

IN THE CIRCUIT COURT OF THE CITY OF ST. LOUIS  
STATE OF MISSOURI  
The Honorable Timothy J. Boyer

JOHN L. DURNELL, )  
 )  
Plaintiff, )  
 )  
vs. ) Cause No. 1922-CC00221  
 )  
MONSANTO COMPANY, )  
 )  
Defendant. )

TRIAL TRANSCRIPT

Wednesday, October 18, 2023

Volume 11A

1 lunch was all right. I'm going to turn it over to  
2 Mr. Frazer for his cross-examination.

3 Mr. Frazer.

4 MR. FRAZER: May it please the Court. Good  
5 afternoon, ladies and gentlemen.

6 Good afternoon.

7 **CROSS-EXAMINATION**

8 BY MR. FRAZER:

9 Q Good afternoon, Dr. Matasar.

10 A Good afternoon.

11 Q Dr. Matasar, in order for something to be a  
12 confounding factor, that confounding factor has to have  
13 an association with the disease; true?

14 A So there's different types of confounding  
15 factors. There are what we would call known confounding  
16 factor and unknown confounding. When you're identifying  
17 known confounding factors, those would be items that you  
18 know are associated with the outcome, either directly or  
19 indirectly. When you're conducting a case-control  
20 study, one of the challenges, of course, is that there  
21 may be unknown confounding factors that, by definition,  
22 can't be assessed.

23 Q A confounding factor has to be associated with  
24 the disease for it to be a confounding factor; true or  
25 false?

1 A That's true.

2 Q Thank you.

3 So any study that you've looked at, and you  
4 looked at a few of them, shared those with the jury, or  
5 that any scientist looks at, under your testimony, you  
6 don't even have to adjust for any pesticide confounding  
7 factors; true?

8 A I don't understand your question.

9 Q Well, you testified that pesticides don't  
10 cause non-Hodgkin's lymphoma; right?

11 A No, that wasn't my testimony.

12 Q You testified that glyphosate doesn't cause  
13 non-Hodgkin's lymphoma?

14 A That was my testimony.

15 Q You testified it doesn't matter if you wear  
16 personal protection equipment or not when you're using  
17 glyphosate; right?

18 A That was not my testimony.

19 Q That's got to be, though, isn't it? There's  
20 nothing wrong to get it on your skin?

21 A I'm sorry. What's the question?

22 Q There's nothing wrong, from your opinion, to  
23 get it on your skin; right?

24 A My opinion is that the science tells us that  
25 exposure to glyphosate, or Roundup as its formulated

1 product, doesn't cause lymphoma.

2 Q And you've relied on an Agricultural Health  
3 Study, and you know that it was adjusted for confounding  
4 factors such as personal protective equipment; right?

5 A One of the assessments that was performed  
6 within the Agricultural Health Study was to look at what  
7 we call intensity weighting, which is to look at both  
8 exposure as well as whether or not personal protective  
9 equipment was being used and the types of ways that  
10 Roundup was being manipulated.

11 Q The scientists in the Agricultural Health  
12 Study made an adjustment for those pesticide  
13 professional applicators in Iowa and North Carolina as  
14 to whether or not they wear personal protective  
15 equipment; true or false?

16 A Yes, as contained within the  
17 intensity-weighted calculations. That was discussed.

18 Q So that the study that you're relying on, you,  
19 which you say don't even have to worry if people are  
20 wearing PPE with glyphosate, those scientists looked at  
21 it as a confounding factor; correct?

22 A They tested it as, one, to try to understand  
23 whether there is a relationship between total dose  
24 exposure and lymphoma and found none.

25 Q They called it a confounding factor, didn't

1 they?

2 A They assessed it as a confounding factor.  
3 That was one of the calculations that they performed in  
4 order to test that hypothesis and found that, indeed,  
5 dose exposure didn't lead to an association with  
6 lymphoma.

7 Q What pesticide on the planet Earth, in your  
8 opinion, contributes or causes to non-Hodgkin's  
9 lymphoma?

10 A There be have a number of reports of  
11 pesticides that have done just that, medicines or  
12 chemicals such as 2,4-D, malathion, and dicamba, to name  
13 three that come off the top of my head.

14 Q Do you agree with all three of those that they  
15 can cause non-Hodgkin's lymphoma?

16 A While I haven't performed the same rigorous  
17 scientific assessment of those as I have here with  
18 glyphosate, I'm certainly aware of the scientific  
19 literature associated with exposure to those pesticides  
20 and the risk of lymphoma, yes.

21 Q Do you tell your non-Hodgkin's lymphoma  
22 patients when they've been exposed to those three  
23 pesticides that their non-Hodgkin's lymphoma is a cause  
24 of that exposure?

25 A If I ever had a patient ask me should I use

1 2,4-D, does that put me an increased risk of lymphoma, I  
2 would say that I haven't done a full scientific review,  
3 but I think it does, and I wouldn't use it unless you're  
4 confident that's not the case.

5 Q You had not done a full scientific review of  
6 glyphosate before lawyers came and hired you to be an  
7 expert witness; right?

8 You hadn't even done that, had you?

9 That's your own testimony. You had to take a  
10 deep dive. We all remember that.

11 A That's true.

12 Q So even -- so to prior to 2019, that's when  
13 lawyers came knocking on your door for Monsanto, the  
14 Hollingsworth Law Firm in Washington, D.C.

15 That's who contacted you; right?

16 A I believe that was the name of the law firm,  
17 yes.

18 Q That's who you negotiated with; right?

19 A What do you mean "negotiated"?

20 Q We'll look at your retention agreement. You  
21 negotiated with them, didn't you, sir?

22 A I'll ask you again: What do you mean by  
23 negotiated?

24 Q You don't what the word "negotiate" means?

25 A I don't know how you mean it here, no.

1 Q Well, how does a treating oncologist, such as  
2 yourself, use the word "negotiate" as a definitional or  
3 useful word in your parlance?

4 A I don't talk with my patients about  
5 negotiating other than negotiating treatment decisions.

6 Q So that's my question. So you don't ever use  
7 the word "negotiate" ever? This is the first time  
8 you've heard that word?

9 A That's not what I said.

10 Q So what's your meaning of the word  
11 "negotiate"? It's a pretty simple question.

12 A Figuring out a plan, I guess.

13 Q 3120. I hand you what's been marked as  
14 Plaintiff's Exhibit 3120.

15 A Thank you.

16 Q Your signature's on the second page, isn't it,  
17 sir?

18 A Yes, sir, such as it is.

19 Q Is that your signature?

20 A Yes, sir.

21 Q All right. Let's look at --

22 MR. FRAZER: Your Honor, I move this into  
23 evidence.

24 THE COURT: Any objection?

25 MR. BROWN: Objection, your Honor. It's

1 hearsay.

2 THE COURT: Do you have a response to that?

3 MR. FRAZER: Your Honor, this is his retention  
4 agreement. This is the terms of how he came here  
5 to testify. He signed it. He's authenticated it.  
6 It's on the Monsanto law firm letterhead.

7 MR. BROWN: It's irrelevant to the facts of  
8 the case or the issues of the case, your Honor.

9 THE COURT: I'll admit the exhibit.

10 MR. BROWN: Thank you, your Honor.

11 MR. FRAZER: Thank you, your Honor.

12 Ed, let's pull up 3120. Let's look at the top  
13 of the page here. Go down and show his signature  
14 first so the jury can see that.

15 BY MR. FRAZER:

16 Q That's your signature right here, this little  
17 letter, kind of like Prince; right?

18 A That's why I said, "Such as it is." It's a  
19 doctor's signature.

20 Q It's a symbol; right?

21 A It's sort of like a stylized M and J. My  
22 middle initial is J.

23 Q Let's go to that second paragraph. It says  
24 you're going to get a minimum of \$3,000 for the full  
25 depositions in the New York area, and a rate to be



1 negotiated for depositions outside the New York area.

2 Negotiated; right?

3 A That's what it says.

4 Q What did you negotiate for your testimony here  
5 today?

6 A As I said, my testimony today will be  
7 reimbursed \$5,000 for today's work.

8 Q So you negotiated up from a minimum of \$3,000  
9 to \$5,000 today; right?

10 A Yeah. Over these years I've had a change in  
11 my fee schedule.

12 Q Okay. Now, let's look at the first page of  
13 this document.

14 Second paragraph, please, Ed. Let's blow that  
15 up.

16 It says you acknowledge that you have received  
17 and/or likely will receive confidential information from  
18 HLLP.

19 That's the Washington law firm; right?

20 A I believe so.

21 Q And that you will likely -- you likely will  
22 generate work product orally and/or in writing to assist  
23 HLLP in representing Monsanto in the litigation.

24 Do you see that?

25 A Yes, sir.

1 Q Doesn't say anything about Bayer, does it?

2 A No, sir.

3 Q All right. Then the next sentence says you  
4 agree that you will maintain all information exchanged  
5 between HLLP and you, whether orally or in writing, as  
6 strictly confidential and privileged unless we inform  
7 you at some time in the future that certain information  
8 needs to be disclosed in the litigation; correct?

9 A Yes.

10 Q And then the next sentence says you also agree  
11 to maintain the fact that you have been retained by HLLP  
12 as strictly confidential and privileged unless we inform  
13 you at some time in the future that your identity as  
14 HLLP's expert has been disclosed this litigation; true?

15 A Yes.

16 Q Now, you told the jury you told your patients  
17 that you signed this letter, that you tell them you're  
18 working for Monsanto.

19 Is that what I heard you say?

20 A What I said, to be clear, is that I'm involved  
21 with these cases and I've been involved as an expert,  
22 yes.

23 Q So you disclosed information to your patients  
24 that you agreed to keep strictly confidential and  
25 privileged; right?

1           A       I've never talked to my patients about this  
2 law firm.

3           Q       Okay. Then the next paragraph:

4                    "Furthermore, you agree to not do any  
5 consulting or other work for any other corporation, law  
6 firm, or person with respect to any actual or potential  
7 legal claims involving Roundup and/or glyphosate."

8                    Did I read that right?

9           A       Yes.

10          Q       You cut an exclusive deal, you negotiated an  
11 exclusive deal with Monsanto's lawyers here; right?

12          A       That was the agreement at the time, yes.

13          Q       So you can't even work for somebody like John  
14 Durnell. You can't even work for one of your patients;  
15 right?

16          A       I'm here to do the work with you here today.

17          Q       You cannot go work for one of your patients  
18 who comes in and says, "I think I got my non-Hodgkin's  
19 lymphoma from Roundup and I want to hire you as an  
20 expert."

21                    You'd have to tell me no; right?

22          A       The first thing I would tell them is that I  
23 don't think that Roundup caused their lymphoma.

24                    But yes, if they were trying to hire me as a  
25 legal consultant, I would have to say that I'm not

1 available to do that work for them.

2 Q You'd have to tell them no; right?

3 A Just what I just said, that I'm not able to do  
4 that legal consulting working, yes.

5 Q If there was a group of people that wanted you  
6 to do research on non-Hodgkin's lymphoma and Roundup  
7 exposure, you'd have to tell them no; correct?

8 A I'm not sure.

9 Q You're not sure.

10 You gave a deposition in this case on July the  
11 24th, 2023, just a few months ago; right?

12 A I believe that was the date.

13 Q And have you looked at that deposition?

14 A I reviewed the transcript afterwards, yes.

15 Q And it's fair to say you didn't make a written  
16 report in this case?

17 A I believe so, no.

18 Q You've done that in other cases?

19 A That's true.

20 Q You did it in a case called Marty Hay, Daniel  
21 Anderson, Jimmy Draeger, and Valorie Gunther v. Monsanto  
22 filed in Cole County, Missouri; right?

23 MR. BROWN: Your Honor, can we just briefly  
24 approach?

25 (Counsel approached the bench and the

1 following proceedings were had:)

2 MR. BROWN: I didn't want to stop his flow,  
3 but if he can not mention the specific case names  
4 involving other cases, I'd appreciate that.  
5 There's no need to put that in the public record.

6 THE COURT: Is there any relevance of why  
7 you're mentioning specific case names?

8 MR. FRAZER: Well, you're going to see,  
9 because I'm going to direct him to what he said in  
10 that deposition in that case. Absolutely.

11 THE COURT: But you don't need to mention the  
12 specific case name to impeach him with a  
13 deposition; correct. If you're setting up an  
14 impeachment, then set up the impeachment and  
15 impeach him.

16 MR. FRAZER: I've always been taught to do  
17 that. But if you don't want me to.

18 THE COURT: It comes up and it becomes  
19 relevant, I'll let you do what, but if we're just  
20 impeaching him, set up the impeachment and then do  
21 it.

22 (Proceedings resumed in open court.)

23 BY MR. FRAZER:

24 Q You remember that Cole County, Missouri, case?

25 A You said it's the case of Mr. Anderson?

1 Q Yes.

2 A Yes, sir.

3 Q You made a written report in that case, didn't  
4 you?

5 A I did, yes.

6 Q You gave a deposition in that case, didn't  
7 you?

8 A Yes.

9 Q That deposition is given on -- do you remember  
10 the day?

11 A I don't.

12 Q Do you remember the date?

13 A I do not.

14 Q Do you know it was given after you gave the  
15 deposition in Mr. Durnell's case?

16 A I believe so.

17 Q In that deposition you were asked by the  
18 lawyers what other cases have you given deposition  
19 testimony in. You didn't mention the Durnell case, did  
20 you?

21 A I don't remember.

22 Q Do you want to see your testimony?

23 A If you want me to look at it, I'm glad to.

24 Q Sure.

25 A I believe you.

1 Q This was an all-day deposition too, wasn't it?

2 A It was a long day.

3 Can you help direct me where I'm looking in  
4 the document, please, sir?

5 Q Yes, sir. I'll be glad to.

6 A Thank you.

7 Q If you go to page 9, line 6 through 13.

8 A Page 9, you said. Thank you.

9 Q The deposition page 9.

10 A That's the one on the right-hand side.

11 Q I don't know if that's the Min-U-Script or --

12 A Thank you.

13 Q Nine?

14 A Thank you. Can I take a moment?

15 Q You were asked:

16 "Since June and your provision of these  
17 materials, have you been deposed in any other  
18 matter?"

19 "ANSWER: I'll admit that I don't keep track  
20 very well of my calendar, but there's been no  
21 matters unrelated to Monsanto for which I've  
22 taken a deposition since the" --  
23 Whatever the name of that case is.

24 A Yes.

25 Q And you identified seven depositions that did

1 involve Monsanto, and none of them were the Durnell  
2 case; right?

3 MR. BROWN: Objection, your Honor. Misstates  
4 what the testimony is of the witness. It says  
5 matters unrelated to Monsanto.

6 BY MR. FRAZER:

7 Q You didn't identify the Durnell case as a case  
8 you've given a deposition in, did you, sir?

9 A In reviewing the transcript from the  
10 deposition, when I was asked if I had been deposed, my  
11 answer was, "I'm not certain."

12 Q Not certain?

13 A Yeah.

14 Q Okay. That's fine. We're done with that one.

15 You mentioned that your -- the center that you  
16 work for at right now, Rutgers, was an NCI-certified  
17 cancer center?

18 A NCI-designated cancer, comprehensive cancer  
19 center.

20 Q Did you know that there's an NCI-designated  
21 comprehensive cancer center at Wash U. here in St. Louis  
22 called the Siteman Center?

23 A I'm very familiar.

24 Q All right. And they have oncologists just  
25 like you at Siteman Center?



1           A       It has a very well-established oncology  
2 program at Siteman as well, yes.

3           Q       But Monsanto had to go all the way to New York  
4 to get you for this case; right?

5           A       I don't know how to answer that question.

6           Q       Well, you live in New York; right?

7           A       I do.

8           Q       You don't live here in St. Louis?

9           A       I do not.

10          Q       You've never practiced medicine here at the  
11 Siteman Center?

12          A       No, sir.

13          Q       Have you seen any Monsanto documents that  
14 indicate that Monsanto knows doctors at the Siteman  
15 Center here or at Wash U.?

16          A       I haven't been shown any documents yea or nay.

17          Q       Now, since you've given eight depositions  
18 before -- is it eight or have you given a ninth one  
19 since your last one?

20          A       I do not keep track of that number.

21          Q       You don't know?

22          A       Correct.

23          Q       By the way, you get your 1099 on compensation,  
24 you get it from a law firm, not Monsanto; right?

25          A       I believe so, yes.

1 Q A 1099 is something that shows your outside  
2 independent contractor income for a particular year;  
3 right?

4 A That sounds right.

5 Q So you've given at least eight depositions on  
6 this matter, maybe more is what your testimony is. You  
7 just don't know?

8 A My testimony is I don't know the number.  
9 That's right.

10 Q It's the first time you've testified live in  
11 front of a jury, though; right?

12 A Very true.

13 Q But you will agree with me that Monsanto  
14 already knew what you were going to say under oath  
15 before you came in the door today; right?

16 A I don't know what Monsanto knows or doesn't  
17 know about me, but my opinion in the matter, I've been  
18 clear about my interpretation of the science and the  
19 conclusions I've reached.

20 Q Well, has the lawyer from the Hollingsworth  
21 firm written and you said, "Hey, we don't like what  
22 you're saying"?

23 A I haven't spoken with that lawyer in some time  
24 either way, but certainly not.

25 Q Any lawyers from Monsanto call you and say you

1 need to change your testimony?

2 A They've never said that it's good or bad. I'm  
3 here as an expert to share my expertise.

4 Q To borrow your phrase, when you stepped into  
5 that chair today, Monsanto knew it was not rolling the  
6 dice with you; correct?

7 MR. BROWN: Objection. Misstates the  
8 witness's testimony, your Honor.

9 THE COURT: I don't think it misstates his  
10 testimony. I'll let him answer if he has an  
11 answer.

12 THE WITNESS: I'm here to tell the truth and  
13 share my understanding of the science, and that's  
14 what I've done today.

15 BY MR. FRAZER:

16 Q Monsanto knew what the dice were going to show  
17 when they put up on the stand here today; right?

18 A I don't know what they knew, but certainly, as  
19 I've said, my opinion on the science and the conclusions  
20 that I've drawn are very clear and consistent.

21 Q Well, you rehearsed your testimony before you  
22 took the stand today, didn't you, sir?

23 A I did not rehearse the testimony, but we  
24 certainly went through this process. As I said this is  
25 new to me. I worked with attorneys on preparing for

1 today certainly.

2 Q Yeah, you had 56 slides by my count; right?

3 A I'll trust your number.

4 Q Huh?

5 A I trust your number.

6 Q That would take a while to go through with a  
7 bunch of lawyers about your upcoming testimony; correct?

8 A We spent some time on it, yes.

9 Q Okay. So Monsanto went to the East Coast to  
10 get you, and they went to the West Coast to get Dr.  
11 Tomasetti; right?

12 A Nobody ever flew out to get me. I have just  
13 been involved in these matters.

14 Q Well, you flew in here. You didn't drive to  
15 St. Louis, did you?

16 A That's true.

17 Q Okay. And my understanding is that this was  
18 your first retention date, March 25, 2019, as shown on  
19 Plaintiff's Exhibit 3120; right?

20 A I believe that's true.

21 Q You had some conversation before that day with  
22 that lawyer from Washington, D.C.; right?

23 A I don't remember where that attorney was from  
24 but, yeah, there were conversations that preceded my  
25 agreeing to work in these matters.

1 Q Were you with multiple lawyers for Monsanto  
2 before you agreed to this letter?

3 A It was just one attorney that I had spoken to  
4 before that.

5 Q All right. And over the course of the last  
6 four and a half years, how many lawyers for Monsanto  
7 have you worked with?

8 A I couldn't tell you a precise number, but  
9 somewhere in the -- I guess the five to ten range would  
10 be my guess.

11 Q Five to ten range. All right.  
12 So the -- and, as I understand it, before  
13 March 25, 2019, you had really never studied glyphosate;  
14 right?

15 A I hadn't done this rigorous scientific  
16 assessment of glyphosate that I've gone through with you  
17 today, but certainly, as I said, I was aware of it both  
18 in and of itself and in the context of this preceding  
19 scientific understanding of pesticides in general and  
20 their potential relationship to lymphoma.

21 Q You've never published a paper on glyphosate?

22 A Is that a question?

23 Q Prior to March 25, 2019, never published a  
24 paper on glyphosate?

25 A No, sir.

1 Q Prior to March 25, 2019, you never published a  
2 paper on Roundup?

3 A That's also true.

4 Q Prior to March 25, 2019, you hadn't looked at  
5 any of the studies; right?

6 A That's not true.

7 Q Not true.

8 You do know what IARC is; right?

9 A Yes, sir.

10 Q Had you looked at that one before March 25,  
11 2019?

12 A I was aware of it, although I hadn't read the  
13 full monograph prior to this.

14 Q You hadn't read the full monograph?

15 A No, sir.

16 Q What studies have you looked at before March  
17 25, 2019?

18 A I'm not sure -- I'm not certain that I can  
19 quote which studies I had looked at at that point.

20 Q Dr. Tomasetti yesterday referred to IARC as  
21 the gold standard.

22 Do you agree with that?

23 A The gold standard with regards to what?

24 Q The study of cancer.

25 A There is no single gold standard for the study

1 of cancer. That's overly broad. They're certainly an  
2 important agency for doing hazard assessments, but as an  
3 oncologist, treating my patients, I don't turn to IARC  
4 to understand their illnesses or the treatment plans for  
5 my patients.

6 Q You've never been invited to participate in a  
7 IARC working group, have you, sir?

8 A No, sir.

9 Q You know Kristan Aronson, Dr. Aronson has;  
10 correct?

11 A I believe.

12 Q You've never given a lecture on glyphosate or  
13 Roundup in your life; right?

14 A No, sir.

15 Q Did the lawyer who called you say how they  
16 came to know to even give you a call?

17 A I didn't ask. I presumed that it was on the  
18 basis of my being an established expert in lymphoma.

19 Q I mean, we can see why Monsanto would call Dr.  
20 Tomasetti. But there was nothing in your published  
21 works or your lectures that had anything to do with  
22 Roundup, glyphosate at all; right?

23 A And yet there's only so many people in the  
24 world that do what I do, that have a focused clinical  
25 and scientific emphasis specifically on lymphoma.

1 Q We're going to look at your papers in a  
2 minute. Your papers have been focused on therapy and  
3 treatment; correct?

4 A Not exclusively, no.

5 Q Okay. We'll go through them.

6 I'm just saying, how would somebody, a lawyer  
7 out there doing research, find out, if we should give an  
8 oncologist a call, how would they know to call you?

9 MR. BROWN: Objection. Calls for speculation,  
10 your Honor.

11 THE COURT: I agree. I'll sustain the  
12 objection.

13 BY MR. FRAZER:

14 Q Did any of these lawyers tell you how they  
15 picked you out of the crowd?

16 A I wouldn't say there's a big crowd of lymphoma  
17 experts. No, I don't know why I was asked to begin  
18 doing this work.

19 Q Well, there are lymphoma experts right here in  
20 St. Louis; right?

21 A Yes.

22 Q There are doctors here in St. Louis that do  
23 exactly what you do every day; right?

24 A There are lymphoma experts here definitely.

25 Q And at least 48 other National Cancer



1 Institute-designated sites or centers; right?

2 A I don't know if every center has an  
3 established lymphoma program. But, yeah, there are many  
4 excellent cancer institutes in this country.

5 Q Okay. At your deposition, you said you were  
6 up to about a total of \$20,000 in compensation in the  
7 Durnell case. Would that be fair to say that in the  
8 other eight cases you've testified you're about at that  
9 number too?

10 A I'm not sure. Some have taken more time and  
11 some less, but probably all similar, within range.

12 Q And then you top it off with whatever you  
13 charge for traveling here?

14 A Yeah, I'm submitting invoices for my travel  
15 time here.

16 Q For your meeting time with the lawyers?

17 A Yes.

18 Q Or phone calls?

19 A Work that I'm doing on this case, yes.

20 Q Or texts?

21 A No. I wouldn't know how to track that.

22 Q Okay. We had an expert here talk about  
23 texting with the lawyers. That's why I asked you.

24 A Maybe more organized than I am.

25 Q And you and Dr. Tomasetti have worked together

1 on these cases; right?

2 A I've never met Dr. Tomasetti.

3 Q Wasn't my question.

4 You know he's an expert in some of these other  
5 cases that you're an expert for Monsanto in; right?

6 A I know he's doing -- I know he's participating  
7 in these cases, but we don't work together. We've never  
8 even met one another. There's no teamwork there.

9 Q Now -- no teamwork. Okay.

10 Okay. You've never published on Dr.  
11 Tomasetti's bad luck theory; right?

12 A I wouldn't say it's a bad luck theory, but no,  
13 I've never published any papers critiquing Dr.  
14 Tomasetti's work.

15 Q Well, bad luck is what Dr. Tomasetti testified  
16 that he calls it.

17 A If those are his words, those are his words,  
18 but that's now how I would characterize the science at  
19 all.

20 Q Have you read his papers?

21 A Which papers are you -- if you are speaking  
22 specifically to the ones regarding random replicative  
23 error, then yes.

24 Q Did you read the one that he calls it the bad  
25 luck theory?

1           A        If that's the word used in the paper, I don't  
2 remember that. I'm certainly aware of the underlying  
3 scientific principles.

4           Q        Do you use that word with your patients: You  
5 got non-Hodgkin's lymphoma and it's just bad luck for  
6 you?

7           A        I don't say those words to my patients.

8           Q        Okay. Good. That's good to hear.

9                    His article that was published in 2015 is  
10 literally just a three-page article, isn't it?

11          A        I don't remember the length of it, but it's  
12 possible.

13          Q        Do you want to take a look at it?

14          A        If you want me to.

15          Q        All right.

16                   MR. FRAZER: It was introduced into evidence  
17 as D1, your Honor. Is that still up here?

18                   THE COURT: Somewhere.

19                   MR. FRAZER: Well, we can do it on the screen.  
20 That's fine.

21                   THE COURT: No, that's not it.

22 BY MR. FRAZER:

23          Q        That's the cover of Science magazine; right?

24          A        One of the most preeminent scientific journals  
25 in the world.

1 Q I thought you would add that. The top of the  
2 thing says, "Are most human cancers due to bad luck";  
3 right?

4 A That's what it says on the cover.

5 Q And if we turn the page, you see there's print  
6 from another article on this page; right?

7 A Yeah, that's how it done.

8 Q Let's look at the second page. Then we got a  
9 big old chart that Dr. Tomasetti edited yesterday.

10 Do you see that?

11 A I see the chart on the page here, yes.

12 Q And then we turn the next page, and we got a  
13 chart, and that's where the reference notes start;  
14 right?

15 A Yes, sir.

16 Q That's three pages?

17 A In addition to references. And I don't  
18 remember whether this article had any appendices or  
19 supplementary materials.

20 Q This article was published in Science magazine  
21 the way it's published right here.

22 Do you understand that, sir?

23 A You're showing me the paper. Of course.

24 Q Pardon me?

25 A You're showing me the paper. Yes.

1 Q This is what the lawyers that hired you put  
2 into evidence. Not me. Okay?

3 Do you understand that. I'm not trying to  
4 trick you or anything.

5 A I'm not sure I understand the question --

6 Q If you take out the charts --

7 MR. BROWN: Your Honor, could the witness see  
8 the article?

9 THE COURT: I got it somewhere.

10 It's D1 in this book.

11 THE WITNESS: I'm sorry, which one?

12 THE COURT: D1 in this book.

13 THE WITNESS: Thank you, sir.

14 MR. BROWN: I was going to ask for one for me  
15 too, but I guess not.

16 MR. FRAZER: It's y'all's exhibit.

17 THE WITNESS: Yes.

18 BY MR. FRAZER:

19 Q Do you see anything there that you want to  
20 change your testimony on that we just talked about?

21 A No, sir.

22 Q Okay. Thank you.

23 Now, that article was published in 2015;  
24 right?

25 A That's correct.

1 Q And did -- and the publication date, if we  
2 look at the cover, was January 2nd, 2015; right?

3 A Yes.

4 Q That article was published before IARC met in  
5 March 2015; right?

6 A I don't remember whether that was the date  
7 that IARC met or the publication date, but, yes, January  
8 2nd, 2015.

9 Q Every scientist that would be working on  
10 anything that had to do with anything that was in that  
11 article would know about that article before March of  
12 2015; right?

13 A That I can't tell you.

14 Q Did you read the article back then?

15 A At that time, no, I don't remember reading it  
16 then.

17 Q When's the first time you read it?

18 A I'm not sure.

19 Q After you met with the lawyers from Monsanto?

20 A Yes.

21 Q So that was 2019; right?

22 A Yes, sir.

23 Q So over four years later is the first time you  
24 even knew about this article by Dr. Tomasetti, Exhibit  
25 D1?

1 A I wasn't aware of it beforehand. That's true.

2 MR. BROWN: Objection. Mischaracterizes the  
3 witness's testimony.

4 THE COURT: I think he's answered it as best  
5 he can.

6 MR. BROWN: I'm good, Judge.

7 MR. FRAZER: Yeah.

8 BY MR. FRAZER:

9 Q So prior to that time, you weren't telling any  
10 of your patients that their non-Hodgkin's lymphoma was  
11 due to replication errors; right?

12 A That's not true.

13 Q Not true.

14 Okay. Do you have any patient records to  
15 share that would have the personal information redacted  
16 out that shows if you actually put it in their records?

17 MR. BROWN: Your Honor, objection. Patient  
18 records are confidential and cannot be described in  
19 this lawsuit.

20 MR. FRAZER: I'm just asking him.

21 THE COURT: You're asking him for something he  
22 can't produce, so I'll sustain the objection.

23 BY MR. FRAZER:

24 Q You produce medical records all the time,  
25 don't you, sir?

1           A       Can you tell me what you mean? I don't  
2 understand.

3           Q       You saw Mr. Durnell's medical records in this  
4 case. You testified to that to the jury, didn't you?

5           A       Yes, I reviewed his medical records.

6           Q       You've reviewed medical records of other  
7 victims that claim that glyphosate or Roundup caused  
8 their cancer; right?

9                   MR. BROWN: Objection to the use of word  
10 "victim." Inflammatory, your Honor.

11                   THE COURT: I'll let him answer the question  
12 if he has an answer.

13                   THE WITNESS: I wouldn't characterize them as  
14 victims, but, yes, I've reviewed other patients'  
15 medical records, both in these Roundup cases as  
16 well as part of my practice as a lymphoma expert.

17 BY MR. FRAZER:

18           Q       All right. You've gotten research funding  
19 from Bayer, haven't you?

20           A       Yes, I've conducted clinical trials using  
21 pharmaceuticals that are made by Bayer in the treatment  
22 of lymphoma.

23           Q       Pharmaceuticals?

24           A       Medicines, yes.

25           Q       In the treatment?



1 A Of lymphoma, yes, sir.

2 Q And you also have individual stock and stock  
3 options with a company called Merck?

4 A I inherited those from my grandmother and hold  
5 onto them out of sentimentality.

6 Q First of all, I'm really sympathetic to cancer  
7 victims, so I'm so sorry you had to go through cancer.

8 A Thank you. That's very kind of you.

9 Q I know what it's like. And, you know, thank  
10 you for sharing that with everybody.

11 But the cancer you had was -- was it renal  
12 cancer?

13 A Correct. Kidney cancer.

14 Q Kidney cancer?

15 A Yes.

16 Q Doctors call that renal carcinomas?

17 A Renal cell carcinoma. Correct.

18 Q Have you seen the Knezevich and Hogan study  
19 that Monsanto paid for that showed tumors in the kidneys  
20 of mice?

21 A I'm not sure if I can quote that individual  
22 study, but I've reviewed extensive animal studies about  
23 Roundup, yes.

24 Q Do you see in the Knezevich and Hogan case  
25 study that the tumor incidence was 640 percent higher

1 than the control group?

2 A I don't remember that specific -- that single  
3 statistic here, no.

4 Q How old --

5 A I'm sorry. I couldn't hear you.

6 Q I have a bad habit of doing that. I  
7 apologize.

8 A No problem.

9 Q How would a man were you when you got kidney  
10 cancer?

11 A Let me do the math. My daughter was nine  
12 months old, and she's now 17. So 17 years ago. It's  
13 now 2023. So about 32, give or take.

14 Q 32 years old?

15 A Ballpark.

16 Q And is it fair to say for the record that  
17 you're at that time at 32, and I think you probably  
18 still are, because look how old I am, but at 32 you were  
19 a young white male?

20 A Definitely. Certainly younger than I am now.

21 Q Yeah. And you've had -- you testified in your  
22 deposition that you actually used Roundup when you were  
23 a child; right?

24 A A little bit, yes.

25 Q A little bit?

1           A       Yeah, I remember using it some summers at my  
2 home in Michigan.

3           Q       Have you ever looked at a warning label on  
4 Roundup?

5           A       Not that I remember.

6           Q       Do you know how much you used it as a child?

7           A       No.

8           Q       Have you ever consulted with a Ph.D. named  
9 Dr. Robert Tarone?

10          A       Consulted with?

11          Q       Yeah. Do you know who he is?

12          A       No, I don't recognize the name.

13          Q       Don't recognize the name.

14                 In all the NHL studies you've done, you  
15 haven't seen his name?

16          A       Maybe I'm not so great with names, but I don't  
17 remember it, sitting here.

18          Q       Okay. Are you familiar with Dr. Tomasetti's  
19 Planet B hypothetical?

20          A       Yes, I'm familiar with the way that he tried  
21 to describe some of these underlying issues of random  
22 replication in his manuscripts.

23          Q       Would you and Dr. Tomasetti together, and I  
24 understand you haven't gone together anywhere, but have  
25 you personally gone to the EPA and said, "Just cut out

1 all the research on glyphosate and whether or not it  
2 causes cancer because it's all due to replication  
3 error"?

4 Have you done that?

5 A No, sir.

6 Q You haven't said, "Hey, we can say a lot of  
7 taxpayer dollars if we just cut out all this research  
8 because in my opinion, Dr. Matasar, there's no way NHL  
9 is caused by exposure to glyphosate"?

10 A I'm sorry; what was the question?

11 Q Have you ever done that?

12 A Done?

13 Q Gone to the EPA and say, "Hey, you can save a  
14 lot of money here. Just cut out all the research  
15 requiring companies or anybody or scientists or the EPA  
16 to study human health and exposure to glyphosate."

17 A No, sir.

18 Q You haven't written a letter to IARC like  
19 that; right?

20 A No, sir.

21 Q Or any other cancer institute in the world;  
22 right?

23 A I've never written a letter to people telling  
24 them that, no.

25 Q You mentioned New Zealand earlier and

1 Australia. Have you written any letters to them,  
2 saying, "Hey, you guys need to quit studying human  
3 health and exposure to glyphosate because, in my  
4 opinion, there's no way it's caused by exposure to  
5 glyphosate"?

6 A I'm not sure what research they're still  
7 conducting, if any, but no, I've never written such a  
8 letter.

9 Q You didn't write that to the Canada folks  
10 either, did you?

11 A I've written no such letter.

12 Q Do you have any idea who was on the IARC panel  
13 that made the decision in Monograph 112 that glyphosate  
14 was a probable human carcinogen?

15 A I can't name members of the IARC panel off the  
16 top of my head, but certainly reviewed their author list  
17 in reviewing the monograph.

18 Q Do you know one of them was Aaron Blair? He  
19 was the chairman of the group.

20 A I believe you.

21 Q He was the one that wrote the Agricultural  
22 Health Study; right?

23 A What do you mean wrote the Agricultural Health  
24 Study?

25 Q He was one of the authors.

1 A That's possible.

2 Q That's not possible, it's true, isn't it?

3 A I would need to review the authors list of the  
4 AHS manuscript, but I believe you.

5 Q And by the way, the Agricultural Health Study,  
6 AHS, is not some monolithic study. It's a monolithic  
7 database; right?

8 A No. It's a monolithic research program. It's  
9 a prospective cohort study enrolling many individuals  
10 over time and follow their health outcomes. There's  
11 lots of different analyses being done in the context of  
12 that cohort study, but it is a research program.

13 Q As I understand it, Dr. Blair, Dr. Andreotti  
14 took the data that was in the study and then published  
15 the article that you're relying on.

16 A One of the articles that I shared with you  
17 today, yes.

18 Q The only one that talked about AHS; right?

19 A There were two. There was the original 2005  
20 report from the AHS and the updated results that  
21 Andreotti and his colleagues published. These are not  
22 the only papers that I've shared with you today.

23 Q And the updated results were published in  
24 November 9, 2017; right?

25 A I have it as 2018, so I would need to see the

1 manuscript.

2 Q Well, let's pull it up. It's Defense Exhibit  
3 24.

4 A Thank you, sir.

5 Q I think you can see the date published there  
6 up in the top right.

7 A Published online, yes, but its official  
8 publication date is 2018, yes.

9 Q And the title of it is "Glyphosate Use and  
10 Cancer Incidence in the Agricultural Health Study";  
11 right?

12 A Yes, that's the title.

13 Q It's not "Roundup Use and Cancer Incidence in  
14 the Agricultural Health Study"; right?

15 A The title is glyphosate, yes.

16 Q In fact, if you want to take the time, but  
17 I'll represent to you that the word "Roundup" doesn't  
18 even appear in this article.

19 A The word "Roundup" is not in the article.

20 Q Okay. I just want to be sure. Because you  
21 kept saying Roundup, and it only talks about glyphosate;  
22 right?

23 A I used the word "Roundup" because this is a  
24 study of actual agricultural workers that are using  
25 formulated product and following their health outcomes.

1 That's why Roundup for me is the better term than just  
2 talking about the individual chemical glyphosate.

3 Q Let's look at the second page of the study  
4 that you're relying on at the top of the left-hand  
5 corner page. It says, "As of 2010, more than 750  
6 products containing glyphosate were on the U.S. market";  
7 right?

8 A I see that line, yes.

9 Q Did you know that there were 20 companies in  
10 the glyphosate task force group?

11 A No, I don't know that task force group.

12 Q Do you think they all make their glyphosate  
13 herbicide the same way as Monsanto makes Roundup? Do  
14 you think they're identical?

15 A I don't know.

16 Q You don't know. That's the point, isn't it?  
17 You don't know?

18 A That's what I said, yes.

19 Q So in this study that you're relying on,  
20 there's no confounding factor taken into consideration  
21 for what kind of glyphosate-based herbicide any of these  
22 professional licensed applicators from North Carolina  
23 and Iowa were using; correct?

24 A That's not how I would use the word  
25 "confounding."



1 Q It's not in there. It doesn't account for it?

2 A Yes, this is pooled glyphosate use. Correct.

3 Q So if some other company's glyphosate-based  
4 herbicide had different things in it or different things  
5 not in it than Monsanto's Roundup, that might skew the  
6 results one way or the other; right?

7 A And yet the results are what they are, which  
8 is that there's no increased risk of lymphoma for users  
9 of formulated glyphosate products.

10 Q If you got 19 out of 20 companies making  
11 glyphosate-based herbicides with over 700 products and  
12 you haven't figured out which farmer used what product,  
13 you really don't know; right?

14 A And yet there's still no increased risk of  
15 lymphoma. That's the bottom line.

16 Q Well, let's look at that.

17 But you don't know the answer to that question  
18 I just asked you?

19 A What was the question?

20 Q Are you just trying to -- did you have a  
21 course in blocking and bridging, by the way?

22 MR. BROWN: Objection.

23 THE COURT: Sustained.

24 BY MR. FRAZER:

25 Q Would you answer that question?

1           A        Could you repeat the question for me, please,  
2    sir?

3           Q        The question is 19 out of the 20 companies,  
4    you don't know what's in their formula -- you don't even  
5    know what's in formulated Roundup; right?

6           A        Not to any specific degree; correct.

7           Q        So you can't make an apples-to-apples  
8    comparison inside the Agricultural Health Study database  
9    at all because you don't know what farmer in Iowa used  
10   what glyphosate-based herbicide versus a farmer in North  
11   Carolina, what that person used; right?

12          A        And yet the data are the data and it's shows  
13   that users of these formulated products aren't at  
14   increased risk for lymphoma, period.

15          Q        The formulated products.

16                 But if you had higher incidence in this study  
17   with farmers that used Roundup, and you had lower  
18   incidence in farmers that used 19 of the other  
19   companies' products, because they were made differently,  
20   you couldn't -- it would skew the study one way  
21   downward; right?

22          A        You'd still expect to see a signal, and there  
23   is no signal.

24          Q        And there's no quantification in here what the  
25   percentage of glyphosate in all those products was used

1 by all these farmers; right?

2 A Not that I'm aware of, no. There is this  
3 intensity modulation that they performed to try to get  
4 at that underlying truth regarding dose and exposure.

5 Q And you said you read Mr. Durnell's  
6 deposition. The ladies and gentlemen heard his  
7 testimony. He's never been a farmer in his life, has  
8 he?

9 A No, sir.

10 Q In this Agricultural Health Study article that  
11 you're relying on, D24, it says there was 7,290 incident  
12 cancer cases; right?

13 A Can you show me where you're reading?

14 Q The second page, right here, bottom of the  
15 first big-ole paragraph.

16 Next-to-the-last sentence.

17 A I got you. Yes, sir.

18 Q 7,290; right?

19 A Yes.

20 Q Now, you know, you put that -- did you put the  
21 55,000 number up on the board.

22 Do you remembered that?

23 A I remember the numbers I presented, yes.

24 Q I don't know if you had it exact or rounded  
25 up, but I recall it was about 55,000 people in this

1 study.

2 A Just over.

3 Q What was the dropout rate?

4 A In terms of completed the data throughout the  
5 two-decade period?

6 Q Yes, sir.

7 A Approximately 40 percent.

8 Q It was 46 percent, wasn't it?

9 A I'd have to review the data to find the  
10 precise number, but approximately 40 percent.

11 Q Well, let's look at the study. I want to get  
12 the study to get it straight. You're relying on it.  
13 You should know.

14 A Thank you, sir.

15 Q Keep the AHS study. We're not finished with  
16 that that one.

17 A Okay.

18 Q The Andreotti study. That's really what it's  
19 called, the Andreotti?

20 A No, sir.

21 Q No?

22 I thought you called these studies by the last  
23 name of the first listed author.

24 A Individual manuscripts do, not the overall  
25 research program.

1 Q Excuse me.

2 THE COURT: Mr. Frazer, I don't see it marked  
3 on this. Is this a marked exhibit?

4 MR. FRAZER: No, no. This is just for refresh  
5 his memory.

6 BY MR. FRAZER:

7 Q Do you see right here that these scientists  
8 are writing about assessing the potential for bias from  
9 nonresponse --

10 A Are we on --

11 Q -- to a study follow-up interview and example  
12 from the Agricultural Health Study?

13 A We're on this other page. Pardon me.

14 Q Do you see that?

15 A Hold on one second.

16 Yes, I see that.

17 Q It's dated after the Andreotti article; right?

18 A No. This predates the 2018 manuscript.

19 Q 2018?

20 A Yes. This was published July 7th, 2017, and  
21 the paper by Andreotti and colleagues was published in  
22 November of 2017.

23 Q So Andreotti and all the people that wrote  
24 paper would have had the benefit of what's in this  
25 paper; right?

1 A I couldn't answer that yea or nay.

2 Q Well, it happened before then; right?

3 A Yes, but whether they were aware of it, I  
4 don't know.

5 Q It involves the Agricultural Health Study;  
6 right?

7 A It uses that as an example, yes.

8 Q And in the -- at the top it says the  
9 Agricultural Health Study involved 52,394 farmers in  
10 1993, '97 -- wait a minute, yeah -- and collected  
11 additional information during subsequent interviews.

12 46 percent of enrolled farmers responded to  
13 the 2005, 2010 interview; right?

14 A I see that.

15 Q So actually 54 percent dropped out.

16 A For that one interview, that was their  
17 response rate for that one interview, yes.

18 Q Well, you know there's a true even to today.  
19 They can't find those people.

20 You're the AHS expert.

21 A Sorry. What was your question, sir?

22 Q You know that those people that were in the  
23 original AHS study, 54 percent, half dropped out of the  
24 study, and the database is less 54 percent times 53,494;  
25 right?

1           A       I don't have access to the updates in terms of  
2 loss to follow-up. And yet every cohort study will  
3 always have incomplete data. And the authors of the  
4 Agricultural Health Study worked very hard at both  
5 reporting that and performing additional analyses to  
6 account for those.

7           Q       In the very next phrase after the semicolon it  
8 says 7 percent of the farmers died prior to the  
9 interview.

10                    Right?

11           A       It says that, yes.

12           Q       7 percent times 50,000 is what?

13           A       Do I need to take out my calculator?

14           Q       3500?

15           A       Ballpark.

16           Q       3500 farmers had died. You can't follow  
17 people that are dead; right?

18           A       They still inform the ultimate analysis  
19 because you have their medical records. They're  
20 involved with health registries, so you know what their  
21 unfortunate cause of death was to help inform the  
22 results of the study.

23           Q       You cannot follow a dead person; right?

24           A       No. Once somebody has died, they're no longer  
25 being followed continuously, but they're still included

1 the study and assessed as part of the study.

2 Q And nobody knows what the health condition was  
3 of this 54 percent of farmers that couldn't be reached?

4 A As I've said, every cohort study will have  
5 loss to follow-up. That's true. That's the nature of  
6 those studies. Just as with case-control studies,  
7 you'll have incomplete participation rates of people  
8 that you call to invite into the study.

9 Q Some of those farmers could have moved close  
10 to a cancer center; right?

11 A Sure.

12 Q And, in fact, if we look at the results page,  
13 397, on that same document.

14 A We're still in the paper by Rinsky?

15 Q Yes, sir.

16 A And which page, sir? I apologize.

17 Q The results page.

18 A Thank you.

19 Yes, sir.

20 Q It says in total 24,171 farmers responded to  
21 the 2005 2010 interview and 28,223 farmers did not.

22 Right?

23 A Including the ones who had passed away, yes.

24 Q And it said nonrespondents included the  
25 farmers who died prior to the interview?



1 A Yes, sir.

2 Q And if we turn the page, we actually have a  
3 table that points that out; right?

4 A Yes, sir. I see Table 1.

5 Q Okay. Now, let's go back to the Agricultural  
6 Health Study. Nowhere in this study that postdates that  
7 study do they say they were any dropouts; right?

8 A I don't believe that's true.

9 Q Well, find it for me. I don't see it in the  
10 text.

11 A May I take a moment?

12 Q Sure.

13 A Thank you, sir.

14 Yeah, so it's presented on my -- on what my  
15 document is page D24.4.

16 Q D24.4. Where are you? I want to find it.

17 A In the paragraph beginning with the words, "In  
18 primary analyses."

19 Q Right.

20 A So later on down that paragraph you see, "To  
21 evaluate the impact of using imputed exposure data for  
22 participants who did not complete the follow-up  
23 questionnaire, we limited the analysis to the 34,698  
24 participants who completed both questionnaires."

25 Q And then they made a mathematical projection

1 based on what they thought the people who had been lost  
2 in the study would say if they weren't lost; right?

3 A So the authors of the Agricultural Health  
4 Study performed two different tests to account for or  
5 manage this predictable loss to follow-up.

6 The first is what is called imputation, which  
7 is acknowledging that you have incomplete data and using  
8 substitutive sources of data to give best estimates.

9 The second is they restricted their analysis  
10 to only those patients for whom they had responses as a  
11 way to quality test the strength and reliability of  
12 those results.

13 Q This study took the 54 percent of the people  
14 that didn't respond and projected what they would have  
15 said under some kind of mathematical model; right?

16 A As I said, they did two separate analyses.

17 Q Yes or no, and then you can explain.

18 A Yes. That was one of the ways they assessed  
19 for that.

20 Q Thank you.

21 Now, you see Table 2 in this Agricultural  
22 Health Study that's Exhibit 24?

23 A Table 2, yes, sir.

24 Q We can agree that mantle cell lymphoma is not  
25 even on here; right? They didn't look at that.

1           A       The words "mantle cell lymphoma" are not  
2 included in this table, no.

3           Q       There are a lot of -- I know you don't like  
4 the word blood cancers, but there are blood cancers in  
5 here; right?

6           A       Yes, sir.

7           Q       There's lymph -- I'll garble this word, but  
8 there's lymphohematopoietic cancer; right? That's like  
9 cancer of the blood cells; right?

10          A       Yeah. It's an old -- more old-fashioned term  
11 for blood cancers.

12          Q       So this is an outdated term?

13          A       That one term is, yes.

14          Q       All right. Then there's non-Hodgkin's  
15 lymphoma. We talked about that; right?

16          A       As well as below that the non-Hodgkin's  
17 lymphoma B-cell, yes.

18          Q       B-cell. There's CLL. That's a form of  
19 non-Hodgkin's lymphoma; right?

20          A       Yes, sir.

21          Q       There's diffuse large cell B-cell lymphoma.  
22 There's a form of non-Hodgkin's lymphoma; right?

23          A       Yes, sir.

24          Q       Marginal zone lymphoma. Is that NHL?

25          A       That's a subtype of non-Hodgkin's lymphoma,

1 yes.

2 Q Multiple myeloma. Is that a form of NHL?

3 A No, sir.

4 Q It's a blood disease?

5 A It's a different type of cancer, yes.

6 Q Non-Hodgkin's lymphoma T-cell; is that right?

7 A Yes.

8 Q And acute myeloid leukemia; correct?

9 A Yes.

10 Q Leukemia is a blood cancer; right? Most of  
11 the time.

12 A It's a word to describe cancer circulating in  
13 the blood system, yes.

14 Q But no mantle cell?

15 A Not in the specific category beyond that of  
16 non-Hodgkin's lymphoma B-cell; correct.

17 Q You can set that aside.

18 You said earlier, and I thought I heard you  
19 say this, that when a study -- a study can become  
20 outdated. That how you criticized some of the studies  
21 that Dr. Aronson and Dr. DeGrandchamp relied on, that  
22 they were outdated?

23 A A meta-analysis can be outdated if it's  
24 attempting to include all the available literature and  
25 then new literature emerges, that combination work is no

1 longer up-to-date.

2 Q The Zhang meta-analysis is the -- is the most  
3 recent meta-analysis in this area; right?

4 A That's not true.

5 Q What is?

6 A The most recent meta-analysis would be the one  
7 by Boffetta and colleagues in 2021. But there's also  
8 the work by Leon and colleagues in 2019 that also came  
9 available after Zhang and colleagues reported theirs.  
10 And the third would be the meta-analysis performed by  
11 the EPA in the year 2020.

12 Q And also an NCAP study that came out; right?

13 A NCAP is a cohort study that is included within  
14 a meta-analysis performed on that in combination with a  
15 third cohort called AGRICAN, as well as the Agricultural  
16 Health Study. That was work that was done -- I think it  
17 was done by, I forget the authors. Perhaps De Roos and  
18 colleagues, but I forget the authors.

19 Q And the NCAP study involved over a hundred  
20 thousand people; right?

21 A I don't remember the number of patients  
22 involved in that cohort.

23 Q Have you seen the Zhang study that talks about  
24 glyphosate exposure and urinary oxidative stress  
25 biomarkers in the Agricultural Health Study?

1 A I'm not sure. If you could provide it.

2 MR. BROWN: Thank you, sir.

3 THE WITNESS: Thank you, sir.

4 BY MR. FRAZER:

5 Q This is a 2023 study. Do you seen that?

6 A Yes, I have seen that.

7 Q You have seen it?

8 A Yes, sir.

9 Q Do you see who the second named author is?

10 A Yes. It's Dr. Andreotti.

11 Q Dr. Andreotti, the same one that did the  
12 Agricultural Health Study that you're relying on; right?

13 A The first author in the 2018 manuscript that  
14 came from that study, yes.

15 Q Yeah, she's in this paper too?

16 A Yes, sir.

17 Q And this paper concludes that "Our findings  
18 contribute to the weight of evidence supporting an --  
19 supporting an association between glyphosate exposure  
20 and oxidative stress in humans and may inform evaluation  
21 of the carcinogenic potential of this herbicide";  
22 correct?

23 A Yes, you've read it correctly.

24 Q Are you aware of the study published in 2023  
25 by the first name author is Benbrook?

1 A I'm not sure. Could you provide it?

2 Q All right. That's P3132.

3 A Thank you, sir.

4 Q That study was published on January 16th,  
5 2023, this year; right?

6 A I'm looking.

7 Q Down there at the bottom.

8 A I see it. Yes, sir.

9 Q Sometimes it's hard to find it, isn't it?

10 A It is. Every journal does it differently.

11 Q And the title of this is "Genotoxicity Assays  
12 Published since 2016 Shed New Light on the Oncogenic  
13 Potential of Glyphosate-Based Herbicides"; right?

14 A That is the title.

15 Q Okay. You've done no study of what's in a  
16 bottle of formulated Roundup Ready-to-Use; correct?

17 A No, sir.

18 Q You know that the Agricultural Health Study  
19 that you rely on was farmers spraying agriculturally;  
20 right?

21 A It was professional applicators, yes.

22 Q Have you ever looked at the warnings that  
23 farmers get on their Roundup label?

24 A No. I haven't reviewed the labels.

25 Q You know that farmers using it sit up in a

1 tractor and they've got what are called booms that go  
2 outside the tractor and they spray the field.

3 Do you know that?

4 A What I know is that more than half of the  
5 participants in the Agricultural Health Study used no  
6 personal protective equipment in their professional  
7 role.

8 Q We've heard that. I'm just saying. Do you  
9 know those farmers use a boom to spray it?

10 They don't do it like in your little picture  
11 there and go down the crop rows with a sprayer, do they?

12 A I think there's both happening.

13 Q You believe that people out there spraying  
14 acre, upon acre, upon acre, you drive through Southern  
15 Illinois, you go through western Missouri, there are  
16 farmers out there spraying by hand their crops?

17 A That's what they -- what the scientific  
18 published evidence is, is that there are more than half  
19 of these professional applicators that are doing so  
20 without personal protection, yes.

21 Q Okay. We hear you.

22 Back to my question. You don't know what's in  
23 the bottle of Roundup Ready-to-Use?

24 A No. I can't list the full ingredients and  
25 percentages with precision.



1 Q You don't know what carcinogens are in a  
2 bottle; right?

3 A I don't know what chemicals are in a bottle.

4 Q You've not looked at any internal Monsanto  
5 documents, have you?

6 A No, sir.

7 Q You have no idea what Monsanto inside the  
8 company thinks about Roundup and human cancer, do you?

9 A What I know is the published scientific  
10 evidence on the question.

11 Q So you don't have any idea what Monsanto's  
12 internal scientists, they got degrees too, have said  
13 about formulated Roundup?

14 A What I know is what the published scientific  
15 literature says about formulated Roundup.

16 Q You know that arsenic is a carcinogen; right?

17 A Potentially.

18 Q Arsenic's found in cigarette smoke, isn't it?

19 A I'm not sure.

20 Q Don't even know?

21 A I believe.

22 Q 1,4-dioxane is a human carcinogen; right?

23 A I don't know a lot about that specific  
24 chemical.

25 Q Ethylene oxide is a human carcinogen; correct?

1           A       There is some inconsistency but many do  
2 believe so.

3                   And yet that's an interesting chemical,  
4 because it's one that's actually made by our bodies  
5 naturally during normal metabolism. It's an interesting  
6 example.

7           Q       Our bodies actually make it, but our bodies  
8 don't make enough of it to kill us, right, or cause  
9 cancer?

10          A       I'm just saying it's literally a byproduct and  
11 a lot of us are making it.

12          Q       You know people are getting exposed to  
13 ethylene oxide from places where they are  
14 decontaminating surgery equipment, don't you?

15          A       I believe it's used in some facilities that  
16 clean surgical equipment, yes.

17          Q       Yeah. And the EPA is looking into that, and  
18 you know about the EPA; right?

19          A       Yes, I know about the EPA.

20          Q       Okay. Formaldehyde is a -- is a human  
21 carcinogen. We can agree on that, can't we?

22          A       We can, yes.

23          Q       Do you know it's in a bottle of Roundup?

24          A       I don't know either way.

25          Q       Have you ever heard of a substance called NNG?

1 A Not that I know of.

2 Q How about NNN?

3 A Not that I know of.

4 Q Do you know whether or not cigarettes have  
5 N-nitro salines in them, cigarette smoke?

6 A No, I do not.

7 Q Have you heard of a chemical with the acronym  
8 AMPA, A-M-P-A?

9 A I believe so.

10 Q That's a known carcinogen; right?

11 A I'm not sure.

12 Q Have you looked at any dermal studies that  
13 Monsanto did to see if glyphosate or formulated Roundup  
14 could get into human beings' skin?

15 A No. Again, I've looked at the published  
16 scientific literature.

17 Q Have you seen the studies of the Mexican  
18 children in villages in Mexico that have been sprayed  
19 with glyphosate and that every child in the village has  
20 glyphosate in their urine?

21 A I'm not sure which paper you're referring to.

22 Q You never read that?

23 A I said I'm not sure.

24 Q Have you read the CDC study on glyphosate in  
25 the urine of almost every American in the United States?

1 A I'm not sure.

2 Q Would you agree that randomness is random?

3 A That's a funny question.

4 Q It is a funny question; right? I mean,  
5 randomness is by definition random?

6 A I can't argue with that. It's a truism.

7 Q You're not aware of a single scientific  
8 organization in the whole wide world that classifies  
9 randomness as a risk factor for any cancer; right?

10 A We don't think about it in those terms. It's  
11 a matter of understanding the actual cause of cancer.  
12 One doesn't talk about the way our systems are built as  
13 a risk factor. In this case it's just the reason why.

14 Q Well, Dr. Tomasetti, your opinion of  
15 randomness is what causes the cancer; right?

16 A Sorry.

17 Q That's the biggest risk factor that you say we  
18 have?

19 A You're confusing risk factors and causes. My  
20 statement was that it's that replicative error that is  
21 the actual cause of the cancer.

22 Q Okay. If randomness is randomness, then it  
23 cannot be random by definition if it's due to nothing  
24 but chance or bad luck, right.

25 A I don't understand your question. I

1 apologize.

2 Q I don't understand your testimony. Maybe  
3 that's why you don't understand my question.

4 MR. BROWN: Objection, your Honor.

5 THE COURT: Sustained.

6 Ask a question, Mr. Frazer.

7 BY MR. FRAZER:

8 Q The very definition of randomness is that  
9 something occurs without any explanation; right?

10 A Random replicative errors is specifically  
11 referring to those errors that happen during the copying  
12 of our DNA.

13 Q Without any explanation?

14 A The occurrence of it is unpredictable. That's  
15 what randomness means. We understand why these errors  
16 happen. The errors happen because our DNA copying  
17 systems, while excellent, extraordinary, are imperfect.

18 Q To use your phrase, when you roll the dice,  
19 whatever those dice come up with, if you roll them two,  
20 is random; right?

21 A Yes, rolling dice is random.

22 Q It's kind of circular reasoning. If something  
23 is random because it's random, therefore, it's random?  
24 That's really what you're saying; right?

25 A I disagree.

1 Q Okay. Would it be fair to say if there was a  
2 nonprofit organization or cancer center that was  
3 collecting money to do research projects on determining  
4 the cause of non-Hodgkin's lymphoma, you would say don't  
5 give them a penny?

6 A Can you repeat your question?

7 Q If there was a nonprofit organization or  
8 medical center or pediatric cancer facility or adult  
9 cancer facility or Siteman Center that was trying to  
10 raise money to determine the cause of non-Hodgkin's  
11 lymphoma, your position and Dr. Tomasetti's position  
12 would be don't waste your money because it's all due to  
13 replication error; right?

14 A No, that's not true. First -- and there's a  
15 couple reasons why.

16 The first is that you're speaking about  
17 non-Hodgkin's lymphoma as this single clinical entity  
18 and, as I've tried to explain, that's not true. And  
19 I've given you examples today of specific types of  
20 non-Hodgkin's lymphoma that do have causes other than  
21 random replicative error.

22 The stomach lymphoma caused by the H. pylori  
23 bacteria. There's others. There's a form of T-cell  
24 lymphoma called ATLL. It's adult T-cell lymphotropic  
25 leukemia lymphoma. It's a mouthful. It's caused by a

1 specific virus called HTLV-1 that can be passed from  
2 mother to child.

3 We know that there are certain types of  
4 lymphomas that do have causes other than random  
5 replicative error. And preventing lymphoma remains an  
6 important mission when we can do so.

7 Q Let me rephrase the question. Those are known  
8 other causes, these viruses that you mentioned, right,  
9 or bacteria?

10 A Those two examples have been established, yes.

11 Q You're getting off into other subtypes that  
12 have nothing to do with John Durnell; right?

13 A Your question, as I understood it, was is it  
14 worthwhile to study lymphoma, and I'm trying to give you  
15 examples of how, yes, that work has led to progress in  
16 my field by doing such research.

17 Q Let me put it this way. You would think it  
18 would be a total waste of money for any cancer facility  
19 or group of people to raise money to try to determine  
20 whether or not Roundup causes cancer in human beings  
21 that is non-Hodgkin's lymphoma. That's a waste of  
22 money?

23 A It's a question that already has been answered  
24 definitively by the science.

25 Q I didn't ask -- that wasn't my question. My

1 question is it's a waste of money to do that. In your  
2 opinion.

3 A To have done that.

4 Q In your opinion.

5 A No, I'm glad that the research was conducted.  
6 It's allowed us to be able to be here and be able to  
7 refer to the science and the evidence so that we can  
8 have consequence that in fact it's not causing lymphoma.  
9 It's particularly important research to have been  
10 conducted, and I'm grateful for it.

11 Q Well, we can agree that all older white males  
12 do not get non-Hodgkin's lymphoma. I hope the answer is  
13 no, because I'm an older white male.

14 A You and me both.

15 Q I'm a lot older than you.

16 But that answer is no? We all --

17 A Of course.

18 Q Okay. And we all don't use Roundup either, do  
19 we?

20 A True.

21 Q We can agree that people get randomly exposed  
22 to formulated Roundup every day based up those urine  
23 studies; right?

24 A I'm not sure.

25 Q Well, not everybody in America is spraying



1 Roundup, are they?

2 A No.

3 Q We can agree that folks can randomly walk into  
4 an Ace hardware store and randomly decide to buy a  
5 gallon of Roundup Ready-to-Use; correct?

6 A That wouldn't be a random decision.

7 Q Okay. People can use choose to randomly go  
8 home and spray their property and their cracks in their  
9 sidewalks and the cracks in their driveways; right?

10 A I think you and I are using the word "random"  
11 very differently.

12 Q Okay. Have you seen any of the parks that  
13 Mr. Durnell sprayed?

14 A I've seen the photographs that were included  
15 in the deposition materials.

16 Q Did you see that there were, on some of them  
17 had children's playground equipment?

18 A I don't remember that.

19 Q Have you seen any studies that Monsanto did to  
20 determine how people are getting glyphosate in their  
21 urine in America?

22 A If the question, as I understand it, if I  
23 reviewed any internal studies within Monsanto, the  
24 answer is no, I have not.

25 Q Have you seen any study that Monsanto did

1 that's -- where they paid to have an epidemiology study  
2 done?

3 A No, I haven't reviewed any Monsanto-conducted  
4 research.

5 Q Have you reviewed any of the Monsanto  
6 documents on a laboratory called IBT?

7 A Not that I'm aware of.

8 Q Have you heard of a Monsanto expert named Dr.  
9 Parry?

10 A Not that I'm aware of.

11 Q Do you know anything about Dr. Parry's  
12 recommendations to Monsanto back in 2000?

13 A No.

14 Q Have you seen any of the documents regarding  
15 the IARC decision before IARC met and after IARC met and  
16 Monsanto's reaction to it?

17 A You mean documents that would be internal to  
18 Monsanto?

19 Q Yes, sir.

20 A No, sir.

21 Q Have you ever met with Donna Farmer?

22 A No, sir.

23 Q Have you ever met with William Heydens, Bill  
24 Heydens?

25 A Spell the last name.

1 Q H-e-y-d-e-n-s.  
2 These are all Monsanto people. I'm sorry.  
3 A Thank you.  
4 No, not that I'm aware of.  
5 Q Have you met with any Monsanto employees?  
6 A Not that I'm aware of.  
7 Q How often have you been to St. Louis in  
8 connection with your testimony?  
9 A This is my first time in St. Louis with regard  
10 to this testimony.  
11 Q First time ever in St. Louis?  
12 A No. No, sir.  
13 Q You've been here before on pleasure or  
14 conferences, something like that?  
15 A Yeah. I like to go to different ballparks  
16 with my dad and my brother.  
17 Q I'm was to ask you about that. Are you a  
18 Yankees or Mets guy?  
19 A Tigers.  
20 Q Tigers. Did you grow up in Detroit?  
21 A Yes, sir, I did.  
22 Q I actually got to go to the old Tiger stadium  
23 one time. It was --  
24 A It's a beautiful place.  
25 Q -- quite a place. It was a long time ago.

1           So I got off on baseball. Now I'm thinking of  
2 the playoffs, so I got to -- I've got to regear here.

3           Have you ever looked at the EPA study as part  
4 of your analysis in this case, which was the revised  
5 glyphosate issue paper, evaluation of carcinogenic  
6 potential, EPA's Office of Pesticide Programs December  
7 12th, 2017?

8           A     Yes, sir.

9           Q     You've looked at that?

10          A     Yes, sir.

11          Q     That's D25.

12          MR. FRAZER: Do we have that one?

13          THE COURT: Somewhere.

14          Do you want me to find it, Mr. Frazer?

15          MR. FRAZER: I've got one for the witness.

16          THE WITNESS: Thank you, sir.

17 BY MR. FRAZER:

18          Q     Is that the study we're talking about?

19          A     I believe so.

20          Q     Let me ask you this first question. Do you  
21 see there's a bunch of studies that are attached?  
22 There's a reference page, and then there's a big long  
23 reference, study pages in the way back.

24          Do you see all that?

25          A     I see you showing it to me, yes. Yes, I see

1 references and some appendices after that.

2 Q Dr. Tomasetti's article doesn't appear  
3 anywhere in there, does it?

4 A Pardon me?

5 Q Dr. Tomasetti's article does not appear  
6 anywhere in this document?

7 A Not that I'm aware of.

8 Q Not his 2015 article and not his 2017 article;  
9 correct?

10 A No, it isn't.

11 Q All right. Glad we got that straight.

12 Do you have any idea how much glyphosate is  
13 used in the U.S. in the agricultural market as compared  
14 to the Roundup Ready-to-Use market that folks like Mr.  
15 Durnell are exposed to do?

16 A I haven't seen any summary statistics on that  
17 question, no.

18 Q Would it surprise you that it's less than 1  
19 percent for Roundup Ready-to-Use lawn and garden  
20 products?

21 A It would neither surprise me or not surprise  
22 me. I just don't know.

23 Q Don't know.

24 Do you know how many millions of pounds of  
25 glyphosate are used?

1           A       I had that slide where I had some of the EPA  
2 data regarding glyphosate use.

3           Q       Well, you've got it out of page 17, which is  
4 D25.21 of Defense Exhibit 25; right?

5           A       Thank you for helping me find it. Yes, sir.

6           Q       That's where you got it from; right?

7           A       Correct.

8           Q       You know what happened in the early '90s in  
9 terms of genetically modified seeds and the rise of  
10 glyphosate use in the agricultural market in the U.S.?

11           MR. BROWN: Objection, your Honor. Beyond the  
12 scope of direct examination.

13           THE COURT: I'll overrule it. He can answer  
14 if he knows the answer.

15           THE WITNESS: I understand that there's been  
16 changes in agriculture that have generated  
17 different types of crop strains, but I'm not  
18 certain of the specifics.

19 BY MR. FRAZER:

20           Q       Well, I mean, the little exercise you did on  
21 direct, you took this chart right here; right? This is  
22 the one you used, the one at the top; am I right?

23           A       Yes, sir.

24           Q       Or somebody took it, I don't know if you did.  
25 But somebody on the Monsanto team took it and then you

1 put another chart up that looked at the incidence of  
2 non-Hodgkin's lymphoma in the United States; right?

3 A Correct.

4 Q And what you wanted to do is put one over the  
5 other and create the appearance that look at all this  
6 big Roundup use and non-Hodgkin's lymphoma only goes up  
7 about 50 percent, it doesn't go up as high as the  
8 glyphosate use; right?

9 That's why you did that?

10 A That's a mischaracterization of the data that  
11 I shared with you. Over the two decades non-Hodgkin's  
12 lymphoma rates were flat.

13 Q You actually compacted it to get it even  
14 flatter; right? You compacted. You ignored your own  
15 data, didn't you?

16 You didn't start it back in 1987? You moved  
17 it as far as you could to get a ten-year period to make  
18 it look like it was even less of a rise of an incidence  
19 of NHL in the United States; right?

20 MR. BROWN: Objection. That is not accurate  
21 at all.

22 THE COURT: I'll say it was about five  
23 different questions. So I'm going to have you  
24 re-ask a question that he can answer.

1 BY MR. FRAZER:

2 Q Well, let's look at your slide. I didn't make  
3 up these slides. You did; right?

4 Am I right?

5 A Yes, sir.

6 MR. FRAZER: Something is not working here.

7 Lamp?

8 THE COURT: He's on his way.

9 BY MR. FRAZER:

10 Q All right. You see that?

11 A Yes, sir.

12 Q That was your slide; right?

13 A Yes.

14 Q You didn't create this slide, though, do you?

15 A I modified it. I worked on it, yes, sir.

16 Q You modified it. Somebody else created it and  
17 you modified it?

18 A Drafted, yes.

19 Q What did you modify in there?

20 A I don't remember specifically with this slide.

21 Q Well, there are just two charts, aren't they?

22 A Yes.

23 Q So what did you modify?

24 A It may have just been formatting, the size of  
25 the picture.



1 Q The size of the picture?

2 A Yeah.

3 Q That was your contribution?

4 A Not the data. The data are drawn from  
5 scientific literature.

6 Q Okay. Now, you know from -- you said you  
7 relied on the EPA; right? You said that?

8 A In part, yes.

9 Q Yeah. You know that in the EPA document,  
10 Defense Exhibit 25, that glyphosate use tracked the  
11 agricultural use due to the genetically modified seeds  
12 that were being put out in the farm country; right?

13 You know that, don't you, sir?

14 A What I show --

15 Q I don't have to convince you of that?

16 A What I show you here is the usage over time.  
17 That's absolutely right.

18 Q And if we look -- and let's go back to D25, to  
19 the map of the United States of America.

20 If we -- can you bring that up?

21 You've seen this before?

22 A Yes, sir.

23 Q The rise in glyphosate use is what you would  
24 describe as farm country; right?

25 A This doesn't show rise, but it shows estimated

1 use in a largely less urban center. So certainly not  
2 exclusively.

3 Q Sir, it literally says, "Estimated use on  
4 agricultural land in pounds per square mile"; right?

5 A Yes, sir.

6 Q It doesn't say anything about Roundup  
7 Ready-to-Use being used in St. Louis, Missouri, in a  
8 place called Soulard Park, does it?

9 A No, sir.

10 Q So this is all agricultural use?

11 A For this one picture that you're showing me  
12 yes.

13 Q So you understand that your graph that you  
14 did, or did your editing or whatever the modification  
15 to, was a graph based upon agricultural use?

16 A I have to review the data for that graph. If  
17 I can just have a moment.

18 Yes. It was agricultural use.

19 Q Agricultural land.

20 So the use that was going up, so you could  
21 plot that against the NHL in the country, was  
22 agricultural use; right?

23 A Yes, sir.

24 Q Yeah. It wasn't millions and millions and  
25 millions and millions and millions of pounds of

1 glyphosate that were being used in a Roundup  
2 Ready-to-Use lawn and garden situation; right?

3 A That's correct.

4 Q And let's just take the Agricultural Health  
5 Study that said approximately 50 percent of farmers  
6 never wore PPE have used glyphosate-based herbicides.  
7 We'll just accept that. Okay? We'll accept that, that  
8 there's 50 percent of all farmers never used PPE.

9 Okay? We'll accept that.

10 A Okay.

11 Q 50 percent do, though; right?

12 A In some form or other.

13 Q You're not aware of any PPE that Roundup  
14 Ready-to-Use lawn and garden people are told to wear,  
15 are you?

16 A I'm not sure.

17 Q You don't know whether the rise or nonrise of  
18 NHL in the United States of America over that period  
19 that you plotted in your slide had anything to do with  
20 Roundup Ready-to-Use users getting non-Hodgkin's  
21 lymphoma; right?

22 A As you just showed us, again, it's not rise or  
23 nonrise. It's a completely flat rate of lymphoma in  
24 this country.

25 Q Well, Dr. Tomasetti said it was a rise of

1 about 50 percent over a 50-year period.

2 Do you disagree with him?

3 A And yet over the last 20 years it's been  
4 static.

5 Q The last 50 years is what we're talking about.

6 A I can't quote 50-year statistics off the top  
7 of my head.

8 Q Do you know how long Roundup has been on the  
9 market?

10 A In some formulation or other, I think since  
11 the '70s.

12 Q Since 1975. That's about 50 years ago, isn't  
13 it?

14 A Yes.

15 MR. FRAZER: That might be a good stopping  
16 place for the break, your Honor.

17 THE COURT: We'll take our afternoon break,  
18 folks.

19 Do not form or express any opinions about the  
20 case until it's given to you to decide. Don't  
21 research any issues on the case or talk to anyone  
22 about the case. We'll come back after our  
23 afternoon break.

24 (Recess taken.)

25 THE COURT: Welcome back. Once again, I'll

1 turn it back over to Mr. Frazer.

2 MR. FRAZER: Your Honor, you'll be pleased.  
3 I've only got a few questions left, hopefully.

4 THE COURT: I'll believe it when I hear, Mr.  
5 Frazer.

6 MR. FRAZER: Well deserved, your Honor. Well  
7 deserved.

8 Good afternoon, ladies and gentlemen. Your  
9 Honor, may it please the Court.

10 THE COURT: It may.

11 MR. FRAZER: Learned counsel, good afternoon.

12 BY MR. FRAZER:

13 Q And, Dr. Matasar, good afternoon again, sir.

14 A Okay.

15 Q I just got a few questions to try to wrap up a  
16 few things.

17 The graph that we saw on your slide which  
18 shows Roundup usage growing that we just talked about,  
19 the agricultural use growing, and incidence of NHL, the  
20 Roundup use growing doesn't necessarily mean that more  
21 people were using Roundup. It just means that a lot of  
22 Roundup was being used; right?

23 A That's true.

24 Q And over a 20-year period in this country, you  
25 would agree that the actual number of farmers, if we

1 believe the news these days, has gone down over time.  
2 Family farms have gone away; right?

3 A I listen to the news as you do, but I don't  
4 know any numbers around farming.

5 Q It's entirely possible that over a 50-year  
6 period in America, or just going back to 1995 when GMO  
7 seeds started coming out, that the actual people using  
8 Roundup, even in agricultural situations, has gone down.

9 That's possible; right?

10 A Yeah, I don't know.

11 Q Have you had any patients come to you who were  
12 veterans of the United States Marine Corps?

13 A Yes, sir.

14 Q Who were stationed at Camp LeJeune and got  
15 cancer from drinking water at Camp LeJeune?

16 MR. BROWN: Objection, your Honor. Beyond the  
17 scope.

18 THE WITNESS: I do not think so.

19 THE COURT: He answered the question.

20 THE WITNESS: I haven't had any patients who  
21 told me that they were at Camp LeJeune.

22 BY MR. FRAZER:

23 Q Have you treated any Persian Gulf Iraqi War or  
24 Afghan War veterans who were exposed to toxic substances  
25 when they were giving their service for our country?

1           A       I have taken care of veterans who served in  
2 those war zones.

3           Q       And have you seen non-Hodgkin's lymphoma in  
4 those veterans?

5           A       If I'm seeing them it's because they have  
6 lymphoma, yes.

7           Q       And is their non-Hodgkin's lymphoma part of an  
8 environmental exposure?

9           A       I talked to those patients, as I would talk to  
10 any of my patients, try to understand their own personal  
11 risks and exposure is part of that, and I will tell  
12 patients, you know, if you had potential exposure as  
13 part of your military service, then you need to pursue  
14 appropriate remedies.

15          Q       Yeah, like the radiation bullets that some of  
16 our service people have been exposed to; right?

17          A       Uh-huh.

18          Q       The fires where they had to burn all their  
19 stuff and they were exposed to whatever was toxic in the  
20 smoke; right?

21          A       I've heard descriptions of fire pits, yes.

22          Q       Yeah, the fires.

23                   And in those instances, non-Hodgkin's lymphoma  
24 would have an environmental component to it; correct?

25          A       In some cases, yes.

1 Q Now, we can agree that -- well, strike that.  
2 I'm going to save that for last.

3 I want to look at just a couple more of your  
4 slides.

5 Ed, do you have his slide show still up? This  
6 is the one I'm looking for. They're not numbered.

7 THE COURT: It's down kind of on the left  
8 side, real light.

9 MR. FRAZER: Wow, Judge, you have good eyes.

10 THE COURT: I was told it was there.

11 BY MR. FRAZER:

12 Q By the way, do you have a cell phone on you?

13 A I do by I think my notifications are off.

14 Q I'm not saying that.

15 Do you have a calculator on your cell phone?

16 A Yes, sir.

17 Q Would you mind pulling that out.

18 How many people are in the world?

19 The last time I looked it was 7.89 billion  
20 people; is that fair?

21 A I don't know. I believe you.

22 Q You believe that, 7.89 billion?

23 Do you know how many people live in the United  
24 States?

25 A It's hundreds of millions, but I don't know



1 the precise number.

2 Q Hundreds of millions?

3 A Yes.

4 Q The figure I have is 334 million.

5 Is that fair?

6 A I believe you.

7 Q All right. I want you to do some math for us.

8 Because in this slide you say there are 500,000 new  
9 cases of non-Hodgkin's lymphoma per year worldwide;  
10 right?

11 A Diagnosed and contained within registries,  
12 yes.

13 Q That's your number?

14 A Yes, sir.

15 Q On your slide; right?

16 A Yes, sir.

17 Q And then you say there are 80,550 new cases of  
18 non-Hodgkin's lymphoma in the United States of America  
19 every year?

20 A Diagnosed and contained within our registries,  
21 yes.

22 Q All right. Tell us, use your calculator,  
23 unless you -- you might be like Dr. Tomasetti and be  
24 able to do this in your head. I don't know. I don't  
25 want to -- I couldn't do it.

1           But what percentage of the 500,000 cases  
2 worldwide are the 80,550 new cases of non-Hodgkin's  
3 lymphoma in the United States?

4           A     So I could do the math in terms of those cases  
5 that are diagnosed and tracked in available cancer  
6 registries.

7           Q     The math, you take the small number and divide  
8 the big number into it; right? I think I remember that  
9 from high school.

10          A     No, it's the small over the small plus the  
11 big. No, that is probably contained within -- so small  
12 over the big. Yeah.

13                   It's 16.1 percent.

14          Q     16.1 percent.

15                   So the U.S. has 16.1 percent of all new  
16 non-Hodgkin's lymphoma cases worldwide; right?

17          A     That are diagnosed and tracked within  
18 available cancer registries, yes.

19          Q     Okay. Now, if we take the worldwide  
20 population, I'll represent to you it's 7.89 billion.

21                   Can you do this on your math?

22          A     I'll try.

23          Q     What is the U.S. population as a percentage of  
24 the worldwide population.

25          A     You said it was 300?

1 Q 334 is what I wrote down from Google Scholar,  
2 to use Dr. Tomasetti's term.

3 A Google Scholar is a wonderful tool.

4 And you said the global population you wanted  
5 me to use was?

6 Q 7.89 billion.

7 A My little calculator gives me approximately  
8 4.2 percent.

9 Q 4.2 percent?

10 A Yes.

11 Q So the U.S. population as a total of the world  
12 population is 4.2 percent, but the U.S., the U.S. has  
13 16.1 percent of all non-Hodgkin's lymphoma in the world?

14 A No.

15 Q No?

16 A No.

17 Q That's on your list right here.

18 A And I've clarified each time you asked to say  
19 for the diagnoses that are contained in cancer  
20 registries. The world has a lot of the countries in it  
21 that track their cancer diagnoses incidence data very  
22 differently.

23 So this is the available public data, but it's  
24 not in any way believed to be a representation of the  
25 total lymphoma in the world.

1 Q So you're being critical of the own data that  
2 you use? Is that what you're telling this jury?

3 A I'm telling you that there's limitations to  
4 it. Absolutely right.

5 Every scientist has to understand the flaws of  
6 their own data.

7 Q If your data is correct as we see on this  
8 slide, we've got a worldwide percentage population of  
9 4.1 percent in the U.S. and we've got 16.1 percent of  
10 non-Hodgkin's lymphoma; right?

11 A Yeah.

12 Q If your numbers are right?

13 A That's how that math works, yes.

14 Q Okay. All right. Let's look at -- I can't  
15 see the number on this. There we go. Actually do the  
16 ELMO on this one.

17 I'll show the slide. Show the slide real  
18 quickly, because I want them to see it without --

19 This was a slide that you put up on how cancer  
20 happens; right?

21 A To try to describe that, yes.

22 Q Let's switch to the ELMO, please.

23 You see my little green highlight there? It's  
24 not very fancy, but it's there.

25 A I don't. Can you help me?

1 Q Right here.

2 A The green one?

3 Q You see that?

4 A Yes, sir.

5 Q That's where -- that's the moment before  
6 mutation occurs; right?

7 A As shown in this cartoon, yes.

8 Q And if we were putting glyphosate in a cell,  
9 an animal cell, a sea urchin study, and we're looking at  
10 it under the microscope and it caused a mutation, you  
11 would see that drop of glyphosate fall into the petri  
12 dish and we would see a mutation that would occur next;  
13 right?

14 A For me, that falsely assumes that there's  
15 scientific evidence that glyphosate causes mutations  
16 that lead to cancer.

17 Q You don't doubt cell studies by scientists all  
18 over the world that when they dropped a drop of  
19 glyphosate or formulated Roundup on an animal cell that  
20 they observed a mutation under a microscope?

21 You don't doubt that, do you?

22 A Yes, I do.

23 Q You do?

24 A There's evidence of genotoxicity of that cell,  
25 of the DNA damage, but not evidence that it causes

1 mutations that can lead to cancer.

2 Q So these scientists just made that up?

3 A I disagree with your interpretation of their  
4 work.

5 Q All right. We can agree -- oh, one more  
6 thing. Show you one study I forgot to show you earlier.

7 A Thank you.

8 Q My question to you is have you seen this study  
9 before?

10 A No, I have not, sir.

11 Q You haven't seen this one?

12 A No, sir.

13 Q It's by the same Gabriella Andreotti, a study  
14 that you're relying on?

15 A It's by the same author that was the lead  
16 author in one of the manuscripts I shared today, yes.

17 Q Got Aaron Blair's name in it?

18 A I see that.

19 Q Got a guy named Charles Lynch. He's with the  
20 EPA?

21 A I see that.

22 Q And the title of it is Occupational Pesticide  
23 Use and Risk of Renal Cell Carcinoma in the Agricultural  
24 Health Study; right?

25 A I see that.

1 Q And the date that this was published was June  
2 12th, 2020, down there at the left?

3 A I see that as well.

4 Q Thank you, sir.

5 We agree that for decades that the tobacco  
6 industry said cigarette smoking doesn't cause cancer;  
7 right?

8 A Yes, sir.

9 Q The tobacco companies said don't look at  
10 animal studies at all because animals aren't people;  
11 right?

12 A I don't know what their positions were, to be  
13 honest.

14 Q The tobacco companies --

15 MR. BROWN: Your Honor, if we may approach  
16 briefly.

17 Sorry to interrupt, Counsel.

18 (Counsel approached the bench and the  
19 following proceedings were had:)

20 THE COURT: Who am I getting argument from?

21 Hold on. Ms. Cook?

22 MS. COOK: Yes.

23 THE COURT: Ms. Cook.

24 MS. COOK: We have an agreed motion in limine,  
25 D26, to references to the tobacco industry that Mr.

1 Frazer just violated.

2 So we would request that his testimony -- by  
3 what I mean is his questions that were testimony be  
4 stricken and that the jury be asked to disregard.

5 MR. FRAZER: They talked about on direct, they  
6 talked about cigarette smoking at length and lung  
7 cancer.

8 MS. COOK: The motion is on the tobacco  
9 industry.

10 MR. FRAZER: That's who makes cigarettes.

11 THE COURT: Here's what I'll say. I won't  
12 strike the questions. I'll let the question stand,  
13 but based on your agreed-to motion in limine, and I  
14 know this might be your grand finale, but I'll ask  
15 you to move on, and leave the answers stand as they  
16 are.

17 MS. COOK: Thank you.

18 (Proceedings resumed in open court.)

19 BY MR. FRAZER:

20 Q It would be fair to say that every study in  
21 the scientific literature that Monsanto does not like in  
22 what it says about glyphosate and/or about Roundup  
23 formulated, those are the studies you've thrown out of  
24 your analysis?

25 A I don't think about things in terms of who



1 likes or doesn't like science. I look at the science  
2 based on the quality of the conducted research, and I've  
3 tried to be as clear and explicit as to my methodology  
4 and to how I evaluate the quality of the science with  
5 you here today.

6 Q Those are the studies you've thrown out, every  
7 study that Dr. Aronson and Dr. DeGrandchamp and Dr.  
8 Spaeth relied upon; right?

9 A I don't throw out studies. I evaluate  
10 studies. And I pointed out some of the challenges with  
11 the earlier research that limit their reliability.

12 Q You've thrown out the entire IARC report and  
13 findings that glyphosate is a probable human carcinogen;  
14 correct?

15 A I don't throw out anything, neither papers nor  
16 monographs. I performed a weight-of-the-evidence  
17 analysis, including looking at IARC's review, as have  
18 many others, including the EPA and other regulatory  
19 agencies arriving at the same conclusion.

20 Q You threw out the 96 scientists letter that  
21 came out in support of the IARC finding of glyphosate as  
22 a probable human carcinogen; correct, sir?

23 A I still say that I don't throw anything out.  
24 I evaluate the science and I arrive at scientific  
25 conclusion.

1           Q     Have you ever heard of a saying by a famous  
2     Missourian named Mark Twain about lies?

3           A     You'll have to refresh me.

4           Q     Do you remember that Mark Twain said there are  
5     three kinds of lies?

6           A     I do know this one.

7           Q     Lies, damn lies, and statistics; right?

8           A     Yes.

9           MR. BROWN: Your Honor, objection.

10          THE COURT: It's been asked and answered.

11          Do you have anything else, Mr. Frazer?

12          MR. FRAZER: No further questions.

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