

# **Exhibit 6**

1 UNITED STATES DISTRICT COURT  
2 NORTHERN DISTRICT OF CALIFORNIA

3 IN RE: ROUNDUP PRODUCTS MDL No. 2741  
4 LIABILITY LITIGATION Case No. 16-md-02741-VC

5 \_\_\_\_\_  
6 This document relates to:

7 ALL ACTIONS  
8 \_\_\_\_\_/

9  
10 DEPOSITION OF CHARLES W. JAMESON, Ph.D.

11 Pages 1 through 122

12 Videotaped

13 Wednesday, January 10, 2018

14 9:03 a.m. - 12:35 p.m.

15 Four Points by Sheraton

16 13600 Treeline Avenue South

17 Fort Myers, Florida

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22  
23 Stenographically Reported by:

24 Donna L. Peterson, RDR, CRR

Registered Diplomat Reporter

Certified Realtime Reporter

25 Job No. 135911

Page 2

1 APPEARANCES:  
 2  
 3 On Behalf of the Plaintiffs:  
 4 Andrus Wagstaff Attorneys At Law  
 5 7171 West Alaska Drive  
 6 Lakewood, Colorado 80226  
 7 BY: AIMEE WAGSTAFF, ESQUIRE  
 8  
 9 On Behalf of the Defendant Monsanto Company:  
 10 Hollingsworth  
 11 1350 I Street, N.W.  
 12 Washington, DC 20005  
 13 BY: JOE HOLLINGSWORTH, ESQUIRE  
 14 HEATHER PIGMAN, ESQUIRE  
 15  
 16 Also Present:  
 17 Jeff Menton, videographer  
 18  
 19  
 20  
 21  
 22  
 23  
 24  
 25

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1 I N D E X  
 2  
 3 WITNESS PAGE  
 4 CHARLES W. JAMESON, Ph.D. 5  
 5 DIRECT EXAMINATION BY MR. HOLLINGSWORTH 5  
 6 CROSS-EXAMINATION BY MS. WAGSTAFF 102  
 7 REDIRECT EXAMINATION BY MR. HOLLINGSWORTH 117  
 8 CERTIFICATE OF OATH 120  
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 10 ERRATA SHEET 122  
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 12 E X H I B I T S  
 13 (Attached)  
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 15 NUMBER DESCRIPTION PAGE  
 16 Exhibit 27-1 One-page article, NIH, 7  
 17 Agricultural Health Study  
 18 Exhibit 27-2 Monograph on malathion 15  
 19 Exhibit 27-3 Heltshe article "Using  
 20 multiple imputation to  
 21 assign pesticide use for  
 22 non-responders in the  
 23 follow-up questionnaire in  
 24 the Agricultural Health  
 25 Study" 26  
 Exhibit 27-4 Andreotti paper titled, 37  
 "Glyphosate Use and Cancer  
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 Exhibit 27-5 5/16/17 letter to Ms. Pigman 50  
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 Exhibit 27-8 Two pages, e-mails between 110  
 Heather Pigman and Robin  
 Greenwald

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1 Deposition taken before Donna L. Peterson,  
 2 Registered Diplomate Reporter and Notary Public in and  
 3 for the State of Florida at large in the above cause.  
 4 -----  
 5 THE VIDEOGRAPHER: This is the start of video  
 6 media disc one of the videotaped deposition of  
 7 Charles W. Jameson, Ph.D.  
 8 Please note, the microphones are very  
 9 sensitive. Be aware that they can pick up  
 10 whispering and conversations not intended for the  
 11 record. Additionally, please turn off your cell  
 12 phones or place them away from the microphones as  
 13 they can interfere.  
 14 This is the matter of In Re: Roundup Products  
 15 Liability Litigations, in the United States District  
 16 Court, Northern District of California, Case No.  
 17 16-md-02741-VC. This deposition is being held at  
 18 the Four Points by Sheraton in Fort Myers, at  
 19 13600 Treeline Avenue South, Fort Myers, Florida.  
 20 Today is January the 10th, 2018. The time is  
 21 approximately 9:05 a.m.  
 22 My name is Jeff Menton. I am the certified  
 23 legal video specialist from TSG Reporting,  
 24 headquartered at 747 Third Avenue, New York. The  
 25 court reporter is Donna Peterson, also in

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1 association with TSG Reporting.  
 2 Would counsel please introduce yourselves and  
 3 state whom you represent, starting with the noticing  
 4 attorney. And then will the court reporter please  
 5 swear the witness in.  
 6 MR. HOLLINGSWORTH: I am Joe Hollingsworth,  
 7 Hollingsworth LLP, in Washington. And we represent  
 8 Monsanto Company.  
 9 MS. PIGMAN: Oh, Heather Pigman from  
 10 Hollingsworth also representing Monsanto.  
 11 MS. WAGSTAFF: Aimee Wagstaff from Andrus  
 12 Wagstaff in Denver, Colorado, representing  
 13 plaintiffs, MDL plaintiffs.  
 14 THE REPORTER: Would you please raise your  
 15 right hand.  
 16 Do you swear or affirm the testimony you are  
 17 about to give will be the truth, the whole truth,  
 18 and nothing but the truth.  
 19 THE WITNESS: I do.  
 20 CHARLES W. JAMESON, Ph.D.  
 21 having been first duly sworn, was examined and testified  
 22 as follows:  
 23 DIRECT EXAMINATION  
 24 BY MR. HOLLINGSWORTH:  
 25 Q. Sir, you are aware that the AHS is the largest

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1 study in the world on farmers and their families, true?  
 2 A. The largest? To be honest with you, I don't  
 3 know for a fact that it is the largest study on farmers.  
 4 But it is a very large study, yes.  
 5 Q. You know that the AHS, the Agricultural Health  
 6 Study, was sponsored by the National Cancer Institute,  
 7 National Institute of Health, and NIEHS, National  
 8 Institute for Environmental Health Sciences, right?  
 9 A. The -- the AHS paper that was published with  
 10 the 2018 publication date lists the Cancer Institute and  
 11 NIEHS, the National Institute of Environmental Health  
 12 Sciences, as the funding source for the study, yes.  
 13 Q. Yeah. And if you look at the study itself, it  
 14 is entitled National Cancer Institute, 2018, Glyphosate  
 15 Use in Cancer Incidents, in the Agricultural Health  
 16 Study, true?  
 17 MS. WAGSTAFF: Object to form.  
 18 A. I would have to look at the paper to see what  
 19 it says. But my understanding is it does -- the  
 20 National Cancer Institute is not part of the title of  
 21 the paper.  
 22 Q. Okay. I will show you that in a minute. But  
 23 the -- the paper by -- that you are referring to is the  
 24 one with the lead author is Gabriella Andreotti?  
 25 A. That's correct.

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1 Q. The title of that paper is "Glyphosate Use and  
 2 Cancer Incidence in the Agricultural Health Study"?  
 3 A. Yes, that's -- to the best of my recollection,  
 4 that's the exact title, yes.  
 5 Q. And the Agricultural Health Study is something  
 6 that has sometimes been referred to in this case and in  
 7 your -- and in your reports in this case as the AHS,  
 8 right?  
 9 A. That's correct, yes.  
 10 Q. Are you aware --  
 11 MR. HOLLINGSWORTH: Can you hand me, please,  
 12 tab 21.  
 13 MS. WAGSTAFF: Are we going to start with 27?  
 14 Okay.  
 15 MR. HOLLINGSWORTH: 27-1.  
 16 MS. WAGSTAFF: Yeah.  
 17 (Exhibit 27-1 was marked for identification.)  
 18 Q. Sir, I have marked as an exhibit for this  
 19 deposition number -- as number 27-1, a one-page article  
 20 that I am handing to you and counsel.  
 21 A. Uh-huh.  
 22 Q. If you look -- look at the bottom -- strike  
 23 that.  
 24 Let me start out with what's at the top.  
 25 This is a -- this is -- this is actually a

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1 brief news article that's put out by the National  
 2 Institute of Environmental Health Sciences, and this one  
 3 happens to be about the AHS, and it's dated  
 4 December 29th, 2017.  
 5 Do you see that, sir? The date is down in the  
 6 right hand corner.  
 7 A. 2017 yes.  
 8 Q. And that is -- is that after you --  
 9 Is that date after you published your first  
 10 initial report in this case?  
 11 A. Okay. First initial report, what are you  
 12 referring to for that?  
 13 Q. I am referring to -- let's see. I am referring  
 14 to the expert report of Dr. Charles Jameson, Ph.D., in  
 15 support of general causation on behalf of plaintiffs.  
 16 That is dated May 12, 2017.  
 17 You are familiar with that, right?  
 18 MS. WAGSTAFF: And, Counsel, I will give you a  
 19 little leeway to talk about this expert deposition  
 20 that was his general initial deposition. But as you  
 21 know, this -- this deposition is very limited in  
 22 scope to the 2018 AHS study, and he is not prepared  
 23 to talk about the scope of his deposition that you  
 24 have -- or of the expert report that you have  
 25 deposited him on for eight hours already.

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1 MR. HOLLINGSWORTH: I am not going to ask him  
 2 many questions about that report.  
 3 MS. WAGSTAFF: Okay.  
 4 MR. HOLLINGSWORTH: But he has referred to it.  
 5 And he has referred to the Agricultural Health Study  
 6 in his supplemental report. I do have just a few  
 7 questions about it.  
 8 MS. WAGSTAFF: All right.  
 9 BY MR. HOLLINGSWORTH:  
 10 Q. So let's go back to Exhibit 1, sir. This is  
 11 the National Institute of Health -- Environmental --  
 12 Environmental Health Sciences publication on  
 13 December 29, 2017.  
 14 Do you see that?  
 15 A. Yes.  
 16 Q. And if you look down in the last paragraph of  
 17 this, and you go to the -- to the second sentence, the  
 18 NIHS states that, quote, "The AHS is the largest study  
 19 of farmers and their families in the world."  
 20 Did I read that correctly?  
 21 A. That's what this document says, yes.  
 22 MS. WAGSTAFF: I object to counsel testifying.  
 23 Q. Did I read that correctly?  
 24 A. That's what the document says, yes.  
 25 Q. Okay. And is it fair to state that the AHS

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1 collects comprehensive data on pesticide exposure?  
 2 A. Well, based on -- on what I know about the  
 3 study on reading the various publications, I don't know  
 4 that I could agree that it collects the most compre --  
 5 or collects comprehensive data, no.  
 6 Q. Do you see the second -- the third sentence in  
 7 the paragraph we were just referring to on Exhibit --  
 8 A. Uh-huh.  
 9 Q. -- 21 dash -- 27-1?  
 10 A. Right.  
 11 Q. This is the NIEHS publication where they state,  
 12 quote, "The study collects comprehensive data on  
 13 pesticide exposure."  
 14 Do you see that?  
 15 A. I see where this document says that, yes.  
 16 Q. Is it fair to state that the study, the AHS  
 17 study that I am referring to, collects comprehensive  
 18 data on factors that might modify exposures to  
 19 pesticides?  
 20 A. I am sorry. Could you repeat the question.  
 21 Q. Is it fair to state that the AH study collects  
 22 comprehensive data on factors that might modify  
 23 exposures to pesticides?  
 24 A. I would -- I would agree that it collects data  
 25 on factors that might modify exposures, yes.

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1 Q. And is it fair to state that the study has  
 2 developed and validated improved the methods for  
 3 pesticide exposure assessment?  
 4 A. In my opinion I could say they tried, but I  
 5 don't think they were successful in this particular  
 6 study. I think the exposure data is flawed.  
 7 Q. Do you see in this publication by NIEHS on  
 8 December 12, 2017, where it is stated in the third  
 9 sentence that the study has developed, quote, "has  
 10 developed and validated improved methods for pesticide  
 11 exposure assessment"?  
 12 MS. WAGSTAFF: Objection to counsel testifying.  
 13 A. This document does state that the AHS has  
 14 developed and validate improved methods.  
 15 Q. Now, during your career, did you work at the  
 16 National Institute of Health?  
 17 A. Yes.  
 18 Q. And did you work at the National Institute of  
 19 Environmental Health Sciences?  
 20 A. Yes.  
 21 Q. Now, when you were looking at the AHS study in  
 22 connection with the IARC report -- do you have that in  
 23 mind?  
 24 A. Okay.  
 25 Q. You served on a group called Monograph 112 that

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1 covered glyphosate and other compounds, including  
 2 malathion. Do you recall that?  
 3 MS. WAGSTAFF: Objection to we are getting  
 4 close to outside the scope of this deposition.  
 5 MR. HOLLINGSWORTH: Well --  
 6 A. I -- I did serve on Monograph 12 Working Group.  
 7 Q. Yeah. Do you recall that when you referred to  
 8 the agriculture health study in Monograph 112 on  
 9 glyphosate, there is a reference to the malathion  
 10 portion of Monograph 112 for a more detailed data about  
 11 the Agricultural Health Study; do you recall that?  
 12 MS. WAGSTAFF: Wait, wait. Stop really quick.  
 13 Can we go off the record, please? Can we go off the  
 14 record?  
 15 MR. HOLLINGSWORTH: Yes.  
 16 THE VIDEOGRAPHER: Is that a "yes"?  
 17 MS. WAGSTAFF: Yes.  
 18 THE VIDEOGRAPHER: Give me a second, please.  
 19 Going off the video record at 9:16.  
 20 (Recess from 9:16 a.m. until 9:18 a.m.)  
 21 THE VIDEOGRAPHER: We are back on the video  
 22 record at 9:18 a.m.  
 23 MS. WAGSTAFF: Just real quick before we start.  
 24 While we were off the record, Mr. Hollingsworth and  
 25 I had a conversation about the scope of PTO 34 and

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1 the deposition we are here to do today. We have a  
 2 slight disagreement about the scope of his  
 3 questions.  
 4 I have agreed to allow him to continue asking,  
 5 but there may come a point in the very near future  
 6 when I have to instruct Dr. Jameson not to answer  
 7 and we need to get the Court on the phone.  
 8 But go ahead and proceed.  
 9 MR. HOLLINGSWORTH: And during the time that we  
 10 were off the record, I explained to Ms. Wagstaff  
 11 that I am limiting my questions to the section of  
 12 the Monograph 112 which includes glyphosate and a  
 13 couple of other chemicals, among which was a  
 14 chemical called malathion. That refers to the  
 15 quality and the validation methods and the various  
 16 statistical analyses that were done as part of the  
 17 agricultural study, and that is the only aspect of  
 18 that Monograph that I want to briefly question  
 19 Dr. Jameson about. I do not intend to ask him any  
 20 questions about malathion per se or about the IARC  
 21 review of glyphosate per se.  
 22 MS. WAGSTAFF: All right. Along that lines,  
 23 the -- the -- I -- he was -- he is not prepared to  
 24 talk about the IARC today.  
 25 So you can answer if you remember or if you

1 recall.  
 2 THE WITNESS: Okay.  
 3 BY MR. HOLLINGSWORTH:  
 4 Q. Okay. Do you recall that the Working Group 112  
 5 evaluated other chemicals besides glyphosate, including  
 6 malathion for one?  
 7 A. Yes. They reviewed a number of different  
 8 pesticides.  
 9 Q. And you were a member of the animal subgroup  
 10 for the review of those various pesticides, including  
 11 glyphosate and malathion, right?  
 12 A. I was.  
 13 Q. Do you recall that in -- in -- there is a  
 14 section in the monograph on glyphosate which discusses  
 15 the Agricultural Health Study?  
 16 A. I am familiar with that, yes.  
 17 Q. And there is a part of that section which says  
 18 for a more detailed evaluation of the Agricultural  
 19 Health Study, look to the section on malathion.  
 20 You recall that?  
 21 A. I -- I think there is a reference, such a  
 22 reference in there, but I -- I need to look at the --  
 23 Q. Okay.  
 24 A. -- Monograph itself to refresh my memory.  
 25 Q. Sure. I am going to show you what I will mark

1 Q. And I am looking at the paragraph which says,  
 2 quote, "Great efforts were made in the Agricultural  
 3 Health Study to assess exposure among agricultural  
 4 pesticide applicators and their spouses."  
 5 Do you see that?  
 6 A. Yes.  
 7 Q. Did you -- are you testifying today that you  
 8 disagree with that?  
 9 MS. WAGSTAFF: Objection; misstates his  
 10 testimony.  
 11 A. Well, based on my evaluation of the most recent  
 12 AHS publication in 2018, which is the purpose of this  
 13 deposition, I would have to say that --  
 14 Well, the sentence reads, "Great efforts were  
 15 made in the Agricultural Health Study to assess exposure  
 16 among agricultural pesticide applicators and their  
 17 spouses." It just says "great efforts were made." It  
 18 didn't say what the efforts were.  
 19 Q. Okay.  
 20 A. In this first sentence anyway.  
 21 I mean, it has been a while since I have looked  
 22 at this, so I --  
 23 Q. Okay. Is it fair to state that the  
 24 questionnaires and algorithms that have been done to  
 25 test the Agricultural Health Study for -- for quality

1 as 27-2, a copy of the -- of a few pages of the  
 2 malathion monograph that refer to the AHS methodology.  
 3 And this -- this is the entire monograph on malathion,  
 4 but I am only going to look at two or three pages of  
 5 this be.  
 6 (Exhibit 27-2 was marked for identification.)  
 7 MS. WAGSTAFF: I will let the record reflect  
 8 that this is a 124-page typed document.  
 9 Q. Now, the malathion monograph is one that you  
 10 worked on in your capacity as head of the animal  
 11 subgroup; is that right, sir?  
 12 MS. WAGSTAFF: Objection to using this as --  
 13 unless we go into more detail on malathion, which is  
 14 outside the scope of PTO 34.  
 15 A. I did work on the malathion monograph, yes.  
 16 Q. Okay. If you will look at -- there -- there  
 17 are two discussions in this document about the  
 18 Agriculture Health Study that are referred to in -- from  
 19 the glyphosate section of the monograph. And one is at  
 20 page 9.  
 21 If you look at that for me, please, there is a  
 22 description of the Agricultural Health Study at  
 23 subsection A on the second column on the right. The  
 24 right-hand column, I should say.  
 25 A. Uh-huh.

1 had undergone several tests for reliability and accuracy  
 2 that had provided considerable insight into the quality  
 3 of this exposure assessment -- exposure assessment that  
 4 the AHS did? Do you see that?  
 5 A. Is that what you are saying is in this?  
 6 Q. This -- I am looking at the second sentence.  
 7 And I am asking you if you think --  
 8 A. Oh, the second sentence.  
 9 Q. -- as you sit here today it's fair to state  
 10 that the questionnaires and the algorithms that have  
 11 been extensively described have undergone several tests  
 12 for reliability and accuracy that have been provided --  
 13 that have provided considerable insight into the quality  
 14 of this exposure assessment, referring to the AHS, AHS  
 15 itself?  
 16 MS. WAGSTAFF: And doctor --  
 17 Q. Is that fair to state?  
 18 MS. WAGSTAFF: Dr. Jameson, if you need to read  
 19 the entire section on the Agricultural Health Study  
 20 right now, please do so.  
 21 A. Yeah, let me refresh my memory on this first.  
 22 But I -- I -- but I would like to say, when I wrote my  
 23 initial report, I was asked to write a report on  
 24 glyphosate.  
 25 And so when I wrote the report on glyphosate, I

1 concentrated only on glyphosate. Reviewing the IARC  
2 monograph, I looked at the glyphosate section. Even  
3 though it may have referred to the -- to the malathion,  
4 I -- I didn't take the time to look back at the  
5 malathion study.

6 I remember that there were concerns expressed  
7 at the monograph meeting about the accuracy or adequacy  
8 of the data in the AHS and especially as it relates to  
9 exposure and misclassifications. So I was well aware of  
10 the fact of the problems with it, but I didn't address  
11 them in my expert report because my -- the purpose of my  
12 report was to discuss glyphosate and its carcinogenicity  
13 and not to evaluate the adequacy or -- or if each study  
14 was -- or outline the flaws in each and every study that  
15 I looked at.

16 Q. Okay. There is another section of this I would  
17 like you to look at, at page 15, please, in the  
18 right-hand column. There is a sentence in the first --  
19 in the second full -- the second full sentence in that  
20 paragraph that begins, "The AHS being a cohort study..."

21 Do you see that?

22 MS. WAGSTAFF: It's on the right-hand side.

23 A. On the right-hand side. "The AHS being a  
24 cohort study..." Oh, okay. I gotcha.

25 Q. Yeah. Is it fair to state that the AHS, since

1 it's a cohort study, avoids recall bias?

2 MS. WAGSTAFF: Objection to pulling this  
3 sentence out of a 124-page typed document that the  
4 witness has testified he has not seen in years. And  
5 it is outside the scope of PTO 34.

6 If you need to read that entire section,  
7 Dr. Jameson, please do.

8 A. Okay. Let me --

9 Q. Is it -- do you -- do you --

10 MS. WAGSTAFF: I mean, if you want to ask  
11 him --

12 Q. Can you answer the question --

13 MS. WAGSTAFF: -- if that's what the words says  
14 on the paper, you can answer.

15 Q. Can you answer the question, Dr. Jameson,  
16 whether the AHS because it's a cohort study avoids  
17 recall bias?

18 A. Okay. The sentence in -- in -- that you are  
19 referring to in this copy of the malathion --

20 Q. Yes.

21 A. -- that's what this paper says, yes.

22 Q. Yes. Would you agree that that's a fair thing  
23 to say about the AH study in general?

24 A. No.

25 Q. Okay. In case control studies as opposed to

1 cohort studies, recall bias tends to -- tends to happen,  
2 doesn't it?

3 A. In case control studies?

4 Q. Yes.

5 A. Well, you can have recall bias in case control  
6 and cohort studies.

7 Q. But because exposure is obtained before the  
8 onset of the cancer in the cohort study, recall bias is  
9 not expected in cohort studies, is it?

10 A. Well, in most cases that -- that -- that  
11 probably would be the case. But -- but the methodology  
12 used in the Agricultural Health Study to -- at the  
13 initial sign-up of the applicator -- of the pesticide  
14 applicators, if you will, that was flawed; because they  
15 were asking them to recall their past exposures to -- to  
16 the pesticide. And that could lead to recall bias. So  
17 the methodology that was used in the Agricultural Health  
18 Study is flawed.

19 Q. That recall bias is the same as any case  
20 control study, right?

21 A. Well you can have -- I -- that's what I said.  
22 You can have recall bias in case control studies. But  
23 you can also have it in cohort studies.

24 And that is the case in the AHS study because  
25 of the method that they used to -- the questionnaire

1 that they used to get exposure information from the  
2 subjects when they first signed up.

3 Q. The subjects that signed up in the prospective  
4 cohort study, which was the AHS, didn't know whether  
5 they were going to get cancer or not, did they?

6 A. No. But that's not the issue. The recall bias  
7 is on exposure. The recall bias is them recalling what  
8 they have -- what pesticides they have used and been  
9 exposed to in the previous -- previously before they --  
10 when they signed up for this -- for this study.

11 Q. That --

12 A. And going back, you know, years of memory is --  
13 is -- I mean, they could remember, "Well, I used, I used  
14 pesticide X and herbicide Y the past year or past couple  
15 of years so I will put that down." But 20 years ago or  
16 15 years ago, they can't remember what -- every  
17 pesticide they may have been exposed to. It's just  
18 human nature not to remember those things.

19 So there is a major flaw in the AHS study for  
20 gathering exposure information right at the get-go,  
21 right at the very beginning.

22 Q. But that error would be, because it's a  
23 prospective cohort study, would be nondifferential; and  
24 in most cases in nondifferential cohort studies such as  
25 the AHS, that error would not inflate risk estimates,

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1 would it?  
 2 A. No, that's not true.  
 3 MS. WAGSTAFF: Objection; misstates testimony.  
 4 You have not established it's nondifferential.  
 5 Q. Okay. Okay. Would you -- would you read,  
 6 please --  
 7 Would you look, please, at the second sentence  
 8 of -- after the sentence that I just referred to you on  
 9 page 15 of Exhibit 27-2, which is the malathion portion  
 10 of the IARC Monograph 112.  
 11 A. The second sentence past the one you?  
 12 Q. Yes.  
 13 MS. WAGSTAFF: Objection again to cherry-  
 14 picking sentences out of a 124-page document.  
 15 A. So is that the -- I'm sorry.  
 16 Q. The one that begins, "Misclassification..."  
 17 MS. WAGSTAFF: The next sentence.  
 18 A. Oh, that's the next sentence. I'm sorry.  
 19 "Misclassification of pesticide exposure cannot  
 20 be excluded because exposure was retrospective and  
 21 self-reported." Right.  
 22 Q. As is typical for most case control studies,  
 23 true?  
 24 MS. WAGSTAFF: Object to form.  
 25 Q. Do you see that --

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1 A. I see that sentence, yeah.  
 2 Q. Okay. And my question is: Isn't it fair to  
 3 state that with a prospective cohort study like AHS,  
 4 that error would be nondifferential and in most  
 5 scenarios would not inflate risk estimates?  
 6 A. I don't necessarily agree with that statement,  
 7 no.  
 8 Q. Okay. When you were -- when you were writing  
 9 the malathion section of this monograph, did you raise  
 10 your concern about that during the discussion at the  
 11 IARC meeting?  
 12 A. I don't recall if I did or not.  
 13 MS. WAGSTAFF: Objection; outside the scope of  
 14 PTO 34.  
 15 Q. Is it true that in the case of case control  
 16 studies, that error would be differential and therefore  
 17 would affect the accuracy of risk estimates and tend to  
 18 make the risk estimates exaggerated?  
 19 A. That may be possible. Not necessarily fact,  
 20 but that may be possible.  
 21 Q. Now, in your supplemental report, you refer to  
 22 the imputation method of analysis which was used by  
 23 Dr. Andreotti in the 2013 NCI study; true?  
 24 A. True.  
 25 Q. And if you look at just -- the last question I

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1 want to ask you about, the malathion section on the AHS.  
 2 If you look at page 21, sir, in the left-hand column,  
 3 down at the bottom at the sentence that begins, "For  
 4 individuals..."  
 5 A. Okay.  
 6 Q. The -- the IARC group said that, "For  
 7 individuals in the AHS who do not complete a phase 2  
 8 re-interview five years after enrollment, an imputation  
 9 method was used..."  
 10 Do you see that?  
 11 A. Yes.  
 12 Q. "And that permitted the inclusion of all  
 13 participants in a phase 2 analysis." According to this  
 14 document, in the left-hand column.  
 15 Do you see that?  
 16 A. Okay. Yes.  
 17 Q. And it states that the imputation method was  
 18 based on baseline data from -- meaning baseline data  
 19 from the original interviews; do you see that?  
 20 A. Okay.  
 21 Q. And do you see that based on a paper by  
 22 Heltsh, et al., which is cited at the end of this  
 23 section, that imputation method was determined to have  
 24 no major impact on the main results for many of the  
 25 pesticides? Do you see that?

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1 MS. WAGSTAFF: Objection. Please include the  
 2 rest of the sentence which relates only to  
 3 parathion, diazinon and malathion, not glyphosate.  
 4 I object to incomplete sentences.  
 5 Q. Do you see that?  
 6 A. I see where it says --  
 7 MS. WAGSTAFF: Please read the rest of the  
 8 sentence.  
 9 A. -- which led -- which to the observation that  
 10 neither missing data nor imputation had major impacts on  
 11 the main results of many of the pesticides, including  
 12 parathion, diazinon, and malathion. But it says nothing  
 13 about glyphosate.  
 14 Q. Yes. In your report, sir, you refer to the  
 15 paper by Dr. Heltsh, which is cited at the end of the  
 16 section from the malathion monograph that you just read.  
 17 Heltsh, et al., 2012?  
 18 A. Uh-huh.  
 19 Q. That's --  
 20 A. Yes.  
 21 Q. -- one of your references to your supplemental  
 22 report; true?  
 23 A. True.  
 24 Q. Now, have you read Heltsh?  
 25 A. Yes.

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1 Q. Heltshe and her coauthors specifically looked  
 2 at glyphosate, didn't they, in addition to parathion and  
 3 malathion?  
 4 A. Right.  
 5 Q. And the conclusions that she reached in her  
 6 paper that you cited apply equally to glyphosate and  
 7 malathion; isn't that right?  
 8 A. I have to look --  
 9 MS. WAGSTAFF: Object.  
 10 A. -- at the paper to refresh my memory.  
 11 Q. Okay. Would you agree that missing data is a  
 12 common problem in epidemiologic studies?  
 13 MS. WAGSTAFF: Object to form.  
 14 A. In my experience in reviewing epidemiology  
 15 papers, that that seems to be one of the major problems,  
 16 yes.  
 17 (Exhibit 27-3 was marked for identification.)  
 18 Q. Now I am going to mark for the record as  
 19 Exhibit 27-3 this Heltshe article that was one of the  
 20 references to your supplemental report. It's entitled  
 21 "Using multiple imputation to assign pesticide use for  
 22 non-responders in the follow-up questionnaire in the  
 23 Agricultural Health Study."  
 24 Do you see that paper, sir?  
 25 A. Okay.

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1 Q. Could I ask you, why did you cite this paper as  
 2 a reference to your supplemental report in this case?  
 3 A. It was -- it was referenced because of the -- I  
 4 took a statement out of the AHS publication, and that  
 5 particular statement had this reference in it. And so  
 6 that's why I included this reference because I took --  
 7 took a statement directly out of the AHS. And I guess  
 8 just to be complete, I gave the reference that they were  
 9 referring to from that, from the AHS paper.  
 10 Q. Okay. Is -- is Exhibit 27-3, the paper I just  
 11 handed to you by Sonya Heltshe and other authors,  
 12 several other authors, the article that you were  
 13 referring to in your supplemental report?  
 14 A. Yes.  
 15 Q. Do you remember when I asked you whether it's  
 16 fair to state that missing data is a common problem in  
 17 epidemiologic studies?  
 18 A. I remember you asking the question, yes.  
 19 Q. Do you see the very first phrase of this  
 20 article, which you cited as a supplemental reference, as  
 21 a reference to your supplemental report I should say,  
 22 which states a quote. Quote, "Missing data is a common  
 23 problem in epidemiologic studies"?  
 24 A. Right. That's what this said, the introduction  
 25 says, yes.

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1 Q. Yeah. You disagree with that?  
 2 MS. WAGSTAFF: Objection; asked and answered.  
 3 A. Well, I --  
 4 MS. WAGSTAFF: He said yes.  
 5 A. Do I agree with that?  
 6 Q. Do you agree with that?  
 7 A. Do I agree that missing data is a common  
 8 problem?  
 9 Q. Yes.  
 10 MS. WAGSTAFF: Objection; asked and answered.  
 11 A. That's -- yes. That's what I said.  
 12 Q. Okay. I'm sorry.  
 13 If you look down at the third sentence in the  
 14 first paragraph of this paper, it refers to multiple  
 15 imputation. Do you see that?  
 16 A. Yes.  
 17 Q. And multiple imputation is one of the qualities  
 18 of AHS that you criticize and which you say has caused  
 19 AHS to have invalid data and results; true?  
 20 A. I'm sorry. Could you repeat the question.  
 21 Q. Multiple imputation is a methodology that is  
 22 used in evaluating epidemiologic studies that you said  
 23 had been either -- either improperly applied or wrongly  
 24 applied by the AHS and that that had resulted in  
 25 inaccurate data, and that was part of your supplemental

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1 report; true?  
 2 A. Yes. The problem is the imputation that was  
 3 done in the AHS used flawed data to begin with. So if  
 4 you use flawed data, flawed exposure data to -- to begin  
 5 with, your imputation is just going to exacerbate that,  
 6 and the data you get from that is -- is going to be  
 7 probably worse than the data you put into it. So --  
 8 Q. Do you --  
 9 A. -- that's why I said that the imputation was --  
 10 was not good in AHS study. Because the data they are  
 11 using to -- to impute, or whatever the proper term is,  
 12 is flawed. It's -- it is inaccurate. And so therefore,  
 13 bad data in, bad data out.  
 14 Q. The authors of this study state that multiple  
 15 imputation has been widely accepted and has been used to  
 16 account for missing data in large national surveys and  
 17 studies.  
 18 Do you see that sentence?  
 19 A. I see that sentence.  
 20 MS. WAGSTAFF: Objection; counsel testifying.  
 21 A. That's -- that's what this -- that's what's  
 22 written in this introduction, yes.  
 23 Q. Is that an unfair statement?  
 24 A. No. Because in some studies, if you have  
 25 decent exposure data, good data, if you can use good

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1 data to impute -- imputate --  
 2 Q. Impute.  
 3 A. Impute, excuse me.  
 4 -- to impute the exposures for the people who  
 5 did not respond. But, as is the case for the AHS study,  
 6 you initially start off with flawed data, with bad data.  
 7 And so if you use bad data, you impute bad data. So  
 8 that's why I say the AHS is not an adequate study. It's  
 9 flawed. It's fatally flawed.  
 10 Q. Yes. Had you read this article by Heltshe  
 11 before today?  
 12 A. Before today?  
 13 Q. Yes.  
 14 A. Yes.  
 15 Q. Okay. Heltshe disagrees with you, doesn't she?  
 16 A. Well, yes, I guess she does in this  
 17 publication. But when was this published? In 2012.  
 18 Q. Yep.  
 19 A. They -- well. I don't want to go into it, but  
 20 she does disagree.  
 21 Q. She -- she concludes that multiple imputation,  
 22 as applied to the AHS study itself, allows for bias  
 23 reduction and improved efficiency in future analyses of  
 24 the Agricultural Health Study, doesn't she?  
 25 A. I don't know. Where are you reading from?

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1 Q. I am reading from the last part of her paper on  
 2 page 46 -- 415. The last sentence. At the bottom of  
 3 the left-hand column.  
 4 A. Yeah, I see that.  
 5 Q. Okay.  
 6 A. I mean that she -- she was saying multiple  
 7 imputation will allow for bias reduction, improved  
 8 efficiency in future analysis of AHS.  
 9 But -- but she hasn't addressed the issue of  
 10 flawed data that they used to do the imputation with.  
 11 Q. The method that she used in this study was  
 12 to -- one of the methods that she used in this study was  
 13 to take a selected subset of 20 percent of the original  
 14 AHS data, true?  
 15 A. I'd have to read the paper again and --  
 16 Q. Okay.  
 17 A. -- see if that's accurate.  
 18 Q. All right. Isn't that exactly what the  
 19 Andreotti and her coauthors did to test the validity of  
 20 the imputation method in the --  
 21 MS. WAGSTAFF: Object.  
 22 Q. -- NCI 2018 study?  
 23 MS. WAGSTAFF: Object to form.  
 24 A. That sounds, as I can best recall, that sounds  
 25 about what they have reported in the -- in the paper.

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1 But I really want to look at the paper to refresh my  
 2 memory of the exact amount.  
 3 Q. All right.  
 4 A. The exact figure.  
 5 Q. Have you ever read any articles about the AHS  
 6 in which the authors have concluded that nondifferential  
 7 exposure misclassification biases relative risk  
 8 estimates towards the null?  
 9 A. That sounds familiar, but I -- I -- I can't  
 10 recall which specific paper it was in.  
 11 Q. What -- Did you evaluate that factor in  
 12 connection with writing the supplemental report?  
 13 A. Which factor is that again, please?  
 14 Q. That nondifferential exposure misclassification  
 15 biases relative risk estimates towards the null.  
 16 A. Yeah, that would be part of the -- part of the  
 17 consideration, I guess.  
 18 Q. Okay. Well, what aspect of that consideration  
 19 affected you, your -- or played into your evaluation  
 20 that you have reported in your supplemental report?  
 21 A. I am sorry. Could you rephrase the question?  
 22 Q. What aspect of the factor, which is the  
 23 nondifferential exposure misclassification, tends to  
 24 create a bias that causes relative risk estimates to  
 25 move toward the null? What aspects of that factor did

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1 you take into consideration in writing your supplemental  
 2 report?  
 3 A. Well, if you -- if you look at the AHS study.  
 4 And they indicate in that study that for the follow-up,  
 5 which -- which they got very poor response to, to begin  
 6 with. But in their follow-up questionnaire, they asked  
 7 the subjects to list the pesticide exposures they had in  
 8 their last year of farming. So this was, like, up to a  
 9 ten-plus-year follow-up, but they were asking only for  
 10 one year of -- what their exposure was in their past one  
 11 year of farming.  
 12 So, for example, this, the misclassification  
 13 that could lead to the null, is you have a situation of,  
 14 for example, a farmer who the questionnaire was filled  
 15 out in 2003, I think. And again, I'm -- the dates, the  
 16 accurate dates I'm -- would look, have to look at the  
 17 paper to get. But I think it was around 2003 is when  
 18 the questionnaire went out.  
 19 And take a situation of a farmer that retired  
 20 from farming in 2002. So he would then fill out the  
 21 form and then say what he was exposed to in 2001.  
 22 Let's say in 2005, he started using GMO  
 23 products. So therefore his exposure to glyphosate  
 24 formulation, formulated products, would greatly  
 25 increase. So he used GMOs from 2005 -- from 2000 -- I

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1 am sorry, started in 2000 and -- and stopped in in two  
 2 thousand and -- I am getting my dates. Two thousand  
 3 and -- in 2000.  
 4 So he did it for -- for maybe five years.  
 5 I am getting my dates mixed up or not following  
 6 out.  
 7 MS. WAGSTAFF: Do you need to write it down on  
 8 a piece of paper?  
 9 A. Yeah, let me -- let me write it down.  
 10 2003 is when the questionnaire went out. 2002,  
 11 this farmer retires. So he needs to report, he is asked  
 12 to report on his farming exposure in 2001.  
 13 And in two -- in --  
 14 In 1999, he -- he started using GMOs and -- or  
 15 I'm sorry, let's say in 1998. He started using GMOs  
 16 when they first came out.  
 17 And then he stopped in 2000.  
 18 So for the purpose of this, this questionnaire,  
 19 he is asked what his exposure was in 2001. Well, he  
 20 stopped using the GMOs in 2000, so in 2001 his exposure  
 21 was zero.  
 22 Q. Well, the imputation methodology in the case of  
 23 a nondifferential exposure, like a misclassification  
 24 like the one you are talking about, takes all of that  
 25 into account, doesn't it?

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1 A. No.  
 2 Q. That's what Dr. Heltshe did?  
 3 A. No. It doesn't take it into account.  
 4 Q. Okay. Do you know the difference between a  
 5 nondifferential exposure misclassification and a  
 6 differential exposure misclassification for purposes of  
 7 epidemiology?  
 8 A. That's not my strong point, but a --  
 9 Q. A nondifferential --  
 10 A. Nondifferential.  
 11 Q. -- disclose -- exposure misclassification is  
 12 one that is made about someone who doesn't have NHL;  
 13 whereas a differential exposure --  
 14 MS. WAGSTAFF: Object to form.  
 15 Q. -- misclassification such as in a case control  
 16 study is about someone who is a case, who already has an  
 17 HL.  
 18 A. Uh-huh.  
 19 Q. And that makes a difference in his total recall  
 20 about his or her exposure to the chemical glyphosate in  
 21 the first place, doesn't it?  
 22 A. Why do you say that?  
 23 Q. Because that's what -- that's what human health  
 24 epidemiologists say. There is a big difference between  
 25 differential exposure misclassifications and

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1 nondifferential. Can you -- can you --  
 2 A. But this is --  
 3 Q. -- can you explain to me --  
 4 A. But I am not talking about people with  
 5 non-Hodge -- you know, if they have the non-Hodgkin's  
 6 lymphoma or not.  
 7 What I am talking about is the exposures to  
 8 these people are -- are -- are misclassified.  
 9 Q. Uh-huh.  
 10 A. Because of the way the questionnaire was asked,  
 11 they asked, only asked for the last year of -- of  
 12 farming. So they are missing the data from -- from, you  
 13 know, the 19 -- 1998 or 1999 up to the 2003 or whatever  
 14 when the -- when the questionnaire came out.  
 15 Q. Okay.  
 16 A. So it's the -- it's the exposure  
 17 misclassification. I am not talking -- I wasn't  
 18 referring to the nondifferential, you know, bias caused  
 19 by people with NHL versus NHL. That's -- that's not the  
 20 issue. The issue is a misclassification of exposure.  
 21 Q. Have you stated that the Agricultural Health  
 22 Study is the only cohort study to have published  
 23 findings on exposure to glyphosate and the risk of  
 24 cancer?  
 25 A. It's the only cohort study that I'm aware of

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1 that has -- that has looked at exposure to glyphosate in  
 2 cancer.  
 3 Q. And the Andreotti publication in 2018, that is  
 4 the NCI 2018 study, is a publication that follows up on  
 5 the -- on the original AHS studies about glyphosate and  
 6 cancer; true?  
 7 MS. WAGSTAFF: Object to form.  
 8 A. The 2018 Andreotti paper is -- is, yeah, like a  
 9 ten-year follow-up, or I don't know the exact time  
 10 frame. But it's a follow-up of the results of the -- of  
 11 what they are finding in that AHS study.  
 12 MR. HOLLINGSWORTH: Okay. Can I have tab two,  
 13 please.  
 14 (Exhibit 27-4 was marked for identification.)  
 15 Q. I am going to mark as Exhibit 27-4 the  
 16 Andreotti paper --  
 17 A. Okay.  
 18 Q. -- which is titled, "Glyphosate Use and Cancer  
 19 Incidence in the Agricultural Health Study."  
 20 And if you look at that, sir, on the top  
 21 left-hand corner, it is designated as National Cancer  
 22 Institute, 2018?  
 23 MS. WAGSTAFF: Right-hand.  
 24 MR. HOLLINGSWORTH: Sorry, right-hand corner.  
 25 A. The right-hand corner.

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1 Q. Yes.  
 2 A. JNCI, National Cancer Institute, 2018, right.  
 3 Q. Yes.  
 4 And I'm referring that -- to that as the "NCI  
 5 2018 study" for purposes of this deposition or also as  
 6 "the Andreotti paper."  
 7 And looking at this paper, the authors have  
 8 concluded that this is a large prospective cohort study  
 9 where there has been no association found between  
 10 glyphosate and lymphoid malignancies overall, including  
 11 NHL and all its subtypes; true?  
 12 A. That's what they are reporting in this paper as  
 13 their conclusion.  
 14 Q. And they say that this lack of association was  
 15 consistent in two different exposure metrics, right?  
 16 A. Where are you reading that?  
 17 Q. I am reading that -- well, did you recall that  
 18 in there were two different exposure methods that they  
 19 talked about here. And the finding of no association  
 20 between those exposures and any canc -- exposure to  
 21 glyphosate and any cancer was the same, right? No  
 22 association was found for cancer in glyphosate, true?  
 23 A. I am not -- I am -- I -- I don't know where you  
 24 are reading that. Two different exposures?  
 25 Q. Okay. On --

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1 A. They do talk about different quartiles of  
 2 exposure.  
 3 Q. Yeah.  
 4 A. They don't talk about two different kinds of  
 5 exposure.  
 6 MS. WAGSTAFF: Just wait and let him reference  
 7 you.  
 8 THE WITNESS: I am sorry. Sorry.  
 9 Q. Okay. If you look at -- if you look at page 7  
 10 of his study, sir. In the left-hand column, in the  
 11 first full paragraph.  
 12 Do you see the sentence that says that the  
 13 authors observed no associations between glyphosate use  
 14 and NHL overall or any of its subtypes?  
 15 MS. WAGSTAFF: Objection; counsel testifying.  
 16 A. So this is page 7, the left-hand column, the  
 17 second paragraph.  
 18 Q. Yep.  
 19 MS. WAGSTAFF: Look.  
 20 A. At the beginning?  
 21 MS. WAGSTAFF: I have it here.  
 22 A. Oh, "in our study we observed." Okay. Okay.  
 23 Q. Now, do you disagree with that?  
 24 A. That's what they are reporting here in their  
 25 paper, yes.

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1 Q. And the next sentence is the next one I was  
 2 referring to also, which is that this lack of  
 3 association was consistent for both exposure method  
 4 metrics, and this lack of association was consistent for  
 5 unlagged and lagged analyses, and it was consistent  
 6 after further adjustment for pesticides linked to NHL in  
 7 previous AHL analyses.  
 8 Do you see all of that?  
 9 A. I see that, yes.  
 10 Q. What is -- what is a lagged and unlagged  
 11 analysis, and what's the purpose of that? Do you know?  
 12 A. A lagged analysis is where you take into  
 13 account an extended period of time between the initial  
 14 exposure and -- and the onset of the cancer that you are  
 15 looking at, whereas an unlagged is you are looking for  
 16 cancer very shortly after exposure took place.  
 17 Q. Well, the lagged and unlagged exposure analysis  
 18 that they did in this paper was to account for latency  
 19 period, wasn't it?  
 20 A. That's, basically, yeah, that's what I was  
 21 saying, right.  
 22 Q. So they lagged the period from exposure by 5,  
 23 10, 15, and 20 years --  
 24 A. Years. Right.  
 25 Q. -- to try to account for latency, true?

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1 A. That's accurate, yes.  
 2 Q. And the authors found that there was no  
 3 difference in the relative risk for a 5- or a 10- or a  
 4 15- or 20-year lag period; true?  
 5 A. Well, that's what the authors say, but I don't  
 6 agree with that.  
 7 Q. Okay.  
 8 A. Their data doesn't -- doesn't necessarily  
 9 reflect that.  
 10 Q. Okay. Do you see the table where they talk  
 11 about the results from the lagged and unlagged exposure?  
 12 A. You are talking about --  
 13 MS. WAGSTAFF: Can we take a break, a bathroom  
 14 break when you finish your questions on lagged and  
 15 unlagged?  
 16 MR. HOLLINGSWORTH: Sure.  
 17 A. So are you talking about Table 3?  
 18 Q. Table --  
 19 A. Page 6?  
 20 Q. Yes.  
 21 A. Okay.  
 22 Q. And if you look at the four quartiles, they are  
 23 all basically finding -- finding a null conclusion on  
 24 relative risk. Do you see that in the column, sir?  
 25 A. No.

1 Q. Do you see the relative risk for the five-year  
2 lag?

3 A. For the five-year lag? Yes.

4 Q. Yes.

5 And the relative risk for the 20-year lag?

6 A. Yes.

7 Q. Okay.

8 A. But there is a -- there is a significant  
9 increase in relative risk in the 20-year lag for both  
10 the first quartile and the fourth quartile, so I --

11 Q. Do you call that significant?

12 A. It's significant. It's greater than one. It's  
13 not to --

14 Q. It's not statistically significant, is it?

15 A. But it's significant.

16 Q. What is the difference between --

17 A. And then in epidemiology, what they are coming  
18 to -- to realize is that statistically -- statistical  
19 significance is not the final word in -- in -- in  
20 identifying a significant effect, or an effect of cancer  
21 upon exposure to a material.

22 Q. Okay. Can you show me a paper that you are  
23 relying on that has been published which says that  
24 statistical significance is not the final word?

25 A. I can't right here now.

1 Q. But my question is: Are you an epidemiologist?

2 A. I am -- I consider myself a toxicologist. I do  
3 not consider myself an epidemiologist.

4 Q. You don't have a degree in epidemiology, do you?

5 A. No, sir, I do not.

6 Q. And you have never designed an epidemiology  
7 study, have you?

8 A. I haven't designed epidemiology studies, but I  
9 have discussed the design of epidemiology studies with  
10 several colleagues at the NIHS in previous years.

11 Q. Were those people epidemiologists?

12 A. Yes.

13 Q. Okay. You have never conducted a cohort study  
14 in people, have you?

15 A. Me personally? No --

16 Q. Yes.

17 A. -- I have not.

18 Q. Have you ever conducted a case control study?

19 A. Personally, I have not.

20 Q. Have you ever published an epidemiology paper  
21 on your own?

22 A. Not on my own, no.

23 Q. Have you ever been a lead author on a  
24 publication that solely focused on epidemiology?

25 A. No.

1 Q. Have you ever written to that effect?

2 A. I personally have not written to that effect,  
3 no. But I have read papers that -- that talk about  
4 that.

5 Q. Which papers are you talking about?

6 A. I don't have the references to memory, so I  
7 would have to get that information.

8 Q. Are you an epidemiologist?

9 A. I have been using epidemiology, reviewing  
10 epidemiology, and making evaluations based on  
11 epidemiology for 30 years that I worked -- previous 30  
12 years that I have been working. In my role as director  
13 of reported carcinogens, it was my responsibility to  
14 review epidemiology data and laboratory animal data,  
15 mechanistic data, and make evaluations, apply criteria  
16 for materials to be listed in the reported carcinogens.

17 Q. But my --

18 A. Also I in -- for the International Agency for  
19 Research on Cancer, I have been asked to review many  
20 epidemiology papers, evaluate the data, and make a  
21 determination of the adequacy of --

22 Q. Have you --

23 A. -- of the data based on my evaluation of the  
24 epidemiology. So I feel I am very qualified to review  
25 the data in epidemiology paper and make an evaluation.

1 Q. When you were on the Report on Carcinogens  
2 Panel for the National Tox Program and you referred to  
3 epidemiology review, you were working with people who  
4 were actually real epidemiologists when you were  
5 evaluating epidemiology, weren't you?

6 MS. WAGSTAFF: Object to form.

7 A. When I was at NIHS working on reported  
8 carcinogens, of course I worked with epidemiologists. I  
9 asked them to help in the preparation of background  
10 documents, and also to serve on the panels to review the  
11 data and apply the criteria for listing in the Report on  
12 Carcinogens. But I was also responsible for reviewing  
13 these papers that they wrote, and accepting them, and  
14 making sure that their evaluations were accurate. So I  
15 have -- I have been evaluating epidemiology data for  
16 many years and using it in my job to identify  
17 carcinogens.

18 Q. You have never been responsible for you  
19 yourself doing an epidemiologic analysis in connection  
20 with a Report on Carcinogens, have you?

21 A. I don't understand your question.

22 Q. You have never been solely responsible for an  
23 analysis of the epidemiology in connection with your  
24 Report on Carcinogens?

25 MS. WAGSTAFF: Object to form.

1 A. What do you mean, solely? I don't understand.  
 2 Q. You, yourself, only responsible for analyzing  
 3 epidemiology in the Report on Carcinogens. Have you  
 4 ever done that yourself?  
 5 A. I still -- I don't understand your question.  
 6 Q. Yeah.  
 7 A. It doesn't make sense to me.  
 8 Q. Okay. Are you board certified in epidemiology?  
 9 A. No, sir, I am not.  
 10 MS. WAGSTAFF: We never took that break after  
 11 lag or unlagged. Could we --  
 12 MR. HOLLINGSWORTH: Oh, I am sorry.  
 13 MS. WAGSTAFF: Do you want to keep going or  
 14 could we --  
 15 MR. HOLLINGSWORTH: No. You can take a break  
 16 whenever you would like.  
 17 THE VIDEOGRAPHER: This would be the end of  
 18 media disc number one. The time is 10:05 a.m. We  
 19 are going off the video record.  
 20 (Recess from 10:05 a.m. until 10:13 a.m.)  
 21 THE VIDEOGRAPHER: We are back on the video  
 22 record. This is video media disc number two. The  
 23 time is 10:13 a.m.  
 24 BY MR. HOLLINGSWORTH:  
 25 Q. Does IARC consider you to be an expert in

1 cancer in humans, or if there is data that is -- that it  
 2 is noncarcinogenic in humans, so they ask me to evaluate  
 3 the epidemiology data and vote my opinion on if the --  
 4 what the -- what the epidemiology data is saying about  
 5 the particular chemical or material under consideration.  
 6 MS. WAGSTAFF: And --  
 7 Q. Your opinion --  
 8 MS. WAGSTAFF: Wait. Hold on. I am going to  
 9 object to this entire line of questioning as outside  
 10 the scope of PTO 34. Because you chose not to or  
 11 forgot to discuss his epidemiology qualifications in  
 12 his previous deposition when he gave epidemiology  
 13 opinions does not render the fact that you can now  
 14 ask him questions about this in this PTO 34 where  
 15 you all ask the judge for another deposition on the  
 16 impact of the 2018 AHS study. And whether or not  
 17 IARC considers Dr. Jameson an epidemiologist is  
 18 completely beyond that scope and is starting to  
 19 border on harassment.  
 20 Q. Were you invited as a member of the subgroup on  
 21 epidemiology?  
 22 MS. WAGSTAFF: Objection; outside the scope of  
 23 PTO 34.  
 24 Once again, you don't have to answer. Do not  
 25 answer.

1 epidemiology?  
 2 MS. WAGSTAFF: Objection. He cannot speculate  
 3 on what IARC considers. I instruct you not to  
 4 answer on any speculation. You don't have to  
 5 answer.  
 6 MR. HOLLINGSWORTH: Well, you can't instruct  
 7 him not to answer unless it's about a privilege  
 8 issue, just by the way. Okay?  
 9 MS. WAGSTAFF: I just did.  
 10 Q. Has IARC ever appointed you as a part of the  
 11 panel on epidemiology for any of the panels that you  
 12 have sat on for IARC?  
 13 A. I haven't been identified as an actual member  
 14 of the epidemiology subgroup for IARC. But for every  
 15 IARC meeting that I have been a subgroup member, I have  
 16 been instructed to review the epidemiology data and make  
 17 my own evaluation of the -- of what the data is -- it  
 18 says. And if the data shows that the material under  
 19 consideration is either -- could be -- should be  
 20 classified as either a known -- I mean a -- sorry.  
 21 If the material -- As far as epidemiology is  
 22 concerned, if the material we are evaluating, there is  
 23 sufficient evidence that it causes cancer in humans, or  
 24 there is limited evidence that it causes cancer in  
 25 humans, or there is inadequate data that it causes

1 This is beyond the scope of PTO 34. This has  
 2 nothing to do with the 2018 AHS study. And if we  
 3 need to get the judge --  
 4 MR. HOLLINGSWORTH: He has made -- he has made  
 5 criticisms of the epidemiology in the 2018 paper.  
 6 And I am -- I think I am free to evaluate what his  
 7 qualification to do that is, okay?  
 8 MS. WAGSTAFF: Actually, whether or not IARC  
 9 invited him to be a member of -- I can't read the --  
 10 MR. HOLLINGSWORTH: Specifically, the  
 11 glyphosate epidemiology subgroup is directly  
 12 relevant to his qualification to testify in this  
 13 case about that.  
 14 MS. WAGSTAFF: And you could have asked him all  
 15 of that. You -- this is the third time you have  
 16 deposed him.  
 17 MR. HOLLINGSWORTH: No.  
 18 MS. WAGSTAFF: I am just saying that if you get  
 19 into the IARC and what IARC thought about him or  
 20 what IARC invited him to do in glyphosate has  
 21 nothing to do with the 2018 AHS study.  
 22 And if we need to get Judge Chhabari on the  
 23 phone, we certainly can. It's only 7:15 in the  
 24 morning there. I am not sure if we can. But if you  
 25 would like to, then we certainly can.

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1 BY MR. HOLLINGSWORTH:  
 2 Q. Are you aware that these plaintiffs in this  
 3 case have not identified you as an expert in  
 4 epidemiology?  
 5 MS. WAGSTAFF: Objection. That is not --  
 6 that's not accurate. We have identified him as an  
 7 epidemiologist. The letter that Ms. Pigman and  
 8 Ms. Greenwald exchanged had nothing to do with our  
 9 designations by topic. We put that in our briefing.  
 10 And now you are just misstating the record.  
 11 Q. Are you aware of that?  
 12 MS. WAGSTAFF: Objection. Not true.  
 13 A. I don't know what you are referring to.  
 14 MR. HOLLINGSWORTH: Do you have a copy of tab  
 15 eight.  
 16 (Exhibit 27-5 was marked for identification.)  
 17 Q. I am identifying for the record as 27-5, sir, a  
 18 copy of a letter to Ms. Pigman from Ms. Wagstaff, among  
 19 others, in which you are identified as a specialist, an  
 20 expert specialist in toxicology.  
 21 Do you see that?  
 22 MS. WAGSTAFF: Objection. Once again, you are  
 23 giving half-truths and misstating the record.  
 24 As stated fully in our Daubert briefing, this  
 25 absolutely did not limit any of the specialties of

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1 our experts, and was basically forced by Ms. Pigman  
 2 so that we could set up depositions.  
 3 We have briefed this in full. It is in our  
 4 papers. And you are providing a half-truth to the  
 5 record. This calls for a legal question. And  
 6 Mr. -- or Dr. Jameson has absolutely no knowledge of  
 7 this, and you know that. And it's not true.  
 8 Q. Do you see where this letter states that your  
 9 area of specialty is toxicology?  
 10 A. I see a document dated May of 2017 and my name  
 11 with "toxicology" after it.  
 12 Q. Okay.  
 13 A. But, you know, toxicology is kind of a broad  
 14 scope of things when you are talking about the hazard  
 15 identification and that type of thing, in -- for --  
 16 In toxicology, we have to evaluate all of the  
 17 data, all of the relevant data. So we look at both  
 18 epidemiology, toxicology, genotoxicity, mechanistic  
 19 studies, exposure data. I mean, all of that is taken  
 20 into -- all of that is taken into consideration when you  
 21 do an evaluation of a cancer hazard.  
 22 So just because -- just because someone has  
 23 no -- doesn't have a college degree in a certain  
 24 expertise in -- in toxicology or in genotoxicity or  
 25 epidemiology or what have you, does not preclude that

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1 individual from being a -- an expert in evaluating all  
 2 of the data as it relates to identifying a cancer  
 3 hazard.  
 4 And that's what I have been doing for the past  
 5 30 years. I have been evaluating all of the relevant  
 6 data to identify cancer hazard. So I would consider  
 7 myself an expert in epidemiology, in toxicology, in  
 8 chemistry, genotoxicity, all of the relevant icity's, if  
 9 you will, that pertain to cancer hazard identification.  
 10 Q. Are you board certified in toxicology?  
 11 A. I have been doing toxicology for over 20  
 12 years -- or 40 years, excuse me. And I started doing  
 13 toxicology before there was a board certification for  
 14 toxicology. You can look at the record. I have -- I  
 15 have been doing toxicology for 40 years. I have  
 16 published in toxicology. I have been responsible for  
 17 the Report on Carcinogens. I have participated in many  
 18 IARC monographs, meetings to identify carcinogens.  
 19 So --  
 20 Q. My question is: Are you board certified in  
 21 toxicology?  
 22 A. I --  
 23 MS. WAGSTAFF: Objection; outside the scope of  
 24 PTO 34.  
 25 Answer if you can.

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1 A. I consider myself a toxicologist.  
 2 Q. Are you board certified? Can you answer that  
 3 question?  
 4 A. I consider myself a toxicologist.  
 5 Q. Do you have a degree in toxicology?  
 6 A. You don't -- what -- what the --  
 7 What does being board certified in toxicology  
 8 get you or mean?  
 9 Q. Do you have a board certification in  
 10 toxicology?  
 11 A. What does "board certified in toxicology" mean?  
 12 Q. I am here to ask you the questions, sir.  
 13 All I ask you is whether you are board  
 14 certified in toxicology or not. It's a common  
 15 certification that most toxicologists who are experts in  
 16 litigation have. Do you have that?  
 17 A. I -- I -- I consider myself a toxicologist.  
 18 Q. Now, you had -- we were talking about  
 19 imputation methodology. Do you recall that conversation  
 20 we had and the reference to Dr. Heltshe --  
 21 A. Yes, sir.  
 22 Q. -- from your supplemental report?  
 23 A. Yes, sir.  
 24 Q. In your supplemental report, which I will  
 25 identify for the record now as Exhibit 27-6.

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1 (Exhibit 27-6 was marked for identification.)  
 2 Q. Do you have that, sir?  
 3 A. Yes, sir.  
 4 Q. If you look at page 1 of this report, do you  
 5 see the reference to multiple imputation procedure?  
 6 A. Towards the bottom of the first -- of the  
 7 second paragraph?  
 8 Q. Yes.  
 9 A. Yes.  
 10 Q. And do you see your statement that "the use of  
 11 this speculative method," do you see that?  
 12 A. Yes.  
 13 Q. The term "speculative method"?  
 14 A. Right.  
 15 Q. "To estimate exposures for the non-responders  
 16 could lead to serious misclassification of the  
 17 exposures," do you see that?  
 18 A. Yes.  
 19 Q. This is -- this is your main, one of your main  
 20 criticisms of the Andreotti 2018 paper or the NCI 2018  
 21 paper; true?  
 22 A. Yes.  
 23 Q. You say that the imputation methodology could  
 24 lead to misclassification, right?  
 25 A. Correct.

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1 Q. What is the basis for your suggestion that  
 2 these errors in fact led to miscalculation? Can you  
 3 refer me to any publication or any statement by anyone  
 4 outside of this litigation that says that these -- the  
 5 imputation method in fact led to -- to misclassification  
 6 of exposure, please?  
 7 MS. WAGSTAFF: Objection to your phrase of  
 8 "anyone outside this litigation." I would like the  
 9 record to reflect and remind that this article just  
 10 came out online in November. It has yet to be even  
 11 published. We are sitting here on January 10th,  
 12 2018. And the paper is titled 2018. So of course  
 13 no one has had the ability to review and critique it  
 14 yet as appropriate.  
 15 MR. HOLLINGSWORTH: I object to all your  
 16 coaching objections, which are improper.  
 17 MS. WAGSTAFF: Noted.  
 18 Q. Can you answer my question?  
 19 A. Okay. As -- as you pointed out, I said that  
 20 this could lead to serious misclassification.  
 21 Q. Yes.  
 22 A. It could lead to misclassifications because of  
 23 the seriously flawed data that they are using in -- in  
 24 the -- in the study. The data that they initially got  
 25 is seriously flawed. And as I indicated before, if you

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1 use flawed data to impute what other people were exposed  
 2 to because they didn't respond to your questionnaire,  
 3 then you are going to get flawed imputed data. And all  
 4 of that leads to wrong conclusions because the data is  
 5 inaccurate. And so --  
 6 Q. Do you have -- You use the word "could." Does  
 7 that mean that it probably did or in fact did?  
 8 A. In my mind it did.  
 9 Q. Well, then why did you use the word "could"?  
 10 A. Why did I use the word "could"? Well, in my  
 11 mind if you use bad data in, it's bad data out.  
 12 Q. Uh-huh.  
 13 A. So the data from the -- from the -- that they  
 14 initially got in the -- from the questionnaire in the  
 15 AHS study is flawed. It's seriously flawed. The whole  
 16 study is seriously flawed. And so the imputation of the  
 17 data gives you flawed data, so --  
 18 Q. Can you point me to a publication that says  
 19 that the entire AHS study is seriously flawed?  
 20 MS. WAGSTAFF: Same objection as before. This  
 21 report just came out.  
 22 A. Well, I mean, this paper is just published  
 23 online recently, within the past month or so. And it  
 24 hasn't come out officially from JNCI yet. And so it  
 25 they haven't -- and people haven't had an opportunity to

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1 really look at the paper and express their opinions.  
 2 Q. Has EPA looked at the NCI 2018 publication?  
 3 A. I don't know.  
 4 Q. Are you aware whether or not EPA has found that  
 5 imputation methodology and the other methods used by the  
 6 authors in the Andreotti paper to be valid?  
 7 A. I don't know.  
 8 Q. Do you know whether EPA has found that those  
 9 conclusions are well supported from the Andreotti paper,  
 10 including the imputation methodology?  
 11 A. I don't know. I haven't seen anything to that  
 12 effect.  
 13 Q. Do you know whether EPA has concluded that the  
 14 NCI 2018 paper is evidence that glyphosate is not likely  
 15 to be carcinogenic to humans?  
 16 A. I haven't seen anything to that effect.  
 17 Q. Do you know of any publication or letter to the  
 18 editor of a publication involving the AHS study which  
 19 says that it is seriously flawed, as you have stated in  
 20 your report at page 1?  
 21 MS. WAGSTAFF: Same objection.  
 22 A. No, I haven't seen any publications or  
 23 editorials to that effect.  
 24 There is an editorial that did come out at the  
 25 same time in -- on -- as the online publication came

1 out. I think it is a paper by Ward, Elizabeth Ward, who  
2 said that -- pointed out some -- some deficiencies and  
3 problems with using farmers to evaluate potential  
4 carcinogenicity because of the intermittent nature of  
5 their exposures.

6 And she -- she warned about the false negatives  
7 and getting low risk ratios from -- from data, and used  
8 benzene as an example. Benzene, as you know, is a  
9 well-established human carcinogen leukemogen. It's also  
10 been associated with non-Hodgkin's lymphoma. And early  
11 data that came out on benzene in the 1990s gave small  
12 relative risks from exposure to benzene, similar to what  
13 you have with the glyphosate issue. But there were  
14 hints. There were indications. There were low relative  
15 risks associated with the data that had been published  
16 on benzene.

17 Later on, they -- a -- there was a large case  
18 control study of petroleum workers, looking at their  
19 exposure to benzene and various lymphomas and leukemias.  
20 And it was finally demonstrated that in fact benzene is  
21 a human carcinogen associated with several different  
22 kinds of leukemia and also a strong association between  
23 benzene and non-Hodgkin's lymphoma.

24 So the glyphosate seems to be following a  
25 similar pattern where there are -- these are signs.

1 Even though you have low relative risks reported, it's  
2 still real. And -- and glyphosate, like benzene, is a  
3 carcinogen.

4 Q. Does Elizabeth Ward say that the imputation  
5 method used by Andreotti and others to evaluate the AHS  
6 report on information on glyphosate is speculative?

7 A. I have to look at the paper to see what she  
8 said about that.

9 Q. Did she say that it had, in fact, led to  
10 serious misclassification of exposures which invalidated  
11 the 2018 report that Andreotti -- that the NCI is going  
12 to publish by Andreotti?

13 A. I have to look at the paper to see what she  
14 said about that.

15 Q. Well, it's not a paper. It's only --

16 A. Well, an editorial.

17 Q. Yes. You cited it as a reference to your  
18 two-page supplemental report, right?

19 A. Right.

20 Q. You cite Elizabeth Ward as your fifth --

21 A. Right.

22 Q. -- point?

23 Did she -- You don't recall whether she said  
24 that the imputation method is, in fact, speculative?

25 MS. WAGSTAFF: If you -- if you would like him

1 to know if she used that exact word, I request that  
2 you please provide him the paper, if you want to  
3 know if she used the exact word. So --

4 MR. HOLLINGSWORTH: Well, she said -- he said  
5 that Elizabeth Ward supported his conclusion that  
6 the use of this speculative -- speculative method to  
7 estimated exposure to non-responders could lead to  
8 serious misclassification.

9 MS. WAGSTAFF: Exactly. And if he -- she -- he  
10 said it supported the conclusion. But you seem to  
11 be hung up on the word "speculative." So if you  
12 would like him to look and see if that exact word is  
13 used in the study, please provide him the study. If  
14 you do not care if the -- that exact word is used in  
15 the study, then you can continue on without  
16 providing him the study.

17 MR. HOLLINGSWORTH: I didn't say Elizabeth Ward  
18 is a study --

19 MS. WAGSTAFF: I mean editorial, sorry.

20 MR. HOLLINGSWORTH: Editor.

21 MS. WAGSTAFF: My bad.

22 MR. HOLLINGSWORTH: It's a letter.

23 THE WITNESS: Could I clarify? Your question  
24 to me wasn't if Elizabeth Ward's editorial supported  
25 the speculative nature of the imputative method.

1 You were asked -- you asked me if I knew of any  
2 papers or editorials that had been published talking  
3 about the AHS study.

4 BY MR. HOLLINGSWORTH:

5 Q. And your answer is yes, Elizabeth Ward is one  
6 of them?

7 A. Right.

8 Q. My question is: Does Elizabeth Ward say that  
9 the use of the speculative method of imputation, which  
10 Andreotti and her coauthors used, in fact led to serious  
11 misclassification of exposure errors?

12 A. I have --

13 MS. WAGSTAFF: Again, if would you like him to  
14 use that word --

15 Q. You don't recall that?

16 A. I have to look at --

17 MS. WAGSTAFF: Hang on, Dr. Jameson.

18 You can provide him with the letter. This  
19 happened last deposition. If you are going to ask  
20 him questions about things, please provide him the  
21 document.

22 MR. HOLLINGSWORTH: I have a right to test  
23 his --

24 MS. WAGSTAFF: This isn't a memory test, I  
25 mean.

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1 MR. HOLLINGSWORTH: I --  
 2 MS. WAGSTAFF: That is what this is, then.  
 3 Q. How many references do you have here, sir?  
 4 Five?  
 5 A. Five.  
 6 Q. Ward is one of them?  
 7 A. Uh-huh.  
 8 Q. Okay. Heltshe was another, right?  
 9 A. Correct.  
 10 MS. WAGSTAFF: Sitting here with a video camera  
 11 on you, while every word that you get taped, should  
 12 not also be a memory test. But if that's what you  
 13 want this to be, that's fine.  
 14 MR. HOLLINGSWORTH: I object to your coaching  
 15 objections. They are improper.  
 16 BY MR. HOLLINGSWORTH:  
 17 Q. Okay. Do you have any basis to disagree with  
 18 the statement that multiple imputation has been used to  
 19 account for missing data in large prospective cohort  
 20 studies, like the Agricultural Health Study?  
 21 A. Are you referring to something in -- in a  
 22 paper?  
 23 Q. No. My question is, my question is whether you  
 24 have any reason to agree with that statement?  
 25 A. As I indicated before, if you have good data to

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1 use in your imputation of what people possibly were  
 2 exposed to, then -- then it is proper to use that method  
 3 to -- to guesstimate what non-responders may have been  
 4 exposed to.  
 5 But if you have poor data or flawed data or bad  
 6 data, as you have in the Agricultural Health Study, it  
 7 is the old adage of bad data in, bad data out. You are  
 8 just exacerbating the problem you have with poor  
 9 exposure data if you impute that data to estimate what  
 10 people may have been exposed to. So --  
 11 Q. You --  
 12 A. -- that's why I feel that AHS study is flawed,  
 13 seriously flawed.  
 14 Q. You -- you cited Dr. Heltshe as one of the five  
 15 references to your supplemental report; true?  
 16 MS. WAGSTAFF: Objection; asked and answered.  
 17 A. As -- as I indicated before, the reference is  
 18 there because I took a direct quote out of an AHS study.  
 19 And that reference was included in the direct quote, so  
 20 I included the reference for completeness.  
 21 Q. Can you describe for the record, please, how  
 22 Dr. Heltshe and her coauthors assess the imputation  
 23 method?  
 24 MS. WAGSTAFF: I will request again that you  
 25 provide him with a copy. Actually, you have it. So

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1 why don't you take a look if you need to.  
 2 A. Yeah.  
 3 So your question is how they did it?  
 4 Q. Can you tell me how Dr. Heltshe and her  
 5 coauthors assessed the imputation method in the  
 6 Agricultural Health Study?  
 7 A. Well, they state in their paper that an  
 8 overreaching principle of multiple imputations is to  
 9 model the response to -- of interest, in this case the  
 10 use of pesticides in the interim period between  
 11 administration of the phase 1 and phase 2  
 12 questionnaires.  
 13 They use co-variants from participants and  
 14 complete data from both phases, and then applied that  
 15 model to participants missing phase 2 to obtain  
 16 estimates of the missing data. And --  
 17 Q. And they came up with a conclusion, which was  
 18 that there was no significant difference between the two  
 19 groups; that is, there was no difference between the  
 20 group that was -- the 20 percent of the group that was  
 21 from actual, actual data taken from the survey project  
 22 and the -- and then using the imputation method on that  
 23 same group. They came up with essentially the same  
 24 results, didn't they?  
 25 A. And that's exactly my point. If you have bad

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1 data to begin with, when you impute that bad data, that  
 2 flawed data from this flawed study, you are going to get  
 3 flawed data from -- from that exercise. And so you are  
 4 just using -- you are just exacerbating the whole  
 5 problem of having flawed data, poor exposure assessment.  
 6 And that just exacerbates everything. And so your  
 7 conclusions are all thrown off because you don't know  
 8 what people were exposed to.  
 9 Q. Do you know of an author which -- a paper which  
 10 has been published which supports your view that that  
 11 approach by Heltshe is invalid because of the flawed  
 12 data that was used in the first place?  
 13 A. Okay. I didn't say the approach was invalid.  
 14 I said that the data that they used was flawed.  
 15 Q. Okay.  
 16 A. And so therefore the results that they get is  
 17 flawed.  
 18 Q. Okay.  
 19 A. So any conclusion you base on flawed data is  
 20 invalid. So it's an invalid study.  
 21 Q. Can you point me to any publication which says  
 22 that the AHS study, either the Drews study from '05 or  
 23 the Andreotti study from 2018 on glyphosate, is based on  
 24 the use of flawed data and therefore is invalid?  
 25 MS. WAGSTAFF: Object to outside the scope of

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1 PTO 34 with respect to De Roos. Which is D-e space  
 2 R-o-o-s.  
 3 Q. De Roos is one of the five references that you  
 4 used in your supplemental report to the judge in this  
 5 case, isn't it?  
 6 A. De Roos?  
 7 Q. '05.  
 8 A. '05. That was the initial publication of  
 9 the --  
 10 Q. Yes.  
 11 A. Right.  
 12 Q. Yeah.  
 13 Can you answer my question?  
 14 A. Was there --  
 15 Q. Can you answer my question?  
 16 A. What was the question? I'm sorry.  
 17 MR. HOLLINGSWORTH: Can you read it back,  
 18 please, Donna.  
 19 THE REPORTER: "Can you point me to any  
 20 publication which says that the AHS study, either the  
 21 Drews study from '05 or the Andreotti study from 2018 on  
 22 glyphosate, is based on the use of flawed data and  
 23 therefore is invalid?"  
 24 A. Sitting here now, I can't. But I could  
 25 probably find something if I'm given a little time.

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1 Q. Are you aware, sir --  
 2 A. Of -- I'm sorry. Of the -- probably of the  
 3 De Roos study. Not this 2018 paper, because it hasn't  
 4 been out long enough for people to respond.  
 5 Q. Are you aware, sir, that there have been 250  
 6 articles published in the medical literature, in the  
 7 epidemiology literature in particular about the AHS  
 8 study, and based on the data that has been gathered in  
 9 the AHS study?  
 10 MS. WAGSTAFF: Objection; foundation.  
 11 A. 250? What were they? I -- I am sure there are  
 12 tons of -- of publications when the study started --  
 13 Q. Yeah.  
 14 A. -- and during the study, but --  
 15 Q. Can you point me to a single study that's been  
 16 published anywhere that says what you say, which is that  
 17 this study is invalid because the data is invalid in the  
 18 first place?  
 19 A. I --  
 20 MS. WAGSTAFF: Objection; asked and answered.  
 21 A. I can't here and now. But give me -- give me  
 22 an opportunity, and I will get something for you.  
 23 Q. Okay. Have you read or heard anything outside  
 24 of this litigation at any time that said that the AHS  
 25 study was invalid because the information that they

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1 based all of their findings on is invalid in the first  
 2 place?  
 3 MS. WAGSTAFF: Objection. The paper just came  
 4 out.  
 5 A. I am sorry. Would you repeat. I am sorry.  
 6 Q. Sure.  
 7 Have you read or heard anything outside of this  
 8 litigation at any time that said that the AHS study was  
 9 invalid because the information that they based all of  
 10 their findings on is invalid in the first place?  
 11 MS. WAGSTAFF: Same objection.  
 12 A. So by outside -- define "outside of this  
 13 litigation." I'm sorry.  
 14 Q. Outside of any opinions that have been reached  
 15 in this litigation, such as yours and other witnesses  
 16 for the plaintiffs, can you cite me to anything from the  
 17 worldwide medical literature that says what you say;  
 18 which is that the AHS study is invalid because the  
 19 information that they base all their findings on are  
 20 invalid in the first place?  
 21 MS. WAGSTAFF: Objection. The paper just came  
 22 out.  
 23 A. Setting here and now --  
 24 MS. WAGSTAFF: Asked and answered.  
 25 A. -- I can't. But then again, the paper, the

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1 paper just came out. People haven't had an opportunity  
 2 to really respond to it.  
 3 Q. Well, I am referring to the AHS study -- the  
 4 AHS study that has been around since the '90s, and of  
 5 the 250 papers --  
 6 A. Oh.  
 7 Q. -- that have been published. Can you point me  
 8 to a single one that says that the data they used and  
 9 introduced into this study through the surveys that are  
 10 referred to in all of the AHS studies is invalid in the  
 11 first place?  
 12 A. I -- I -- I --  
 13 MS. WAGSTAFF: Asked and answered. He has told  
 14 you he could if he was given the opportunity.  
 15 A. The -- the -- the one paper I may be able to  
 16 refer you to is the Gray 2000 paper; which is a review  
 17 of the AHS, and they have criticized the design and made  
 18 recommendations for changing. So I know they were very  
 19 critical and skeptical about the adequacy of it. But  
 20 this was before any publications of the data came out.  
 21 But they were -- they were concerned about some of the  
 22 data that may be generated based on the -- their  
 23 knowledge of what the AHS study was.  
 24 Q. Are you familiar with the logistic regression  
 25 model that Heltshe used to validate the data that was

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1 used in the AHS publication?  
 2 A. Just what I read in his paper.  
 3 Q. Are you aware that Heltshe and the other  
 4 authors in the study that you used as a reference in  
 5 your supplemental report state that the logistic  
 6 regression model underpinning the multiple imputation  
 7 procedure did, indeed, preserve essential features of  
 8 the data?  
 9 A. Again, they are using flawed data to begin  
 10 with.  
 11 Q. Okay.  
 12 A. The flawed data from this study is being used  
 13 in this imputation method. So if you use flawed data,  
 14 you are going to get flawed data back.  
 15 Q. When the AHS started in the 1990s, it started  
 16 out with 57,000 pesticide applicators, most of whom were  
 17 farmers, right?  
 18 A. Correct.  
 19 Q. Can you point me to any study since 1997 of any  
 20 type or publication anywhere on earth that says that  
 21 that data is flawed?  
 22 A. The data that they -- that they recruited  
 23 57,000 people?  
 24 Q. Yeah.  
 25 MS. WAGSTAFF: Objection; asked and answered.

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1 A. Are you asking if somebody has questioned the  
 2 number of people that they -- they -- they have in their  
 3 study?  
 4 Q. No. I am asking if you have any publication  
 5 you can show me that says what you say, which is that  
 6 that data is flawed in the first place?  
 7 MS. WAGSTAFF: Objection. We are here to talk  
 8 about the 2018 AHS study. So object to the scope of  
 9 the question.  
 10 Q. Do you understand my question?  
 11 A. I understand your question.  
 12 Q. What is your answer?  
 13 A. I -- I'm not aware that anybody has questioned  
 14 the number of participants in the AHS study.  
 15 Q. Has anyone since 1997 up to 2018 published a  
 16 paper which says that the data that the AHS collected  
 17 starting in the 1990s is flawed?  
 18 MS. WAGSTAFF: Objection; asked and answered.  
 19 A. Sitting here today, I can't identify a  
 20 particular paper. But given the opportunity, I could  
 21 probably get -- get some references for you.  
 22 Q. You haven't used -- you haven't included those  
 23 reference in either your initial report or your  
 24 supplemental report, have you?  
 25 A. The references I used are listed in my report.

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1 Q. Yes. None of those references in your report  
 2 stated that the AHS collected flawed data, and that  
 3 flawed data has invalidated all of the results from the  
 4 AHS, do they?  
 5 MS. WAGSTAFF: Objection; scope.  
 6 A. Other than the Ward editorial that implies that  
 7 agricultural workers are a poor surrogate for exposure,  
 8 no.  
 9 MR. HOLLINGSWORTH: Okay. Now, Donna, how long  
 10 have we been on the record? Can you tell us that or  
 11 do we have to --  
 12 MS. WAGSTAFF: He is keeping it.  
 13 THE VIDEOGRAPHER: 59 minutes the first tape,  
 14 and 34 minutes this tape.  
 15 MS. WAGSTAFF: So 133.  
 16 MR. HOLLINGSWORTH: Okay. If we can -- could  
 17 we take five minutes here and come back? It will  
 18 make this more efficient.  
 19 MS. WAGSTAFF: Yeah.  
 20 MR. HOLLINGSWORTH: Okay. Thank you.  
 21 MS. WAGSTAFF: So you are not --  
 22 THE COURT: Going off the video record. The  
 23 time is 10:48 a.m.  
 24 (Recess from 10:48 a.m. until 11:05 a.m.)  
 25 THE VIDEOGRAPHER: We are back on the video

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1 record. The time is the 11:05 a.m.  
 2 BY MR. HOLLINGSWORTH:  
 3 Q. Sir, you are aware that the AHS study is funded  
 4 by NCI and NIEHS, right?  
 5 A. Yes.  
 6 Q. And NIH?  
 7 A. (Witness nodding head.)  
 8 Q. It's not funded by Monsanto or any private  
 9 entity, is it?  
 10 MS. WAGSTAFF: Object to form; foundation.  
 11 A. It -- The AHS study is supported by NIH,  
 12 through the National Cancer Institute and the National  
 13 Institute of Environmental Health Sciences.  
 14 Q. It is not supported by Monsanto or any private  
 15 moneys, is it?  
 16 MS. WAGSTAFF: Object to form. Discovery has  
 17 not been established to determine the fingerprint of  
 18 Monsanto on this study.  
 19 A. It's funded by NIH.  
 20 Q. That's the Federal Government?  
 21 A. The Federal Government, yes.  
 22 Q. Do you have any evidence to suggest anywhere in  
 23 your experience that the AHS study is funded by  
 24 Monsanto?  
 25 MS. WAGSTAFF: Same objection.

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1 A. Being funded by NIH implies that it -- they are  
 2 the -- to my --  
 3 To my understanding, they are the sole funder  
 4 of the AHS study.  
 5 Q. When you worked for NIH -- did you work for  
 6 NIH?  
 7 A. Yes.  
 8 Q. Did your paycheck come from the Federal  
 9 Government?  
 10 A. Yes.  
 11 Q. Did you consider NIH and NCI to be reputable  
 12 agencies?  
 13 A. I would hope so.  
 14 Q. Did you consider them to be authoritative in  
 15 the area of human health epidemiology?  
 16 A. Yes, they are considered to be authoritative.  
 17 Q. And I am including the National Cancer  
 18 Institute within that. Do you consider them to be  
 19 authoritative on human health epidemiology?  
 20 A. They are authoritative, but not infallible.  
 21 Q. Do you think those agencies do quality, high-  
 22 quality and reliable scientific studies?  
 23 A. To the best of my knowledge, they -- they do do  
 24 very good, high-quality scientific investigations.  
 25 Q. Is it fair to state that you have no basis to

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1 criticize the Agricultural Health Study based on the  
 2 sources of its funding?  
 3 MS. WAGSTAFF: Same objection. Discovery has  
 4 not been completed on the fingerprint of Monsanto of  
 5 this study.  
 6 A. Well, I would hope that the source of the  
 7 funding would -- would...  
 8 I mean, the source of the funding hopefully  
 9 would not influence the outcome of the study. I can't  
 10 guarantee that it wouldn't, but I hope it wouldn't.  
 11 Q. Does the source of the funding from NIH enhance  
 12 the reliability and quality of the AHS study in your  
 13 opinion?  
 14 MS. WAGSTAFF: Object to form.  
 15 A. In my opinion it probably enhances the  
 16 impression of the study in the general public and  
 17 probably the general scientific community. But if --  
 18 but -- but you have to look at the individual studies  
 19 that are supported by NIH and how they are conducted and  
 20 how they are evaluated and the quality of the -- of the  
 21 study.  
 22 Q. Have you looked at the names of the authors on  
 23 the 2018 NCI publication that your supplemental report  
 24 addresses?  
 25 A. Yes.

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1 Q. Are any of those people from Monsanto or  
 2 employed by Monsanto or are they consultants to  
 3 Monsanto, to your knowledge?  
 4 A. I have no way of telling.  
 5 Q. Now, the NCI 2018 study that you have, and it's  
 6 been marked as an exhibit in this case, is going to be  
 7 published in the Journal of the National Cancer  
 8 Institute; isn't that right?  
 9 A. That's correct.  
 10 Q. Do you agree that's a reputable scientific  
 11 journal?  
 12 A. It's a well-respected scientific journal, yes.  
 13 Q. It's considered to have a very high impact  
 14 factor, as impact factors are measured among scientific  
 15 journals, isn't it?  
 16 A. That's true.  
 17 Q. It's in the top five percent of epidemiology  
 18 journals, isn't it?  
 19 MS. WAGSTAFF: Object to form.  
 20 A. It is not an epidemiology journal. It is a  
 21 journal of the National Cancer Institute, so.  
 22 Q. It's considered to be in the top five percent  
 23 of oncology journals; true?  
 24 A. That's -- that's probably accurate.  
 25 Q. Have you ever submitted an article for

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1 potential publication in the Journal of the National  
 2 Cancer Institute?  
 3 A. I'm trying to think back. I mean, I worked for  
 4 the government for 40 years -- or 40 years ago. I may  
 5 be a coauthor on a paper that came out in JNCI. I would  
 6 have to refresh my memory from all my publications. I'm  
 7 sorry.  
 8 Q. So you think there is a publication on your  
 9 list from your CV that is a publication in JNCI?  
 10 MS. WAGSTAFF: Objection.  
 11 A. I can't -- I -- I mean, like I said, I -- I  
 12 haven't wrote to memory all of my publications, so I  
 13 can't remember for sure.  
 14 Q. Have you served as a peer reviewer for JNCI,  
 15 the Journal of the National Cancer Institute?  
 16 A. Not for JNCI, no.  
 17 Q. Do the papers published in the Journal of the  
 18 National Cancer Institute undergo a rigorous peer review  
 19 process?  
 20 A. They --  
 21 MS. WAGSTAFF: Object, object to form.  
 22 A. It is my understanding that they -- they --  
 23 they do have a -- a well-outlined peer review process.  
 24 Q. Now, if you look at the -- on your CV at  
 25 page 6, under "reviewer for scientific journals" there

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1 is listed the Journal of the National Cancer Institute.  
 2 Do you recall that?  
 3 A. I guess I forgot. I'm sorry.  
 4 Q. Okay.  
 5 A. That was a while ago.  
 6 Q. How many peer reviewers does the NCI 2018  
 7 article by Andreotti and others have?  
 8 MS. WAGSTAFF: Objection.  
 9 Answer if you know.  
 10 A. I -- I don't know how many there were.  
 11 Q. Would it be six or eight or one?  
 12 MS. WAGSTAFF: Objection. He just said he  
 13 didn't know.  
 14 A. I don't know. I don't know. I mean, typically  
 15 for a scientific journal of this caliber, they send it  
 16 out to -- to three, at least three reviewers. But if  
 17 they sent it out to more, I have no way of knowing.  
 18 Q. Do you know Gabriella Andreotti?  
 19 A. No.  
 20 Q. She works for the National Cancer Institute?  
 21 MS. WAGSTAFF: Objection.  
 22 Answer if you know.  
 23 A. Okay. I mean, according to the publication,  
 24 that's -- that's the affiliation she states.  
 25 Q. She has a Ph.D. in epidemiology from George

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1 Washington?  
 2 A. I don't -- I have no way of knowing.  
 3 Q. Do you know Stella Koutros?  
 4 A. No.  
 5 Q. K-o-u-t-r-o-s?  
 6 A. No.  
 7 Q. She is another author on this Andreotti 2018  
 8 paper by JNCI, right?  
 9 A. Right.  
 10 Q. She works at the National Cancer Institute.  
 11 You don't know her?  
 12 A. I do not know her, no.  
 13 MS. WAGSTAFF: Objection. Answer.  
 14 Q. You haven't ever looked at her biological  
 15 sketch?  
 16 A. No.  
 17 Q. Do you know Dale Sandler?  
 18 A. Yes.  
 19 Q. She has a master's in public health from Yale  
 20 and a Ph.D. in epidemiology from Johns Hopkins. Did you  
 21 know that?  
 22 MS. WAGSTAFF: Objection; foundation.  
 23 A. I -- I think I remember that, but I --  
 24 If -- if you say so. I -- I -- I knew she  
 25 was -- she got her degrees from very prestigious

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1 universities, but I couldn't remember that it was Johns  
 2 Hopkins.  
 3 Q. Did you know there are two co-principal  
 4 investigators of the agricultural health center, and one  
 5 of them is Dale Sander, Dr. Dale Sander?  
 6 A. Yes.  
 7 Q. Sandler, I should say?  
 8 A. Sandler, yes.  
 9 Q. Yes.  
 10 Are you aware that Dr. Sandler is a professor  
 11 of epidemiology at the University of North Carolina?  
 12 A. I -- I knew she had an ad hoc position there.  
 13 Q. Have you ever taught a course in epidemiology?  
 14 A. Me personally, I have never taught a course in  
 15 epidemiology, no.  
 16 Q. Did you know that Dr. Sandler is a past editor  
 17 of the Journal of Epidemiology?  
 18 A. I think I knew that, but.  
 19 Q. Did you know she was a past president of the  
 20 American College of Epidemiology?  
 21 MS. WAGSTAFF: Objection; foundation.  
 22 A. That wouldn't surprise me. I have known Dale  
 23 for a long time.  
 24 Q. How long have you known her?  
 25 A. Since 1980.

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1 Q. Okay. Did you work with her?  
 2 A. I did do some work with her while I was at  
 3 NIHS, yes.  
 4 Q. What was that on?  
 5 A. Basically it -- I would go to her and ask her  
 6 for assistance in identifying people to help me serve as  
 7 reviewers for the Report on Carcinogens. From time to  
 8 time, early on in my career at NIHS, I was responsible  
 9 for all the chemistry that was performed for the  
 10 national toxicology program. And Dale would come to me  
 11 and ask me for assistance in getting some chemical  
 12 analysis performed. So.  
 13 Q. So are you familiar with her work as an  
 14 epidemiologist?  
 15 A. Fairly well, yes.  
 16 Q. Do you believe that she is a qualified  
 17 epidemiologist?  
 18 A. Yes, sir, absolutely.  
 19 Q. She was one of the reviewers of the  
 20 epidemiology section of the Report on Carcinogens?  
 21 A. I don't recall that Dale was able to serve as a  
 22 reviewer for us or not. We had so many different people  
 23 do it from -- from the epidemiology branch.  
 24 Q. Do you think that Dale Sandler does good  
 25 science?

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1 A. Yes.

2 Q. Are you familiar with Charles Lynch, who is one

3 of the authors on the 2018 NCI study that your

4 supplemental report addresses?

5 A. No.

6 Q. Do you have any reason to challenge the

7 epidemiologic qualifications of the NCI 2018 authors?

8 A. No.

9 Q. Do you have any basis to claim that any of

10 these authors are biased?

11 A. Biased in what way?

12 Q. Improperly biased in any way.

13 A. I -- I can't say.

14 Q. Do you have any basis to believe that these

15 authors have been paid by Monsanto?

16 A. I can't say. I don't know.

17 Q. Do you have any basis to say that these authors

18 are improperly influenced by Monsanto?

19 A. I have no way of telling.

20 Q. Do you have any basis to say that this 2018 NCI

21 publication was ghost written by Monsanto?

22 A. I have no way of telling you if it was or not.

23 Q. Dr. Jameson, in your report, your initial

24 report, you stated that the evidence on human

25 carcinogenicity involving glyphosate was limited. Do

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1 you remember that?

2 A. Which report are you referring to?

3 Q. I am referring to your initial report in this

4 case, not your supplemental report.

5 A. That -- that the evidence for human

6 carcinogenicity in humans --

7 Q. Yes.

8 A. -- is limited?

9 Q. Yes.

10 A. It meets the criteria I set up for limited in

11 humans, yes.

12 Q. Yes. Yes. Quote, limited; right?

13 A. Yes.

14 Q. Now, in your supplemental report, you state

15 that --

16 If you look at page 2 of that, sir.

17 A. Page 2 of my supplemental report?

18 Q. Yes. The second and last page. And please

19 look at the last paragraph.

20 A. Okay.

21 Q. There is a sentence that I think is the fourth

22 sentence down. That starts, "There is nothing in this

23 most recent paper that would lead me to change my

24 initial evaluation that there is evidence that

25 glyphosate and glyphosate-based formulations are

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1 carcinogenic in humans," unquote.

2 Do you see that?

3 A. Yes.

4 Q. You state that there is evidence now and not

5 limited evidence; true?

6 A. No. I didn't say -- that's not what I said. I

7 said, the -- In my initial report, I said I set up

8 criteria for the evaluation of the human data. And

9 based on the criteria, it met the criteria for limited

10 evidence in humans.

11 Limited evidence in humans is defined as a

12 causal association is credible. But the confounding and

13 other factors couldn't -- couldn't be completely ruled

14 out. So I went on to say that it is -- that it is a

15 reasonable -- there is scientific, reasonable amount of

16 scientific certainty that glyphosate causes cancer in

17 humans and causes non-Hodgkin's lymphoma in humans.

18 Q. I understand that. But in your initial report

19 you said that the evidence in humans from the human data

20 was limited.

21 A. Based on --

22 Q. And in your supplemental report you don't use

23 the term "limited." You just say there is evidence.

24 MS. WAGSTAFF: Can he please see his original

25 report?

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1 MR. HOLLINGSWORTH: Sure.

2 Okay. I will mark your original report as

3 27-7.

4 (Exhibit 27-7 was marked for identification.)

5 BY MR. HOLLINGSWORTH:

6 Q. And --

7 MS. WAGSTAFF: Thanks.

8 Q. -- the statement that I was referring to,

9 Dr. Jameson, is at page 19. And on it is the first full

10 sentence at the top of the page.

11 I am handing you a copy of your initial report.

12 Do you have that?

13 A. That's what this is.

14 Q. Okay. So the sentence I am looking at is the

15 one that says -- are you with me, sir?

16 A. Okay.

17 Q. Page 19?

18 A. Uh-huh.

19 Q. "Using my stated criteria, I conclude there is,

20 quote, initial cap, Limited, unquote, evidence for the

21 carcinogenicity of glyphosate in humans."

22 Do you see that phrase, that clause?

23 A. Yes.

24 Q. And in your supplemental report, you state

25 that, "I see no reason to change my initial evaluation

1 that there is evidence that glyphosate formulations are  
2 carcinogenic in humans."

3 Do you see that on page --

4 A. I see that. But if you --

5 Q. Okay. Why did you -- why did you not -- why  
6 did you omit the word "limited" in your supplemental  
7 report?

8 A. Because if you look at my initial report, on  
9 page 31.

10 Q. Yep.

11 A. Under "hazardous estimate conclusion." I state  
12 in my report, "Based on significant positive association  
13 observed in the studies discussed above, I conclude that  
14 there is evidence that glyphosate and glyphosate-based  
15 formulations are carcinogenic in humans."

16 So my conclusion of my report says that I  
17 believe it's carcinogenic in humans. So that is not  
18 inconsistent with what I have in my supplemental report.

19 Q. Okay. Does the Andreotti article, which is the  
20 National Cancer Institute 2018 study, provide further  
21 evidence in your view that there is -- that glyphosate  
22 is carcinogenic in humans?

23 A. The Andreotti 2018 paper is of a flawed study.  
24 The study is flawed. Therefore, it is -- it is very --  
25 it contributes no -- nothing to my original conclusion

1 that it's carcinogenic, that glyphosate is carcinogenic  
2 in humans.

3 The -- the Andreotti study, again, as I have  
4 said before, is based on very poor exposure data. The  
5 imputation of that data just exacerbates the -- the  
6 exposure information, making it a flawed study. And  
7 since it's a flawed study, it should not be used in  
8 consideration for the evaluation of the carcinogenic  
9 potential of glyphosate or glyphosate-based  
10 formulations.

11 And initially in my -- in my initial report,  
12 the De Roos study was also from -- from the AH -- part  
13 of the AHS study, the initial report from the AHS study.  
14 And it concluded that -- it concluded the same thing  
15 that this 2018 paper, that there was no association.  
16 But I didn't put any weight on that either.

17 Q. Now, the De Roos study, you said, had an  
18 insufficient number of NHL cases, which was only 92,  
19 right?

20 A. Uh-huh.

21 Q. And --

22 A. I -- I don't -- I am sorry. I don't know if I  
23 said insufficient or just a small number. And I don't  
24 remember the wording, but anyway.

25 Q. Okay. Well, I will take small. Small is what

1 I think you intended. Right?

2 A. Uh-huh.

3 Q. Okay. And if you look at Andreotti, the  
4 Andreotti study, the 2018 NCI study, at page 5, you can  
5 see that in the non-Hodgkin's lymphoma section of  
6 Table 2, the number of NHL cases that Andreotti has by  
7 2017. Do you see that?

8 A. For non-Hodgkin's lymphoma?

9 Q. Yes.

10 A. Uh-huh.

11 Q. 113, 104, 112, and 111?

12 A. Uh-huh.

13 Q. And the total of that is 440, right?

14 A. Right.

15 Q. So she had 92 -- AHS had 92 cases as of 2005,  
16 and 440 cases as of 2017 and 2018; true?

17 A. Okay.

18 Q. Those are cases of people with NHL who had  
19 exposure to glyphosate, right?

20 A. Right.

21 Compared to 135 that didn't?

22 Q. Compared to 135 controls.

23 A. Controls.

24 Q. That didn't.

25 A. They were -- They had NHL, but weren't exposed

1 to glyphosate?

2 Q. True.

3 A. So you have 440 cases of non-Hodgkin's lymphoma  
4 from people exposed.

5 Q. Yes.

6 A. Versus 135 to people who weren't exposed.  
7 That's like three times the level of non-Hodgkin's  
8 lymphoma in exposed cases versus nonexposed cases.

9 Q. That's not the way you do the calculation in  
10 this cohort study, is it, sir? This is not a case  
11 control study?

12 A. No. But I am just pointing that out, that you  
13 have a much significant -- a significantly higher number  
14 of non-Hodgkin's lymphoma in people exposed to  
15 glyphosate, versus those who were not exposed to  
16 glyphosate.

17 Q. Well, that's because the test is on 57,000  
18 people who used glyphosate, isn't it?

19 A. Well, I am just pointing out those numbers,  
20 that's all.

21 Q. Okay. Did you look at -- to the right of those  
22 numbers of total cases on this chart, sir, Table 2 --

23 A. Okay.

24 Q. -- to see what the relative risks were?

25 A. Sure. .8.

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1 Q. .83, .83 .88 and .87?  
 2 A. For the different quartiles, right.  
 3 Q. That's the null, right? That's the null  
 4 finding, true?  
 5 A. Right.  
 6 Q. And that's why Andreotti and her authors  
 7 concluded that there was, quote, "no association  
 8 apparent between glyphosate and any solid -- solid  
 9 tumors or lymphoid malignancies overall, including NHL  
 10 and all its subtypes." True?  
 11 A. But that conclusion is based on flawed exposure  
 12 data.  
 13 Q. Okay.  
 14 A. So I mean the conclusion, you can't say that  
 15 because you don't know what these people were exposed  
 16 to.  
 17 Q. Would you agree that the data as it exists now,  
 18 as of the time of your supplemental report, still meets  
 19 the criteria for, quote, "limited," unquote, evidence of  
 20 carcinogenicity in humans as you set out at page 19 of  
 21 your report?  
 22 A. It -- it --  
 23 The data as it stands today, including my  
 24 consideration of the 2018 Andreotti paper, I conclude  
 25 that glyphosate is carcinogenic to humans, as I state in

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1 my summary on page 31 of my initial report.  
 2 Q. Uh-huh.  
 3 If you look at -- you're referring to your  
 4 conclusion in your initial report?  
 5 A. In my initial report.  
 6 Q. Yes.  
 7 A. Which I didn't know we were supposed to be  
 8 discussing here, but evidently we are.  
 9 Q. Okay. Well, you looked at your initial report  
 10 because counsel asked you to look at it, so I'm just  
 11 asking you about that conclusion.  
 12 A. Okay.  
 13 Q. Okay? If you look at the conclusion of  
 14 Andreotti at page 7.  
 15 MS. WAGSTAFF: I only asked him to look at it  
 16 because you were referencing it. I didn't -- I  
 17 didn't start the questioning about it. Maybe I  
 18 should have objected to it.  
 19 Q. If you look at Andreotti, page 7.  
 20 A. Okay.  
 21 Q. In her "in conclusion" section, can you read  
 22 the first sentence? Do you see that in the bottom of  
 23 the right-hand column on page 7 of the Andreotti NCI  
 24 2018?  
 25 MS. WAGSTAFF: Under "funding"?

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1 A. No. "This evaluation has some limitations"?  
 2 Q. No.  
 3 A. No.  
 4 MS. WAGSTAFF: Are you on page 7?  
 5 Q. On page 7 of 8. In conclusion.  
 6 MS. WAGSTAFF: Oh.  
 7 Q. In the right-hand column at the bottom.  
 8 MS. WAGSTAFF: Above "funding."  
 9 Q. It's the conclusion of her paper. Do you see  
 10 that, sir? "In conclusion."  
 11 A. What?  
 12 Q. Can you read that?  
 13 A. Oh, I'm sorry. I apologize.  
 14 Q. It's okay.  
 15 A. I was looking at it and didn't see it.  
 16 "In conclusion, we found no evidence of an  
 17 association between glyphosate use and risk of any solid  
 18 tumors or lymphoid malignancy, including non-Hodgkin's  
 19 lymphoma and its subtypes." But again, that conclusion  
 20 is based on flawed data.  
 21 Q. Okay. You disagree with the conclusion?  
 22 A. I disagree with the conclusion, because her  
 23 conclusions are based on inclusion of the flawed  
 24 exposure data to the people in the cohort.  
 25 Q. Okay. Now, does the fact that the Andreotti

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1 paper had 440 cases of NHL compared to 92 -- it was  
 2 actually 71, but I will take 92 from your report. Does  
 3 the fact that there is so many more cases enhance the  
 4 value or the power of the conclusion that Andreotti and  
 5 her coauthors reached that you just read?  
 6 A. Define "powers" for me. I don't know what you  
 7 mean by "power."  
 8 Q. What does "power" mean in terms of  
 9 epidemiology? You are the epidemiology expert.  
 10 According to you.  
 11 A. You have more numbers to play with.  
 12 MS. WAGSTAFF: Object; argumentative.  
 13 Q. There is more numbers between 92 and 440, isn't  
 14 there?  
 15 A. One is bigger than the other, yes.  
 16 Q. Does that make this study more powerful than  
 17 the other one?  
 18 A. It makes the second study have -- you have more  
 19 numbers to play with, yes.  
 20 Q. Your criticism, your initial criticism of the  
 21 De Roos 25 study was that there weren't enough NHL cases  
 22 among the exposed --  
 23 A. Well, there was a small number of NHL cases,  
 24 compared to the number of NHL cases that were evaluated  
 25 in the case control studies.

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1 Q. Uh-huh.  
 2 A. But now you have more in the AML study than you  
 3 have in the -- in -- in the case control studies.  
 4 Q. Yes.  
 5 A. But it's based on flawed data, though.  
 6 Q. Yes.  
 7 A. I mean the AML is -- or the AML.  
 8 Q. AHS.  
 9 A. AHL -- AHS, excuse me.  
 10 Q. When you said AML you meant --  
 11 A. I am thinking of the metabolite.  
 12 Q. It's all right.  
 13 A. The -- the conclusions that they have in here  
 14 is based on flawed data.  
 15 Q. Yeah.  
 16 The case control studies that you relied on had  
 17 a total of 140 NHL cases, right?  
 18 A. I would have to look up my report and see how  
 19 many they had. But that sounds close to being right, I  
 20 guess.  
 21 Q. And based on page 5 of Andreotti's paper, as we  
 22 already discussed, sir, there are 440 NHL cases from  
 23 the -- from the AHS cohort as of 2017 or 2018, right?  
 24 A. That's what they say here in the paper.  
 25 Q. So that's a significantly bigger number than

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1 what you were talking about in your initial report;  
 2 true?  
 3 A. It is a bigger number, correct.  
 4 Q. Now, do you agree that the AHS information  
 5 as -- and the studies on the AHS as they currently  
 6 exist, including the NHI, the -- sorry, sorry, the NIH  
 7 2018 Andreotti paper, still meet the criteria for,  
 8 quote, "limited," unquote, evidence of carcinogenicity  
 9 in humans, as you used at page 19 of your initial  
 10 report?  
 11 A. I am sorry. Could you repeat that again? I --  
 12 Q. Do you agree that the epidemiology on the AHS  
 13 cohort as to glyphosate specifically still meets the  
 14 criteria for the term, quote, "limited," unquote,  
 15 evidence of carcinogenicity that you used at page 19 of  
 16 your initial report?  
 17 MS. WAGSTAFF: Objection; asked and answered.  
 18 A. No. Because the AHS 2018 paper is based on  
 19 flawed data, and so it is a flawed study and should not  
 20 be included in any consideration of the cancer hazard of  
 21 glyphosate or glyphosate formulations. So it adds  
 22 nothing to -- to any evaluation because it is an  
 23 inadequate study.  
 24 Q. As to the epidemiology as a whole, including  
 25 AHS and the case control studies that you referred to in

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1 your reports, is the status of that information, those  
 2 studies, overall, still sufficient to meet the term,  
 3 quote, "limited," unquote, as you used it at page 19 of  
 4 your initial report?  
 5 A. Based on my evaluation of the -- of all of the  
 6 epidemiology data available at the time of my full  
 7 report, which was -- when was that? Back in --  
 8 Q. May.  
 9 A. May.  
 10 All of the epidemiology data, I -- I reached  
 11 the conclusion that there is limited evidence --  
 12 Based on the criteria that I stated in my  
 13 report, the epidemiology data meets the criteria for  
 14 limited evidence of carcinogenicity, because a credible  
 15 association is -- there is a credible association  
 16 between exposure to glyphosate and glyphosate  
 17 formulations and cancer in humans, but confounding can't  
 18 be completely explained away.  
 19 But if you take the totality of all the data  
 20 that's in my report, my conclusion stands as it is on  
 21 page 31 of the hazard assessment conclusion that  
 22 glyphosate and glyphosate formulation are carcinogenic  
 23 in humans.  
 24 Q. Now, didn't the same flaws that you have  
 25 alluded to today during your testimony and in your

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1 supplemental report, in the AHS study of farmers, exist  
 2 in 2005 during the De Roos --  
 3 A. Yes.  
 4 Q. -- study?  
 5 A. Yes.  
 6 MS. WAGSTAFF: Objection.  
 7 A. And there was no -- I'm sorry. There was no  
 8 association then. And I took that into consideration in  
 9 my evaluation that it was a -- you know, it showed no  
 10 association. But there was enough evidence in the case  
 11 control studies, in the many case control studies,  
 12 both -- both reported individually and the meta-analysis  
 13 that were done on the case control studies, that it met  
 14 the criteria, my criteria for saying that there is  
 15 limited evidence. There is a -- that a cred -- it is  
 16 credible to say that glyphosate causes cancer in humans.  
 17 But as far as the epidemiology studies are concerned,  
 18 all the confounding and -- and other such issues could  
 19 not be completely explained away.  
 20 Q. Isn't that opinion the same definition that  
 21 IARC uses?  
 22 A. Very similar. And very similar to the  
 23 definition used by the Report on Carcinogens.  
 24 Q. Okay.  
 25 A. I mean, I wrote that criteria for the Report on

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1 Carcinogens, so.  
 2 Q. Okay. Okay.  
 3 Would you agree that the NCI 2018 study by  
 4 Andreotti has the most glyphosate-exposed NHL cases of  
 5 any epidemiology study ever?  
 6 A. No.  
 7 Q. Can you cite me to the study that has more  
 8 glyphosate-exposed NHL cases in it than the NCI 2018  
 9 Andreotti study of the AHS cohort?  
 10 A. I believe the NAPP has more NHL cases in it  
 11 than -- than the AHS study currently does.  
 12 Q. Okay.  
 13 THE REPORTER: Did you say N-A-P-P?  
 14 MS. WAGSTAFF: Yes, all caps.  
 15 THE WITNESS: Yes. NAPP. North American  
 16 Pooled, North American Pooled --  
 17 MS. WAGSTAFF: Project.  
 18 THE WITNESS: Project. North American Pooled  
 19 Project is what it's called.  
 20 BY MR. HOLLINGSWORTH:  
 21 Q. Now, you say, you are saying that that has more  
 22 NHL cases than the AHS cohort?  
 23 A. I believe it does.  
 24 Q. Yeah.  
 25 Have you read any of the work by Dr. Blair, who

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1 is an investigator on the national -- on the NAPP?  
 2 A. I have read papers, I have read papers by  
 3 Dr. Blair, yes.  
 4 Q. Do you consider him to be a competent  
 5 epidemiologist?  
 6 A. Yes.  
 7 Q. Are you -- is it fair to say that he is  
 8 qualified to evaluate epidemiologic data?  
 9 A. I would believe so, yes, since he was head of  
 10 the epidemiology department at the National Cancer  
 11 Institute.  
 12 Q. Are you aware that Dr. Blair has reported a  
 13 null finding from the North American Pooled Project with  
 14 respect to whether or not glyphosate is associated with  
 15 non-Hodgkin's lymphoma?  
 16 MS. WAGSTAFF: Objection; misstates record.  
 17 A. I would have to look at that and see. I would  
 18 have to look at the -- at the NAPP information and --  
 19 and verify that. I can't say that sitting here right  
 20 now.  
 21 Q. You understand my question?  
 22 A. Well, repeat it.  
 23 Q. Are you aware that Dr. Blair has reported a  
 24 null finding from the NAPP regarding the association  
 25 between glyphosate and non-Hodgkin's lymphoma?

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1 MS. WAGSTAFF: Objection. You asked and he  
 2 answered it. You have to look and see.  
 3 A. I would have to look at the paper --  
 4 Q. Okay.  
 5 A. The information available. I don't -- I don't  
 6 recall.  
 7 Q. Okay. Well, you brought up NAPP so that's why  
 8 I'm asking.  
 9 A. Yeah.  
 10 Q. Did you rely on NAPP in reaching the  
 11 conclusions that you reached in this case?  
 12 A. No.  
 13 MS. WAGSTAFF: Well, do you mean with respect  
 14 to this PTO 34 deposition? Because that's the only  
 15 thing we are asking about right now. So to the  
 16 extent that you are asking whether he relied on NAPP  
 17 with respect to PTO 34, sure.  
 18 Is that how you understood the question.  
 19 THE WITNESS: I assumed that what he was  
 20 referring to.  
 21 MS. WAGSTAFF: Okay.  
 22 THE WITNESS: That about the -- about the AHS.  
 23 My -- my supplemental report.  
 24 BY MR. HOLLINGSWORTH:  
 25 Q. Okay. I didn't see you --

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1 A. I didn't reference it. I didn't. So I didn't  
 2 use it.  
 3 Q. You didn't reference it in your initial report  
 4 either, did you?  
 5 A. No.  
 6 MS. WAGSTAFF: Object to the last question;  
 7 scope.  
 8 Q. Are you aware of any epidemiologic cases or any  
 9 literature -- excuse me. Let me start over.  
 10 Are you aware of any epidemiologic literature  
 11 anywhere involving glyphosate and the association with  
 12 NHL or not, where there is an adjusted odd ratio that  
 13 shows a positive association that is statistically  
 14 significant?  
 15 A. I am sorry. Say that again.  
 16 Q. Are you aware of any epidemiologic publication  
 17 anywhere that reports for glyphosate and NHL an adjusted  
 18 odds ratio that shows a positive association that's  
 19 statistically significant?  
 20 MS. WAGSTAFF: Objection; scope. This is  
 21 beyond PTO 34 and the impact of the 2018 AHS study  
 22 on his opinion. You are asking general opinions  
 23 that should have been covered in his last  
 24 deposition, either of the last two depositions.  
 25 Q. Can you answer?

1 A. I could give you references. Given the  
2 opportunity to go look them up, I could give you some  
3 references, yes.

4 MS. WAGSTAFF: The deponent prepared for the  
5 deposition pursuant to the scope outlined in PTO 34  
6 in Monsanto's request.

7 MR. HOLLINGSWORTH: Okay. How much time do we  
8 have left?

9 THE VIDEOGRAPHER: How much do you have?

10 MS. WAGSTAFF: Well, how much have we gone?

11 MR. HOLLINGSWORTH: How much have we gone?

12 THE VIDEOGRAPHER: Two hours and 13 minutes.

13 MR. HOLLINGSWORTH: Okay. I'd like to stop now  
14 for just two or three minutes.

15 THE VIDEOGRAPHER: Going off the video record.

16 The time is 11:45 a.m.

17 (Recess from 11:45 a.m. until 12:13 p.m.)

18 THE VIDEOGRAPHER: We are back on the video  
19 record. The time is 12:13 p.m.

20 CROSS-EXAMINATION

21 BY MS. WAGSTAFF:

22 Q. Dr. Jameson, I have a few follow-up questions  
23 based on Monsanto's counsel's questions from you this  
24 morning.

25 Do you have the exhibits that Mr. Hollingsworth

1 Q. Okay. This may be Marketing 101, but press  
2 releases are usually used to generate excitement or buzz  
3 about a study, correct?

4 A. Well, it's to do that, and sometimes it's to  
5 answer questions. I know that there has been a lot of  
6 anticipation for an update of the information in the  
7 Agricultural Health Study. And I think that both NIEHS  
8 and NCI were under pressure to get some additional  
9 information out. And so they are just announcing to  
10 everybody that they finally did.

11 Q. Okay. So it -- okay. So no further questions  
12 on that. You can put it aside.

13 Let's look at the next exhibit, which is 27-2.  
14 And this is the malathion IARC monograph.

15 A. Okay.

16 Q. And just so the record is complete, malathion  
17 was part of Monograph 112, which also included the  
18 glyphosate monograph, correct?

19 A. Correct.

20 Q. Okay. And you were part of that Working Group  
21 112, correct?

22 A. Correct.

23 Q. Okay. And Mr. Hollingsworth said this earlier,  
24 but how are the malathion and glyphosate monographs  
25 related with respect to purposes of this litigation --

1 used in front of you?

2 A. Yes.

3 Q. If you could pull up Exhibit 27-1.

4 A. Okay.

5 Q. Which was the first exhibit that he provided to  
6 you.

7 What is this document?

8 A. Well, it appears to me, in looking through it,  
9 as a, more or less, a press release announce -- more or  
10 less announcing that the AHS 2018 paper is coming out,  
11 and just giving some general -- general information  
12 about it.

13 Q. Okay. And does it appear that this press  
14 release was issued by NIH, if you look up at the upper  
15 left-hand big block --

16 A. Yeah.

17 Q. -- logo?

18 And so does it appear that this is NIH doing a  
19 press release on a study that NIH funded?

20 A. That's accurate. Actually, I think it looks  
21 like it came from the National Institute of  
22 Environmental Health Sciences, NIEHS. And it's not  
23 unusual for them to put press releases out about when  
24 they put a paper out that they think may be of interest  
25 to a number of people.

1 or of this deposition?

2 A. Since both malathion and glyphosate were  
3 included as some of the pesticides that were  
4 investigated in the AHS study, when we did the review,  
5 the IARC review, rather than writing up the description  
6 of the AHS study in each of the monographs -- because we  
7 were doing, I think, up to six monographs at that time,  
8 and I don't know how many of the -- I don't recall how  
9 many of the pesticides we reviewed were also part of the  
10 AHS study. So the decision was made by IARC to have  
11 a -- the detailed description of the AHS study and the  
12 malathion monograph, and then refer people to the  
13 malathion monograph for details of the designs and --  
14 and -- of the study in the glyphosate and other  
15 monographs.

16 Q. Okay. And you are speaking with just with  
17 respect to the AHS --

18 A. Right.

19 Q. -- study, correct?

20 A. Correct, correct.

21 Q. So it's fair to say that the malathion AHS  
22 analysis was incorporated by reference in the glyphosate  
23 monograph; is that correct?

24 A. That's correct.

25 Q. And that's sort of what Monsanto's lawyer

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1 alluded to earlier this morning.  
 2 A quick review of the malathion monograph  
 3 during the break shows that it discusses AHS on pages 9  
 4 to 11, pages 15, 16, page 21, page 26 to 31, pages 33 to  
 5 36, pages 103 to 104. Would that -- is that -- I sort  
 6 of looked at it with you so --  
 7 A. Yeah, that's -- that's accurate.  
 8 Q. Would you agree with that?  
 9 A. Yeah, I would agree.  
 10 Q. So it's a pretty comprehensive analysis of the  
 11 NIS study, is that correct?  
 12 A. Correct.  
 13 Q. So does this finally put to bed whether or  
 14 not -- strike that.  
 15 Does this finally put to bed Monsanto's  
 16 allegation that the IARC 112 Working Group did not  
 17 consider the AH data when they determined that  
 18 glyphosate was a probable human carcinogen?  
 19 A. Absolutely. I mean, in our review of the data  
 20 for glyphosate and malathion and I think several others,  
 21 we definitely took into consideration the AHS study, the  
 22 data, critically evaluated the data, and stated so in  
 23 the -- in the various monographs. That was someplace in  
 24 here where it -- where it makes a statement about the  
 25 adequacy of the -- of the AHS study. I -- I -- I can't

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1 remember what page it was on but --  
 2 Q. Well, if you look on page 21, it actually  
 3 states, quote, "The Working Group considered the AHS to  
 4 be a highly informative study."  
 5 A. Right.  
 6 Q. Correct?  
 7 A. That's correct.  
 8 Q. Okay.  
 9 A. Right.  
 10 Q. And so it would be fair to -- well, strike  
 11 that.  
 12 So in fact the IARC 112 committee did consider  
 13 the AHS strengths when determining that glyphosate was a  
 14 2A probable human carcinogen, correct?  
 15 A. They did, they did review the strengths of the  
 16 AHS study. But -- but I can recall several  
 17 conversations that were held in the plenary session  
 18 especially, that -- that there was several members of  
 19 the epidemiology subgroup who were -- who were  
 20 questioning the adequacy of some of the -- some of the  
 21 data that was being generated by in the AHS study.  
 22 Q. So I guess a more accurate question for me  
 23 would be: In fact the IARC 112 committee did consider  
 24 both the strengths and weaknesses of the AH study when  
 25 deciding that glyphosate was a 2A probable cause human

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1 carcinogen, correct?  
 2 A. That's correct.  
 3 Q. Okay. Let's look at the next exhibit that  
 4 Mr. Hollingsworth showed you, which is the Helsinki  
 5 (sic), Exhibit 27-3. And if you look at page 414, I  
 6 would like to bring your attention to a sentence that  
 7 Mr. Hollingsworth did not read to you.  
 8 A. Okay.  
 9 Q. On the bottom right --  
 10 MR. HOLLINGSWORTH: Where is this?  
 11 MS. WAGSTAFF: Page 414. It's 27-3.  
 12 MR. HOLLINGSWORTH: Okay.  
 13 MS. WAGSTAFF: I don't know what tab you have  
 14 it as, but.  
 15 MR. HOLLINGSWORTH: Okay.  
 16 BY MS. WAGSTAFF:  
 17 Q. So if you look at the right-hand column, I can  
 18 show you guys both sort of where this is.  
 19 Right here.  
 20 MR. HOLLINGSWORTH: Yep.  
 21 Q. It starts with "For our imputation analysis..."  
 22 Do you see that sentence, Dr. Jameson?  
 23 A. Yes.  
 24 Q. Okay. If you could read that entire sentence  
 25 until the next period into the record, please.

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1 A. It states that, "For our imputation analysis  
 2 the, quote, outcome, unquote, of interest is the missing  
 3 pesticide use itself. Montgomery, et al., showed there  
 4 was little evidence for selection bias in phase 2 of the  
 5 AHS. However, missing and random is an under --  
 6 untenable assumption with" --  
 7 Q. Testable.  
 8 A. I am sorry. -- "untestable assumption without  
 9 additional data. Thus, it is possible that  
 10 non-responders differ from responders in variables we  
 11 have not measured."  
 12 Q. Thank you.  
 13 And so does that suggest that there are  
 14 differences between the responders and non-responders in  
 15 the 37 percent of folks who didn't respond to phase 2 of  
 16 the 2018 AHS?  
 17 A. Absolutely. That -- and again, flawed data  
 18 gives flawed results.  
 19 Q. All right. Next, unfortunately, I have to  
 20 clear up the record on something that you really  
 21 shouldn't have any involvement in.  
 22 But if we move to Exhibit 27-5, which is a  
 23 letter Mr. Hollingsworth showed you, that Ms. Greenwald  
 24 sent to Ms. Pigman, who is here today; and included  
 25 Mr. Miller and myself as signatories on this letter.

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1 Have you ever seen this letter before today?  
 2 A. No.  
 3 Q. Do you have any idea of the meaning of this  
 4 letter?  
 5 A. No.  
 6 Q. All right. I am going to hand you what I will  
 7 mark as Exhibit 27 --  
 8 THE REPORTER: Next in order?  
 9 MS. WAGSTAFF: Yeah.  
 10 THE REPORTER: 27-8.  
 11 MS. WAGSTAFF: Okay. It is two pages.  
 12 (Exhibit 27-8 was marked for identification.)  
 13 MS. WAGSTAFF: I don't how you want me to  
 14 connect these two pages, just -- they are not  
 15 stapled.  
 16 THE VIDEOGRAPHER: Need a stapler?  
 17 MS. WAGSTAFF: Yeah.  
 18 BY MS. WAGSTAFF:  
 19 Q. When Mr. Hollingsworth was asking you questions  
 20 about Exhibit 27-5, you will recall that I was objecting  
 21 as to an incomplete record?  
 22 A. Uh-huh.  
 23 Q. I wanted to complete the record here. If you  
 24 will -- These are e-mails from Ms. Pigman, who is an  
 25 attorney for Hollingsworth LLP to Ms. Greenwald. I am

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1 cc'ed on at least one of them.  
 2 You will see the first is a e-mail from  
 3 Ms. Greenwald to Ms. Pigman on May 16, 2017. I will  
 4 represent to you that the letter that Mr. Hollingsworth  
 5 showed you as 27-5 was the attachment that Robin, as she  
 6 calls herself in this e-mail, is sending to Ms. Pigman.  
 7 You will see Ms. Pigman asks -- you will see  
 8 Ms. Pigman asks Robin to clarify if we will withdraw  
 9 opinions not stated in that letter.  
 10 If you will turn to the -- turn to the next  
 11 page, which is a July 24th e-mail, about halfway down,  
 12 starting with -- can you read into the record starting  
 13 with "under the Court-ordered deposition protocol"?  
 14 A. "Under the Court-ordered deposition protocol,  
 15 all of the plaintiffs' experts who will offer testimony  
 16 in a specific subject area must be deposed before  
 17 Monsanto's experts in the same area. When we raised  
 18 this issue in connections with the original discovery  
 19 deadlines, plaintiffs sent a letter indicating that the  
 20 experts' specialties were far narrower than the topics  
 21 disclosed in their reports, but plaintiffs later  
 22 declined our request to withdraw those selections of  
 23 the -- those sections of the reports that did not match  
 24 counsel's letter."  
 25 Q. That's good. So --

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1 MR. HOLLINGSWORTH: Objection, objection. So  
 2 far outside of the area of his expertise, I just  
 3 think it's unfathomable that you are doing this.  
 4 MS. WAGSTAFF: I started by saying I really  
 5 hate to do this, but --  
 6 MR. HOLLINGSWORTH: Well.  
 7 MS. WAGSTAFF: -- you produced an incomplete  
 8 record asking him. I would have never even broached  
 9 this topic in this deposition. You used a letter  
 10 between counsel to him to suggest and say, "you  
 11 realize that you are -- that counsel didn't disclose  
 12 this." So I am completing the record. I am  
 13 completely confident that the -- Judge Chhabari will  
 14 understand why I am doing this.  
 15 So in fact what Monsanto's attorneys showed you  
 16 was a half-truth, and I just wanted to correct the  
 17 record on that. So we can -- you can move on.  
 18 MR. HOLLINGSWORTH: Objection to the basis for  
 19 your statement that it's a half-truth. There is  
 20 absolutely no basis for that, as I'm sure Judge  
 21 Chhabari will see.  
 22 BY MS. WAGSTAFF:  
 23 Q. All right. Did Monsanto's lawyers acknowledge  
 24 that we declined their request to withdraw those  
 25 sections of the report in that e-mail, Dr. Jameson?

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1 A. It appears to.  
 2 MR. HOLLINGSWORTH: Objection.  
 3 MS. WAGSTAFF: Okay.  
 4 MR. HOLLINGSWORTH: Not within his area of  
 5 expertise.  
 6 MS. WAGSTAFF: He can read English.  
 7 BY MS. WAGSTAFF:  
 8 Q. Okay. Do you recall when Mr. Hollingsworth  
 9 asked you if you were an epidemiologist, and I believe  
 10 you answered that you were a toxicologist; is that  
 11 correct?  
 12 A. Correct.  
 13 Q. Can you explain how being a toxicologist  
 14 relates to you being an epidemiologist, if at all?  
 15 A. Well, I think I stated earlier that in doing  
 16 your -- the work that I did, and continue to do, in  
 17 cancer hazard identification, the requirement is that  
 18 you become an expert in a wide variety of different  
 19 areas; one of which is toxicology, one of which is  
 20 epidemiology, one of which is genotoxicity and mechanism  
 21 of action. One is in exposure. And based on the 40  
 22 years that I have been doing this work, I have gotten  
 23 what you considered on-the-job training in all of these  
 24 areas. My -- my degree is in chemistry, but I have  
 25 been -- but I have done toxicology since -- since I

<p style="text-align: right;">Page 114</p> <p>1 graduated from the University of Maryland. And 2 on-the-job training is as good if not better than a 3 college degree in just about all areas. 4 I have worked closely with the epidemiologists 5 helping them in their studies. I have been asked to 6 review epidemiology studies and papers as part of my 7 work with IARC and give my opinion as to what the 8 epidemiology data is saying, and if it meets their 9 criteria for evaluating epidemiology data as far as 10 being a sufficient evidence or limited evidence in -- 11 in -- for causation of cancer. 12 For the Report on Carcinogens, I also have 13 worked with epidemiologists who help us evaluate the 14 nominations for the Report on Carcinogens. As part of 15 my responsibility, I wrote criteria for evaluating 16 epidemiology data for the Report on Carcinogens. And 17 those criteria are still used today in evaluating the 18 data, the epidemiology data for the Report on 19 Carcinogens. 20 So while I profess to be a toxicologist, you 21 can't say, well, I am a toxicologist and an 22 epidemiologist and a mechanistic expert and a 23 genotoxicologist and what have you. I take on the 24 moniker of toxicologist. 25 But you have to understand that in doing hazard</p>	<p style="text-align: right;">Page 116</p> <p>1 his area of expertise. 2 Q. When you worked at NIH, did you -- were you 3 ever -- did -- did. 4 When you worked at the NIH, did the NIH ever 5 fund any research? 6 A. Any of my research? 7 Q. Any research, period. 8 A. Oh. Yes. Any research period, yes. 9 Q. Was it your understanding while you worked 10 there that in doing so the NIH was guarantying or 11 warranting the accuracy of that? 12 MR. HOLLINGSWORTH: Same objection. 13 A. They were not guarantying or warranting any of 14 the data. They would insist that the investigators 15 follow such things as good laboratory practices or good 16 quality control practices and that type of thing to 17 ensure the accuracy, accuracy of the data. But they 18 couldn't guarantee or warrant, warrant any of that. 19 Q. Okay. And you discussed earlier with 20 Mr. Hollingsworth the JNCI, correct? 21 A. Correct. 22 Q. And the JNCI stands for what? 23 A. Journal of the National Cancer Institute. 24 Q. Okay. And the Journal of the National Cancer 25 Institute is scheduled to publish the 2018 AHS study in</p>
<p style="text-align: right;">Page 115</p> <p>1 identification, you have to become an expert in all of 2 these areas in order to evaluate the data and give an 3 opinion. And so while I don't have the degree in 4 epidemiology, I have the experience and training to 5 consider myself an expert in epidemiology to evaluate 6 this data. 7 Q. All right. So would it be fair to say you were 8 an epidemiologist by training, by on-the-job training? 9 A. By training, yeah. 10 Q. Okay. 11 A. As I said, on-the-job training is -- is as 12 good, if not better, than -- than getting a college 13 degree. 14 Q. All right. And you testified earlier that you 15 worked at the NIH, right? 16 A. Correct. 17 Q. All right. And you testified earlier, I 18 believe, that the NIH funded, at least in part, the 19 research behind the 200 -- 2018 AHS study? 20 A. Correct. 21 Q. In doing so, was the NIH guarantying or 22 warranting that the research was accurate or the 23 veracity of the research? 24 A. No. 25 MR. HOLLINGSWORTH: Objection. That's beyond</p>	<p style="text-align: right;">Page 117</p> <p>1 this calendar year; is that your understanding? 2 A. That's my understanding. 3 Q. In so publishing, is the JNCI guarantying or 4 warranting the accuracy or veracity of the article? 5 A. No. 6 MR. HOLLINGSWORTH: Same objection. He is not 7 an expert in that. 8 MS. WAGSTAFF: I will pass the witness back to 9 you for your remaining 17 minutes. 10 REDIRECT EXAMINATION 11 BY MR. HOLLINGSWORTH: 12 Q. Okay. In the article by Heltshe, if you will 13 turn to the sentence that you quoted for the record 14 which is at page 414. And this is exhibit -- 15 What is the exhibit on this, sir? 16 Exhibit number? 17 A. Exhibit 27-3. 18 Q. Okay. And this is the paper by Heltshe? 19 A. Uh-huh. 20 Q. It's entitled, "Using multiple imputation to 21 assign pesticide use for non-responders in the follow-up 22 questionnaire in the Agricultural Health Study," right? 23 A. Correct. 24 Q. Okay. When -- the last phrase of the sentence 25 you quoted says, "Thus, it is possible that</p>

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1 non-responders differ from responders in variables we  
 2 have not measured."  
 3 Do you see that?  
 4 A. Correct.  
 5 Q. Has anybody published an article stating that  
 6 the non-responders actually differed from the responders  
 7 in a significant way?  
 8 MS. WAGSTAFF: Same objection as before. The  
 9 article just came out.  
 10 A. There is no way to say. I mean, that's --  
 11 that's -- that's not a legitimate question, because the  
 12 paper hasn't been out long enough.  
 13 Q. Well, no. The Heltshe was published in 2011,  
 14 sir.  
 15 A. Well, it says 2012 on here.  
 16 Q. Okay.  
 17 A. But you are asking if it --  
 18 Q. So since 2012, has anybody published a paper  
 19 that says that it -- in fact the non-responders in the  
 20 AHS study differed from responders in variables that had  
 21 not been measured by Heltshe?  
 22 A. So you -- you would be referring to the 2005  
 23 publication?  
 24 Q. I would refer to anything after 2012. Has  
 25 anybody said that in fact the non-responders differed

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1 from responders in variables that had not been measured  
 2 until 2012?  
 3 A. In the 2005 De Roos paper.  
 4 Q. Or in any paper since 2012?  
 5 A. In any paper?  
 6 Q. Yeah. Has anybody published an article --  
 7 A. I don't know that anybody has addressed that.  
 8 Q. Yeah. Okay. Thank you. That's it.  
 9 MS. WAGSTAFF: That's it.  
 10 THE VIDEOGRAPHER: This concludes the video  
 11 media disc number two of the videotaped deposition  
 12 of Charles W. Jameson, Ph.D. The time is  
 13 12:35 p.m., and we are going off the video record.  
 14 (The proceedings concluded at 12:35 p.m.)  
 15  
 16  
 17  
 18  
 19  
 20  
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 22  
 23  
 24  
 25

\_\_\_\_\_  
 Signature of Deponent

SUBSCRIBED AND SWORN BEFORE ME  
 THIS \_\_\_\_ DAY OF \_\_\_\_\_, 2018.  
 \_\_\_\_\_  
 (Notary Public) MY COMMISSION EXPIRES: \_\_\_\_\_

Page 120

1 CERTIFICATE OF OATH  
 2  
 3 STATE OF FLORIDA  
 4 COUNTY OF LEE  
 5  
 6 I, Donna L. Peterson, Registered Diplomate  
 7 Reporter, Notary Public, State of Florida, certify that  
 8 Charles W. Jameson, Ph.D., personally appeared before me  
 9 on January 10, 2018, and was duly sworn.  
 10 Signed this 10th day of January, 2018.  
 11  
 12  
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 14  
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\_\_\_\_\_  
 Donna L. Peterson, RDR, CRR  
 Notary Public, State of Florida  
 Commission No.: FF 234084  
 Commission Expires: August 7, 2019

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1 CERTIFICATE OF REPORTER  
 2  
 3 STATE OF FLORIDA  
 4 COUNTY OF SARASOTA  
 5  
 6 I, Donna L. Peterson, Registered Diplomate  
 7 Reporter and Certified Realtime Reporter, certify that I  
 8 was authorized to and did stenographically report the  
 9 deposition of Charles W. Jameson, Ph.D., pages 1 through  
 10 122; that a review of the transcript was not requested,  
 11 and that the transcript is a true record of my  
 12 stenographic notes.  
 13  
 14 I further certify that I am not a relative,  
 15 employee, attorney, or counsel of any of the parties,  
 16 nor am I a relative or employee of any of the parties'  
 17 attorneys or counsel connected with the action, nor am I  
 18 financially interested in this action.  
 19  
 20 Dated this 10th day of January, 2018.  
 21  
 22  
 23  
 24  
 25

\_\_\_\_\_  
 Donna L. Peterson, RDR, CRR  
 Registered Diplomate Reporter  
 Certified Realtime Reporter

1 ERRATA SHEET  
2 DO NOT WRITE ON TRANSCRIPT - ENTER CHANGES ON THIS PAGE  
3 IN RE: Roundup Products Liability Litigation  
4 CHARLES W. JAMESON, Ph.D.  
5 January 10, 2018

6	Page No.	Line No.	Change	Reason
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21  
22 Under penalties of perjury, I declare that I have read  
23 the foregoing document and that the facts stated in it  
24 are true.

25 Date \_\_\_\_\_ CHARLES W. JAMESON, Ph.D.

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