Did he provide an analysis of a sampling?
21 A. He did. When he sprayed them directly and
sampled
22 14 days later, then he did find certain levels of
dicamba in
23 his samples.
24 Q. What else did he find?
25 A. Well, looking at the raw data, he also found
levels of

1358

1 2,4-D higher in some of those samples than actually
dicamba
2 levels when he sprayed dicamba on the trees.
3 Q. And he didn't spray 2,4-D on the trees, did he?
4 A. He didn't spray 2,4-D on the trees that he sprayed
with
5 dicamba.
6 Q. And this notion of 2,4-D popping up in samples of
plants
7 sprayed with dicamba, this isn't the only time this is
8 reported in the literature, is it?
9 A. No, not to my knowledge. I mean, no. I mean --
10 Q. Has there been a scientific explanation that's
received
11 wide acceptance in the community as to why this
happens?
12 A. No.

13 Q. I'd like to show to the witness, Court and counsel
14 Plaintiff's Exhibit 1286.

15 Dr. Baldwin, you've seen this document before,
16 haven't you?

17 A. I have.

18 Q. It's called Engenia herbicide launch training from
19 BASF --

20 A. It is.

21 Q. -- right?

22 I want to turn to page 31. And I want to ask
you if
23 you agree with this statement from BASF. "We Do Not"
-- in
24 big letters -- "take samples of plants for off-target"
--
25 because -- "b/c you cannot detect it at these rates.
It's

1359

BASF? 1 pointless." Do you agree with that statement from

2 A. That is correct. And they're the dicamba people.

3 (Plaintiff's Exhibit No. 1286, Engenia
Herbicide

4 Launch Training, was identified.)

5 BY MR. RANGLES:

6 Q. And the jury has heard a bit about it. How would

you

7 describe Armillaria root rot as a pathogen?

8 A. Well, from what I read, and basically I didn't
read

9 anything about it until, in essence, that issue was
raised by

10 other experts as something that, perhaps, I had missed
in my

11 diagnosis.

12 And most of what I read on it while it could
13 sometimes be a primary pathogen it was most
consistently

14 described as a secondary pathogen that attacked trees
when

15 they were weakened by something else.

16 Q. And so a tree weakened by repeated exposure to
dicamba

17 over the years, would it be more susceptible to
diseases like

18 root rot?

19 A. It would stand to reason it would be. I mean, I
told

20 Mr. Bader and put it in the first report that I wrote
before

21 I ever knew who any experts were going to be here what
they

22 were going to say that more than likely that continued
23 exposure over time would weaken his trees to the point
that

24 something else would eventually take them out.

25 I didn't know at the time it would -- that it

might

1360

mean, I 1 be Armillaria root rot, but that principle is -- I
2 hold to that today.

to 3 Q. And so would trees weakened by repeated exposure
4 dicamba be more susceptible to things like frost?

could 5 A. They could be. I mean, if they're weakened, they
6 stand to reason to be more susceptible to --
susceptible to 7 about anything.

8 Q. And did you see some root rot in the orchard?

scattered, 9 A. I saw -- I saw some dead trees. They were

their 10 but, I mean, I don't doubt -- I'm not going to doubt
11 experts that Armillaria root rot was found in the
orchards.

12 Q. Did you see an orchard eaten up by root rot?

trees 13 A. Not the way they've described it or -- not dead

14 for sure, no.

15 Q. Well, Armillaria has been in the soil of the
Bootheel

16 for centuries according to scientific literature;
correct?

17 A. From what I read it states that.

18 Q. So the simple finding of root rot -- I mean,
Armillaria

19 in the soil is not really a shocking fact in the
Bootheel, is

20 it?

21 A. I mean, according to what I've read it would not
be.

22 Q. Okay. I want to --

23 MR. RANGLES: Your Honor, I want to show the
Court

24 and the witness and counsel a series of photos and then

25 attempt to introduce them as a unit to save a little
time.

1361

1 Let's, first of all, show 2130.

2 BY MR. RANGLES:

3 Q. I'm going to ask you the same question about each
of

4 these photos; all right?

5 A. Okay.

6 (Plaintiff's Exhibit No. 2130, Photo, was
7 identified.)

8 BY MR. RANGLES:

9 Q. Are these photos you took on your 2019 inspection
of

10 Bader Farms?

11 A. They are.

what

12 Q. And are they a fair and accurate representation of

13 you saw on Bader Farms?

14 A. For the most part, yes.

all

15 Q. Okay. Well, you tell me if there's any exception;

16 right?

17 A. Okay.

would

18 Q. Okay. Let's also look at 2132. Same questions,

19 I have the same answer here?

20 A. Yes, sir.

21 (Plaintiff's Exhibit No. 2132, Photo, was

22 identified.)

23 BY MR. RANGLES:

answer

24 Q. 2135, the same questions. Would I have the same

25 here?

1362

1 A. Yes, sir.

2 (Plaintiff's Exhibit No. 2135, Photo, was

3 identified.)

4 BY MR. RANGLES:

5 Q. 2138, same questions. Would I have the same

answers

6 about this photo?

7 A. Yes, sir.

8 (Plaintiff's Exhibit No. 2138, Photo, was
9 identified.)

10 BY MR. RANGLES:

11 Q. 2140, same questions. Would I have the same
answer?

12 A. Yes, sir.

13 (Plaintiff's Exhibit No. 2140, Photo, was
14 identified.)

15 BY MR. RANGLES:

16 Q. And 2141, same questions. Would I have the same
answer?

17 A. Yes, sir.

18 (Plaintiff's Exhibit No. 2141, Photo, was
19 identified.)

20 MR. RANGLES: Your Honor, I move these
exhibits

21 into evidence.

22 MR. MILLER: Same objections, Your Honor.

23 MR. ANDERSON: Same objections.

24 THE COURT: Overruled and admitted.

25 (Plaintiff's Exhibit No. 2130, Photo, was

1 received.)

2 (Plaintiff's Exhibit No. 2132, Photo, was
3 received.)

4 (Plaintiff's Exhibit No. 2135, Photo, was
5 received.)

6 (Plaintiff's Exhibit No. 2138, Photo, was
7 received.)

8 (Plaintiff's Exhibit No. 2140, Photo, was
9 received.)

10 (Plaintiff's Exhibit No. 2141, Photo, was
11 received.)

12 MR. RANGLES: Okay.

13 BY MR. RANGLES:

14 Q. Let's put up 2130 first. And I want to ask you
while
15 we're getting it up did you see some weeds on Bader
Farms?

16 A. I did.

17 Q. And did you see some areas where the weeds got
higher
18 than, perhaps, they should have?

19 A. I did.

20 Q. But did you see a farm overwhelmed with weeds?

21 A. No.

22 Q. Okay. This photo here, is this a photo of the
peach
23 trees and the grassy area between them that you saw on

your

24 visit?

25 A. It is.

1364

1 Q. And is this representative of what you saw?

2 A. I think that's a general representation, yes.

what

3 Q. Okay. Let's look at 2132. Is this a photo of

this a

4 you saw -- I'm sorry, 32, maybe. Okay. Again, is

5 photo of what you saw?

6 A. It is.

tree,

7 Q. And it's a little higher around there around that

8 aren't they?

9 A. They are.

less. Do

10 Q. You see right around the tree, though, there's

11 you see that?

12 A. There were -- those were smaller trees.

of

13 Q. Okay. Okay. 2135. Again, is this indicative

14 what you saw as you walked the orchards?

15 A. In some orchards.

took of

16 Q. Okay. 2138. Again, this is another photo you

17 the orchards?

18 A. It is.

19 Q. Okay. 2140 -- oh, I'm sorry?

20 A. I was just going to -- I was just going to point
out one
21 thing.

22 Q. Let's go back to 38, if we can.

23 A. That that's on a pretty steep -- a pretty steep
24 hillside, and you can see some pretty good evidence of
the
25 washing in the clean area, which is, you know, one of

1365

1 things my understanding is that it would be obvious by
2 looking at it that he has to deal with it in his
management
3 plan.

4 Q. Yeah. And that's a fair point. And let me stop
there,
5 because you do see washing here. This is elevated land;
6 right?

7 A. It is.

8 Q. And flatter land around it; right? Flatter land
off the
9 ridge?

10 A. Oh, off the ridge, yes.

11 Q. Yes. And so when it rains, gravity gets the

water and

12 takes it down?

13 A. Water doesn't run uphill.

14 Q. Okay. And so are there -- are there -- when
you're

15 farming on a hill, and you've got a lot of water
runoff, do

16 you dare strip all the grass off?

17 A. Not if you want to save your soil.

18 Q. All right. 2140. Again, your visit in 2019
what you

19 saw?

20 A. It is.

21 Q. And there's some grass around there. And then you
see

22 it underneath the tree a lot less; right?

23 A. That's correct.

24 Q. And 2141. And is this indicative of what you
saw?

25 A. Yeah. It would be representative, yes, sir.

1366

1 Q. And just as a reminder to refresh the jury, your
visit

2 was July 20th of 2019, which was still a very wet
summer;

3 right?

4 A. It was.

harder 5 Q. So, if anything, the wetness would make the weeds
6 to keep up with than a normal year; right?
7 A. It would stand to reason.

with 8 Q. Okay. Dr. Baldwin -- we can take those down --
9 the herbicide injury you have seen in the surrounding
10 communities, as we've talked about, and at Bader Farms,
11 you consider other explanations and reject them?
12 A. Yeah. I mean, as a weed scientist, I mean,
obviously
13 I'm going to go first looking for herbicide
symptomology,
14 because if I don't find herbicide symptomology, then
15 basically I'm going to pass that off to somebody else
or say
16 it doesn't look herbicidal in nature to me.

you 17 So once I do find herbicide symptomology, then,
18 know, I try to do enough to see if there are a lot of
19 anything else complicating that, but, I mean, in this
case,
20 as I looked at it over the years, it was obvious enough
to me
21 that until that issue was taken care of a lot of these
other
22 issues weren't going to matter.

23 Q. Well, and I want to follow up on that. What
changed in

forward 24 Southeast Missouri and Northeast Arkansas from 2015
25 about the farming environment?

1367

1 A. Very simply the introduction of Xtend crops.

2 Q. Now, before 2015 did we see floods?

3 A. Let me -- let me back up and rephrase that --

4 Q. Okay.

5 A. -- and say the use of dicamba in Xtend crops.

6 Q. Before 2015 did we see things like floods?

7 A. Sure. I mean, we've seen all kinds of things.

8 Q. Various weather-related events?

9 A. Sure.

10 Q. Various diseases?

11 A. Yes, sir.

12 Q. Pests like deer and mites, and that sort of thing?

13 A. Yes, sir.

case, 14 Q. Just a couple of things that have come up in the

The 15 and we'll dispose of them, and we'll be done with you.

16 jury has heard about some closed chamber type studies.

what 17 Would you talk to us about closed chamber studies and

world? 18 their limitations are in applying them to the real

19 A. Well, I think that the first thing I would cite on
that
20 would be what I think is the landmark dicamba
publication
21 that I haven't heard cited here yet. It was conducted
by
22 two scientists -- you're going to love this -- Barons
23 (Phonetic) and Lucians (Phonetic) or Barons (Phonetic)
and
24 Lucian (Phonetic) I think it would be. And I'll hit
with
25 that later if I need to -- in 1979.

1368

1 And they did several different -- well, they
did a
2 lot of different -- the whole -- it's just called
dicamba
3 volatility, I believe, but the whole study was on the
4 volatility of dicamba, the dicambas that existed, the
5 formulations that existed in 1979.
6 And one of the things they did was closed
chamber
7 studies. They didn't call them humidomes, but they
were
8 closed chamber studies. And when they would compare
9 different formulations having different volatility back
in
10 that day, they frequently found big differences in the

11 volatility in the closed chamber studies, but when
they took

12 that to the field, it fell apart.

13 Q. In other words, the closed chambers studies showed
the

14 big differences in volatility, but did those
differences in

15 volatility between the various formulations show up in
the

16 field when they were tested there?

17 A. When they took those same formulations in the
field,

18 what they tended to find is those differences
disappeared for

19 the most part. And go ahead.

20 Q. What did they conclude then? What did they
attribute

21 that to?

22 A. Well, their explanation, which I think turned out
to be

23 very prophetic for today, they concluded that,
obviously, it

24 took they said three things for dicamba volatility to
present

25 in the field, and one was sufficient temperature to
cause

1369

1 volatility, which summertime temperatures take care of
that.

could 2 They said slow moving air, which basically you
said 3 relate that to a temperature inversion. And then they
day 4 time or length of exposure. And they felt like in the
that 5 that it took putting those three things together to see
lack of 6 difference in the field that they were -- that that
closed 7 difference in the field that they were seeing in their
8 chamber studies.

sure 9 Q. Now, certain Defendants' employees -- now, I'm not
won't 10 if a BASF employee has testified to this, so I just
testified 11 represent that, but I know some Monsanto employees
was 12 that in the studies done by academics after the product
was 13 released in 2017 the academics confirmed what Monsanto
assessment? 14 saying about volatility. Do you agree with that

15 A. I do not.

16 Q. Could you tell the jury about what the low tunnel
17 volatility trials were?

all of 18 A. Well, in 2017 just to back up a little bit the --
product. 19 a sudden the university scientists could test the

20 And most of them were wanting to test it to -- to
satisfy the

21 people in the state that they were from.

22 And so they did start doing a series of
testing, and

23 some of that was sponsored by industry. I mean,
that's been

24 pointed out. And I don't know what industry sponsored
what

25 studies, but there was industry support for it.

1370

1 And in the low tunnel studies were a series of
2 studies that were conducted, I believe, in over six
states,
3 and there were like ten of them.

4 Q. And what was -- what did those studies -- can you
tell

5 us just in two or three sentences what the design of
those
6 studies were?

7 A. What they did is like it might sound like it's a
-- they

8 built these what they call low tunnels. They were --
I

9 don't remember whether they were 20 feet long, but they
were

10 fairly lengthy and just a hoop sort of, the hoop
shaped, and

11 they were open on the ends.

rows 12 And they -- they would place a tunnel over two

And 13 of soybeans that were planted and growing out there.

with 14 then away from that area they would spray flats of soil

flats 15 the different dicamba formulations, and then take those

16 of soil and place them under those tunnels.

real 17 Q. And did those studies reach a conclusion about the

other 18 world volatility of the new formulations compared to

19 formulations?

started 20 A. But I think -- I would state it more like they

they 21 giving some pretty good indications that -- and what

there so 22 would do is they would leave the flats of soil under

the 23 long, and then they would take them out, and then take

24 tunnels off and then evaluate the soybeans for dicamba

-- I 25 symptomology over time. And go ahead. And I may have

1371

1 lost part of the question.

2 Q. And what did they conclude?

3 A. Okay. What they concluded is -- is when they
averaged
4 over all of those studies that were conducted in
different
5 states by different scientists, they found a big
difference
6 in the DMA salt or the Banvel formulation that you've
already
7 heard about that they found more volatility with it,
but when
8 they compared the newer formulations -- Engenia,
XtendiMax
9 and Clarity that you've also heard, the M1691 or
Clarity --
10 they didn't see any difference in those three
herbicides --
11 the two new ones compared to Clarity -- when they used
12 soybean as a bio indicator in those low tunnel studies.
So
13 that started giving them an initial look to say, okay,
we
14 need -- we need to go further.
15 Q. So the jury has heard -- heard information that
least as
16 to these Defendants' internal studies in their
laboratories
17 show a 90 percent reduction or so between the new ones
from
18 Clarity, the old dicamba, but in the real world studies
here
19 that difference was not shown?
20 A. In that set of low tunnel trials that -- that was

not

21 going out. When you strictly evaluated volatility
based on
22 soybean injury letting the soybean plant tell you, then
they
23 did not find -- they did not find a significant
difference
24 between those three.

25 Q. Let's go to the next step in the testing post
sale. The

1372

1 Kaiser (Phonetic) Study. What was the design of the
Kaiser
2 Study?

3 A. What Dr. Norsworthy wanted to do there was just
take
4 things a step further to answer questions for our plant
board
5 for one thing, and he conducted I thought a very simple
--

6 well, the study was complex, but it -- it was also
pretty
7 simple. And he was comparing XtendiMax and Engenia
sprayed
8 over soybeans, and then measuring to see what happened.

9 Q. And what did he conclude?

10 A. Well, what he did he sprayed the -- he went out in
a big
11 soybean field where the soybeans were already growing,

and he

of 12 just sprayed a three and a half acre block of each one

sprayed them 13 those simultaneously -- he used two sprayers and

studied 14 simultaneously -- under label conditions, and then

15 what happened over time in some pretty practical ways.

16 Q. And what did he conclude?

playing a 17 A. Okay. He concluded that volatility had to be

18 huge role in what he was seeing in his plots.

University 19 Q. And this is the same Dr. Norsworthy from the

about in 20 of Arkansas that the jury heard a lot of criticisms

21 his -- in Mr. Orr's testimony; right?

22 A. That's correct.

back; 23 Q. You're familiar with him and his research from way

24 right?

25 A. Very familiar.

1373

1 Q. And what's his rank at the University of Arkansas?

2 A. He's a distinguished professor.

Proctor, 3 Q. And the jury heard a lot about Dr. Norsworthy's

Orr 4 Tennessee study. And Monsanto counsel questioned Mr.
that 5 extensively on his -- about his written criticisms of
6 study. You're familiar with that study, aren't you?

7 A. It was actually Proctor, Arkansas.

8 Q. I apologize.

9 A. I knew that.

10 Q. How did I get that wrong?

11 A. Yes, sir.

with 12 Q. So the Proctor, Arkansas study, you're familiar
13 that study?

14 A. I am.

you get 15 Q. What was the study -- well, first of all, before
16 to the study design let's deal with the EPA issue.

17 You're familiar with Monsanto through Dr. Orr
18 submitted written criticisms of this study to the EPA;
19 correct?

but 20 A. Yes. They -- I've seen I believe it was eight
study to 21 they -- seven. They raised seven points about that
done 22 the EPA that they felt like that Dr. Norsworthy had
effort to 23 wrong, so to speak, and I would -- apparently in an
EPA. 24 get the study disqualified or not considered by the

25 Q. And after considering Monsanto's criticisms, what
did

1374

1 the EPA do with Dr. Norsworthy study?

2 A. They considered the study on every point that was
3 raised.

4 Q. So what was the study design in the Proctor,
Arkansas
5 study?

6 A. Well, again, it was -- it was -- and I -- the
company
7 sponsored that study or had a lot to do with that
study, and
8 it wasn't just that one. I mean, there were a series
of
9 them that were -- that were conducted around the
country.

10 Dr. Norsworthy just happened to have one of them.

11 And it was conducted to study off target. It
was
12 conducted to determine what part of any off-target
drift or
13 movement might be due to drift versus volatility was
kind of
14 the main points and the main reason for conducting the
study.

15 Q. And what conclusion did Dr. Norsworthy reach?

16 A. I mean, after he looked at -- I mean, there was a

lot of

with 17 talk about tarps. You know, they covered some plants
against 18 tarps, left some plants open for the tarps to protect
plants 19 any spray drift. In other words, they covered some
removed the 20 with tarps, made the spray application, and then
21 tarps after maybe 30 minutes, long enough for any spray
22 particles to be moved off.

23 So that way if there was -- if there was injury
assume 24 underneath those tarps, then it would be reasonable to
spray 25 that was there because of volatiles moving and not

1375

1 particles that were moving.
test, 2 And what he concluded, and basically I saw his
growing 3 you couldn't tell the difference between the soybeans
weren't 4 where the tarps were removed and the soybeans that
5 covered by the tarps.
target 6 So, I mean, his conclusion was the primary off-
7 volatility and mechanism of movement in that study was indeed

8 not physical drift.

saying, 9 Q. The jury heard testimony from Monsanto employees

it, you 10 well, since this research has been done since we sold

volatility 11 know, it's just confirmed our -- what we said that

12 isn't a problem. Has that view been accepted in the
13 academic community?

14 A. Not at all.

its deep 15 Q. Does the academic community continue to express

16 concerns about volatility of these products?

in 17 A. Yeah, I mean, most -- the academic community has,

are 18 essence, just moved on from the argument is dicamba --

enough to 19 the new formulations volatile? Are they volatile

20 move off target and affect vegetation? And they just

21 essentially moved on from that argument that if sprayed

move 22 according to the label, the compound is not going to

23 more than 110 feet down wind or whatever. They're just

try to 24 conducting their own research within their states to

figure 25 learn more about what's happening and see if we can

1 out a way to fix it.

2 Q. One final topic. Have you heard the phrase
"defensive
3 planting" over the course of your career?

4 A. I have.

5 Q. What does that phrase mean?

6 A. Well, it just means -- I mean, you know, some
people are
7 going to plant that technology because they want it.
I
8 mean, there's very much of a divide out there. There
are
9 farmers that very strongly want to use that technology.
It
10 is a very good weed control technology, the varieties
are
11 very good, but there are also other farmers that don't
use
12 it. They would prefer to grow a different kind of
soybean.
13 And but if you're living in an area where
you're
14 surrounded by neighbors that are spraying dicamba, you
just
15 simply don't have much choice but to plant that --
their
16 technology if you don't want damage on your crops. So
that --
17 hence the term defensive planting. They're planting it
to

18 protect themselves from their neighbors' damaging it.
19 Q. Did you raise this question of off-target movement
and
20 protection of sensitive crops with folks from Monsanto
as the
21 system was coming online?
22 A. Well, I raised the issue -- a lot of us raised
issues
23 with them in various conversations as we heard about
the
24 technology and as it was coming down the line and how
are you
25 going to manage the off-target issues that are going to
be

1377

1 inevitable? And the response was normally along the
lines
2 that everybody will plant our technology, and there
won't be
3 an issue.

4 Q. And was that a consistent message you received
back from
5 the Monsanto folks you talked to?

6 A. Yes.

7 Q. Have you used the phrase "all or nothing system"
about
8 this system?

9 A. I've used that phrase in a lot of articles since
the --

10 since it became aware that it was finally going to be a
11 commercial product that, yes, I've said it was an all
or
12 nothing technology. I also said both of those
scenarios are
13 bad in my opinion.

14 Q. Now, while soybean and cotton farmers can switch
to
15 Xtend seeds to protect themselves from dicamba damage,
does a
16 peach farmer have that option?

17 A. He does not.

18 Q. Thank you.

19 MR. RANGLES: That's all the questions I
have.

20 THE COURT: Mr. Miller.

21 MR. MILLER: Do you want me to start, or do
we need
22 a break? I'm fine either way.

23 THE COURT: Why don't we start, and then
we'll take
24 one more break and go to around 5:00 o'clock. Is that
okay
25 with you-all?

1378

1 MR. MILLER: If it may please the Court.

2 CROSS-EXAMINATION

3 BY MR. MILLER:

4 Q. Good afternoon, Dr. Baldwin.

5 A. Good afternoon, sir.

6 Q. Dr. Baldwin, you said towards the end of your
testimony

7 that when you go out to investigate something, if you
don't

8 see herbicide symptomology, you pass it on to somebody
else

9 because it's not your area at that point; correct?

10 A. I have done that.

11 Q. Yeah. And the primary herbicide symptomology that
we're

12 talking about in this case, as you showed the ladies
and

13 gentlemen of the jury in the pictures, is the leaf
curling

14 that you're saying was happening up at the top of the
peach

15 trees; is that correct?

16 A. That's one primary -- yeah, that would be the
primary

17 symptomology on the peach trees, yes, sir.

18 Q. On the peach trees. And I'm just going to focus
for now

19 on the peach trees.

20 A. And there are other trees that I looked at for
that

21 matter as well, but go ahead.

22 Q. But other vegetation around --

23 A. Yes, sir.

24 Q. -- all around the plant and -- or, excuse me, the
farm.

25 And you would look at that herbicide symptomology to
make

1379

1 your determination as to your conclusion, your opinion,
your

2 scientific opinion, as to whether it was dicamba that
caused

3 the damage there?

4 A. I had done that.

5 Q. I'm sorry?

6 A. I had done that, yes, sir.

7 Q. If you didn't see herbicide, symptomology, as you
just

8 described with the curling of the leaves, you wouldn't
form

9 an opinion, and you might hand it off to somebody else;

10 correct?

11 A. Well, I mean, you're going to have to ask me more
--

12 something more specific than that.

13 Q. Sure. You formed your opinion in this case, Dr.

14 Baldwin, that it was dicamba that was hurting the peach
trees

15 at Bader Farms before you ever laid eyes on the first

leaf at

16 Bader Farms; isn't that correct?

17 A. I didn't totally form my opinion. I had a lot of
18 opportunities to look at it later, but, yes, go ahead.

19 Q. Sure. Do you recall signing an affidavit in
April of
20 2017 that you submitted to the Court under the penalty
of
21 perjury?

22 A. Yes, sir, I do.

23 Q. And in that affidavit you stated unequivocally
that your
24 opinion, based on your inspections at that point, was
that it
25 was dicamba that was causing the problems at Bader
Farms;

1380

1 correct?

2 A. I did.

3 Q. Let's take a look at that, please. Could we have
that
4 exhibit. I believe it's Exhibit M-113. And, Dr.
Baldwin,

5 is this the affidavit you submitted to the Court?

6 A. It is.

7 (Defendant's Exhibit No. M-113, Affidavit,
was

8 identified.)

of 9 MR. MILLER: Your Honor, I move for admission
10 113, please.

11 MR. ANDERSON: No objection.

12 MR. RANGLES: No objection.

13 THE COURT: Admitted.

was 14 (Defendant's Exhibit No. M-113, Affidavit,
15 received.)

16 BY MR. MILLER:

17 Q. And your first visit to Bader Farms was on
February 14th 18 of 2017; is that correct, Dr. Baldwin?

19 A. That's correct.

20 Q. And you submitted this affidavit to the Court a
few 21 months later. May 1st is when it was filed, but if we
go to 22 the signature page, you signed it under penalties of
perjury

23 on 4/27 -- April 27, 2017; correct?

24 A. That is correct.

25 Q. So that was four months or -- well, three months
before

1381

1 you made your next visit to Bader Farms?

2 A. That is correct.

3 Q. So from your first visit on February 14th until
you
4 signed this affidavit you saw nothing else at Bader
Farms?

5 A. I did not.

6 Q. Okay. Let's go to page 6, please. And if we
could
7 blow up 23. And this is --

8 MR. MILLER: By the way, Your Honor, this
exhibit
9 is introduced for demonstrative -- sections of it are
10 introduced for demonstrative purposes. I didn't say
that
11 when I put it in, but we're not submitting the entire
12 affidavit into evidence.

13 THE COURT: That's fine.

14 BY MR. MILLER:

15 Q. In Paragraph 23 you told the Court, quote, "Bader
Farms
16 is located in Dunklin County, Missouri. On February
14th,
17 2017, I visited Bader Farms and conducted an inspection
of
18 its peach trees, row crops and other vegetation."
That's
19 what you said; correct?

20 A. I did.

21 Q. But actually on February 14th there wasn't any
peach

22 tree -- at least any peach tree leaves to look at;
correct?

23 A. That's correct.

24 Q. There were no row crops to look at?

25 A. Where row crops had -- were planted, but no live
crops

1382

1 to look at in the middle of the winter, no.

2 Q. So you couldn't inspect them, right, for herbicide
3 symptomology?

4 A. No.

5 Q. And there was no other vegetation that you
inspected;

6 correct?

7 A. No.

8 Q. And then you say, "In my opinion Bader Farms has
9 suffered extensive injury from dicamba exposure;"
correct?

10 A. I did.

11 Q. And you stated under oath, "The peach trees and
other

12 crops at Bader Farms show clear signs of dicamba
damage;"

13 correct?

14 A. That's the way it came out, yes, sir.

15 Q. Well, that's the way you wrote it, is it not, Dr.

16 Baldwin?

17 A. That's what it says.

18 Q. And you read it before you signed it; is that
correct?

19 A. I read it.

20 Q. And you did not say anything to the Court in this
21 April 27, 2017, affidavit saying I I think it might be
-- I'm

22 going to have to go back and check later when I can see

23 actually herbicide symptomology. Nothing like that.
You

24 just stated definitively you had come to your
conclusion;

25 correct?

1383

1 A. That's what it states here.

2 Q. Let's go on to Paragraph 23. No, that was 23.
I'm

3 sorry. Paragraph 25. And you told the Court to back
up

4 your opinion about your 40 years of helping farmers

5 investigate, document and identify herbicide drift
incidents;

6 correct?

7 A. I did.

8 Q. And then you went on to Paragraph 26. You told
the

your 9 Court that in your investigations you were relying on
10 experience as a weed scientist; correct?

11 A. I do.

that 12 Q. And like many scientists you have a methodology

conclusions 13 you've developed over the years to come to your

14 and your opinions about things; correct?

15 A. That's correct.

set 16 Q. That's a common scientific approach is to have a

17 methodology so that you know what steps you need to go

correct? 18 through so that your opinion at the end is valid;

it 19 A. I don't know that it's a set methodology, because

20 kind of changes from case to case, but, yes, there is a

21 methodology.

as 22 Q. Certainly. So there's a methodology that you use

correct? 23 you say to investigate herbicide drift incidents;

24 A. That's correct.

Court 25 Q. And then you explained your methodology to the

1 stating that your methodology begins with symptomology,
2 examining the symptoms in the injured plant, nutrient
status
3 of the plant and signs of crop stress or insect damage
in the
4 plant; correct?

5 A. I did.

6 Q. And then you said next I investigate the visual
7 appearance of the field and search for indicator plants
and
8 patterns in the drift damage in the environment within
and
9 surrounding the affected area; correct?

10 A. I did.

11 Q. Then you say, "Once I determine what the cause of
the
12 damage is and level of damage, I offer treatment
solutions;"
13 correct?

14 A. In a lot of investigations, yes, sir.

15 Q. And you did not follow this methodology when you
came to
16 your conclusion in April of 2017 that you submitted to
the
17 Court that the problems that Bader Farms were caused by
18 dicamba; correct?

19 A. I followed it as extensively as I could at that
time
20 frame on, what was it, Valentine's day of 2017.

21 Q. Well, you didn't look at that kind of

symptomology.

You 22 You said your first thing it begins with symptomology.

14th; 23 didn't look at that kind of symptomology on February

24 correct?

25 A. I looked at something that I related to
symptomology.

1385

1 I did.

you 2 Q. You did not look at that kind of symptomology that

3 were talking about there; correct?

what 4 A. I don't know what -- I don't know what you mean by

a lot 5 kind of symptomology I was talking about here. There's

6 of different kinds of symptomology.

this 7 Q. Okay. Can we play clip -- you've been deposed in

8 matter, haven't you, Dr. Baldwin?

9 A. I did.

would ask 10 MR. MILLER: Can we play clip 62. And I

11 the jury to see it, Your Honor.

12 MR. RANGLES: I have no objection.

13 (Clip 62 was played for the jury from the

14 videotaped deposition of Dr. Ford Baldwin as follows:)

15 Q. "Let me know how you were able to look at the
16 symptomology on February the 14th of 2017."

17 A. "Well, I didn't look at that kind of symptomology
on
18 February 14th of 2017."

19 Q. And the next thing you say in your affidavit is
that you
20 look at nutrient status. You did not look at the
nutrient
21 status of the plant; is that correct?

22 A. I did not.

23 Q. In fact, you haven't done that to this day. You
haven't
24 looked at the nutrient status of any of the peach trees
at
25 Bader Farms; correct?

1386

yes,
1 A. I've reviewed the soil tests. I have done that,
2 sir.

3 Q. And you said that you would look again -- the next
thing
4 you would look for signs of crop stress or insect
damage;
5 correct? That's your normal methodology; is that
right?

6 A. Okay.

7 Q. And you did not do that before you came to your
opinion
8 that you submitted to the Court; correct?
9 A. Not that exact thing. That was not what I used,
no,
10 sir.
11 Q. Now, you were at Bader Farms for about three or
four
12 hours on February 14th, 2017; is that correct?
13 A. On that particular day.
14 Q. I'm sorry?
15 A. On that particular day, yes, sir.
16 Q. And you observed more fields by driving than by
walking
17 through them on that visit; correct?
18 A. Yeah. We walked fields, but we also drove a lot.
I
19 would say, yes, that's a fair statement.
20 Q. About how many acres did you cover in those three
or
21 four hours, do you recall, Dr. Baldwin?
22 A. I don't know. We went in a lot of different
orchards I
23 can tell you that. The exact how many acres we covered
I
24 don't know that.
25 Q. And you didn't take any measurements on any
quantitative

1 data of any sort that day, correct?

2 A. I didn't take my measurements, but I took some
very
3 definite observations. I did.

4 Q. Not of any foliar leaf symptomology; correct?

5 A. Not foliar leaf symptomology, no.

6 Q. What observations did you make?

7 A. Basically looking at comparisons of fruity wood or
maybe
8 this bud wood, whatever they've called it, but actually

I was

9 just getting an overview. I went up there not
expecting to
10 see a lot of anything.

11 And I just -- and Mr. Bader started pointing
out

12 fruity wood differences, very short fruity wood with
few

13 nodes on it compared to longer fruity wood with a lot
more

14 nodes on it. And I started picking up a pattern in
that

15 between protected and unprotected areas.

16 Q. And so it looked like a drift pattern to you?

17 A. If I used that as a metric, it looked like it
could be a

18 drift pattern, because it was -- it was in the
protected

the 19 areas that anything that would have been protected from
described 20 south, the fruity wood was much longer and what he
21 as much more normal.

22 When I got into open areas, all of a sudden the
a lot 23 fruity wood became very short, and that was consistent
24 across several different orchards we looked at.

Farms 25 Q. And you did not know before you set foot on Bader

1388

1 what normal fruity wood growth would be; correct?

2 A. That's correct.

Bader 3 Q. And you took all the information you got from Mr.
4 on that; is that right?

5 A. I did. On that particular day. I did.

6 Q. And you know that a variety of things can cause a
7 difference in the fruity wood like, say, a lack of
water from 8 one year to the next?

a very 9 A. I've been told that, but, again, I was picking up
10 definite pattern between protected areas and open areas
and 11 within the same orchard and almost side by side, and --

12 information

that made an impact on me. I also had a lot of

13 into

before I ever went up there as well that I did take

14 consideration.

15 areas;

Q. Well, that was what you say you saw in the other

16 correct?

17 Bradley's

A. Well, part of it was what I saw from Kevin

18 yes, is

presentation to start with, but then the other thing,

19 that I

what I observed in the areas very close to Bader Farms

20 farm

felt like there was a high percentage chance that his

21 had been exposed to dicamba when I went up there.

22 as you

Q. And you told the ladies and gentlemen of the jury

23 that

were driving there you came to the conclusion basically

24 this was going to be dicamba; correct?

25 A. No, I did not do that at all.

1389

1 the

Q. Now, the fruity wood, are you saying that that's a

2 symptom -- you're not saying that the fruity wood is of

3 the

tree of the -- or nothing -- anything on the wood of

effect to 4 trees was a symptom that you attribute as a direct
that? 5 an auxin type herbicide; correct? You're not saying
was 6 A. No. It was just a metric. The differences that I
that to 7 observing was just a metric that said if I consider
pattern 8 be herbicide injury, I'm picking up a very definite
things 9 like I would pick up in a lot of other patterns in
10 that I've looked at.
in your 11 Q. Now, the other thing you said close to that time
eliminate 12 testimony today is that one of the things you do is
13 other potential causes; correct?
14 A. To the extent that I can, yeah. Okay. Go ahead.
at all 15 Q. And you didn't do that on February 14th prior or
your 16 before you submitted the affidavit to the Court stating
17 definitive opinion; correct?
18 A. Oh, basically I took into account the things we've
19 talked about when I came to that conclusion.
your 20 Q. What I'm asking you, Dr. Baldwin, is you stated in
out 21 testimony in direct that what you normally do is rule
22 other causes, you didn't do that here before you swore

that

23 this was dicamba damage; correct?

24 A. On that particular day there wasn't a lot of
causes that

25 I could rule out, no.

1390

1 Q. So you didn't investigate whether herbicides were
being

2 used in the orchard; correct?

3 A. I pretty much knew -- I knew what herbicides he
was

4 using in the orchard, yes. I mean, we talked about
his weed

5 control program. We talked about a lot of things.

6 Q. On that day?

7 A. On that day.

8 Q. And you weren't aware that at that time that they
had

9 already been hit previous years with damage from 2,4-D
on the

10 peach orchard? You weren't aware of that in February

of

11 2017, were you, sir?

12 A. I do not recall whether we had that discussion or
not.

13 You're talking about the 2015?

14 Q. Yes, sir.

that 15 A. I do not recall whether we had that discussion on
16 particular day or not.

aware 17 Q. So when you made your conclusion, you were not
orchard; 18 that there had been previous 2,4-D damage on that
19 correct?

20 A. I can't say for sure that I was, that's correct.

21 Q. And 2,4-D is an auxin herbicide as well; right?

22 A. It is an auxin herbicide.

same 23 Q. And if you have enough 2,4-D, it can cause the
24 symptomology that you observed with the fruity wood in
25 February of 2017; correct?

1391

1 A. I don't know that.

2 MR. MILLER: Could we play clip 85, please.

3 And can we show that to the jury, Your Honor?

4 THE COURT: Yes.

Ford 5 (Clip 85 of the videotaped deposition of Dr.
6 Baldwin was played for the jury at this time as
follows:)

7 Q. "It caused the same symptoms you allege that you
8 observed in February of 2017?"

9 A. "If you put enough."
10 Q. I will submit to you that we missed the first line
of
11 that, but it was being asked about 2,4-D?
12 A. That's a little different answer, though, because,
I
13 mean, we do know that peach is much more tolerant to
2,4-D
14 than it is to dicamba, so that would -- that was the
reason I
15 answered "If you put enough," and I guess if you put
enough,
16 you could see that symptom.
17 Q. And I believe that was the question I asked you,
Dr.
18 Baldwin, but if I left off the "if you use enough" I
19 apologize.
20 And the 2,4-D damage can look fairly similar to
21 dicamba damage in trees; correct?
22 A. It can look -- the symptomology itself can look
similar.
23 Q. You also know that glyphosate will hurt peach
trees if
24 it has enough on its leaves; corrects?
25 A. It can.

1392

1 Q. And you could not rule out glyphosate or
glufosinate

2 damage in February of 2017 before you wrote up your
3 affidavit; correct?

4 A. At that particular day I would say no.

5 Q. There were a variety of other potential causes
that you
6 could not rule out before you came to your opinion that
you
7 submitted to the Court; correct?

8 A. Repeat the question, sir.

9 Q. Sure. You didn't consider other pathogens as a
10 possibility for what you saw in February of 2017 before
you
11 signed your affidavit; correct?

12 A. There was only so much I could consider on that
day.

13 Q. You didn't rule out heat as a possible cause of
what you
14 saw --

15 A. Ruling out heat?

16 Q. -- in February? Yes.

17 A. I mean, I don't know whether I ruled it in or out.
I
18 mean, it gets hot every summer. I mean, it -- heat is
not
19 something that would have been very high on my radar
screen

20 to rule out one way or the other.

21 Q. And, as you said a number of times here, you
couldn't do

22 any of those things, but you didn't list any of that
that you

23 couldn't do what you normally do in your affidavit;
correct?

24 A. That's correct.

25 MR. MILLER: Do you want me to move on to
another

1393

1 topic, Your Honor, or should we keep going?

2 THE COURT: Why don't we take another quick
recess.

3 And I'd really like to try and finish this witness
today. So

4 I may go a little after 5:00 unless someone has some
urgent

5 problem otherwise.

6 So let's take a 10-minute recess, and we'll
call

7 you back shortly.

8 Remember the admonition.

9 (Proceedings stood in temporary recess.)

10 (Proceedings resumed in open court.)

11 THE COURT: Please be seated.

12 Mr. Miller.

13 MR. MILLER: Thank you, Your Honor.

14 BY MR. MILLER:

15 Q. Dr. Baldwin, I want to go over one topic very

quickly I

16 think just to make sure, as you said, you're not a
peach

17 expert; correct?

18 A. I'm not a peach expert in the true sense of the
word.

19 Q. And your education and training did not include
peaches

20 at all; correct?

21 A. Training wise. I mean, other than just some of
the

22 basic college courses you would take that would deal
with

23 some of that, but --

24 Q. And your career with the extension service did not

25 involve peaches; correct?

1394

1 A. Only to the extent of keeping the herbicide
2 recommendations for using peaches up to date, I did
have that

3 responsibility.

4 Q. Well, in fact, you never made recommendations to
anyone

5 about proper weed control in peach orchards, have you?

6 A. I've been doing this 45 years, and I can't
remember

7 every phone call that I've ever received, but the
second half

had 8 of -- well, more than the second half of my career we
the 9 another weed scientist that handled that area, but in
the 10 first part of my career, I mean, basically they're all
have 11 same herbicides that we use in other crops. I would
12 been totally comfortable to do that.

made a 13 Q. I'm asking you, sir, if it's true that you never
peach 14 recommendation to anyone on proper weed control in
15 orchards?

remember. 16 A. I'm not going to say it's true. I can't

17 Q. Okay.

Can we 18 MR. MILLER: Let's play clip 113, please.

19 show that to the jury?

Ford 20 (Clip 113 of the videotaped deposition of Dr.

follows: 21 Baldwin was played for the jury at this time as

proper 22 Q. "Have you ever made recommendations to anyone on
23 weed control in peach orchards?"

24 A. "Not that I recall."

2017, 25 Q. And prior to going to Bader Farms in February of

1 you had never worked with peaches; correct?

2 A. That is true.

3 Q. And, Dr. Baldwin, you can have -- well you talked
a

4 little bit about species. I think Mr. Randles has
asked you

5 about species. And just so we get our terminology
right, a

6 species at the bottom is sort of the ranking of things
is

7 what the individual object is. A peach tree is a
particular

8 species. A soybean is a particular species; correct?

9 A. That would be true.

10 Q. And then the next level up is called a genus;
right?

11 A. That would be true.

12 Q. And so those are things that are not the same
plant, but

13 they're very closely related; correct?

14 A. That would be reasonable.

15 Q. Did I get that right? And it's true that even in
the

16 same genus you can have different effects of the same
17 herbicide?

18 A. That's absolutely true.

19 Q. And, in fact, whether dicamba damage looks similar

to

You'd 20 2,4-D damage or not depends on a particular species.

21 agree with that?

22 A. That would be a reasonable statement.

23 Q. Now, you talked about testing for dicamba, and you
24 explained why you didn't test for dicamba here, and you

said

25 you didn't want to get false negatives; is that
correct?

1396

1 A. That would be one way to put it.

2 Q. But I thought that was what your testimony was?

3 A. I did testify to that.

4 Q. So you were concerned that you would get a
negative

5 result, so you decided not to take the tests; is that
right?

6 A. No. I was pretty confident I would get a
negative

7 result, and then I would be up here trying to defend
negative

8 results instead of not pulling the samples.

9 Q. So now you did not take any samples from the
orchard;

10 correct?

11 A. I did not.

is 12 Q. And you know that people do test for leaf residue;
13 that right?
14 A. It can be tested for.
Bader 15 Q. And you're aware that samples were taken from
16 Farms in both 2015 and 2016; correct?
17 A. I heard that.
has 18 Q. And you're aware that the State -- now, the jury
found 19 heard that when the State took samples in 2015 they
20 dicamba in the leaves along with 2,4-D and Flumioxazin?
21 A. I heard that.
where, 22 Q. Now, you've worked in other cases as an expert,
found 23 in fact, tests have been taken for dicamba, and they
24 dicamba in the plants; correct?
25 A. Refresh my memory.

1397

v. 1 Q. Sure. You worked in a case called Keller Farms
2 McGarity Flying Service?
3 A. Oh, I did.
4 Q. And that was an alleged dicamba drift case;
correct?

5 A. That was one of the -- yeah, it was a mixture of
6 herbicides, but dicamba was one of them.

7 Q. They found dicamba in the tree leaves there,
8 they?
9 A. They did.

10 Q. And in fact, when you made your opinion in that
11 case, you found that the fact that they found dicamba in the
12 tree leaves was very significant; correct?

13 A. It is significant if you find it.

14 Q. And you said in that case that the issue the
15 people were having with not getting positive dicamba results is
16 that they were waiting two to three weeks to sample because the
17 dicamba leaves the plant very quickly, and they were waiting
18 too long to take the sample; correct?

19 A. That's typically the case, yes.

20 Q. And here you would agree in this case because the
21 allegation is the dicamba is coming in all the time if
22 you were to have taken a sample every day in the orchard
23 for a few weeks, you would have had samples that would prove
24 dicamba is coming into the orchard; isn't that correct?

25 A. If you sampled every day, knowing, yeah, when it

was

1398

1 happening, if possible, you could find dicamba.

2 Q. Well, actually you would have -- I think your
testimony

3 was you would have samples that would prove it; right?

4 A. That's possible.

5 Q. But you didn't try that, and you didn't suggest
that

6 Mr. Bader do that?

7 A. I did not.

8 Q. Now, you know that the FDA came in and tested the
9 peaches in 2016; correct?

10 A. I heard testimony of that, yes, sir.

11 Q. You're aware that they found no dicamba in the
peaches

12 themselves; is that correct?

13 A. I'm aware of it.

14 Q. And dicamba is an auxin herbicide. We've already
heard

15 that; right?

16 A. Yes, sir.

17 Q. And it goes to where the tree is basically
growing, the

18 new growth of the tree. It's primarily how it works.

Is

fair? 19 that how -- I know I'm simplifying it, but is that

20 A. Repeat.

of the 21 Q. Sure. An auxin herbicide like dicamba -- because

gets into 22 reason you see the new growth is it will -- once it

where the 23 the tree, it goes to the newest growth, it goes to

24 tree is growing?

move 25 A. It -- it does that. I mean, it moves -- it can

1399

the 1 upward and downward, but it typically is going to go to

2 new growth.

3 Q. And you're familiar with the term sink and source;
4 correct?

5 A. I am.

the 6 Q. And a sink in a tree or plant is something where

collecting 7 earth's chemicals in a plant are going like a sink

8 things; correct?

9 A. That's true.

the 10 Q. And in a tree like a peach tree the sink during

11 different times of the year will change?

12 A. That's true.

13 Q. For example, when the trees -- I'm sorry, I didn't
mean

14 to interrupt you.

15 A. I'm sorry.

16 Q. Quite all right. When the tree is dormant over
the

17 winter, the sink is going to be down to the roots,
everything

18 goes down to the roots; correct?

19 A. That's correct.

20 Q. And when the buds start coming up, the sink is the
buds,

21 everything starts going to the buds; right?

22 A. Starts moving up that's for sure into the plant.

23 Q. And when the leaves start coming up, those are the
sink,

24 that's what starts collecting everything?

25 A. That would be -- it depends on when it gets on
there,

1400

1 but, yes, that would be -- that would be a sink.

2 Q. And when the peaches start to grow, they become a
sink

3 to start collecting everything in the tree; correct?

4 A. They would become a sink.

5 Q. And when they tested the peaches at Bader Farms,
they
6 found nothing; correct?
7 A. If they found nothing, that's what they found.
8 Q. And are you aware that the Baders have taken
samples
9 from their trees and kept them in the freezer and not
had
10 them tested?
11 A. I'm not aware of that.
12 Q. By the way, another way of testing for the
presence of
13 dicamba is through air sampling; is that correct, sir?
14 A. I mean, you can test for it that way. I mean --
15 Q. And, in fact, all these tests that we've talked
about,
16 they're not the GLP tests, the academic tests, and all that,
17 taking -- in a lot of cases they're not taking leaf
samples
18 they're taking air samples and then determining if
there's
19 dicamba; correct?
20 A. Well, they're doing a lot of both. I mean, yes,
they
21 are taking air samples. They're using foliage samples.
22 They're using a lot of different things.
23 Q. Now, I believe you said that your theory is -- one
of
24 the parts of your theory here is atmospheric loading,
which

25 I'll get to a little later; correct?

1401

1 A. Yes, sir.

2 Q. And what essentially, if I understand it
correctly, what

3 you're saying is there's so much dicamba being sprayed
that

4 it's just building up in the atmosphere; is that fair?

5 A. Well, it's not building up in the atmosphere over
time

6 as much as it would just be accumulating in particular
7 temperature inversions and moving laterally in the
atmosphere

8 until that inversion dissipates, yes, sir.

9 Q. And we'll get to the temperature inversions. I
10 appreciate you bringing that up. I'm not sure if I'll
get to

11 it next, but I'll get to it. But there was no attempt
that

12 you're aware of at all either by you or anybody else
working

13 with Plaintiffs to do any air sampling out of Bader
Farms to

14 see if there's dicamba in the air at any point;
correct?

15 A. I think that was beyond the scope of what we would
be

16 able to do.

that? 17 Q. You as a weed scientist wouldn't be able to do
have the 18 A. I mean, I don't have the equipment. I didn't
went 19 time to spend up there. No. That's something that
would 20 beyond the scope of what I would be comfortable doing.
another 21 Q. I see. But so that would be something that you
equipment 22 refer off potentially to another weed scientist or
23 researcher who could be able to come up with the
24 and do the air sampling; is that right?
could be 25 A. If there were air sampling going to be done, it

1402

done by 1 done by somebody better than me. It could have been
2 the companies.
Dr. 3 Q. And I want to move on to a different topic here,
we saw 4 Baldwin, and that is the sale of the Xtend seeds. And
balloons 5 the maps that counsel put up for you with the little
6 I think you called them all over it?
7 A. Yes, sir.

8 Q. All right. And I just want to make clear, and I
know
9 you testified to this, but I just want to make sure
that it's
10 clear, you're not testifying, you're not stating that
those
11 balloons show where the seed was planted; correct?
12 A. Not the individual field, no.
13 Q. And you heard -- you're aware of the testimony
from
14 Mr. Starling in this case that the shipping address can
be in
15 a different state or several -- even in some cases
several
16 states away from where the seed actually ends up;
correct?
17 A. I heard that testimony, but I believe that that
would be
18 exceptions.
19 Q. And you haven't done anything to try to find out
where
20 the seed here was particularly placed; correct?
21 A. Where any individual bag -- any individual bag
into any
22 individual field, but it's common knowledge that whole
area
23 was being planted to dicamba. Those seeds were going
24 somewhere.
25 Q. Well, I understand you're saying it's common
knowledge,

1 Dr. Baldwin, but I want to talk about specific
evidence.

2 A. Yes, sir.

3 Q. Okay.

4 A. Yes, sir.

5 Q. So the specific evidence you have is you do not
have any
6 evidence of where any of those seeds were actually
planted;
7 correct?

8 A. That would be a fair statement.

9 Q. And you did not take into account the other
10 possibilities for where the seed went like any of the
seed
11 being stored for the next year, for example; correct?

12 A. I did not.

13 Q. Now, I believe you said in your examination when
14 Mr. Randles showed you the maps with the little
balloons on
15 it for the sale addresses -- and I think I got it down
16 right -- that what you really would have liked to have
seen
17 is records showing where dicamba was sprayed; correct?

18 A. That would have been ideal.

19 Q. And farmers do keep spray records of what
herbicides
20 they spray; correct?

21 A. They're supposed to.

Bader 22 Q. In fact, the jury has seen some of those from
23 Farms in this case. You're aware of that?

24 A. Yes, sir.

you 25 Q. And you haven't seen any spray records here, so

1404

1 can't say any specific field where a farmer has sprayed
2 dicamba anywhere around Bader Farms; correct?

3 A. As far as a spray record for a specific field, no,
sir,

4 I have not.

5 Q. And, in fact, you haven't looked at any spray
records

6 for fields planted around Bader Farms, and as far as
you know 7 nobody else has either; right?

8 A. I didn't have access to those.

9 Q. And you didn't try to talk with any farmers or
confirm

10 what anybody is applying in that area; correct?

11 A. I didn't really feel like I needed to, but, no,
sir, I

12 did not.

and 13 Q. Now, you're aware you said I believe that in 2015

Xtend 14 2016 when the first Xtend cotton was sold and the first
going to 15 soy was sold that it was inevitable that people were
to? 16 spray old dicamba over the top I believe you testified

17 A. It sure wasn't a surprise to me.

seed even 18 Q. Now, you know that people have purchased Xtend
over the 19 during that period of time and did not spray dicamba
20 top of it; correct?

21 A. I'm aware of that. I made some of those
22 recommendations in the past years.

far as 23 Q. In fact, in your testimony earlier you made a
24 differentiation between Xtend cotton and Xtend soy as
25 the attributes that those seeds have; correct?

1405

1 A. I did.

trait, 2 Q. And you said with Xtend cotton there was another
3 there was glyphosate resistance; right?

4 A. Yes, sir.

correct? 5 Q. And then there was glufosinate resistance;

6 A. Yes, sir.

Monsanto 7 Q. And that was the first time that appeared on a

8 product --

9 A. On a Monsanto product, yes, sir.

were 10 Q. And you also said that it had -- it was -- those

11 linked with the better germplasm for the Monsanto seed;
12 correct?

13 A. Yes. They did have very good germplasm.

14 Q. And so I believe the indication from you was well
15 somebody could use glufosinate over cotton; correct?

16 A. Yes. Over --

17 Q. Xtend cotton?

loved 18 A. Yes, sir, they could have. I mean, I would have

19 to have seen it marketed that way.

20 Q. So they had a reasonable opportunity -- any of the
21 farmers who had purchased Xtend cotton in 2015 and
2016, they

22 had a legal alternative that they could use; right?

23 A. They did.

resistant 24 Q. Now, your indication with soy is the only

25 trait was glyphosate; correct?

1 A. Well, in addition to the dicamba.

2 Q. Correct. But the only legal trait in 2016 was
3 glyphosate resistance; correct?

4 A. I'm not sure I'm following your question.

5 Q. I apologize. Let me try it again. In 2016
Xtend soy
6 came out; correct?

7 A. Yes, sir.

8 Q. And it was tolerant to both glyphosate and
dicamba;
9 correct?

10 A. Yes, sir.

11 Q. But it was illegal to spray any dicamba over the
top of
12 it in 2016; correct?

13 A. It was.

14 Q. Now, you note, and you indicated therefore I think
you
15 were implying that, well, anybody who bought Xtend soy
must
16 have been spraying dicamba if they wanted to get rid of
17 pigweed. Is that what you were trying to get across?

18 A. That would in my opinion have been the primary
reason if
19 they had -- if they had a serious Palmer amaranth
problem,
20 and they wanted an alternative to the LibertyLink
technology,
21 and they planted Xtend seed, yes, in my opinion it
would have

22 been to spray it with dicamba.

23 Q. But, in fact, you know quite a few people who had
24 dicamba-tolerant soybeans and did not spray them with
25 dicamba; correct?

1407

1 A. If you got out of the Palmer amaranth country,
that was 2 very typical, and I made a lot of those recommendations
where 3 people liked the genetics.

4 Q. Well, I understand you made recommendations, but
you 5 know a lot of people who actually had the dicamba-
tolerant 6 seeds and did not use dicamba over the top; correct?

7 A. Outside of the heavy Palmer amaranth areas, yes,
sir.

8 Q. Now, you have been involved in other cases where
you 9 have done further investigation to look into spray
records to 10 see if there's evidence to show that somebody nearby
used 11 dicamba; correct?

12 A. Refresh my memory.

13 Q. You were an expert in the Burge v. Dawson case;
correct.

14 A. Yes, sir.

15 Q. And Mr. Dawson claimed that he did not spray
dicamba;

16 correct?

17 A. I don't remember a lot about that case, but --

18 Q. Well, do you recall that you looked at the
herbicide

19 purchase records in that case?

20 A. If they were there, I'm sure I looked at them, but
I

21 don't recall that specifically.

22 Q. Okay. Could we take a look at -- and this is not
video

23 recorded, because this is from a previous deposition in

24 another case that I don't think they videoed it.

25 A. They did not.

1408

1 MR. MILLER: Can we see Burge Number 7,
please.

2 Burge. B-u-r-g-e. I have no idea if I'm pronouncing
that

3 correctly.

4 THE WITNESS: It's Fred Burge, B-u-r-g-e.

5 BY MR. MILLER:

6 Q. Is it Burge?

7 A. Burge, yeah.

8 Q. Number seven, please. And can we zoom out a
little bit
9 so we can see Dr. Baldwin's testimony. I apologize.
10 It's a rather long answer, but I'm just going
to go
11 with line 16 to 21. And you say, "They bought very
little
12 dicamba -- straight goods dicamba in 2015. And then
when I
13 looked at their records in 2016, they bought like 1,056
14 gallons of straight goods dicamba on like maybe the 9th
of
15 April;" correct?
16 A. It is.
17 Q. And that -- you went to that evidence in that case
to
18 help support your opinion; is that right?
19 A. I did.
20 Q. You did not do any such thing in this case;
correct?
21 A. I didn't have access to those records in this case
-- I
22 mean, to any records in this case.
23 Q. Well, you're aware that -- that in any litigation
the
24 attorneys can send subpoenas and get records from any
25 potentially relevant person in the case, you're aware
of

1 that, aren't you?

2 A. I don't know all the ins and out of that. I
didn't ask

3 for those records in that case. They were just
produced to

4 me as part of the evidence.

5 Q. Now, you would agree that it's legal to use
dicamba over

6 the top of other crops besides soybean and cotton even
before

7 its density; correct?

8 A. If it's registered in that crop, yes, sir.

9 Q. You can use it over corn?

10 A. Yes, sir, at certain times.

11 Q. You can use it over Milo?

12 A. Yes, sir, at certain times.

13 Q. You can use it over wheat?

14 A. Yes, sir.

15 Q. You can use it as a burndown?

16 A. Yes, sir.

17 Q. You can use it in pre-planting; correct?

18 A. I mean, excuse me, are you making a distinction
between

19 pre-planting and burndown? I mean, I would --

20 Q. My apologies. You can use it, for example, as
burndown

21 pre-plant over a soybean field?

22 A. Pre-plant in soybeans, yes.

23 Q. Okay.

dicamba 24 A. Are we making a distinction now between non
25 soybean and dicamba soybean?

1410

1 Q. No. I'm saying for any soybean pre-plant.

read 2 A. You can. Legally you can use it. The labels
3 differently, but it can be used.

talking 4 Q. And your testimony before was in the area we're
way up 5 about, Dunklin County, they can plant soybeans all the
6 to July; correct? You testified to that earlier?

typical, but 7 A. It depends on the year. I mean, that's not
8 that would be a range of planting.

to, for 9 Q. So it was legal even before Xtend seed came out
Dunklin 10 example, in a soybean field that's being prepared in
they 11 County if they're going to be planting late that year,
all 12 could have sprayed dicamba over the field as a burndown
13 the way into July; right?

14 A. It would have been legal, but that would have been

a

15 huge mistake.

16 Q. Now, you don't know how many acres of corn are
planted
17 within 10 miles of Bader Farms; correct?

18 A. Not exactly. I do know there's corn planted.

19 Q. And you don't know how much is even within one
mile of
20 Bader Farms; correct?

21 A. Not to the exact acre, no, sir.

22 Q. And you can't distinguish -- you cannot
distinguish
23 dicamba -- when you look at the symptomology, you can't
24 distinguish whether the dicamba that you believe is
there
25 came from a spray over soybean or cotton or corn or
some

1411

1 other application; correct?

2 A. Not by just looking at symptomology.

3 Q. And you didn't do anything to determine whether
the
4 damage to the peach fields that you say came from
dicamba
5 came from a cornfield or some other source other than
Xtend
6 seed; correct?

7 A. That would be correct.

8 Q. And we've talked about trying to figure out where
the

9 Xtend seed was planted. You actually could have
figured

10 that out, you could have figured out what fields were
planted

11 with Xtend seed in 2016, '17 and '18 with a little
effort;

12 correct, Dr. Baldwin?

13 A. It would have been a hell of a lot of effort if
that was

14 possible. It wouldn't be with a little effort.

15 MR. MILLER: Could we have clip 140, please.

16 (Clip 140 from the videotaped deposition of
Dr.

17 Ford Baldwin was played for the jury at this time as

18 follows:)

19 Q. "If I give you a map for 2016, 2017 or 2018, would
you

20 be able to show me a field that was planted with Xtend
21 traited soybeans or cotton?"

22 A. "With a little bit of effort, yes. Probably not
23 sitting right here, no. But with a little bit of
effort and

24 a little bit of homework, yes, I could."

25 Q. And you didn't do that little bit of effort and
little

1412

1 bit of homework, correct, Dr. Baldwin?

2 A. Well, in the context he put that in he asked me
about a

3 single field, and the way I answered that question from
when

4 I looked at those soybean fields in 2016 that we
discussed

5 for those four farmers up there, if I had to have taken
a map

6 and spent enough time looking at where I looked at a
soybean

7 field and the cotton right across from it that I know
was

8 sprayed, yes, on one or two fields I could have
probably done

9 that.

10 Q. And then we would have as opposed to the balloons
and

11 differences between shipping addresses and planting
addresses

12 we'd have solid clear proof that this particular field
was

13 planted as Xtend; right?

14 A. Maybe one or two fields.

15 Q. So with the data you've collected you cannot name
a farm

16 or a grower or an applicator -- an applicator where
dicamba

17 moved from that source off target to Bader Farms;
correct?

18 A. From that particular source, no. I just simply
19 considered it on a much more holistic approach.

20 Q. Now, I want to talk a little bits about the
difference
21 between drift and volatility.

22 A. Okay.

23 Q. The jury has heard this, so I'm going to try to
not to
24 belabor any points here. But off-target movement is
25 characterized basically in two different ways, primary
versus

1413

1 secondary; correct?

2 A. That would be fair.

3 Q. And a primary movement is also known as physical
drift;
4 right?

5 A. That's the primary -- that's a play on words.
That's
6 the main way of primary movement would be physical
drift.

7 Q. And physical drift is when the herbicide never
really
8 hits the target. It's sprayed out because of wind or
9 whatever it gets blown off essentially?

10 A. Well, part of it does. I mean, you know, it
doesn't

wind 11 get all blown off, but, yes, physical drift is mostly
was 12 movement of spray particles from where the application
13 made to somewhere downwind.

gets on 14 Q. And secondary movement comes after the herbicide
move 15 the target plant and then something else causes it to
16 off; correct?

terms I 17 A. Secondary movement is something that in laymen's
yes. 18 would say happens after the sprayer leaves the fields,

19 Q. And that can happen in a variety of ways; correct?

20 A. It can happen in a variety of ways.

21 Q. You talked about water runoff; correct?

22 A. That would be a very minor one, but, yes, it can
happen.

from 23 Q. Now, here the concern that you're raising is not
volatility; 24 physical drift with dicamba, but from dicamba's
25 correct?

1414

all of 1 A. Well, I mean, it all makes a contribution. In my
2 opinion it's more volatility than physical drift, but

3 it can make a contribution.

4 Q. Well, but here your concern is dicamba's
volatility?

5 A. Well, my concern is just dicamba off-target
movement and

6 all of the things that make that up.

7 Q. Well, any herbicide can drift; isn't that right?

8 A. Yes, sir. Any herbicide can drift.

9 Q. I'm sorry, go ahead.

10 A. I just had a farmer tell me one time that buckshot
could

11 drift if the wind was blowing hard enough.

12 Q. I was just about to ask that if you've testified
before

13 that buckshot can drift.

14 And any herbicide label provides warnings about

15 drift; right?

16 A. It does.

17 Q. And you're not aware of a herbicide label that
does not

18 warn about drift; correct?

19 A. No. That would be true. They all do.

20 Q. And you believe that the uniform landscape damage
that

21 you say that you saw at Bader Farms was due to
volatility;

22 correct?

23 A. I believe that the landscape damage I've seen
throughout

24 Eastern Arkansas and which would -- and the Bootheel of
25 Missouri, which would include Bader Farms, yes, has --
that

1415

1 there's much more of a volatility component to that
than a 2 physical drift component to that.

3 Q. I appreciate that. But we're just talking about
Bader 4 Farms here. And I just want to solidify that you
believe, 5 based on your report, according to what you said in
your 6 report, you believe that the uniform landscape damage
that

7 you saw in Bader Farms was due to volatility; correct?

8 A. The uniform landscape damage in my opinion was.

9 Q. Now, the difference between a volatility landscape
10 effect that you say you saw and a drift is that with
drift, 11 as you mentioned before, you could have an identifiable
drift 12 pattern; correct?

13 A. You can.

14 Q. And it changes with a degree of injury radiant I
think

15 is one of the terms that's used; is that right?

16 A. That's one of the ways it can change. It can also

that 17 change due to protected areas or other kinds of things
a 18 would cause it to leave a pattern, but there's normally
19 gradient.

That's 20 Q. And that's called a herbicide drift pattern?
drift 21 what you look for when you're looking for a physical
22 case?

23 A. That would be the case. That would be true.

responsibility 24 Q. You would agree that it's primarily the
right? 25 of the applicator not to allow drift to occur; is that

1416

-- 1 A. As far as physical drift goes, yes, I agree that's
2 that part is the responsibility of the applicator.

3 Q. And sometimes unfortunately we're all human, or
4 fortunately we're all human, sometimes applicators mess
up 5 and drift occurs; correct?

6 A. I've walked a lot of fields where that's happened.

Bader 7 Q. Now, although you say that the landscape injury at
visited 8 Farms was due to volatilization when you actually

9 Bader Farms in February 2017 when you came to your
conclusion

10 you saw a herbicide drift pattern --

11 A. I did.

12 Q. -- right?

13 A. I saw a -- that drift could have also been drift
of

14 volatiles, but I did see an indication, yes, of a drift
15 pattern.

16 Q. A herbicide drift pattern?

17 A. Yes, sir.

18 Q. And now you're saying that a drift pattern also
could be

19 due to volatility?

20 A. Yeah, you can get a drift pattern. You can get a
21 pattern due to volatility, sure.

22 Q. So you can have volatility -- now, your testimony
is you

23 can have volatility it can either result in a pattern,
or it

24 could result in a landscape effect? Is that your
testimony?

25 A. Yes, sir.

1417

1 Q. Now, volatility is a conversion from a liquid to
the gas

2 that we're talking about; right?

3 A. Either from a liquid or a solid to a gas, but it
is a

4 conversion to a gas, yes, sir.

5 Q. Now, it's converted from a liquid to a gas with
6 herbicides -- with these herbicides; correct?

7 A. Not necessarily. Because if the -- if it's
volatilizing

8 from the spray droplet itself, it would be volatilizing
from

9 a liquid, but if it's volatilizing after the spray
droplet is

10 dried on the plant, then it would be volatilizing from
a dry

11 form.

12 Q. And we've talked about DGA dicamba, Banvel you
agree is

13 more volatile than XtendiMax or Engenia; correct?

14 A. The initial volatility certainly is, yes.

15 Q. I'm just asking straight volatility, Doctor.

16 A. I would say it's more volatile than the others.

17 Q. Okay. Thank you. Volatility is based on vapor
18 pressure; is that right?

19 A. Yes. All -- everything has a -- most things have
a

20 vapor pressure rate number, and, yes, it's based on
vapor

21 pressure.

22 Q. And it was said before on the volatile part, and I
think

dicamba is 23 somebody else has testified the volatile part of
24 actually the acid parts of the dicamba; is that right?
form. 25 A. It is the parent acid form, yes, sir, or the acid

1418

1 Q. And the salt part of the dicamba is not volatile;
2 correct?

3 A. That's correct.

if 4 Q. And so what happens is if something volatilizes,
leaves 5 dicamba volatilizes, basically the salt boils away,

6 the acid, and the acid can volatilize; correct?

salt 7 A. Well, it doesn't boil away. I mean, it -- the

8 disassociates. The salt portion of that molecule
when that 9 disassociates off. It leaves an anaheim. And then

is 10 anaheim hydrogen, the salt -- the parent -- or the acid
11 formed, and that is the part that's volatile.

linked 12 Q. And are you aware that volatility is going to be
13 to the boiling point of the salt, or do you know?

with. 14 A. No. That would not be what I would associate it

15 It would -- I mean, it would be associated with -- I
mean, it
16 would occur because of disassociation of the salt from
the
17 parent molecule. I would not characterize that
personally as
18 boiling off, but --
19 Q. Now, I want to talk with you about -- we talked
about
20 temperature inversions, or you talked about temperature
21 inversions, and it came up a little bit in your
22 cross-examination while we're talking about volatility.
23 First of all, volatility itself does not cause off-
target
24 movement. It's not exactly the same thing; is that
right?
25 A. Well, it depends on where it goes after it
volatilizes.

1419

1 Q. Exactly. Something could volatilize up off the
plant
2 in very stable air, stay right there and then
precipitate
3 back down onto the same area; correct?
4 A. That would not be likely in my opinion for it to
pick up
5 and sit there and sit back down. I think that would
be
6 highly unlikely.

7 Q. It could move a little bit, but still not have
8 off-target movement to another field; correct?

9 A. I mean I guess anything is possible if you want to
do
10 the hypothetical thing, but -- and, again, volatility
off of
11 one area or one small plot or one small field is that
within
12 itself may not cause a lot of issues. It's when you
put a
13 huge acreage of that together, it's where volatility
really
14 starts to become a huge issue.

15 Q. What I'm asking you, Dr. Baldwin, is you're not
16 testifying that once something volatilizes, it's
immediately
17 going to be an off-target movement effect?

18 A. No, it's not. I mean, if it happens to volatilize
in
19 stable -- in unstable air where you have normal thermal
20 mixing, I mean, it can go up like smoke goes up and
exhaust
21 out the atmosphere.

22 Q. And that's why you start talking about temperature
23 inversions when there's not a temperature inversion
around
24 even if it's volatilized if it's a normal air rising
and it's
25 going to go up and dissipate into the atmosphere; is
that

1420

1 correct?

the

2 A. It can. I mean, but it can also move A to B in

when

3 wind in some of those scenarios, too. In other words,

wind,

4 it's sprayed and the wind continues to blow toward a

5 susceptible crop, you can get volatiles moving in the

6 or they may exhaust out the atmosphere.

volatiles

7 Q. And the reason you were talking about temperature

8 inversion is you said it acted as a cap to keep the

the

9 from whatever there might be from dissipating up into

10 atmosphere; correct?

others

11 A. Yeah. Any time -- any time I would have observed

12 landscape damage from a herbicide and there have been

13 it is always associated with stable air or temperature

14 inversions.

over

15 Q. Now, your theory here is that dicamba volatilizes

to

16 several days and is collected in nighttime inversions

17 create a landscape effect; correct?

volatility

18 A. Well, there's no doubt in my mind that the

19 collecting in inversions is what is causing the
landscape
20 effect.
21 Q. Well, let me repeat, your theory here is that
dicamba
22 volatilizes over several days and is collected at
nighttime
23 inversions to create a landscape effect; right?
24 A. I mean, it can collect in more than one inversion.
I
25 mean, if it's volatilizing over 96 hours, it has more
than

1421

1 one opportunity for -- to be trapped in an inversion.
2 Q. Well, and let's talk through the inversion cycle.
The
3 inversion usually will start late in the day when the
sun is
4 going down; correct?
5 A. That's correct.
6 Q. And it can stay there through most of the night;
7 correct?
8 A. Sure.
9 Q. Or the entire night; right?
10 A. It can.
11 Q. And then the sun comes out and warms up the air,
and the

12 inversion dissipates I think you said?

13 A. That's correct.

14 Q. So you've got a cycle. And when the inversion
15 dissipates the next morning, you don't have any cap
holding

16 anything there anymore, do you?

17 A. No. That part of the volatility that's trapped in
that

18 inversion when the inversion goes away then it's going
to go

19 somewhere it's either going to move with the wind or
it's

20 going to exhaust out the atmosphere.

21 Q. So we don't have a situation where the inversion
goes

22 away every day, and it just sits there and waits for
another

23 inversion to come in. That's not what you're
suggesting?

24 A. No, not at all.

25 Q. Okay. So we have a 24-hour cycle essentially if
you've

1422

1 got an inversion every night; is that right?

2 A. Yes, sir. That would be reasonably accurate.

3 Q. And you said you believe that volatility tends to
settle

4 down in low places; correct?

5 A. It can. I mean, it tends to be in that area, but
where

6 I've seen volatility patterns like you would normally
7 associate with a drift pattern then normally it does
tend to

8 follow the low areas or settle into the low places. A
lot of

9 times that's the reason you can tell you're looking at
10 volatiles as opposed to physical drift to spray
particles.

11 Q. And the inversions we're talking about, I mean,
they're

12 only a few feet off the ground, the ground fog can be
very

13 low to the ground; correct?

14 A. They can be very low to the ground, but if you
look

15 at -- I mean, they can be at a lot of different
heights. I

16 mean, you can look at a lot of smoke that goes a long
way up

17 in the air before it flat tops. And when it flat tops,

18 that's where the inversion layer is, so you could have

19 inversions of all different depths.

20 Q. And your theory is that it gets caught in the
inversion,

21 and then somehow moves over to damage the off target --
the

22 other fields; is that correct?

23 A. Well, where there's spray particles trapped in

going 24 inversions or volatiles trapped in inversions, they are
25 to move laterally, because they can't move any other

1423

1 direction, because there's a cap over them.
2 Q. Well, if they're going to move at all. In a
temperature 3 inversion one of the aspects of a temperature inversion
is it 4 tends to be very stable air?

5 A. It is stable air, but there's also laminar flow
taking 6 place in that.

7 Q. And you said a few moments ago that volatility
tends to 8 settle in low places. In fact, dicamba vapor is
heavier than 9 air; correct?

10 A. It is heavier than air, but go ahead.

11 Q. And you testified and you know that Crowley's
Ridge 12 where Bader Farms is is about 150 to 200 feet above the
13 surrounding countryside, correct?

14 A. It is.

15 Q. I want to talk just a little bit about leaf curl.
You 16 would agree that because you you're not a peach expert

you

17 don't know all the reasons that a peach leaf can curl;

18 correct?

curl.

19 A. I don't know all the reasons why a peach leaf can

curling you

20 Q. And, in fact, I think I said that peach leaf

that

21 understand part of it is just normal? I think you said

22 in your direct.

yes,

23 A. I was looking at it in the top of the trees, but,

24 some curling in peach leaves is normal.

25 Q. Now, you agree that Armillaria is present in Bader

1424

1 Farms, correct, Dr. Baldwin?

2 A. Yeah, I don't deny that.

Examination

3 Q. And you testified, I believe, on Direct

and

4 about what Armillaria -- how it affects the peach tree

5 how it gets linked up with the peach tree and secondary

6 versus primary; correct?

question

7 A. I don't remember secondary -- well, ask the

8 again.

9 Q. Well, in fact, you've never been trained in what

happens

10 to peach trees infected by Armillaria; correct?

11 A. That is correct.

between

12 Q. And you have no education and no interaction

13 Armillaria and peach trees; correct?

14 A. That is correct. Just only what I've read.

based at

15 Q. In fact, before this case you had no knowledge

16 all about Armillaria and peaches?

17 A. That's fair.

correct?

18 Q. You had never seen Armillaria on a peach tree;

19 A. That's fair.

right

20 Q. And Armillaria is a pathogen? Would that be the

21 word for it?

22 A. It is.

23 Q. It's a disease that affects trees?

24 A. Well, apparently, yes, it's a disease that affects

25 trees.

1425

the

1 Q. And when you're talking about diseases in plants,

2 proper expertise for that area is a plant pathologist;

3 correct?

be 4 A. If you're only considering the disease, that would
5 correct.

6 Q. And you're not a plant pathologist?

7 A. I'm not a plant pathologist.

death 8 Q. Now, you don't know what kind of pattern of tree
9 Armillaria can cause; correct?

10 A. Only what I read.

and 11 Q. Could we have just for Dr. Baldwin and the Court
12 counsel please Exhibit M-168.

picture from 13 Do you recognize this, Dr. Baldwin, as a
14 2010 of one of the tracts of Bader peach orchard?

15 A. That's what it says.

16 (Defendant's Exhibit No. M-168, Photo, was
17 identified.)

Your 18 MR. MILLER: Move for the admission of M-168,
19 Honor.

20 THE COURT: Admitted.

21 (Defendant's Exhibit No. M-168, Photo, was
22 received.)

jury, 23 MR. MILLER: Can we have that up for the
24 please?

25 THE COURT: Yes.

1 BY MR. MILLER:

2 Q. And now this is a particular farming tract of the
3 orchard in 2010; correct?

4 A. That's what it says.

5 Q. And that would be five years before the first
Xtend seed
6 was sold; correct?

7 A. Yes, sir.

8 Q. And do you see this area right here that I'm
circling in
9 red, which is a large circular area with no trees in it
at
10 all; correct?

11 A. It would appear to be.

12 Q. And you have no idea what caused that circular
dead spot
13 there, do you, Dr. Baldwin?

14 A. I have no opinion on -- no, I have no idea what
caused
15 that or have no opinion on the photograph.

16 Q. We'll move on to another topic, Dr. Baldwin. You
17 talked about soybeans. And you would agree that
soybeans
18 are the most sensitive plant to dicamba; correct?

19 A. I would -- I would still consider soybeans as the

most

lot of 20 sensitive, but one thing I've learned is there are a
considered. 21 other sensitive plants that we really had not

fields, 22 Q. And you didn't walk any of Mr. Bader's soybean
23 did you?

walked 24 A. I looked at his soybean fields. Whether I ever
really 25 out in one I don't recall walking out in one. You

1427

1 didn't have to walk out in one to see it.

2 Q. You just drove by them?

3 A. Yeah.

sufficient 4 Q. And do you believe that driving by them was

was 5 for you to make -- for you to offer an opinion that it

6 dicamba symptomology that you saw?

walked in, 7 A. As many soybeans fields that I had looked at,

8 driven by in 2016 and 2017, absolutely.

about 9 Q. Now, you said in your report -- well, you talked

10 the Weed Science Society of America; correct?

11 A. I mean, I know what that is.

12 Q. And you're a fellow of Weed Science Society of
America?

13 A. I am a fellow of the Weed Science Society of
America.

14 Q. And in your report you noted that the Weed Science
15 Society of America says that peaches only have a
moderate
16 sensitivity to dicamba; correct?

17 A. That would be -- I don't know which reference
you're

18 talking to. I mean, I have seen one reference where
they

19 rated it in the moderate category. I've seen another
set of

20 reference where they rated it in a highly sensitive
category.

21 Q. So there's disagreement among the scientific
community

22 as to just how sensitive peaches are to dicamba;
correct?

23 A. Well, I don't think anybody denies that they're
24 sensitive, but the one I'm talking about -- the one
that I'm

25 referring to that rated it as highly sensitive actually

1428

1 sprayed peaches. I don't know whether the other
reference

2 references dicamba that was physically sprayed on
peaches or

3 whether that was somebody's opinion.

4 Q. I'm simply talking about the WSSA that you're a
fellow

5 of.

6 A. I understand that.

7 Q. Yes. And that they rated it as moderately
sensitive?

8 A. I don't know -- they didn't do anything. And the
Weed

9 Science Society of America -- it would have been
somebody in

10 the Weed Science Society of America that did that.

11 Q. Now, is it your opinion that all of the problems
and all

12 of the yield loss, any issues that Bader Farms since
2015

13 have been caused by dicamba? Is that your opinion?

14 A. I really -- no. I mean, I -- I don't -- I mean, I
15 didn't see anything there in 2015. All I can do is
relate

16 back to what I've seen later.

17 Q. And you would agree that there's no research that
can

18 tie any first amount of exposure of dicamba in peach
trees to

19 any particular yield loss; correct?

20 A. At this point that is correct.

21 Q. Now, Dr. Baldwin, you did not take any
quantitative data

22 at all in any of your visits to Bader Farms; correct?

23 A. Any -- I strictly based my opinions on
symptomology just

24 like I have for 45 years.

25 Q. You didn't review any of Bader Farms' records;
correct?

1429

1 A. I didn't see a need to review the records, no.

2 Q. You did not do any testing; correct?

3 A. I did not.

4 Q. You could have conducted an experiment, but you
decided

5 not to do that; correct?

6 A. I only would go so far to say that I could have
7 conducted any experiment. I mean, that would be very
8 difficult to do over a period of time to try to
duplicate

9 what's going on on his farm. I mean, that -- I
couldn't

10 have done that in a short period of time, no.

11 MR. MILLER: Could we see clip Number 133,
please.

12 And could we show that to the jury, Your Honor?

13 THE COURT: Yes.

14 (Clip 133 of the videotaped deposition of Dr.
Ford

15 Baldwin was played for the jury at this time as
follows:

16 Q. "Well, just because you say it, Dr. Baldwin,
doesn't
17 make it so. You had an opportunity to conduct an
experiment,
18 didn't you?"

19 A. "Maybe I did. Maybe I didn't. I guess I could
have if
20 I'd have felt like it was necessary. I simply did not
feel
21 like it was necessary."

22 Q. So you could have conducted an experiment, but you
23 decided it wasn't necessary for your purposes; correct?

24 A. It would have been very difficult to do.

25 Q. And you do not have any direct evidence of the
kind of

1430

1 exposure of dicamba that you're talking about; correct?

2 A. I don't understand the question, sir.

3 Q. I'll repeat it. You do not have any direct
evidence of
4 the kind of dicamba exposure that you have been
testifying

5 about today at Bader Farms; correct?

6 A. Strictly using symptomology is what I based my
7 determination on.

8 MR. MILLER: Can we have clip 134, please.

Ford 9 (Clip 134 of the videotaped deposition of Dr.

10 Baldwin was played for the jury at this time as
follows:)

11 Q. "You don't have any direct evidence of that, do
you?"

12 A. "I'm 100 percent confident in that."

13 Q. "I appreciate your level of confidence, but I'm
asking

14 about evidence. You don't have any evidence of direct
15 exposure; correct?"

16 A. "I don't know what kind of evidence it would take.
No,

17 I guess I don't, but I'm 100 percent confident that it
was."

18 Q. And you're confident in your opinion; correct, Dr.
19 Baldwin?

20 A. I'm very confident in my opinion.

21 Q. Your opinion in March of 2019 when you wrote your
first

22 report was that the Bader peach orchard would be out of
23 business as of 2019; correct?

24 A. I thought there was a good chance, yes, sir.

25 Q. And you were confident of that opinion; correct?

1431

1 A. That is correct.

2 Q. And you were wrong; right?

in 3 A. Well, I mean, we'll see, but right now he's still
4 business.

said 5 Q. In fact, when you went there in July of 2019, you
almost 6 that his peach operation was like a bee hive, and they
7 needed a deputy sheriff out front to direct the
traffic?

I saw 8 A. I did. I was very pleasantly surprised with what
9 in his early peach crop in 2019 when there was no doubt
10 mind that it did not get the exposure as early --
nearly as 11 early as it had been in the past, yes, sir.

your 12 Q. Well, that's my point, Dr. Baldwin, when you wrote
opinion 13 first report in March of 2019, you stated that your
2019, 14 was the peach business was over at Bader Farms as of
15 and that turned out to be wrong; correct?

I 16 A. As of 2019 for that part of the crop it was wrong.
17 still -- I still believe he cannot successfully grow
peaches 18 long term in the scenario that he's sitting in right
now the 19 way that dicamba is being used.

20 Q. And you also said in a different setting that you

21 believed based on the reports of dicamba, the
investigations,

22 the reports of dicamba complaints and the number of
acres

23 that were estimated, that the soybean harvest in 2017,

24 particularly in Arkansas, was going to be terrible.
You had

25 that opinion; correct?

1432

1 A. I did have that opinion the 1st of July, I sure
did.

2 Q. And you were confident in that opinion too,
weren't you,

3 Dr. Baldwin?

4 A. I was.

5 Q. And you were wrong, weren't you, sir?

6 A. In 2017 it was better than I expected, because we
had an

7 ideal July and August. So, yes, sir, it made more
recovery

8 than I thought it would in 2017. Had we had a
different year

9 it would not have.

10 Q. In fact, there were record yields in some areas in

11 Arkansas of soybeans in 2017, weren't there, Dr.
Baldwin?

12 A. There were record yields, especially on the Xtend
crops.

13 affidavit on

Q. And you were confident when you wrote your

14 symptomology

April 27th of 2017 before you saw any herbicide

15 caused

on any leaves at Bader Farms that the damage there was

16 by dicamba; correct?

17 A. I was confident in that.

18 go over

MR. MILLER: Your Honor, I have one area to

19 with Dr. Baldwin.

20 THE COURT: Well, let's do it.

21 or

MR. MILLER: I don't know if it will be short

22 long. I'll try to make it short.

23 THE COURT: Good.

24 BY MR. MILLER:

25 talked

Q. Dr. Baldwin, you talked a lot about -- well, you

1433

by the

1 something about all the investigations that were done

2 State agencies --

3 A. Yes, sir.

4 Q. -- in 2017?

5 A. Yes, sir.

6 Q. You were here for my opening statement; correct?

7 A. I was.

8 Q. And you saw the big stack of reports. This is
just a

9 little piece of it.

10 A. It seemed like I remember it went whop, whop,
whop,

11 whop.

12 Q. It did indeed. I was afraid at one point it was
going

13 to fall over. Do you recall that?

14 A. I do.

15 Q. You -- and I could go over these if you like.
Would

16 you agree with me, sir, when I said that the reports
showed

17 at least that sampling, no dicamba, no dicamba, no
dicamba,

18 no dicamba, et cetera, you would agree that just
because

19 somebody makes an allegation and an inspection goes
out,

20 doesn't mean that it will actually turn out to be
dicamba;

21 correct?

22 A. I don't know anything about those reports. I
don't

23 necessarily want to get in a situation where you got to
read

24 them all. Are you talking about dicamba symptomology,
or are

25 you talking about tests that were run or --

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1 Q. Let's take a look at one for an example.

2 A. Okay. Let's do.

3 Q. Let's take a look at M-857. And if we could go to
the
4 second page.

5 COURT CLERK: I'm sorry, it's already
admitted?

6 MR. MILLER: No, it's not. I'm sorry. I
meant

7 just for the Court and the witness and counsel. I
8 apologize. If you go to the third page so Dr. Baldwin
can
9 see this.

10 BY MR. MILLER:

11 Q. Do you recognize this as an investigative file?
And I'm

12 happy to show you the whole thing, Dr. Baldwin.

13 A. I do. I'm familiar with it.

14 Q. You would agree that the Arkansas Plant Board is
one of

15 the -- you believe it's one of the best in the country;
16 right?

17 A. I do.

18 Q. And you believe that their investigators that do
these

19 investigations are very competent; correct?
20 A. Like anything some are better than others, but,
yes,
21 those overall I believe they're very competent.
22 Q. And if we go to the second page of this document,
you
23 see that the suspected dicamba or the suspected
pesticide
24 here was dicamba; correct?
25 A. That's correct.

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1 Q. And then if we go to page 18, we have the
narrative
2 report from the investigator; correct?
3 A. That's correct.
4 Q. And they actually found that it was symptoms of
5 glyphosate throughout the field; correct?
6 A. That would be -- that would appear to be the
7 determination in that particular case file, yes, sir.
8 Q. Do you want to take a look at another one?
9 A. We can.
10 Q. Let's take a look at M-858. This is another file
from
11 an investigation carried out by the Arkansas State
Plant
12 Board?

13 A. Yes, sir.

14 Q. And the second page of this one shows, again,
suspected

15 pesticide dicamba?

16 A. Yes, sir.

17 Q. And if we go to page 20 of this one, again, they
found

18 out after the investigation it was actually glyphosate;
19 correct?

20 A. Yeah. I mean, that would seem -- those would
appear to

21 be related just looking at part of it, but, yes, sir,
that's

22 what it says there.

23 Q. Let's go to 859, M-859. This is another
inspection

24 filed from the Arkansas State Plant Board?

25 A. Yes, sir.

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1 Q. If we go to page 4, this is another one where they
2 suspected dicamba; correct?

3 A. That's correct.

4 Q. And if we go to page 7, this is the inspector
narrative

5 report saying this time they found out -- and I'm
probably to

6 going to butcher this name -- it was Triclopyr.

Triclopyr?

7 A. Triclopyr, yes, sir.

8 Q. Instead of dicamba; correct?

9 A. That's what it says there.

10 Q. I don't want to take everybody else's time here,
Dr.

11 Baldwin. Would you be surprised to know that in
Missouri the

12 same thing happened where case after case after case
they

13 investigated and found out it wasn't dicamba, it was
actually

14 another herbicide?

15 A. I have no opinion on -- on the Missouri, but I can
tell

16 you in Arkansas it wasn't case after case after case.
It was

17 not case after case after case.

18 Q. Okay. And when they found out it was dicamba in
many of

19 those cases, it turned out to be Banvel or some other
older

20 illegal form of dicamba; correct?

21 A. They found some of that.

22 Q. And they found people not following the labels;
correct?

23 A. They found some of that.

24 Q. And basically the bottom line here, Dr. Baldwin,
is

25 where there's an accusation of damage from an off-
target

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1 movement of a herbicide, be it dicamba or anything
else, you
2 don't just take somebody's word for it, you go out and
do a
3 full inspection, you do the testing that you can do,
you
4 gather all the information and evidence you can, and
then you
5 come to a conclusion as to what caused the alleged
damage.

6 Isn't that what you're supposed to do, Dr. Baldwin?

7 A. That's what you're supposed to do, yes, sir.

8 Q. Thank you.

9 MR. MILLER: No further questions.

10 THE COURT: Okay. Why don't we break then
for the
11 evening. Then we'll start with BASF tomorrow then.

12 So, ladies and gentlemen, please remember the
13 admonition I've given you repeatedly. And thanks for
your
14 patience and attentiveness, and we'll reconvene at
15 9:00 o'clock tomorrow, and you're excused for the day.
16 Thanks.

17 (Jury out.)

18 (Proceedings resumed in open court outside
the

19 presence of the jury.)

20 THE COURT: And you may step down too.

21 THE WITNESS: Yes, sir.

22 THE COURT: Any issues you want to discuss
23 otherwise?

24 MS. GEORGE: I would like to read some
exhibits
25 into the record.

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1 THE COURT: Sure. That's fine.

2 MS. GEORGE: I know that it's not the most
exciting
3 thing, but I did e-mail Michelle a list so that she
could
4 have something to cross check it with, and I e-mailed
you a
5 list as well.

6 THE COURT: That's fine. You can be seated.

7 MS. GEORGE: Are you ready?

8 Plaintiff offers into evidence Plaintiff's
Exhibit
9 22, 104, 87, 95, 116, 130, 546, 188, 193, 202, 493,
607,
10 1065, 1066, 1067, 1068, 1069, 1070, 1071, 1072, 1073,
1075,
11 1076, 1077, 1078, 1079, 1080, 1081, 1083, 1087, 1088,
1091,

1131, 12 1092, 1094, 1160, 1161, 1163, 1164, 1169, 1170, 1171,
1141, 13 1132, 1133, 1134, 1135, 1136, 1137, 1138, 1139, 1140,
1157, 14 1142, 1143, 1144. 1145, 1146, 1147, 1149, 1150, 1152,
1110, 15 1158, 1159, 1102, 1103, 1104, 1106, 1107, 1108, 1109,
16 1122, 1123, 1124 and 1130.

17 THE COURT: No more?

18 MS. GEORGE: That's all. The filibuster is
over.

19 THE COURT: All those will be admitted
subject to
20 the objections that were stated.

21 MR. MILLER: Thank you, Your Honor.

22 THE COURT: Anything else?

23 Okay. We'll reconvene at 9:00 o'clock then.

24

25

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1 C E R T I F I C A T E

2

3 I, Alison M. Garagnani, Registered Merit
Reporter

4 and Certified Realtime Reporter, hereby certify that I
am a

5 duly appointed Official Court Reporter of the United
States 6 District Court for the Eastern District of Missouri.

7 I further certify that the foregoing is a
true and 8 accurate transcript of the proceedings held in the
and 9 above-entitled case and that said transcript is a true
10 correct transcription of my stenographic notes.

11 I further certify that this transcript
contains 12 pages 1278 through 1439 inclusive and that this
reporter 13 takes no responsibility for missing or damaged pages of
this 14 transcript when same transcript is copied by any party
other 15 than this reporter.

16 Dated Cape Girardeau, Missouri, this 7th day
of 17 February, 2020.

18
19
20 -----
 /s/Alison M. Garagnani
 Alison M. Garagnani, CCR, CSR, RMR, CRR
21 Official Court Reporter

22
23
24
25

