

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

SYNGENTA CROP PROTECTION AG,
Petitioner,

v.

UPL LTD.,
Patent Owner.

Case No. PGR2023-00017
Patent No. 11,445,727

PATENT OWNER'S SUR-REPLY

PROTECTIVE ORDER MATERIAL

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I. Introduction

Syngenta failed to establish multiple claim limitations for its prior art grounds and effectively abandoned its §112 position. It failed to establish that Godoy discloses mixed-compositions, that Godoy unambiguously discloses the claimed “consisting of” limitation where it includes undefined “Nimbus,” or that Godoy is prior art. Syngenta now focuses on Tobler, but does not dispute that Tobler’s atypical definition of “composition” includes sequential applications, that Tobler’s components are not generally combinable and are not taught to be combinable in mixtures, and that “picking and choosing” would be required to reconstruct the claimed “consisting of” “combination” or “composition.” Syngenta’s only defense of its De Oliveira grounds—that the SDHI genus encompasses benzovindiflupyr—is no defense at all. Especially with no expert disputing unexpected results from its own extensive testing, its challenges to just a few data points cannot overcome the remaining unchallenged data demonstrating synergy or the extensive objective evidence as a whole.

II. Petitioner Failed to Establish “Combination”/“Composition” and “Consisting of” Limitations

Petitioner failed to address, much less establish, that any asserted references taught or suggested the claimed “combination”/“composition” and “consisting of” limitations. Paper 31, (“POR”), 15-19, 19-22, 35. Petitioner is thus precluded from

offering new reply evidence or argument on these points.¹ *See* POR, 16-17; *Netflix, Inc. v. DivX, LLC*, 84 F.4th 1371, 1377 (Fed. Cir. 2023); *cf.* Paper 41 (“Reply”), 5-6, 15-19. Even if considered, Syngenta’s new evidence and arguments fail to establish these limitations. *See infra*, §§III.A, IV.A-D, V.

The Petition also failed to provide constructions for “combination,” “composition,” and “consisting of.” POR, 7-8, 15-21, 24-29, 53-56. The Reply still fails to offer meaningful constructions and its arguments do not advance unpatentability.

A. “Combination,” “Composition,” and “Fungicidal Combination”

Syngenta abdicated its responsibility to construe these terms such that UPL’s constructions are the parties’ only construction. POR, 5-8; Reply, 2-5. Syngenta’s attorney arguments critiquing UPL’s constructions are contradicted by its declarant’s admission that these terms mean “[t]hat [the] materials are combined or added together” (EX2021, 82:6-83:22, 84:22-85:6) and are further unfounded for at least the following reasons.

¹ On 2/20/2024, the Board denied by email UPL’s 2/16/2024, request for authorization to file a Motion to Strike impermissible new legal theories and evidence, including EX1022-EX1030 and arguments related thereto.

First, Syngenta argues that the claims do “not exclude sequential application” since the specification states that formulations “*may be* sold as a pre-mix,” “*may be* mixed before,” or “*may be* tank mixed before.”² Reply, 2 (quoting EX1001, 19:54-60). Even in theory, however, a claim need not be construed to read on all embodiments. *E.g.*, *E-Pass Techs., Inc. v. 3Com Corp.*, 343 F.3d 1364, 1370 (Fed. Cir. 2003). Moreover, rather than redefining claimed “compositions” and “combinations,” the specification is addressing alternative *sales formats* of “*a pre-mix composition* or a *kit of parts* such that individual actives may be mixed before spraying.” EX1001, 19:54-60.

Second, Syngenta argues that the specification defines “composition” to include sequential applications. Reply, 2-3 (citing EX1001, 19:54-63). There is no such “special definition... clearly defined in the specification.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995), *aff’d*, 517 U.S. 370 (1996). Rather, both parties’ declarants agree that “combination” and “composition” are used in their ordinary sense to mean that the components are mixed together. EX1003, ¶76; EX2021, 84:22-86:15; POR, 5-8; EX2020, ¶79. As Dr. Jacobsen explains, the Patent’s discussion of “sequential” applications is teaching that

² ***Bold italic*** emphasis added, unless noted otherwise.

compositions (EX1001, 19:54-60) “may be applied at various stages of the crop cycle.” POR, 5-6; EX2020, ¶72.

Third, Syngenta’s argument that the prosecution history requires the claims to encompass unmixed applications (Reply, 3) fails. Even taken at face value, it does not meet the “exacting standard” required to modify claim scope. *Cont’l Circuits LLC v. Intel Corp.*, 915 F.3d 788, 798 (Fed. Cir. 2019); *AquaTex Indus. V. Techniche Sols.*, 419 F.3d 1374, 1382 (Fed. Cir. 2005). It also mischaracterizes the prosecution. The Office had characterized *prior art* references (Gewehr, Kemmitt)—not the claims—as (1) disclosing applications that can be “*simultaneously, that is jointly* or separately, or in succession” (EX1002, 208) and (2) showing a “synergistic mixture [that] can be applied either separately or as part of a multipart fungicidal system” (EX1002, 151). In contrast, the Office recognized that (1) the “claims are drawn to a fungicidal combination or composition,” (2) “the claims at issue are not identical [to Gewähr],” and (3) Kemmitt “does not anticipate the claimed compositions” (EX1002, 217-19, 152). Finally, *even if* the Examiner construed the claims to broadly cover sequential applications, the broadest reasonable construction standard applied during prosecution is inapplicable here. 83 Fed. Reg. 51340 (Oct. 11, 2018).

B. “Consisting of”

In agreement with UPL, Syngenta concedes “the term ‘consisting of’ means ‘no other fungicides.’” Reply, 3-4; POR, 8.

However, conflating claim construction with its failure to establish (or even address) “consisting of” in the Petition, Syngenta mischaracterizes UPL’s position as being that “any adjuvant that may exhibit fungicidal activity in some other context—beyond the composition in question—is a fungicide, and therefore, must be excluded.” Reply, 4-5. Syngenta’s attorney argument also does nothing to rectify its failure to meet its burden to establish the limitation where Godoy includes an undefined “Nimbus” component. *See* Reply, 3-5; POR, 8, 19-22; *In re Magnum Oil Tools Int’l, Ltd.*, 829 F.3d 1364, 1380-81 (Fed. Cir. 2016); *see also* POR, 19-22; *see also infra* §IV.A.

III. Petitioner Has Not Established Unpatentability Over Godoy (Ground 1)

A. Two Limitations Not Established

Godoy describes “associated” treatments that contain “Nimbus.” EX1005, 4, 7. As the Board recognized, the Petition failed to address the meaning of “Nimbus” and thus failed to make a threshold showing for the “consisting of” limitation. Paper 8 (“ID”), 18; POR, 21-22. The Petition further failed to address the differences between “associated” treatments and the claimed “combinations”/“compositions.” Although its attempts are now untimely, Petitioner still fails to establish these limitations.

1. Godoy’s “Associated” Treatments Are Not Claimed Combinations or Compositions

Syngenta insists that even though Godoy does not so state, its treatments are “tank-mix[es],” not sequential applications. Reply, 15-17. Syngenta’s arguments are wrong and fail to establish unpatentability. *See Wasica Fin. GmbH v. Cont’l Auto. Sys.*, 853 F.3d 1272, 1284 (Fed. Cir. 2017) (“[A]mbiguous references do not, as a matter of law, anticipate a claim.”).

First, Syngenta points to Godoy’s “first protocol” for “isolated fungicides alone (Table 2)” and second protocol “with the products used in association with the fungicides” (Table 3) to argue that “*Godoy makes it clear—the fungicides in Table 3* were used in combination, i.e. associated with each other *in the tank-mix sprayer.*” Reply, 15-16. However, Godoy only states that “the second [protocol] with the products [are] used in *association* with the fungicides” and nowhere indicates that “*association*” means in mixed-combination or that a “tank-mix sprayer” was used. EX1005, 2. At most, Godoy states that “*a knapsack sprayer... was used*” without any indication of mixing therein. EX1005, 5; EX1043, 121:10-19, 128:3-129:15, 133:19-135:10.

Second, Syngenta’s reliance on a non-prior art reference (EX1030) to supplement Godoy’s disclosure (Reply, 16-17) is erroneous. *Galderma Lab’ys, L.P. v. Teva Pharms. USA, Inc.*, 799 F. App’x 838, 843-44 (Fed. Cir. 2020) (“Turning to

another reference ‘for a very specific teaching’ runs afoul of these settled principles” of anticipation.). Instead, Syngenta’s need for this years-later publication evidences that its reading of “associated” is *not* clear from Godoy itself. *See* EX1043, 123:18-124:8.

Third, Syngenta’s argument that UPL does not provide support for the meaning of “associated” treatments (Reply, 16) ignores UPL’s contemporaneous Portuguese references in the same technology using the term to mean unmixed, sequential applications. Reply, 16; POR, 18-19 (citing EX2002, 3-4; EX2041, 1, 3). Syngenta’s non-technical dictionaries are necessarily less relevant, if at all. *Lizardtech, Inc. v. Earth Res. Mapping, Inc.*, 35 F. App’x 918, 924 (Fed. Cir. 2002).

Fourth, Syngenta tries to explain away that Godoy only added Nimbus to some associated components. *See* Reply, 15-19. Its attorneys note that “when mancozeb was used alone [in Godoy], the adjuvant Agris was included” and then speculate that “when mancozeb was combined with azoxystrobin+ benzovindiflupyr, this adjuvant was not needed since the adjuvant Nimbus was added to the mixture.” Reply, 17. Syngenta’s speculation regarding the absence of “Agris”—also nowhere identified—for treatments with Elatus (azoxystrobin+benzovindiflupyr) and an unregistered mancozeb product is just that: speculation.

Fifth, Syngenta falsely contends that “UPL itself in other proceedings understood Godoy disclosed *applying a mixture* of the disclosed fungicides.” Reply

15-16 (citing EX1021; EX1035, 59-61; EX1038, 151-153). The relied-upon documents expressly describe the use of, e.g., mancozeb “*in addition* to the long known *mixtures of triazoles and/or strobilurins and/or SDHIs*....” EX1035, 59-61. This is not describing mancozeb as “mixed with” other components; rather that it is used “*in addition to*... long known mixtures,” such as Elatus® (azoxystrobin+benzovindiflupyr). *See also* EX1005, 4 (table 3); EX2020, ¶¶94-103.

Lastly, Syngenta falsely asserts “Dr. Jacobsen, has admitted that people of ordinary skill interpret Godoy as disclosing a tank mix.” Reply, 17. Dr. Jacobsen made no such admission. EX1043, 123:18-124:8. (“I read the original Godoy 2016 reference in detail as a critical editor would read it, and this—what is stated here is that difference with my technical reading of the 2016 publication.... Just because [the later EX1030 reference] says it doesn’t mean it’s accurate.”).

2. Godoy Does Not Teach “Consisting of”

Syngenta argues Godoy discloses Nimbus as a mineral oil adjuvant having no fungicidal activity. Reply, 17-19. Syngenta is incorrect.

a. Godoy Does Not Identify “Nimbus”

Syngenta does not dispute that Godoy’s “Nimbus” product is not identified therein and that “Nimbus” is used to name multiple agricultural products. POR, 19-21. This is dispositive of no anticipation. POR, 19-22.

Syngenta nevertheless cites to *trademark* registrations and an MSDS for *one* Nimbus product, without linking to Godoy's undefined "Nimbus." Reply, 17-18 (citing EX1028; EX1029; EX1023; EX1024; EX1025; EX1026; EX1027). That *a* mineral oil "Nimbus" is trademarked and used (MSDS) in Brazil establishes nothing.

First, Syngenta's proffered registrations and MSDS for one "Nimbus" do not prove other "Nimbus" products are not also used in Brazil. *See* EX1043, 168:12-19.

Second, Syngenta does not rebut that Godoy repeatedly employed unregistered products (*e.g.*, EX1005, 4 (Table 3, "PNR – Product not registered")) and gives no reason why Godoy's undefined "Nimbus" must have been a product trademarked in Brazil.

Third, Syngenta has no response for the fact that the Elatus[®] product to which Godoy adds "Nimbus" *directs against* using mineral oil. POR, 21.

Finally, the use of a mineral oil Nimbus in one of Dr. Jacobsen's patents (Reply, 18) has no bearing on what Godoy discloses or what a POSA would understand therefrom.

b. Mineral Oil is Fungicidally Active at Godoy's Nimbus Concentrations

Even if Godoy's Nimbus is assumed to be mineral oil, Syngenta has still not met its burden to establish the claimed "consisting of" combinations and compositions. *Magnum*, 829 F.3d at 1380-81. Indeed, there is undisputed

evidence—including admissions from its declarant—that mineral oil is fungicidally active at the Nimbus concentrations used in Godoy such that its treatments would be outside the claims. POR, 20-21; EX2020, ¶¶121-131; EX2039; EX2059; EX2021, 46:17-49:14.

Syngenta attempts to distract and shift the burden to UPL to “present[] any evidence whatsoever that oils control soybean rust.” Reply, 18-19. Its citation to one of Dr. Jacobsen’s patents where mineral oil is inert for bacillus spores used to prevent pathogens and virus transmission (Reply, 18 (discussing EX1040)) also has no bearing on its fungicidal activity. EX1043, 157:5-21. Instead, EX1040 specifically identifies oils as optional fungicide components. EX1040, 29:39-50.

B. Petitioner Has Not Met Its Burden to Establish Godoy Was Publicly Available

As demonstrated in the POR, the Petition’s Hall-Ellis declaration (EX1019) was insufficient to establish public accessibility of Godoy based on purported publication by the critical date. POR, 9-15. Syngenta’s Reply fails to defend the Hall-Ellis declaration (EX1019) or its reliance thereon. *See* Reply, 12-15.

Instead, Syngenta attempts to shift the burden (“UPL does not and cannot state Godoy was not publicly accessible prior”) and newly assert that Godoy was publicly available based on *dissemination* (“actual access prior to November 4, 2016”),

relying on the supplemental Hall-Ellis declaration (EX1022).³ Reply, 12-15. Its arguments are improper and insufficient.

Syngenta again focuses on “August 2016” on the face of Godoy and unrelated foreign prosecution documents referencing that date without any asserted percipient knowledge thereof. Reply, 13 (citing EX1038, 151). It also cites Dr. Jacobsen’s testimony regarding reviewing “Embrapa” publications generally and statements regarding Dr. Godoy’s reputation. Reply, 14 (citing EX1021, ¶13). None establish that Godoy was publicly available prior to the critical date—*e.g.*, whether Godoy specifically “was searchable or indexed in a meaningful way so that a person of ordinary skill in the art would have located [it].” *Acceleration Bay, LLC v. Activision Blizzard, Inc.*, 908 F.3d 765, 773 (Fed. Cir. 2018) (noting “that ‘public accessibility’ requires more than technical accessibility”); *Amazon.com, Inc. v. Avago Techs. Gen. Ip (Singapore) Pte. Ltd.*, IPR2017-00964, Paper 14 at 13 (PTAB Sept. 13, 2017) (disregarding opinion where declarant did not “indicate any personal knowledge of the public availability or indexing”); EX1043, 70:19-71:2, 100:8-102:12, 105:13-

³ EX1022 is not properly part of the record as it was submitted only together with Syngenta’s motion for supplemental evidence, which was not granted. *See* Papers 14-15.

106:4 (noting that websites do not make publications available instantaneously and often have a lag before being accessible to POSAs other than author).

Syngenta's untimely arguments that "Embrapa provides statistics on publications and shows **actual access** prior to November 4, 2016" (Reply, 13) should not be considered. *Hulu, LLC v. Sound View Innovations, LLC*, IPR2018-01039, Paper 29 at 15-16 (PTAB Dec. 20, 2019) (precedential); *Intelligent Bio-Sys., Inc. v. Illumina Cambridge, Ltd.*, 821 F.3d 1359, 1369-70 (Fed. Cir. 2016). Even if considered, the handful of purported "downloads" and "views" is consistent with "the only people who know how to find it are the ones who created it" as opposed to having been publicly disseminated to or searchable. POR, 13-14; *Samsung Elecs. Co., Ltd. v. Infobridge Pte. Ltd.*, 929 F.3d 1363, 1372 (Fed. Cir. 2019); *Blue Calypso, LLC v. Groupon, Inc.*, 815 F.3d 1331, 1349 (Fed. Cir. 2016). Notably, the number of purported downloads (9) and views (11) (Reply, 13) are not identified as unique and are barely more than the number of Godoy authors (7). EX1005, 2.

Syngenta also criticizes UPL as not proving Godoy is not prior art and Dr. Jacobsen as not being an expert of library sciences. Reply, 12-14. But only Syngenta has the "burden of establishing by a preponderance of the evidence that a particular document is a printed publication"—which it has not. *Hulu*, IPR2018-01039, Paper 29 at 11. Dr. Jacobsen's testimony that "it takes considerable time for a publication to be indexed and searchable" based on his decades of personal

experience in the field, including from teaching, publishing, and conducting research in plant pathology, is clearly relevant without a degree in library science. EX2020, ¶90; EX1043, 105:19-106:4.

IV. Petitioner Has Not Established Unpatentability Over Tobler (Ground 2)

A. Tobler Does Not Teach the “Consisting of” Limitation

Failing to address this limitation in the Petition (*see* POR, 35-36, 43, 48-49, 55-56), Syngenta now summarily argues that “Tobler expressly discloses a fungicidal combination *consisting of* benzovindiflupyr, mancozeb, and a fungicide selected from Group P.” Reply, 6. Leaving aside that no combinations of benzovindiflupyr, mancozeb, and a fungicide selected from Group P are “expressly disclose[d],” Syngenta ignores its own arguments that Tobler’s E1 genus is open to 4-components (or more) with “different modes of action” (Paper 2 (“Pet.”) 34-35) and fails to dispute its incompatibilities with the “consisting of” limitation. POR, 23-36, 47-50.

Syngenta’s untimely argument—made solely for 4-component claim 2—that Tobler does not have to say “no other fungicides” (Reply, 20) further admits that the E1 species are not taught to be limited to components within the claimed “consisting of” limitation. *See* POR, 35-36, 47-50. Even for the alleged-obviousness of claim 2, Syngenta provides neither facts nor law in support of its reliance on “silence” to

meet this limitation where, as above, Tobler encompasses additional components. *Cf. Int'l Bus. Machs. Corp. v. Iancu*, 759 F. App'x 1002, 1011 (Fed. Cir. 2019) (“[s]ilence in that sense would not by itself suffice”). Indeed, Syngenta provides no explanation for why Tobler would direct a POSA to select and stop at four specific fungicides.

B. Petitioner Fails to Address Tobler’s “Composition” Definition

The Petition failed to consider how the fungicides disclosed in Tobler are taught to be applied, i.e., sequential, combination, or permutations thereof. *See* POR, 22-23, 36-38, 53-54. Rather than dispute that Tobler’s non-standard “compositions” definition includes at least 13 different permutations of mixtures and sequential applications for 3-components (POR, 22-23), Syngenta admits Tobler includes “application ‘in a sequential manner.’” Reply, 9 n.2 (quoting EX2021, 193:10-194:15); EX1006, 27:55-64 (“The order of applying the components (A) and (B) is not essential for working the present invention.”). This concedes Tobler’s failure to teach a specific E1 species meeting the “combination” limitation.

Syngenta’s footnote that a tank-mix may be *one option* within the Tobler “composition” genus (Reply, 9 n.2) is insufficient to establish anticipation or obviousness for its hundreds of thousands of theoretical permutations. That is, it neither establishes that Tobler discloses the identical subject matter (mixed

combinations and compositions with the claimed components and no other fungicides) nor provides motivation with a reasonable expectation of success to select a tank mix for any of Tobler's E1 permutations. Instead, as discussed below (§IV.C.), a POSA would have recognized that Tobler's E1 permutations are not taught as or suggested to be mixed compositions given the known incompatibilities and the absence of mixing guidance. POR, 37-38.

C. Tobler Requires Unsupported Picking and Choosing

Syngenta argues “Tobler discloses a list of compounds rather than a genera... [t]hus, the caselaw cited by UPL... is inapplicable.” Reply, 5. However, whether considered as multiple lists or genera, the anticipation standard is the same: the prior art reference must “unequivocally disclose” the claimed subject matter “without any need for picking, choosing.” *In re Arkley*, 455 F.2d 586, 587-88 (C.C.P.A. 1972); *see also Leo Pharm. Prods., Ltd. v. Rea*, 726 F.3d 1346, 1357 (Fed. Cir. 2013) (reversing Board's holding of obviousness based on “‘picking and choosing’ from a list”); *FWP IP ApS v. Biogen MA., Inc.*, 749 F. App'x 969, 973 (Fed. Cir. 2018); *Beckman Coulter, Inc. v. Sirigen II Ltd.*, IPR2022-01206, Paper 64 at 65-66 (PTAB Dec. 21, 2023)⁴ (claim would not have been “at once envisage[d]” nor anticipated where claimed mPEG sidechain is disclosed within “a ‘laundry list of at least

⁴ Also listed in P-TACTS as Paper 69.

hundreds of different side chains” for use with “a broad range of structures”). It is clear that Tobler provides “no specific guidance to an exact three” active ingredients mixed together out of its more than 390,000 potential 3-component treatments.⁵ POR, 27-29; EX1043, 42:3-43:18.

Syngenta instead baldly asserts “Tobler expressly discloses multiple combinations, each of which meets all the limitations” (Reply, 11) but tellingly provides no citation to where any “multiple combinations” appear beyond picking and choosing from expansive lists. There is no question that Tobler does not expressly describe a mixed composition “consisting of” compound A-1.1, mancozeb (from among 120 options), and any specific group P (certain EBIs and QOIs from among 250+ options) fungicides or any other allegedly anticipatory combinations. POR, 26-28. Instead, Tobler describes genus “E” with sub-genera E1 and E2, each

⁵ Syngenta accuses UPL of “falsely assert[ing] that Petitioner’s expert, Dr. Brannen, ‘admitt[ed] that Tobler provides no examples with three active ingredients and does not use mancozeb in any biological examples.’” Reply, 7. Syngenta is wrong and still identifies no such examples in Tobler. EX1043, 114:22-115:6 (Q: “Do you agree that there are *no examples with more than two active fungicide components* in the Tobler biological examples? A. *I would agree* with that. Q. Do you agree *mancozeb is not used in the Tobler biological examples*? A. *I do not see mancozeb listed.*”).

then defined based on other genera of TX1 and Group P. POR, 30-31. Notably, the potential permutations were undecipherable for Dr. Brannen without a color-coded map prepared by Syngenta's counsel. POR, 30-31; EX2021, 91:17-106:12.

There is also no question that Tobler nowhere connects any potential E1 permutations with any of the 13 potential "composition" types according to Tobler's non-standard definition and nowhere teaches that any or all can be used as mixed-combinations. POR, 37-38. Nor is there any dispute that a POSA would not assume or expect that any or all potential E1 species would be suitable for use as mixed-combinations, given that some are self-evidently not mixable and the absence of guidance for mixing any others. POR, 37-38; EX2021, 33:8-34:6, 35:15-36:11, 36:18-37:13, 38:14-39:15, 40:19-41:5, 42:12-17, 54:4-16, 59:5-18.

Syngenta attempts to distinguish *Mylan Pharms. Inc. v. Merck Sharp & Dohme Corp.*, 50 F.4th 147, 151 (Fed. Cir. 2022) ("*Mylan*"), arguing that "the evidence in that case 'undeniably showed' that the claimed salt does not always form." Reply, 11 (quoting *Mylan*, 50 F.4th at 151). But this is a concordance not a distinction. *Mylan* found the challenged claims not anticipated where combinations from two lists resulted in 957 potential salts and the record "undeniably showed" that "some of [those] may not even form under experimental conditions." *Mylan*, 50 F.4th at 154. Analogous to *Mylan*, Tobler list 250+ Group P compounds for the E1 and E2 genera and a definition of "compositions" that encompasses 13 different

permutations of mixed and sequential applications for a set of three components. EX1006, 27:55-64. This covers more than 3,250 potential 3-component permutations. Exactly like *Mylan*, it is “*undeniably show[n]*” and not disputed that Tobler E1 is replete with potential E1 permutations that would *not* work as mixed-combinations. *See, e.g.*, POR, 37-38; EX2020, ¶¶157-158, 168-169. *Compare* POR, 37-38 *with* Reply, 11.

D. The Reply Fails to Address Obviousness Over Tobler

UPL provided a comprehensive explanation of the many reasons Tobler, alone or in combination, does not render any claim obvious. POR, 40-51. Except for its one inapt point about 4-way combinations (Reply, 20) discussed above, Syngenta provides no response and does not dispute its failure to meet its burden in view of the identified deficiencies.

V. Petitioner’s De Oliveira Positions Misapply the Law (Ground 3)

Syngenta does not dispute its failure to prove De Oliveira meets the “combination” and “consisting of” claim limitations. POR, 53-55. Nor does Syngenta rebut any evidence or argument advanced by UPL—including that Syngenta provides no reason that a POSA would have selected benzovindiflupyr as the SDHI at the priority date—dooming Ground 3. *See* POR, 51-70. Syngenta’s sole Reply argument establishes the undisputed—benzovindiflupyr is an SDHI—but does nothing to establish obviousness where benzovindiflupyr is not specifically

described in De Oliveira or and inconsistent with its preferred SDHIs. Reply, 19-20 (citing EX1038); POR, 51-52, 57-58; *In re Jones*, 958 F.2d 347, 350 (Fed. Cir. 1992) (a chemical genus does not necessarily render obvious its species).

VI. Secondary Considerations Establish Nonobviousness

A. Petitioner's Data Shows Unexpected Results

1. Petitioner Does Not Dispute Its Own Data Showed Synergy in Defoliation and Disease Severity

Syngenta does not address—much less dispute—that its own testing showed synergistic effects in (1) defoliation (formulations A4, B7, B8, B9, B10; tables D-E) and (2) disease severity (all formulations; tables F-G). POR, 75-79; EX2020, ¶¶256-272. This undisputed evidence—generated by Syngenta at direction of its counsel (EX2018, 31:16-21, 32:22-33:21)—is sufficient to establish the non-obviousness of the claimed combinations and compositions. *In re Chupp*, 816 F.2d 643, 645-46 (Fed. Cir. 1987) (“[*In re Papesch*, 315 F.2d 381 (C.C.P.A. 1963)] held that a compound can be patented on the basis of its properties; it did not hold that those properties must produce superior results in every environment in which the compound may be used. To be patentable, a compound need not excel over prior art compounds in all common properties.”). That Syngenta sought to withhold this now-undisputed evidence of synergy by representing that “it correlated with [] showing of a lack of synergy” and “it doesn’t support—it’s not helpful to Patent Owner” (EX2019, 10:6-14) reinforces the weight it should be given and provides an

independent basis for judgment against Syngenta. *Spectrum Sols. v. Longhorn Vaccines & Diagnostics, LLC*, IPR2021-00847, Paper 107 (PTAB May 3, 2023).⁶

Syngenta challenges whether its own data is commensurate in scope with the claims. Reply, 2-3. However, Dr. Jacobsen testified without rebuttal that “Syngenta’s data shows strong synergistic effects for the claimed combinations.” EX2020, ¶272. That the data is reasonably commensurate in scope—all that need be shown⁷—is further corroborated by the record.

First, as described by Syngenta’s declarant:

Each of these combinations includes benzovindiflupyr and mancozeb and one of the following as a third component: azoxystrobin, prothioconazole, or difenoconazole. A four-way

⁶ Also listed in P-TACTS as Paper 113.

⁷ *Rambus Inc. v. Rea*, 731 F.3d 1248, 1257 (Fed. Cir. 2013) (“Objective evidence of nonobviousness ***need only be reasonably commensurate*** with the scope of the claims, and we do not require a patentee to produce objective evidence of nonobviousness for every potential embodiment of the claim.”) (citations, quotations omitted); *see also In re Glatt Air Techniques, Inc.*, 630 F.3d 1026, 1030 (Fed. Cir. 2011) (single embodiment commensurate).

fungicidal combination was also tested. Notably, the combinations tested fall within the scope of claim 1.

EX1003, ¶258. More specifically, over two years, Syngenta tested multiple claimed compositions, including multiple doses and formulations for multiple soybean varieties across multiple fields with the two required components (benzovindiflupyr and mancozeb) and a third component from the claimed groups of both (i) ergosterol biosynthesis inhibitor (prothioconazole, difenoconazole) and (ii) quinone outside inhibitor fungicide (azoxystrobin). And, as noted, Syngenta even tested four-way combination “B8” containing two ergosterol biosynthesis inhibitors (difenoconazole, cyproconazole).

Second, Syngenta had relied on these formulations for its assertion that “the claims are not enabled *over their unbounded scope....*” Pet., 80; EX2018, 35:16-38:19; *see also* EX2020, ¶¶288-292 (Syngenta’s data supports enablement across full claim scope); EX2019 13:17-19. It is inconsistent for Syngenta to now argue its formulations are not reasonably commensurate with this same claim scope.

Finally, the record evidence supports expectation of a class effect for other claimed EBIs and QOIs beyond those tested by Syngenta. For example, each class has, respectively, common sites and modes of action. *E.g.*, EX1001, 1:37-42; EX1003, ¶¶48, 55; EX1011, 10, 22, 27, 30-31; EX2030, 57-58; EX2038, 12. Each is likewise disclosed as a class within the patent. EX1001, 20:4-9, 19:63-21:11. This

undisputed evidence provides “an adequate basis to support the conclusion that other embodiments falling within the claim will behave in the same manner [and] this will generally establish that the evidence is commensurate with scope of the claims.” *In re Kao*, 639 F.3d 1057, 1068 (Fed. Cir. 2011).

2. Yield Data Shows Unexpected Results

Syngenta takes issue with UPL applying the Colby analysis to yield data (Reply, 26-27). But its declarant admitted that *a POSA “could substitute percent yield” in Colby*. EX2021, 119:5-120:2. And Syngenta still does not dispute Dr. Jacobsen’s conclusion: independent of Colby, “across the board for disease severity, yield, and defoliation, all the tested combinations outperformed the individual components by wide margins,” with average improvement in yield increasing from 143% for individual components to 182% for claimed combinations. EX2020, ¶247. Nor does Syngenta dispute Dr. Jacobsen’s conclusion that “[t]his enhanced efficacy is an important result that *would have been considered surprising and unexpected by a [POSA]*.” EX2020, ¶¶248-249. These improvements are particularly significant, as yield is ultimately the most important parameter. POR, 75; EX2020, ¶253; EX2021, 135:5-14 (“Ultimately, I mean, that's why we put these fungicides out to begin with.”).

The only issues Syngenta raises is that “Dr. Jacobsen was unable to identify which Colby formula he used in his yield analysis.” Reply, 26. But as is clear from

Appendix B of Dr. Jacobsen's declaration—unlike Dr. Prates—Dr. Jacobsen provides the formula he uses for each step of his calculations. Syngenta does not dispute these calculations or their results.

3. Lower Colby Ratio for Overlapping Modes of Action Is Appropriate but Still Not Necessary to Establish Synergy

Syngenta attacks Dr. Jacobsen's analysis for "reducing the Colby ratio from 1 to 0.8." Reply, 23. What Dr. Jacobsen explained, however, is "where the modes of action overlap, synergy would be reflected in a lower Colby ratio... [and] the ratio as low as 0.8 may still reflect synergy for combinations having overlapping modes of action." EX2020, ¶244 n.5. Nevertheless, Dr. Jacobsen "used the more conservative 0.9 threshold." EX2020, ¶244.

Moreover, Syngenta does not dispute its tested combinations all involve overlapping modes of action. POR, 73; EX1043, 193:15-5, 212:14-20, 215:16-217:19. Nor does Syngenta dispute that where there are overlapping modes of action, Colby overestimates the synergy threshold. POR, 73; EX2020, ¶244; EX1043, 179:5-10, 188:12-190:7, 191:8-22, 194:6-195:2, 243:7-244:1; *cf.* EX1043, 241:16-242:21. Nor does Syngenta challenge the decades of experience that guide Dr. Jacobsen's analysis. EX1043, 30:8-21, 31:11-14, 177:11-179:2, 192:1-12, 195:3-196:3. That in other cases UPL conservatively relied upon a 1 Colby ratio for formulations different from Syngenta's is not inconsistent. Reply, 23-24 (citing

EX1034). And, even with a Colby threshold of 1, Syngenta has no response for the many data points with synergy above and sometime far greater than 1. POR, 72-79; EX2020, ¶¶253-272.

4. Correction Of Defoliation Transcriptional Error Indicates Even Greater Synergy

Syngenta points to a transcription error in *one* data table out of the 90+ pages of Dr. Jacobsen's Appendix B to argue Dr. Jacobsen's analysis is unreliable and does not show synergy. Reply, 25-26. As Syngenta correctly points out, "the values for A9 on Page 24 should also be identical to the values for A9 on page 25." Reply, 25 (quoting EX1043, 264:4-10). That is, the remaining foliage (page 24) and % remaining foliage (page 25) are necessarily the same in this instance.⁸ As shown below, the data on page 24 (remaining foliage, (left, below)) was simply misaligned by one row on page 25 (% remaining foliage (right, below)): the A4 data

⁸ Appendix B pp. 24-25 should be identical because the observed "check" control measured complete defoliation. Unlike Dr. Prates, Dr. Jacobsen spelled out each step of his calculations, starting with reproductions of Syngenta's produced field book data as arranged and labeled by Syngenta in EX1031-EX1033, making clear this is a transcription error. EX1043, 252:15-253:9, 251:20-252:14.

was inadvertently duplicated in row A8, this shifted the A8 data down to row A9, shifted the A9 data down to row A10, and omitted the A10 data.

Group A Remaining Foliage						Equation
Average	Area 1	Area 2	Area 3	Area 4		
Check	0.0	0.0	0.0	0.0	0.0	= 100 - Check
A1 (Benzovindiflupyr 30)	2.2	0.0	5.3	1.3	2.0	= 100 - A1
A2 (Prothioconazole 70)	9.9	1.3	15.0	19.7	3.7	= 100 - A2
A3 (Mancozeb 900)	7.2	1.0	15.0	3.0	10.0	= 100 - A3
A5 (Benzovindiflupyr 200)	6.8	1.0	18.3	2.3	5.7	= 100 - A5
A6 (Prothioconazole 150)	9.7	1.3	11.7	15.0	11.0	= 100 - A6
A7 (Mancozeb 1500)	9.1	1.0	23.3	0.7	11.3	= 100 - A7
A4 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	18.8	2.0	26.7	23.3	23.3	= 100 - A4
A8 (Benzovindiflupyr 200 + Prothioconazole 150 + Mancozeb 1500)	27.8	3.0	25.0	36.7	46.7	= 100 - A8
A9 (Benzovindiflupyr 33 + Prothioconazole 68 + Mancozeb 900)	20.1	2.0	21.7	34.0	22.7	= 100 - A9
A10 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	17.8	2.0	21.7	34.0	13.7	= 100 - A10

Check	Average	Area 1	Area 2	Area 3	Area 4	Equation	Source
A1 (Benzovindiflupyr 30)	2.2	0.0	5.3	1.3	2.0	= Check - A1	EX1012, 3
A2 (Prothioconazole 70)	9.9	1.3	15.0	19.7	3.7	= Check - A2	EX1012, 3
A3 (Mancozeb 900)	7.2	1.0	15.0	3.0	10.0	= Check - A3	EX1012, 3
A5 (Benzovindiflupyr 200)	6.8	1.0	18.3	2.3	5.7	= Check - A5	EX1012, 3
A6 (Prothioconazole 150)	9.7	1.3	11.7	15.0	11.0	= Check - A6	EX1012, 3
A7 (Mancozeb 1500)	9.1	1.0	23.3	0.7	11.3	= Check - A7	EX1012, 3
A4 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	18.8	2.0	26.7	23.3	23.3	= Check - A4	EX1012, 3
A8 (Benzovindiflupyr 200 + Prothioconazole 150 + Mancozeb 1500)	18.8	2.0	26.7	23.3	23.3	= Check - A8	EX1012, 3
A9 (Benzovindiflupyr 33 + Prothioconazole 68 + Mancozeb 900)	27.8	3.0	25.0	36.7	46.7	= Check - A9	EX1012, 3
A10 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	20.1	2.0	21.7	34.0	22.7	= Check - A10	EX1012, 3

EX2020, ¶¶141-142 (colored boxes and arrows added for illustration).

Syngenta offers no declarant analyzing its defoliation data or contending it does not demonstrate unexpected synergy. EX2020, ¶256. Nor does it have basis to dispute Dr. Jacobsen's overall conclusion that Syngenta's defoliation data demonstrates synergy. EX2020, ¶257. Indeed, Syngenta could not because, adjusting for the transcription error and using the correct input data in the Colby formula, the correct defoliation conclusions *show even more instances of synergy* from Syngenta's defoliation data.

	Average	Area 1	Area 2	Area 3	Area 4
A4 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	1.03	0.87	0.85	1.01	1.55
A8 (Benzovindiflupyr 200 + Prothioconazole 150 + Mancozeb 1500)	0.80	0.61	0.60	1.33	0.91
A9 (Benzovindiflupyr 33 + Prothioconazole 68 + Mancozeb 900)	1.53	1.31	0.79	1.59	3.10
A10 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	1.10	0.87	0.69	1.47	1.51

	Average	Area 1	Area 2	Area 3	Area 4
A4 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	1.03	0.87	0.85	1.01	1.55
A8 (Benzovindiflupyr 200 + Prothioconazole 150 + Mancozeb 1500)	1.18	0.92	0.56	2.09	1.83
A9 (Benzovindiflupyr 33 + Prothioconazole 68 + Mancozeb 900)	1.10	0.87	0.69	1.47	1.51
A10 (Benzovindiflupyr 30 + Prothioconazole 70 + Mancozeb 900)	0.98	0.87	0.69	1.47	0.91

(left) EX2020, ¶256 (containing errors outlined above for A8-A10); (right) corrected Colby ratio from EX2020, ¶¶140-142 (circling additional synergy). The corrected Colby ratio is calculated by *simple division*, specifically dividing the correct % remaining foliage (or equivalently remaining foliage from Appendix B, pg. 24) by the C_{expected} (Appendix B, pg. 26), as explained by Dr. Jacobsen. EX2020, ¶251. For example, for A8 Area 1 the remaining foliage is 3.0 (Appendix B, pg. 24) and the C_{expected} is 3.3 (Appendix B, pg. 26), yielding a Colby ratio of $3.0/3.26 = 0.92$ as shown above (right).

5. Dr. Prates's Analysis Was Unreliable

UPL identified material issues with Dr. Prates' bases for alleging no synergy, including Syngenta's withholding of defoliation, yield, and disease severity data showing synergy (POR, 70, 72, 77-78; EX1003, ¶258 (citing EX1020, ¶14)), selectively excluding disease severity data collected from certain weeks without explanation (POR, 75-78), and using different calculation methods across the same conditions without explanation (POR, 75-78). Syngenta fails to dispute or defend these material omissions, errors, and biased selections.

B. Long-Felt But Unmet Need Was Clear

Syngenta presents attorney argument that there is no long-felt need for fungicides for Asian Soybean rust because "the problem had already been solved" by "Godoy, Tobler, and Oliveira." Reply, 21. Syngenta then discounts the fact it

promoted the claimed combinations with arguments that its promotion was to its Mitrion product (prothioconazole + benzovindiflupyr) with the multisite inhibitor chlorothalonil or mancozeb, not mancozeb specifically. Reply, 22. But Syngenta provides no evidence or expert testimony to rebut Dr. Jacobsen's opinion and evidence that the '727 patent solved a long-felt but unmet need. EX2020, ¶¶182-183, 273-277; EX1043, 110:17-16. *See also* EX1043, 13:12-14:21, 17:4-12 (describing need for overcoming continues fungicide resistance).

VII. Petitioner Does Not Challenge That It Misapplied the Legal Standard for Its Section 112 Arguments (Grounds 4, 5)

As UPL and the Board have pointed out, Syngenta applies the wrong §112 standards in its Petition. POR, 79-87; ID, 20-22. Syngenta does not challenge that it applied the wrong standards, effectively conceding Grounds 4 and 5 do not establish unpatentability.

VIII. Conclusion

For these reasons and those detailed in the POR, Petitioner has failed to prove any challenged claim is unpatentable.

Respectfully Submitted

Dated: March 15, 2024

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CERTIFICATE OF COMPLIANCE WITH WORD COUNT

Pursuant to 37 C.F.R. § 42.24(d), the undersigned certifies that this Patent Owner's Sur-Reply complies with the type-volume limits of 37 C.F.R. § 42.24(b)(1), because it contains 5,566 words, according to the word-processing system used to prepare this response, excluding the words in the Table of Contents, Table of Authorities, Certification Under § 42.24(d), and Certificate of Service, as set forth in 37 C.F.R. § 42.24(c).

Respectfully Submitted

Dated: March 15, 2024

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CERTIFICATE OF SERVICE

The undersigned certifies that a copy of the foregoing **Patent Owner's Sur-Reply** was served electronically via email on March 15, 2024, in its entirety on the following:

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