

EXHIBIT 1

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SUPERIOR COURT OF THE STATE OF CALIFORNIA
FOR THE COUNTY OF ALAMEDA

COORDINATION PROCEEDING)
SPECIAL TITLE (Rule 3.550))
ROUNDUP PRODUCTS CASES)
_____) JCCP NO. 4953
THIS DOCUMENT RELATES TO:)
ALL ACTIONS)
_____)

VIDEO DEPOSITION OF DONNA FARMER, PhD
January 24, 2019
9:08 a.m.

CONFIDENTIAL

Reporter: Jude Arndt, CSR, RPR
CSR No. 084-004847

1 A. If you look at the dermal study, the dose
2 that was put on was 1,000 milligrams per kilogram, and
3 you would have someone who would be exposed to, say,
4 .004, so you're looking at, what, several thousand-fold
5 higher in the animal study than you would have a human
6 being exposed to.

7 Q. (By Mr. Hall) Okay. Thousands of times
8 higher?

9 A. Yes. Uh-huh.

10 Q. All right. Now, did -- you mentioned that
11 in the testing of glyphosate -- the animal testing of
12 glyphosate -- Monsanto did the two-year studies that
13 were aimed at testing to see if the substance caused
14 cancer in the animals. Do you recall that?

15 A. Yes.

16 Q. Did Monsanto do similar two-year studies
17 of the formulated product?

18 A. No.

19 Q. Why not?

20 A. I think there's two things to address
21 that. One is the existing data didn't give us any
22 indication of any concern. And the second one is is
23 that conducting that study would be difficult in
24 conducting it and in interpreting the results from that

1 study.

2 Q. Let's focus on those two reasons. You
3 said first, the existing test -- testing that Monsanto
4 had done -- well, let me ask another question first.
5 Does the EPA and other regulators around the world
6 require two-year testing, two-year animal testing of
7 the formulated product?

8 A. No.

9 Q. Now, you mentioned that you saw two
10 reasons why Monsanto did not do that test, which you've
11 told us is not required. The first one is that other
12 testing gave no indication that a two-year test would
13 be called for. What do you mean by that? Tell us a
14 little bit more about that.

15 A. As we talked about, we had the chronic
16 study with glyphosate, where we saw no evidence of
17 carcinogenicity.

18 Q. When you say the chronic study, what study
19 are you referring to?

20 A. Chronic -- sorry. Chronic in -- study in
21 mice, long-term studies in mice and long-term studies
22 in rats.

23 Q. Those are the two-year studies?

24 A. Yes.

1 Q. Okay.

2 A. We saw no evidence of carcinogenicity in
3 those studies.

4 Q. Of glyphosate itself?

5 A. Of glyphosate itself.

6 Q. Okay.

7 A. We then look at the genotox data. In all
8 of the studies that we had done with glyphosate, there
9 was no evidence of genotoxicity.

10 Q. You mentioned that there was a second
11 reason why Monsanto did not do these two-year animal
12 studies of the formulated product. What is that second
13 reason?

14 A. It's the difficulty in conduct and
15 interpretation of the study. As we talked about with
16 the surfactants, when we did the surfactants we saw no
17 evidence of genotoxicity in any of the studies with any
18 of the surfactants, and when we did the animal studies,
19 the primary finding was gastrointestinal irritation.

20 So whether we gave it to them for 30 days
21 or we gave it to them for 90 days, all we saw was
22 gastrointestinal irritation, irritation to their GI
23 system. We didn't see what we talked about as a target
24 organ.

1 So if we were to do a test of the
2 formulated product -- if we -- the EPA wants us to get
3 those doses really, really high to elicit that
4 response, the surfactant would be so disruptive to the
5 animal's GI system that they may not eat the food or
6 they may just be really sick.

7 Q. When you say the surfactant is disruptive
8 to the animal's GI system, what do you mean? Tell us a
9 little more about what that actually means as far as
10 the animal ingesting surfactant or the formulated
11 product that includes surfactant.

12 A. Surfactants are named for surface-acting
13 substances, because they act on the surface of cells,
14 and unlike when you have surfactants in body soap, you
15 have a tough layer of skin that helps protect your
16 other cells from that.

17 Your GI system doesn't have that
18 protective layer, so those surfactants are very
19 disruptive to those really delicate cells that are in
20 the lining of the GI system. So again, to get a dose
21 high enough to meet that -- what they call the maximum
22 tolerated dose with a surfactant, we would be really
23 pushing GI irritation significantly on these animals.

24 Q. Well, why is that a factor or why is that

1 a potential issue in an animal test -- that is, if the
2 animal has significant digestive irritation or
3 problems?

4 A. Because they're so sick that it
5 complicates the interpretation of the results of the
6 study. So we don't know if the findings that we're
7 seeing at the end of the study are due to the test
8 material directly or due to that the animals are so
9 sick during the study.

10 Q. All right. So you've said that Monsanto
11 did not do long-term animal studies of the formulated
12 product. Are there any long-term studies of the
13 formulated product in existence?

14 A. Yes.

15 Q. What are those?

16 A. Epidemiology studies.

17 Q. And epidemiology studies are long-term
18 studies of the use of formulated products by people?

19 A. That's -- I'm not an epidemiologist, but
20 that's my understanding, is that they're looking at
21 people who were using products and following them
22 long-term.

23 Q. Let me show you a document that the
24 plaintiff's lawyer asked you about. It's Deposition