

EXHIBIT 6

Confidential - Subject to Protective Order

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UNITED STATES DISTRICT COURT
NORTHERN DISTRICT OF CALIFORNIA

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

WEDNESDAY, JANUARY 11, 2017

CONFIDENTIAL - SUBJECT TO PROTECTIVE ORDER

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Videotaped deposition of Donna
Farmer, Ph.D., Volume I, held at the offices
of HUSCH BLACKWELL, L.L.C., 190 Carondelet
Plaza, Suite 600, St. Louis, Missouri,
commencing at 9:04 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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deps@golkow.com

1 A. It would be our formulations
2 and salespeople.

3 Q. Who's in charge of formulation?

4 A. I don't know at this time.

5 Q. At any time who's been in
6 charge of formulations?

7 A. William Abraham.

8 Q. I'm sorry?

9 A. William Abraham.

10 Q. Is he still with the company?

11 A. Yes, he is.

12 Q. Do you know his title?

13 A. No, I don't.

14 Q. All right. You mentioned you
15 weren't required to do cancer studies with
16 Roundup.

17 Did I hear that correctly?

18 A. The regulatory agencies have
19 very specific studies, and that is not one of
20 them.

21 MR. JOHNSTON: Counsel, what
22 number was that last exhibit? I'm
23 sorry.

24 MR. MILLER: Yes, sir. Hand
25 that back.

1 (Farmer Exhibit 1-9 marked for
2 identification.)

3 QUESTIONS BY MR. MILLER:

4 Q. I want to look at a document
5 that's been prepared by Monsanto that
6 discusses these issues.

7 Would it be fair to say,
8 Donna Farmer, that surfactants do in fact
9 increase a glyphosate's absorption by the
10 skin?

11 A. I have no data to support that
12 statement.

13 Q. All right. Let's look at a
14 Monsanto document about that statement.
15 Okay?

16 This is Exhibit 1:9, and it was
17 produced from your custodial file. I have a
18 copy for you and counsel.

19 Ma'am, here you go.

20 MR. MILLER: Counsel.

21 MR. JOHNSTON: Thank you.

22 MR. MILLER: Yes, sir.

23 QUESTIONS BY MR. MILLER:

24 Q. Certainly feel free to look at
25 the entire document. I'm going to ask you

1 about page 9478, just to be fair. I think
2 you're looking at it, where it says
3 "surfactants." That's the only place I
4 intend to ask you about.

5 Yes, ma'am. I just wanted to
6 make sure you had time to review it first.

7 So this document discusses what
8 we've just been talking about, surfactants,
9 right?

10 A. Yes.

11 Q. And what it tells us is that
12 the upper barrier of the skin is very
13 lipophilic; is that right?

14 Showing you I'm just an old
15 country lawyer.

16 What's that mean?

17 MR. JOHNSTON: Objection.

18 Foundation to this document. It's a
19 draft, and we don't know what this is
20 or whether she had any role in
21 preparing it.

22 But you can answer if you can.

23 MR. MILLER: Let's keep the
24 speaking objections down.

25 MR. JOHNSTON: I can object on

1 any basis, as long as I'm not
2 suggesting an answer.

3 My point is we don't have any
4 foundation for this document.

5 QUESTIONS BY MR. MILLER:

6 Q. What does lipophilic mean?

7 A. Lipophilic means that there is
8 fat within that. Fat-loving. Lipophilic
9 means fat-loving. But I -- this is -- I
10 agree, this is a draft.

11 MR. MILLER: You've just
12 suggested an answer. She just gave
13 the answer you just objected to.

14 MR. JOHNSTON: I stated a fact,
15 Counsel.

16 MR. MILLER: Yeah, well, I'm
17 going to call the judge if we do it
18 again.

19 MR. JOHNSTON: Yeah, well,
20 please do. I think he would be frank
21 with us.

22 MR. MILLER: I will.

23 QUESTIONS BY MR. MILLER:

24 Q. Let's back to work now. Now
25 let me read the document that you provided.

1 "The natural barrier prevents
2 the hydration of the skin and prevents, for
3 instance, bacteria and other outer
4 microelements from entering the body through
5 the skin."

6 Did I read that correctly?

7 MR. JOHNSTON: Objection.
8 Foundation.

9 QUESTIONS BY MR. MILLER:

10 Q. You can answer.

11 A. You read it correctly, but I --
12 this may have come out of my files, but I
13 didn't write this document. My name is not
14 on this document.

15 Q. "Glyphosate, on the other hand,
16 is very hydrophilic."

17 What does hydrophilic mean?

18 A. It doesn't like fat.

19 Q. Okay. "So initially a low
20 interaction between glyphosate and human skin
21 is to be expected."

22 Did I read that correctly?

23 MR. JOHNSTON: Objection.
24 Foundation.

25 THE WITNESS: You did read it

1 correctly, but, again, this is --
2 there's a piece that's missing of
3 this. This is a proposal, not the
4 results. So it's saying to be
5 expected. This isn't saying it
6 happens. This is all putting forth
7 kind of theories.

8 And I think if you go to the
9 data, you'll find out that there's
10 very little difference between
11 surfactants and very little glyphosate
12 goes across the skin.

13 QUESTIONS BY MR. MILLER:

14 Q. This document produced from
15 your file tells us surfactants are able to
16 increase glyphosate absorption through the
17 skin by six different means. I'm going to
18 read them and ask if I read them correctly.

19 "1, removal of lipids from the
20 epidermal surface due to surfactant action."

21 Did I read that correctly?

22 MR. JOHNSTON: Objection.

23 Foundation.

24 He's asking you if he read it
25 correctly, not whether it's true or

1 not.

2 THE WITNESS: Yeah, you read it
3 correctly.

4 QUESTIONS BY MR. MILLER:

5 Q. "2, increase of the hydration
6 state of the skin under closed exposure
7 conditions."

8 MR. JOHNSTON: Objection.

9 Foundation.

10 QUESTIONS BY MR. MILLER:

11 Q. "3, increase of the skin
12 contact spreading water droplets by
13 surfactant action."

14 MR. JOHNSTON: Objection.

15 Foundation.

16 QUESTIONS BY MR. MILLER:

17 Q. And "4, increase of contact
18 time with the skin due to decrease of
19 evaporation of water from the droplets
20 containing surfactant."

21 5 and 6 -- and then we'll ask
22 you if I read this right, and we'll continue.

23 "5, increase of subepidermal
24 blood flow due to irritant action of
25 surfactant."

1 And finally, "6, intraepidural
2 {sic} and subepidermal intercellular water
3 accumulation due to irritant action of the
4 surfactant."

5 Did I read that correctly?

6 MR. JOHNSTON: Objection.

7 Foundation.

8 THE WITNESS: You said
9 "intraepidural," not "epidermal," in
10 the first one.

11 QUESTIONS BY MR. MILLER:

12 Q. Well, thank you for that
13 correction.

14 Now, which of those six ways
15 that the surfactant makes glyphosate more
16 able to get in the skin, which of those six
17 ways do you not agree happen?

18 A. Again, this is a document that
19 was a proposal to look at dermal absorption
20 studies, so I wasn't involved in putting this
21 together. They have made -- this to me looks
22 like they're making speculations about what
23 might happen.

24 I think the important piece in
25 this is to go get the studies that resulted

1 observed adverse effects on health and the
2 environment. Since it is an important
3 objective to use environmentally safe and
4 less toxic products, the polyoxyethylene
5 tallowamine surfactants were replaced at
6 least in some Monsanto products by others."

7 Was that true? Did you replace
8 some of the Roundup products in Europe and
9 stop using POA there?

10 A. I think you need to kind of go
11 to the next sentence.

12 Q. Sure.

13 A. It fits in with what Mark said,
14 the company, to say: My opinion was this
15 formulation was fine, but the company then
16 stated this decision was mainly based on eye
17 irritation potential and the aquatic toxicity
18 related to the formerly used substances.

19 We know that poly -- the POEA
20 can be irritating to the eyes. It's
21 reversible and not permanent. And because it
22 is a surfactant, it can have toxicity to
23 aquatic organisms.

24 Q. And to follow up on this from
25 1999, just recently Europe has banned POEA in

1 the near future, right?

2 MR. JOHNSTON: Objection.

3 Vague.

4 Go ahead.

5 THE WITNESS: Based on a
6 political decision, not on a
7 toxicology position.

8 POEA is still used in the US
9 and in Canada, completely approved and
10 supported.

11 In my opinion and many other
12 people's, that that was a political
13 decision, not a safety decision.

14 QUESTIONS BY MR. MILLER:

15 Q. The answer is, yes, POEA will
16 be off the market in Europe soon?

17 A. It will be off the market in
18 Europe based on a political decision, not on
19 a safety decision.

20 Q. Well, let's look at the
21 decision to ban POEA in the European market.

22 (Farmer Exhibit 1-12 marked for
23 identification.)

24 QUESTIONS BY MR. MILLER:

25 Q. We'll mark as Exhibit 1:12 a

1 is a probable in vivo genotoxin," right?

2 A. Yes, he does.

3 Q. And in the next paragraph he
4 says, "Both glyphosate and Roundup induce
5 significant increased DNA strand breaks in
6 mouse liver and kidney," right?

7 A. Yes, but up above, again, he
8 also talks about the Bolognesi doesn't meet
9 guideline standards. And so, again, this is
10 an intraperitoneal injection. It's only a
11 few animals. And so he's giving us the
12 findings that he sees here.

13 Q. Okay. Let's go to the next
14 page, 2103. He summarizes in that first full
15 paragraph, "The overall data provided by the
16 four publications provide evidence to support
17 a model that glyphosate is capable of
18 producing genotoxicity both in vivo and in
19 vitro by a mechanism based upon the
20 production of oxidative damage," right?

21 A. He says that, but, again, I
22 want to remind you that there were some that
23 were negative. And then again, oxidative
24 damage can be due to cytotoxicity.

25 In many of the studies where we

1 see these kinds of responses, it's secondary
2 to cytotoxicity, not a primary oxidative
3 response.

4 Q. He recommended on page 2104,
5 paragraph B at the top there, ma'am, "an
6 assessment of the individual components of
7 Roundup mixture to determine whether there is
8 any components which act synergistically to
9 increase the potential genotoxicity of
10 glyphosate," right?

11 A. He did, and it was a basis for
12 a study that we actually did.

13 Q. What study?

14 A. It was with Heydens, et al.

15 Q. Can you spell that, please?

16 A. It was Bill Heydens,
17 H-e-y-d-e-n-s.

18 Q. Oh, your boss?

19 A. Uh-huh.

20 Q. And he did the study?

21 A. No, there was a group of us.
22 We had some -- because we are not in a
23 laboratory. We worked with some laboratory
24 people to look at this exact question
25 because, again, we did not believe that these

1 findings were related to a genotoxic effect
2 but secondary to some cytotoxicity.

3 So we did a study doing an oral
4 route of exposure, which would be more
5 relevant, and we didn't reproduce the same
6 findings. We did an intraperitoneal
7 injection and got the same findings but not
8 an oral one.

9 MR. MILLER: I'll substitute
10 this. I just wrote on it. I
11 apologize.

12 QUESTIONS BY MR. MILLER:

13 Q. All right. Excuse me. What is
14 the date of that study, and was it published?

15 A. It was a series of studies, so
16 I don't remember exactly when they were, and
17 I think it was in 2008 or '9.

18 Q. Were they published?

19 A. It was published in one
20 publication.

21 Q. Which publication?

22 A. I don't remember what the
23 journal was.

24 Q. Were they ever submitted to
25 Dr. Parry?

1 A. I would believe based on what I
2 see here that we would have had a
3 conversation with Dr. Parry because it
4 appears that that was the foundation for us
5 doing that study.

6 I don't know what the
7 conversations were with Mark and Dr. Parry,
8 but it was published, so it's out there in
9 the open literature.

10 Q. So he made these
11 recommendations in 1999, and when did you
12 start these studies?

13 A. Good question. I don't know.
14 It took -- we didn't -- I don't remember when
15 we started them, but we did do them.

16 Q. Were they ever repeated by
17 independent scientists?

18 A. Anyone would be welcome to
19 repeat them if they'd like to.

20 Q. You did not retain any
21 independent scientists to go repeat these.
22 These were done in-house at Monsanto?

23 A. We have very qualified
24 scientists that can conduct these studies,
25 and we did those studies. And then we put it

1 out there in the peer-reviewed literature for
2 people to look and evaluate for their own.

3 Q. Did you study to reproduce the
4 same results from a peritoneal exposure and
5 not oral?

6 A. Yes, we did. Because we wanted
7 to say is it -- when we see studies like
8 this, the big thing for us is to ask is it
9 real, and then is it reproducible, and then
10 what does it mean.

11 So we did the study again, and
12 it was real. We saw the effects.

13 And then our question was, what
14 happens when you do a more relevant route of
15 exposure, and then what does that look like.

16 Q. Let's look some more at what
17 Dr. Parry found in -- when requested to look
18 at these issues for Monsanto.

19 Dr. Parry told you he would
20 conduct these studies, right?

21 A. I don't remember that
22 conversation.

23 (Farmer Exhibit 1-24 marked for
24 identification.)

25

1 QUESTIONS BY MR. MILLER:

2 Q. Let's look at it. We'll mark
3 it as Exhibit 1-24, a copy of 1:24.

4 MR. JOHNSTON: For the record,
5 I guess you've attached the metadata
6 catalog to the back of this. Is
7 that -- you intend to mark that as
8 part of this exhibit or not? You
9 haven't been.

10 MR. MILLER: No, I don't intend
11 to since we have Bate stamps on them.

12 QUESTIONS BY MR. MILLER:

13 Q. All right, ma'am. This is
14 Exhibit 1:24, and it's a document generated
15 by Monsanto eight days after receiving
16 Dr. Parry's first report.

17 See it says December 10, 1999.

18 Oh, a long time afterwards.

19 I'm sorry. Excuse me.

20 So exhibit -- I want to do this
21 accurate.

22 Exhibit 1:23 is February --
23 that's right, they do it different in
24 Europe -- February 10, 1999. Okay.

25 So then quite a few months

1 later, December 1999, a group meeting occurs
2 concerning these issues, and you are part of
3 that meeting.

4 Do you see "Donna Farmer"
5 there?

6 A. It wasn't --

7 MR. JOHNSTON: Objection.
8 Foundation.

9 Go ahead.

10 THE WITNESS: This wasn't the
11 only reason why that meeting was held.
12 This was a subpart of a bigger
13 meeting.

14 QUESTIONS BY MR. MILLER:

15 Q. Or nor did I suggest it was.
16 But it was part of the meeting,
17 fairly?

18 A. It was one of the subject
19 matters, yes.

20 Q. Okay. And what we said there
21 was -- let's go to page 2 is really what I
22 want to ask you about.

23 On page 2 of these meeting
24 notes -- I'm looking at paragraph number 4 of
25 these notes up top and it says, "Some

1 indication of DNA damage observed in
2 different test systems are due to cytotoxicity
3 properties of the formulation tested than to
4 actual mutagenicity," right?

5 A. Correct. That's what I've been
6 saying.

7 Q. Yes, ma'am.

8 And let's go down three
9 paragraphs. Dr. Parry says he'll do tests
10 for you to see if that's true, but Monsanto
11 doesn't want to let him, right?

12 MR. JOHNSTON: Objection.

13 Argumentative. Misstates the
14 document. No foundation.

15 QUESTIONS BY MR. MILLER:

16 Q. I want to ask you about the
17 exact words in the document in a minute.

18 Do you recall refusing to let
19 Dr. Parry do the tests that you and Bill
20 Heydens did?

21 A. Well, these are different
22 studies than -- he's talking about doing in
23 vitro studies, and we did in vivo studies.

24 Q. You never gave Dr. Parry any
25 material to do testing, right?

1 A. I don't remember.

2 Q. Let's look.

3 "In order to further develop
4 the relationship with Dr. Parry, it was
5 recommended that the surfactant samples be
6 provided to him for testing. However, before
7 sending Dr. Parry any samples, it was
8 recommended that they undergo in-house
9 testing first in similar in vitro screen,"
10 right?

11 A. Yes.

12 Q. So you never sent Dr. Parry any
13 samples, and he never was able to do any
14 testing; that's true, isn't it?

15 MR. JOHNSTON: Objection.

16 Foundation. Misstates the document.

17 Go ahead.

18 THE WITNESS: That doesn't say
19 that. It just said that we wanted to
20 do them in-house and that you can see
21 the request was made by toxicology to
22 include either me -- and there's
23 nothing in here that says we didn't
24 send anything to Dr. Parry.

25

1 QUESTIONS BY MR. MILLER:

2 Q. I'm asking you a general
3 question, Dr. Farmer. Of all your extensive
4 experience in glyphosate and Roundup, are you
5 sitting here and going to tell us that you
6 sent Dr. Parry samples to do any testing or
7 not?

8 MR. JOHNSTON: Objection.

9 Asked and answered.

10 Go ahead.

11 THE WITNESS: I don't remember.

12 But this document doesn't say that we
13 weren't going to. I don't know.

14 QUESTIONS BY MR. MILLER:

15 Q. What the document says, "Before
16 sending Dr. Parry any samples, it was
17 recommended that they undergo in-house
18 testing first in a similar in vitro screen,"
19 right?

20 MR. JOHNSTON: Objection.

21 Asked and answered. Argumentative.

22 QUESTIONS BY MR. MILLER:

23 Q. Is that what the document says,
24 ma'am?

25 MR. JOHNSTON: Objection.

1 Asked and answered.

2 QUESTIONS BY MR. MILLER:

3 Q. You can answer. He's not
4 instructing you not to answer.

5 A. That's what it said, but,
6 again, he never says that we didn't send him
7 anything.

8 Q. Who is William Graham?

9 A. He is a -- with our
10 registration affairs group. He's retired.
11 He was in Europe.

12 Q. After his first report then,

13

14 being Dr. Parry, and persuade him that
15 glyphosate was not mutagenic, right?

16 A. I don't remember that
17 conversation. We believe it wasn't
18 genotoxic, and there were a number of other
19 large studies that met regulatory
20 requirements that were out there, and those
21 studies were not standard. So I can believe
22 that we wanted to -- we didn't believe that
23 it was genotoxic or mutagenic.

24 (Farmer Exhibit 1-25 marked for
25 identification.)

1 QUESTIONS BY MR. MILLER:

2 Q. All right. Let's look at
3 Exhibit 1:25, a series of e-mails to you and
4 others about this issue. It's a short,
5 one-pager.

6 MR. JOHNSTON: Is this 25, did
7 you say?

8 MR. MILLER: Yes, sir.

9 MR. JOHNSTON: Thank you.

10 QUESTIONS BY MR. MILLER:

11 Q. All right. Ma'am, you see you
12 were sent this e-mail in May of 1999 after
13 his first report, right?

14 A. Yes.

15 Q. All right. And what is going
16 on here is William Graham below asked how --
17 I'm sorry, can we read that? No, excuse me.

18 What William Graham is asking
19 is how much will it be. The results are now
20 needed to persuade him. Had nothing to do
21 with glyphosate is mutagenic.

22 That was the goal right after
23 his first report, was to send him more
24 materials and try to convince Dr. Parry that
25 your product is not genotoxic, right?

1 A. The studies --

2 Q. Mutagenic, sorry.

3 A. The studies that Dr. Parry
4 looked at, as we talked about, had some
5 unusual findings associated with them,
6 unusual routes of exposure, they didn't meet
7 guideline standards, and we didn't believe
8 that they represented glyphosate as
9 mutagenic.

10 And you can see the next
11 sentence says the ECCO Mammalian tox review
12 came out with this conclusion. And over all
13 these years, all the regulatory agencies have
14 looked at those same studies that Dr. Parry
15 looked at, and they've concluded that they
16 don't support glyphosate being genotoxic or
17 mutagenic.

18 And so we -- again, we were
19 trying to work with Dr. Parry because we
20 didn't believe it was, and we were trying to
21 figure out what information can we give him,
22 because others agreed with us that it's not
23 mutagenic or genotoxic.

24 MR. MILLER: Move to strike the
25 answer concerning regulatory agencies

1 as nonresponsive.

2 QUESTIONS BY MR. MILLER:

3 Q. Let's look at the e-mail from
4 author Mark Martens right above that.

10 A. That's what's written there.

11 Q. Okay. You agreed to not send
12 Dr. Parry any samples, true?

13 A. I don't remember.

14 (Farmer Exhibit 1-26 marked for
15 identification.)

16 QUESTIONS BY MR. MILLER:

17 Q. Let's refresh your
18 recollection. Exhibit 1-26, an e-mail
19 prepared by you in April of 2000 on this
20 issue. Here we go.

21 Here, ma'am, is a copy for you
22 and a copy for counsel.

23 So, ma'am, here we are, still
24 in year 2000. And Donna Farmer, you say -- I
25 want to read this exactly -- "Should I go

1 ahead and ask Todd to repeat the studies? Or
2 should we use a different assay? I agree we
3 do not send samples to Dr. Parry until we get
4 this sorted out."

5 Right? Your instructions were
6 not to send Dr. Parry any samples?

7 MR. JOHNSTON: Objection.

8 Misstates the record.

9 THE WITNESS: This is until we
10 get it sorted out. So again, if you
11 go to the first e-mails, we're doing
12 not a normal micronucleus study, we're
13 doing a micronu -- it's called
14 micro-micronucleus, so it's a
15 screening study we were looking at,
16 and it looked like we had some
17 conflicting results.

18 And so that's what I was saying
19 is should we ask Todd to repeat the
20 studies or should we do a different
21 assay. And I'm agreeing to someone
22 that we don't send the samples to
23 Dr. Parry until we get this sorted
24 out.

25 Again, it doesn't say that we

1 didn't send them to him. We were just
2 trying to assess what this screening
3 study meant.

4 QUESTIONS BY MR. MILLER:

5 Q. The fact is you never did send
6 Dr. Parry any samples, did you?

7 MR. JOHNSTON: Objection.

8 Asked and answered three times now.

9 QUESTIONS BY MR. MILLER:

10 Q. Does this document refresh your
11 recollection in any way that you ever sent
12 your outside expert, Dr. Parry, any samples?

13 A. I do not remember.

14 Q. Dr. Parry's first name was Jim,
15 right?

16 A. I believe it was James or Jim,
17 yes.

18 Q. James.
19 He passed away; you're aware of
20 that?

21 A. I don't know when, but I was
22 aware of that.

23 Q. I think it was 2010.
24 Does that sound about right?

25 A. I don't remember.

1 Q. Okay. All right. Well, let's
2 ask this: Jim Parry, Dr. Parry, told
3 Monsanto in 1999 that this issue of oxidative
4 stress should be addressed.

5 Do you remember that?

6 A. We talked about it in that one
7 document, and that's why we did the
8 subsequent studies with Dr. Heydens, the
9 publication we talked about.

10 Q. Did you do stress marker
11 responses, stress response marker tests?

12 A. Similar to the ones that were
13 in those publications.

14 Q. Did you do clinical
15 biochemistry parameters?

16 A. I believe we did.

17 Q. And it's in a peer-reviewed
18 published journal?

19 A. And there's histopathology as
20 well.

21 Q. The truth was, ma'am, your boss
22 told you that you weren't going to do the
23 studies that Dr. Parry suggested, right?

24 A. We did studies, and we did the
25 repeat of the Bolognesi. That's what I

1 remember doing.

2 (Farmer Exhibit 1-27 marked for
3 identification.)

4 QUESTIONS BY MR. MILLER:

5 Q. Let's look at an e-mail from
6 your boss, William Heydens, to you on this
7 issue, and we're going to mark it as
8 Exhibit 1:27. All right?

9 All right. Ma'am, this is
10 William Heydens sends this e-mail in
11 September of 1999, right?

12 A. Yes.

13 Q. Sends it to you and others,
14 right?

15 You see your name there, "Donna
16 Farmer"?

17 A. Yes.

18 Q. It's regarding the Parry
19 report, isn't it?

20 A. Yes.

21 Q. Okay. And he says, "Mark, et
22 al." --

23 Mark being Mark Martens, right?

24 A. Yes.

25 Q. -- "I've read the report and

1 agree with the comments. There are various
2 things that can be done to improve the
3 report."

4 So Monsanto wants to change his
5 report and improve it, right?

6 A. There are comments that -- they
7 provide to his report, and we were going to
8 provide comments back.

9 Q. "Let's step back and look at
10 what we're really trying to achieve here. We
11 want to find/develop someone who is
12 comfortable with a genotoxic profile of
13 glyphosate/Roundup and who can be influential
14 with regulators and scientific outreach
15 operations when genotox issues arise."

16 That was the goal, wasn't it?

17 A. We look for experts to help us
18 in this area to answer questions and give us
19 feedback on what we can do, so, yes, we do
20 look for experts to help us in this area.

21 Q. Your boss says, "My read is
22 that Parry is not currently such a person,
23 and it would take quite some time and dollar
24 sign, dollar sign, dollar sign studies to get
25 him there. We simply aren't going to do the

1 studies Parry suggests."

2 This was marching orders from
3 your boss, wasn't it?

4 A. Well, that may be what he said
5 then, but we did do the studies. So again, I
6 would have you look at that Heydens
7 publication.

8 Q. What Mark Martens said about
9 the Parry report, that it simply wasn't
10 suitable for defense of the product.

11 You're aware of that, right?

12 A. As we just talked about, we
13 didn't agree with Dr. Parry's interpretation
14 of all the data. We thought it was secondary
15 to cytotoxicity and irrelevant routes of
16 exposure, and we obviously had a disagreement
17 with him.

18 And, sure, if we have someone
19 who doesn't agree with the way we interpret
20 the data, we're not going to obviously have
21 them out there being spokespeople for us.

22 Q. In fact, when Monsanto sent
23 Mark Martens over to meet with Parry, he was
24 irritated at Monsanto because of the pressure
25 that was being put on him.

1 You're aware of that, aren't
2 you?

3 A. No, I'm not.

4 (Farmer Exhibit 1-28 marked for
5 identification.)

6 QUESTIONS BY MR. MILLER:

7 Q. Let's take a look at it. An
8 e-mail again from William Heydens and others.
9 I got a copy for each of you. Here you go.

10 All right, ma'am. So here --
11 what we have here is an e-mail from your
12 boss. He copies William Heydens. It's
13 regarding a meeting with Professor Parry. I
14 believe you're copied, Donna Farmer, on the
15 original message. Mark Martens had gone --
16 Martens had gone to meet with Dr. Parry after
17 his report, right?

18 A. It was Mark Martens and Richard
19 Garnett.

20 Q. And Richard Garnett, that's
21 right.

22 They stated, "The meeting
23 started off in a tense atmosphere because
24 Parry was irritated by the language used in
25 the mutagenicity section of the Williams, et

1 al., paper," right?

2 That's the Gary Williams paper,
3 right?

4 A. Yes.

5 But I think if you go back to
6 this one, it's more reflective of what was
7 the minutes of the meeting. "Overall tone of
8 the meeting was positive after negative start
9 because Professor Parry found the tone of the
10 Williams, et al., CANTOX paper to be very
11 dismissive of the other researchers' work and
12 overdefensive in his attitude. The
13 presentation on the results of the MON 3505
14 study changed the mood because it clarified
15 certain effects found in the Bolognesi and
16 Peluso papers."

17 So I think that this reflects
18 more about the outcome of the meeting.

19 Q. The paper that was irritating
20 him, Williams' paper, that's the one that was
21 funded by Monsanto?

22 A. We worked -- yes, we funded
23 that.

24 Q. And one of the results from the
25 meeting with Dr. Parry was "broad

1 agreement" -- let me show you, "broad
2 agreement that genotoxic results in some
3 studies with surfactants arose due to
4 oxidative damage rather than direct
5 genotoxicity."

6 So whatever, the broad
7 agreement, oxidative damage, right?

8 A. Which, again, is precluded by
9 cytotoxic damage first that gets to the
10 oxidative damage.

11 Q. "Consider supporting
12 studentship to help Professor Parry in
13 research programs on biological significance
14 of oxidative damage."

15 That was never done, was it?

16 A. I don't know.

17 MR. JOHNSTON: We're closing on
18 three hours and lunchtime. Are you
19 near the end of the line or --

20 MR. MILLER: Give me one second
21 and I'll ask maybe -- we can. If you
22 want to break now, we can break now.

23 MR. JOHNSTON: Okay.

24 MR. MILLER: Okay?

25 MR. JOHNSTON: Sounds good.

1 VIDEOGRAPHER: We're going off
2 record. The time is 12:28.

3 (Off the record at 12:28 p.m.)

4 VIDEOGRAPHER: We're going back
5 on record. The time is 1:17.

6 QUESTIONS BY MR. MILLER:

7 Q. Good afternoon, Dr. Farmer.

8 A. Good afternoon.

9 Q. You felt like the Dr. Parry
10 report that we were going over before the
11 lunch break put Monsanto in a genotoxicity
12 hole, right?

13 A. No, we just -- there were other
14 people that had opinion about the
15 genotoxicity of glyphosate. He just had a
16 different opinion, and we just didn't agree
17 with him.

18 (Farmer Exhibit 1-29 marked for
19 identification.)

20 QUESTIONS BY MR. MILLER:

21 Q. Let's just take a look at the
22 documents where you stated Dr. Parry put you
23 in a genotox hole.

24 Exhibit 1-29. A series of
25 e-mails to and from you concerning Dr. Parry.

1 Do you remember this line of
2 e-mails?

3 A. No, I don't.

4 Q. Okay. Well, here on the
5 beginning of page 1 here, it's an e-mail from
6 you to an Alan Wilson regarding comments on
7 Parry write-up, do you see that, in September
8 of 1999?

9 A. Yes, and it starts from a
10 e-mail from Steve Wratten and others in the
11 back.

12 Q. That's right, and we're going
13 to go to that. And we're going to that right
14 now. So let's go to page 596, that e-mail
15 from Steve Wratten.

16 Who is Steve Wratten?

17 A. He was the regulatory affairs
18 manager for glyphosate.

19 Q. And he was disappointed with
20 Dr. Parry's report, this Monsanto employee,
21 Steve Wratten, right?

22 A. I'm not sure that I see that.

23 Q. Well, I'll show you, ma'am.
24 First sentence, Steve Wratten's e-mail on
25 page 2, "I was somewhat disappointed in the

1 Parry report."

2 Did I read that correctly?

3 MR. JOHNSTON: Objection.

4 Incomplete.

5 THE WITNESS: He talked
6 about -- you did read that, but it
7 said not particularly from his
8 conclusions but just the way they were
9 presented.

10 QUESTIONS BY MR. MILLER:

11 Q. That's right, ma'am.

12 And he asked in the last
13 sentence in this first paragraph, "Has he
14 ever worked with industry before on this sort
15 of project," all right?

16 A. Yes.

17 Q. So on the next page, Donna
18 Farmer writes on the subject --

19 MR. JOHNSTON: You mean the
20 page back, 95 -- 595?

21 QUESTIONS BY MR. MILLER:

22 Q. The first page, 595, Donna
23 Farmer. "Right now, the" -- "one option, I
24 agree we need someone else to interface with
25 Parry. Right now, the only person I think

1 that can dig us out of this genotoxic hole is
2 the good Dr. Kier," right?

3 A. Kier, Dr. Kier.

4 Q. Kier, yeah.

5 He's a -- that's Larry Kier,
6 isn't it?

7 A. Yes, it is.

8 Q. Consultant that Monsanto has
9 paid more than a few times to work on these
10 issues, right?

11 A. No. Dr. Kier was a gene tox
12 expert who was retired from Monsanto, and
13 based on his expertise, yes, we have kept him
14 as a consultant.

15 Q. Right.

16 But now this clearly refreshes
17 your recollection that you felt Dr. Parry had
18 put you in a genotox hole?

19 MR. JOHNSTON: Objection.

20 Misstates her testimony. And
21 foundation.

22 THE WITNESS: I said that, but
23 I think what we talked about, this is
24 from like 1999, and we did a lot of
25 work subsequent to this with -- to

1 look at Dr. Parry's comments.

2 We did work with him, and so I
3 think what we're getting at here is
4 that he -- we just had a difference of
5 opinion with him. And we needed to
6 find some different data, and we know
7 that it wasn't genotoxic, and put the
8 information out there. We just
9 disagreed with him.

10 QUESTIONS BY MR. MILLER:

11 Q. What does clastogen mean?

12 A. Again, it refers to structural
13 damage of genetic material.

14 Q. Okay. And clastogenic means
15 something that can cause this process of
16 clastogen, right?

17 A. Structural damage, yes.

18 Q. Okay. So Dr. Parry did a
19 second report for Monsanto on Roundup, right?

20 A. I don't remember.

21 (Farmer Exhibit 1-30 marked for
22 identification.)

23 QUESTIONS BY MR. MILLER:

24 Q. Let's look at it. Exhibit 1:30
25 is a report prepared by Dr. Parry entitled

1 "The evaluation of the potential genotoxicity
2 of glyphosate mixtures and component
3 surfactants."

4 Here's a copy for you, ma'am,
5 and a --

6 MR. JOHNSTON: Are you asking a
7 question, or are you making a
8 statement, Counsel?

9 QUESTIONS BY MR. MILLER:

10 Q. You can look at the document,
11 and then we'll have some more questions.

12 MR. JOHNSTON: Well, you
13 haven't established any of those
14 things you just said on the record,
15 Counsel.

16 QUESTIONS BY MR. MILLER:

17 Q. Let me know when you're ready,
18 ma'am.

19 A. Let me take a little bit. This
20 is a pretty big report.

21 Q. All right. This Exhibit 1-30
22 was produced to us by Monsanto, and it's a
23 second report entitled "Evaluation of
24 potential genotoxicity of glyphosate,
25 glyphosate mixtures and component

1 surfactants, James M. Parry."

2 Same Dr. Parry we've been
3 speaking of?

4 MR. JOHNSTON: Objection.

5 Compound question.

6 And you're testifying, Counsel.

7 There's no foundation.

8 QUESTIONS BY MR. MILLER:

9 Q. You can answer.

10 A. Sorry, could you repeat the
11 question?

12 MR. MILLER: Read the question
13 back.

14 (Court Reporter read back
15 question.)

16 THE WITNESS: Yes.

17 QUESTIONS BY MR. MILLER:

18 Q. Is this the same James M. Parry
19 we spoke about with the last report, ma'am?

20 A. Yes.

21 Q. And so in this report Dr. Parry
22 prepared a table of -- 14 tables of things
23 that he reviewed.

24 Is that fairly what this is, or
25 what would you explain this on the first page

1 to be Table 1 through 14?

2 What do they represent, ma'am?

3 MR. JOHNSTON: Objection.

4 Foundation.

5 THE WITNESS: It is tables of

6 what he reviewed.

7 QUESTIONS BY MR. MILLER:

8 Q. Okay. Now, let's look then at
9 page 4237, Dr. Parry's report.

10 And Dr. Parry says, and from
11 his evaluation, "These studies provide some
12 evidence that glyphosate may be capable of
13 inducing oxidative damage under both in vitro
14 and in vivo conditions."

15 Did I read that correctly?

16 MR. JOHNSTON: Objection.

17 Foundation.

18 THE WITNESS: Just given that,
19 I'm not really sure what studies
20 he's -- I want to go back and look and
21 see what he's talking about.

22 I believe that he's referring
23 to these miscellaneous end points that
24 are in studies that are, again,
25 through intraperitoneal injection, not

1 according to standard studies.

2 And then you can see he talks
3 about this other one, that there was
4 no -- there was negative results, but
5 he's talking again about these other
6 studies from the Pelosi and Bolognesi
7 and Lioi that are not standard studies
8 required by regulatory agencies.

9 And again, we talked about how
10 they can be secondary to in vitro
11 toxicity as well as in vivo toxicity
12 that could cause the oxidative damage,
13 but that's a result of the exposure
14 scenario.

15 QUESTIONS BY MR. MILLER:

16 Q. These studies that he reviewed,
17 ma'am, were studies sent to him by Monsanto,
18 true?

19 A. They were studies in the open
20 literature that we asked him to review.

21 Q. Yes, ma'am.

22 A. And again, as we talked about,
23 you have to look at how these studies are
24 conducted. We talked about the
25 intraperitoneal injections, we talked about

1 that they don't follow standard guidelines,
2 and again, that we didn't agree with his
3 evaluation of the studies.

4 Q. He was the expert you selected
5 to review these papers, "you" being Monsanto,
6 true?

7 A. Well, it does happen that we
8 have people that we don't agree with.
9 Experts have different opinions. That's why
10 there are a lot of different experts out
11 there.

12 Q. Sorry to interrupt you.
13 Let's look at page 4240,
14 another conclusion of expert Parry after
15 review of these studies.

16 "Evaluation. These studies
17 provide some evidence that Roundup mixture
18 produces DNA lesions in vivo, probably due to
19 the oxidative damage."

20 That was Dr. Parry's
21 conclusion, right?

22 MR. JOHNSTON: Objection.
23 Foundation.

24 THE WITNESS: Again, they're
25 referring back to the same studies

1 we've been talking about that are
2 intraperitoneal injections, which is
3 not a normal route of exposure. And
4 the COMET assay he's talking about is
5 in tadpoles, and those were at levels
6 that were toxic to the tadpoles.

7 So the results that we're
8 seeing here, again, are secondary.
9 Even though you see oxidative stress,
10 it's secondary to the toxicity that's
11 being observed in these studies.

12 QUESTIONS BY MR. MILLER:

13 Q. Let's look at his conclusion on
14 page 4242, Overall Conclusions.

15 Number 2 is the one that I
16 would like to ask you about. "There is
17 published in vitro evidence that glyphosate
18 is clastogenic and capable of inducing sister
19 chromatid exchange in both human and bovine
20 lymphocytes."

21 And he cites a public study
22 that proves that, doesn't he?

23 A. Well, it doesn't --

24 MR. JOHNSTON: Objection.

25 Foundation.

1 THE WITNESS: I disagree with
2 you that it proves that. The
3 conditions of that study, those were
4 the findings, but that is not the
5 basic conclusion of the outcome of
6 glyphosate.

7 This was another study that
8 wasn't conducted according to
9 guidelines and that had some problems
10 with the conduct of the study, and
11 there are other studies that conflict
12 these results.

13 QUESTIONS BY MR. MILLER:

14 Q. He goes on on page 4244 under
15 the specific evaluation of the genotoxicity
16 of glyphosate to tell Monsanto that "on the
17 basis of the study of Lioi, I conclude that
18 glyphosate is a potential clastogenic in
19 vitro."

20 His conclusion, right?

21 MR. JOHNSTON: Objection.

22 Foundation.

23 Go ahead.

24 THE WITNESS: That's again what
25 he says. But again, remember, this is

1 in vitro, this is a petri dish
2 experiment, and again, that those
3 cells are sustaining toxicity,
4 meaning -- when we talk about
5 cytotoxicity, it means that the cells
6 are damaged and that the end that
7 you're seeing, this oxidative damage,
8 is then the result of the cells
9 sustaining cytotoxicity and not a
10 direct genotoxic effect.

11 And you can see here it says
12 even -- there's another assay that
13 indicates it's not reproduced in germ
14 cells.

15 QUESTIONS BY MR. MILLER:

16 Q. He says, "Under specific
17 evaluations of genotoxicity of glyphosate
18 mixture that the studies of Bolognesi
19 suggests that glyphosate mixtures may be
20 capable of inducing oxidative damage in
21 vivo."

22 MR. JOHNSTON: Objection. No
23 foundation.

24 QUESTIONS BY MR. MILLER:

25 Q. That was his conclusion, wasn't

1 it?

2 MR. JOHNSTON: Same objection.

3 THE WITNESS: Again, that was
4 the same study where they injected the
5 formulated product directly into the
6 abdomens of the animals. There was
7 direct damage to the organs and to the
8 animal, and the results are secondary
9 to cytotoxicity

10 QUESTIONS BY MR. MILLER:

11 Q. He tells us on -- he tells
12 Monsanto in this report at 4266 -- I'm just
13 about done with this report.

14 But at 4266, Dr. Parry tells us
15 that there is -- this is in F. "In view of
16 the increasing appreciation of the value of
17 COMET assay as a marker of tissue-specific
18 damage, I recommend the consideration of its
19 use in any in vivo studies performed."

20 Do you see that?

21 MR. JOHNSTON: Objection.

22 Foundation.

23 THE WITNESS: I see that's what
24 he says.

25

1 QUESTIONS BY MR. MILLER:

2 Q. And Monsanto never performed a
3 COMET assay on any of its in vivo studies?

4 A. We have a difference of opinion
5 of the value of the COMET study. There are
6 other studies that are -- the COMET study,
7 you can actually get positive effects if you
8 take blood from people who have been on a
9 treadmill for 30 minutes. So, again, you
10 have to look at the study and what it
11 provides.

12 And this again, comes back to
13 talking about the oxidative damage with
14 Bolognesi. And again remember, he is
15 talking about doing an assay where -- in
16 talking about looking at the liver and the
17 kidneys where we actually went and did the
18 studies in the whole animals that we shared
19 with you about the Heydens report.

20 Q. The answer is Monsanto never
21 did COMET assays, true?

22 A. No, we would not do COMET
23 assays. We do not see it as a really
24 valuable assay.

25 Q. And this expert who you asked

1 to review these studies told you, "The COMET
2 assay would provide the ability to determine
3 whether damage is produced in a wide range of
4 tissues following glyphosate exposure."

5 That's what he said, right?

6 MR. JOHNSTON: Objection.

7 Foundation.

8 THE WITNESS: This is an in
9 vitro assay, and instead we always
10 have higher value when you do an in
11 vivo study. So we addressed the same
12 comments in an in vivo study that
13 would be of more value than the COMET
14 assay that, no, we would not conduct.

15 QUESTIONS BY MR. MILLER:

16 Q. Dr. Parry goes on to conclude
17 his report on page 4267, "If the genotoxic
18 activity of glyphosate and its formulations
19 is confirmed, it would be advisable to
20 determine whether there are exposed
21 individuals or groups within the human
22 population."

23 Do you remember receiving that
24 advice from Dr. Parry?

25 MR. JOHNSTON: Objection. No

1 foundation.

2 THE WITNESS: I see it here,
3 but, again, the geno -- there is no
4 genotoxic activity of glyphosate in
5 its formulations. We would disagree
6 with that.

7 QUESTIONS BY MR. MILLER:

8 Q. All right. Let's look at --
9 did you publish Dr. Parry's report?

10 MR. JOHNSTON: Objection.

11 Vague.

12 QUESTIONS BY MR. MILLER:

13 Q. You can answer.

14 A. No.

15 Q. Did you submit Dr. Parry's
16 report to the Environmental Protection
17 Agency?

18 MR. JOHNSTON: Objection.

19 Vague.

20 THE WITNESS: The Environmental
21 Protection Agency is familiar with all
22 of those studies.

23 QUESTIONS BY MR. MILLER:

24 Q. My question was not whether
25 they're familiar with the studies.

1 Dr. Parry's report, did you
2 submit it to the Environmental Protection
3 Agency?

4 A. I don't know if it was or not.

5 MR. JOHNSTON: Vague.

6 Objection.

7 QUESTIONS BY MR. MILLER:

8 Q. You thought he was a renowned
9 expert. We looked at that e-mail. Why
10 wouldn't it be important for people to know
11 about the report of this renowned expert on
12 the genotoxic potential of Roundup?

13 MR. JOHNSTON: Objection.

14 Misstates the testimony.

15 THE WITNESS: The EPA is fully
16 familiar with all these studies. They
17 can make the determination themselves.
18 This is a report between Dr. Parry and
19 Monsanto. There's nothing in there
20 that the EPA would not have been aware
21 of in terms of the studies.

22 QUESTIONS BY MR. MILLER:

23 Q. How did Larry Kier pull you out
24 of the doghouse that Dr. Parry put you in?

25 MR. JOHNSTON: Objection.

1 Misstates the record. No foundation.

2 THE WITNESS: I don't know.

3 (Farmer Exhibit 1-31 marked for
4 identification.)

5 QUESTIONS BY MR. MILLER:

6 Q. Let's take a look.

7 Exhibit 1-31 is an e-mail from you to Daniel
8 Goldstein concerning, among other things,
9 Dr. Parry.

10 All right. Ma'am, this is an
11 e-mail produced in request of production of
12 documents from Monsanto. You see it's from
13 you at the top there, Donna Farmer,
14 September 2001, right, ma'am?

15 A. Yes.

16 Q. "So if we are not going to use
17 Dr. Parry, then why did Mark insist on
18 developing a relationship with him?"

19 MR. JOHNSTON: Objection. You
20 read that wrong.

21 QUESTIONS BY MR. MILLER:

22 Q. Let me read it again. "So if
23 we are not going to use Dr. Parry, then why
24 did Mark insist we develop a relationship
25 with him? Mark was not managing that well

1 and almost landed us with Parry calling
2 glyphosate genotoxic...so we had to do these
3 additional studies to make him happy. And if
4 it had not been for Larry Kier, we would be
5 in the dog..."

6 Dog what?

7 A. Probably doghouse, but -- it's
8 Larry Kier. But I think what I want to do is
9 go back to this page with Mark. And what we
10 talked about early on is that we didn't agree
11 with Dr. Parry's conclusions about the
12 Bolognesi and Peluso studies, and with
13 Dr. Kier's help, because he is an expert in
14 gene tox as well, was able to help us to do
15 the studies that we talked about in vivo.

16 And as you can see here, it
17 says that we did these studies. "We
18 conducted studies in the US where mice were
19 injected with the same formulation, with or
20 without glyphosate, and could demonstrate the
21 observed effects were not due to the
22 glyphosate but to the surfactant in
23 combination with the vehicle that caused the
24 precipitation of the surfactant onto the
25 liver and kidney capsules, and that then

1 created this toxic effect on those organs.
2 All of these results have been openly
3 discussed with Professor Parry, an authority
4 in the field of mutagenicity in the UK, who
5 fully agrees with us that this finding is an
6 artifactual effect and in no way demonstrates
7 the mutagenicity of glyphosate. We are now
8 preparing a publication to address the
9 issues."

10 And so I think when I'm talking
11 about this, it was through Larry's help that
12 we were able to provide Dr. Parry with all
13 the information he was able to look at, that
14 he had questions about, that we generated
15 extra data for him to change his conclusion
16 of those studies.

17 Q. William Graham, in the e-mail
18 below, you asked, "Can we keep this" -- I'm
19 sorry, let me read it right.

20 William Graham says, "Can we
21 keep this to a limited number of people, as
22 we have the opinions and the solutions in
23 Europe?"

24 MR. JOHNSTON: Is there a
25 question?

1 Q. Who would we talk to in quality
2 assurance to ask more questions about this?

3 A. I don't know right now who that
4 would be.

5 Q. Who's in charge of quality
6 assurance?

7 A. I think you could probably go
8 to our -- I think it might be -- I don't know
9 who's in charge of quality assurance.

10 Q. Can you name anybody who works
11 in quality assurance?

12 A. There would be a woman named
13 Lisa Flagg.

14 Q. Flag, F-l-a-g?

15 A. F-l-a-g-g.

16 Q. Okay. Thank you.

17 All right. Australia wasn't
18 the only country to point out potential
19 issues with the NNG, true?

20 MR. JOHNSTON: Objection.

21 Vague.

22 THE WITNESS: I don't remember.

23 QUESTIONS BY MR. MILLER:

24 Q. Do you remember in 2004 Canada
25 raising concerns about Roundup glyphosate

1 right?

2 A. That's what it says.

3 Q. Evidence in animals,
4 "sufficient" is what it says, right?

5 A. That's what it says.

6 Q. And for mechanistic evidence,
7 it says "genotoxicity and oxidative stress,"
8 right?

9 A. That's what it says.

10 Q. And it classifies the product
11 life to say it is a 2A, right?

12 And I know you disagree.

13 A. I do disagree.

14 Q. Okay. I understand.

15 A. And again, all five of them
16 came out to be 2A and 2B carcinogens.

17 Q. Well, 2B, can you agree with me
18 that possibly carcinogenic is not as strong a
19 case as probably carcinogenic?

20 Can we agree on that?

21 A. Again, that's their
22 determination, but, again, I wouldn't agree
23 with glyphosate being a 2A carcinogen.

24 Q. I understand.

25 Dr. Parry told you about the

1 oxidative stress issue back in 1999, right?

2 A. Yes, and we talked about
3 studies that we did to address that. And
4 since 1999, a lot has been learned about
5 oxidative stress and its relationship to
6 cytotoxicity versus a genotoxic response.

7 Q. Let's spend a little time
8 looking at this and then we'll move on.

9 It says, "Glyphosate has been
10 detected in air during spraying, in water,
11 and in food."

12 Do you agree with that?

13 MR. JOHNSTON: What page are
14 you on, Counsel?

15 MR. MILLER: I'm sorry,
16 page 491, the bottom left side.

17 THE WITNESS: I would agree
18 with that, but I think it's important
19 to point out that when it says it's
20 detected in air, if you go back and
21 you look at the study, they were
22 sampling near where they were
23 spraying. So they were getting
24 through spray droplets that exposure.

25 We have applications on water.