Trials@uspto.gov
571-272-7822

Paper No. 10
Entered: November 6, 2017

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

BAYER CROPSCIENCE LP,
Petitioner,

v.

SYNGENTA LIMITED,
Patent Owner.

Case IPR2017-01332
Patent 8,404,618 B2

Before ZHENYU YANG, CHRISTOPHER G. PAULRAJ, and ROBERT A. POLLOCK, *Administrative Patent Judges.*

PAULRAJ, *Administrative Patent Judge.*

DECISION
Denying Institution of *Inter Partes* Review
37 C.F.R. § 42.108

I. INTRODUCTION

Bayer CropScience LP ("Petitioner") filed a Petition (Paper 2, "Pet."), requesting institution of an *inter partes* review of claims 1–5 and 7–12 of U.S. Patent No. 8,404,618 B2 (Ex. 1001, "the '618 patent"). Syngenta Limited ("Patent Owner") timely filed a Preliminary Response (Paper 6, "Prelim. Resp."). Pursuant to our authorization, Petitioner also filed a Reply to address Patent Owner's arguments that certain prior art references are disqualified under pre-AIA 35 U.S.C. § 103(c)(1).

We have authority under 35 U.S.C. § 314, which provides that an *inter partes* review may not be instituted "unless . . . there is a reasonable likelihood that the petitioner would prevail with respect to at least 1 of the claims challenged in the petition." Upon consideration of the Petition, Patent Owner's Preliminary Response, and Petitioner's Reply, and for the reasons explained below, we determine that Petitioner has not shown that there is a reasonable likelihood that it would prevail with respect to at least one of the challenged claims. We, thus, deny institution of an *inter partes* review as to the '618 patent.

A. Related Proceedings

Petitioner and Patent Owner do not identify any related proceedings.

B. The '618 Patent (Ex. 1001)

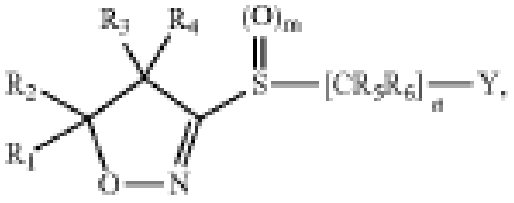
The '618 patent issued on March 26, 2013, with Andrew Plant, Willy Thaddaeus Ruegg, Jean Wenger, Ulrich Johannes Haas, and Anjaas Greiner listed as co-inventors. Ex. 1001, (45), (75). The '618 patent claims priority to a PCT application filed April 29, 2005, as well as to a foreign application filed April 30, 2004. *Id.* at (22), (30). The '618 patent relates generally to "new herbicidal compositions for combating weed grasses and weeds in

crops of useful plants, which comprise a herbicide and a safener which preserves the useful plant but not the weed grasses and weeds against the phytotoxic action of the herbicide." *Id.* at 1:7–11. The '618 patent indicates that "[t]he interaction of herbicides and safeners is complex, and it is difficult to predict which safeners, if any, will be useful with a given herbicide." *Id.* at 1:23–26. As the herbicide to be used in the composition, the '618 patent identifies compounds of "formula I," which are set forth generally in independent claim 1 and more specifically in dependent claims 2–9.

C. Illustrative Claim

Petitioner challenges claims 1–5 and 7–12 of the '618 patent. Independent claim 1 and dependent claim 9 are illustrative, and are reproduced below:

1. A herbicidal composition comprises a mixture of
a) a herbicidally active amount of a compound of the formula I



wherein
R_1 and R_2 are each independently of the other hydrogen or C_1-C_{10}alkyl
R_3 and R_4 are each independently of the other hydrogen, C_1-C_{10}alkyl or C_1-C_{10}haloalkyl;
m is an integer selected from 1 or 2;
R_5 and R_6 are each independently of the other hydrogen or methyl;
n is an integer selected from 1 or 2;

> Y is phenyl or phenyl substituted by halogen, C_1-C_6alkyl or C_1-C_6haloalkyl, or
> Y is diazole in which the diazole can be substituted by hydroxyl, halogen, C_1-C_{10}alkyl or C_1-C_{10}alkyl substituted by hydroxyl, C_1-C_{10}alkoxy, C_1-C_4haloalkyl, C_1-C_4haloalkoxy;
> and
> b) a herbicide-antagonistically active amount of a safener selected from the group consisting of cloquintocet-mexyl or a lithium, sodium, potassium, calcium, magnesium, aluminium, iron, ammonium, quaternary ammonium, sulfonium or phosphonium salt thereof, fenchlorazole-ethyl, mefenpyr-diethyl, isoxadifen-ethyl, furilazole or the R isomer thereof, benoxacor, dichlormid, MON4660, oxabetrinil, cyometrinil, the Z isomer thereof, fenclorim, N-cyclopropyl-4-(2-methoxy-benzoylsulfamoyl)-benzamide, N-isopropyl-4-(2-methoxy-benzoylsulfamoyl)-benzamide, naphthalic acid anhydride or flurazole, or a combination thereof.
>
> 9. The composition according to claim 1, wherein the compound of the formula I is 3-(5-difluoromethoxy-1-methyl-3-trifluoromethyl-1H-pyrazol-4-ylmethylsulf- onyl)-5,5-dimethyl-4,5-dihydroisoxazole.
>
> The compound of claim 9 is also referred to as "pyroxasulfone."

Ex. 1002 ¶ 38; Ex. 2001 ¶ 39.

D. The Asserted Grounds of Unpatentability

Petitioner challenges the patentability of the claims of the '618 patent based on the following grounds:

References	Basis	Claims challenged
Polge Patent[1]	§ 102(e)(2)	1–5 and 7–12
Polge Publication[2]	§ 102(e)(1)	1–5 and 7–12
Polge Patent and Owen[3]	§ 103(a)	1–5 and 7–12
Polge Publication and Owen	§ 103(a)	1–5 and 7–12
Takahashi,[4] Owen, and Ziemer1[5]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Ziemer2[6]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Ziemer3[7]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Hubele[8]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Chollet[9]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Fedtke[10]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Sprague[11]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Davies[12]	§ 103(a)	1–5 and 7–12
Takahashi, Owen, and Leuschen[13]	§ 103(a)	1–5 and 7–12

[1] US Patent 8,551,918 B2 issued to Nicholas Polge on October 8, 2013 ("Polge Patent") (Ex. 1008).
[2] PCT Publication WO 2005/055716 A2 published on June 23, 2005, to Nicholas Polge ("Polge Publication") (Ex. 1009).
[3] Michael D.K. Owen et al., *Evaluation of preemergence applications of KIH-485, s-metolachlor & CGA-154281, and s-metolachlor & atrazine & CGA-154281 for crop phytotoxicity and weed control in corn*, Nashua, IA, 2003 NCWSS Research Report, Vol. 60, 51–52 (2003) ("Owen") (Ex. 1012)
[4] English translation of PCT Publication WO 2004/014138 A1 published on February 19, 2004, to Satoru Takahashi ("Takahashi translation") (Ex. 1013/Ex. 1014).

Petitioner further relies upon the Declaration of Michael D. K. Owen, Ph.D. (Ex. 1002) in support of its challenge. Patent Owner relies upon the Declaration of Stevan Knezevic, Ph.D. (Ex. 2001) in its Preliminary Response.

II. ANALYSIS

A. Claim Construction

We interpret claims using the "broadest reasonable construction in light of the specification of the patent in which [they] appear[]." 37 C.F.R. § 42.100(b); *see also Cuozzo Speed Techs., LLC v. Lee*, 136 S. Ct. 2131,

---

[5] PCT Publication WO 03/022050 A1 published March 20, 2003, to Frank Ziemer et al. ("Ziemer1)" (Ex. 1016).
[6] US Patent 6,251,827 B1 issued to Frank Ziemer et al. on June 26, 2001 ("Ziemer2") (Ex. 1017).
[7] PCT Publication WO 02/060255 A2 published on August 8, 2002, to Frank Ziemer et al. ("Ziemer3)" (Ex. 1018).
[8] US Patent 4,902,340 issued to Adolf Hubele on February 20, 1990 ("Hubele") (Ex. 1019).
[9] English Translation of PCT Publication WO 98/47356 published on October 29, 1998 ("Chollet translation") (Ex. 1020/Ex. 1021).
[10] Carl Fedtke et al., *Synergistic Activity of the Herbicide Safener Dichlormid with Herbicides Affecting Photosynthesis*, Zeitschrift Für Naturforschung, Section C, Biosciences 1990 Vol. 45, 565–56 ("Fedtke") (Ex. 1022).
[11] Christy L. Sprague et al., *Enhancing the Margin of Selectivity of RPA 201772 in Zea mays with Antidotes*, Weed Science, Vol. 47, 492–497 (1999) ("Sprague") (Ex. 1023).
[12] Joanna Davies et al., *Herbicide Safeners – Commercial Products and Tools for Agrochemical Research*, Pesticide Outlook 10–15 (February 2001) ("Davies") (Ex. 1015).
[13] William E. Lueschen et al., *Effects of a Seed-Applied Safener on Corn Injury from Clomazone, Imazaquin and Imazethapyr*, University of Minnesota Southern Experiment Station Research Report, 72–73 (1989) ("Lueschen") (Ex. 1024).

2144–46 (2016). Under the broadest reasonable construction standard, claim terms are generally given their ordinary and customary meaning, as would be understood by one of ordinary skill in the art at the time of the invention. *In re Translogic Tech., Inc.*, 504 F.3d 1249, 1257 (Fed. Cir. 2007). "Absent claim language carrying a narrow meaning, the PTO should only limit the claim based on the specification . . . when [it] expressly disclaim[s] the broader definition." *In re Bigio*, 381 F.3d 1320, 1325 (Fed. Cir. 2004). "Although an inventor is indeed free to define the specific terms used to describe his or her invention, this must be done with reasonable clarity, deliberateness, and precision." *In re Paulsen*, 30 F.3d 1475, 1480 (Fed. Cir. 1994).

Petitioner proposes constructions for the terms "comprises" and "herbicide antagonistically active amount of safener." *See* Pet. 13–18. We apply the traditional understanding in patent law that the transitional phrase "comprising" in claim language is open-ended. *See Gillette Co. v. Energizer Holdings, Inc.*, 405 F.3d 1367, 1371–73 (Fed. Cir. 2005). At this stage of the proceeding, however, we find that no explicit construction of any other claim term is necessary to determine whether to institute a trial in this case. *See Wellman, Inc. v. Eastman Chem. Co.*, 642 F.3d 1355, 1361 (Fed. Cir. 2011) ("[C]laim terms need only be construed 'to the extent necessary to resolve the controversy.'" (Quoting *Vivid Techs., Inc. v. Am. Sci. & Eng'g, Inc.*, 200 F.3d 795, 803 (Fed. Cir. 1999))).

B. Level of Skill in the Art

Petitioner contends that a person of ordinary skill in the art for the '618 patent would be "an agronomist, *i.e.*, a person who studies the science of the production of crops for use as food, fuel or fiber, with a focus on weed

science and controlling weeds," and that "[t]his person would likely be a university researcher or a scientist at a crop science company" and "have a minimum of five years of experience evaluating herbicides and combinations thereof on at least one major field crop and would have knowledge of the different modes of actions and chemical classes of herbicides, and the problems[, such as crop injury,] encountered using herbicides." Ex. 1002 ¶ 14. Patent Owner does not explicitly address the education and experience level required for the skilled artisan in its Preliminary Response.

On this record, we adopt Petitioner's definition of the level of ordinary skill in the art as it undisputed and consistent with the evidence of record. We further note that the prior art itself demonstrates the level of skill in the art at the time of the invention. *See Okajima v. Bourdeau*, 261 F.3d 1350, 1355 (Fed. Cir. 2001) (explaining that specific findings regarding ordinary skill level are not required "where the prior art itself reflects an appropriate level and a need for testimony is not shown") (quoting *Litton Indus. Prods., Inc. v. Solid State Sys. Corp.*, 755 F.2d 158, 163 (Fed. Cir. 1985)).

C. Patentability Analysis

1. Anticipation Based on Polge; Obviousness Based on Polge and Owen

The Polge Patent (Ex. 1008) and Polge Publication (Ex. 1009) (collectively, "Polge") share the same written description, and Petitioner relies upon the same teachings in both references. Petitioner asserts that "the two references differ insofar as (a) the statutory requirements for prior art under § 102(e)(1) are different than under § 102(e)(2); (b) the claims of the Polge publication are different than the claims of the Polge patent; and (c)

the named owners are different as well." Pet. 33. For purposes of our analysis herein, we consider the references together.

Petitioner contends that Polge anticipates each of the challenged claims. Pet. 26–34. Petitioner also contends that the challenged claims are rendered obvious by Polge in combination with Owen. *Id.* at 34–37. Polge teaches an herbicidal composition which can include an acetamide herbicide, and identifies "KIH-485" among the preferred acetamide herbicides. Ex. 1008, 2:14, 4:53–56; Ex. 1009, 3. Owen describes a study evaluating the preemergence application of KIH-485 and other herbicides for crop phytotoxicity and weed control in corn. Ex. 1012, 51.

Petitioner contends that the KIH-485 herbicide identified in Polge and Owen is pyroxasulfone, i.e., the herbicide compound of dependent claim 9. Pet. 9–10. Neither Polge nor Owen, however, identifies the chemical structure or formula of KIH-485. Moreover, one other reference of record, dated 2004, states that "KIH-485 is an experimental herbicide from Kumiai America," and "[t]he chemistry, fate and action, and biological information has not been released at this time." Ex. 1040, 34; *see also* Ex. 2001 ¶ 27 (Patent Owner's declarant attesting that KIH-485 is an "'experimental code name,' which does not provide any information whatsoever about the chemical structure, chemical family, chemical common name, or mechanism of action of the experimental herbicide"). Petitioner's only documentary evidence correlating KIH-485 to pyroxasulfone comes from an undated publication, which states that "[t]he experimental portion of the study was conducted between October 17 and October 21, 2008," which is well after the priority date claimed for the '618 Patent. Ex. 1025, 10. Given that Petitioner does not challenge the priority date, we agree with Patent Owner

that Exhibit 1025 does not qualify as prior art. Prelim. Resp. 15. Petitioner, therefore, has not shown that the skilled artisan would have understood or recognized KIH-485 as the claimed herbicide prior to the filing date of the'618 patent.

Accordingly, we determine that Petitioner has not established a reasonable likelihood of prevailing with respect to its anticipation challenges based on Polge or its obviousness challenges based on Polge and Owen.

2. Obviousness Based on Takahashi and Owen

Petitioner contends that the challenged claims are also rendered obvious by the combination of Takahashi and Owen, along with one of several references teaching the use of a safener. Pet. 37–59.

For these obviousness challenges, Petitioner relies upon Owen as teaching that "KIH-485 was superior to other soil-applied acetamide herbicides for weed control, yet it caused 'significant injury' at the rate of 0.446 lb/A (which was nonetheless effective to control weeds." Pet. 39. As discussed above, however, Petitioner has not shown that the skilled artisan would have understood or recognized the KIH-485 herbicide mentioned in Owen to be pyroxasulfone prior to the filing date of the '618 patent. Petitioner has also not demonstrated why the skilled artisan would have considered Owen's teaching regarding KIH-485 to be relevant to Takahashi, which does not utilize the KIH-485 nomenclature to refer to the herbicides of formula (I) discussed therein.

Accordingly, we determine that Petitioner has not established a reasonable likelihood of prevailing with respect to its obviousness challenges based on Takahashi and Owen.

III. CONCLUSION

For the foregoing reasons, we conclude Petitioner has not demonstrated a reasonable likelihood that it would prevail in proving the unpatentability of claims 1–5 and 7–12 of the ’618 patent.

IV. ORDER

In consideration of the foregoing, it is hereby:

ORDERED that, pursuant to 35 U.S.C. § 314(a), the Petition for *inter partes* review is denied as to all challenged claims of the ’618 patent.

.

PETITIONER:

Susan E. Shaw McBee
Chester Moore
Stephanie Amoroso
MCBEE MOORE WOODWARD & VANIK IP, LLC
ptab-ipr@mmwvlaw.com
cgmoore@mmwvlaw.com
samoroso@mmwvlaw.com

Andrew S. Baluch
BALUCH LLP
andrew@baluchlaw.com

PATENT OWNER:

John C. Alemanni
Allison W. Dobson
KILPATRICK TOWNSEND
jalemanni@kilpatricktownsend.com
adobson@kilpatricktownsend.com