FINAL PLAYED

Martens, Mark 04-07-2017

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10:18 - 10:20	**Martens, Mark 04-07-2017 (00:00:03)** 10:18 Q. can you please state your 10:19 name for the record. 10:20 A. Mark Martens.	MM2_COMBINED_03.1
13:4 - 13:9	**Martens, Mark 04-07-2017 (00:00:12)** 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.	MM2_COMBINED_03.2
18:20 - 18:24	**Martens, Mark 04-07-2017 (00:00:06)** 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.	MM2_COMBINED_03.3
24:24 - 25:8	**Martens, Mark 04-07-2017 (00:00:36)** 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.	MM2_COMBINED_03.4
25:16 - 25:22	**Martens, Mark 04-07-2017 (00:00:16)** 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.	MM2_COMBINED_03.5
28:13 - 28:16	**Martens, Mark 04-07-2017 (00:00:09)** 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?	MM2_COMBINED_03.6

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	28:16 A. Yes.	
29:3 - 29:10	**Martens, Mark 04-07-2017 (00:00:16)**	MM2_COMBINED_03.7
	29:3 Q. was Dr. Parry a 29:4 toxicologist? 29:5 A. He was a toxicologist specializing in 29:6 genetic toxicology. 29:7 Q. Okay. And was he an expert in his field? 29:8 A. Yes. 29:9 Q. Okay. He was a good scientist, correct? 29:10 A. He was a good scientist, yes.	
30:12 - 30:14	**Martens, Mark 04-07-2017 (00:00:04)**	MM2_COMBINED_03.8
	30:12 Are you familiar with the Bolognesi paper 30:13 from 1997? 30:14 A. Yes.	
30:20 - 31:7	**Martens, Mark 04-07-2017 (00:00:24)**	MM2_COMBINED_03.9
	30:20 Q. Okay. Are you familiar with the Peluso 30:21 paper -- 30:22 A. Yes. 30:23 Q. -- from 1998? 30:24 A. Yes. 30:25 Q. Okay. And are you familiar with the two 31:1 Dr. Lioi papers from -- both from 1998? 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. 31:5 Q. Okay. But you're familiar with all four 31:6 of those papers -- 31:7 A. Yes. I know about them, yes.	
31:17 - 31:20	**Martens, Mark 04-07-2017 (00:00:06)**	MM2_COMBINED_03.10
	31:17 Q. So all four of these papers deal 31:18 with the genotoxicity of glyphosate and/or Roundup, 31:19 correct? 31:20 A. Correct, yes.	
32:12 - 32:20	**Martens, Mark 04-07-2017 (00:00:24)**	MM2_COMBINED_03.11
	32:12 And Monsanto thought that these papers 32:13 created problems for them, correct? 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. 32:17 Q. Okay. And Monsanto was worried about the	

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	32:18 results from these papers and the effect it would	
	32:19 have on the Roundup business, correct?	
	32:20 A. That is correct.	
33:20 - 33:22	**Martens, Mark 04-07-2017 (00:00:11)**	MM2_COMBINED_03.13
	33:20 I'm going to hand you what's been -- what	
	33:21 we are going to mark as -- I guess this will be	
	33:22 Exhibit 2.	
36:5 - 36:8	**Martens, Mark 04-07-2017 (00:00:14)**	MM2_COMBINED_03.13 EXHIBIT 155.1.1
	36:5 Q. So this looks like Dr. Farmer was	
	36:6 talking about a meeting that y'all had had on	
	36:7 December 17th on mutagenicity; is that correct?	
	36:8 A. That is correct, yes.	
38:1 - 38:18	**Martens, Mark 04-07-2017 (00:00:37)**	MM2_COMBINED_03.14 EXHIBIT 155.2.4 - EXHIBIT 155.2.1
	38:1 Q. You have other topics, as you can see, as	
	38:2 the jury can see, that they had talked about, but in	
	38:3 relative part, it says that: "Agreed that an	
	38:4 external global network of genotox experts need to be	
	38:5 developed."	
	38:6 Do you see that?	
	38:7 A. Yes.	
	38:8 Q. Okay. "As EU has an immediate" --	EXHIBIT 155.2.2
	38:9 something there -- "as EU has an immediate need and	
	38:10 is critical area now, it was agreed that Mark	
	38:11 Martens" --	
	38:12 That's you, correct?	
	38:13 A. Yes.	
	38:14 Q. -- "would contact Dr. Parry next week to	
	38:15 discuss with him his participation in the support of	
	38:16 glyphosate -- glyphosate-based formulations, genotox	
	38:17 issues." Correct?	
	38:18 A. Correct.	
39:18 - 40:1	**Martens, Mark 04-07-2017 (00:00:22)**	MM2_COMBINED_03.15 EXHIBIT 155.2.5
	39:18 Q. And then it says: "Larry Kier	
	39:19 will -- as" -- as, I think it means to say has --	
	39:20 "graciously agreed to join in those discussions."	
	39:21 And who is Larry Kier?	
	39:22 A. Dr. Larry Kier was the head of the	
	39:23 laboratory of genotoxicology of the Environmental	
	39:24 Health Laboratory of Monsanto in St. Louis. So he	
	39:25 was the head genotoxicology expert within the	

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	40:1 organization.	
41:12 - 41:16	**Martens, Mark 04-07-2017 (00:00:11)**	MM2_COMBINED_03.16
	41:12 so Dr. Farmer writes: "It's a	EXHIBIT 155.2.8
	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."	
41:18 - 41:19	**Martens, Mark 04-07-2017 (00:00:02)**	MM2_COMBINED_03.17
	41:18 THE WITNESS: That is the opinion of	
	41:19 Dr. Donna Farmer.	
41:21 - 42:2	**Martens, Mark 04-07-2017 (00:00:17)**	MM2_COMBINED_03.18
	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.	
43:2 - 43:3	**Martens, Mark 04-07-2017 (00:00:03)**	MM2_COMBINED_03.19
	43:2 Q. I'm going to hand you what will be marked	clear
	43:3 as Exhibit 3.	
48:21 - 49:20	**Martens, Mark 04-07-2017 (00:01:01)**	MM2_COMBINED_03.20
	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	EXHIBIT 150.2.5
	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	EXHIBIT 150.2.1
	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	

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	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_03.21
	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_03.22
		EXHIBIT 150.2.2
	51:19 so just to	
	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	EXHIBIT 150.2.3
	52:3 the genotox papers, your group would decide whether	
	52:4 or not you would expand his role, correct?	
	52:5 A. Yes.	
52:6 - 52:12	**Martens, Mark 04-07-2017 (00:00:20)**	MM2_COMBINED_03.23
		EXHIBIT 150.2.4
	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?	
	52:12 A. Yes.	
52:13 - 52:16	**Martens, Mark 04-07-2017 (00:00:08)**	MM2_COMBINED_03.24
	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_03.25
	55:12 (Martens Exhibit No. 9-5 was marked	
	55:13 for identification.)	
	55:14 BY MS. WAGSTAFF:	

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	55:15 Q. So let's look at Dr. Parry's report.	clear
57:12 - 57:20	**Martens, Mark 04-07-2017 (00:00:24)**	MM2_COMBINED_03.26
	57:12 Q. here we are two weeks	EXHIBIT 157.1.2
	57:13 later, and this is a fax sent on February 15th --	EXHIBIT 157.1.3
	57:14 because in Europe you put the month and date opposite	
	57:15 of us, correct?	
	57:16 A. Yes.	
	57:17 Q. -- 1999, and it's a fax from you, from	
	57:18 Dr. Mark Martens, and the subject is "Dr. Parry's	
	57:19 Report," correct?	
	57:20 A. Correct.	
57:24 - 58:18	**Martens, Mark 04-07-2017 (00:00:44)**	MM2_COMBINED_03.27
	57:24 Q. So you're sending it to everyone that was	
	57:25 at that meeting a few weeks earlier.	
	58:1 A. Yes.	
	58:2 Q. Correct?	
	58:3 And you say: "Dear Alan, Donna and Bill:	EXHIBIT 157.1.4
	58:4 Please find herewith Professor Parry's evaluation of	
	58:5 the four papers." Correct?	
	58:6 A. Yes.	
	58:7 Q. And what were those four papers?	
	58:8 A. That was the Lioi paper, the Peluso	
	58:9 paper, the Bolognesi and the Rank paper.	
	58:10 Q. Okay. And you said you sent him on	
	58:11 genotoxicity of glyphosate and Roundup, correct?	
	58:12 A. Yes.	
	58:13 Q. Okay. And you're asking for comments and	
	58:14 guidance on what to do next, correct?	
	58:15 A. Yes.	
	58:16 Q. And then you signed it, "Best regards,	
	58:17 Mark," and that's your signature, right?	
	58:18 A. That is correct.	
60:6 - 60:17	**Martens, Mark 04-07-2017 (00:00:25)**	MM2_COMBINED_03.28
	60:6 Q. Okay. This appears to be the beginning	EXHIBIT 157.5.5
	60:7 of Dr. Parry's report. Correct?	
	60:8 A. Yes, correct.	
	60:9 Q. Okay. And he goes through the papers	
	60:10 that Monsanto asked him to review, correct?	
	60:11 A. Yes.	
	60:12 Q. Okay. And the first one is the Rank,	EXHIBIT 157.5.2

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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_03.29 EXHIBIT 157.5.2
	61:16 Q. And so Dr. Parry's conclusion was:	
	61:17 "In vitro evidence of genotoxic effect for Roundup	
	61:18 mixture," right?	
62:1 - 62:5	**Martens, Mark 04-07-2017 (00:00:14)**	MM2_COMBINED_03.30 EXHIBIT 157.5.4
	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.	
62:13 - 62:16	**Martens, Mark 04-07-2017 (00:00:10)**	MM2_COMBINED_03.31 EXHIBIT 157.8.1
	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?	
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 --	

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	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)** 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? 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? 65:10 A. Yes.	MM2_COMBINED_03.34 EXHIBIT 157.8.2 EXHIBIT 157.8.3
65:20 - 65:23	**Martens, Mark 04-07-2017 (00:00:11)** 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.	MM2_COMBINED_03.35
66:1 - 66:7	**Martens, Mark 04-07-2017 (00:00:23)** 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? 66:7 A. Yes, that was what he concluded.	MM2_COMBINED_03.36 EXHIBIT 157.7.1 EXHIBIT 157.7.2
66:12 - 66:16	**Martens, Mark 04-07-2017 (00:00:09)** 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.	MM2_COMBINED_03.37
66:18 - 66:21	**Martens, Mark 04-07-2017 (00:00:05)** 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.	MM2_COMBINED_03.38
66:23 - 66:23	**Martens, Mark 04-07-2017 (00:00:06)** 66:23 Next if we turn to the Lioi 1998 paper,	MM2_COMBINED_03.39 EXHIBIT 157.7.3

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66:24 - 67:4	**Martens, Mark 04-07-2017 (00:00:22)** 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.	MM2_COMBINED_03 40 EXHIBIT 157.8.1
67:5 - 67:20	**Martens, Mark 04-07-2017 (00:00:46)** 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.	MM2_COMBINED_03 41 EXHIBIT 157.8.1
68:11 - 68:14	**Martens, Mark 04-07-2017 (00:00:05)** 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.	MM2_COMBINED_03 42 EXHIBIT 157.10.1
68:24 - 69:15	**Martens, Mark 04-07-2017 (00:00:46)** 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.	MM2_COMBINED_03 43 EXHIBIT 157.10.2

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	69:9 Q. Yep.	
	69:10 A. Mm-hmm.	
	69:11 Q. Then he -- if you go down to the next	EXHIBIT 157.10.3
	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)**	MM2_COMBINED_03.44
	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)**	MM2_COMBINED_03.45
	71:25 Q. Okay. Next page, if you go to 03, it	EXHIBIT 157.11.1
	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)**	MM2_COMBINED_03.46
	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" --	

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	EXHIBIT 157.11.3	
	73:18 Q. Yeah.	
	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)** 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.	MM2_COMBINED_03.46 clear
79:3 - 79:13	**Martens, Mark 04-07-2017 (00:00:40)** 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.	MM2_COMBINED_03.50 EXHIBIT 158.2.1
80:7 - 80:13	**Martens, Mark 04-07-2017 (00:00:23)** 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.	MM2_COMBINED_03.51 EXHIBIT 158.2.4
80:14 - 80:17	**Martens, Mark 04-07-2017 (00:00:11)** 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.	MM2_COMBINED_03.52
80:25 - 81:25	**Martens, Mark 04-07-2017 (00:01:16)** 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	MM2_COMBINED_03.53 EXHIBIT 158.2.2

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	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_03.54
	82:2 THE WITNESS: That's speculation.	
82:15 - 83:2	**Martens, Mark 04-07-2017 (00:00:35)**	MM2_COMBINED_03.55
	82:15 Q. All right. So moving on, Dr. Farmer	EXHIBIT 158.2.2
	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."	
	82:20 Mark is you, correct?	
	82:21 A. Yes.	
	82:22 Q. Mark is Dr. Mark Martens. Okay.	EXHIBIT 158.2.5
	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_03.56
	83:3 Q. Okay. So, Dr. Martens, you were tasked	

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	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)** 83:11 Q. Right. And turn his opinion around, 83:12 correct? It's the words that Donna Farmer used, not 83:13 me. 83:14 A. These are the words of Donna Farmer.	MM2_COMBINED_03.57
85:2 - 85:3	**Martens, Mark 04-07-2017 (00:00:02)** 85:2 MS. WAGSTAFF: This is going to be marked 85:3 as Exhibit 6.	MM2_COMBINED_03.58
85:5 - 85:5	**Martens, Mark 04-07-2017 (00:00:03)** 85:5 THE WITNESS: Thank you.	MM2_COMBINED_03.58
86:1 - 86:14	**Martens, Mark 04-07-2017 (00:00:38)** 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.	MM2_COMBINED_03.60 EXHIBIT 208.2.1
87:6 - 87:11	**Martens, Mark 04-07-2017 (00:00:15)** 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.	MM2_COMBINED_03.61 EXHIBIT 208.2.2
87:12 - 87:15	**Martens, Mark 04-07-2017 (00:00:08)**	MM2_COMBINED_03.62

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	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)** 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.	MM2_COMBINED_03.63 EXHIBIT 208.1.1
90:10 - 90:17	**Martens, Mark 04-07-2017 (00:00:15)** 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.	MM2_COMBINED_03.64 EXHIBIT 208.1.2
92:22 - 92:23	**Martens, Mark 04-07-2017 (00:00:08)** 92:22 Q. All right. And then our next exhibit 92:23 will be Exhibit 7.	MM2_COMBINED_03.65
95:2 - 95:7	**Martens, Mark 04-07-2017 (00:00:14)** 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.	MM2_COMBINED_03.66 EXHIBIT 150.1.1
95:8 - 95:23	**Martens, Mark 04-07-2017 (00:00:43)** 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	MM2_COMBINED_03.67 EXHIBIT 150.2.1

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	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.	MM2_COMBINED_03.06 EXHIBIT 158.1.2
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.	MM2_COMBINED_03.06
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 70

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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.	EXHIBIT 100.1.3
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?	MM2_COMBINED_03.71 clear EXHIBIT 100.5.1
98:21 - 98:21	**Martens, Mark 04-07-2017 (00:00:02)** 98:21 A. That is what's in the report. Yes.	MM2_COMBINED_03 72
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?	MM2_COMBINED_03 73 EXHIBIT 100.8.3 EXHIBIT 100.8.1
101:7 - 101:7	**Martens, Mark 04-07-2017 (00:00:00)** 101:7 THE WITNESS: Yes.	MM2_COMBINED_03 74
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	MM2_COMBINED_03 75 clear

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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)** 102:23 THE WITNESS: No.	MM2_COMBINED_03.76
103:14 - 104:9	**Martens, Mark 04-07-2017 (00:00:58)** 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.	MM2_COMBINED_03.77 EXHIBIT 100.10.1 EXHIBIT 100.10.2
106:1 - 106:6	**Martens, Mark 04-07-2017 (00:00:12)** 106:1 Q. All right. So Dr. Parry is telling 106:2 Monsanto that there are differences between	MM2_COMBINED_03.78

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	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	**Martens, Mark 04-07-2017 (00:00:13)**	MM2_COMBINED_03 78 EXHIBIT 160.12.1
	106:12 Q. Dr. Parry states: "I conclude that	
	106:13 glyphosate is a potential clastogenic in vitro."	
	106:14 Correct?	
	106:15 A. That's what he said.	
106:23 - 107:2	**Martens, Mark 04-07-2017 (00:00:11)**	MM2_COMBINED_03 80 EXHIBIT 160.12.3
	106:23 -- the sentence says:	
	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	**Martens, Mark 04-07-2017 (00:00:15)**	MM2_COMBINED_03 81 EXHIBIT 160.12.4
	107:3 Q. Okay. And then he goes on to say that	
	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	**Martens, Mark 04-07-2017 (00:00:06)**	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	**Martens, Mark 04-07-2017 (00:00:23)**	MM2_COMBINED_03 83 EXHIBIT 160.12.2
	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	
	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	**Martens, Mark 04-07-2017 (00:00:10)**	MM2_COMBINED_03 84
	107:23 Q. Okay.	

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	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 EXHIBIT 180.33.1
	114:24 Q. So he also then gives you --	
	114:25 Monsanto some actions that he recommended, correct?	
	115:1 A. Yes.	
	115:2 Q. Okay. And one of those is to do	EXHIBIT 180.33.2
	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 180.32.1
	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 180.34.1
	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 180.35.1

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	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	**Martens, Mark 04-07-2017 (00:00:08)**	MM2_COMBINED_03.88
	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?	
118:3 - 118:12	**Martens, Mark 04-07-2017 (00:00:25)**	MM2_COMBINED_03.89
	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.	
118:24 - 119:12	**Martens, Mark 04-07-2017 (00:00:31)**	MM2_COMBINED_03.90
	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?	
119:15 - 119:16	**Martens, Mark 04-07-2017 (00:00:01)**	MM2_COMBINED_03.91
	119:15 THE WITNESS: That -- that is what he	
	119:16 said.	
121:2 - 121:7	**Martens, Mark 04-07-2017 (00:00:23)**	MM2_COMBINED_03.92
	121:2 And so that -- that second Parry report,	

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	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)** 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.	MM2_COMBINED_03 03 EXHIBIT 101.1.1 EXHIBIT 101.1.2 EXHIBIT 101.1.3
124:4 - 125:10	**Martens, Mark 04-07-2017 (00:01:28)** 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.	MM2_COMBINED_03 04 EXHIBIT 101.1.4

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EXHIBIT 101.1.5

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)** MM2_COMBINED_03 95

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)** MM2_COMBINED_03 96

128:19 Q. So who did the studies?

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	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)** 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.	MM2_COMBINED_03.07
130:11 - 132:4	**Martens, Mark 04-07-2017 (00:02:01)** 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	MM2_COMBINED_03.08

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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_03.00

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.

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135:20 - 136:14	**Martens, Mark 04-07-2017 (00:00:54)** 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.	MM2_COMBINED_03.100
145:21 - 146:4	**Martens, Mark 04-07-2017 (00:00:28)** 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.	MM2_COMBINED_03.101
146:14 - 146:23	**Martens, Mark 04-07-2017 (00:00:23)** 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	MM2_COMBINED_03.102

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	146:22 real significance of those findings by doing 146:23 supplementary additional testing.	
148:3 - 148:22	**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 hypotical -- 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.	MM2_COMBINED_03.103
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_03.104

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	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)** 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?	MM2_COMBINED_03.105
152:2 - 152:2	**Martens, Mark 04-07-2017 (00:00:00)** 152:2 A. That's correct, yeah.	MM2_COMBINED_03.106
187:24 - 193:5	**Martens, Mark 04-07-2017 (00:05:20)** 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	MM2_COMBINED_03.107

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 spectometry, 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

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	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_03.109
	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_03.110
	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_03.111

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	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)** 209:10 Q. And have you done good laboratory 209:11 practices inspections? 209:12 A. Yes.	MM2_COMBINED_03.112
209:21 - 209:24	**Martens, Mark 04-07-2017 (00:00:12)** 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?	MM2_COMBINED_03.113
210:1 - 210:10	**Martens, Mark 04-07-2017 (00:00:27)** 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.	MM2_COMBINED_03.114
210:24 - 211:1	**Martens, Mark 04-07-2017 (00:00:09)**	MM2_COMBINED_03.115

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	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?	
211:3 - 211:16	**Martens, Mark 04-07-2017 (00:00:41)** 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.	MM2_COMBINED_03.116
	211:16 BY MR. GRIFFIS:	
211:17 - 212:2	**Martens, Mark 04-07-2017 (00:00:21)** 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.	MM2_COMBINED_03.134
216:16 - 218:15	**Martens, Mark 04-07-2017 (00:02:20)** 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	MM2_COMBINED_03.117

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, nicotinaminde
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?

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	218:15 A. Yes.	
218:18 - 219:12	**Martens, Mark 04-07-2017 (00:00:45)**	MM2_COMBINED_03.118
	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	**Martens, Mark 04-07-2017 (00:00:14)**	MM2_COMBINED_03.119
	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. 220:1 Go ahead and take a look at that, sir, 220:2 and tell me when you're ready?	EXHIBIT 154.1.1
220:3 - 220:4	**Martens, Mark 04-07-2017 (00:00:04)**	MM2_COMBINED_03.120
	220:3 A. (Peruses document.) 220:4 Yes, I'm ready.	
220:14 - 220:19	**Martens, Mark 04-07-2017 (00:00:21)**	MM2_COMBINED_03.121
	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? 220:19 A. Yes.	EXHIBIT 154.2.1
221:4 - 223:6	**Martens, Mark 04-07-2017 (00:02:45)**	MM2_COMBINED_03.122

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

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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)**

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

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	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	

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	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" --	EXHIBIT 154.2.8
	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)**	MM2_COMBINED_03.125
	227:6 THE WITNESS: Professor Parry.	
	227:7 BY MR. GRIFFIS:	
	227:8 Q. "Professor Parry accepted the argument	EXHIBIT 154.2.8
	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)**	MM2_COMBINED_03.126
	227:15 Q. And he accepted that you as industry, you	EXHIBIT 154.2.10
	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	EXHIBIT 154.2.11
	227:21 studies on the final formulation; is that right?	
227:23 - 227:23	**Martens, Mark 04-07-2017 (00:00:00)**	MM2_COMBINED_03.127
	227:23 THE WITNESS: Yes.	
227:24 - 228:25	**Martens, Mark 04-07-2017 (00:01:14)**	MM2_COMBINED_03.128
	227:24 BY MR. GRIFFIS:	
	227:25 Q. the results of this meeting	clear

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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,	EXHIBIT 154.2.12
	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)**	MM2_COMBINED_03.129
	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)**	MM2_COMBINED_03.130
	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)**	MM2_COMBINED_03.131
	232:2 Q. What do they do?	
	232:3 A. When the pesticide producer wants to put	

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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

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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_03:133

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?

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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.

[redacted]

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Documents Shown
EXHIBIT 154
EXHIBIT 155
EXHIBIT 156
EXHIBIT 157
EXHIBIT 158
EXHIBIT 159
EXHIBIT 160
EXHIBIT 161
EXHIBIT 208