

# FINAL PLAYED

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**Martens, Mark 04-07-2017**

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**Total Time 01:08:07**



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10:18 - 10:20	<b>Martens, Mark 04-07-2017 (00:00:03)</b>	MM2_COMBINED_03.1
	10:18 Q. can you please state your	
	10:19 name for the record.	
	10:20 A. Mark Martens.	
13:4 - 13:9	<b>Martens, Mark 04-07-2017 (00:00:12)</b>	MM2_COMBINED_03.2
	13:4 Q. And what are your areas of	
	13:5 expertise?	
	13:6 A. My areas of expertise throughout my	
	13:7 career are, you know, toxicology in all its forms.	
	13:8 That means as well experimental, regulatory, as	
	13:9 evaluative toxicology.	
18:20 - 18:24	<b>Martens, Mark 04-07-2017 (00:00:06)</b>	MM2_COMBINED_03.3
	18:20 You began working for Monsanto in 1989?	
	18:21 A. Yes.	
	18:22 Q. And when did you quit working for	
	18:23 Monsanto?	
	18:24 A. At the end of 2003.	
24:24 - 25:8	<b>Martens, Mark 04-07-2017 (00:00:36)</b>	MM2_COMBINED_03.4
	24:24 What is oxidative stress?	
	24:25 A. Oxidative stress is a state of a cell	
	25:1 where there is a production of free oxygen radicals,	
	25:2 which are inclined actually to damage several	
	25:3 molecules in the cell of which DNA.	
	25:4 Q. Okay. And how long has the scientific	
	25:5 community known about oxidative stress?	
	25:6 A. I think that from 1990, '92, there was	
	25:7 science developing in that direction as a possible	
	25:8 mechanism of carcinogenicity.	
25:16 - 25:22	<b>Martens, Mark 04-07-2017 (00:00:16)</b>	MM2_COMBINED_03.5
	25:16 Q. So in the early 1990s, it's fair	
	25:17 to say that the scientific community was aware that	
	25:18 oxidative stress could increase -- could -- could	
	25:19 lead to an increased risk of cancer; is that correct?	
	25:20 A. That was in the beginning, and, you know,	
	25:21 there was more and more information that these were	
	25:22 possible mechanisms for carcinogenicity, yes.	
28:13 - 28:16	<b>Martens, Mark 04-07-2017 (00:00:09)</b>	MM2_COMBINED_03.6
	28:13 The first topic we're going to get into	
	28:14 is, do you know Dr. James -- the late Dr. James	
	28:15 Parry?	

29:3 - 29:10	<p>28:16 A. Yes.</p> <p><b>Martens, Mark 04-07-2017 (00:00:16)</b></p> <p>29:3 Q. was Dr. Parry a 29:4 toxicologist?</p> <p>29:5 A. He was a toxicologist specializing in 29:6 genetic toxicology.</p> <p>29:7 Q. Okay. And was he an expert in his field?</p> <p>29:8 A. Yes.</p> <p>29:9 Q. Okay. He was a good scientist, correct?</p> <p>29:10 A. He was a good scientist, yes.</p>	MM2_COMBINED_03.7
30:12 - 30:14	<p><b>Martens, Mark 04-07-2017 (00:00:04)</b></p> <p>30:12 Are you familiar with the Bolognesi paper 30:13 from 1997?</p> <p>30:14 A. Yes.</p>	MM2_COMBINED_03.8
30:20 - 31:7	<p><b>Martens, Mark 04-07-2017 (00:00:24)</b></p> <p>30:20 Q. Okay. Are you familiar with the Peluso 30:21 paper --</p> <p>30:22 A. Yes.</p> <p>30:23 Q. -- from 1998?</p> <p>30:24 A. Yes.</p> <p>30:25 Q. Okay. And are you familiar with the two 31:1 Dr. Lioi papers from -- both from 1998?</p> <p>31:2 A. Yes, I recall that these have been in our 31:3 -- are considered, but I -- I didn't actually look at 31:4 the papers themselves recently.</p> <p>31:5 Q. Okay. But you're familiar with all four 31:6 of those papers --</p> <p>31:7 A. Yes. I know about them, yes.</p>	MM2_COMBINED_03.9
31:17 - 31:20	<p><b>Martens, Mark 04-07-2017 (00:00:06)</b></p> <p>31:17 Q. So all four of these papers deal 31:18 with the genotoxicity of glyphosate and/or Roundup, 31:19 correct?</p> <p>31:20 A. Correct, yes.</p>	MM2_COMBINED_03.10
32:12 - 32:20	<p><b>Martens, Mark 04-07-2017 (00:00:24)</b></p> <p>32:12 And Monsanto thought that these papers 32:13 created problems for them, correct?</p> <p>32:14 A. Well, problems, I wouldn't phrase it that 32:15 way. That these papers actually elicited new results 32:16 which needed to be critically addressed.</p> <p>32:17 Q. Okay. And Monsanto was worried about the</p>	MM2_COMBINED_03.11



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41:12 - 41:16	40:1 organization. <b>Martens, Mark 04-07-2017 (00:00:11)</b> 41:12 so Dr. Farmer writes: "It's a 41:13 real concern that these papers," meaning the Lioi 41:14 papers, "may create an even bigger problem for us 41:15 than the Peluso paper. Therefore, we do some things 41:16 quickly."	MM2_COMBINED_03.16 EXHIBIT 155.2.3
41:18 - 41:19	<b>Martens, Mark 04-07-2017 (00:00:02)</b> 41:18 THE WITNESS: That is the opinion of 41:19 Dr. Donna Farmer.	MM2_COMBINED_03.17
41:21 - 42:2	<b>Martens, Mark 04-07-2017 (00:00:17)</b> 41:21 Q. Okay. And did you have any -- did you 41:22 disagree with that opinion? 41:23 A. I didn't agree completely actually. 41:24 Q. Okay. Did you agree that the Peluso 41:25 paper created a problem for Monsanto? 42:1 A. I agreed that the Peluso was a new type 42:2 of finding and needed to be addressed.	MM2_COMBINED_03.18
43:2 - 43:3	<b>Martens, Mark 04-07-2017 (00:00:03)</b> 43:2 Q. I'm going to hand you what will be marked 43:3 as Exhibit 3.	MM2_COMBINED_03.19 clear
48:21 - 49:20	<b>Martens, Mark 04-07-2017 (00:01:01)</b> 48:21 Q. everyone at that meeting is located 48:22 in the United States except for you, correct? 48:23 A. Yes. 48:24 Q. Okay. Now, if we go back to this -- so 48:25 we're talking about the external global networks of 49:1 genotox experts at this meeting, and when talking 49:2 about the EU, which is -- you know, what's the EU? 49:3 A. The European Union. 49:4 Q. Okay. So that would fall under your 49:5 purview, correct? 49:6 A. Yes. 49:7 Q. Okay. We already talked about that 49:8 Dr. Parry is a recognized genotox expert, right? 49:9 A. Yes. 49:10 Q. Okay. What is not known is how he views 49:11 some of the nonstandard endpoints. Correct? 49:12 A. Yes. 49:13 Q. Okay. And those nonstandard endpoints	MM2_COMBINED_03.20 EXHIBIT 154.2.5 EXHIBIT 154.2.1

49:14 are the endpoints that were evaluated in the Rank  
49:15 article and the Bolognesi article, correct?

49:16 A. Yes.

49:17 Q. Okay. So your group of Monsanto  
49:18 toxicologists were saying that, although Dr. Parry is  
49:19 an expert in genotox toxicology, we don't know what  
49:20 his views are on this paper, correct?

49:24 - 49:25

**Martens, Mark 04-07-2017 (00:00:02)**

MM2\_COMBINED\_0321

49:24 THE WITNESS: Well, we want to know his  
49:25 opinion on these papers.

51:19 - 52:5

**Martens, Mark 04-07-2017 (00:00:30)**

MM2\_COMBINED\_0322

51:19 so just to

EXHIBIT 1582.2

51:20 recap where we are so far, the group of Monsanto  
51:21 toxicologists decided that you would contact  
51:22 Dr. Parry, and because you don't know his opinion on  
51:23 these four papers, you would give him these four  
51:24 papers and you would ask him for a critique of those  
51:25 four papers, correct?

52:1 A. Yes.

52:2 Q. Okay. And then based on his critique of  
52:3 the genotox papers, your group would decide whether  
52:4 or not you would expand his role, correct?

EXHIBIT 1582.3

52:5 A. Yes.

52:6 - 52:12

**Martens, Mark 04-07-2017 (00:00:20)**

MM2\_COMBINED\_0323

52:6 Q. Once again, y'all are  
52:7 talking about the Lioi papers, the two Lioi papers,  
52:8 and once again, Dr. Farmer says that the Lioi papers  
52:9 may present an even bigger problem because the  
52:10 studies are with glyphosate and are on a more  
52:11 standard endpoints, correct?

EXHIBIT 1582.4

52:12 A. Yes.

52:13 - 52:16

**Martens, Mark 04-07-2017 (00:00:08)**

MM2\_COMBINED\_0324

52:13 Q. Okay.

52:14 A. But the -- I interpreted the Lioi paper  
52:15 and came to the conclusion it's a very low quality  
52:16 paper.

55:12 - 55:15

**Martens, Mark 04-07-2017 (00:00:04)**

MM2\_COMBINED\_0325

55:12 (Martens Exhibit No. 9-5 was marked  
55:13 for identification.)

55:14 BY MS. WAGSTAFF:

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57:12 - 57:20	<p>55:15 Q. So let's look at Dr. Parry's report.</p> <p><b>Martens, Mark 04-07-2017 (00:00:24)</b></p> <p>57:12 Q. here we are two weeks</p> <p>57:13 later, and this is a fax sent on February 15th --</p> <p>57:14 because in Europe you put the month and date opposite</p> <p>57:15 of us, correct?</p> <p>57:16 A. Yes.</p> <p>57:17 Q. -- 1999, and it's a fax from you, from</p> <p>57:18 Dr. Mark Martens, and the subject is "Dr. Parry's</p> <p>57:19 Report," correct?</p> <p>57:20 A. Correct.</p>	<p>CMC3</p> <p>MM2_COMBINED_03.28</p> <p>EXHIBIT 157.1.2</p> <p>EXHIBIT 157.1.3</p>
57:24 - 58:18	<p><b>Martens, Mark 04-07-2017 (00:00:44)</b></p> <p>57:24 Q. So you're sending it to everyone that was</p> <p>57:25 at that meeting a few weeks earlier.</p> <p>58:1 A. Yes.</p> <p>58:2 Q. Correct?</p> <p>58:3 And you say: "Dear Alan, Donna and Bill:</p> <p>58:4 Please find herewith Professor Parry's evaluation of</p> <p>58:5 the four papers." Correct?</p> <p>58:6 A. Yes.</p> <p>58:7 Q. And what were those four papers?</p> <p>58:8 A. That was the Lioi paper, the Peluso</p> <p>58:9 paper, the Bolognesi and the Rank paper.</p> <p>58:10 Q. Okay. And you said you sent him on</p> <p>58:11 genotoxicity of glyphosate and Roundup, correct?</p> <p>58:12 A. Yes.</p> <p>58:13 Q. Okay. And you're asking for comments and</p> <p>58:14 guidance on what to do next, correct?</p> <p>58:15 A. Yes.</p> <p>58:16 Q. And then you signed it, "Best regards,</p> <p>58:17 Mark," and that's your signature, right?</p> <p>58:18 A. That is correct.</p>	<p>MM2_COMBINED_03.27</p> <p>EXHIBIT 157.1.4</p>
60:6 - 60:17	<p><b>Martens, Mark 04-07-2017 (00:00:25)</b></p> <p>60:6 Q. Okay. This appears to be the beginning</p> <p>60:7 of Dr. Parry's report. Correct?</p> <p>60:8 A. Yes, correct.</p> <p>60:9 Q. Okay. And he goes through the papers</p> <p>60:10 that Monsanto asked him to review, correct?</p> <p>60:11 A. Yes.</p> <p>60:12 Q. Okay. And the first one is the Rank,</p>	<p>MM2_COMBINED_03.28</p> <p>EXHIBIT 157.5.5</p> <p>EXHIBIT 157.5.2</p>

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60:13 et al., paper and that was in 1993, right?

60:14 A. Right.

60:15 Q. Okay. And this is a Roundup mixture that  
60:16 was tested, correct?

60:17 A. Yes.

61:16 - 61:18

**Martens, Mark 04-07-2017 (00:00:09)**

MM2\_COMBINED\_03 28

61:16 Q. And so Dr. Parry's conclusion was:

61:17 "In vitro evidence of genotoxic effect for Roundup  
61:18 mixture," right?

EXHIBIT 157.5.3

62:1 - 62:5

**Martens, Mark 04-07-2017 (00:00:14)**

MM2\_COMBINED\_03 30

62:1 A. That was his conclusion, yes. Mm-hmm.

62:2 Q. Okay. And then next we looked at the --

62:3 one of the Italian papers, which is Bolognesi, and

62:4 that was from a couple of years later in 1997, right?

62:5 A. Yes.

EXHIBIT 157.5.4

62:13 - 62:16

**Martens, Mark 04-07-2017 (00:00:10)**

MM2\_COMBINED\_03 31

62:13 And his conclusions were Dr. Parry found

62:14 a positive response in vitro SCE for both compounds.

62:15 And the both compounds being glyphosate

62:16 and Roundup, correct?

EXHIBIT 157.5.1

62:20 - 63:8

**Martens, Mark 04-07-2017 (00:00:27)**

MM2\_COMBINED\_03 32

62:20 THE WITNESS: Yes.

62:21 BY MS. WAGSTAFF:

62:22 Q. Okay. So in -- in the Bolognesi test,

62:23 the authors were studying both glyphosate and

62:24 Roundup, correct?

62:25 A. That's correct.

63:1 Q. Okay. So when Dr. Parry is talking in

63:2 his conclusions about, quote, both compounds, he's

63:3 referencing glyphosate and Roundup, correct?

63:4 A. Yes.

63:5 Q. Okay. So Dr. Parry -- Dr. Parry

63:6 concluded that there was a positive response in vitro

63:7 SCE for both glyphosate and Roundup, correct?

63:8 A. That's what it says.

63:15 - 63:23

**Martens, Mark 04-07-2017 (00:00:22)**

MM2\_COMBINED\_03 33

63:15 Q. And SCE is another marker looking at the

63:16 structure of genetic material, correct?

63:17 A. That is sister chromatid exchanges.

63:18 Q. Okay. And it --

63:19 A. This is an indicator top of test of which  
 63:20 the biological mechanism is unknown and with some  
 63:21 kind of experimental endpoint which was not accepted  
 63:22 by regulatory authorities for assessment of  
 63:23 genotoxicity.

65:3 - 65:10

**Martens, Mark 04-07-2017 (00:00:23)**

MM2\_COMBINED\_0334

65:3 Q. Dr. Parry concluded that both glyphosate  
 65:4 and Roundup mixture produced an increase in DNA  
 65:5 strand breaks in mouse liver and kidney, correct?

EXHIBIT 157.8.2

65:6 A. That's what he says, yes.

65:7 Q. Okay. And next he found that glyphosate  
 65:8 increased 8-OHdG in mouse liver, which is a marker of  
 65:9 oxidative stress, correct?

EXHIBIT 157.8.3

65:10 A. Yes.

65:20 - 65:23

**Martens, Mark 04-07-2017 (00:00:11)**

MM2\_COMBINED\_0335

65:20 Q. So he concluded oxidative stress --  
 65:21 Dr. Parry concluded oxidative stress with respect to  
 65:22 glyphosate and with respect to Roundup, correct?

65:23 A. Yes, that was what he concluded, yes.

66:1 - 66:7

**Martens, Mark 04-07-2017 (00:00:23)**

MM2\_COMBINED\_0338

66:1 Q. Next we're moving to the Peluso  
 66:2 paper, which was one of the Italian papers we  
 66:3 discussed, and we talk about the conclusion that  
 66:4 Dr. Parry found for the Peluso paper. And that is  
 66:5 that Roundup mixture produced an increase in DNA  
 66:6 adducts in the mouse liver and kidney, correct?

EXHIBIT 157.7.1

66:7 A. Yes, that was what he concluded.

EXHIBIT 157.7.2

66:12 - 66:16

**Martens, Mark 04-07-2017 (00:00:09)**

MM2\_COMBINED\_0337

66:12 He also concluded that there was no  
 66:13 increase in the production of DNA adducts in the  
 66:14 presence of glyphosate.

66:15 Q. Sure.

66:16 A. And that's important.

66:18 - 66:21

**Martens, Mark 04-07-2017 (00:00:05)**

MM2\_COMBINED\_0338

66:18 -- so what you're saying is that he --  
 66:19 he determined that with glyphosate there wasn't, but  
 66:20 with Roundup mixture there was?

66:21 A. Yes.

66:23 - 66:23

**Martens, Mark 04-07-2017 (00:00:06)**

MM2\_COMBINED\_0336

66:23 Next if we turn to the Lioi 1998 paper,

EXHIBIT 157.7.3

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66:24 - 67:4

**Martens, Mark 04-07-2017 (00:00:22)**

MM2\_COMBINED\_03 40

EXHIBIT 157.A.1

66:24 and if you turn the page to 00 and you look at  
66:25 conclusions there, it looks that Dr. Parry found --  
67:1 or Dr. Parry concluded that there was an increase in  
67:2 the chromatid aberrations of SCE following glyphosate  
67:3 exposure, correct?

67:4 A. That is what he concluded, yes.

67:5 - 67:20

**Martens, Mark 04-07-2017 (00:00:46)**

MM2\_COMBINED\_03 41

EXHIBIT 157.A.1

67:5 Q. Okay. Now if you turn to 01, we're  
67:6 talking about his conclusions still, and he found --  
67:7 Dr. Parry found sister chromatid exchanges induced in  
67:8 human lymphocytes by both glyphosate and Roundup  
67:9 mixture, correct?

67:10 A. That's what he found -- that's what he  
67:11 concluded, yes.

67:12 Q. That's what he concluded, yeah.

67:13 And he also concluded that the Roundup  
67:14 mixture produced a positive result at a lower  
67:15 concentration, correct?

67:16 A. That is what he concluded, yes.

67:17 Q. So Dr. Parry concluded that the Roundup  
67:18 mixture and the glyphosate alone would often produce  
67:19 different results, correct?

67:20 A. That indeed, yes.

68:11 - 68:14

**Martens, Mark 04-07-2017 (00:00:05)**

MM2\_COMBINED\_03 42

EXHIBIT 157.10.1

68:11 if you look at page 02,  
68:12 you look at the section titled "In vivo studies,"  
68:13 correct?

68:14 A. That's correct, yes.

68:24 - 69:15

**Martens, Mark 04-07-2017 (00:00:46)**

MM2\_COMBINED\_03 43

EXHIBIT 157.10.2

68:24 Q. Okay. So this appears to be Dr. Parry's  
68:25 conclusions about the in vivo studies, correct?

69:1 A. That is correct, yes.

69:2 Q. So if we are looking at his -- at

69:3 Dr. Parry's conclusions about in vivo studies, he  
69:4 states: "Both glyphosate and Roundup mixture  
69:5 produced positive results in the mouse bone marrow  
69:6 micronucleus assay," and then he cites a study that  
69:7 he has pulled that conclusion from, correct?

69:8 A. That's the Bolognesi study.

69:9 Q. Yep.

69:10 A. Mm-hmm.

69:11 Q. Then he -- if you go down to the next

69:12 paragraph, it says: "The data of Bolognesi indicate

69:13 that glyphosate is a probable in vivo genotoxin."

69:14 Correct?

69:15 A. That is his conclusion.

69:18 - 70:1

**Martens, Mark 04-07-2017 (00:00:20)**

69:18 Q. So Dr. Parry's conclusion in 1999 is that

69:19 the data of the Bolognesi indicate that glyphosate is

69:20 a probable in vivo genotoxin, correct?

69:21 A. What he wanted -- meant to -- what he

69:22 meant to say is a potential.

69:23 Q. Well, he didn't say "potential," did he?

69:24 A. No, no. Well, but that's a question of

69:25 wording; just to make sure that people understand it

70:1 right, that is a potential genotoxin.

71:25 - 72:11

**Martens, Mark 04-07-2017 (00:00:33)**

71:25 Q. Okay. Next page, if you go to 03, it

72:1 says: "The overall" -- are you there?

72:2 A. Yeah.

72:3 Q. Okay. "The overall data provided by the

72:4 four publications produce evidence to support a model

72:5 that glyphosate is capable of producing genotoxicity,

72:6 both in vivo and in vitro, by a mechanism based upon

72:7 the production of oxidative damage."

72:8 Is that Dr. Parry's conclusion in 1999?

72:9 A. Yes.

72:10 Q. That was given to Monsanto, correct?

72:11 A. Yes.

73:9 - 73:24

**Martens, Mark 04-07-2017 (00:00:20)**

73:9 THE WITNESS: Can I point to a sentence

73:10 which is important --

73:11 BY MS. WAGSTAFF:

73:12 Q. Sure.

73:13 A. -- which you didn't mention?

73:14 Q. Sure.

73:15 A. That he said -- you know, after you

73:16 mentioned the sentence: "Based upon production of

73:17 oxidative damage" --

EXHIBIT 157.10.3

MM2\_COMBINED\_03.44

MM2\_COMBINED\_03.45

EXHIBIT 157.11.1

MM2\_COMBINED\_03.46

73:18 Q. Yeah.

EXHIBIT 157.11.3

73:19 A. -- he said, "If confirmed."

73:20 Q. Mm-hmm.

73:21 A. So that means that he has a hypothetical

73:22 conclusion and he was seeking confirmation.

73:23 Q. Sure. Yeah, that's fair.

73:24 A. That's important.

74:12 - 75:7

**Martens, Mark 04-07-2017 (00:01:02)**

MM2\_COMBINED\_03.47

74:12 Q. And in fact, if you

EXHIBIT 157.12.1

74:13 turn to 04, which is the next page, this paper is

74:14 signed by Dr. Parry.

74:15 And actually, B, Dr. Parry recommends

EXHIBIT 157.12.2

74:16 that there be tests to determine if -- he recommends

74:17 that there is an assessment of the individual

74:18 components of Roundup mixture to determine whether

74:19 there is any components which act synergistically to

74:20 increase the potential genotoxicity of glyphosate.

74:21 So let's unpack that sentence a little

74:22 bit since you're an expert in toxicology. Can you

74:23 explain to me what it means when components act

74:24 synergistically?

74:25 A. When components act -- this is a

75:1 hypothesis --

75:2 Q. Yeah, yeah.

75:3 A. -- put forward by Dr. Parry.

75:4 Q. I just want to know what synergistic --

75:5 A. Yes. That means that one component is

75:6 over -- inclined to strengthen the toxicological

75:7 effect of another component of the synergism.

76:13 - 76:22

**Martens, Mark 04-07-2017 (00:00:20)**

MM2\_COMBINED\_03.48

76:13 And so Dr. Parry is suggesting an

76:14 assessment of the individual components of the

76:15 Roundup mixture, which you have already told me are

76:16 the active ingredient, which is glyphosate and some

76:17 surfactants, correct?

76:18 A. Yes, that's correct.

76:19 Q. Okay. So he's -- he's saying assess

76:20 those components to see if they act synergistically

76:21 when they are together, correct?

76:22 A. Right. Yes.

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77:16 - 77:24

**Martens, Mark 04-07-2017 (00:00:12)**

MM2\_COMBINED\_03.48

77:16 A. There is something that is very important  
 77:17 to mention --  
 77:18 Q. Uh-huh.  
 77:19 A. -- also in -- in the report of Dr. Parry  
 77:20 is that he also lists the flaws of the studies that  
 77:21 they've been published. So --  
 77:22 Q. Sure.  
 77:23 A. Okay. So it's important you are aware of  
 77:24 this.

clear

79:3 - 79:13

**Martens, Mark 04-07-2017 (00:00:40)**

MM2\_COMBINED\_03.50

79:3 and so here what I have marked as Exhibit 5 is an  
 79:4 e-mail from Dr. Donna Farmer. If you look at the  
 79:5 page that starts with 06 is the e-mail cascade. And  
 79:6 it is -- although it is written on April 19th, Donna  
 79:7 Farmer states that these are the meeting minutes from  
 79:8 February 25th, correct?  
 79:9 A. Yes.  
 79:10 Q. Okay. So this is actually a meeting that  
 79:11 occurred ten days after Dr. Parry had -- and you had  
 79:12 circulated the Parry report, correct?  
 79:13 A. Correct.

EXHIBIT 15A2.1

80:7 - 80:13

**Martens, Mark 04-07-2017 (00:00:23)**

MM2\_COMBINED\_03.51

80:7 Q. And Dr. Farmer reiterates to you  
 80:8 all that: "Dr. Parry concluded on his evaluation of  
 80:9 the four articles that glyphosate is capable of  
 80:10 producing genotoxicity, both in vivo and in vitro, by  
 80:11 a mechanize -- by a mechanism based upon the  
 80:12 production of oxidative damage." Correct?  
 80:13 A. That's correct.

EXHIBIT 15A3.4

80:14 - 80:17

**Martens, Mark 04-07-2017 (00:00:11)**

MM2\_COMBINED\_03.52

80:14 Q. Okay. And we had talked about that  
 80:15 before. And that evaluation was based on material  
 80:16 that you all had provided Dr. Parry, correct?  
 80:17 A. Yes.

80:25 - 81:25

**Martens, Mark 04-07-2017 (00:01:16)**

MM2\_COMBINED\_03.53

80:25 Dr. Farmer continues to write: "In  
 81:1 order to move Dr. Parry from his position, we will  
 81:2 need to provide him with the additional information  
 81:3 as well as asking him to critically evaluate the

EXHIBIT 15A3.2

81:4 quality of all the data, including the open  
81:5 literature studies."

81:6 So you all are meeting and you're trying  
81:7 to figure out how to change Dr. Parry's opinion,  
81:8 correct?

81:9 A. I wouldn't phrase it in that way. It is  
81:10 actually to provide Dr. Parry with all the reports on  
81:11 genotoxicity testing on Roundup and on glyphosate  
81:12 that existed at that time so that he could be able to  
81:13 see the context, and he could put his interpretation  
81:14 into context with the existing regulatory database on  
81:15 the genotoxic characteristics or not of glyphosate  
81:16 and Roundup.

81:17 Q. And change his -- change his opinion,  
81:18 right?

81:19 A. And he might actually acquire more  
81:20 insight of the -- these results in relation to all  
81:21 the data that have been produced and were accepted by  
81:22 the regulatory authorities.

81:23 Q. Right. But if Monsanto had been happy  
81:24 with his report, they wouldn't have tried to move  
81:25 Dr. Parry from his position, correct?

82:2 - 82:2

**Martens, Mark 04-07-2017 (00:00:01)**

MM2\_COMBINED\_0354

82:2 THE WITNESS: That's speculation.

82:15 - 83:2

**Martens, Mark 04-07-2017 (00:00:35)**

MM2\_COMBINED\_0355

82:15 Q. All right. So moving on, Dr. Farmer  
82:16 continues to say: "As a follow-up, Mark will contact  
82:17 Dr. Parry, discuss with him the existence of  
82:18 additional data, and ask him to evaluate the full  
82:19 package."

EXHIBIT 15A3.3

82:20 Mark is you, correct?

82:21 A. Yes.

EXHIBIT 15A3.5

82:22 Q. Mark is Dr. Mark Martens. Okay.

82:23 "Mark will also explore his interests,"

82:24 meaning Dr. Parry's interests, parentheses, "if we  
82:25 can turn his opinion around, in being a spokesperson  
83:1 for us on these types of issues." Correct?

83:2 A. That's correct.

83:3 - 83:10

**Martens, Mark 04-07-2017 (00:00:19)**

MM2\_COMBINED\_0356

83:3 Q. Okay. So, Dr. Martens, you were tasked

83:4 with following up with Dr. Parry and getting him  
 83:5 additional data to see if you could turn his opinion  
 83:6 around, correct?  
 83:7 A. I will rephrase that. It was actually  
 83:8 providing, you know, supplementary data so that he  
 83:9 could put that in his findings into a context of the  
 83:10 existing data.

83:11 - 83:14

**Martens, Mark 04-07-2017 (00:00:08)**

MM2\_COMBINED\_0357

83:11 Q. Right. And turn his opinion around,  
 83:12 correct? It's the words that Donna Farmer used, not  
 83:13 me.

85:2 - 85:3

83:14 A. These are the words of Donna Farmer.

**Martens, Mark 04-07-2017 (00:00:02)**

MM2\_COMBINED\_0358

85:2 MS. WAGSTAFF: This is going to be marked  
 85:3 as Exhibit 6.

85:5 - 85:5

**Martens, Mark 04-07-2017 (00:00:03)**

MM2\_COMBINED\_0358

85:5 THE WITNESS: Thank you.

86:1 - 86:14

**Martens, Mark 04-07-2017 (00:00:38)**

MM2\_COMBINED\_0360

86:1 Who is Stephen Wratten?

86:2 A. Stephen Wratten was a -- a product  
 86:3 registration manager in the United States.

86:4 Q. Okay.

86:5 A. In charge of glyphosate.

86:6 Q. Okay. And so Steve Wratten writes an

86:7 e-mail on October 31st, 1999, which is a few months

86:8 after Dr. Parry had given you his report, correct?

86:9 A. Yes.

86:10 Q. And he writes an e-mail, and it's called

86:11 "Comments on Parry write-up," and he writes the

86:12 e-mail to you, to Donna Farmer, to Dr. Larry Kier,

86:13 who we talked about.

86:14 A. Mm-hmm.

87:6 - 87:11

**Martens, Mark 04-07-2017 (00:00:15)**

MM2\_COMBINED\_0361

87:6 So Dr. Wratten writes to Mark, that's

87:7 you, and Donna, which is Dr. Farmer, and says --

87:8 talking about comments on the Parry write-up: "I was  
 87:9 somewhat disappointed in the Parry report."

87:10 Do you see that?

87:11 A. Yes.

87:12 - 87:15

**Martens, Mark 04-07-2017 (00:00:08)**

MM2\_COMBINED\_0362

87:12 Q. Okay. And Dr. Wratten says: "Not  
87:13 particularly with his conclusions but just the way  
87:14 that they're presented." Correct?

87:15 A. Yes, I see that.

89:11 - 89:17

**Martens, Mark 04-07-2017 (00:00:20)**

MM2\_COMBINED\_03 03

EXHIBIT 158.1.1

89:11 Q. Okay. And Alan Wilson writes back to  
89:12 Dr. Farmer and says: "Two options: We work closely  
89:13 with Parry, someone other than Mark, or we get  
89:14 someone else."

89:15 So basically take Mark off the job or we  
89:16 use someone other than Dr. Parry, correct?

89:17 A. That's what I read.

90:10 - 90:17

**Martens, Mark 04-07-2017 (00:00:15)**

MM2\_COMBINED\_03 04

EXHIBIT 158.1.2

90:10 Q. "Right now the only person I think  
90:11 that can dig us out of this genotox hole is the good  
90:12 Dr. Kier."

90:13 And that's Dr. Larry Kier?

90:14 A. Yes.

90:15 Q. And that's the Monsanto -- long-term  
90:16 Monsanto toxicologist, right?

90:17 A. Yes. Yes. Genotoxicologist.

92:22 - 92:23

**Martens, Mark 04-07-2017 (00:00:08)**

MM2\_COMBINED\_03 05

92:22 Q. All right. And then our next exhibit  
92:23 will be Exhibit 7.

95:2 - 95:7

**Martens, Mark 04-07-2017 (00:00:14)**

MM2\_COMBINED\_03 06

EXHIBIT 158.1.1

95:2 Q. So you received this e-mail from  
95:3 Dr. Wratten on September 1st of 1999 where he's  
95:4 talking about how he is disappointed not in the  
95:5 conclusions but in the way they were presented,  
95:6 correct?

95:7 A. Mm-hmm.

95:8 - 95:23

**Martens, Mark 04-07-2017 (00:00:43)**

MM2\_COMBINED\_03 07

95:8 Q. And you write back some remarks to  
95:9 Dr. Wratten within his e-mail, correct?

95:10 A. Yes.

95:11 Q. Okay. And the bottom line is you say to  
95:12 him, you say to Dr. Wratten: "Please don't be too  
95:13 negative. It is clear he will need some help to  
95:14 produce a definitive report without twisting his  
95:15 arms. Don't forget that his opinion is well

EXHIBIT 158.2.1

95:16 respected, and I am sure he didn't have the time to  
95:17 write it all down as should have been the case;  
95:18 therefore, the need to meet with him." Correct?

95:19 A. Yes.

95:20 Q. So you still believed in Dr. Parry and  
95:21 this was your work in generating this report,  
95:22 correct?

95:23 A. Yes.

96:3 - 96:14

**Martens, Mark 04-07-2017 (00:00:25)**

96:3 Q. And then you look at the response

96:4 that you wrote to the entire group where you say  
96:5 that: "We can now determine for ourselves how such  
96:6 report should look like and give him directions for a  
96:7 rewrite."

96:8 So you were going to go to Dr. Parry and  
96:9 give him directions for a rewrite of his report,  
96:10 correct?

96:11 A. Yep.

96:12 Q. Okay.

96:13 A. These were directions for the form of the  
96:14 report, not of the content of the report.

96:21 - 96:23

**Martens, Mark 04-07-2017 (00:00:11)**

96:21 Q. And in fact, the second report that  
96:22 you're talking about was written shortly thereafter  
96:23 in September of 1999.

97:2 - 98:2

**Martens, Mark 04-07-2017 (00:01:05)**

97:2 Q. And I am going to walk you through this.  
97:3 This is a report by Dr. James M. Parry, correct?

97:4 A. Yes.

97:5 Q. This is the same Parry that wrote the  
97:6 February 1999 report.

97:7 A. Yes.

97:8 Q. Correct?

97:9 And this is the "Evaluation of the  
97:10 potential genotoxicity of glyphosate, glyphosate  
97:11 mixtures in component surfactants," correct?

97:12 A. Yes.

97:13 Q. So it's the same subject matter area,  
97:14 right?

97:15 A. Yes.

MM2\_COMBINED\_03 06

EXHIBIT 156.1.2

MM2\_COMBINED\_03 06

EXHIBIT

MM2\_COMBINED\_03 70

EXHIBIT 156.1.2

Page/Line

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97:16 Q. And this is the area you have previously  
97:17 testified that Dr. Parry is an expert, right?

97:18 A. Yes.

97:19 Q. Okay. And you had mentioned a few  
97:20 moments ago that you gave Dr. Parry a host of  
97:21 information to review, and it looks like this table  
97:22 is what -- the information you gave him, correct?

97:23 A. Correct.

97:24 Q. So on -- on the page ending in 233,  
97:25 Tables 1 through 14, are all of the information you  
98:1 provided him to rewrite his report, correct?

98:2 A. Yes.

98:6 - 98:16

**Martens, Mark 04-07-2017 (00:00:42)**

98:6 Q. So I'm going to do what I did sort of  
98:7 before with the bottom of the pages, and I'll tell  
98:8 you to flip to a certain page that --

98:9 A. Mm-hmm.

98:10 Q. -- that ends -- we're going to go to the  
98:11 one that ends 37, 237, please. Where it says that:  
98:12 "The evaluation is that these studies provide some  
98:13 evidence that glyphosate may be capable of inducing  
98:14 oxidative damage under both in vitro and in vivo  
98:15 conditions."

98:16 That was his evaluation, correct?

98:21 - 98:21

**Martens, Mark 04-07-2017 (00:00:02)**

98:21 A. That is what's in the report. Yes.

100:24 - 101:4

**Martens, Mark 04-07-2017 (00:00:26)**

100:24 Q. And then if you go to page end -- or  
100:25 page 40, please, where it says his evaluation is  
101:1 that: "These studies provide evidence that Roundup  
101:2 mixture produces DNA lesions in vivo, probably due to  
101:3 the production of oxidative damage."

101:4 That was his evaluation, correct?

101:7 - 101:7

**Martens, Mark 04-07-2017 (00:00:00)**

101:7 THE WITNESS: Yes.

102:5 - 102:21

**Martens, Mark 04-07-2017 (00:00:43)**

102:5 THE WITNESS: It's very important to  
102:6 mention that there are some miscellaneous endpoints  
102:7 which gave some, you know, results of concern have  
102:8 been obtained in vivo via routes of administration

EXHIBIT 100.3

MM2\_COMBINED\_03.71

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EXHIBIT 100.5.1

MM2\_COMBINED\_03.72

MM2\_COMBINED\_03.73

EXHIBIT 100.8.2

EXHIBIT 100.8.1

MM2\_COMBINED\_03.74

MM2\_COMBINED\_03.75

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102:9 which are improper for toxicological testing for  
 102:10 glyphosate -- exposure scenarios of glyphosate.  
 102:11 This all pertains to results that have  
 102:12 been obtained after intraperitoneal injection, which  
 102:13 actually produces a specific pathology that otherwise  
 102:14 would have never be possible, you know, in normal  
 102:15 exposure circumstances to either glyphosate or  
 102:16 Roundup.

102:17 BY MS. WAGSTAFF:

102:18 Q. Okay. Thank you.

102:19 And the intraperitoneal injection is an

102:20 acceptable route of exposure for a health hazard

102:21 assessment, correct?

102:23 - 102:23

**Martens, Mark 04-07-2017 (00:00:01)**

MM2\_COMBINED\_0378

102:23 THE WITNESS: No.

103:14 - 104:9

**Martens, Mark 04-07-2017 (00:00:58)**

MM2\_COMBINED\_0377

103:14 Q. So overall

103:15 conclusions -- "Overall Conclusions," let's look at

103:16 it, page 42.

103:17 What does class -- clastogen -- genetic

103:18 mean?

103:19 A. Clasto --

103:20 Q. Number 2.

103:21 A. Clastogenicity means chromosomal

103:22 breakage.

103:23 Q. Okay. So once again, it's talking about

103:24 mutation, right?

103:25 A. We like to talk about gene mutations and

104:1 chromosomal breakage, and these all resort under the

104:2 term "genotoxicology."

104:3 Q. Okay. So the overall conclusions, when

104:4 you've given Dr. Parry more information, is there is

104:5 published in vitro evidence that glyphosate is

104:6 clastogenetic and capable of inducing sister

104:7 chromatid exchange in both human and bovine

104:8 lymphocytes, and then he cites papers, correct?

104:9 A. Correct.

106:1 - 106:6

**Martens, Mark 04-07-2017 (00:00:12)**

MM2\_COMBINED\_0378

106:1 Q. All right. So Dr. Parry is telling

106:2 Monsanto that there are differences between

Page/Line	Source	ID
	106:3 glyphosate alone and a glyphosate mixture, correct?	
	106:4 A. That's what he --	
	106:5 Q. Okay.	
	106:6 A. That's what he said generally.	
106:12 - 106:15	<b>Martens, Mark 04-07-2017 (00:00:13)</b>	MM2_COMBINED_03 78
	106:12 Q. Dr. Parry states: "I conclude that	EXHIBIT 180.12.1
	106:13 glyphosate is a potential clastogenic in vitro."	
	106:14 Correct?	
	106:15 A. That's what he said.	
106:23 - 107:2	<b>Martens, Mark 04-07-2017 (00:00:11)</b>	MM2_COMBINED_03 80
	106:23 -- the sentence says:	EXHIBIT 180.12.3
	106:24 "On the basis of the study of Lioi, I conclude that	
	106:25 glyphosate is a potential clastogenic in vitro."	
	107:1 Correct?	
	107:2 A. That's what he says, yes.	
107:3 - 107:8	<b>Martens, Mark 04-07-2017 (00:00:15)</b>	MM2_COMBINED_03 81
	107:3 Q. Okay. And then he goes on to say that	EXHIBIT 180.12.4
	107:4 the Bolognesi study indicates that it may also be	
	107:5 clastogenic in vivo, correct?	
	107:6 A. It may be, yes. The way he --	
	107:7 Q. Correct.	
	107:8 A. Yeah.	
107:9 - 107:12	<b>Martens, Mark 04-07-2017 (00:00:06)</b>	MM2_COMBINED_03 82
	107:9 Q. So he concludes that it is in vitro and	
	107:10 that it may be in vivo, correct?	
	107:11 A. It's hypothetical in vivo. Yeah.	
	107:12 Q. Correct.	
107:13 - 107:22	<b>Martens, Mark 04-07-2017 (00:00:23)</b>	MM2_COMBINED_03 83
	107:13 And then he goes on the -- so that was	
	107:14 the genotoxicity of glyphosate. Now he's looking at	
	107:15 the geno -- specific evaluation of the genotoxicity	EXHIBIT 180.12.2
	107:16 of glyphosate mixtures, correct?	
	107:17 A. Mm-hmm.	
	107:18 Q. Okay. And he says: "The studies of	
	107:19 Bolognesi suggests that glyphosate mixtures may be	
	107:20 capable of inducing oxidative damage in vivo."	
	107:21 Correct?	
	107:22 A. Yes, that's what he says.	
107:23 - 108:4	<b>Martens, Mark 04-07-2017 (00:00:10)</b>	MM2_COMBINED_03 84
	107:23 Q. Okay.	

107:24 A. But he is very careful in his wording.

107:25 He said "may be," okay? So...

108:1 Q. Correct. Well, earlier you had said his

108:2 wordings was wrong, but now you're saying he's

108:3 careful in his wordings?

108:4 A. Well, he says "may be."

114:24 - 115:5

**Martens, Mark 04-07-2017 (00:00:24)**

MM2\_COMBINED\_03.85

114:24 Q. So he also then gives you --

EXHIBIT 180.23.1

114:25 Monsanto some actions that he recommended, correct?

115:1 A. Yes.

EXHIBIT 180.23.2

115:2 Q. Okay. And one of those is to do

115:3 comprehensive testing on glyphosate formulations,

115:4 correct?

115:5 A. Yes.

116:17 - 117:3

**Martens, Mark 04-07-2017 (00:00:24)**

MM2\_COMBINED\_03.86

EXHIBIT 180.22.1

116:17 Dr. Parry gave a list of eight questions

116:18 that were left unanswered, correct?

116:19 A. That he would like to see answered, yes.

116:20 Q. Okay. And as a scientist, you would have

116:21 liked to see those answered as well, correct?

116:22 A. These were genuine questions, yes.

116:23 Q. Yeah. Good questions, right?

116:24 A. These were good questions, yes.

116:25 Q. Okay. And he provided with a list of

117:1 actions that Monsanto could take to answer those

117:2 questions, correct?

117:3 A. Yes.

117:6 - 117:22

**Martens, Mark 04-07-2017 (00:00:56)**

MM2\_COMBINED\_03.87

EXHIBIT 180.24.1

117:6 So then Dr. Parry says at the very end of

117:7 his recommendations: "My overall view is that if

117:8 there is -- my overall view is that if the reported

117:9 genotoxicity of glyphosate and glyphosate

117:10 formulations can be shown to be due to the production

117:11 of oxidative damage, then a case could be made that

117:12 any genetic damage would be threshold."

117:13 Did I read that correctly?

117:14 A. You read it, yes.

117:15 Q. Okay. "Such genetic damage would only be

117:16 biologically relevant under conditions of compromised

117:17 anti -- antioxidant status. If such an oxidative

EXHIBIT 180.25.1

Page/Line	Source	ID
	117:18 damage mechanism is proved, then it may be necessary 117:19 to consider the possibility of the susceptible groups 117:20 within the human population." 117:21 Did I read that correctly? 117:22 A. You read that correctly, yes.	
117:23 - 117:25	<b>Martens, Mark 04-07-2017 (00:00:08)</b> 117:23 Q. Okay. So there is an expert telling 117:24 Monsanto in 1999 to do tests that may affect the 117:25 human population, correct?	MM2_COMBINED_03.88
118:3 - 118:12	<b>Martens, Mark 04-07-2017 (00:00:25)</b> 118:3 THE WITNESS: This is a little bit an 118:4 expanded conclusion. You know, he is more or less 118:5 asking himself the question. If that might be true, 118:6 then there may be susceptible groups in a population 118:7 that might be more susceptible in producing an 118:8 effect. But he forgets to say those effects have 118:9 been, you know, obtained through intraperitoneal 118:10 injection, whereas the human exposure is not via 118:11 intraperitoneal injection. And that's a very 118:12 important nuance.	MM2_COMBINED_03.89
118:24 - 119:12	<b>Martens, Mark 04-07-2017 (00:00:31)</b> 118:24 I'm asking you in 1999, Dr. Parry wrote 118:25 to Monsanto and -- and did an analysis, gave 119:1 questions unanswered, right? 119:2 A. Yes. 119:3 Q. Proposed actions that could be taken, 119:4 right? 119:5 A. Yes. 119:6 Q. And then stated that the over -- his 119:7 overall view is that these tests and answers need to 119:8 be taken, right? 119:9 A. Yes. 119:10 Q. And then you need to figure out what -- 119:11 what group within the human population may be 119:12 affected, correct?	MM2_COMBINED_03.90
119:15 - 119:16	<b>Martens, Mark 04-07-2017 (00:00:01)</b> 119:15 THE WITNESS: That -- that is what he 119:16 said.	MM2_COMBINED_03.91
121:2 - 121:7	<b>Martens, Mark 04-07-2017 (00:00:23)</b> 121:2 And so that -- that second Parry report,	MM2_COMBINED_03.92

121:3 which was the longer one, was sent to you sometime  
121:4 around September of 1999. And you had sent it to  
121:5 Larry Kier, Dr. Donna Farmer, and Bill Heydens around  
121:6 that time, correct?

121:7 A. Correct.

122:16 - 123:14

**Martens, Mark 04-07-2017 (00:01:07)**

MM2\_COMBINED\_03 02

122:16 Q. And so even though the e-mail was  
122:17 directed to Larry and Donna, Bill Heydens goes ahead  
122:18 and responds, correct?

122:19 A. That is what I see, yes.

122:20 Q. "Mark, all" -- and Mark is you,

122:21 Dr. Martens, correct?

122:22 A. That's correct, yes.

122:23 Q. Okay. He lets you know that he has read

122:24 the report and he agrees with the comments, right?

122:25 A. Yes.

123:1 Q. And there are various things that can be

123:2 done to improve the report. So, again, they're not

123:3 completely happy with the report, correct?

123:4 A. Yes.

123:5 Q. Okay. And then he says: "Let's step

123:6 back and look at what we're really trying to achieve

123:7 here." Right?

123:8 A. That's in the -- in the mail, yes.

123:9 Q. Okay. He states that: "Monsanto wants

123:10 to find/develop someone who is comfortable with the

123:11 genotox profile of glyphosate/Roundup and who can be

123:12 influential with regulators and scientific outreach

123:13 operations when genotox issues arise." Correct?

123:14 A. That's what I read, yes.

124:4 - 125:10

**Martens, Mark 04-07-2017 (00:01:28)**

MM2\_COMBINED\_03 04

124:4 Q. Dr. Heydens goes on to say: "My

124:5 read is that Parry is not currently such a person,

124:6 and it would take quite some time and" money sign,

124:7 money sign, money sign, slash, "studies to get him

124:8 there." Correct?

124:9 A. That's what I read, yes.

124:10 Q. Okay. "We simply aren't going to do the

124:11 studies that Parry suggests, period." Correct?

124:12 A. That's what he said in the memo, yes.

EXHIBIT 101.1.3

EXHIBIT 101.1.2

EXHIBIT 101.1.2

EXHIBIT 101.1.4

124:13 Q. Okay. Then he directs the e-mail to you  
 124:14 specifically. "Mark, do you think Parry can become a  
 124:15 strong advocate without doing this work?" Parry,  
 124:16 question mark. Then he says: "If not, we should  
 124:17 seriously," underlined, italicized, bolded, "start  
 124:18 looking for one or more other individuals to work  
 124:19 with." Correct?

124:20 A. That's what I read, yes.

124:21 Q. Okay. Then he goes on to say: "We have  
 124:22 not made much progress and are currently very  
 124:23 vulnerable in this area." Correct?

124:24 A. That's what I read.

124:25 Q. Okay. And "this area" means the  
 125:1 genotoxicity of glyphosate/Roundup, correct?

125:2 A. That is correct.

125:3 Q. "We have to fix that" -- "that" being the  
 125:4 vulnerability -- "but only if we make this a high  
 125:5 priority now." Correct?

125:6 A. That's what I read.

125:7 Q. Okay. So -- and that is in September of  
 125:8 1999, correct?

125:9 A. Yes. That seems correct, yeah.

125:10 Q. You can put that...

125:11 - 125:24

**Martens, Mark 04-07-2017 (00:00:41)**

125:11 Did you have any independent  
 125:12 conversations with Dr. Heydens as to why he did not  
 125:13 want to do the studies Parry suggested?

125:14 A. I don't recall.

125:15 Q. You may have or you may not have, you  
 125:16 just don't recall?

125:17 A. I may have, yes. Yeah.

125:18 Q. Did Dr. Parry ever offer to do the  
 125:19 studies he was suggesting?

125:20 A. He had the intention to do some work,  
 125:21 yes.

125:22 Q. When you say "he had the intention to do  
 125:23 some work" --

125:24 A. That's what he was suggesting.

128:19 - 129:3

**Martens, Mark 04-07-2017 (00:00:21)**

128:19 Q. So who did the studies?

EXHIBIT 101.1.5

MM2\_COMBINED\_03 05

MM2\_COMBINED\_03 06

128:20 A. The studies -- you know, finally, we  
128:21 started to do the studies.

128:22 Q. Uh-huh.

128:23 A. I had contacts with Professor Parry to  
128:24 give suggestions and do some exchange in the design  
128:25 of the studies. But the studies finally have been  
129:1 carried out at the Environmental Health Laboratory of  
129:2 Monsanto in St. Louis, which is a GLP-accredited  
129:3 laboratory.

129:8 - 129:20

**Martens, Mark 04-07-2017 (00:00:36)**

MM2\_COMBINED\_03.97

129:8 Q. And what -- were the studies  
129:9 published?

129:10 A. The studies -- as soon as the study  
129:11 results were available, we first shared the study  
129:12 results with Professor Parry. We went actually to  
129:13 visit him and give a whole presentation of the study  
129:14 results, and discuss all the ins and outs of the  
129:15 study results. And -- and we can talk later of what  
129:16 his opinion was on the study results.  
129:17 But the study results had been in the  
129:18 first place presented in the open as opposed to on  
129:19 the Society of Toxicology meeting in San Francisco in  
129:20 2001.

130:11 - 132:4

**Martens, Mark 04-07-2017 (00:02:01)**

MM2\_COMBINED\_03.98

130:11 Q. So you're -- you're saying that  
130:12 the studies that Dr. Parry conducted -- or suggested  
130:13 were conducted by Monsanto at Monsanto's headquarters  
130:14 between 2000 -- well, here we are in -- we were in  
130:15 September of two -- or in April of 2000, and they  
130:16 haven't been done, so they were conducted probably  
130:17 in -- you're saying 2000 or 2001?

130:18 A. They were conducted somewhere in the  
130:19 second half of 2000. The results were ready -- were  
130:20 ready very early 2001.

130:21 Q. Okay. And what journals were the results  
130:22 published in?

130:23 A. The results were not published in a  
130:24 journal. They were published as the proceedings in  
130:25 the Society of Toxicology as a -- it was a poster  
131:1 presentation at the Society of Toxicology, official

131:2 journal, you know, for the -- as an abstract for the  
131:3 proceedings of the SOT meeting in San Francisco in  
131:4 2001.

131:5 Q. Okay. So what was the -- who presented  
131:6 the poster?

131:7 A. I was at that meeting -- well, there were  
131:8 several of the authors. Well, the way how the poster  
131:9 is presented, there's actually posters posted, then,  
131:10 you know, there's some -- always scientists go to the  
131:11 poster -- actually, you know, is present at the  
131:12 poster to respond to questions that people may have  
131:13 on the poster. So I was part of them, but also I  
131:14 believe also Bill Heydens, et cetera, several others,  
131:15 yeah.

131:16 Q. So this was not -- these results were not  
131:17 peer reviewed, correct?

131:18 A. These results were peer reviewed in the  
131:19 process -- it's not a peer reviewed for publication,  
131:20 but they were peer reviewed in the process of the  
131:21 submission of abstracts to the Society of Toxicology  
131:22 of the United States.

131:23 Q. Okay. So was this -- were these results  
131:24 submitted to a journal?

131:25 A. These results were later submitted to a  
132:1 journal and published.

132:2 Q. So these results were -- have been  
132:3 published?

132:4 A. Yes.

132:11 - 132:21

**Martens, Mark 04-07-2017 (00:00:39)**

MM2\_COMBINED\_03.99

132:11 Q. And where was it published?

132:12 A. What do you mean, what journal?

132:13 Q. Mm-hmm.

132:14 A. Let's see. There's the Journal of  
132:15 Agricultural Chemicals, et cetera. I don't recall  
132:16 exactly, but they've been published in 2008.

132:17 Q. So are you talking about the paper by  
132:18 Heydens, Healy, Hotz, Kier, you, Wilson and Donna  
132:19 Farmer called "Genotoxic potential of glyphosate  
132:20 formulations: Mode-of-action investigations"?

132:21 A. Yes.

135:20 - 136:14

**Martens, Mark 04-07-2017 (00:00:54)**

MM2\_COMBINED\_03100

135:20 Q. -- Dr. Parry listed eight questions.

135:21 Correct?

135:22 A. Yes.

135:23 Q. And is it your testimony that the answers

135:24 to each of these questions can be found within your

135:25 2008 article that is entitled "Genotox potential of

136:1 glyphosate formulations: Mode-of-action

136:2 investigations"?

136:3 A. Mm-hmm.

136:4 Q. Okay.

136:5 A. Just to make clear, we produced a lot of

136:6 new toxicological evidence, and then the plan was to

136:7 go to Dr. Parry and see whether, you know, all of his

136:8 questions still were -- he was satisfied or not. And

136:9 it was the -- the subject, the topic of the meeting

136:10 we organized together, we talked to Dr. Parry and to

136:11 listen to him whether he was satisfied with all the

136:12 results or whether he would have, you know, other or

136:13 new recommendations or some of the recommendations

136:14 that were in here.

145:21 - 146:4

**Martens, Mark 04-07-2017 (00:00:28)**

MM2\_COMBINED\_03101

145:21 Let's talk more about what -- what

145:22 Dr. Hjelle says about you.

145:23 You have -- you were instrumental in

145:24 convincing a key European expert that reports of

145:25 genotoxicity with Roundup actually represent effects

146:1 secondary to cytotoxicity, rather than a primary

146:2 genotoxic response.

146:3 And that was Dr. Parry, right?

146:4 A. Yes.

146:14 - 146:23

**Martens, Mark 04-07-2017 (00:00:23)**

MM2\_COMBINED\_03102

146:14 Q. And then it says that you have

146:15 been successful in alleviating concerns over

146:16 genotoxicity and carcinogenicity, and that's really

146:17 what your role was with -- with engaging in Parry,

146:18 right?

146:19 A. My role in engaging with Parry was to

146:20 find -- to receive a second opinion and to get

146:21 Professor Parry to further elucidate, you know, the

148:3 - 148:22

146:22 real significance of those findings by doing  
146:23 supplementary additional testing.

**Martens, Mark 04-07-2017 (00:01:04)**

148:3 Q. And did -- did you share -- did  
148:4 you share Dr. Parry's reports, either of them,  
148:5 report 1 or report 2, with anybody?  
148:6 A. No, because it was a consultancy with  
148:7 Dr. Parry, which actually -- with the intention to  
148:8 lead us to the production of new data which would  
148:9 help us to gain insight in the type of data that were  
148:10 produced by Bolognesi and Peluso.

148:11 Q. Okay. And you've agreed earlier that  
148:12 the questions raised by Dr. Parry were good  
148:13 questions.

148:14 A. Yes, mm-hmm.

148:15 Q. Okay. And they would -- why not share  
148:16 those with other scientists around the world?

148:17 A. No, because this was a preliminary --  
148:18 preliminary evaluation which led to an hypothetical --  
148:19 hypothetical evaluation of assessment of Roundup and  
148:20 glyphosate by Dr. Parry, and we needed actually to  
148:21 first confirm whether or not his hypothesis was  
148:22 value -- was valid.

149:1 - 150:9

**Martens, Mark 04-07-2017 (00:01:05)**

149:1 Q. You engaged -- Monsanto engages Dr. Parry  
149:2 to assess some studies that have occurred, correct?

149:3 A. Right.

149:4 Q. Okay. And those studies raised some  
149:5 valid concerns about the safety profile of glyphosate  
149:6 and Roundup, right?

149:7 A. Yes.

149:8 Q. And at that point Monsanto wasn't sure  
149:9 what -- Monsanto agreed Dr. Parry was an expert in  
149:10 the area, right?

149:11 A. Yes.

149:12 Q. But they weren't sure what Dr. Parry's  
149:13 opinions of these studies would be, correct?

149:14 A. That is why we asked his opinion.

149:15 Q. Yeah. Of course. Why else would you ask  
149:16 his opinion, right?

MM2\_COMBINED\_03.103

MM2\_COMBINED\_03.104

149:17 A. Yeah.  
 149:18 Q. So you asked him an opinion and he writes  
 149:19 a report, and the report is not well received by  
 149:20 Monsanto toxicologists.  
 149:21 A. Well, the conclusions were well received.  
 149:22 Q. Okay.  
 149:23 A. The form of the report was not well  
 149:24 received.  
 149:25 Q. Okay. The conclusions were well  
 150:1 received --  
 150:2 A. Mm-hmm.  
 150:3 Q. -- and eventually Dr. Parry is given more  
 150:4 information.  
 150:5 A. Yes.  
 150:6 Q. And he writes another report with very  
 150:7 similar conclusions. We've walked through each of  
 150:8 the reports, correct?  
 150:9 A. Mm-hmm.

151:19 - 151:21

**Martens, Mark 04-07-2017 (00:00:05)**

MM2\_COMBINED\_03.105

151:19 Q. I assume by the same  
 151:20 token that Monsanto never shared the Parry report  
 151:21 with any regulatory agencies, correct?

152:2 - 152:2

**Martens, Mark 04-07-2017 (00:00:00)**

MM2\_COMBINED\_03.106

152:2 A. That's correct, yeah.

187:24 - 193:5

**Martens, Mark 04-07-2017 (00:05:20)**

MM2\_COMBINED\_03.107

187:24 You are a toxicologist, correct, sir?  
 187:25 A. Yes, sir.  
 188:1 Q. Would you please tell the jury what a  
 188:2 toxicologist is.  
 188:3 A. A toxicologist is a scientist who studies  
 188:4 the effects of chemical substances on the health of  
 188:5 animals and men.  
 188:6 Q. And you have a Ph.D. in toxicology?  
 188:7 A. Yes.  
 188:8 Q. Did you start your career as what is  
 188:9 called a forensic toxicologist?  
 188:10 A. Yes, I did.  
 188:11 Q. Would you please explain to the jury what  
 188:12 a forensic toxicologist is.  
 188:13 A. A forensic toxicologist is a scientist

188:14 who actually, you know, designs and applies methods  
188:15 of analysis to determine the concentration of toxic  
188:16 substances in body fluids and tissues of people and  
188:17 of victims in order to establish a causal  
188:18 relationship between a crime and, for example, the --  
188:19 the death of the victim.

188:20 Q. Okay. And that was a little bit of a  
188:21 technical explanation.

188:22 You're one of the scientists that works  
188:23 for police departments or detectives --

188:24 A. Yes.

188:25 Q. -- to investigate poisons and other --

189:1 A. Right.

189:2 Q. -- substances that might have hurt  
189:3 someone in a crime?

189:4 A. Yes.

189:5 Q. Is that a -- is that a good explanation?

189:6 A. That is a good explanation, yes.

189:7 Q. Did you do a residency with Scotland Yard  
189:8 in England?

189:9 A. Yes, I did.

189:10 Q. And tell us in a sentence or two what you  
189:11 did there.

189:12 A. During my residency at Scotland Yard,  
189:13 which is the Metropolitan Police Laboratories in  
189:14 London, I spent time in acquiring knowledge and  
189:15 refining my knowledge in terms of the analysis of  
189:16 toxic substances in body fluids and tissues.

189:17 Q. After your forensic toxicology work as a  
189:18 student and as a resident at Scotland Yard, what did  
189:19 you go on to do next in your career?

189:20 A. After my Ph.D., I joined the  
189:21 pharmaceutical industry.

189:22 Q. Well, what company did you join?

189:23 A. Continental Pharma in Brussels.

189:24 Q. And what was your job duty with  
189:25 Continental Pharmaceuticals in Brussels?

190:1 A. I was the head of the department of mass  
190:2 spectrometry, pharmacokinetics and metabolism.

190:3 Q. You said "pharmacokinetics." What is

190:4 pharmacokinetics?

190:5 A. Pharmacokinetics is the study of the  
190:6 behavior of chemical substances in the human body.

190:7 Q. How the chemicals move through the body?

190:8 A. And how they are excreted from the body  
190:9 as well.

190:10 Q. And you said "metabolism." What is that?

190:11 A. The metabolism is a series of chemical  
190:12 reactions that take place in the liver and which lead  
190:13 to breakdown products, which are -- can be either  
190:14 toxic, nontoxic, and which are excreted through the  
190:15 kidneys from the body.

190:16 Q. You also mentioned mass spectrometry, and  
190:17 that's a tool that's used to assess chemicals, right?

190:18 A. That's a tool that is used to identify  
190:19 and characterize and quantify chemicals that, you  
190:20 know, are present in body fluids and tissues.

190:21 Q. What did you do after your work at  
190:22 Continental Pharma?

190:23 A. After Continental Pharma, I joined the  
190:24 Belgium authorities as a specialist in clinical  
190:25 biochemistry first, as an inspector, and then  
191:1 afterwards I joined the toxicologists, where I became  
191:2 head of the toxicology department, and actually  
191:3 founded the toxicology department at the National  
191:4 Institutes of Health.

191:5 Q. And when you say the "Belgian  
191:6 authorities," that's the same as the National  
191:7 Institutes of Health?

191:8 A. Well, Belgium is a small country, so we  
191:9 don't have a separate institute like National  
191:10 Institutes of Health, but I worked -- at the time it  
191:11 was called the Institute of Hygiene and Epidemiology,  
191:12 which was actually the scientific research institute  
191:13 of the Ministry of Health.

191:14 Q. Now, sir, as you said, in the United  
191:15 States we have a whole agency called the National  
191:16 Institutes of Health that does scientific research,  
191:17 and we also have the Environmental Protection Agency  
191:18 which regulates pesticides.

191:19 In Belgium, does the same organization do

191:20 both of those things?

191:21 A. In Belgium, it's a collaboration between

191:22 the Ministry and the Scientific Institute for Public

191:23 Health.

191:24 Q. And that's where you worked, right?

191:25 A. Yes.

192:1 Q. How long were you a regulator in Belgium?

192:2 A. Ten years.

192:3 Q. And what -- what was your role there?

192:4 What did you do at the institute?

192:5 A. I was the head of the department of

192:6 toxicology, and in that function I was the primary

192:7 advisor of the Minister of Health of Belgium. And at

192:8 the same time I had to represent my country at the

192:9 meetings of the European Union, the commission of the

192:10 European Union, at OECD, and at other international

192:11 meetings like, for example, IPCS.

192:12 Q. Were you involved in inspections of

192:13 companies and approval of their products?

192:14 A. That was also --

192:15 Q. Or disapproval of their products?

192:16 A. Yes, that was indeed the case.

192:17 Q. After your work as a regulator in Belgium

192:18 for 10 years, what did you do next?

192:19 A. I joined Monsanto in Brussels.

192:20 Q. What were your responsibilities at

192:21 Monsanto, broadly speaking?

192:22 A. At the time when I joined Monsanto,

192:23 Monsanto had a very large chemical division next to

192:24 the agrochemical division and the food division, and

192:25 I was responsible for the whole portfolio of Monsanto

193:1 products for all these sectors in Europe and Africa.

193:2 Q. And it was a Europe -- it was a regional

193:3 responsibility for Europe, Africa and the Middle

193:4 East?

193:5 A. Yes.

193:14 - 193:25

**Martens, Mark 04-07-2017 (00:00:33)**

MM2\_COMBINED\_03.108

193:14 Now, over your 45-year career as a

193:15 toxicologist, how many different substances have you

193:16 worked with toxicologically speaking?  
 193:17 A. I've seen the toxicology profiles of at  
 193:18 least 1,000 products.  
 193:19 Q. And out of the at least thousand products  
 193:20 that you have worked with as a toxicologist, how does  
 193:21 glyphosate compare regarding -- with regard to  
 193:22 toxicity?  
 193:23 A. Of all the compounds I assist during my  
 193:24 whole career, glyphosate is certainly one of the  
 193:25 least toxic I've ever seen.

194:5 - 194:24

**Martens, Mark 04-07-2017 (00:00:50)**

MM2\_COMBINED\_03108

194:5 Q. Now, what do toxicologists call the body  
 194:6 of studies, the group of studies and scientific data  
 194:7 regarding a particular substance like glyphosate?  
 194:8 A. As a toxicology dossier.  
 194:9 Q. Okay. So the dossier.  
 194:10 How large is the toxicology dossier on  
 194:11 glyphosate?  
 194:12 A. The toxicology dossier of glyphosate is  
 194:13 actually the largest I've ever seen in my whole  
 194:14 career.  
 194:15 Q. Now, when glypho -- glyphosate is used,  
 194:16 of course, to kill weeds, right?  
 194:17 A. Yes.  
 194:18 Q. How does it do that? What does it do to  
 194:19 weeds that makes them die?  
 194:20 A. It inhibits specifically an enzyme that  
 194:21 is responsible for the production of an amino acid,  
 194:22 which is very essential for the survival of the  
 194:23 plant. When that enzyme is blocked, then the plant  
 194:24 actually starves to death.

208:2 - 208:8

**Martens, Mark 04-07-2017 (00:00:23)**

MM2\_COMBINED\_03110

208:2 Q. Now, the jury has heard that a lot of the  
 208:3 studies on glyphosate, including glyphosate cancer  
 208:4 studies, were performed by Monsanto, for example, at  
 208:5 the Environmental Health Lab in St. Louis.  
 208:6 How do regulators know that they can  
 208:7 trust studies done by industry labs like the  
 208:8 Environmental Health Lab at St. Louis?

208:13 - 209:6

**Martens, Mark 04-07-2017 (00:00:40)**

MM2\_COMBINED\_03111

208:13 A. The -- the laboratories for toxicology  
 208:14 studies are carried out for regulatory purposes.  
 208:15 They need to be accredited for good laboratory  
 208:16 practices. That means they will have to follow  
 208:17 extremely stringent procedures of quality control to  
 208:18 make sure that processes are followed, to make sure  
 208:19 that at all levels of data production, these data are  
 208:20 controllable and can be checked by the authorities.

208:21 Q. Now, you said "good laboratory  
 208:22 practices."

208:23 A. Mm-hmm.

208:24 Q. Is that your term?

208:25 A. No, that's the official term which has  
 209:1 been at the highest level possible applied at OECD  
 209:2 where at the first time the "good laboratory  
 209:3 practices" have been defined.

209:4 Q. Is one of the chapters in your book on  
 209:5 good laboratory practices?

209:6 A. Yes.

209:10 - 209:12 **Martens, Mark 04-07-2017 (00:00:04)**

MM2\_COMBINED\_03112

209:10 Q. And have you done good laboratory  
 209:11 practices inspections?

209:12 A. Yes.

209:21 - 209:24 **Martens, Mark 04-07-2017 (00:00:12)**

MM2\_COMBINED\_03113

209:21 Q. How do regulators know that industry labs  
 209:22 that are following good laboratory practices aren't  
 209:23 just cooking the data and making stuff up or telling  
 209:24 lies to the regulators?

210:1 - 210:10 **Martens, Mark 04-07-2017 (00:00:27)**

MM2\_COMBINED\_03114

210:1 THE WITNESS: The -- the regulatory  
 210:2 authorities organize on a regular basis inspections.  
 210:3 And also when the study reports are submitted to the  
 210:4 regulatory authorities, they should contain all the  
 210:5 inspection reports of the internal quality assurance  
 210:6 unit of the laboratory, which is an independent unit  
 210:7 in the laboratory reporting to a completely  
 210:8 independent management from the laboratory, and  
 210:9 making sure that all the procedures are in place and  
 210:10 that all the inspections are documented.

210:24 - 211:1 **Martens, Mark 04-07-2017 (00:00:09)**

MM2\_COMBINED\_03115

211:3 - 211:16	<p>210:24 Q. Why -- how do we know that the people who 210:25 are watching the scientists and watching the 211:1 procedures are following the rules?</p>	MM2_COMBINED_03116
	<p><b>Martens, Mark 04-07-2017 (00:00:41)</b> 211:3 THE WITNESS: There is -- the quality 211:4 assurance unit within the toxicology laboratory 211:5 reporting to outside toxicology laboratory needs to 211:6 actually to accept on a regular basis inspections 211:7 from the authorities, and when the inspection reports 211:8 are acceptable, they acquire what is called a GLP 211:9 accreditation. And they need to have the GLP 211:10 accreditation at regular renewals of that in order to 211:11 stay in function. And when the laboratory has a 211:12 quality assurance unit or in its role no 211:13 accreditation, this laboratory has no possibility to 211:14 submit its test results to the authorities, they will 211:15 be refused.</p>	
211:17 - 212:2	<p>211:16 BY MR. GRIFFIS:</p>	MM2_COMBINED_03124
	<p><b>Martens, Mark 04-07-2017 (00:00:21)</b> 211:17 Q. So if Monsanto or another company lost 211:18 its accreditation because it didn't follow the rules, 211:19 they would be out of business as far as doing 211:20 research; is that right? 211:21 A. Abso- -- absolutely. 211:22 Q. And the regulators also come in and 211:23 perform inspections of the lab and the -- the 211:24 independent auditing unit -- 211:25 A. Yeah. 212:1 Q. -- for the lab as well, right? 212:2 A. Yes. On a regular basis.</p>	
216:16 - 218:15	<p><b>Martens, Mark 04-07-2017 (00:02:20)</b> 216:16 Q. Now, Dr. Parry made some recommendations 216:17 for possible steps that Monsanto could take in his -- 216:18 in his various proposals to you, correct? 216:19 A. Yes. 216:20 Q. What did Monsanto do with those 216:21 recommendations? What work did it carry out in 216:22 response? 216:23 A. We developed a program in order -- in a 216:24 stepwise program, and the first step of that program</p>	MM2_COMBINED_03117

216:25 was, upon request and which we fully accepted, a  
217:1 repeat of the Bolognesi study. That then we found  
217:2 deficiencies with the Bolognesi study. The Bolognesi  
217:3 study was carried out on three animals at only one  
217:4 dose level. Monsanto carried out, you know, this  
217:5 assay on ten animals and on two dose levels, and even  
217:6 investigating the possible influence of the vehicle  
217:7 for intraperitoneal injection on the outcome of the  
217:8 study.

217:9 On top of that, Monsanto added more  
217:10 elements to the protocol to investigate the nature  
217:11 and the severity of the cytotoxicity that is produced  
217:12 after intraperitoneal injection to try to understand  
217:13 the relationship between cytotoxicity, oxidative  
217:14 stress and mutagenicity or oxidative damage of DNA.  
217:15 So all these parameters have been  
217:16 measured in this protocol.

217:17 Q. And these were done in the GLP certified  
217:18 lab in St. Louis --

217:19 A. Yes.

217:20 Q. -- is that right?

217:21 A. Yep.

217:22 Q. Now, you mentioned that you more than  
217:23 tripled the size of the study, going from three  
217:24 animals to ten animals; that you evaluated not just  
217:25 one dose but multiple doses; that you evaluated more  
218:1 than one substance.

218:2 A. Yes.

218:3 Q. And -- I'm sorry. What other -- what  
218:4 other modifications and improvements did you make to  
218:5 the Bolognesi study?

218:6 A. The improvements that were made was, for  
218:7 example, also the selection of the indicator for  
218:8 oxidative stress. It was the NADP, nicotinamide  
218:9 adenine, oxidative stress transcription. It's a  
218:10 complicated term. But it was at that time the most  
218:11 recent methodology in order -- in a very sensitive  
218:12 and specific way to identify oxidative stress.

218:13 Q. You used a better way to measure  
218:14 oxidative stress?

Page/Line	Source	ID
218:18 - 219:12	218:15 A. Yes. <b>Martens, Mark 04-07-2017 (00:00:45)</b>	MM2_COMBINED_03118
	218:18 Q. Now, you mentioned -- you talked earlier 218:19 about how once these results came out, they were 218:20 provided to the authorities and they were part of a 218:21 poster presentation in San Francisco; is that right? 218:22 A. Yes, that's right.	
	218:23 Q. And when something is published as a 218:24 poster presentation, is it available to the general 218:25 scientific community to see and review?	
	219:1 A. Yes. Exactly.	
	219:2 Q. And the same results were also published 219:3 in 2008 in a paper that you were a coauthor on?	
	219:4 A. Yes.	
	219:5 Q. I would like to get back to Dr. Parry, 219:6 though. When the results came out, you said that you 219:7 went and showed him first actually before the poster 219:8 presentation. Is that right?	
	219:9 A. Not only to share the data with him, but 219:10 also to discuss with him what could be the further 219:11 steps in order to -- to completely satisfy his 219:12 questions.	
219:22 - 220:2	<b>Martens, Mark 04-07-2017 (00:00:14)</b>	MM2_COMBINED_03118
	219:22 Q. I have marked as Exhibit 18 a 219:23 February 19th, 2001 e-mail from Bill Heydens to 219:24 Larry Kier, and you're copied on some of the rest of 219:25 the thread.	EXHIBIT 1541.1
	220:1 Go ahead and take a look at that, sir, 220:2 and tell me when you're ready?	
220:3 - 220:4	<b>Martens, Mark 04-07-2017 (00:00:04)</b>	MM2_COMBINED_03120
	220:3 A. (Peruses document.)	
	220:4 Yes, I'm ready.	
220:14 - 220:19	<b>Martens, Mark 04-07-2017 (00:00:21)</b>	MM2_COMBINED_03121
	220:14 Q. And on the second page of the two pages 220:15 of this exhibit is an e-mail from Richard Garnett 220:16 dated February 16th, 2001, to you and to Donna 220:17 Farmer, Bill Heydens and Bill Graham, reporting on 220:18 your meeting with Dr. Parry, correct?	EXHIBIT 1542.1
	220:19 A. Yes.	
221:4 - 223:6	<b>Martens, Mark 04-07-2017 (00:02:45)</b>	MM2_COMBINED_03122

221:4 Q. Then "The presentation of the results of  
221:5 the MON 35050 study changed the mood because it  
221:6 clarified certain effects found in the Bolognesi and  
221:7 Peluso papers." Correct?

221:8 A. That's correct.

221:9 Q. And the MON 35050 study is the one that  
221:10 we were just talking about --

221:11 A. Right.

221:12 Q. -- that you performed improving on those  
221:13 earlier studies; is that right?

221:14 A. That is correct.

221:15 Q. And tell us how it was that the  
221:16 presentation of that information changed Dr. Parry's  
221:17 mood.

221:18 A. I gave a presentation, so with an  
221:19 extensive overview of all the data, all this  
221:20 research, and, you know, to -- to show Dr. Parry  
221:21 that, you know, when repeating with sufficient number  
221:22 of animals, with defined endpoints, and also with  
221:23 advanced techniques to establish cytotoxicity, like,  
221:24 for example, blood biochemistry from the animals, of  
221:25 the blood from the animals, and the histopathology of  
222:1 the tissues of the liver and the kidney, that we  
222:2 could show that, you know, when intraperitoneal doses  
222:3 of 600 up to 900 milligrams per kilogram are injected  
222:4 in the intraperitoneal cavity, that they produce, you  
222:5 know, tissue damage and inflammatory lesions on the  
222:6 liver and in the kidney.

222:7 And that from a histopathological view,  
222:8 we could -- you know, after sections of these organs  
222:9 show that indeed there was a damage which was  
222:10 characterized as necrosis and inflammatory lesions.  
222:11 Now, this type of lesions when they are demonstrated  
222:12 are of a kind to produce also oxidative damage. So  
222:13 we looked into oxidative damage and felt that indeed  
222:14 there was a slight degree of oxidative damage with  
222:15 the new technique that we used.

222:16 At the same time we investigated the  
222:17 tissues for the presence of oxidized DNA, and we  
222:18 couldn't find any oxidized DNA. That means there

222:19 wasn't oxidative damage. There was cytotoxicity, but  
222:20 there was no demonstrable quantity of oxidized DNA,  
222:21 which means that, you know, the cytotoxicity shown at  
222:22 that moment was not sufficiently high enough to  
222:23 oxidize the DNA.

222:24 But at the same time it's very important  
222:25 to mention that the doses that have been injected  
223:1 intraperitoneally in those animals, that these  
223:2 actually were higher than the LD50. That means that  
223:3 these were higher than the lethal dose for producing  
223:4 50 percent mortality. Only the animals didn't die  
223:5 because they were killed at 24 hours after  
223:6 administration.

223:18 - 225:15

**Martens, Mark 04-07-2017 (00:02:09)**

MM2\_COMBINED\_03.119

223:18 Q. The -- so at the beer-glass-a-day level  
223:19 of exposure in the experiment that you performed,  
223:20 MON 35050, there was oxidative stress observed, but  
223:21 not the next step in the process to cancer which  
223:22 would be oxidative damage to DNA; is that correct?

223:23 A. What is correct is that there was  
223:24 cytotoxicity and oxidative damage of the  
223:25 intraperitoneal injection. When we administered the  
224:1 same doses orally to the animals, there was no  
224:2 toxicity whatsoever.

224:3 Q. Okay. So the beer glass a day didn't --  
224:4 didn't cause any cytotoxicity?

224:5 A. No.

224:6 Q. You had to actually inject the stuff --

224:7 A. To produce it.

224:8 Q. -- to produce this -- this effect of --

224:9 A. Yeah, that's right.

224:10 Q. Okay. Since our -- I'm reading again  
224:11 from Exhibit 18. "Since our previous discussions  
224:12 with him, Professor Parry had begun to comprehend the  
224:13 complexity and range of glyphosate formulations. We  
224:14 clarified this by reviewing the brands, formulations  
224:15 and surfactants used in Europe and the rest of the  
224:16 world. Then reviewed the mutagenicity studies  
224:17 available for the surfactants used in glyphosate  
224:18 formulations. We demonstrated with work undertaken

EXHIBIT 1542.9

224:19 since the previous discussion that structurally  
224:20 related surfactants, etheramines, do not directly  
224:21 cause genotoxicity."

224:22 And that was an accurate description of  
224:23 the meeting, correct?

224:24 A. Yeah. Yes.

224:25 Q. Now, let's -- I want to go to results.

225:1 These were the results of the meeting with Professor  
225:2 Parry, correct?

225:3 A. Yes.

225:4 Q. "Acceptance that glyphosate is not  
225:5 genotoxic."

225:6 And that is acceptance by whom, sir?

225:7 A. By -- by Professor Parry.

225:8 Q. "Broad agreement that genotoxic results  
225:9 in some studies with surfactants arose due to  
225:10 oxidative damage rather than direct genotoxicity."

225:11 Now, when you -- when -- when Richard

225:12 Garnett said: "Broad agreement that genotoxic  
225:13 results in some studies was due to oxidative damage  
225:14 rather than direct genotoxicity," what studies did he  
225:15 mean by the "some studies"?

225:18 - 227:4

**Martens, Mark 04-07-2017 (00:01:14)**

225:18 THE WITNESS: Well, I was at the meeting,  
225:19 so I know what it is about. It was the studies with  
225:20 intraperitoneal injection.

225:21 BY MR. GRIFFIS:

225:22 Q. "Recognition of the difference of  
225:23 toxicity between the intraperitoneal and oral  
225:24 routes" -- and you've been explaining that to us,  
225:25 right, the difference between the injection into the  
226:1 belly and drinking?

226:2 A. Drinking, yes.

226:3 Q. Drinking.

226:4 -- "and that only oral, dermal and  
226:5 inhalation route are taken into consideration for  
226:6 classification in the EU." Correct?

226:7 A. Yes.

226:8 Q. And why is it that only oral, dermal and  
226:9 inhalation routes are taken into consideration for

EXHIBIT 104.2.4

EXHIBIT 104.2.5

EXHIBIT 104.2.8

MM2\_COMBINED\_03.104

EXHIBIT 104.2.7

226:10 classification of substances -- of the toxicity of

226:11 substances in the EU?

226:12 A. Well, these are the only acceptable

226:13 routes of exposure, you know, when, you know, people

226:14 get into contact with hazardous chemicals.

226:15 Q. Is it because humans don't get chemicals

226:16 injected directly into their belly?

226:17 A. Of course not.

226:18 Q. "Acceptance of the low quality of the" --

226:19 how do you pronounce that, sir?

226:20 A. Lioi.

226:21 Q. Lioi.

226:22 "Acceptance of the low quality of the

226:23 Lioi, et al., study."

226:24 Who was accepting the low quality of the

226:25 Lioi study?

227:1 A. Yes. And the internal contradictions of

227:2 that study.

227:3 Q. Who was it that was accepting the low

227:4 quality of the Lioi study?

227:6 - 227:11

**Martens, Mark 04-07-2017 (00:00:12)**

227:6 THE WITNESS: Professor Parry.

227:7 BY MR. GRIFFIS:

227:8 Q. "Professor Parry accepted the argument

227:9 that no repeat dose study should be necessary on the

227:10 basis of the NTP data." Correct?

227:11 A. Yes.

227:15 - 227:21

**Martens, Mark 04-07-2017 (00:00:15)**

227:15 Q. And he accepted that you as industry, you

227:16 couldn't test other people's surfactants, right?

227:17 A. Yes.

227:18 Q. You explained that to him?

227:19 A. Right.

227:20 Q. And Dr. Parry no longer requested any

227:21 studies on the final formulation; is that right?

227:23 - 227:23

**Martens, Mark 04-07-2017 (00:00:00)**

227:23 THE WITNESS: Yes.

227:24 - 228:25

**Martens, Mark 04-07-2017 (00:01:14)**

227:24 BY MR. GRIFFIS:

227:25 Q. the results of this meeting

EXHIBIT 154.2.8

MM2\_COMBINED\_03.125

EXHIBIT 154.2.8

MM2\_COMBINED\_03.126

EXHIBIT 154.2.10

EXHIBIT 154.2.11

MM2\_COMBINED\_03.127

MM2\_COMBINED\_03.128

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228:1 that you attended with Professor Parry and Richard  
228:2 Garnett, did Professor Parry change his view of what  
228:3 he thought Monsanto should do next?

228:4 A. Yes. But he asked for one supplementary,  
228:5 one additional study.

228:6 Q. And that was -- show us where that is on  
228:7 this page, please.

228:8 A. That is the fourth dash.

228:9 Q. "Complete the" -- this is under  
228:10 "Actions," "Complete the MON 35050 study with  
228:11 intraperitoneal injection of the MON 35035  
228:12 formulation minus glyphosate." Correct?

228:13 A. Yes.

228:14 Q. And did you do that?

228:15 A. Yes. And there was no difference.

228:16 Q. Why was it that Dr. Parry's lab didn't  
228:17 perform the MON 35050 study, sir?

228:18 A. The major reason is because he runs a  
228:19 non-GLP accredited laboratory, and he didn't have the  
228:20 capability in doing histopathology studies.

228:21 Q. He didn't have the capability, why?

228:22 A. Because he's not a histopathologist. So  
228:23 you need expertise of histopathologist plus a  
228:24 completely equipped laboratory to prepare the tissue  
228:25 samples for microscopic examination.

229:24 - 230:2

**Martens, Mark 04-07-2017 (00:00:11)**

229:24 Q. And the procedures that exist in GLP labs  
229:25 to make sure that the data is good, those procedures  
230:1 don't normally exist in academic labs; is that fair?

230:2 A. No. That's fair.

231:17 - 231:22

**Martens, Mark 04-07-2017 (00:00:13)**

231:17 In your experience, do regulators -- in  
231:18 your experience not just as a regulator in Belgium  
231:19 but also as someone who has interacted with  
231:20 regulators very recently, do regulators just take the  
231:21 company's word for it that their products are safe?

231:22 A. No.

232:2 - 233:4

**Martens, Mark 04-07-2017 (00:01:16)**

232:2 Q. What do they do?

232:3 A. When the pesticide producer wants to put

EXHIBIT 154.2.12

MM2\_COMBINED\_03.128

MM2\_COMBINED\_03.130

MM2\_COMBINED\_03.131

232:4 a pesticide onto the marketplace, he has to produce a  
232:5 safety package, which is a whole toxicological  
232:6 dossier, and he has to produce that according to, you  
232:7 know, internationally agreed test guidelines and  
232:8 according to good laboratory practices. All the data  
232:9 that are produced in that context have to be  
232:10 submitted to the authorities, and the authorities  
232:11 actually analyze the data from scratch, and they come  
232:12 to their own conclusions.

232:13 Q. Do the authorities have experts in  
232:14 toxicology and other areas that enable them to  
232:15 actually evaluate the data?

232:16 A. They have experts in toxicology, and if  
232:17 they do need experts that are specialized in specific  
232:18 subparts of toxicology, they have the possibility to  
232:19 engage in academic toxicology experts to help them in  
232:20 their assessments.

232:21 Q. You just spent a significant part of the  
232:22 last year focusing on all of the toxicology evidence  
232:23 about whether glyphosate can cause cancer; is that  
232:24 right?

232:25 A. Right.

233:1 Q. You testified about that earlier.  
233:2 And was it just Monsanto's data and the  
233:3 public -- publicly available published data that you  
233:4 looked at?

233:7 - 234:15

**Martens, Mark 04-07-2017 (00:01:23)**

MM2\_COMBINED\_03.132

233:7 THE WITNESS: No. Monsanto produced  
233:8 three carcinogenicity studies, but the total number  
233:9 of regulatory carcinogenicity studies was 12  
233:10 carcinogenicity studies, because of the -- a lot of  
233:11 the carcinogenicity studies have been produced by  
233:12 other agrochemicals companies putting glyphosate into  
233:13 the marketplace.

233:14 BY MR. GRIFFIS:

233:15 Q. And did you see all of those studies?

233:16 A. Yes.

233:17 Q. How many genotoxicity studies did you  
233:18 focus on as part of your analysis?

233:19 A. In total, it was about 80 genotoxicity

233:20 studies.

233:21 Q. That's eight zero?

233:22 A. Eight zero.

233:23 Q. Did those -- did the regulators in Europe

233:24 that you were interacting with look at the Bolognesi

233:25 study and the other studies that you initially sent

234:1 to Dr. Parry in 1999?

234:2 A. Yes.

234:3 Q. That was among the body of studies that

234:4 they considered in reaching their conclusions?

234:5 A. It was the body of published literature

234:6 which also taken into consideration in the

234:7 assessment.

234:8 Q. And what was their conclusion?

234:9 A. Their conclusion is that the overall

234:10 weight of evidence and analysis indicated that

234:11 glyphosate was not genotoxic. And that conclusion

234:12 was reached at the European chemical -- the agency in

234:13 unanimity of all member states.

234:14 Q. How many member states were involved?

234:15 A. 28.

241:8 - 242:5

**Martens, Mark 04-07-2017 (00:00:33)**

MM2\_COMBINED\_03133

241:8 The four studies that we've been talking

241:9 about in the Parry report, the original Parry

241:10 report --

241:11 A. Yes.

241:12 Q. -- do you remember from earlier this

241:13 morning?

241:14 A. Yes.

241:15 Q. They were the Lioi -- how do you

241:16 pronounce that one again?

241:17 A. Lioi.

241:18 Q. Lioi. The two Lioi papers.

241:19 A. No, one Lioi paper.

241:20 Q. One Lioi paper, the Rank --

241:21 A. Yes.

241:22 Q. -- the Bolognesi and the Peluso, right?

241:23 A. Yes.

241:24 Q. Were those studies conducted in labs that

241:25 were following good laboratory practices?

Page/Line

Source

ID

242:1 A. No.  
242:2 Q. No. And how do you know that?  
242:3 A. Because these were academic labs which  
242:4 were not accredited for GLP; otherwise, that would  
242:5 have been -- appeared in their publications.

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**Documents Shown**

EXHIBIT 154  
EXHIBIT 155  
EXHIBIT 156  
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EXHIBIT 158  
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EXHIBIT 160  
EXHIBIT 161  
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