Paper No. 8 Date: September 15, 2020

# BEFORE THE PATENT TRIAL AND APPEAL BOARD SYNGENTA CROP PROTECTION AG, Petitioner, v. FMC Corporation, Patent Owner. PGR2020-00028 Patent 10,294,202 B2

Before SUSAN L. C. MITCHELL, ZHENYU YANG, and CYNTHIA M. HARDMAN, *Administrative Patent Judges*.

HARDMAN, Administrative Patent Judge

DECISION
Granting Institution of Post-Grant Review
35 U.S.C. § 324



# I. INTRODUCTION

Syngenta Crop Protection AG ("Petitioner") filed a Petition requesting post-grant review of claims 1–7, 9–13, and 21–31 of U.S. Patent No. 10,294,202 B2 ("the '202 Patent," Ex. 1001). Paper 1 ("Pet."). FMC Corporation ("Patent Owner") filed a Preliminary Response to the Petition. Paper 7 ("Prelim. Resp.").

To institute a post-grant review, we must determine that the information presented in the Petition demonstrates "that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable." 35 U.S.C. § 324(a). For the reasons explained below, we institute a post-grant review of the challenged claims based on the grounds of unpatentability identified in the Petition. Pet. 5 (statement of grounds).

The following preliminary findings of fact and conclusions of law are made for the sole purpose of determining whether to institute review. Any final decision will be based on the full trial record.

## A. Related Matters

Petitioner identifies the following two applications to which the '202 Patent claims priority: (1) U.S. Provisional Application No. 61/911,324 (filed 12/3/2013); and (2) PCT/US2014/068073, WO2015/084796 (published June 11, 2015). Pet. 3–4.

Patent Owner states that it "knows of no judicial or administrative matters that may affect or be affected by a decision in this proceeding." Paper 3 (Patent Owner Mandatory Notices), 2.

# B. The '202 Patent (Ex. 1001)

The '202 Patent, titled "Pyrrolidinones as Herbicides," "relates to certain pyrrolidinones, their N-oxides and salts, and compositions and



methods of their use for controlling undesirable vegetation." Ex. 1001, code (54), 1:5–7. The specification states that "[t]he control of undesired vegetation is extremely important in achieving high crop efficiency," and that "[m]any products are commercially available for these purposes, but the need continues for new compounds that are more effective, less costly, less toxic, environmentally safer or have different sites of action." *Id.* at 1:11–23.

The challenged claims of the '202 Patent cover a genus of pyrrolidinone compounds (claims 1–7, 22–31), herbicidal compositions and mixtures comprising such compounds (claims 9–12, 21), and a method for controlling the growth of undesired vegetation comprising using such compounds (claim 13). *Id.* at 285:29–293:24. The '202 Patent provides sixteen synthesis schemes for preparing the disclosed compounds (*id.* at 33:9–41:49), as well as seven example syntheses (*id.* at 42:44–50:35). The '202 Patent also discloses approximately 350 compounds that were prepared (Index Tables A–D) and tested for herbicidal effect on various crop and weed species (Tables A–H5). *Id.* at 173:49–54, 174:1–182:50, 182:57–285:27.

# C. Prosecution History

We provide a brief overview of the prosecution history to supply context for the dispute between the parties. The '202 Patent issued from U.S. Patent Application Serial No. 15/101,615 ("the '615 application"), filed on December 2, 2014, as PCT/US2014/068073. Ex. 1001, codes (21), (22), (86). The '202 Patent claims earliest priority to Provisional Application No. 61/911,324, filed on December 3, 2013. *Id.* at code (60).



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The '615 application was filed with eleven claims, of which claim 1 was independent. Ex. 1002, 2230–2235. Pursuant to an election of species requirement, applicants elected Compound 351, which is a compound of Formula 1 wherein:

 $Q^1$  is Ph(3-CF<sub>3</sub>) (e.g., phenyl substituted with 1 substituent selected from  $R^7$ ;  $R^7$  is  $C_1$ - $C_8$  haloalkyl (3-trifluoromethyl));

 $Q^2$  is Ph(2-F) (e.g., phenyl substituted with 1 substituent selected from  $R^{10}$ ;  $R^{10}$  is halogen (2-fluoro));

 $Y^1$  and  $Y^2$  are both O;

R<sup>2</sup>, R<sup>3</sup>, R<sup>4</sup>, R<sup>5</sup> and R<sup>6</sup> are each H; and

R<sup>1</sup> is CH<sub>3</sub> (i.e. methyl).

Id. at 1700, 1690. Compound 351 is depicted below:

Id. at 1690.

The Examiner subsequently rejected the claims as anticipated by Kotoku et al., US 2016/0137639 (equivalent of WO2014/065413). *Id.* at 1033. Applicants initially sought to amend claim 1 to disclaim the compounds found in Kotoku by adding exclusionary provisos (*id.* at 1011), but the Examiner found that the proposed amendments added new matter (*id.* at 990).



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Applicants filed a Request for Continued Examination, and to overcome the new matter rejection and exclude the compounds disclosed in Kotoku, provided claims that, *inter alia*, removed the exclusionary provisos and amended the definition of R<sup>7</sup>. *Id.* at 959–63, 972.

The Examiner issued a Notice of Allowability (*id.* at 56), and the '202 Patent thereafter issued in due course.

# D. Illustrative Claim

Of the challenged claims, claims 1 and 31 are independent. Claim 1, reproduced below, is illustrative:

1. A compound selected from Formula I, N-oxides and salts thereof:

# wherein

Q¹ is a phenyl ring optionally substituted with up to 5 substituents independently selected from R³; or a 5- to 6-membered heterocyclic ring or an 8- to 10-membered heteroaromatic bicyclic ring system, each ring or ring system containing ring members selected from carbon atoms and 1 to 4 heteroatoms independently selected from up to 2 O, up to 2 S and up to 4 N atoms, wherein up to 3 carbon ring members are independently selected from C(=O) and C(=S), and the sulfur atom ring members are independently selected from S(=O)<sub>u</sub>(=NR<sup>8</sup>)<sub>v</sub>, each ring or ring system optionally substituted with up to 5 substituents independently selected from R³ on carbon atom ring members and selected from R9 on nitrogen atom ring members;



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