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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

IN RE: ROUNDUP PRODUCTS LIABILITY LITIGATION	)	MDL No. 2741
THIS DOCUMENT RELATES TO ALL CASES	)	Case No. 16-md-02741-VC

FRIDAY, APRIL 7, 2017
CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

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Videotaped deposition of John Acquavella, Ph.D., held at the offices of HUSCH BLACKWELL, L.L.C., 190 Carondelet Plaza, Suite 600, St. Louis, Missouri, commencing at 9:01 a.m., on the above date, before Carrie A. Campbell, Registered Diplomate Reporter, Certified Realtime Reporter, Illinois, California & Texas Certified Shorthand Reporter, Missouri & Kansas Certified Court Reporter.

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Golkow Technologies, Inc.

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EXHIBITS

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1 VIDEOGRAPHER: We are now on
2 the record. My name is Dan Lawlor.
3 I'm a videographer for Golkow
4 Technologies.
5 Today's date is April 7, 2017,
6 and the time is 9:01 a.m.
7 This video deposition is being
8 held in St. Louis, Missouri, in the
9 matter of In Re: Roundup Products
10 Liability Litigation.
11 The deponent is John
12 Acquavella, Ph.D.
13 Counsel, please identify

14 yourselves for the record.
15 MR. MILLER: Yes, good morning.
16 Michael Miller, together with Jeffrey
17 Travers, Nancy Miller and Kathryn
18 Forgie, on behalf of plaintiffs.
19 MR. COPLE: William Cople and
20 Grant Hollingsworth of Hollingsworth,
21 LLP, and Ms. Robyn Buck of Monsanto
22 Company, both -- all for Monsanto
23 Company, and for -- Mr. Hollingsworth
24 and myself for Dr. Acquavella.
25 VIDEOGRAPHER: The court
♀
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1 reporter is Carrie Campbell, and will
2 now swear in the witness.
3
4 JOHN ACQUAVELLA, Ph.D.,
5 of lawful age, having been first duly sworn
6 to tell the truth, the whole truth and
7 nothing but the truth, deposes and says on
8 behalf of the Plaintiffs, as follows:
9
10 DIRECT EXAMINATION
11 QUESTIONS BY MR. MILLER:
12 Q. Good morning, Doctor.
13 A. Good morning.
14 MR. COPLE: If I could just
15 interrupt you --
16 MR. MILLER: Please go ahead.
17 MR. COPLE: My apologies,
18 Mr. Miller.
19 Monsanto Company provisionally
20 designates as confidential under the
21 Court's protective and confidentiality
22 order in the paragraph 8 of
23 Document 64, and that includes the
24 transcript, the videography and all
25 exhibits.
♀
00009
1 QUESTIONS BY MR. MILLER:
2 Q. Good morning, Doctor.
3 A. Good morning.
4 Q. Please state your full name.
5 A. John Acquavella.
6 Q. Okay. Dr. Acquavella, right?
7 A. Yes.
8 Q. You're a Ph.D. in epidemiology?
9 A. Yes.
10 Q. Okay. So I will refer to you
11 as Dr. Acquavella.
12 A. Thank you.
13 Q. Yes, sir.
14 And you understand you're being
15 deposed here today?
16 A. Yes.
17 Q. Have you been deposed before?
18 A. Yes.
19 Q. Okay. And so I'm going to ask
20 you questions. If at any time you don't
21 understand them, will you let me know?
22 A. I will. Thank you.

23 Q. So that if you answer the
24 question, I'll assume that you understood it
25 and answered it truthfully and fully, fair?

00010

1 A. I'll do my best to answer every
2 question you ask truthfully and fully.
3 Q. Fair enough. All right, sir.
4 We'll go over your CV in some
5 detail, but can you and I agree that
6 epidemiology -- and I've just written this
7 down on a card -- is the study of people to
8 identify factors that may cause or prevent
9 disease? Is that fair?
10 MR. COPLE: Object to the form
11 of the question.
12 QUESTIONS BY MR. MILLER:
13 Q. You can answer even though he
14 objects. He'll be doing that as he feels
15 appropriate as the day goes along.
16 You can answer.
17 A. Well, I'll give you my
18 definition of epidemiology. It's the study
19 of the -- determines a disease and the
20 distribution of disease in human populations.
21 Q. Have you ever used the
22 definition that I've written on this card?
23 A. No.

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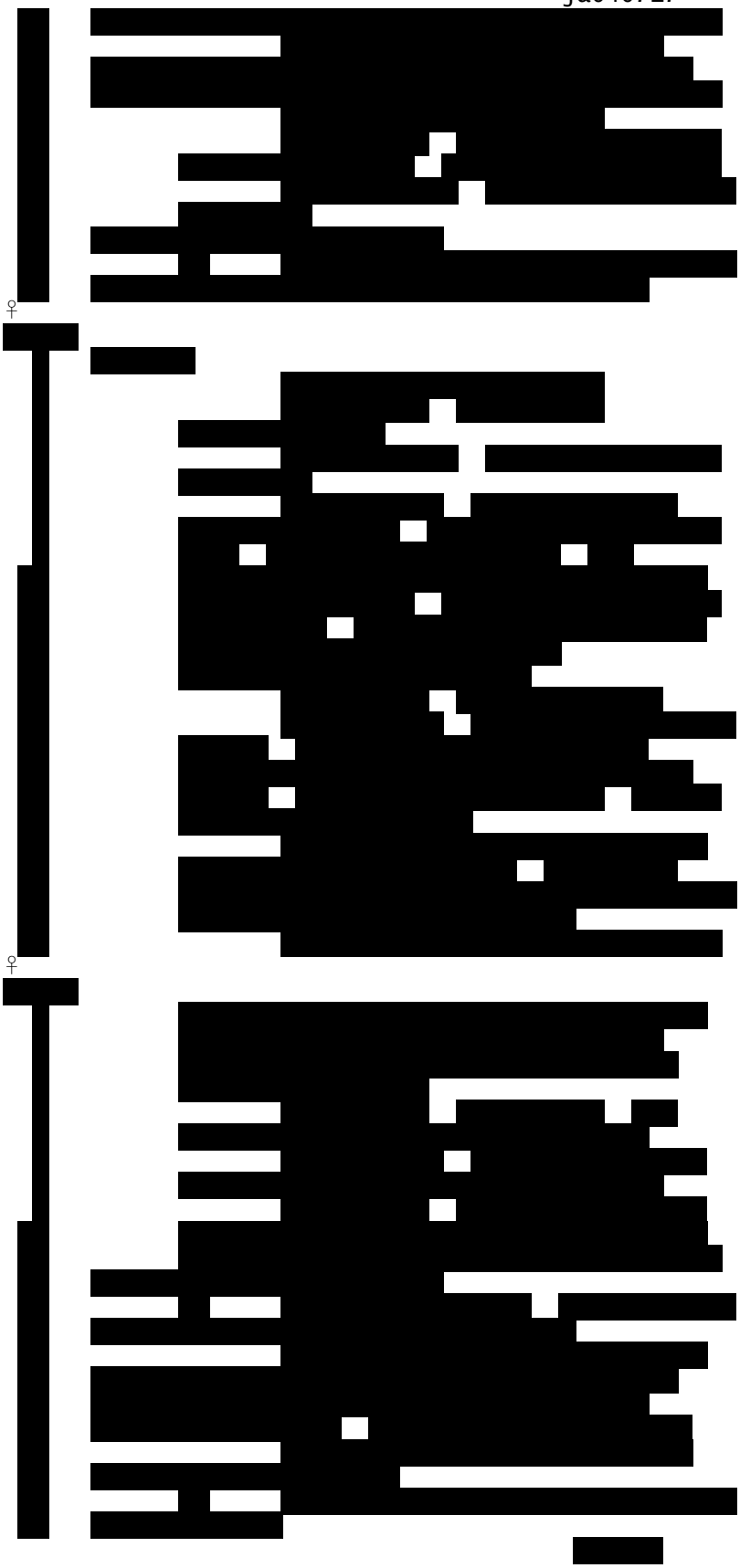

ja040717

[redacted]

4 Q. Go back to your CV,

5 Exhibit 10-2.
6 So the jury understands,
7 there's a field of science and medicine
8 called oncology, isn't there, sir?
9 A. There's a field of medicine
10 called oncology, yes.
11 Q. And would it be fair to
12 describe that as the study of cancer?
13 A. It concerns cancer, yes.
14 Q. And you're not an oncologist;
15 you're not a cancer doctor?
16 A. No, I'm not -- I don't treat
17 patients and I'm not a medical doctor.
18 Q. Okay. And just to be clear
19 then, so you couldn't see patients. It's not
20 what your training is. Your training is in
21 epidemiology?
22 A. My training is in epidemiology.
23 Q. All right. So prior to --
24 right now you're a consultant in what, the
25 Acquavella consulting company? Is that what
♀
00027
1 that is?
2 A. It's actually John Acquavella
3 Consulting.
4 Q. Okay. Just asking.
5 And you've been in that
6 position since 2014, right?
7 MR. COPLE: Objection. Lacks
8 foundation.
9 THE WITNESS: Oh, okay.
10 QUESTIONS BY MR. MILLER:
11 Q. You can answer. Just because
12 he objects -- move quicker if you just keep
13 answering. Unless he instructs you not to
14 answer, you answer even though he objects.
15 A. Okay. I don't know exactly
16 when I started my consulting business. I
17 retired from Amgen, which is a
18 biopharmaceutical company, late in November
19 of 2014, and so it would be sometime after
20 that. I'm not sure whether I started my
21 consulting business formally in early 2015 or
22 in late 2014.
23 Q. Okay. And so you were at Amgen
24 pharmaceutical company from the time 2004,
25 when you left Monsanto, to 2014; is that
♀
00028
1 fair?
2 A. Yes, that's right.
3 Q. So about ten years?
4 A. Exactly.
5 Q. Yes, sir.
6 And then prior to that, you
7 were at Monsanto as a full-time employee from
8 September '90 -- of '89 to November of 2004?
9 A. Yes.
10 Q. About 15 years?
11 A. About 16 years.
12 Q. 16 years. I'm sorry.
13 Prior to that you were at

14 Exxon, right?
15 A. Yes.
16 Q. And Exxon, looks like six
17 years?
18 A. Yes.
19 Q. Okay. Six years Exxon,
20 16 years Monsanto, and ten years at Amgen,
21 the pharmaceutical company, right?
22 A. Yes.
23 Q. All as an epidemiologist?
24 A. Yes.
25 Q. And in that 32 years, did you
♀
00029
1 ever publish a study that said one of those
2 companies that you worked for had a product
3 that caused a disease?
4 MR. COPLE: Objection. Vague.
5 THE WITNESS: Could you
6 rephrase that?
7 MR. MILLER: Sure.
8 Could you read the question
9 back so we're clear on what it is.
10 (Court Reporter read back
11 question.)
12 THE WITNESS: Okay. When I
13 worked for Exxon, I investigated a
14 cancer cluster in a refinery,
15 petrochemical plant, and I was
16 actually -- part of my doctoral
17 dissertation in epidemiology, it was
18 awarded the student prize by the
19 Society for Epidemiologic Research,
20 and it linked one of the processes at
21 Exxon with a cancer cluster.
22 I've done other kinds of
23 studies that identified determinants
24 of exposure for different plants.
25 So I think my record, you know,
♀
00030
1 is -- shows that, you know, I do the
2 research, and whatever the finding, I
3 publish it as it is, and generally
4 known in my epidemiology community as
5 being somebody who is fair minded.
6 QUESTIONS BY MR. MILLER:
7 Q. We'll take a harder look at
8 that as the day goes along. Let me go back
9 and focus on the cancer cluster at Exxon.
10 Is that in your CV?
11 A. Yes.
12 Q. Okay. Can you identify which
13 article, please?
14 A. It's Acquavella, et al. --
15 Q. What page, sir?
16 A. -- on page 8.
17 Q. 8?
18 A. Yes. American Journal of
19 Epidemiology, 1991.
20 Q. I'm going to put page 8 under
21 here so we can take a look at it together.
22 Tell me the article again.

23 A. It's six from the bottom.
24 Q. Six from the bottom.
25 Acquavella, Owen, Bird?
♀
00031
1 A. Yes.
2 Q. Okay. In that article, you
3 conclude that a product that was being made
4 by Exxon was associated with a risk of a
5 particular injury?
6 A. So that was a study that
7 evaluated whether the cancer cluster that was
8 seen in the plant was correlated with any
9 parts of the manufacturing process.
10 Q. And did you conclude that it
11 was?
12 A. We said the evidence supported
13 the association between the cancer cluster
14 and that part of the process.
15 Q. Sure.
16 And it's important you did that
17 on one study, didn't you?
18 A. No.
19 Q. How many studies showed the
20 association?
21 A. Well, this had to do with
22 colorectal cancer. And I don't know if you
23 know very much about colorectal cancer --
24 Q. My grandfather died of
25 colorectal cancer. I know a little bit about
♀
00032
1 it. But go ahead.
2 A. I'm sorry to hear that.
3 What we tried to do was to
4 think about the process of colorectal cancer,
5 and we did a series of studies that not only
6 looked at colorectal cancer as an outcome but
7 also looked at premalignant states --
8 Q. Polyps?
9 A. -- of colorectal cancer,
10 particularly adenomatous polyps.
11 So, you know, as a result of my
12 original work to identify the cancer cluster,
13 which is in here as well, which is on page 9,
14 five from the bottom...
15 Q. Acquavella, Douglas, Phillips?
16 A. Yes.
17 Q. So there are two articles that
18 relate to the issue upon which you base that
19 conclusion; is that fair, or are there
20 others?
21 A. There are others.
22 Q. Okay. Would you point them out
23 for me?
24 A. Yes.
25 Q. Please.
♀
00033
1 A. Let's go to -- go up two more
2 articles.
3 Q. And where are they?
4 A. Acquavella, Douglas, Vernon.

5 Q. I see it. Okay. Highlight the
6 right one here. Okay.
7 A. So we identified the cluster.
8 We -- as a result of that identification,
9 Exxon decided to do a colorectal cancer
10 screening program for all the people who had
11 worked in the process.
12 We looked to see whether the
13 rate of adenomatous polyps was higher in
14 people who had certain exposure than who
15 didn't have that exposure.
16 The next article was with
17 Vernon and Acquavella, Journal of
18 Occupational Medicine in 1989. We looked at
19 issues of whether participation was important
20 in understanding the results that we had.
21 We extended that study, the
22 next article, Acquavella, Douglas, Vernon,
23 Hughes, et cetera, to look at -- I'm sorry,
24 that was a letter to the editor.
25 The next one, Acquavella and

00034

1 Owen --
2 Q. Oh, I see it up here. Okay.
3 A. "Assessment of colorectal
4 cancer incidence among polypropylene pilot
5 plant workers." We extended our research to
6 look at people who had been involved with the
7 process at the pilot level.
8 Q. Okay.
9 A. And we did another study,
10 Vernon, Acquavella, Yarborough, to further
11 understand the participation and
12 nonparticipation in the screening program.
13 And then we go all the way up
14 to the award-winning article, which was
15 published in 1991.
16 Q. And that's after you've left
17 Exxon. In '91, right?
18 You started at Monsanto in
19 1989, right?
20 A. '89, yes.
21 Q. And you're on page 7?
22 A. I'm on page 8.
23 Q. I'm sorry, excuse me, page 8.
24 Okay.
25 I see the award-winning article

00035

1 being the Acquavella, Owen, Bird article?
2 A. Yes, American Journal of
3 Epidemiology in 1991.
4 Q. And I don't mean to interrupt
5 you. Go ahead.
6 A. And I have to say, you know, in
7 answer to your question, that even though
8 there were many studies and a comprehensive
9 line of evidence that's consistent with the
10 mechanism of colorectal cancer as we
11 understand it, it's still a study of one
12 population. And other companies have done
13 studies as well with their polypropylene

14 workers. So it's never that one study, or
15 one study of one population, proves anything.
16 So, you know, evidence in
17 epidemiology, by that I mean studies that
18 come out, you know, are always updating, you
19 know, the information base by which
20 scientists would look at research and make an
21 evaluation.
22 Q. Science is always evolving,
23 isn't it?
24 A. I think so, yes.
25 Q. And with epidemiology, there's
♀
00036
1 no such thing as a perfect study, is there?
2 MR. COPLE: Objection. Vague.
3 THE WITNESS: So I'm trying to
4 boil down something that's very
5 complicated. So let me just say that
6 the paradigm for an epidemiology study
7 that most people would agree is
8 unbiased is the randomized clinical
9 trial where patients come into a
10 study, they're randomly assigned to
11 whether they're going to get treatment
12 or placebo. They don't know whether
13 they're getting treatment or placebo.
14 The doctors that were treating them
15 don't know whether they're getting
16 treatment or placebo.
17 QUESTIONS BY MR. MILLER:
18 Q. That would be double-blind,
19 wouldn't it?
20 A. Double-blind.
21 And the people who are
22 evaluating the outcome don't know who's
23 getting the drug and who's getting a placebo.
24 So in that kind of study, the
25 only error you have is random error.
♀
00037
1 Q. So we can say that would be the
2 gold standard. But there's still, you would
3 agree, there's no such thing as a perfect
4 study in epidemiology, is there?
5 MR. COPLE: Objection. Asked
6 and answered. Vague.
7 QUESTIONS BY MR. MILLER:
8 Q. Or do you think so?
9 If you think there is such a
10 thing as a perfect study, just tell us. Just
11 need an answer. That's all.
12 A. Well, I don't know what you
13 mean by "perfect."
14 Q. Have you ever used the word
15 before?
16 A. Probably.
17 Q. Yeah, what does it mean?
18 A. Well, I'm interested in what
19 you mean. You're asking me a question.
20 Q. You're the witness. We're
21 going to accept your definition of the word
22 "perfect."

23 A. Well, if I think about perfect
24 and I define it as where one study would
25 convince you of a result, I could conceive of
♀
00038
1 a randomized clinical trial where that would
2 be the case. But like I said, that's given
3 the definition of "perfect" as being where
4 one study would convince you.
5 Q. Okay. So going back to our
6 definition of epi -- our index card,
7 epidemiologists study people to identify
8 factors that may cause or prevent disease.
9 And you pointed me to your work
10 at Exxon where you, as an epidemiologist,
11 studied people and you identify a factor that
12 may cause a disease; is that fair?
13 A. That's what I did in that
14 series of studies.
15 Q. And in the 16 years you were at
16 Monsanto, did you ever do a study and
17 identify a agent manufactured by Monsanto
18 that caused a disease?
19 MR. COPLE: Objection. Vague.
20 THE WITNESS: Well, we've
21 already established, at least by my
22 definition, that it would be rare for
23 anything other than the randomized
24 clinical trial that I described that
25 could be said in one study to identify
♀
00039
1 a cause of disease.
2 QUESTIONS BY MR. MILLER:
3 Q. Did you do any study in the
4 16 years that you were an epidemiologist for
5 Monsanto Chemical Corporation where you
6 showed in the study an association between an
7 agent manufactured by Monsanto and a disease?
8 MR. COPLE: Objection. Vague.
9 THE WITNESS: The study that
10 comes to mind is the study that we did
11 of metal components manufacturing
12 workers. We found that workers that
13 had high exposure to cutting fluids
14 had about a tenfold lower risk of, I
15 think it was, colorectal cancer than
16 workers who didn't have that exposure.
17 So that was a pretty strong
18 association.
19 QUESTIONS BY MR. MILLER:
20 Q. Negative association. Working
21 at the plant actually reduced your odds of
22 getting colorectal cancer?
23 A. Well, it was a cohort study, so
24 we would say that our analysis showed that
25 the rate for people who had exposure to these
♀
00040
1 fluids was about ten times lower than the
2 other workers at the plant who didn't have
3 exposure to those fluids.
4 Q. Let's go to 1989. We're still

5 trying to get through the CV here.
6 In 1989, you left Exxon, right?
7 A. That's right.
8 Q. Is the reason you left Exxon
9 because you wrote a study that showed this
10 cluster issue?
11 MR. COPLE: Object to the form
12 of the question.
13 THE WITNESS: No.
14 QUESTIONS BY MR. MILLER:
15 Q. Why did you leave Exxon?
16 A. Different kind of opportunity;
17 different part of the country to live in.
18 Q. Why did Monsanto all of a
19 sudden in 1989 want to hire an
20 epidemiologist?
21 MR. COPLE: Objection. Lacks
22 foundation.
23 QUESTIONS BY MR. MILLER:
24 Q. You can answer.
25 A. The only thing I can tell you
♀
00041
1 is I was hired. I can't tell you what their
2 motivation was. I'd like to think it was
3 because I was such a prolific researcher, and
4 they thought that it would be a good thing to
5 add another really good epidemiologist to
6 their group.
7 Q. In the 16 years that you were
8 at Monsanto Chemical Company, you never did a
9 study yourself on whether or not Roundup
10 caused non-Hodgkin's lymphoma, did you?
11 MR. COPLE: Object to the form
12 of the question. Vague.
13 THE WITNESS: Well, we did do a
14 mortality study at the plant where
15 Roundup was manufactured.
16 QUESTIONS BY MR. MILLER:
17 Q. We're going to talk about that,
18 but that's not a non-Hodgkin's lymphoma
19 study. The study's an all-cause mortality
20 study. You know the difference.
21 MR. COPLE: Objection.
22 Argumentative.
23 THE WITNESS: Well, let me just
24 say that, you know, we did evaluate
25 the feasibility of doing such a study,
♀
00042
1 and, you know, we formally walked the
2 manufacturing process -- you've
3 probably never walked the process, but
4 you can imagine in a large chemical
5 plant most of the parts of the process
6 don't have glyphosate in it. They
7 have the chemicals that are combined
8 to make glyphosate.
9 So we found in the plant that
10 there was a very small number of
11 workers who actually worked in the
12 part of the plant where glyphosate was
13 in the chemical process and that there

14 was a small canning line where
15 glyphosate was jugged, and then it was
16 sent for distribution.
17 And if you know about
18 non-Hodgkin's lymphoma, you know that
19 the rate of non-Hodgkin's lymphoma is
20 something on the order of a few per
21 hundred thousand people.
22 QUESTIONS BY MR. MILLER:
23 Q. It's a rare cancer, you agree?
24 A. It's a rare cancer.
25 So it wouldn't be informative
♀
00043
1 to do a study of a small number of people to
2 study non-Hodgkin's lymphoma.
3 So we had --
4 Q. Go ahead. Finish. I don't
5 want to interrupt you.
6 A. So we had specific criteria in
7 mind to determine if a study was feasible,
8 and we decided a study wasn't feasible.
9 So we decided we couldn't go
10 down that path, and we tried to figure, you
11 know, what we could do that would contribute
12 to the epidemiology literature on glyphosate,
13 and that led us to conceive the Farm Family
14 Exposure Study.
15 Q. We're going to talk in detail
16 about that, you might imagine, but I think in
17 fairness to both of us and the jury, to be
18 productive, I was asking in a broader sense,
19 so let me lay some foundation.
20 You were hired in Monsanto 1989
21 as an epidemiologist, right?
22 MR. COPLE: Object to the
23 prefatory remarks as argumentative.
24 QUESTIONS BY MR. MILLER:
25 Q. You were hired --
♀
00044
1 A. Yes.
2 Q. -- to be an epidemiologist at
3 Monsanto. We agree with that, right?
4 A. I've already said yes.
5 Q. Okay. You hadn't, but I get to
6 phrase things.
7 And we've agreed that
8 epidemiologists study people to identify
9 factors that may cause or prevent disease.
10 So my question is, sir, you're
11 hired in '89 by Monsanto. You're there for
12 16 years. And the truth is, you didn't do
13 one study on the greater population in
14 America or anyplace else that's exposed to
15 Roundup to see whether it's increasing the
16 risk of non-Hodgkin's lymphoma. You, John
17 Acquavella, didn't do one study on that
18 issue, true?
19 MR. COPLE: Objection.
20 Multiple, compound question and
21 argumentative.
22 QUESTIONS BY MR. MILLER:

23 Q. You can answer.
24 A. Well, it wasn't feasible for us
25 to do a study of non-Hodgkin's lymphoma and
♀
00045
1 glyphosate exposure. I mentioned we did
2 evaluate it at the plant where glyphosate is
3 manufactured.
4 But I think, you know, what
5 probably best characterizes the way I've
6 thought about contributing to the
7 epidemiology of glyphosate is that we said,
8 well, if it isn't feasible for to us do this,
9 what could we do that would be really
10 beneficial to the field. And so that led us
11 to do the Farm Family Exposure Study.
12 Q. And we're going to talk about
13 the Farm Family Study.
14 The Farm Family Study is a
15 study about how much exposure farmers get
16 when they use Roundup. It's not a study
17 about whether or not Roundup causes
18 non-Hodgkin's lymphoma.
19 MR. COPLE: Object to the form
20 of the question.
21 THE WITNESS: So, you know, it
22 depends on how you conceptualize
23 research. But the way I think about
24 conceptualizing research is -- maybe
25 the first thing is to understand
♀
00046
1 exposure. Otherwise, you're just
2 doing statistical calculations without
3 any sense of what the magnitude of
4 exposure is.
5 And, you know, I've had
6 experience in both the pharmaceutical
7 industry and the occupational-
8 environmental sphere. In the
9 pharmaceutical industry, before you
10 would study a chemical or a therapy or
11 whatever, you would understand the
12 biology flat out.
13 In the pesticide area, people
14 just do a lot of calculations. And
15 then they look at what they've gotten,
16 and then they speculate about
17 mechanisms, exposure and the like.
18 It's not really informed.
19 So that's why, if you've read
20 the paper I wrote about biological
21 plausibility in pesticide epidemiology
22 studies, I think there's real value in
23 understanding these chemicals that
24 you're studying, how frequently
25 they're used. Farmers use glyphosate
♀
00047
1 a couple days a year. And when they
2 use it, how much glyphosate gets into
3 their bodies is really the important
4 thing. It doesn't matter how much

5 glyphosate they applied in their
6 field; it depends how much got into
7 their bodies.
8 And how does that compare with
9 what else we know about the biology of
10 glyphosate. Well, it turns out it's
11 more than a millionfold less than the
12 toxicology doses that were used to
13 study carcinogenicity and
14 genotoxicity.
15 So I always thought when I'm
16 doing research we're thinking about
17 plausibility, and a lot of people
18 don't. So I thought, you know, one of
19 the really good things we can do for
20 people who do this kind of research is
21 to do a really good study of how much
22 glyphosate, and we also looked at 248
23 chlorpyrifos, had entered the bodies
24 of farmers who apply them.
25

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00048
1 QUESTIONS BY MR. MILLER:

[redacted]

3 QUESTIONS BY MR. MILLER:
4 Q. Okay. We'll look at the
5 documents later.
6 Before we move on from your CV,
7 ten years at Amgen as an epidemiologist,
8 right? You were at Amgen drug company as the
9 drug company's epidemiologist, right?
10 A. I was the head of epidemiology.
11 I built their department. And we had about
12 five epidemiologists when I joined. When I
13 retired, we had about 50.

14 Q. And you never wrote a paper at
15 Amgen saying any of their products caused any
16 diseases, right?
17 MR. COPLE: Objection.
18 Argumentative.
19 THE WITNESS: We were studying
20 therapies.
21 QUESTIONS BY MR. MILLER:
22 Q. I didn't say you weren't
23 studying therapies.
24 My question was more precise.
25 At any time during the ten years you worked
♀
00050
1 as global head of epidemiology at Amgen, did
2 you ever write a paper that showed an
3 association between any product Amgen made
4 and a particular illness?
5 MR. COPLE: Objection. Vague.
6 THE WITNESS: So what my group
7 did was we did the research about the
8 natural history of disease that
9 supported the development of clinical
10 trials to find out if different
11 medicines were beneficial. And then
12 we also looked at the use of the drugs
13 after they were in the -- in general
14 medical practice.
15 We also did studies that the
16 FDA required that they called
17 postmarketing studies. We did them
18 according to agreed protocols.
19 QUESTIONS BY MR. MILLER:
20 Q. Phase 4 studies we call them?
21 A. Right. Well, yeah.
22 Let me get back on my train of
23 thought.
24 We also did studies that the
25 regulatory agencies required,
♀
00051
1 postmarketing -- what we call postmarketing
2 commitments, both in the United States and in
3 other world areas. And we did all of those
4 according to protocols that were negotiated
5 with the experts in that particular disease
6 and medical area and the FDA and the EMA and
7 the other regulatory agencies.
8 Q. Amgen produced a drug and sold
9 it that was a bisphosphonate, right?
10 A. No.
11 MR. COPLE: Objection. Lacks
12 foundation.
13 QUESTIONS BY MR. MILLER:
14 Q. Other things that you do since
15 you've been a consultant for Monsanto
16 in 2015, I think you said you started?
17 A. Sometime after I left Amgen.
18 Q. Yes, sir.
19 A. Within a month or two.
20 Q. Among the duties you've done
21 for them is you've helped with a so-called
22 expert panel called Intertek, right?

23 MR. COPLE: Object to the form
24 of the question. Argumentative.
25 THE WITNESS: So I was part of
♀
00052
1 the epidemiology panel in an overall
2 four-expert panel review that was
3 coordinated by Intertek.
4 QUESTIONS BY MR. MILLER:
5 Q. And you're also -- you've been
6 asked as a consultant for Monsanto since 2015
7 to help them respond to IARC's conclusion
8 that Roundup was a probable human carcinogen
9 for non-Hodgkin's lymphoma. It's been part
10 of your job, too, as well, right?
11 MR. COPLE: Objection. Lacks
12 foundation.
13 THE WITNESS: So maybe it's --
14 I think it's much more accurate to say
15 that I provide my assessment of
16 scientific evidence, and then Monsanto
17 decides how they're going to respond.
18 QUESTIONS BY MR. MILLER:
19 Q. So you never agreed to help
20 them respond to IARC; is that your testimony?
21 A. I agreed to provide a
22 scientific assessment of not only the IARC
23 review but of studies that are in the
24 literature and Monsanto's decision how to use
25 that information.
♀
00053
1 Q. You've agreed to work as a
2 consultant for Monsanto since 2015 to help
3 them respond to California's Proposition 65
4 wherein California has declared Roundup a
5 known cause of cancer. It's been part of
6 your duties, hasn't it?
7 MR. COPLE: Object to the form
8 of the question. Lacks foundation.
9 THE WITNESS: We'll just say
10 that I didn't work in that -- I didn't
11 do any work associated with Prop 65.
12 QUESTIONS BY MR. MILLER:

[redacted]

QUESTIONS BY MR. MILLER:
Q. Sir, you knew when you went to work with Monsanto that Roundup was the most important product that Monsanto produced, didn't you?
MR. COPLE: Objection to the form of the question. Vague.
THE WITNESS: I'm not sure that's true. 1989, glyphosate was still not a top ten herbicide in the United States. And believe me, when I began working with Monsanto, I didn't really even know that much about Monsanto when I started, and most of my research was actually on the industrial chemical side.
QUESTIONS BY MR. MILLER:
Q. By 1999, John Acquavella knew

00063

that Roundup was the most important product for Monsanto, didn't you, sir?
MR. COPLE: Object to the form of the question. Vague.
THE WITNESS: By 1999, glyphosate was the most widely used herbicide.
QUESTIONS BY MR. MILLER:
Q. The most important product for Monsanto. You knew that in 1999, didn't you, sir?
MR. COPLE: Object to the form of the question. Asked and answered.

14 QUESTIONS BY MR. MILLER:
15 Q. You can answer.
16 A. Obviously it was a very
17 important product for Monsanto.
18 (Acquavella Exhibit 10-6 marked
19 for identification.)
20 QUESTIONS BY MR. MILLER:

[redacted]

[redacted]

23 Q. And you raise a good point.
24 Once somebody puts an article
25 in the peer-review journals, other scientists
♀
00076
1 rely upon that and perhaps may cite that
2 article if they deemed it worthy of being
3 cited. I'm not talking about Hardell, but
4 generally that's part of the scientific
5 process, isn't it?
6 MR. COPLE: Objection.
7 Incomplete hypothetical.
8 THE WITNESS: Well, some people
9 say peer review actually starts when
10 an article is published. The biggest
11 and the most probing, possibly, and
12 the longest duration peer review
13 starts once an article is published.
14 Then you expose it to a broad
15 cross-section of the scientific
16 community.
17 The way I was trained in
18 science and the way I train students
19 is when you see something in the
20 literature and you feel that you can
21 add constructive criticism or other
22 information that would be helpful in
23 evaluating that study, you have an
24 obligation to do so. And that's the
25 way science works. There's kind of an
♀
00077
1 iterative process, a publication and
2 scientific follow-up to what's been
3 done, either in terms of criticism or
4 other better studies.
5 And so I think every
6 science-based company does that. They
7 have a right to do that. It's
8 perfectly appropriate to do that.
9 QUESTIONS BY MR. MILLER:
10 Q. And that's why it's important
11 for so-called science-based companies or
12 anyone who would write in their peer-reviewed
13 literature certainly to not put ghostwritten

14 articles in the literature. That would be
15 wrong, wouldn't it?
16 MR. COPLE: Objection.
17 Argumentative. Lacks foundation.
18 QUESTIONS BY MR. MILLER:
19 Q. You can answer.
20 A. Well, not aware of any
21 ghostwriting.
22 Q. I didn't ask if you're aware of
23 or not, but would it be unethical to put
24 ghostwritten articles in the stream of
25 literature to be cited by other scientists?

00078
1 MR. COPLE: Objection.
2 Argumentative. Incomplete
3 hypothetical.
4 THE WITNESS: I think the
5 authors listed on a paper should have
6 provided their best scientific
7 judgment in developing the paper and
8 that they should be willing to stand
9 by what they've written in their
10 paper.
11 QUESTIONS BY MR. MILLER:
12 Q. And you've even told William
13 Heydens, the employee at Monsanto, in an
14 e-mail once that ghostwriting is unethical
15 and shouldn't be done.
16 Do you remember that?
17 MR. COPLE: Objection.
18 Argumentative. Lacks foundation.
19 THE WITNESS: So you are
20 referring to kind of a
21 miscommunication that happened between
22 me and Dr. Heydens. We -- I was a
23 full participant in the epidemiology
24 panel. Bill Heydens' impression was
25 that I was just a coordinator of the

00079
1 panel.
2 Once we established that I was
3 a full participant in the expert
4 panel, I was listed as an author. So
5 there was no ghostwriting, and, in
6 fact, I was the first author on the
7 epidemiology publication.
8 So the e-mails reflect the fact
9 that the epidemiology panel worked
10 independently enough for Dr. Heydens
11 that he didn't really know what
12 different people were contributing to
13 the article.
14 When I brought it up to
15 Dr. Heydens' attention, he said,
16 "Well, yes, since you've done that,
17 you need to be an author. That's
18 appropriate given the guidelines for
19 authorship."
20 And I was an author on that
21 article, on the summary article, and
22 also on the abstract that our group

23 submitted to the society for risk
24 analysis.
25

[redacted]

[redacted]

12 MR. MILLER: We're going to
13 stop now, take a break, call the
14 judge. This is going nowhere. I
15 don't care how much he gets paid an
16 hour. He's going to have to be
17 intellectually honest or we can't go
18 forward. I'm entitled to get an
19 answer.
20 MR. COPLE: Objection to your
21 comment, Counsel.
22 MR. MILLER: Get the judge on
23 the phone. This is bullshit.
24 VIDEOGRAPHER: We're going off
25 record. The time is 10:25. This is
♀
00090
1 the end of Media 1.
2 (Off the record at 10:25 a.m.)
3 VIDEOGRAPHER: We are going
4 back on record. The time is 10:57.
5 This is the beginning of
6 Media 2.
7 QUESTIONS BY MR. MILLER:

[redacted]

[redacted]

(Acquavella Exhibit 10-8 marked for identification.)

QUESTIONS BY MR. MILLER:

Q. This will be 10-8.

A. Yes.

Q. Yes, you remember writing this letter to the editor?

A. Well, I remember that the three of us, myself, Dr. Farmer and Dr. Cullen, worked together to write the letter.

Q. Yes, sir.

And that would be you, Donna Farmer and Mark Cullen at Yale, right?

A. Yes. Dr. Cullen was an occupational medicine physician and epidemiologist at Yale University.

Q. Yes, sir.

And you're aware that Monsanto paid him for his participation in this?

A. You know, I don't remember what the financial arrangements were back then. I'd say as a matter of course, Monsanto and other companies that, you know, are

00093

science-based and have products that are backed up by science do try to work with the most qualified scientists in academia to address issues of importance to the company.

And I think we worked with Mark Cullen fairly regularly on issues of epidemiology over some part of my career at Monsanto, and so I assume he was compensated, but I don't know any of the specifics about that.

Q. Yes, sir.

And the authors of the Hardell study, Dr. Hardell and Eriksson, felt strongly enough about your letter to reply, which is done in science, right, sir?

A. Well, I wouldn't -- I don't know if they felt strongly or not. They replied, so I just take it at face value they replied.

Q. Yes.

And it's listed here in this exhibit's author's reply, right, sir?

23 A. Yes.
24 Q. And I want to ask you some
25 things that they said.

♀

00094

1 They go on to say, "In our
2 article" -- "Furthermore, in our article, we
3 cited results of our case-control study of
4 hairy cell leukemia, a rare type of
5 non-Hodgkin's lymphoma."
6 Did I read that correctly?
7 A. You read that correctly.
8 Q. "In a pooled analysis of both
9 our studies of non-Hodgkin's lymphoma, we
10 found a significantly increased risk for
11 subjects exposed to glyphosate with an odds
12 ratio of 3.04 with a 95 percent confidence
13 interval."
14 Did I read that correctly, sir?
15 A. Yes, you read that correctly.
16 Q. Okay. And that -- by
17 confidence interval, 95 percent confidence
18 interval, what does that mean to you as an
19 epidemiologist?
20 A. Well, if you could do a study
21 without bias and only random error like the
22 clinical trial I told you about before, and
23 you repeated that study a hundred times,
24 95 percent of the time the true value of the
25 ratio of disease rates would be included in a

♀

00095

1 confidence interval.

[redacted]

(Acquavella Exhibit 10-10
marked for identification.)
QUESTIONS BY MR. MILLER:
Q. That's fair. I'm going to hand it to you right now.
Here's a copy of it.
Review it as much as you feel necessary, and then we'll have a few questions about it.
A. Okay.
Q. All set?
A. I scanned it --
Q. Okay.
A. -- reasonably well.

THE WITNESS: Can I see the document, please?

MR. MILLER: You may, sir. It was produced to us in discovery by Monsanto, and we'll mark it as Exhibit 10-11.

(Acquavella Exhibit 10-11 marked for identification.)

QUESTIONS BY MR. MILLER:

Q. I have a copy for you and counsel.

A. Okay. And you were referring to what?

[redacted]

QUESTIONS BY MR. MILLER:
Q. Was the best science considered by California in developing Proposition 65?
MR. COPLE: Objection.

14 Argumentative. Lacks foundation.
15 THE WITNESS: Okay. I don't
16 really know what they considered, so I
17 don't know.
18 QUESTIONS BY MR. MILLER:
19 Q. Do you know that they've
20 determined that glyphosate is a known cause
21 of cancer for non-Hodgkin's lymphoma?
22 MR. COPLE: Objection. Lacks
23 foundation.
24 THE WITNESS: So, you know, I
25 worked in California for ten years,
♀
00134
1 and you could walk into a room that
2 doesn't have anything in it, and
3 there's a sign on the room, "there may
4 be things in this room that cause
5 cancer."
6 So I don't know. You know, I
7 lived in California. I always
8 scratched my head when I saw that
9 stuff.
10 So you tell me that they say
11 that; maybe they did. But, you know,
12 I think you'd probably still go into
13 that room and I would still go into
14 that room.
15 So I don't know what -- how
16 they make those determinations, but,
17 you know, California is California.
18 QUESTIONS BY MR. MILLER:
19 Q. And Canada is Canada. They
20 restricted, the regulatories there, the use
21 of glyphosate in parks and around children,
22 haven't they?
23 A. I don't know about Canadian
24 regulation. I don't remember about Canadian
25 regulation.
♀
00135
1 Q. And the country of Colombia has
2 restricted the use of glyphosate, haven't
3 they?
4 MR. COPLE: Objection. Lacks
5 foundation.
6 THE WITNESS: I'm not a
7 regulatory --
8 QUESTIONS BY MR. MILLER:
9 Q. You mentioned regulatory
10 agencies, and that's why I'm just following
11 up.
12 The European regulators have
13 restricted the use of glyphosate, have they
14 not?
15 MR. COPLE: Objection. Lacks
16 foundation. Vague.
17 THE WITNESS: I'll just say I
18 don't know all the different
19 regulations that have happened in
20 Europe. I was actually at the
21 European regulatory authority three
22 weeks ago in Helsinki, and their

23 evaluation was that glyphosate is not
24 likely to pose a risk to humans.
25

♀
00136
1 QUESTIONS BY MR. MILLER:

[redacted]

12 QUESTIONS BY MR. MILLER:
13 Q. You and I can agree that the
14 public has a strong interest in research
15 articles that are accurate, clear and
16 unbiased?
17 MR. COPLE: Object to the form
18 of the question.
19 THE WITNESS: I think the
20 public is interested in information
21 that is scientifically valid. I
22 think, you know, actually reading the
23 scientific articles, per se,
24 especially in highly technical areas,
25 is something that the general public

♀
00138
1 would have difficulty with, but I
2 think they like to know that the
3 science information that they're
4 hearing is valid.

5 (Acquavella Exhibit 10-12
6 marked for identification.)
7 QUESTIONS BY MR. MILLER:
8 Q. I want to show you an article
9 you wrote, or a commentary, Exhibit 10-12,
10 where I think you agreed with what I had to
11 say. Let's find out on 10-12. A copy, sir,
12 for you, Doctor. Counsel.
13 A. Yes.
14 Q. Do you remember writing
15 Exhibit 10-12 with these other two persons,
16 people? Persons? People?
17 A. Yes, Dr. Sturmer and
18 Dr. Hallas, yes.
19 Q. And one of the things you
20 wrote, and it was -- this is concerning a
21 statement, a new policy, relationships,
22 International Society of Pharmacoepidemiology
23 statement on "American Society of Clinical
24 Oncology: New Policy For Relationships With
25 Companies," right?
♀
00139
1 That's what the title of your
2 commentary was, right, sir?
3 A. Well, that was the title. It
4 was actually a draft policy that the American
5 Society for Clinical Oncology put out in
6 their journal.
7 The Pharmacoepidemiology
8 Association, actually a number of other
9 associations, wrote letters or wrote articles
10 like this, communicated to the American
11 Society for Clinical Oncology that this
12 amounted to censorship and advised them not
13 to implement this policy. And subsequently
14 they didn't implement the policy.
15 Q. You agreed when you wrote this,
16 "The public has a strong interest that
17 research articles in biomedical journals are
18 accurate, clear and unbiased."
19 Did I read that correctly?
20 MR. COPLE: Object to the form
21 of the question.
22 THE WITNESS: Yes. I mean, I
23 probably would say the -- since the
24 public oftentimes doesn't read these
25 articles directly but -- you know, the
♀
00140
1 public in the sense that, you know,
2 the public depends on scientific
3 research being accurate, and so that
4 was the intent of that sentence.
5 QUESTIONS BY MR. MILLER:
6 Q. "Under the new policy, American
7 Society of Clinical Oncology will not accept
8 an abstract or paper describing
9 company-funded research if the first, last or
10 corresponding author has been the company's
11 employee, investor or paid speaker during the
12 previous two years."
13 That's what you were commenting

14 on the proposed policy of theirs, right, sir?
15 A. Yeah, the proposal was to
16 censor contributions that came from people
17 who had affiliation with industry.

[redacted]

25 Q. Okay. Yet when we get to the
♀
00141
1 back page, you declare that you have no
2 conflict of interest in writing this.
3 Do you see that, sir?
4 A. Yes.
5 Q. Why didn't you let the
6 community that's reading this know that
7 you're a stockholder in Monsanto?
8 A. This has to do with the
9 pharmaceutical industry and practices that
10 relate to scientific drug development and
11 production. This doesn't have anything to do
12 with Monsanto.
13 Q. It doesn't have anything to do
14 with Monsanto pharmacoepidemiology?
15 A. Monsanto doesn't do
16 pharmacoepidemiology.
17 Q. You write here, sir, that "this
18 is perceived by many as a particular concern
19 for the research sponsored by pharmaceutical
20 companies. In an effort to mitigate biased
21 reporting, the American Society Journal" --
22 I'm sorry -- "the American Society of
23 Clinical Oncology and its affiliated journals
24 have initiated this new public policy --
25 publication policy."
♀
00142
1 So there was an outcry from
2 industry epidemiologists and industry
3 generally that this was a censorship and
4 should not -- this policy should not be
5 implemented.
6 Is that what I understand you
7 tell me?
8 MR. COPLE: Objection.
9 Argumentative. And objection because
10 10-12 and all the questions are well
11 beyond the scope of general causation
12 of non-Hodgkin's lymphoma and
13 glyphosate.
14 QUESTIONS BY MR. MILLER:
15 Q. You can answer.
16 A. Well, you know, my two
17 coauthors are academic scientists, and I
18 don't know the full extent of the comments
19 that the authors of the draft policy
20 received, but my understanding was that it
21 wasn't just from industry people. It was
22 from people who work for government and

23 people who work in academia. In fact,
24 pharmacoepidemiology -- the
25 Pharmacoepidemiology Society has strong
♀
00143
1 contingents in all three areas.
2 This document was sent out to
3 the entire membership of the
4 Pharmacoepidemiology Society, and it was also
5 reviewed by the board of directors of the
6 society, a vast majority who are academic or
7 government scientists.
8 MR. MILLER: We'll take a
9 five-minute break and get back to
10 work. Unless you want lunch now.
11 It's up to you.
12 THE WITNESS: What time is it?
13 MR. MILLER: About 12 o'clock,
14 12:08, I guess. It's up to you.
15 MR. HOLLINGSWORTH: We'll talk
16 it over and let you know.
17 VIDEOGRAPHER: The time is
18 12:08. This ends Media 2.
19 (Off the record at 12:08 p.m.)
20 VIDEOGRAPHER: We are going
21 back on the record.
22 The time is 1:02. This is the
23 beginning of Media 3.
24 QUESTIONS BY MR. MILLER:
25 Q. All right. Last time I want to
♀
00144
1 have a discussion about the general area of
2 Monsanto's responses to Dr. Hardell's paper.
3 Okay? I want to just -- so you know where
4 I'm going, is all I'm trying to do. Talk
5 about one more document with that.
6 It would be fair to say that
7 you recommended that Monsanto work with
8 Dr. Adami to prepare or create an
9 epidemiology study in 1999. Is that fair or
10 no?
11 MR. COPLE: Object to the form
12 of the question. Lacks foundation.
13 THE WITNESS: Is there a
14 document that you're referring to that
15 I can see?
16 QUESTIONS BY MR. MILLER:
17 Q. Sure.
18 But I'm just asking if you
19 generally remember that.
20 MR. COPLE: Same objection.
21 THE WITNESS: I know that we
22 asked Dr. Adami to review the Hardell
23 study.
24 (Acquavella Exhibit 10-13
25 marked for identification.)
♀
00145

8 QUESTIONS BY MR. MILLER:
9 Q. That's 1999. Let's cut away to
10 2015.
11 You know who Dr. Chang is?
12 A. Well, there are a million
13 Dr. Changs, so...
14 Q. Well, yes, there probably are.
15 A. And I've worked with a lot of
16 Dr. Changs, so which one are you talking to?
17 Q. Sure. I'm talking about the
18 one that did the meta-analysis on whether
19 glyphosate and Roundup were associated with
20 non-Hodgkin's lymphoma. I think there's only
21 one Dr. Chang that did such --
22 A. Dr. Ellen Chang --

23 MR. COPLE: Objection. Lacks
24 foundation.
25
♀
00164
1 QUESTIONS BY MR. MILLER:
2 Q. I'm sorry, sir, go ahead.
3 A. Okay. That would be Dr. Ellen
4 Chang --
5 Q. Yes.
6 A. And, yes, I know her.
7 Q. Yes. And in 2015, her
8 meta-analysis was funded in part by Monsanto
9 Corporation.
10 You're aware of that?
11 MR. COPLE: Objection. Lacks
12 foundation.
13 THE WITNESS: Okay. I think
14 Monsanto supported her meta-analysis
15 with Dr. Elizabeth Delzell.
16 QUESTIONS BY MR. MILLER:
17 Q. Yes, sir.
18 And that meta-analysis found a
19 statistically significant increased risk of
20 non-Hodgkin's lymphoma from her meta-analysis
21 of 50 percent, right?
22 MR. COPLE: Objection. Lacks
23 foundation.
24 THE WITNESS: Well, would you
25 be kind enough to give me the article?
♀
00165
1 I want to make sure, because I think
2 you're misquoting what they actually
3 said. So if you give me the article,
4 I'd answer that question --
5 QUESTIONS BY MR. MILLER:
6 Q. I'm not misquoting anything
7 when I'm not quoting. I'm just asking you
8 whether you remember that. If you don't, you
9 don't.
10 MR. COPLE: Objection.
11 Argumentative. Lacks foundation.
12 THE WITNESS: What I remember
13 about that meta-analysis was that
14 their conclusion was the evidence
15 didn't support the proposition that
16 glyphosate was associated with
17 non-Hodgkin's lymphoma. It's right in
18 the abstract. You can read it.
19 QUESTIONS BY MR. MILLER:
20 Q. I can also read whether or not
21 they found a statistically significant
22 increased risk of non-Hodgkin's in the
23 article, can't I?
24 MR. COPLE: Objection.
25 Argumentative. Lacks foundation.
♀
00166
1 THE WITNESS: Any calculation
2 done in an epidemiology study has to
3 be considered in the context of both
4 systematic error and random error.

5 And I think what's obvious from
6 the Chang and Delzell meta-analysis is
7 that they say that the available
8 studies have so many sources of
9 systematic error, not random error,
10 that you can't take at face value the
11 P value and confidence intervals that
12 result from a weighted average of the
13 studies of glyphosate and
14 non-Hodgkin's lymphoma.
15 QUESTIONS BY MR. MILLER:
16 Q. Agricultural Health Study, AHS.
17 You're familiar with that when I use that
18 phrase, right?
19 MR. COPLE: Objection. Vague.
20 THE WITNESS: Yes. So AHS, if
21 you say that, I'll understand it means
22 the Agricultural Health Study. That's
23 the shorthand that I use for it as
24 well.
25
♀
00167
1 QUESTIONS BY MR. MILLER:
2 Q. Okay. You were allowed to give
3 a presentation to the scientists doing that
4 study about your Farm Family Exposure Study,
5 right?
6 MR. COPLE: Objection.
7 Argumentative. Lacks foundation.
8 THE WITNESS: They invited me
9 two or three years in a row to come
10 and speak to their advisory panel
11 about what we were doing and what we
12 were finding in the Farm Family
13 Exposure Study.
14 When we had final results from
15 the Farm Family Exposure Study, they
16 invited me to the National Cancer
17 Institute, to their offices in
18 Bethesda, because we had made known to
19 them during the initiation of the
20 Agricultural Health Study that we
21 would make known the information that
22 we gathered in the Farm Family
23 Exposure Study to help them in
24 thinking about their approach to
25 exposure assessment.
♀
00168
1 So they and their advisory
2 panel thought enough of, you know, our
3 forthcomingness in doing the study
4 that they invited me two or three
5 years in a row to update them on the
6 agricultural -- on the Farm Family
7 Exposure Study.
8 They were doing a similar kind
9 of study for 2,4-D and chlorpyrifos,
10 so they were also learning, you know,
11 a little bit about what we were doing,
12 and it was helping them in thinking
13 about what they were doing.

14 And as I said, when our results
15 were finished and we were -- I think
16 we were going to begin to send out
17 articles for publication because I
18 think we actually shared our results
19 with them before that. We visited
20 with them, and I guess we gave a
21 seminar, maybe two hours, three hours,
22 where a number of people from not only
23 the National Cancer Institute but also
24 EPA and NIHS came to -- those are the
25 government agencies that are working

♀

00169

1 on the Farm Family Exposure Study --
2 to see our results and to, you know,
3 digest them and see what the
4 implications might be for their study.

[redacted]

13 QUESTIONS BY MR. MILLER:
14 Q. Have you been media-trained?
15 MR. COPLE: Objection. Vague.
16 THE WITNESS: A number of years
17 ago I took some media training.
18 QUESTIONS BY MR. MILLER:
19 Q. While you were at Monsanto?
20 MR. COPLE: Objection. Outside
21 the scope of general causation under
22 the Court's order.

23 THE WITNESS: I took some media
24 training while I was at Monsanto.
25

♀

00171

1 QUESTIONS BY MR. MILLER:
2 Q. Donna Farmer take it with you?
3 A. I don't remember her taking it
4 with me, per se. And you could ask her
5 whether she took media training.
6 Q. She told me she has, but I was
7 wondering if you did it at the same time as
8 her.
9 A. I don't know. You know, you
10 fit those in when you can in your schedule
11 given other commitments. So I don't know if

[redacted]

[redacted]

12 Do you remember generally
13 speaking, that there was such a paper
14 published?
15 MR. COPLE: Objection. Vague.
16 THE WITNESS: I know the
17 McDuffie 2002 study.
18 QUESTIONS BY MR. MILLER:
19 Q. That's what I'm referring to,
20 sir.
21 And prior to Dr. McDuffie
22 publishing that paper, you went to Canada to
23 meet with her, didn't you?
24 A. I went to Canada to attend
25 the -- I forget the name of the -- I think

00179

1 it's the International Society for
2 Environmental Epidemiology -- to present
3 findings I think from the Farm Family
4 Exposure Study. And they also asked me if I
5 would chair one of the scientific sessions at
6 the meeting, which I agreed to do.
7 Would you give me a copy of the
8 document so I know what I'm -- what you're
9 asking me about in my meeting with
10 Dr. McDuffie?
11 Q. I'll be happy to do that. But
12 before we do that, you recall without the
13 document that you, in fact, while in Canada,
14 met with Dr. McDuffie, right?
15 MR. COPLE: Object to the form
16 of the question.
17 THE WITNESS: Well, you know,
18 actually I don't remember meeting with
19 Dr. McDuffie. And, you know, I should
20 remember, but I don't. And, you know,
21 at the time I was going to five or six
22 conferences a year. I often was
23 chairing sessions.
24 I tried to make it a point
25 whenever I was at a scientific meeting

00180

1 and people interested in pesticide
2 epidemiology, to talk to them about
3 the Farm Family Exposure Study, to
4 talk to them about, you know, what we

5 know about glyphosate in a collegial
6 way. And so I assume that's what I
7 did with Dr. McDuffie, but I don't
8 remember meeting her.
9 (Acquavella Exhibit 10-15
10 marked for identification.)
11 QUESTIONS BY MR. MILLER:
12 Q. Well, I'll help refresh your
13 recollection. We have some documents about
14 that meeting that we're going to mark as
15 Exhibit 10-15.
16 A copy for you, sir. A copy
17 there, Counsel.

[redacted]

21 MR. MILLER: Sir, we're marking
22 it as Exhibit 10-16.
23 Counsel, you have a copy?
24 (Acquavella Exhibit 10-16
25 marked for identification.)

00198
1 MR. COPLE: Has this been
2 marked as 10-16?
3 MR. MILLER: It has now. I
4 would ask you to write that on there.
5 QUESTIONS BY MR. MILLER:
6 Q. Okay. Here you go. The
7 McDuffie 2001 article by McDuffie and others.
8 And you read this before,
9 right, sir? More than a few times?
10 A. I read it before, but I just
11 want to look it over a bit --
12 Q. Sure.
13 A. -- if you're going to ask
14 questions about it.
15 Q. I will.
16 You've read the McDuffie
17 article before, 2001, right, and just had a
18 chance to review it right now; is that fair?
19 A. I've read the article before,
20 yes.
21 Q. Yes, sir. Okay.
22 And one of the coauthors is

23 John R. McLaughlin, right?
24 A. Yes.

[redacted]

18 QUESTIONS BY MR. MILLER:
19 Q. And you know John McLaughlin
20 ultimately served on the IARC committee that
21 concluded that glyphosate was a probable
22 human carcinogen for non-Hodgkin's lymphoma?
23 MR. COPLE: Objection. Lacks
24 foundation.
25

♀
00200
1 QUESTIONS BY MR. MILLER:
2 Q. Are you aware of that?
3 MR. COPLE: Objection. Lacks
4 foundation.
5 THE WITNESS: Well, John
6 McLaughlin was a member of the
7 epidemiology work group, and IARC
8 concluded after synthesizing all the
9 opinions of the different work groups
10 that glyphosate should be classified
11 as a category 2A, probable human
12 carcinogen.
13 But that evaluation is
14 inconsistent with every other review
15 that's been done of glyphosate, and of
16 course it's inconsistent with the
17 review that our expert panel did.
18 And for the reasons I explained
19 to you before about biologic
20 plausibility, the amount of exposure,
21 et cetera, it's just a very wrong
22 conclusion as far as I'm concerned,
23 consistent with the available science.
24 QUESTIONS BY MR. MILLER:
25 Q. I understand that's your

♀
00201
1 opinion, sir.
2 Let's go back to the McDuffie,
3 McLaughlin article and where they state at
4 the last sentence of the abstract, "We

5 conclude that non-Hodgkin's lymphoma was
6 associated with specific pesticides after
7 adjustment for other independent predictors."
8 Did I read that correctly?
9 A. Well, you read that correctly.
10 And, you know, what they're
11 talking about are all these pesticides that
12 they've listed here in the abstract. And
13 really, this is another one of those studies
14 where they're studying 50 or 60 pesticides,
15 and virtually every pesticide or, you know,
16 very many more than you would expect, seems
17 to be associated with non-Hodgkin's lymphoma.
18 And, you know, I reviewed the
19 McDuffie study. You know, we reviewed it in
20 our expert group. And, you know, to us, this
21 is an indication of some kind of a systematic
22 error in the study. Could be recall bias.
23 It could be selection bias.
24 I noted in this study when I
25 read through it just now that the
♀
00202
1 participation rate for non-Hodgkin's lymphoma
2 cases was 67 percent of those contacted, but
3 it was only 48 percent for controls. So when
4 you have that kind of a disparity between the
5 willingness to participate in the study for
6 cases and the willingness to participate in
7 the study for controls, you have to seriously
8 consider that you got selection bias that may
9 be causing a lot of systematic error in your
10 study.
11 And so on that count and on the
12 count that a lot of these associations they
13 reported didn't have full multivariate
14 adjustment for personal factors and for, you
15 know, the other pesticides that were
16 predictive, I think those are the main points
17 that, you know, I -- I --
18 Q. You want to bring out?
19 A. No. No. Those are the main
20 points that our expert panel noted about the
21 McDuffie study when we reviewed the
22 literature.
23 Q. And the expert panel you're
24 referring to is the Intertek panel?
25 A. I'm actually talking
♀
00203
1 specifically about the five epidemiologists
2 who did a review: myself, Dr. Marsh,
3 Dr. Garabrant, Dr. Weed and Dr. Sorahan.
4 Q. All funded by Monsanto?
5 A. Well, Monsanto funded the
6 Intertek panel review. The experts were
7 funded to give their independent and best
8 scientific evaluation of the available
9 literature.
10 In my experience, that's always
11 what you ask an expert that you fund to do a
12 review to do. You want their independent
13 expert opinion. And that was explicit from

14 the beginning in the formation of the expert
15 panel, and that's actually the way the expert
16 panel worked.
17 Q. You're aware Dr. Garabrant
18 makes over a million dollars a year as a
19 forensic epidemiologist for industry?
20 MR. COPLE: Objection. Lacks
21 foundation. Argumentative.
22 THE WITNESS: I don't know
23 anything about Dr. Garabrant's work
24 other than his work in occupational
25 epidemiology. And, you know, he is an
♀
00204
1 emeritus professor at the University
2 of Michigan. He's someone who has
3 trained a lot of epidemiologists and
4 who is a very -- he's a very incisive
5 person about epidemiology and
6 medicine, and he was a real credit to
7 our epidemiology panel. So we --
8 QUESTIONS BY MR. MILLER:
9 Q. Go ahead, Doctor. Finish.
10 A. This was the first time I
11 worked with Dr. Garabrant, and he was a
12 terrific contributor to our panel.
13 Q. I've had the privilege of
14 meeting him. He's polite. I'm polite.
15 He's been an expert for the
16 lead paint industry. You aware of that?
17 A. No.
18 MR. COPLE: Objection. Lacks
19 foundation.
20 QUESTIONS BY MR. MILLER:
21 Q. Expert for the manufacturers of
22 asbestos. Are you aware of that?
23 MR. COPLE: Objection. Lacks
24 foundation.
25 THE WITNESS: No.
♀
00205
1 QUESTIONS BY MR. MILLER:
2 Q. Expert for the tobacco
3 industry. Are you aware of that?
4 A. No.
5 MR. COPLE: Objection. Lacks
6 foundation.
7 QUESTIONS BY MR. MILLER:
8 Q. And an expert that Actos
9 doesn't cause bladder cancer. Are you aware
10 of that?
11 MR. COPLE: Objection. Lacks
12 foundation. All of these questions
13 about Dr. Garabrant are outside the
14 scope of general causation for NHL and
15 glyphosate.
16 THE WITNESS: As I mentioned
17 before, I don't know about the
18 different areas where he's consulting.
19 I just know he had the type of
20 expertise we wanted on the panel, both
21 medical and epidemiologic, and that he
22 was a strong contributor to our

23 panel's work.
24 QUESTIONS BY MR. MILLER:
25 Q. Yes, sir.
♀
00206
1 Let's look at Exhibit 10-16,
2 Dr. McDuffie and Dr. McLaughlin's
3 peer-reviewed report of the literature in
4 2001 about these issues. And I want to ask
5 you if you agree with this sentence:
6 "Non-Hodgkin's lymphoma incidence have been
7 increasing in Canada for the last 25 years,
8 reflecting a worldwide trend that has not
9 been explained by improved diagnostic methods
10 or record-keeping."
11 Do you agree, disagree, or in
12 the "do not know" camp?
13 A. Yeah, I haven't been following
14 non-Hodgkin's lymphoma in Canada.
15 Q. Okay. Fair.
16 Let's move on to the tables
17 that are found on page 1161 of Dr. McDuffie's
18 report.
19 In this table, Dr. McDuffie and
20 her colleagues talk about individual
21 compounds, Table 8 that is, and one of those
22 individual compounds is glyphosate, right,
23 sir?
24 A. Yes. Glyphosate is included in
25 this table.
♀
00207
1 Q. And what Dr. McDuffie and
2 others tell us, if you're under two days'
3 use, there is no statistically significant
4 increased association between glyphosate and
5 non-Hodgkin's lymphoma, true?
6 A. They calculated an odds ratio
7 of 1.0 --
8 Q. Yes, sir.
9 A. -- for two days' or less use
10 per year.
11 But you know, one of the
12 comments I've made, you know, previously
13 about the McDuffie study is that the way she
14 considered the number of days that somebody
15 had worked with pesticides was very different
16 than the two other studies in terms of the
17 way they looked at the number of days of use.
18 So, for example, in the
19 Agricultural Health Study, what they did was
20 they calculated a cumulative years --
21 cumulative days of use over a lifetime to
22 discriminate people in terms of if they had a
23 lot of experience using glyphosate or they
24 had less experience using glyphosate.
25 So I think the problem with
♀
00208
1 talking about it in terms of two days per
2 year is pretty obvious. You know, you don't
3 know how many years. So, you know, somebody
4 could be listed in this category of greater

5 than two days a year, but they only did it
6 for one year. And somebody could be in the
7 category of up to two days a year, but they
8 did it for ten years.
9 And so without, you know, some
10 specificity as to whether these categories
11 actually classified people by the amount of
12 glyphosate that they used, you know, I've
13 always found this table to be uninterpretable
14 because I don't know necessarily that in her
15 greater-than-two-days-a-year category she's
16 actually got people who have more experience
17 using glyphosate than in her two-days-or-less
18 category.
19 And, you know, the other thing
20 about this table is if you look at the
21 footnote to the table, odds ratios calculated
22 for strata for the variables age and province
23 of residence. So the only thing that's
24 controlled in this analysis is the age and
25 which province they were from.

00209
1 You know, in their earlier
2 analysis of glyphosate, they controlled for
3 all these medical variables that were
4 predictive of non-Hodgkin's lymphoma. You
5 should control for them here. By controlling
6 for them in their earlier analysis, they've
7 already demonstrated that they report to
8 control for.
9 And then, you know, the other
10 thing that's of interest is, what about all
11 these other pesticides that are associated
12 with non-Hodgkin's lymphoma? How can you
13 interpret a finding for glyphosate without
14 controlling for all these other factors?
15 So, you know, my sense of
16 reading the McDuffie paper is that the way
17 they actually have tried to do their
18 consideration by amount of exposure is
19 curious to me. I would like to see some
20 elaboration of actually how much exposure the
21 people have over a lifetime in those two
22 categories.
23 They didn't control for
24 variables that were already shown to be
25 important in an earlier analysis, and they

00210
1 didn't control for other pesticides that
2 might be correlated with glyphosate use and
3 could be producing a spurious association.
4 MR. MILLER: Move to strike as
5 nonresponsive.
6 MR. COPLE: Object. The
7 witness' answer will stand.
8 QUESTIONS BY MR. MILLER:
9 Q. Let's look at the table from
10 this peer-reviewed independent scientist from
11 cancer epidemiology, Dr. McDuffie.
12 And she tells us for
13 glyphosate, greater than 2-day use, there is

14 a statistically significant increased odds
15 ratio of 2.12.
16 Did I read that correctly?
17 A. Her table for the greater than
18 two days per year, for an unknown number of
19 years, has an odds ratio of 2.12. That's not
20 controlled for medical variables that were
21 considered to be important, and that's not
22 controlled for the other pesticides that are
23 associated with non-Hodgkin's lymphoma in
24 this analysis.
25 So, you know, a limitation of
♀
00211
1 considering whether this finding is
2 statistically significant or not is the fact
3 that you can't do an appropriate statistical
4 significance calculation when you have such
5 incredible recall bias, you haven't
6 controlled for medical factors that have
7 already been found to be related to
8 non-Hodgkin's lymphoma and could be
9 associated with glyphosate use, and you
10 haven't controlled for the pesticides that
11 were even more strongly associated with
12 non-Hodgkin's lymphoma than glyphosate was in
13 this analysis.
14 So that's the way, you know, I
15 think about the evidence that's been
16 presented here.
17 Q. Well, one thing's for sure.
18 Dr. McDuffie did a study on the relationship
19 between glyphosate and non-Hodgkin's
20 lymphoma, and Monsanto never did, right?
21 MR. COPLE: Objection.
22 Argumentative.
23 THE WITNESS: Well, you can see
24 from the setup of the study that this
25 is a study about all pesticides that
♀
00212
1 are used a certain amount in Canada.
2 Glyphosate was included among them
3 because it's one of the pesticides
4 used in Canada.
5 But this was not a study of
6 glyphosate alone. This was not a
7 study that incorporated any of the
8 details that we know about glyphosate
9 exposure, and it was not a study, as I
10 pointed out, that did what we'd
11 consider to be an acceptable
12 statistical analysis.
13 There was also this huge
14 disparity in participation between
15 cases and controls. And the whole
16 basis for calculating an odds ratio is
17 that the controls are representative
18 of the population that gave rise to
19 the cases. If you have such a large
20 difference in participation, you have
21 to really question whether the control
22 group gave an adequate representation

23 of the frequency of glyphosate use in
24 the population that gave rise to the
25 cases.

♀

00213

[redacted]

[redacted]

Q. And you raised another good point, the way science works. There's oftentimes more than one cause of a condition, isn't there?

A. Well, cause has a certain meaning to epidemiologists. And I think if you ask, you know, experts in causal inference, they would say, you know, every outcome, heart disease, for example, has multiple causes. So somebody has high cholesterol, but not everybody with high cholesterol gets a heart attack. So, you know, it's high cholesterol and maybe it's, I don't know, high blood pressure or things like that.

So there's this idea in causal inference that -- you can almost think of a pie, and everybody who develops a disease has this constellation of causal factors. So it's not just one -- it's not a one-to-one relationship like you implied. Causal inference is much more complicated than that.

00217

Q. Yes, sir.

I'm going to show you now what we've marked as Exhibit 10-17 --

MR. COPLE: Before you proceed, Counsel, we've been going an hour and 40 minutes.

MR. MILLER: Sure.

VIDEOGRAPHER: The time is 2:38. This ends Media 3.

(Off the record at 2:38 p.m.)

VIDEOGRAPHER: We're going back on record. Time is 2:59. This begins Media 4.

14 MR. MILLER: Before we go back,
15 Counsel, is it Monsanto's position
16 that plaintiff is limited to seven
17 hours for our portion of
18 Dr. Acquavella's deposition?
19 MR. COPLE: Yes, direct and
20 redirect.
21 MR. MILLER: Not sure if we
22 agree with you, but we'll try to work
23 with you for now.
24 MR. COPLE: Well, I will tell
25 you -- and that's fine. You reserve
♀
00218
1 whatever rights you want, Mike, but
2 that's the way it was handled with
3 plaintiff's counsel in this litigation
4 previously, direct and redirect.
5 If I'm misrepresenting that,
6 I'll stand corrected, but my
7 recollection is that's how we've
8 handled it so far.
9 MR. MILLER: I think you're
10 right, that it has been how we've
11 handled other witnesses. And I could
12 be wrong, but I thought we had sent
13 some correspondence that we felt we're
14 entitled to two days with
15 Dr. Acquavella.
16 And I don't want to make
17 100 percent representation because I'm
18 not young anymore, and I forget some
19 stuff.
20 MR. COPLE: If you can explain
21 what you mean by "entitled to two
22 days," because I'm not sure I even
23 understand what that means.
24 MR. MILLER: 14 hours.
25 MR. COPLE: Oh. No, I'm not
♀
00219
1 aware of anything like that.
2 MR. MILLER: Yes, sir. All
3 right.
4 Well, with that intention or
5 conflict, I will try to limit myself
6 and then seek court intervention if I
7 feel I need more later. So we're
8 going to work with you for now, but
9 feel like we're being limited in some
10 way.
11 But let's get back to work,
12 okay? Fair enough. Okay?
13 QUESTIONS BY MR. MILLER:
14 Q. All right. Doctor, we already
15 talked about Hardell '99, and we just talked
16 about McDuffie 2001. I want to move on, if I
17 can, and talk about some other studies from
18 independent scientists that have been in the
19 peer-reviewed literature on the issues of
20 non-Hodgkin's lymphoma and glyphosate.
21 Okay? Just want to move. Want
22 to discuss other studies.

23 A. Okay.
24 Q. All right. And I think doing
25 that chronologically, I'd like to move to a
♀
00220
1 Hardell study in 2002.
2 Are you familiar with that one,
3 sir?
4 A. I'm familiar with Hardell 2002,
5 but I want to see the document.
6 (Acquavella Exhibit 10-18
7 marked for identification.)
8 QUESTIONS BY MR. MILLER:
9 Q. I understand, and I intend to
10 provide you a copy.
11 Okay. Exhibit 10-18 is
12 Dr. Hardell and others' study from 2002 on
13 these issues.
14 Here's a copy for you, sir.
15 Review it as you feel necessary. I just have
16 a few questions about it.
17 A. Okay.
18 MR. MILLER: Okay. And before
19 I ask my next question, I just want to
20 put on the record, Counsel, the record
21 will reflect how much time
22 Dr. Acquavella spent reviewing
23 Exhibit 10-18. And I certainly don't
24 want to rush anyone who feels they
25 need to use that much time, but given
♀
00221
1 that the doctor just wrote a review
2 article that included the Hardell
3 article just six months ago, I believe
4 the amount of time should not, in
5 fairness, be counted against me. I
6 think it's either an abundance of
7 caution or stalling, but in either
8 event, it's not something that the
9 plaintiff should be prejudiced by.
10 MR. COPLE: We object to the
11 characterization, and we oppose your
12 position.
13 MR. MILLER: All right. We
14 both stated our -- let's get back to
15 work.
16 QUESTIONS BY MR. MILLER:
17 Q. Exhibit 10-18 is the Hardell
18 paper, right, of 2002?
19 A. Yeah, Hardell, Eriksson and
20 Nordstrom.
21 Q. Yes, sir.
22 (Acquavella Exhibit 10-19
23 marked for identification.)
24 QUESTIONS BY MR. MILLER:
25 Q. And Exhibit 10-19 is an article
♀
00222
1 that you and Dr. Garabrant and others wrote
2 six months ago that included a review of this
3 paper.
4 Are you familiar with that

5 article that you wrote?
6 I'm going to give you a copy.
7 I'm not going to ask you about the contents
8 right this second, but I'm going to ask you
9 if you, in fact, are the author of this.
10 You're the first author, aren't
11 you?
12 A. Yes, I'm familiar with the
13 article, and I was one of five contributing
14 authors and the lead author of the article.
15 Q. I'm sorry, I didn't hear you.
16 A. I said, I was one of five
17 contributing authors and the lead author of
18 the article.
19 Q. So you certainly are familiar
20 with the Hardell 2002. You just wrote a
21 critical review about that article and other
22 articles about six months ago, fair?
23 A. I'm familiar with Hardell 2002,
24 yes.
25 Q. Okay. We'll get back to your
♀
00223
1 article in a minute.
2 Let's look at Dr. Hardell's
3 2002 article. It was on this issue of
4 pesticides, including glyphosate and the
5 association with non-Hodgkin's lymphoma.
6 Those are the issues raised in
7 his 2002 article, right?
8 A. In this study he pooled the
9 results from two studies that had been done
10 previously. One was non-Hodgkin's lymphoma,
11 which apparently included some hairy cell
12 leukemia cases, and the other one was a
13 smaller, just a hairy cell leukemia study.
14 Q. And it was published in a
15 peer-reviewed journal called Leukemia &
16 Lymphoma, right?
17 A. It was published in Leukemia &
18 Lymphoma, yes.
19 Q. It's a peer-reviewed journal?
20 A. I don't know the journal, but
21 it came up on literature searches, so I
22 assume it's a peer-reviewed journal that's
23 indexed.
24 Q. These independent scientists in
25 this peer-reviewed article state in their
♀
00224
1 abstract, quote, "Among herbicides,
2 significant associations were found for
3 glyphosate, odds ratio 3.04."
4 Statistically significant,
5 right, sir?
6 A. That's what they say in the
7 abstract. However, if you look at Table 7 on
8 page 1047, you can see that that's the result
9 of a univariate analysis, where you don't
10 consider any of the other factors that are
11 correlated with both glyphosate and with
12 non-Hodgkin's lymphoma or hairy cell
13 leukemia. If you consider those factors, the

14 odds ratio is reduced to 1.85.
15 And all of the things that, you
16 know, I said about the Hardell study in 1999,
17 since this is basically another analysis of
18 that study with an additional hundred or so
19 hairy cell leukemia patients and their cases
20 would apply, 40 percent of the information
21 came from relatives. There was no control
22 for confounding.
23 The number of cases included in
24 this overall study for glyphosate who have
25 any exposure to glyphosate is still less than
♀
00225
1 10, which, you know, a lot of epidemiologists
2 would look at that and say, you can't do a
3 reliable analysis for that case.
4 It's pretty clear to me, and it
5 was clear to our expert panel when we
6 reviewed this publication. If you look at,
7 for example, at Table 1, virtually every
8 pesticide is associated with non-Hodgkin's
9 lymphoma, and a large number of them are
10 associated statistically significantly. I
11 just go down and count them.
12 So this usually means that
13 there's some kind of systematic error in a
14 study. I mentioned before recall bias, which
15 is very important, lack of control for
16 confounding, et cetera.
17 So these are two studies that
18 have been published previously. Our panel
19 reviewed them as one study because it was the
20 most recent iteration of the results for the
21 two previous studies. And so the commentary
22 that's in our article and the commentary I
23 just gave you reflects the most recent
24 iteration for these patients.
25 Q. The most recent iteration by
♀
00226
1 Monsanto-paid experts when they reviewed this
2 report?
3 MR. COPLE: Objection.
4 Argumentative.
5 THE WITNESS: No.
6 MR. COPLE: Objection.
7 Argumentative.
8 QUESTIONS BY MR. MILLER:
9 Q. You can answer.
10 A. Okay. No, I meant the most
11 recent iteration by Hardell and his
12 colleagues.
13 Q. What Dr. Hardell says is that
14 there was a significant association found
15 with glyphosate, an odds ratio of 3.04.
16 Did I read that correctly?
17 A. Well, you read that correctly.
18 You know, what would be a more
19 complete reporting of what was found for
20 glyphosate would be what I just pointed out
21 to you in Table 7. In the univariate
22 analysis, the odds ratio for glyphosate was

23 3.04. But when we did a multivariate
24 analysis and controlled for other pesticides
25 and other factors that are important to
♀
00227
1 control for, the odds ratio was 1.85.
2 Because, you know, the basic
3 practice of epidemiologists is to take the
4 most adjusted result because it's an
5 indication of considering all the factors in
6 the study that are important to be
7 considered.
8 So I think that's incomplete
9 reporting on Dr. Hardell's part, and it gives
10 a misrepresentation, actually, of the
11 glyphosate finding, I think.
12 Q. I'm sure you do.
13 What these scientists say on
14 page 1047 is, the results in multivariate
15 analysis must be interpreted with caution
16 since exposures to different types of
17 pesticides correlate.
18 Whereas you want to seize on
19 the multivariate analysis, these peer-review
20 scientists say it must be interpreted with
21 caution.
22 Do you see that?
23 MR. COPLE: Objection.
24 Argumentative.
25 THE WITNESS: I'll say a couple
♀
00228
1 of things about that. The first is,
2 you know, if two pesticides are
3 correlated, and one of them's a risk
4 factor for non-Hodgkin's lymphoma and
5 the other isn't, the fact that they're
6 correlated is actually the cause of
7 the confounding. So I'm not quite
8 sure what he means there.
9 And he could have provided, for
10 example, correlation matrix of how the
11 different pesticides were correlated
12 so that people who look at this would
13 know what he's talking about. I don't
14 think he's talking about glyphosate,
15 but you just can't know because he's
16 doing that.
17 The other thing that, you know,
18 would have been really helpful in this
19 study -- and, you know, I encouraged
20 the regulatory agencies to inquire
21 when I've discussed these studies with
22 them -- is, we don't have any idea how
23 many days of exposure these eight
24 people have for other than a few of
25 the pesticides.
♀
00229
1 You know, they report -- they
2 report days of exposure. In Table 2
3 they report days of exposure for
4 phenoxyacetic acids. They report days

5 of exposure for MCPA. They report
6 days of exposure for 2,4-D and
7 2,4,5-T, and then days of exposure
8 other.
9 So, you know, this is whether
10 they've ever used a pesticide in their
11 entire lifetime. And, you know, it's
12 hard to know whether we're talking
13 about eight people who used it once in
14 their lifetime or eight people who
15 used it twice in their lifetime.
16 Non-Hodgkin's lymphoma tend to
17 be diagnosed in the late 50s and 60s,
18 so, you know, to me, when I think
19 about this, you know, using something
20 once or twice in your entire
21 lifetime -- imagine that you're
22 concerned about nitrosamines in the
23 diet, and you ask somebody how many
24 bacon, lettuce and tomato sandwiches
25 they've eaten in their lifetime, and

00230
1 they tell you one. And you go, "Oh,
2 one, okay, great. I'm going to
3 correlate that with stomach cancer or
4 something like that."
5 You know, chemical
6 carcinogenesis doesn't involve -- in
7 fact, I'm not sure I know of an
8 instance where one day, two days in a
9 lifetime of any type of exposure has
10 actually been determined to be a
11 causal factor.
12 So this lack of specificity
13 about how many days we're actually
14 talking about here in this study and
15 in the other studies really precludes
16 people from doing a thorough
17 evaluation of these studies.
18 MR. MILLER: Move to strike the
19 answer past the first paragraph as
20 nonresponsive to the question.
21 MR. COPLE: Objection. The
22 witness' answer will stand.
23 (Acquavella Exhibit 10-20
24 marked for identification.)
25

00231
1 QUESTIONS BY MR. MILLER:
2 Q. Well, let's look. You keep
3 referring to your Intertek articles of 2016,
4 and I want to talk about them for a minute.
5 I think we marked -- we're
6 going to mark this one, and we still haven't
7 gotten to some of these exhibits. We will, I
8 promise. We're going to mark this one as
9 10-20.
10 Feel free to review it as much
11 as you need -- appropriate, but since you're
12 an author, I'm hoping we can get to the
13 question and answer portion of this in some

14 reasonable period of time.
15 This is a copy for you, sir. A
16 copy for counsel. Two copies for counsel.
17 You've seen this before, right?
18 A. I'm an author on both articles,
19 yes, I've seen them.
20 Q. Yeah, you're an author. Okay.
21 And what it is, so the jury
22 understands, it's a review of the
23 carcinogenic potential of glyphosate by four
24 independent panels in comparison to the IARC
25 assessment, written in 2016, right?

♀

00232

1 A. That's right.
2 Q. Okay. And you're one of the
3 authors, John Acquavella, right?
4 A. I'm one of the authors, yes.
5 Q. Yes.
6 And so is David Garabrant,

[redacted]

15 Q. Then we won't go through -- I
16 mean, do you know that -- by way of example,
17 Larry Kier has been a paid consultant for
18 Monsanto?
19 MR. COPLE: Objection. Lacks
20 foundation.
21 THE WITNESS: I'm sorry, what
22 name?
23 QUESTIONS BY MR. MILLER:
24 Q. Larry Kier, I guess?
25 A. Larry Kier?

♀

00233

1 Q. Kier, excuse me.
2 A. Oh, Larry Kier was a Monsanto
3 employee. Our ten years at Monsanto
4 overlapped.
5 Q. Yes.
6 A. And I think it says in the
7 disclosure that he's a paid consultant to
8 Monsanto.
9 Q. I want to go to that disclosure
10 and take a few seconds and look at it if we
11 could. That would be found on the
12 declaration of interest page. I think it's
13 16.
14 It says that "the expert
15 panelists were engaged by and acted as
16 consultants to Intertek and were not directly
17 contacted by the Monsanto Company."
18 Do you see that, sir?
19 A. Well, I know best what happened
20 with the epidemiology panelists. I don't
21 have as much familiarity with what happened
22 with the other panelists.

23 But with respect to the
24 epidemiology panelists, Dr. Marsh,
25 Dr. Garabrant, Dr. Sorahan and Dr. Weed, I
♀
00234
1 initially contacted them to see about their
2 interest and availability to serve on an
3 epidemiology panel. They indicated interest
4 and availability if, you know, the
5 arrangements could be worked out.
6 So at that point I asked their
7 permission to refer their names to Intertek,
8 and Intertek contacted them and coordinated
9 their participation on the panel.
10 Q. Well, you're one of the expert
11 panelists, right?
12 A. I'm one of the expert
13 panelists, yes.
14 Q. And it's absolutely false that
15 you didn't directly contact Monsanto about
16 this report, isn't it?
17 MR. COPLE: Objection.
18 Argumentative.
19 QUESTIONS BY MR. MILLER:
20 Q. It's false that you didn't talk
21 to Monsanto about this report. We have
22 e-mails about your contact with Dr. Heydens
23 about that.
24 MR. COPLE: Objection.
25 Argumentative. Lacks foundation.
♀
00235
1 QUESTIONS BY MR. MILLER:
2 Q. Before we show these e-mails,
3 it's also, sir, false where you said "neither
4 any Monsanto Company employees nor any
5 attorneys reviewed any of the expert panel
6 manuscripts prior to submission to the
7 journal."
8 That's false, isn't it?
9 MR. COPLE: Objection.
10 Argumentative. Lacks foundation.
11 THE WITNESS: Well, I'm going
12 to take your first point first.
13 I had a contract directly with
14 Monsanto Company, and because I had a
15 contract directly with Monsanto
16 Company, there wasn't the need to have
17 a contract with me in order to
18 compensate me for my independent
19 evaluation of working on this expert
20 panel.
21 But all the expert panel
22 members were paid to participate on
23 the panel by Monsanto. The monies
24 either went to Intertek or they came
25 directly, in my case, where I had a
♀
00236
1 contract with Monsanto.
2 QUESTIONS BY MR. MILLER:
3 Q. Right.
4 You had a -- why didn't this

5 say, "John Acquavella is under contract with
6 Monsanto and being paid by Monsanto to
7 participate in this panel?" Why didn't we
8 say the truth about that?
9 MR. COPLE: Objection.
10 Argumentative.
11 THE WITNESS: Well, you know, I
12 will say I've reviewed a number of
13 times what the journal asks for in
14 terms of disclosure. They want to
15 know who sponsored the work. There's
16 no indication that they really care,
17 as long as Monsanto has provided
18 sponsorship for the professional time
19 that all the panelists contributed.
20 Really, if you ask -- if you
21 ask me, and, you know, I'm a journal
22 editor, I deal with these things all
23 the time, and I think it doesn't
24 really matter what the individual
25 contract relationships are. The work

♀

00237

1 of the expert panel was supported by
2 Monsanto funds, and the panelists were
3 all engaged to give their independent
4 scientific opinion of the evidence.
5 QUESTIONS BY MR. MILLER:
6 Q. Sir, you know who Roger
7 McClellan is, don't you?
8 A. He's the editor in chief of the

[redacted]

QUESTIONS BY MR. MILLER:

Q. Yes, sir.

You've been talking a lot today about good science, and generally speaking, you remember us discussing that issue?

MR. COPLE: Objection. The record speaks for itself.

THE WITNESS: Well, I've always had in mind that my role is to -- is to contribute positively to the evolution of scientific information in pesticide epidemiology and in other areas.

14 QUESTIONS BY MR. MILLER:
15 Q. And, sir, I just want to ask
16 you, last question and we're going to leave
17 the area, but I think it's -- how is it good
18 science, if you're under contract, not to
19 reveal anything negative?
20 Wouldn't good science reveal
21 itself, negative or positive?
22 MR. COPLE: Objection.
23 Argumentative and outside the scope of
24 the Court's order on general
25 causation.

♀

00260

1 THE WITNESS: Disclosure of
2 interest has nothing to do with the
3 quality of the science.
4 The quality of science is
5 what's reflected in the work that the
6 panel did. And that could be judged
7 by people who review the article.
8 As I said, we went above and
9 beyond what the requirements for
10 disclosure was. Anybody who would
11 read that disclosure, if they thought
12 it was important to know my history of
13 having worked for Monsanto, my history
14 of having consulted on a litigation
15 matter for the chemical company not
16 related to glyphosate, or my being
17 paid for my professional time while I
18 was working on this document, has all
19 that information in our disclosure of
20 interest.

[redacted]

[redacted]

(Acquavella Exhibit 10-28
marked for identification.)
QUESTIONS BY MR. MILLER:
Q. Exhibit 10-28. It is a conflict of interest documentation by the ICMJE. I have a copy of you, sir, as well as counsel.
Review it with me once you've had time to look at it, sir.
A. Yes, sir, I read it.
Q. All right, sir.
This is the International Committee for Medical Journal Editors, right, sir?
A. That's right.
Q. Okay. And it's a statement on conflicts of interest, right, sir?
MR. COPLE: Objection.
Exhibit 10-28 and questions pertaining to it are outside the scope of the Court's order on general causation.
QUESTIONS BY MR. MILLER:
Q. You can answer.

00263

A. It's a document about conflicts of interest.
Q. And it says in pertinent part -- I'm going to ask if you agree -- "public trust." Quote, "Public trust in the scientific process and the credibility of published articles depend in part on how transparently conflict of interest are handled during the planning, implementation and writing, peer review, editing and publication of scientific work," end quote.
That's true, isn't it?
MR. COPLE: Objection.
Argumentative. And it's also outside the scope.
THE WITNESS: So that's what they wrote. That's their position on public trust.
QUESTIONS BY MR. MILLER:
Q. You don't agree with it?
MR. COPLE: Objection.
Argumentative.
THE WITNESS: Well, you just -- you just asked me -- you stated it, and you just asked me if that's what

00264

they wrote, so I said, yes, that's what they wrote.
QUESTIONS BY MR. MILLER:
Q. I'm looking at what I asked,

5 and it's amazing what these computers do. I
6 asked, "that's true, isn't it?"
7 So I'm asking you now: Isn't
8 that a true statement, that public trust is
9 relevant if these conflicts aren't disclosed?
10 MR. COPLE: Objection.
11 Argumentative and outside the scope of
12 the Court's order.
13 THE WITNESS: So the public
14 relies on, you know, authors to
15 disclose based on their best
16 interpretation of the conflict of
17 interest disclosure instructions that
18 journals have, and that's what we did.
19 QUESTIONS BY MR. MILLER:
20 Q. And what they warn about, these
21 International Committee of Medical Journal
22 Editors, is, quote, "A conflict of interest
23 exists when professional judgment concerning
24 a primary interest, such as a patient's
25 welfare or the validity of research, may be
♀
00265
1 influenced by a secondary interest such as
2 financial gain."
3 Right, sir?
4 MR. COPLE: Objection. Outside
5 the scope of the Court's order on
6 general causation.
7 THE WITNESS: So they have
8 written -- well, I would probably
9 write this as a potential conflict of
10 interest exists.
11 But, you know, our panels were
12 independent of the sponsor. We were
13 developing an independent work
14 product. We're obviously aware that
15 the work was being sponsored by
16 Monsanto Company, so we took extra
17 pains to make sure that our work in
18 the epidemiology panel was independent
19 of the sponsor.
20 And so as I mentioned, we went
21 above and beyond, not only in the
22 disclosure that we made but also in
23 the way we set up our panel. And from
24 the start, the result of our panel
25 evaluation was independent and was
♀
00266
1 going to be submitted for publication.
2 QUESTIONS BY MR. MILLER:
3 Q. Financial interests such as
4 employment, which you did disclose your prior
5 employment with Monsanto, but the
6 consultancies, you didn't disclose in your
7 declaration of interests your current
8 consultancy with Monsanto, true?
9 MR. COPLE: Objection.
10 Argumentative and outside the scope of
11 the Court's order.
12 THE WITNESS: Well, I think
13 that's included in saying that my

14 efforts on this -- this body of work
15 was funded by Monsanto Company.
16 QUESTIONS BY MR. MILLER:
17 Q. You did not disclose your stock
18 ownership in Monsanto, did you, sir?
19 MR. COPLE: Objection.
20 Argumentative and outside the scope of
21 the Court's order on general
22 causation.
23 QUESTIONS BY MR. MILLER:
24 Q. You can answer.
25 A. Well, I have a miniscule amount

♀

00267

1 of Monsanto stock that I got 30 years ago;
2 don't even know how much it is. But, I mean,
3 really, I could look up every mutual fund I
4 have investment in and try to see, you know,
5 what companies are associated with that.
6 At some point you've got to try
7 to get a sense of what the information is
8 that would be useful to readers. And as I
9 mentioned in this case, disclosed that I was
10 paid for, that my consulting time was
11 compensated by Monsanto, that I was a former
12 Monsanto employee, even though that was
13 12 years ago, and that I had worked for the
14 old Monsanto Company over the past year in
15 consulting on litigation for something that
16 wasn't related to glyphosate.
17 So, I mean, to me, we thought
18 we went above and beyond what the journal
19 asked for. All of us tried to go above and
20 beyond what the journal asked for.

[redacted]

[redacted]

13 Q. The journal -- the
14 International Committee for Medical Journal
15 Editors cautions for people to avoid the
16 precise kind of contract that you've entered
17 into with Monsanto. I'd like to read and see
18 if you disagree.
19 Quote, "Authors should avoid
20 entering into agreements with study sponsors,
21 both for profit and not for profit, that
22 interfere with the author's access to all the
23 study's data or that interfere with their
24 ability to analyze and interpret the data,
25 and to prepare and publish manuscript

00270
1 independently when and where they choose."
2 That is exactly what you did.
3 You entered into a contract that said you
4 could only use the information if it
5 benefitted Monsanto.
6 Remember talking about that
7 with me?
8 MR. COPLE: Objection.
9 Mischaracterizes the testimony of the
10 witness. Argumentative and outside
11 the scope of the Court's order.
12 THE WITNESS: So I answered
13 that question for you previously.
14 I'll just remind you that the setup of
15 the expert panels was that the work
16 was going to be done independently of
17 Monsanto and that it was going to be
18 submitted for publication.
19 QUESTIONS BY MR. MILLER:
20 Q. Is it your testimony that these
21 Intertek reports were not sent to Monsanto to
22 review before they're published?
23 Is that your testimony?
24 MR. COPLE: Objection.
25 Argumentative.

00271
1 QUESTIONS BY MR. MILLER:
2 Q. You can answer.
3 A. Okay. So Monsanto sponsored
4 the work of the expert panels, and most

5 epidemiology research of any magnitude and
6 toxicology research is sponsored. And I've
7 been both sponsored by a company and I've
8 also had the experience of being the
9 representative of a sponsor when I worked for
10 the Environmental Protection Agency and, you
11 know, and other -- when I worked for Amgen
12 and the like.
13 The standard practice in
14 producing a product for a sponsor is to give
15 them a chance to see the final product before
16 it gets submitted for publication. That's
17 what we did here.
18 When I say "see," I mean they
19 got a chance to see it, and if they had any
20 questions, they could ask questions. But
21 they didn't have any input into the content
22 of the documents.
23 Any of the questions or
24 comments they raised, we took back to
25 consider and discuss, but it was our

♀

00272

1 independent assessment and final judgment as
2 to whether or not any changes were made to
3 the manuscripts. They were done as
4 independently as is possible from the
5 sponsor.
6 Q. Dr. Acquavella, you and your
7 panelists state here, quote, "Neither any
8 Monsanto Company employee nor any attorneys
9 reviewed any of the expert panel manuscripts
10 prior to submission to the journal," end
11 quote.
12 That is absolutely false, isn't
13 it?
14 MR. COPLE: Objection.
15 Argumentative.
16 THE WITNESS: Okay. So what I
17 think we meant there and what -- the
18 way I interpret that is that Monsanto
19 didn't have a reviewer role whereby
20 they could change the content of the
21 manuscripts before they were submitted
22 to the journal.
23 (Acquavella Exhibit 10-31
24 marked for identification.)
25

♀

00273

1 QUESTIONS BY MR. MILLER:

[redacted]

3 introduction. Dr. Weed wrote a section on
4 how the literature search was done.
5 Dr. Marsh wrote a section on how the
6 statistical analysis considerations were
7 appropriate.
8 Dr. Weed, who is an expert in
9 causal inference and has published many
10 papers on that, wrote our causal inference
11 section, and then I outlined the conclusions
12 of the panel about what we thought about the
13 individual studies and the weight of the
14 evidence.
15 So it wasn't done the way this
16 says in this PowerPoint presentation taken at
17 face value. It was done the way I just
18 described it to you.
19 MR. MILLER: Move to strike as
20 nonresponsive.
21 MR. COPLE: Objection. The
22 witness' answer will stand.
23 Before you proceed, Counsel,
24 we've been going for one hour and
25 40 minutes.

00291

1 MR. MILLER: You want to take a
2 break?
3 MR. COPLE: It's up to the
4 witness.
5 MR. MILLER: It's up to the
6 witness.
7 THE WITNESS: Yeah, it would be
8 nice to take a break. Thank you.
9 VIDEOGRAPHER: Going off
10 record. The time is 4:27. This ends
11 Media 4.
12 (Off the record at 4:27 p.m.)
13 VIDEOGRAPHER: We're going back
14 on record. The time is 4:47. This is
15 the beginning of Media 5.
16 QUESTIONS BY MR. MILLER:
17 Q. All right, Dr. Acquavella, just
18 a few more questions about the Intertek panel
19 manuscript and we'll move on to something
20 else.
21 But I want to go back and
22 refresh ourselves about the Exhibit 10-20
23 review article and the declaration of
24 interest.
25 To just frame us, it says,

00292

1 "Neither any Monsanto Company employees nor
2 any attorneys reviewed any expert panel's
3 manuscript prior to submission to the
4 journal."

Remember we've been talking about that sentence, and generally speaking, we've had a discussion about that sentence, right?

A. We've discussed that sentence, yes.

Q. Yes, sir.

And my next question is to you, sir, not only did Monsanto employees review the manuscript before submission to the journal, they helped write it; isn't that true?

MR. COPLE: Objection. Argumentative. Lacks foundation.

THE WITNESS: They didn't help write it.

I explained to you how the epidemiology panel worked, and as I mentioned to you before, that the documents -- the final reports were shared with the sponsor for comments

♀

00293

and any questions. The sponsor provided some comments and some questions.

My epidemiology panel and the other panels took those comments back and decided, you know, what comments might be addressed and were worthwhile addressing and which ones weren't. So that's not writing the article as far as I'm concerned.

(Acquavella Exhibit 10-30 marked for identification.)

QUESTIONS BY MR. MILLER:

[redacted]

22 QUESTIONS BY MR. MILLER:
23 Q. Let's move on to a different
24 topic in the time allotted and keep moving.
25 A part of your job as a

00298
1 consultant for Monsanto -- strike that.
2 You're aware, and we've talked
3 about IARC classification of the epidemiology
4 in their Volume 112 report on glyphosate and
5 non-Hodgkin's lymphoma.
6 You've read it, right?
7 A. I've read the IARC monograph,
8 yes.
9 Q. Yes, sir.
10 And you told Donna Farmer that
11 you really didn't think there was much to
12 quarrel about concerning the respect to the
13 epidemiological classification, right?
14 MR. COPLE: Objection. Lacks
15 foundation.
16 THE WITNESS: Can I see the
17 document, please?
18 QUESTIONS BY MR. MILLER:
19 Q. Do you remember that without
20 seeing the document first, that in fact you
21 told her that?
22 If you don't remember, you
23 don't remember.
24 MR. COPLE: Objection. Lacks
25 foundation.

00299
1 THE WITNESS: Can I see the
2 document, please?
3 QUESTIONS BY MR. MILLER:
4 Q. I can ask questions first

5 before I show you documents.
6 Do you remember that or not?
7 MR. COPLE: Objection. Lacks
8 foundation.
9 THE WITNESS: What I remember
10 about what I communicated to Donna
11 Farmer about the IARC epidemiology
12 review is that the IARC definition
13 that they used for limited evidence,
14 positive association has been seen,
15 that the work is considered to be
16 credible, but the work group can't
17 rule out bias, chance and confounding.
18 It's so vague as to be meaningless.
19 You know, it's like saying there are
20 some studies done. They might have
21 every -- ever in the book. But that's
22 our take on it.
23 And, you know, in the bigger
24 picture, I consider what the IARC
25 epidemiology panel concluded not to be
♀
00300
1 that different than what our panel
2 concluded: basically that the
3 evidence does not support a causal
4 relationship between glyphosate and
5 non-Hodgkin's lymphoma.
6 QUESTIONS BY MR. MILLER:
7 Q. You think --
8 A. If they thought the evidence
9 supported a causal relationship with
10 glyphosate and non-Hodgkin's lymphoma, they
11 would have said the epidemiology was
12 sufficient.
13 Q. Dr. Acquavella's opinion that
14 the IARC panel did not conclude that Roundup
15 was a probable cause of non-Hodgkin's
16 lymphoma.
17 Is that your testimony?
18 MR. COPLE: Objection.
19 Mischaracterizes the IARC panel
20 report.
21 THE WITNESS: Right.
22 So the panels -- they call them
23 working groups at IARC. The working
24 groups at IARC don't actually make a
25 conclusion like probable, possible, et
♀
00301
1 cetera. The working groups render a
2 judgment about what the evidence is.
3 The epidemiology panel said
4 limited, which means that there are
5 some studies that show a positive
6 relationship. It may or may not be
7 statistically significant. It may or
8 may not be due to all the different
9 biases we said. They just basically
10 say that this was seen by the working
11 group.
12 And so, I mean, I think the
13 important thing for me is that, first

14 of all, they did not conclude that the
15 epidemiology evidence supported a
16 causal association with glyphosate,
17 and that was the conclusion of our
18 work group.
19 Secondly, what I said to you is
20 that this definition that IARC uses is
21 so vague that when I've been at IARC
22 meetings, there's been confusion about
23 what that definition means. So they
24 decided it was limited, which means
25 that the studies could have had lots
♀
00302
1 of errors, but we're picking the
2 limited category.
3 So that's what I was trying to
4 convey to Donna Farmer.
5 QUESTIONS BY MR. MILLER:
6 Q. Yeah, and I know it's what
7 you're trying to convey to me now, but the
8 truth is, the IARC working group for Volume
9 112 said it was -- Roundup, glyphosate, was a
10 probable human carcinogen.
11 That is the truth, isn't it,
12 Dr. Acquavella?
13 MR. COPLE: Objection.
14 Argumentative.
15 THE WITNESS: So for lots of
16 the reasons that I've discussed, you
17 know, IARC got the evaluation wrong,
18 seriously wrong.
19 And, of course, glyphosate has
20 been reviewed many, many times by
21 regulatory agencies and experts,
22 including three times since the IARC
23 meeting. Each of the bodies that
24 reviewed it came away with the
25 conclusion that glyphosate is not
♀
00303
1 likely to be a carcinogen.
2 Now, I mentioned to you that
3 the individual working groups don't
4 actually arrive at a classification.
5 They arrive at a judgment about the
6 evidence. And that definition of
7 "limited" is dependent on what's
8 considered to be credible.
9 And so you have that that's
10 very difficult to know exactly what
11 they mean, and you have this issue of
12 the studies that have all these really
13 important biases that I've discussed
14 with you.
15 So I took their overall
16 conclusion to be the evidence did not
17 support the conclusion of a causal
18 relationship between glyphosate and
19 non-Hodgkin's lymphoma.
20 QUESTIONS BY MR. MILLER:
21 Q. When was the last time you were
22 media-trained?

23 MR. COPLE: Objection. Lacks
24 foundation and outside the scope of
25 the Court's order on general
♀
00304
1 causation.
2 THE WITNESS: I don't remember
3 when I did media training during my
4 employment with Monsanto.
5 QUESTIONS BY MR. MILLER:
6 Q. Part of your media training was
7 deflect and not answer the question; move to
8 what you want to talk about.
9 That's one of the keys of this
10 media training, isn't it, Dr. Acquavella?
11 MR. COPLE: Objection. Outside
12 the scope of general causation and
13 argumentative.
14 THE WITNESS: Well, you know,
15 what I tried to learn as a part of
16 media training was how to communicate
17 fairly complex epidemiologic issues to
18 people who don't have a strong science
19 background. So that's what I was
20 trying to achieve, you know, when I
21 did media training.
22 And, you know, I get the
23 opportunity in my job to -- in my
24 professorship and in some of my
25 consulting arrangements to speak with
♀
00305
1 people who have multiple disciplines,
2 and I work very hard to try to
3 communicate the ins and outs of
4 epidemiology in a way that people can
5 understand given their different
6 technical backgrounds.
7 (Acquavella Exhibit 10-32
8 marked for identification.)
9 QUESTIONS BY MR. MILLER:

[redacted]

4 QUESTIONS BY MR. MILLER:
5 Q. Let's go to something you and I
6 can agree on. Let's try.
7 AHS study. Before it came out,
8 before the results were known of the 2005
9 cohort known as the De Roos 2005, you know
10 what I'm talking about, right, that study?
11 MR. COPLE: Objection. Lacks
12 foundation.
13 THE WITNESS: Well, De Roos
14 2005 is one of the studies that was
15 published about the people who were
16 enrolled in the Agricultural Health
17 Study.
18 QUESTIONS BY MR. MILLER:
19 Q. Yes, sir.
20 And prior to those results
21 being published, way back in 1997 you had
22 strong criticisms about whatever results were
23 going to come out of AHS, didn't you?
24 MR. COPLE: Objection. Lacks
25 foundation.

00313
1 THE WITNESS: Do you have a
2 document that I can look at --
3 QUESTIONS BY MR. MILLER:
4 Q. I certainly do, Doctor.

5 A. Okay.
6 Q. I certainly do.
7 (Acquavella Exhibit 10-33
8 marked for identification.)
9 QUESTIONS BY MR. MILLER:

[redacted]

14 Q. Doctor, have you been involved
15 in requesting the underlying data from the
16 AHS study or the NAP study or any other study
17 on behalf of Monsanto as a consultant?
18 MR. COPLE: Objection. Lacks
19 foundation.
20 THE WITNESS: Well, a number of
21 times I've encouraged Monsanto to try
22 to work out a data sharing agreement
23 with the NIH so that an independent
24 academic group could do analyses of
25 the data.

00323
1 I had an experience with the
2 multiple myeloma findings in the
3 De Roos, et al., 2005 paper where
4 something just looked wrong in the
5 difference between the initial
6 adjusted relative risk for multiple
7 myeloma, which was 1.1, and the fully
8 adjusted relative risk for multiple
9 myeloma, which was 2.6.
10 And so we wrote a letter to the
11 editor and we asked about it. We
12 asked if they would look into why that
13 happened, because to us it didn't seem
14 like it would be related to
15 confounding. We thought there was
16 something else structural about that.
17 So they responded to our letter
18 to the editor, but they didn't provide
19 the information that we asked for.
20 Monsanto subsequently requested
21 that data through Freedom of
22 Information, and Tom Sorahan analyzed
23 that data. And what turned out to be
24 the case in that analysis, which they
25 could have resolved immediately after

00324
1 our letter to the editor, was that by
2 requiring full covariant data, you
3 basically excluded all of the multiple
4 myeloma cases who were in the
5 unexposed group.
6 So it was something that could
7 have been resolved with a few analyses
8 that they would have done if they were
9 responding to our letter to the
10 editor, that I would have done were I
11 in their situation, and it took about
12 eight years to resolve that. It's a
13 very important finding in the
14 literature.
15 So I do think, you know, they
16 have their priorities, they decide
17 what they want to do. But I do think
18 it's important that, you know, some
19 other people have access to the data.
20 NIH has a data-sharing policy
21 that stipulates that data that's paid
22 for by taxpayers, after a certain

23 amount of time -- because you want to
24 allow the investigators the chance to
25 do their analysis -- should be made
♀
00325
1 available to the academic community.
2 So I feel strongly about that.
3 I have advised that, you know,
4 one other contribution to the science
5 could be to request a data-sharing
6 arrangement and have some academic
7 scientists do analyses that, you know,
8 address key issues that, you know, are
9 in the literature that maybe aren't on
10 the priority list for the Agricultural
11 Health Study.
12 QUESTIONS BY MR. MILLER:
13 Q. But Tom Sorahan's a paid
14 consultant for Monsanto. You're a paid
15 consultant for Monsanto. Those are the two
16 people you want to look at the data, not
17 independent academic scientists.
18 A. Well, Tom Sorahan --
19 MR. COPLE: Objection.
20 Argumentative.
21 THE WITNESS: Tom Sorahan was
22 the one who actually did the analysis.
23 QUESTIONS BY MR. MILLER:
24 Q. And he's a paid consultant for
25 Monsanto.
♀
00326
1 A. Okay, but --
2 MR. COPLE: Objection.
3 Argumentative.
4 THE WITNESS: Paid consultant
5 or not, the results of the analysis
6 that he did have been judged by people
7 who have done reviews recently to be
8 valid.
9 And as I said before, you know,
10 these labels that you use to discredit
11 individuals, they have nothing to do
12 with the quality of the science that
13 the individuals did.
14 In this case, I wasn't talking
15 about Tom Sorahan. What I would like
16 to see is some of the leaders in the
17 field of epidemiology who have an
18 interest in occupational and
19 environmental epidemiology, who have
20 an arrangement to use the data and to
21 pursue analyses as they see fit and to
22 publish results as they see fit.
23 That's what I've recommended before.
24 QUESTIONS BY MR. MILLER:
25 Q. Have you seen any data from
♀
00327
1 these FOIA requests for the AHS data or the
2 NAP data?
3 Have you actually seen
4 underlying data? Have they gotten it yet?

5 MR. COPLE: Objection. Lacks
6 foundation.
7 THE WITNESS: So I didn't see
8 the data that Tom Sorahan got.
9 QUESTIONS BY MR. MILLER:
10 Q. I'm not talking about multiple
11 myeloma. I'm talking about non-Hodgkin's
12 lymphoma data.
13 MR. COPLE: Objection. Lacks
14 foundation.
15 THE WITNESS: So I don't know
16 whether that's progressing or how it's
17 progressing. I just state my opinion
18 that from a scientific perspective, I
19 think it's appropriate and good to
20 have that data available and have
21 other people working with it.
22 QUESTIONS BY MR. MILLER:
23 Q. Let's move to one other topic.
24 You left a CD of electronic
25 files with Donna Farmer when you left
♀
00328
1 Monsanto in 2004, right?
2 MR. COPLE: Objection. Lacks
3 foundation.
4 THE WITNESS: I left a CD, and
5 what I tried to do with the CD is to
6 make documents available to Donna that
7 kind of chronicled the work I had done
8 over the years on agricultural
9 pesticides, glyphosate, alcor,
10 trioleate, other things like that, so
11 that everything that I worked on that
12 I thought they would want to have
13 quick access to, Donna would have
14 access to it.
15 (Acquavella Exhibit 10-34
16 marked for identification.)
17 QUESTIONS BY MR. MILLER:
[redacted]
5 MR. MILLER: Well, I'll explain
6 that I am done asking questions now,
7 with the clear understanding that I
8 think I haven't really gotten my fair
9 time because the witness has spent too
10 much time looking at the documents.
11 The witness has spent too much time
12 with long-winded answers that have
13 nothing to do with the questions.

14 I don't think seven hours is
15 reasonable in any event, and I thought
16 there was an understanding of two days
17 here.
18 I reserve the right to redepose
19 Dr. Acquavella if he's named an
20 expert. I reserve the right to
21 redepose Dr. Acquavella on other
22 issues after general causation, and I
23 reserve to depose Dr. Acquavella in
24 the state litigation.
25 That said, your witness.

00330

1 MR. COPLE: Monsanto opposes
2 all of the characterizations that
3 counsel just made, and Monsanto will
4 oppose any move to redepose
5 Dr. Acquavella. It's 5:30.
6 MR. MILLER: And we all go home
7 now, or are you going to be asking
8 questions?
9 MR. COPLE: We'll resume in the
10 morning.
11 MR. MILLER: What time do you
12 want to get together?
13 MR. COPLE: Whatever time you
14 want. We can start earlier if you
15 want. We can start at the regular
16 time, nine o'clock.
17 MR. MILLER: It's up to the
18 witness.
19 Dr. Acquavella, what's --
20 MR. COPLE: Well, we'll work it
21 out with the -- then it will nine
22 o'clock unless you have a preference.
23 MR. MILLER: All right. I'll
24 assume --
25 MR. COPLE: Nine o'clock.

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1 MR. MILLER: That's very kind
2 of you to ask. Thank you. Thanks a
3 lot.
4 VIDEOGRAPHER: We're going off
5 record. The time is 5:30. This ends
6 Media 5.
7 (Off the record at 5:30 p.m.)
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CERTIFICATE

I, CARRIE A. CAMPBELL, Registered Diplomate Reporter, Certified Realtime Reporter and Certified Shorthand Reporter, do hereby certify that prior to the commencement of the examination, John Acquavella, Ph.D. was duly sworn by me to testify to the truth, the whole truth and nothing but the truth.

I DO FURTHER CERTIFY that the foregoing is a verbatim transcript of the testimony as taken stenographically by and before me at the time, place and on the date hereinbefore set forth, to the best of my ability.

I DO FURTHER CERTIFY that I am neither a relative nor employee nor attorney nor counsel of any of the parties to this action, and that I am neither a relative nor employee of such attorney or counsel, and that I am not financially interested in the action.

_____
CARRIE A. CAMPBELL,
NCRA Registered Diplomate Reporter
Certified Realtime Reporter
California Certified Shorthand Reporter #13921
Missouri Certified Court Reporter #859
Illinois Certified Shorthand Reporter #084-004229
Texas Certified Shorthand Reporter #9328
Kansas Certified Court Reporter #1715
Notary Public
Dated: April 13, 2017

♀
00333

INSTRUCTIONS TO WITNESS

Please read your deposition over carefully and make any necessary corrections. You should state the reason in the appropriate space on the errata sheet for any corrections that are made.

After doing so, please sign the errata sheet and date it. You are signing same subject to the changes you have noted on the errata sheet, which will be attached to your deposition.

It is imperative that you return the original errata sheet to the deposing attorney within thirty (30) days of receipt

of the deposition transcript by you. If you fail to do so, the deposition transcript may be deemed to be accurate and may be used in court.

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ACKNOWLEDGMENT OF DEPONENT

I,_____, do hereby certify that I have read the foregoing pages, and that the same is a correct transcription of the answers given by me to the questions therein propounded, except for the corrections or changes in form or substance, if any, noted in the attached Errata Sheet.

_____

JOHN ACQUAVELLA, Ph.D. DATE

Subscribed and sworn to before me this _____ day of _____, 20____.

My commission expires:_____

_____

22 Notary Public
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