

NOTE: This disposition is nonprecedential.

**United States Court of Appeals  
for the Federal Circuit**

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**PIONEER HI-BRED INTERNATIONAL, INC.,**  
*Appellant*

**v.**

**INARI AGRICULTURE, INC.,**  
*Appellee*

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2025-1287

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Appeal from the United States Patent and Trademark  
Office, Patent Trial and Appeal Board in No. PGR2023-  
00022.

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Decided: October 2, 2026

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gued for appellant. Also represented by PIER DEROO,  
MICHAEL J. FLIBBERT, YIEYIE YANG.

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MA, argued for appellee. Also represented by JOHN W.  
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Before DYK, PROST, and CUNNINGHAM, *Circuit Judges*.

PROST, *Circuit Judge*.

Pioneer Hi-Bred International, Inc. (“Pioneer”) appeals a final written decision in a post-grant review proceeding challenging U.S. Patent No. 11,371,055 (“the ’055 patent”). The Patent Trial and Appeal Board (“Board”) determined claims 1–33 of the ’055 patent are unpatentable for lack of enablement. We affirm.

#### BACKGROUND

The ’055 patent describes enzymes that exhibit what the parties refer to as a “dual herbicide-degrading function.” Appellant’s Br. 17–20, 30; Appellee’s Br. 7–11, 38. These enzymes make crops resistant to two different classes of herbicides: (1) “pyridyloxyacetates auxins (e.g., triclopyr, fluroxypyr)” and (2) “phenoxy auxins (e.g., 2,4-D, MCPA, 4-chlorophenoxyacetic acid).” ’055 patent col. 6 ll. 40–46; Appellant’s Br. 17.

Representative claim 1 defines the genus of enzymes by both function and structure. The preamble recites the dual herbicide-degrading function—“said activity enzymatically degrades a phenoxy auxin herbicide and a pyridyloxy auxin herbicide.” ’055 patent claim 1. The body recites two structural limitations: (1) “having at least 85% sequence identity with SEQ ID NO: 2,” one of the sequences disclosed by the ’055 patent, and (2) “an AAD-12 motif.” *Id.*

Inari Agriculture, Inc. (“Inari”) challenged the validity of the claims for lack of enablement in a petition for post grant review. Inari argued that the claimed genus is “unfathomably large.” J.A. 241 n.7. The claimed genus includes  $2.4 \times 10^{106}$  species, greater than “the number of atoms in the *universe*.” J.A. 241 n.7 (emphasis in original). In contrast, the specification provides only two example species—SEQ ID NO: 2 and SEQ ID NO: 4 (with 99.3% sequence identity to SEQ ID NO: 2). J.A. 22–23, 241–43; ’055 patent col. 35 ll. 8–23.

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Pioneer did not dispute the size of the genus. J.A. 517–96. Instead, Pioneer argued that the 85% sequence identity limitation was a “common quality running throughout the claimed genus” and this feature alone ensured that “90+%” of the claimed genus would exhibit the dual herbicide-degrading function. J.A. 555. Pioneer added that Figure 2 of the ’055 patent provides additional guidance beyond the claim limitations by explaining which residues can more likely be varied without changing function. J.A. 558–59; J.A. 3245–47. In reply, Inari observed that, even applying Figure 2’s guidance, the genus would still include  $1.23 \times 10^{66}$  species. J.A. 2618; J.A. 668–69.

With its patent owner response, Pioneer also submitted experimental data performed more than a decade after the ’055 patent’s priority date, in which eight enzymes meeting the claimed structural limitations were tested for dual herbicide-degrading function. J.A. 596 n.3, 650–51, 7295–7333. Although all eight enzymes had at least 85% sequence identity, only two exhibited the dual herbicide-degrading function—and weakly at that, with “only 1% and 2% . . . triclopyr activity.” J.A. 651. Inari argued that this experimental data showed the ’055 patent’s guidance was not reliably correlated with the claimed function and, therefore, the claims were not enabled. J.A. 646–69. The Board agreed. J.A. 30–33. Pioneer timely appealed. We have jurisdiction under 28 U.S.C. § 1295(a)(4)(A).

#### DISCUSSION

On appeal, Pioneer argues that it was legally erroneous for the Board to rely on post-priority data (Pioneer’s own experimental data) because “[e]nablement must be determined . . . as of the priority date” of the patent application. Appellant’s Br. 51–52 (citing *Union Carbide Chems. & Plastics Tech. Corp. v. Shell Oil Co.*, 308 F.3d 1167, 1185 (Fed. Cir. 2002); *In re Hogan*, 559, 606 F.2d 595 (CCPA 1977); *In re Entresto*, 125 F.4th 1090, 1100 (Fed. Cir.

2025)). Pioneer also argues that the Board abused its discretion in crediting the testimony of Dr. Silverstone (Inari’s expert) and disputes the merits of the Board’s enablement decision. Appellant’s Br. 40–51, 54–66.

## I

Pioneer’s argument that post-priority data cannot be used to establish lack of enablement appears to be forfeited because Pioneer did not raise the issue before the Board. *See* Appellee’s Br. 39; J.A. 766–94; *In re Google Tech. Holdings LLC*, 980 F.3d 858, 862 (Fed. Cir. 2020). But even setting forfeiture aside, Pioneer is incorrect.

In *Amgen Inc. v. Sanofi (Amgen I)*, 872 F.3d 1367, 1375 (Fed. Cir. 2017), we held that it was error to exclude post-priority enablement data. In *Amgen I*, the appellants “purportedly sought to introduce post-priority-date evidence showing that Appellees engaged in lengthy and potentially undue experimentation to enable the full scope of the claims.” *Id.* “Such evidence could have been relevant to determining if the claims were enabled as of the priority date and should not have been excluded simply because it post-dated the claims’ priority date.” *Id.*; *see also White Consol. Indus., Inc. v. Vega Servo-Control, Inc.*, 713 F.2d 788, 791 (Fed. Cir. 1983) (relying on post-priority-date expert evidence regarding level of experimentation needed to practice the invention). Pioneer’s arguments to the contrary are unpersuasive.

The court in *In re Hogan* did not reject the use of post-priority data in an enablement analysis—it rejected an examiner’s use of new technology developed after the priority date to show lack of enablement. Although the specification there described *crystalline* “4-methyl-1-pentene” solid polymers, the claims only recited “4-methyl-1-pentene” solid polymers—not in *crystalline* form. *In re Hogan*, 559 F.2d 595, 597–98 (CCPA 1977). After the priority date, an amorphous (non-crystalline) 4-methyl-1-pentene polymer was developed. *Id.* at 605. The amorphous polymer

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fell within the scope of the claims, but was not described by the specification because it did not exist when the application was filed. *Id.* at 599, 605. The court held that this later-developed amorphous polymer could not be used to show that the claims at issue were not enabled because doing so would “impose an impossible burden on inventors.” *Id.* at 606.

*In re Entresto* is substantially the same as *In re Hogan*. There the patent challenger argued non-enablement because later-developed “valsartan-sacubitril complexes” were not disclosed in the patent’s specification. *In re Entresto*, 125 F.4th 1090, 1095 (Fed. Cir. 2025). The specification only described the drug combination “of valsartan and sacubitril,” different from the “valsartan-sacubitril complex,” which did not exist at the priority date. *Id.* at 1096–1100. Citing *In re Hogan*, this court similarly held that this “later-existing state of the art” was not relevant to the enablement analysis. *Id.* at 1099.

This case is unlike *In re Hogan* and *In re Entresto* because all tested variants of the claimed genus could have been created at the time of the priority date, although they were tested by Pioneer afterward. “[T]he use of post-priority-date evidence to show that a patent does not disclose a representative number of species of a claimed genus is proper.” *Amgen I*, 872 F.3d at 1375. It was not error for the Board to rely on the post-priority experimental data that Pioneer provided to establish that the challenged claims were not enabled.

## II

Pioneer’s argument to exclude Dr. Silverstone’s testimony for lacking enzymology experience is unpersuasive.

The Board’s decision to credit an expert witness is reviewed for abuse of discretion. *See Sierra Wireless, ULC v.*

*Sisvel S.p.A.*, 130 F.4th 1019, 1024 (Fed. Cir. 2025); *Alive-Cor, Inc. v. Apple Inc.*, 130 F.4th 1006, 1015–16 (Fed. Cir. 2025).

Pioneer did not explain to the Board “what difference this additional direct [enzymology] experience would have provided.” J.A. 9. And even if Pioneer’s proposed level of ordinary skill were adopted, Dr. Silverstone *has* enzymology experience, including leading enzyme development in “transgenic corn” and “rice.” J.A. 1573–74. We see no abuse of discretion in the Board’s reliance on Dr. Silverstone’s testimony.

### III

Pioneer’s disagreement with the merits of the Board’s enablement analysis is also unpersuasive. The Board’s enablement decision was properly rooted in the Supreme Court’s reasoning in *Amgen II*: “[t]he more one claims, the more one must enable.” See J.A. 13 (quoting *Amgen Inc. v. Sanofi (Amgen II)*, 143 S. Ct. 1243, 1254 (2023)).

The ’055 patent claims a staggering  $2.14 \times 10^{106}$  species. Figure 2’s guidance reduces the number to  $1.23 \times 10^{66}$ —still staggering. Pioneer “didn’t dispute the number.” Oral Arg. at 7:55–8:34.<sup>1</sup> The specification provides two examples. J.A. 22–23; ’055 patent col. 35 ll. 8–23. The massive disparity between the amount claimed and the amount disclosed supports the Board’s finding of lack of enablement.

But even setting the numbers aside, Dr. Bollinger’s (i.e., Pioneer’s expert’s) predictions that the disclosed structures of the genus were correlated with the dual herbicide-degrading function were contradicted by Pioneer’s own experimental data. J.A. 30–33. Only two of the eight tested

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<sup>1</sup> No. 25-1287, [https://www.cafc.uscourts.gov/oral-arguments/25-1287\\_09142026.mp3](https://www.cafc.uscourts.gov/oral-arguments/25-1287_09142026.mp3).

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enzymes with at least 85% sequence identity and the claimed motif exhibited the dual herbicide-degrading function. J.A. 651; J.A. 30–33. Variants 17 and 19 differed from one another by only six amino acids, none of which were in positions which Figure 2 indicated were presumptively structurally or functionally important. J.A. 31; Appellee’s Br. 22 (citing J.A. 663). Yet still no correlation was observed; one exhibited the dual herbicide-degrading function and the other did not. J.A. 31. Substantial evidence supports the Board’s finding that “the ’055 [patent’s] [s]pecification and working examples fail to provide guideposts that would have illuminated a path toward embodiments at the 85% sequence identity level.” J.A. 30.

#### CONCLUSION

We have considered Pioneer’s remaining arguments and find them unpersuasive. For the foregoing reasons, we affirm the Board’s decision.

**AFFIRMED**