

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAYER CROPSCIENCE LP, MONSANTO COMPANY, AND INARI

AGRICULTURE, INC.

Petitioner,

v.

CORTEVA AGRISCIENCE LLC,

Patent Owner.

IPR2023-01036

Patent 10,947,555

Deposition of J. MARTIN BOLLINGER, JR., PH.D.

Washington, D.C.

Friday, June 21, 2024

9:04 a.m.

Reported by: Matthew Goldstein, RMR, CRR

DIGITAL EVIDENCE GROUP

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1 Deposition of J. MARTIN BOLLINGER, JR.,
2 PH.D., held at:

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4
5 Finnegan, Henderson, Farabow, Garrett &
6 Dunner, LLP
7 901 New York Avenue, NW
8 Washington, D.C. 20001
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14 Pursuant to Notice, before Matthew Goldstein,
15 RMR, CRR, Notary Public in and for the District of
16 Columbia.

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1 A P P E A R A N C E S

2 ON BEHALF OF THE PETITIONER:

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11 ON BEHALF OF THE PATENT OWNER:

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20 ALSO PRESENT:

21 DAVE SCRHAMM - BAYER (REMOTE)

22 DESHAWN WHITE - VIDEOGRAPHER

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C O N T E N T S

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E X H I B I T S

(Retained by Counsel)

DEPOSITION EXHIBIT	PAGE
Exhibit 2015 Declaration of J. Martin Bollinger, Jr., Ph.D.	15
Exhibit 1035 Structural Basis for the Enantiospecificities of R- and S-Specific Phenoxypropionate/ α -Ketoglutarate Dioxygenases, Muller	19

1 THE VIDEOGRAPHER: This is video
2 number 1 of the video-recorded deposition of Dr. J
3 Martin Bollinger in the matter of Bayer
4 Cropscience LP versus Corteva Agriscience LLC in
5 the United States Patent and Trademark Office
6 before the Patent Trial and Appeal Board. Case
7 number IPR 2023-01036.

8 This deposition is being held at 901 New
9 York Avenue Northwest, Washington, D.C., on
10 June 21st, 2024.

11 The time on the video screen is
12 9:04 a.m.

13 My name is DeShawn White. I am the
14 legal videographer from Digital Evidence Group.
15 The court reporter is Matthew Goldstein in
16 association with Digital Evidence Group.

17 Will counsel please introduce themselves
18 for the record, followed by the court reporter
19 administering the oath.

20 MR. DEROO: Pier DeRoo with the law firm
21 of Finnegan for Corteva and the witness. I'm
22 joined today by Yieyie Yang, also of Finnegan.

1 MR. GROSSMAN: Dov Grossman of
2 Williams & Connolly on behalf of the petitioners.
3 With me today are Jessica Ryen and Ben Picozzi,
4 also of Williams & Connolly. And on the line is
5 David Schramm from Bayer.

6 And also just as a -- if we could
7 clarify, this deposition is being taken in three
8 cases simultaneously; IPRs 2023-0136, -0137 and
9 -0138.

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1 P R O C E E D I N G S

2 Whereupon,

3 J. MARTIN BOLLINGER, JR., PH.D.,

4 being first duly sworn or affirmed to testify to

5 the truth, the whole truth, and nothing but the

6 truth, was examined and testified as follows:

7 EXAMINATION BY COUNSEL FOR THE PETITIONERS

8 BY MR. GROSSMAN:

9 Q. Okay. Just a moment, Doctor. I realize
10 I misspoke.

11 It's 01036, 01037, and 01038.

12 Good morning, Dr. Bollinger.

13 A. Good morning.

14 Q. Do you agree with the following
15 statement: Enzymes having 85 percent higher -- or
16 higher sequence identity are presumed to be
17 essentially the same enzyme having the same
18 function?

19 A. Yes, as a general principle.

20 Q. Do you agree or disagree with the
21 following statement: Enzymes having 84 percent or
22 higher sequence identity are presumed to be

1 essentially the same enzyme having the same
2 function?

3 A. Yes, as a general principle.

4 Q. Do you agree or disagree with the
5 following statement: Enzymes having 83 percent or
6 higher sequence identity are presumed to be
7 essentially the same enzyme having the same
8 function?

9 A. So to avoid the tedium, I suppose you're
10 asking where is the cutoff.

11 Q. I'm just asking whether you agree or
12 disagree with the following statement.

13 A. I agree as a general principle, yes.

14 Q. And when you say "as a general
15 principle," what do you mean?

16 A. It means that a skilled artisan can,
17 with deep insight about an enzyme, occasionally
18 change the function with fewer than -- fewer
19 substitutions than would constitute 17 percent in
20 your last question.

21 But in general, in finding sequences
22 like that, they're presumed to have the same

1 function, which is I think what you asked.

2 Q. And what do you mean by "change the
3 function"?

4 A. Derail the natural reaction of an enzyme
5 to make a different product.

6 Q. And at what point -- at what percentage
7 does that statement that I just gave you -- at
8 what point would you no longer agree with it?

9 A. I think my declaration deals with that
10 in great detail citing approximately four analyses
11 that were done before the time of 2005, 2006,
12 trying to arrive at the threshold. It's well
13 below the claimed threshold in this patent of
14 85 percent. So it's probably between 60 and
15 70 percent as a consensus.

16 Q. So let me ask you a hypothetical
17 question. Let's assume a researcher discovers a
18 new enzyme that degrades FOPs, R-FOPs
19 specifically, and that enzyme is Sequence 1. That
20 researcher then tries to claim a transgenic plant
21 that exhibits activity that degrades R-FOPs and
22 which comprises a recombinant polynucleotide that

1 encodes an enzyme with at least 60 percent
2 identity to that Sequence 1.

3 Is there a written description for that
4 claim?

5 MR. DEROO: Objection to form,
6 incomplete hypothetical.

7 THE WITNESS: Yeah, and I think -- you
8 know, I'm here to opine on the science, so I want
9 to know details about the hypothetical so I know
10 what I'm answering.

11 BY MR. GROSSMAN:

12 Q. Well, I understand that you believe
13 you're here to opine on the science, but you
14 did -- you were instructed, for your opinions in
15 this case, to give opinions about written
16 description; correct?

17 A. I think you can see in my declaration
18 where I say what I was told is the law and then
19 try to apply that understanding to the science,
20 yes.

21 Q. So I'm asking, under the facts that I've
22 given you, under that hypothetical and the law

1 that you were given concerning the standard for
2 written description, in that case, would there be
3 a written description for the claim that I've
4 described?

5 MR. DEROO: Same objections.

6 THE WITNESS: So can you go through the
7 hypothetical again, make sure we've got enough
8 facts to offer a reasonable opinion?

9 BY MR. GROSSMAN:

10 Q. Sure.

11 A researcher discovers a new enzyme that
12 degrades R-FOPs. That's Fact number 1.

13 Are you with me so far?

14 A. Uh-huh.

15 Q. You have to give a yes or no answer.

16 A. Yes.

17 Q. They have the sequence for that enzyme.
18 That's Sequence number 1.

19 Are you with me so far?

20 A. Yes.

21 Q. And then the researcher seeks a patent
22 claiming a transgenic plant cell that exhibits

1 activity that degrades an R-FOP.

2 Are you with me so far?

3 A. Yes.

4 Q. And the claim continues, and which
5 comprises a recombinant polynucleotide that
6 encodes an enzyme with at least 60 percent
7 identity to Sequence 1.

8 Are you with me so far?

9 A. Yes.

10 Q. So would there be a written description
11 for that claim?

12 MR. DEROO: Same objections.

13 THE WITNESS: I don't think I studied
14 that issue. I don't think I was asked to study
15 that issue. So I think I would need to study it
16 to know. Is there -- is that something in the
17 patent, in the materials that I considered?

18 BY MR. GROSSMAN:

19 Q. Well, I'm asking you a hypothetical
20 question.

21 A. I understand.

22 Q. So --

1 A. So considering that hypothetical, one
2 would need, you know, a set of documents. And
3 because, for example, researchers studying this
4 question of whether a function of a newly
5 discovered protein, in your hypothetical, can be
6 confidently predicted at a threshold level of
7 similarity, identity -- I think you said identity;
8 right?

9 Q. 60 percent sequence identity.

10 A. Right.

11 Because there wasn't consensus among
12 those studies whether 60 percent or 70 percent is
13 the thresholds, you know, I'd have to look at it
14 and see if I agree with it. I did not need to
15 decide that question for my opinions.

16 Q. Well, I'm asking you a hypothetical
17 question.

18 And based on what I've given you for the
19 hypothetical question --

20 A. Right.

21 Q. -- are you unable to answer whether such
22 a claim would have a written description --

1 A. I am unable to answer without deeper
2 study of those four citations that are in my
3 declaration because that wasn't an issue. The
4 issue was 85 percent, and that was a clear answer
5 based on my study.

6 Q. If my -- if I gave you the same
7 hypothetical, but instead of saying with at least
8 60 percent, it said -- with at least 60 percent
9 identity, it was at least 70 percent identity to
10 Sequence ID number 1, is that a question you could
11 answer?

12 A. Well, I did answer it. And I'd give the
13 same answer. It would take further study. The
14 reason being that if you look at the curves that
15 relate the percent identity of function to the
16 percent identity of sequence, you see that 85 is
17 in a very different region from 60 and 70. 85 is
18 the plateau where it's essentially 100 percent,
19 approaches 100 percent.

20 So it's very unusual to find two enzymes
21 that don't have the same sequence that are
22 85 percent identical. And so in that case, it's

1 clear, it's an easy call. But when you're in the
2 60 or 70 percent range, I think I'd have to study
3 those four papers at an even deeper level than I
4 needed to to answer the questions I was asked to
5 answer.

6 Q. Dr. Bollinger, I'm handing you what's
7 previously been marked as Exhibit 2015. So you
8 have copies in front of you. You can put those
9 aside for now.

10 A. Okay.

11 (Deposition Exhibit 2015 was marked for
12 identification and retained by counsel.)

13 BY MR. GROSSMAN:

14 Q. Do you recognize this as a copy of the
15 declaration that you submitted in the 01036 case?

16 (Witness peruses the exhibit.)

17 THE WITNESS: Yes.

18 BY MR. GROSSMAN:

19 Q. And if you look at page -- it's 96 of
20 the declaration, but 97 of the document, that's
21 your signature?

22 A. That's what I was just finding, but I

1 didn't note the page number.

2 Yes.

3 Q. And I believe it's the same exhibit
4 number, but you signed your declaration in each of
5 these three proceedings, 01037 and 01038 as well?

6 A. Right.

7 Q. Could you take a look at the discussion
8 beginning on page 85.

9 A. I see it.

10 Q. And look at what you need to from your
11 discussion here, but if I understand your opinion,
12 it's that the POSA would doubt that RdpA could
13 degrade both phenoxy auxin herbicides and R-FOPs
14 because there are significant and important
15 structural differences, particularly the R-FOPs
16 are significantly larger than the phenoxy auxin
17 herbicides.

18 MR. DEROO: Objection to form.

19 THE WITNESS: So at the time frame that
20 I was asked to consider, there had not been a
21 report that a single enzyme that degrades 2,4-D or
22 one of the props could also degrade the larger

1 FOP. So as a general matter, not finding that,
2 that's already good reason for doubt. Because
3 it's notable and if it had been known, it would
4 have been reported.

5 In general, one doesn't presume and one
6 certainly doubts that a pending -- a large amount
7 of additional bulk onto the known substrate of an
8 enzyme would do anything other than prevent the
9 enzyme from binding and operating on that
10 substrate.

11 So as a general principle, one would
12 doubt that, yes. And certainly the more important
13 thing is it hadn't been seen in the literature, at
14 least to my study of that.

15 BY MR. GROSSMAN:

16 Q. All right. Could you turn to
17 paragraph 153.

18 A. Yes.

19 Q. Can you explain to me the opinion in
20 that paragraph?

21 A. Maybe you can ask -- I mean, we can both
22 read it and I think it's clear, but maybe you can

1 ask what's unclear.

2 Q. Well, I'm trying to understand what your
3 opinion is regarding the data in Muller with
4 respect to whether or not RdpA can degrade FOPs,
5 R-FOPs.

6 A. Well, I think I would make -- I think
7 it's three points.

8 One is, I was asked to consider the
9 thinking of a POSA in the 2005, 2006 time frame.
10 It wasn't clear that this would have been
11 considered by the POSA at the time frame I was
12 asked to opine on.

13 The second thing is that this study is
14 using -- do you have that exhibit?

15 Q. I don't have Muller in front of me, but
16 I -- I don't have a copy with me. We can stop if
17 we need to get one, but I believe it dealt with
18 mutagenesis and homology modeling were the tools
19 in that study?

20 A. I think that's right. I wanted to get
21 my eyes on it and make sure. Because there's a
22 lot of literature that's cited here. And I read a

1 large number of additional papers, so it would be
2 helpful. I don't know if anybody has it.

3 MR. DEROO: Should we take a pause? I
4 can get a copy real quick.

5 MR. GROSSMAN: Why don't we go off the
6 record very briefly.

7 THE VIDEOGRAPHER: The time is 9:22 a.m.
8 We are now off the record.

9 (Recess from the record.)

10 THE VIDEOGRAPHER: The time is 9:30 a.m.
11 We are now on the record.

12 BY MR. GROSSMAN:

13 Q. Dr. Bollinger, during the break, did you
14 discuss the substance of your testimony with
15 counsel?

16 A. No.

17 Q. So you now have in front of you a copy
18 of Exhibit 1035, which is the Muller article we
19 were just discussing.

20 A. Right.

21 (Deposition Exhibit 1035 was marked for
22 identification and retained by counsel.)

1 BY MR. GROSSMAN:

2 Q. So the question was whether the data in
3 Muller was -- involved mutagenesis and modeling
4 studies -- homology modeling studies specifically.

5 MR. DEROO: Objection to form.

6 THE WITNESS: Yeah, so Dr. Hausinger did
7 two studies that had similar approaches of
8 modeling an unknown structure from a known
9 structure and making predictions about residues
10 that were interacting with various things in the
11 active site and then trying to test those by
12 centric mutagenesis. So I wanted to be sure I was
13 talking about the right one.

14 But, yes, here models of RdpA, in this
15 case called AAD-1, and SdpA, which is called by
16 others AAD-12, were approximated, guessed-at
17 models by homology modeling and then site-directed
18 variants were made.

19 BY MR. GROSSMAN:

20 Q. So is it your opinion that even with
21 that data, which I understand, based on the time
22 frame you were given, is not available to a POSA,

1 that the POSA wouldn't understand how or why RdpA
2 is accommodating R-FOPs?

3 MR. DEROO: Objection to form.

4 THE WITNESS: How or why. That
5 question -- the how can mean different things to
6 different people and the why can mean different
7 things to different people. You need to focus it
8 down with some more technical definition to be
9 able to answer it, whether the POSA would
10 understand how or why.

11 BY MR. GROSSMAN:

12 Q. Well, based on your understanding -- we
13 can break it down.

14 Based on your understanding of the word
15 "how" -- and, again, I'm trying to understand your
16 opinion here, how RdpA is accommodating R-FOPs.

17 MR. DEROO: Objection to form.

18 THE WITNESS: Well, it was known that --
19 it was disclosed in the patent that RdpA
20 accommodates R-FOPs. How? By binding it and --
21 in an orientation that's appropriate for
22 catalysis. I think that is understood from the

1 patent. I don't think that this Muller paper
2 provides any -- sheds any new light on that.

3 BY MR. GROSSMAN:

4 Q. And why do you say that the Muller paper
5 doesn't shed any new light on that?

6 A. A couple of reasons.

7 One, it's a model. Again -- I mean,
8 you're asking me to consider something that wasn't
9 in the mind of the POSA at the time. So if you
10 want me to use -- it's essentially projecting back
11 in hindsight. If I do that, I know that that
12 binding POSA is not correct, so got it wrong.

13 And even if I assume that the POSA had
14 this at the time of the filing, the POSA still
15 would have been extremely skeptical about the
16 conclusion because it's a model. And it's an
17 incomplete model. There are large segments that
18 are not reliably predicted, large structural
19 elements.

20 Given that those are absent, I have
21 no -- even if you believe the model is 100 percent
22 correct, you still don't know where a large number

1 of residues are positioned. And of course the
2 POSA expects that some of those residues would
3 clash with the larger piece of the FOP substrate.

4 Even allowing for all those
5 deficiencies, there's still some indication, even
6 in the paper, that the FOP would not be
7 accommodated, even despite how, I would say,
8 unreliable the inferences from the model are.

9 So it goes multiple levels about why the
10 POSA would not have used this to judge whether --
11 even if the POSA had it at the time of the filing,
12 to judge whether a FOP would fit or not. Of
13 course, the activity data presented in the patent
14 is unequivocal that it does fit. Right.

15 So you have unreliable inferences that
16 are ultimately not correct, and then you have
17 something that's airtight, it fits, it's
18 converted. So it's just not -- it just wouldn't
19 move the needle in the analysis.

20 Q. Now, the patent doesn't tell you how the
21 R-FOPs fit. It tells you that the reaction
22 proceeds; right?

1 MR. DEROO: Objection; form.

2 THE WITNESS: Again, I don't know what
3 you mean by "how."

4 BY MR. GROSSMAN:

5 Q. The patent tells you that RdpA degrades
6 R-FOPs; correct?

7 A. Correct.

8 Q. The patent doesn't contain any homology
9 modeling, does it, explaining that result?

10 A. I don't have a photographic memory of
11 the patent. If we're going to discuss it, could I
12 have a copy?

13 Q. I can get you a copy, but based on --
14 you've reviewed this patent multiple times;
15 correct?

16 A. That's correct.

17 Q. Do you recall, sitting here, seeing any
18 homology modeling?

19 A. As I sit here, I do not recall seeing
20 any homology.

21 Q. Do you recall seeing any site-directed
22 mutagenesis in the patent?

1 A. In a sense, yes, because there are three
2 sequences that have site-directed substitutions in
3 that patent, not of the type that Hausinger
4 performed here.

5 Q. "Here" being Muller 2006?

6 A. Right.

7 Q. And so -- strike that.

8 Can you turn to paragraph 1 of your
9 declaration.

10 A. Okay. I'm there.

11 Q. Do you see, at the end of the paragraph,
12 it says, "I am being compensated for the time I
13 spend on this matter, but no part of my
14 compensation depends on the outcome of this
15 proceeding"?

16 A. You read it correctly.

17 Q. What are you being compensated for the
18 time that you spend on this matter?

19 A. Well, I spend the time, I get
20 compensation. Are you asking why it's valuable
21 or --

22 Q. What is your compensation?

1 A. Oh. You want a rate or the amount?

2 Q. Whatever compensation --

3 A. Money.

4 Q. -- you're receiving.

5 A. Money.

6 Q. What is the amount of the compensation
7 you're receiving?

8 A. Okay. I bill on an hourly basis as I
9 spend time. I submit an invoice once a month, and
10 I get compensated \$600 per hour for that time.

11 Q. How many hours have you spent working on
12 this matter so far?

13 A. I did not do the accounting. I could
14 tell you it's tens of hours. Would you like an
15 estimate?

16 Q. Sure.

17 A. Okay. This could be off by a factor of
18 two in either direction, but I would say 50 hours
19 maybe.

20 Q. So it could be --

21 A. It could be 100. It could be 25. It's
22 probably not 25. Let's say between 50 and 100. I

1 think that's a pretty good estimate.

2 Q. Okay. And are you currently working on
3 any other matters for Corteva? Let's start with
4 litigation matters for Corteva.

5 A. Well, I'm employed by Finnegan. I guess
6 I don't understand the import of on behalf of
7 patent owner, Corteva. But I don't interface with
8 Corteva. I interface with Finnegan. And they're
9 the ones who send me the checks, so I think I work
10 for them.

11 Q. You understand your declaration is being
12 submitted on behalf of Corteva; correct?

13 A. I think I understand that. I think
14 they're the one interested in how it's resolved,
15 so presumably they also pay Finnegan.

16 Q. So are there any other matters where you
17 are submitted -- any other litigation matters
18 where you have been retained by Finnegan on behalf
19 of Corteva?

20 A. Yes.

21 THE WITNESS: Am I allowed to give any
22 details?

1 MR. DEROO: Anything -- keep it at a
2 high level. Don't disclose confidential
3 information, but if you understand his question,
4 you can answer.

5 THE WITNESS: Okay.

6 So, for example, I submitted a
7 declaration and did a deposition in another
8 matter, which has the initials IPR -- you know, I
9 don't necessarily understand all the legal aspects
10 of it, but I think that was called PGR something.

11 Is that okay to say?

12 So -- yeah, so that would be one.

13 BY MR. GROSSMAN:

14 Q. And how many hours did you spend working
15 on that matter?

16 A. I think maybe just -- I'd estimate about
17 ten more than I gave you for the estimate I did
18 for this, to account for deposition I did. Maybe
19 15 more, because reviewing the transcript. So if
20 I said 50 to 100, it would be 65 to 115 as an
21 estimate. I don't know.

22 Q. Okay. And are you being compensated at

1 the same \$600-an-hour rate --

2 A. Yes.

3 Q. -- for that matter as well?

4 A. Yes.

5 Q. And are there any other litigation
6 matters for which you've been retained by Finnegan
7 on behalf of Corteva?

8 MR. DEROO: Same caution.

9 THE WITNESS: I think so. I'm not
10 clear, but I think there was some case started
11 that was paused. I feel like there were three
12 things in play. And I don't have any idea what
13 the number is for that or exactly what it is. I
14 think that was a patent infringement suit that was
15 filed.

16 And as far as I understand, that's not
17 really happening right now, so I don't know what
18 the status is. But I haven't done anything about
19 it in a while.

20 BY MR. GROSSMAN:

21 Q. How much time did you spend on that
22 matter when you were working on it?

1 A. I think only a few hours. Because it
2 seemed like that was going and then suddenly it
3 was paused. So maybe 20 or 30, something like
4 that.

5 Q. And you're charging the same hourly
6 rate?

7 A. Not long ago, I instituted an inflation
8 adjustment from 550 to 600. I don't remember
9 exactly when that was. It's possible that, for
10 that matter, I was at 550. So -- yeah.

11 Q. And are there any other litigation
12 matters on which -- for which you were retained by
13 Finnegan or any other law firm where the client is
14 Corteva?

15 A. Oh. Over -- historically over time?

16 Q. Let's start at present.

17 A. As far as I know, not at present.

18 Q. What about historically?

19 A. So before it was Corteva -- these are
20 all given in my CV that's appended to the
21 declaration. Maybe we should just look at those.

22 Q. Sure.

1 A. As far as -- to the best of my
2 knowledge, that's a complete list. So I put those
3 in -- it's page 23, and it says, "Selected Service
4 Activities to Industry." That's just how I
5 described it.

6 There was a Bayer Cropscience AG versus
7 Dow Agrisciences LLC case that ultimately resulted
8 in an appearance in the U.S. District Court in
9 Delaware from June 2011 to September 2012.

10 And then there was a very brief
11 engagement in what I understand was a -- I think a
12 patent arbitration action of some kind where I had
13 less than a month's involvement. And it resulted
14 in my appearance for a couple of minutes at a --
15 in front of a three-judge panel. So that was
16 July 2014 to August 2014. It was a little more
17 than a month by the time the appearance occurred.

18 Q. And do you recall how much you were paid
19 for your work in connection with those two Dow
20 matters you just identified on page 23 of your CV?

21 A. So for certain -- I'm relatively
22 confident that the June 2011 to September 2012 was

1 at \$500 per hour. And I'm only a little less
2 confident that the July 2014 to August 2014 was
3 also at \$500 per hour. You can see there's one
4 other case here, PureCircle versus -- and that one
5 I had increased the rate to 550.

6 Q. So bearing in mind the rate for those
7 two Dow matters, how much were you paid in
8 connection with -- total in connection with those
9 two matters?

10 MR. DEROO: Objection to form.

11 THE WITNESS: Those two old ones?

12 BY MR. GROSSMAN:

13 Q. Correct.

14 A. Okay. Oh, gosh, I don't know. Maybe a
15 total of \$150,000, I think. But, again, that is a
16 very rough estimate. I would have to -- I have
17 records. I could find out.

18 Q. Is there any other litigation work,
19 beyond what we've discussed, that you've performed
20 for Dow or for Corteva?

21 A. Again, I should note that in both of
22 those cases, my specific client was Orrick,

1 Herrington, Sutcliffe and Howard, something like
2 that. For both the 2011 -- sorry. Yeah, 2011 to
3 2012, and the July 2014 to August 2014, I worked
4 for those law firms, but the matters involved Dow
5 Agrisciences.

6 And I forget what the question was now.

7 Q. Are there any other -- is there any
8 other litigation work, beyond what we discussed,
9 for any law firm where the client to the law firm
10 was Dow or Corteva?

11 MR. DEROO: Objection.

12 THE WITNESS: I don't believe so.

13 BY MR. GROSSMAN:

14 Q. Is there any consulting work that you've
15 ever done for Dow or for Corteva?

16 MR. DEROO: I'll offer the same
17 confidentiality caution, but you can answer.

18 THE WITNESS: So just to be absolutely
19 accurate, nothing that I've been compensated for.
20 One of the former employees of Dow and then
21 Corteva was a graduate of the Penn State -- he was
22 a chemistry graduate student and worked for one of

1 my good friends and colleagues, Squire Booker.

2 And we have a personal relationship.

3 And he would periodically call me to ask my advice

4 and I would give it to him over the phone, but I

5 was not compensated for that. I was -- just

6 because he's a friend and I support Penn State

7 graduates as vigorously as I'm able to.

8 BY MR. GROSSMAN:

9 Q. Who was that?

10 A. Robert Chicchillo is his name. He's no

11 longer with Corteva.

12 Q. What was the time frame in which he was
13 seeking your advice?

14 A. Again, I could find that in my e-mail
15 record. I'm just going to estimate 2017 or 2018,
16 something like that.

17 Q. And --

18 A. And it may have been, I would say, up to
19 four conversations about issues that he was
20 dealing with in the laboratory.

21 Q. In the laboratory at Corteva?

22 A. Or Dow Agrisciences. But, again, that's

1 just pro bono for -- to serve and support our
2 people.

3 Q. Do you recall what the nature of the
4 issues were that you were discussing with him?

5 MR. DEROO: Same caution. You can
6 answer.

7 THE WITNESS: Yeah, I think he talked to
8 me -- we didn't have an official nondisclosure
9 agreement, but he asked me not to tell anybody.
10 Does that count?

11 BY MR. GROSSMAN:

12 Q. I'm not --

13 A. Just generally?

14 Q. I'm not asking for anything that would
15 result in feeling like you had breached any
16 obligation of nondisclosure, just sort of
17 generally the type of issues.

18 A. Yeah, he had an issue with, I think,
19 color forming in seed or something and was trying
20 to figure out what the compound was that was
21 causing the color and asked my opinion about what
22 it might be and how he could go about figuring it

1 out. I think he solved that problem. I don't
2 think my advice was helpful.

3 Q. Have you ever received any honoraria
4 from Dow or Corteva?

5 A. Well, it would be customary for speakers
6 in industry to receive an honorarium, but I've
7 never spoken at Dow, so no.

8 Q. Would you go back to your declaration,
9 in particular Appendix B, which I believe begins
10 on page 125 of the document.

11 A. Okay.

12 Q. That's your list of materials
13 considered?

14 A. It's list of materials cited in the
15 declaration. There were many more considered.

16 Q. That are not listed here?

17 A. Right. If they weren't cited, they're
18 not listed.

19 Q. When you say "many more," how many are
20 we talking about?

21 A. Well, I've been studying these enzymes
22 since 2002. So that's -- what is that -- 22

1 years. And probably -- I can't even estimate a
2 number. I read all the papers I find interesting
3 on these enzymes, so many.

4 Q. I'm not asking about sort of general
5 training and experience. I'm asking about, for
6 this case, are there any references that you
7 considered that are not cited here?

8 MR. DEROO: Objection to form.

9 THE WITNESS: I don't know how to -- I'm
10 listed as an expert. I'm an expert because of
11 that experience, and I rely on that experience in
12 my opinions. So to support the statements in the
13 declaration, there are specific references cited,
14 but they're clearly underpinned by 22 years of
15 experience and the papers that I've read in that
16 time. So you could ask about a particular paper,
17 but there are a lot. So I don't know how to
18 answer that with any more specificity.

19 BY MR. GROSSMAN:

20 Q. Are there any references -- well, strike
21 that.

22 What did you do to prepare for your

1 deposition?

2 A. So we had --

3 MR. DEROO: I'll just caution you not to
4 disclose communications you've had with counsel,
5 but you can answer generally.

6 THE WITNESS: Okay. So three hours of
7 Zoom interaction -- I mean, remote on Monday and
8 Tuesday. And then I came here yesterday from nine
9 to four. And we went over issues in the case.
10 And in the intervening time and a little bit
11 before, I reviewed some of the key citations in my
12 declaration.

13 BY MR. GROSSMAN:

14 Q. And when you say three hours on Monday
15 and Tuesday, is that three hours each day or --

16 A. No, three hours total.

17 Q. During your preparation, did you speak
18 about your preparation -- the substance of your
19 preparation with anyone other than attorneys from
20 Finnegan?

21 A. No.

22 Q. Did you, in preparing for your

1 deposition, review any documents that are not
2 cited in your declaration or Appendix B to your
3 declaration?

4 A. I'm not sure. Each time in the
5 preparation I was handed a document, I referred to
6 the list of cited documents. And I believe they
7 were always in that list. There may have been one
8 exception, but I don't know what it was. And I
9 think probably no, I mean, in those meetings.

10 Outside of those meetings, I have been
11 searching the Internet for papers that I hadn't
12 seen and studying structures and things of that
13 nature. So those materials are freely available.

14 Q. For purposes of this case?

15 A. Yeah, in some cases. But, you know, the
16 issues in the case also dovetail with my own
17 personal research interests, the research
18 interests of my group. So sometimes it's a
19 question that I think of for the case and think
20 it's relevant to something that I want to know
21 about, one of the systems that we study. And so
22 I'll do some searching. So there's synergy there.

1 Q. So do you know Dr. Robert Hausinger?

2 A. I do.

3 Q. How do you know him?

4 A. Pardon?

5 Q. How do you know him?

6 A. So we have been working in the same
7 general area. We're both interested in this kind
8 of enzyme. We -- I personally invited him to
9 speak at a symposium that we've held at Penn
10 State, and he accepted and did speak. We've met
11 at meetings, had conversations.

12 I think we even one time sat at a bar
13 and talked over a beer. I've run into him in this
14 previous case listed in my CV that we've talked
15 about. I was in the same location as he was
16 during either my deposition or his. And we talked
17 a little bit, not on the substance of the case,
18 but just socially.

19 I also -- I and my colleagues wrote a
20 contribution to a textbook that he was coeditor
21 of. So I think that's the extent of my
22 interactions with him.

1 Q. Would you agree that he's a good
2 scientist and also a good person?

3 A. Absolutely.

4 MR. GROSSMAN: Okay. We've been going
5 for about an hour. Why don't we take a break.

6 MR. DEROO: Sure.

7 THE VIDEOGRAPHER: The time is
8 10:03 a.m. We are now off the record.

9 (Recess from the record.)

10 THE VIDEOGRAPHER: The time is
11 10:25 a.m. We are now on the record.

12 BY MR. GROSSMAN:

13 Q. Dr. Bollinger, during the break, did you
14 discuss the substance of your testimony with
15 counsel?

16 A. No.

17 Q. Thank you, Dr. Bollinger.

18 MR. GROSSMAN: I have no further
19 questions at this time.

20 MR. DEROO: Okay. I have no questions.

21 THE VIDEOGRAPHER: Counsel, does this
22 conclude for today's deposition?

1 MR. DEROO: It does.

2 THE VIDEOGRAPHER: Okay. This concludes
3 for today's deposition. The date is June 21st,
4 2024. The time is 10:25 a.m. We are now off the
5 record.

6 (Off the record at 10:25 a.m.)

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1 DISTRICT OF COLUMBIA)

2

3 I, Matthew Goldstein, RMR, CRR, Notary
4 Public within and for the District of Columbia, do
5 hereby certify:

6

7 That I reported the proceedings in the
8 within entitled matter, and that the within
9 transcript is a true record of said proceedings.

10

11 I further certify that I am not related
12 to any of the parties to the action by blood or
13 marriage, and that I am in no way interested in
14 the outcome of this matter.

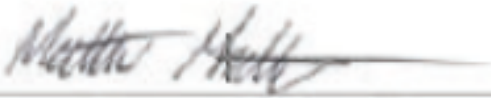
15

16 IN WITNESS WHEREOF, I have hereunto set
17 my hand this 21st day of June, 2024.

18

19

20



21

Matthew Goldstein, RMR, CRR

22

1 J. Martin Bollinger, Jr., Ph.D., c/o
FINNEGAN HENDERSON FARABOW GARRETT & DUNNER, LLP
2 901 New York Avenue, NW
Washington, D.C. 20001

3
4 Case: Bayer CropScience LP, et al. v. Corteva Agriscience LLC
Date of deposition: June 21, 2024
5 Deponent: J. Martin Bollinger, Jr., Ph.D.

6
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8 referenced matter is now complete and ready for signature.
9 The deponent may come to this office to sign the transcript,
10 a copy may be purchased for the witness to review and sign,
11 or the deponent and/or counsel may waive the option of
12 signing. Please advise us of the option selected.
13 Please forward the errata sheet and the original signed
14 signature page to counsel noticing the deposition, noting the
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5 Witness Name: J. Martin Bollinger, Jr., Ph.D.

Deposition Date: June 21, 2024

6

7 I do hereby acknowledge that I have read

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11 complete transcription of the answers given by
me to the questions therein recorded.

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ERRATA SHEET

7

8 Case: Bayer CropScience LP, et al. v. Corteva Agriscience LLC
9 Witness Name: J. Martin Bollinger, Jr., Ph.D.
10 Deposition Date: June 21, 2024

11 Page No. Line No. Change

12

13

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Signature

Date

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1 DISTRICT OF COLUMBIA)

2

3 I, Matthew Goldstein, RMR, CRR, Notary
4 Public within and for the District of Columbia, do
5 hereby certify:

6

7 That I reported the proceedings in the
8 within entitled matter, and that the within
9 transcript is a true record of said proceedings.

10

11 I further certify that I am not related
12 to any of the parties to the action by blood or
13 marriage, and that I am in no way interested in
14 the outcome of this matter.

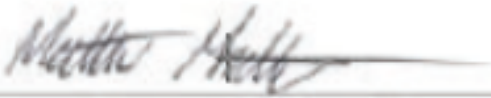
15

16 IN WITNESS WHEREOF, I have hereunto set
17 my hand this 21st day of June, 2024.

18

19

20



21

Matthew Goldstein, RMR, CRR

22