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United States Court of Appeals for the Federal Circuit

00-1127

MYCOGEN PLANT SCIENCE, INC. and AGRIGENETICS, INC.,

Plaintiffs-Appellants,

v.

MONSANTO COMPANY,

Defendant- Appellee.

DECIDED: February 20, 2004

Before CLEVINGER, BRYSON, and LINN, Circuit Judges.

PER CURIAM.

The Supreme Court has remanded this case to us for further consideration in light of Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 535 U.S. 722 (2002) (Festo VIII). For the reasons set forth below, we again affirm the judgment of the district court that the doctrine of equivalents is not available to the plaintiffs in this case.

I

The facts of this case, and the detailed prosecution history of the patent involved, U.S. Patent No. 5,380,831 (“the ’831 patent”), are thoroughly canvassed in our previous opinions in this case and will only briefly be recited here. See Mycogen Plant Science, Inc. v. Monsanto Co., 252 F.3d 1306 (Fed. Cir. 2001); Mycogen Plant Science, Inc. v. Monsanto Co., 261 F.3d 1345 (Fed. Cir. 2001) (on

rehearing).

The '831 patent teaches how to modify a gene that encodes a pesticidal protein of the soil bacterium Bacillus thuringiensis (“Bt”), so that the gene will express in plants and cause them to generate a toxic protein at a sufficiently high levels to kill insects. Mycogen sued Monsanto in 1995 claiming that Monsanto had infringed the '831 patent by making synthetic Bt genes for expression in plants and seeds using the methods claimed in the patent, and by manufacturing, using, and selling agricultural products in which synthetic Bt genes are incorporated.

In July 1995 Monsanto moved for summary judgment, contending, *inter alia*, that commercial products containing the Bt gene did not literally infringe the '831 patent's product claims (13 and 14), because the nucleotide sequence in Monsanto's commercial gene was significantly different from the sequence set forth in claims 13 and 14 of the patent. Claims 13 and 14 recite a synthetic gene “comprising the DNA sequence presented in FIG. 1, spanning nucleotides 1 through 1793,” and “nucleotides 1 through 1833,” respectively. Figure 1 of the patent is a sequential listing of specific DNA base pairs, defining a specific gene.

Monsanto also maintained that because Mycogen had canceled certain claims relating to the synthetic Bt gene during prosecution, Mycogen was barred by prosecution history estoppel from asserting the doctrine of equivalents against Monsanto. The claims that were canceled provided as follows:

1. A synthetic gene designed to be highly expressed in plants comprising a DNA sequence encoding an insecticidal protein which is functionally equivalent to a native insecticidal protein of Bt.
2. A synthetic gene of claim 1 wherein said DNA sequence is at least about 85% homologous to a native insecticidal protein gene of Bt.
5. A synthetic gene of claim 1 wherein the overall frequency of preferred codon usage within the entire coding region of said synthetic gene is within about 75% of the frequency of codon usage preferred in plants.
6. A synthetic gene of claim 1 wherein the frequency of preferred codon usage within the entire coding region of said synthetic gene is within about 90% of the frequency of codon usage preferred in plants.

The canceled claims were broader than issued claims 13 and 14, but not broad enough to encompass the accused genes, with respect to nucleotide homology with the native Bt gene and frequency of the usage of plant-preferred codons. The accused genes had a level of homology with the native Bt gene of about 78 percent and a frequency of usage of plant-preferred codons of about 51 percent. Claims 1, 2, 5, and 6, among others, were canceled after they were rejected for lack of enablement on the ground that “the disclosure is enabling only for claims limited to claims which recite the sequence shown in Figure 1.”

Mycogen asserts that it did not mean to surrender any subject matter by canceling claims 1, 2, 5, and 6, since it continued to prosecute other claims, including final claims 13 and 14, and broad product-by-process claims, which were not the subject of narrowing amendments. The district court granted summary judgment for Monsanto, stating that Mycogen was estopped from asserting the doctrine of equivalents against Monsanto based on claims 13 and 14 because Mycogen had narrowed the scope of its claim coverage vis-à-vis the nucleotide homology and the frequency of plant-preferred codon usage.

We affirmed the district court’s ruling on the doctrine of equivalents issue. We rested our decision with regard to that issue on the then-recently decided case of Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 234 F.3d 558 (Fed. Cir. 2001) (en banc) (Festo VI), which we cited for the proposition that when an amendment or cancellation is made for reasons of patentability, no range of equivalents is available for the claim element affected by the amendment or cancellation. Mycogen sought certiorari, and after the Supreme Court decided the Festo case, the Court vacated the judgment in this case and remanded for reconsideration in light of its decision in Festo.

II

After the Supreme Court remanded Festo to us, we addressed that case en banc once more and re-affirmed the parts of our holding that were not affected by the Supreme Court’s decision. In addition, we laid out in detail the approach to be employed in analyzing certain issues relating to prosecution history estoppel. See Festo Corp. v. Shoketsu Kinzoku Kogyo Kabushiki Co., 344 F.3d 1359 (Fed. Cir. 2003) (en banc) (Festo IX). Among the rules from the original Festo en banc decision that were

unchanged by the Supreme Court and reaffirmed by this court in Festo IX was our holding that cancellation of claims for reasons related to patentability in favor of claims with a narrower literal scope has the same presumptive effect on claim limitations as amending the claims directly. See Festo VI, 234 F.3d at 588. In addition, our decision in Festo IX reaffirmed that a narrowing amendment made to comply with any provision of the Patent Act, including a voluntary amendment (or cancellation), may give rise to a prosecution history estoppel. Festo IX, 344 F.3d at 1366.

Applying those principles to this case, we hold that it is immaterial that the claims at issue (13 and 14) were not themselves amended to avoid patentability rejections, because broader claims 1, 2, 5, and 6, which addressed the same claim limitations at issue in this case—gene homology and preferred codon usage—were canceled in response to a rejection for unpatentability, namely a failure to enable anything other than the recited sequence in Figure 1. In that context, the cancellation of claims 1, 2, 5, and 6 created a rebuttable presumption that all subject matter between the pertinent limitations of the original claims and those of the final, issued claims was surrendered. Pursuant to the Supreme Court’s Festo decision and our later en banc decision in that case, the presumption of surrender can be overcome by analyzing the prosecution history to determine: (1) whether the alleged equivalent was foreseeable; (2) whether the reason for the amendment or cancellation bore no more than a tangential relation to the equivalent in question; and (3) whether there is any other reason suggesting that the patentee could not reasonably be expected to have described “the insubstantial substitute in question.” Festo VIII, 535 U.S. at 740-41.

Addressing those issues, Mycogen first contends that it should be permitted to present extrinsic evidence that the accused equivalent in this case, namely a gene with approximately 78 percent homology with the native Bt gene, and having a plant-preferred codon usage of 51 percent, was unforeseeable at the time of patenting. However, the fact that Mycogen originally claimed coverage of genes bearing 85 percent similarity to the native Bt gene is itself evidence that the applicants foresaw the possibility of less homologous genes. Moreover, Mycogen originally attempted to claim all functionally equivalent genes in original independent claim 1. Mycogen clearly tried, unsuccessfully, to obtain coverage of the least homologous genes that it could claim, but was repeatedly unable to satisfy the

rejections of the examiner for anything broader than the specific gene listed in Figure 1. Thus, broader coverage was clearly foreseeable, yet unattainable in light of the patent's disclosure.

Second, Mycogen argues that the reason for the cancellation of claims 1, 2, 5, and 6 was merely tangential to achieving a patentable invention because Mycogen successfully obtained broader product-by-process claims in different patents, which were held to be infringed by Monsanto's product. Nevertheless, the claims at issue here are product claims, and the asserted equivalents were directly affected by the limitations that were effectively narrowed by means of the cancellation of claims 1, 2, 5, and 6. Mycogen cites no legal support for the proposition that obtaining broader claims of a different nature has the effect of broadening the range of equivalence available to all claims, including product claims, when those product claims have been effectively narrowed by claim cancellation.

With respect to the third category of reasons the Supreme Court identified as providing a possible basis for rebutting the Festo presumption of surrender—the presence of some other reason suggesting that the patentee could not reasonably be expected to have described the insubstantial substitute in question—Mycogen has not suggested any such reason, and we have found none. In fact, other than to assert that it should be given an opportunity to rebut the Festo presumption of surrender before the district court, Mycogen has not pointed to any basis for believing that it could make a persuasive showing to rebut the presumption that it has surrendered all equivalents of claims 13 and 14. We therefore conclude that the district court was correct in holding Mycogen estopped from asserting the doctrine of equivalents with respect to those claims. Because we regard the resolution of the equivalents issue in this case as straightforward in light of the various precedents that guide us, we decline the invitation to remand the equivalents issue to the district court for further proceedings before that tribunal.