

IN THE UNITED STATES DISTRICT COURT  
FOR THE DISTRICT OF DELAWARE

AGROFRESH INC., )  
)  
Plaintiff, )  
)  
v. )  
) C.A. No. 18-1486 (MN)  
HAZEL TECHNOLOGIES, INC. and )  
DECCO US POST-HARVEST, INC., )  
)  
Defendants. )

**MEMORANDUM ORDER**

At Wilmington this 31st day of January 2020:

IT IS HEREBY ORDERED that the claim term of U.S. Patent Nos. 6,017,849 (“the ’849 Patent”) and 6,313,068 (“the ’068 Patent”) with an agreed-upon construction is construed as follows (*see* D.I. 118 at 22):

1. “a compound having the following structure  $(R)_n$   ”

means “a compound in which ‘n’ number of substituent ‘R’ atom(s) or group(s) is/are attached to a cyclopropane ring”

Further, as announced at the hearing on January 27, 2020, IT IS HEREBY ORDERED that the disputed claim terms of the ’849 and ’068 Patents are construed as follows:

1. “molecular encapsulation agent” means “a compound that has a lock and key structure similar to an enzyme whereby a substrate selectively fits into the encapsulation site” (’849 Patent, all claims; ’068 Patent, all claims)
2. “a complex formed from a molecular encapsulation agent and a compound” shall be given its plain and ordinary meaning (’849 Patent, claim 1; ’068 Patent, claims 1 and 6)

3. “n is a number from 1 to 10” shall be given its plain and ordinary meaning<sup>1</sup> ('068 Patent, claims 1 and 6)

The parties briefed the issues (*see* D.I. 118) and submitted an appendix containing both intrinsic and extrinsic evidence, including expert declarations (*see* D.I. 119, 120, 121, 122, 123 & 124; *see also* D.I. 100). Both sides provided a tutorial describing the relevant technology. (*See* D.I. 116 & 125). The Court carefully reviewed all submissions in connection with the parties' contentions regarding the disputed claim terms, heard oral argument (*see* D.I. 143) and applied the following legal standards in reaching its decision:

#### **I. LEGAL STANDARDS**

“[T]he ultimate question of the proper construction of the patent [is] a question of law,” although subsidiary fact-finding is sometimes necessary. *Teva Pharms. USA, Inc. v. Sandoz, Inc.*, 574 U.S. 318, 325-27 (2015). “[T]he words of a claim are generally given their ordinary and customary meaning [which is] the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention, i.e., as of the effective filing date of the patent application.” *Phillips v. AWH Corp.*, 415 F.3d 1303, 1312-13 (Fed. Cir. 2005) (en banc) (internal citations and quotation marks omitted). Although “the claims themselves provide substantial guidance as to the meaning of particular claim terms,” the context of the surrounding words of the claim also must be considered. *Id.* at 1314. “[T]he ordinary meaning of a claim term is its meaning to the ordinary artisan after reading the entire patent.” *Id.* at 1321 (internal quotation marks omitted).

The patent specification “is always highly relevant to the claim construction analysis . . . [as] it is the single best guide to the meaning of a disputed term.” *Vitronics Corp. v. Conception*,

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<sup>1</sup> To be clear, the Court will not correct claims 1 and 6 of the '068 Patent to change the meaning of “n is a number from 1 to 10” to “n is a number from 1 to 4.”

*Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996). It is also possible that “the specification may reveal a special definition given to a claim term by the patentee that differs from the meaning it would otherwise possess. In such cases, the inventor’s lexicography governs.” *Phillips*, 415 F.3d at 1316. “Even when the specification describes only a single embodiment, [however,] the claims of the patent will not be read restrictively unless the patentee has demonstrated a clear intention to limit the claim scope using words or expressions of manifest exclusion or restriction.” *Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1372 (Fed. Cir. 2014) (internal quotation marks omitted) (quoting *Liebel-Flarsheim Co. v. Medrad, Inc.*, 358 F.3d 898, 906 (Fed. Cir. 2004)).

In addition to the specification, a court “should also consider the patent’s prosecution history, if it is in evidence.” *Markman v. Westview Instruments, Inc.*, 52 F.3d 967, 980 (Fed. Cir. 1995) (en banc), *aff’d*, 517 U.S. 370 (1996). The prosecution history, which is “intrinsic evidence, . . . consists of the complete record of the proceedings before the [Patent and Trademark Office] and includes the prior art cited during the examination of the patent.” *Phillips*, 415 F.3d at 1317. “[T]he prosecution history can often inform the meaning of the claim language by demonstrating how the inventor understood the invention and whether the inventor limited the invention in the course of prosecution, making the claim scope narrower than it would otherwise be.” *Id.*

In some cases, courts “will need to look beyond the patent’s intrinsic evidence and to consult extrinsic evidence in order to understand, for example, the background science or the meaning of a term in the relevant art during the relevant time period.” *Teva*, 574 U.S. at 331. Extrinsic evidence “consists of all evidence external to the patent and prosecution history, including expert and inventor testimony, dictionaries, and learned treatises.” *Markman*, 52 F.3d at 980. Expert testimony can be useful “to ensure that the court’s understanding of the technical aspects of the patent is consistent with that of a person of skill in the art, or to establish that a

particular term in the patent or the prior art has a particular meaning in the pertinent field.” *Phillips*, 415 F.3d at 1318. Nonetheless, courts must not lose sight of the fact that “expert reports and testimony [are] generated at the time of and for the purpose of litigation and thus can suffer from bias that is not present in intrinsic evidence.” *Id.* Overall, although extrinsic evidence “may be useful to the court,” it is “less reliable” than intrinsic evidence, and its consideration “is unlikely to result in a reliable interpretation of patent claim scope unless considered in the context of the intrinsic evidence.” *Id.* at 1318-19. Where the intrinsic record unambiguously describes the scope of the patented invention, reliance on any extrinsic evidence is improper. *See Pitney Bowes, Inc. v. Hewlett-Packard Co.*, 182 F.3d 1298, 1308 (Fed. Cir. 1999) (citing *Vitronics*, 90 F.3d at 1583).

## **I. THE COURT’S RULING**

The Court’s rulings regarding the disputed claim terms of the ’849 and ’068 Patents were announced from the bench at the conclusion of the hearing as follows:

. . . At issue are two patents, United States Patent Nos. 6,017,849 and 6,313,068, which largely share a specification.

There are three terms in dispute. I am prepared to rule on each of those disputes. I will not be issuing a written opinion, but I will issue an order stating my rulings. I want to emphasize before I announce my decisions that while I am not issuing a written opinion, we have followed a full and thorough process before making the decisions I am about to state. I have reviewed each of the patents, the portions of the prosecution history submitted and the extensive joint appendix, which included expert declarations and documents from the related case. I have reviewed the tutorials submitted by the parties. There was full briefing on each of the disputed terms and there has been argument here today. All of that has been carefully considered.

Now as to my rulings. I am not going to read into the record my understanding of claim construction law. I have a legal standard section that I have used earlier, including in my relatively recent order in *Quest Diagnostics Investments LLC v. Laboratory Corporation of America Holdings*, C.A. No. 18-1436(MN). I incorporate that law and adopt it into my ruling today, and I will also set it out in the order that I issue.

Additionally, the parties agree that one of ordinary skill in the art would have (1) a bachelor's degree in chemistry, biochemistry, biology, botany, or the like and one to two years of experience or familiarity with inhibiting ethylene response in plants or (2) a master's degree in chemistry, biochemistry, biology, botany, or the like.

The first disputed term is “molecular encapsulation agent,” which is found in all of the claims of the '849 and '068 Patents. Plaintiff asserts that it means “a compound that has a lock and key structure similar to an enzyme whereby a substrate selectively fits into the encapsulation site.” Defendants propose the definition “a compound that has a lock and key structure similar to an enzyme whereby a substrate selectively fits into the encapsulation site; excludes adsorptive carriers.” The crux of the dispute is whether the construction requires that I exclude all adsorptive carriers.

The Court previously construed this term in the prior litigation between AgroFresh and Decco. In that case – C.A. No. 16-662 – the parties and the Court agreed that the specification of the '849 Patent defined the term in column 10, lines 59 through 61, stating: “A molecular encapsulation agent is a compound that has a lock and key structure similar to an enzyme whereby a substrate selectively fits into the encapsulation site.”

AgroFresh argues that Decco should be collaterally estopped from arguing for a different construction here. I need not decide that issue, however, because there is no argument that Hazel is collaterally estopped and, ultimately, I reject Defendants' proposed construction.

Rather, I agree with Plaintiff and will construe this term as it is defined in the specification. The specification “clearly set forth a definition of the disputed claim term” and that definition will govern.<sup>[2]</sup>

I decline to add to that definition the negative limitation, i.e., that it excludes adsorptive carriers. The '849 Patent specification [at column 6, lines 32-36,] states that preferred molecular encapsulation agents include “a cyclodextrin, a crown ether, a polyoxyalkylene, a prophorine, a polysiloxane, a phophazene and a zeolite.” Zeolites are also referenced in other places in the patent

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<sup>2</sup> *CCS Fitness, Inc. v. Brunswick Corp.*, 288 F.3d 1359, 1366 (Fed. Cir. 2002); *see also Jack Guttman, Inc. v. Kopykake Enters., Inc.*, 302 F.3d 1352, 1360 (Fed. Cir. 2002).

[and, indeed, are claimed in dependent claims].<sup>[3]</sup> The parties agree that zeolites can be used as adsorptive carriers. And I will not broadly exclude all adsorptive carriers because that would improperly read out a preferred embodiment.<sup>[4]</sup>

Additionally, I note that specifications of other patents referencing the '849 Patent state that “[a]dsorption is distinct from molecular encapsulation” and that a “‘lock and key’ type size based fit is not required with an adsorption-based complexation process.”<sup>[5]</sup> [That a lock and key based fit is not required for adsorption-based complexation, however, does not necessarily mean that all adsorptive carriers are excluded from the definition of molecular encapsulation as defined by the patents-in-suit.] The question [ultimately will be] whether a particular compound fits within the definition in the specification. [That] is an issue of infringement, not claim construction.

The second disputed term is “a complex formed from a molecular encapsulation agent and a compound,” which is found in claim 1 of the '849 Patent and claims 1 and 6 of the '068 Patent. Plaintiff asserts that this term should have its ordinary meaning – though that meaning was unstated in the brief. Today, Plaintiff offered “substance composed of a molecular encapsulation agent and a compound.” Defendants assert that it means “a union of a molecular encapsulation agent and a compound, in which the compound is trapped until the molecular encapsulation agent is dissolved to release the compound.”

Defendants changed the word “complex” to “union” but the real dispute over this term is the requirement that the agent must be “dissolved to release the compound” rather than be able to release it in some other way. In particular, Defendants assert that if any 1-MCP comes out other than by dissolution, it is not a complex covered by the claims.

I will construe this term to have its plain and ordinary meaning. To be clear, this does not require that the compound be trapped until the molecular encapsulation agent is dissolved.

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<sup>3</sup> (See, e.g., '849 Patent at 6:46-50, 6:66-7:3, 7:19-23, 7:42-45, 7:67-8:4, 8:37-40, 9:2-6 & 10:63-66; see also *id.* at Claims 2, 7, 11, 20).

<sup>4</sup> See *Vitronics Corp. v. Conceptoronic Inc.*, 90 F.3d 1576, 1583 (Fed. Cir. 1996) (a construction that reads out the preferred embodiment is “rarely, if ever, correct”).

<sup>5</sup> (See, e.g., U.S. Patent No. 9,394,216 at 3:19-20 & 5:14-16).

As Defendant Decco previously recognized, the term “complex” is well understood by persons of ordinary skill. Moreover, this construction is consistent with the way the patents describe the multiple aspects of the invention. In column 1, lines 9 through 50, the ’849 Patent describes three aspects of the present invention. First, “methods of minimizing impurities capable of reversibly binding to plant ethylene receptor sites during the synthesis of cyclopropene and its derivatives.” Second, “complexes formed from molecular encapsulation agents.” And third, “methods of delivering to plants the compounds capable of inhibiting their ethylene responses in order to extend shelf life” and those methods involve using a solvent to dissolve the molecular encapsulation agent to release the compound.<sup>[6]</sup>

It is the second aspect of the invention, the complex, that is at issue for the term in dispute here. Although the methods in the third aspect of the invention refer to dissolving the molecular encapsulation agent to release the 1-MCP from the complex, that dissolution is not discussed with respect to the complex alone.

Finally, we have the term “n is a number from 1 to 10” in claims 1 and 6 of the ’068 Patent. Plaintiff asserts that this claim limitation should be construed or corrected as an obvious clerical error to mean “n is a number from 1 to 4.” Defendants assert that it should be given its plain and ordinary meaning and that no correction is necessary.

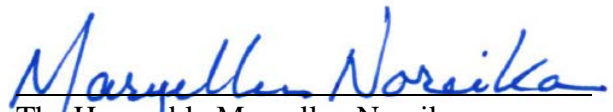
I will not correct the claim. The Federal Circuit instructs that I may correct an error in a claim only if (1) the correction is not subject to reasonable debate based on consideration of the claim language and the specification and (2) the prosecution history does not suggest a different interpretation. That’s *Rembrandt Data Techs. LP v. AOL, LLC*, 641 F.3d 1331, 1339 (Fed. Cir. 2011). Here, the correction is, indeed, subject to reasonable debate. Plaintiff says that it is an obvious clerical error because a person of ordinary skill would understand that a value of n greater than 4 does not make sense. Defendants, however, point out that the 1 to 10 language for n is not just in the claims. The ’068 Patent repeatedly defines n as 1 to 10 in the specification. Dependent claim 15 recites that n is 5 to 10. In fact, during prosecution, in response to a restriction requirement, patentee used the fact that the ’068 Patent claims recited n having a number from 1 to 10 as distinguishing them from the claims of ’849 Patent. The patentee also canceled claims and added claim 15, which as I noted, claims n = 5-10.

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<sup>6</sup> The same three aspects are recited in the ’068 Patent. (*See, e.g.*, ’068 Patent at 1:13-54).

In addition, Plaintiff does not explain what support there is in the patent for limiting n to 4 rather than some other number like 2 or 1. Plaintiff points to column 9, lines 35 to 36, which refer to the derivatives containing from 1 to 4 R groups. The next sentence, however, states that preferably there are 2 and most preferably there is 1 R group. Thus, it is not clear . . . even if the claims should be corrected, how I should correct them.

Because the claim language is subject to reasonable debate and, further, the prosecution history supports multiple interpretations, I will not correct the claim as Plaintiff requests.<sup>[7]</sup> I will not, however, hold the claims invalid at this stage based on one sentence in a footnote. I suggest that Plaintiff (as it did in the prior case) decide whether it really wants to go forward with this patent, particularly in light of the fact that it has expired. And if it does, then I guess we'll need to address the validity issue during summary judgment.

  
The Honorable Maryellen Noreika  
United States District Judge

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<sup>7</sup> Plaintiff filed a motion to correct the '068 Patent (*see* D.I. 103) based on the “n is a number from 1 to 10” term and briefing on that motion was incorporated into the parties’ claim construction briefing (*see* D.I. 104). In light of the Court’s claim construction decision, Plaintiff’s motion to correct the '068 Patent (D.I. 103) is DENIED.