

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE PATENT TRIAL AND APPEAL BOARD

RICETEC, INC.,
Petitioner,

v.

BASF SE,
Patent Owner.

PGR2021-00113
Patent 11,096,345 B2

Before ULRIKE W. JENKS, TINA E. HULSE, and
ROBERT A. POLLOCK, *Administrative Patent Judges*.

HULSE, *Administrative Patent Judge*.

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

I. INTRODUCTION

RiceTec, Inc. (“Petitioner”) filed a Petition requesting a post-grant review of claims 1–15 of U.S. Patent No. 11,096,345 B2 (Ex. 1001, “the ’345 patent”). Paper 2 (“Pet.”). BASF SE (“Patent Owner”) filed a Corrected Preliminary Response. Paper 16 (“Prelim. Resp.”). With our authorization, Petitioner filed a Reply to Patent Owner’s Preliminary Response (Paper 18, “Pet. Reply”), and Patent Owner filed a Sur-Reply (Paper 20).

We have authority under 35 U.S.C. § 324(a), which provides that a post-grant review may not be instituted “unless . . . the information presented in the petition . . ., if such information is not rebutted, would demonstrate that it is more likely than not that at least 1 of the claims challenged in the petition is unpatentable.” Upon considering the arguments and evidence presented by the parties, we determine Petitioner has demonstrated that it is more likely than not that at least one of the claims challenged in the Petition is unpatentable.

A. Real Parties-in-Interest

In the Petition and supplemental mandatory notices, Petitioner identifies itself, Liechtenstein Group Holding AG, Liechtenstein Group AG, Agritec Ventures Corporation, and Makhteshim Agan of North America, Inc. d/b/a ADAMA as the real parties-in-interest to this proceeding. Pet. 5; Paper 3, 1; Paper 11, 1. Patent Owner identifies itself as the real party-in-interest. Paper 6, 1.

B. Related Proceedings

Petitioner states that it is unaware of any related matters. Pet. 5. Patent Owner identifies PGR2021-00114, involving U.S. Patent No. 11,096,346, as related to the ’345 patent. Paper 6, 1.

C. *The '345 Patent*

The '345 patent “generally relates to treatment of domestic rice crop plants for the control of weeds.” Ex. 1001, 1:24–25. s

The '345 patent explains that Acetyl-Coenzyme A carboxylase (“ACCCase”) enzymes are involved in the fatty acid synthesis pathway in plant chloroplasts. *Id.* at 1:54–56. ACCCase enzymes are inhibited by three classes of herbicidal active ingredients: aryloxyphenoxypropanoates (“FOPs”), cyclohexanediones (“DIMs”), and phenylpyrazolines (“DENs”). *Id.* at 1:62–67. ACCCase-inhibitor-tolerance (“AIT”) mutations that are tolerant toward DIM and FOP herbicides have been found in monocot weed species and maize. *Id.* at 2:1–3. According to the '345 patent, it would be advantageous to provide rice that is tolerant to DIMs and FOPs. *Id.* at 2:8–10. The specification explains, however, that “[i]n some cases, herbicide-tolerance-inducing mutations create a severe fitness penalty in the tolerant plant.” *Id.* at 2:12–14. The '345 patent therefore states that “there remains a need in the art for an AIT rice that also exhibits no fitness penalty.” *Id.* at 2:14–16.

The '345 patent describes a method for treating rice that includes the steps of providing a domestic rice crop plant and at least one ACCCase-inhibiting FOP herbicide and applying an effective amount of the herbicide to the domestic rice crop plant, post-emergence, to create a treated rice plant. *Id.* at 2:21–31. The '345 patent describes embodiments in which the domestic rice crop plant includes and expresses “an endogenous non-transfected ACCCase nucleic acid whose sequence encodes a multi-functional, plastidic ACCCase containing a mutation that causes the ACCCase to be tolerant to the herbicide.” *Id.* at 2:34–38. The mutation can be selected from I1781L, G2096S, and W2027C. *Id.* at 2:40–42.

D. Illustrative Claim

Petitioner challenges claims 1–15 of the '345 patent, of which claim 1 is the only independent claim. Claim 1 is illustrative and is reproduced below:

1. A method for treating rice, comprising:

(A) providing

(1) a domestic rice crop plant grown from seed, the domestic rice crop plant

(a) comprising and expressing an endogenous nontransfected mutant ACCase nucleic acid whose sequence encodes a multi-functional, plastidic ACCase containing a mutation selected from the group consisting of I1781L (Am), G2096S (Am), and W2027C (Am); and

(b) possessing a phenotype of tolerance to quizalofop or an ester thereof, fluazifop or an ester thereof, clodinafop, clodinafop-propargyl, or diclofop or diclofop methyl, wherein said plant exhibits less than 10% herbicide injury to a field application of

at least 70 g AI/Ha¹ to 140 g AI/Ha of clodinafop-propargyl,

at least 11 g AI/Ha to 34 g AI/Ha of clodinafop,

at least 56 g AI/Ha to 140 g AI/Ha of fluazifop or an ester thereof,

at least 14 g AI/Ha to 140 g AI/Ha of quizalofop or an ester thereof,

or at least 226 g AI/Ha to 540 g AI/Ha of diclofop

¹ “g AI/Ha” refers to grams of active ingredient per hectare.

or diclofop-methyl;² and

(2) at least one ACCase-inhibiting aryloxyphenoxypropanoate herbicide comprising quizalofop or an ester thereof, fluazifop or an ester thereof, clodinafop, clodinafop-propargyl, diclofop, or diclofop-methyl;

(B) applying an effective amount (measured in grams of active ingredient per hectare (g AI/Ha)) of the at least one aryloxyphenoxypropanoate herbicide to the domestic rice crop plant, post-emergence, thereby creating a treated rice plant; and

(C) growing the treated rice plant;

wherein the effective amount of the at least one ACCase-inhibiting aryloxyphenoxy-propanoate herbicide is

at least 70 g AI/Ha to 140 g AI/Ha of clodinafop-propargyl,

at least 11 g AI/Ha to 34 g AI/Ha of clodinafop,

at least 56 g AI/Ha to 140 g AI/Ha of fluazifop or an ester thereof,

at least 14 g AI/Ha to 140 g AI/Ha of quizalofop or an ester thereof,

or at least 226 g AI/Ha to 540 g AI/Ha of diclofop or diclofop-methyl.

Ex. 1001, 271:2–41.

E. The Asserted Grounds of Unpatentability

Petitioner challenges claims 1–15 of the '345 patent based on the grounds set forth in the table below.

Claims Challenged	35 U.S.C. §	Reference(s)/Basis
1–15	112	Written Description
1–15	112	Enablement

² We have altered the formatting of the original claims to improve the readability of the various dosage ranges for each herbicide.

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