

# United States Court of Appeals for the Federal Circuit

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**MONSANTO COMPANY AND MONSANTO  
TECHNOLOGY LLC,**  
*Plaintiffs-Appellees,*

v.

**VERNON HUGH BOWMAN,**  
*Defendant-Appellant.*

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2010-1068

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Appeal from the United States District Court for the  
Southern District of Indiana in case no. 07-CV-0283,  
Judge Richard L. Young.

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Decided: September 21, 2011

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Before BRYSON, LINN, and DYK, *Circuit Judges*.

LINN, *Circuit Judge*.

This case presents the court with another question of patent infringement by farmers planting the progeny of genetically altered seeds covered by U.S. patents. Here, Plaintiffs-Appellees, Monsanto Company and Monsanto Technology LLC (collectively “Monsanto”), sued Defendant-Appellant, Vernon Hugh Bowman (“Bowman”), in the United States District Court for the Southern District of Indiana alleging infringement of U.S. Patent Nos. 5,352,605 (“’605 Patent”) and RE39,247E (“’247E Patent”). *Monsanto Co. v. Bowman*, 686 F. Supp. 2d 834 (S.D. Ind. 2009). The district court granted summary judgment of infringement in favor of Monsanto. *Id.* at 840. Bowman appeals. For the reasons discussed below, this court affirms.

## I. BACKGROUND

Monsanto invented and developed technology for genetically modified “Roundup Ready<sup>®</sup>” soybeans that exhibit resistance to N-phosphonomethylglycine (commonly known as “glyphosate”) based herbicides, such as Monsanto’s Roundup<sup>®</sup> product. The ’605 and ’247E Patents cover different aspects of this Roundup Ready<sup>®</sup> technology.

### A. The '605 Patent

On October 4, 1994, the United States Patent and Trademark Office (“PTO”) issued the '605 Patent to Monsanto for “chimeric genes for transforming plant cells using viral promoters.” The invention of the '605 Patent relates to the use of viral nucleic acid from the cauliflower mosaic virus (“CaMV”), a virus capable of infecting plant cells, as a vector for incorporating new genetic material into plant cells (a “transformation” of the plant cells). To accomplish this transformation, the CaMV promoter region is isolated from the CaMV genome and combined with a heterologous protein-encoding DNA sequence, forming a chimeric gene to be expressed in the plant cell. Monsanto alleges infringement of claims 1, 2, 4, and 5 of the '605 Patent. Representative claims 1 and 4 cover:

1. A *chimeric gene* which is expressed in plant cells comprising a promoter from a cauliflower mosaic virus, said promoter selected from the group consisting of a CaMV (35S) promoter isolated from CaMV protein-encoding DNA sequences and a CaMV (19S) promoter isolated from CaMV protein-encoding DNA sequences, and a structural sequence which is heterologous with respect to the promoter.

4. A *plant cell* which comprises a chimeric gene that contains a promoter from cauliflower mosaic virus . . . .

'605 Patent, col.15 ll.52-59, 64-65 (emphases added).

### B. The '247E Patent

On August 22, 2006, the PTO reissued U.S. Patent No. 5,633,435 (“435 Patent”) as the '247E Patent for

“glyphosate-tolerant 5-enolpyruvylshikimate-3-phosphate synthases [(“EPSPS”).” The invention of the ’247E Patent involves the transformation of plant cells—using, for example, the CaMV promoters disclosed in the ’605 Patent—to transform plant cells with novel protein-encoding gene sequences that encode for EPSPS, a glyphosate-tolerant enzyme. These genetically modified plants express EPSPS and exhibit glyphosate resistance. ’247E Patent, col.1 ll.15-46. The advantage of this technology, which can be incorporated into a variety of crops, is that farmers can treat their fields with glyphosate-based herbicide to control weed growth without damaging their crops. Monsanto alleges infringement of seventeen claims of the ’247E Patent. Representative claims 103, 116, 122, 128, 129, and 130 cover:

**103.** *A recombinant, double-stranded DNA molecule* comprising in sequence:

- (a) a promoter which functions in plant cells to cause the production of an RNA sequence;
- (b) a structural DNA sequence that causes the production of an RNA sequence which encodes an EPSPS enzyme having the sequence of SEQ ID NO:70; and
- (c) a 3’ non-translated region that functions in plant cells to cause the addition of a stretch of polyadenyl nucleotides to the 3’ end of the RNA sequence;

where the promoter is heterologous with respect to the structural DNA sequence and adapted to cause sufficient expression of the encoded EPSPS enzyme to enhance the glyphosate tolerance of a plant cell transformed with the DNA molecule.

**116.** A glyphosate-tolerant *plant cell* comprising a DNA sequence encoding and EPSPS enzyme having the sequence of SEQ ID NO: 70.

**122.** A *seed of the plant* of claim 116, wherein the seed comprises the DNA sequence encoding an EPSPS enzyme having the sequence of SEQ ID NO: 70.

**128.** A glyphosate[-]tolerant *plant cell* comprising the recombinant DNA molecule of claim 103.

**129.** A *plant* comprising the glyphosate[-]tolerant plant cell of claim 128.

**130.** A *method for selectively controlling weeds* in a field containing a crop having planted crop seeds or plants comprising the steps of:

(a) planting the crop seeds or plants which are glyphosate-tolerant as a result of a recombinant double-stranded DNA molecule being inserted into the crop seed or plant . . .

(b) applying to the crop and weeds in the field a sufficient amount of glyphosate herbicide to control the weeds without significantly affecting the crop.

'247E Patent, col.164 ll.15-29; col.165 ll.18-20, 30-32, 45-55; col.166 ll.3-5 (emphases added to reflect breadth of coverage).

### C. Monsanto's Technology Agreement

Since 1996, Monsanto has marketed and sold Roundup Ready® soybean seeds under its own brands, and licenses its technology to seed producers who insert the

Roundup Ready® genetic trait into their own seed varieties. Monsanto’s licensed producers sell Roundup Ready® seeds to growers for planting. All sales to growers, whether from Monsanto or its licensed producers, are subject to a standard form limited use license, called the “Monsanto Technology Agreement” or “Monsanto Technology/Stewardship Agreement” (both referred to hereinafter as the “Technology Agreement”). J.A. 284-315. Monsanto’s Technology Agreement covers a variety of its patented agricultural biotechnologies, including Roundup Ready® soybeans. Both the ’605 Patent and the ’435 Patent (reissued as the ’247E Patent) are listed as “applicable patents” licensed under the Technology Agreement.

Under the Technology Agreement, the licensed grower agrees: (1) “to use the seed containing Monsanto gene technologies for planting a commercial crop only in a single season”; (2) “to not supply any of this seed to any other person or entity for planting”; (3) “to not save any crop produced from this seed for replanting, or supply saved seed to anyone for replanting”; and (4) “to not use this seed or provide it to anyone for crop breeding, research, generation of herbicide registration data, or seed production.” Monsanto’s Standard Form Technology Agreements, 1998-2007, J.A. 284-315. Monsanto restricts the grower’s use of the licensed Roundup Ready® seed to a single commercial crop season because the patented Roundup Ready® genetic trait carries forward into each successive seed generation.

Although the express terms of the Technology Agreement forbid growers to sell the progeny of the licensed Roundup Ready® seeds, or “second-generation seeds,” for planting, Monsanto authorizes growers to sell second-generation seed to local grain elevators as a commodity, without requiring growers to place restrictions on grain elevators’ subsequent sales of that seed. Commodity seeds are a mixture of undifferentiated seeds harvested

from various sources, including from farms that grow Roundup Ready® soybeans and those that do not, although nearly ninety-four percent of Indiana's acres of soybeans planted in 2007 were planted using herbicide resistant varieties. Damages Report at 2, *Monsanto v. Bowman*, No. 07-cv-0283 (S.D. Ind. Sept. 30, 2008), ECF No. 62-7. Before this court, Monsanto has twice eschewed any reading of the Technology Agreement to prohibit unrestricted seed sales to grain elevators as a commodity. First, Monsanto stated in its appeal brief that “[a] licensed grower who has harvested a soybean crop from Roundup Ready® seeds obtained in an authorized manner *may sell that crop* to be used as feed or otherwise as a commodity.” Appellee Br. 7 (emphases added). Again, at oral argument, when asked by the panel whether a grower “exceed[s] the license by selling to the grain elevator without securing some promise from the grain elevator not to sell the seeds for planting,” Monsanto’s attorney responded: “No, I don’t think the grower is exceeding his authority there . . . that is a channel of commerce that Monsanto has authorized.” Oral Arg. at 19:34-20:14, *available at* <http://www.cafc.uscourts.gov/oral-argument-recordings/all/bowman.html>. Based on Monsanto’s statements, the only permissible reading of the Technology Agreement for purposes of this appeal is that it authorizes growers to sell seed to grain elevators as a commodity.

#### D. Bowman’s Activities

Pioneer Hi-Bred (“Pioneer”) is one of Monsanto’s licensed seed producers. In 2002, Pioneer sold Pioneer Hi-Bred® brand seeds containing the Roundup Ready® technology to Bowman, a grower in Knox County, Indiana. In making the sale, Pioneer required Bowman to execute the “Pioneer Hi-Bred Technology Agreement,” which contains language and restrictions identical to the Technology Agreements discussed above. *See* J.A. 673. Bowman

purchased from Pioneer and planted seeds containing the Roundup Ready® technology each year, beginning as early as 1999. Bowman planted Roundup Ready® seeds as his first-crop in each growing season during the years 1999 through 2007. Consistent with the terms of the Technology Agreement, Bowman did not save seed from his first-crop during any of those years.

In 1999, Bowman also purchased commodity seed from a local grain elevator, Huey Soil Service, for a late-season planting, or “second-crop.” Because Bowman considered the second-crop to be a riskier planting, he purchased the commodity seed to avoid paying the significantly higher price for Pioneer’s Roundup Ready® seed. That same year, Bowman applied glyphosate-based herbicide to the fields in which he had planted the commodity seeds to control weeds and to determine whether the plants would exhibit glyphosate resistance. He confirmed that many of the plants were, indeed, resistant. In each subsequent year, from 2000 through 2007, Bowman treated his second-crop with glyphosate-based herbicide. Unlike his first-crop, Bowman saved the seed harvested from his second-crop for replanting additional second-crops in later years. He also supplemented his second-crop planting supply with periodic additional purchases of commodity seed from the grain elevator. Bowman did not attempt to hide his activities, and he candidly explained his practices with respect to his second-crop soybeans in various correspondence with Monsanto’s representatives.

In winter 2006, Monsanto contacted Bowman, seeking to investigate his planting activities. On October 12, 2007, Monsanto sued Bowman in the Southern District of Indiana alleging infringement of the ’605 and ’247E Patents. On November 2, 2007, Monsanto investigated eight of Bowman’s fields, totaling 299.1 acres, and confirmed that Bowman’s second-crop soybean seeds (the progeny of the commodity seeds) contained the patented



Roundup Ready® technology. The Technology Agreement signed by Bowman extended only to seeds purchased from Monsanto or a licensed dealer; thus, Bowman’s use of the commodity seeds was not within the scope of the agreement. Monsanto did not allege infringement or breach of the Technology Agreement with respect to Bowman’s planting of first-generation seeds purchased from Pioneer.

On September 30, 2009, the district court granted summary judgment of infringement and entered judgment for Monsanto in the amount of \$84,456.20. Am. Final J. and Order Granting Pls.’ Rule 59 Mot., *Bowman*, No. 07-cv-0283 (May 12, 2010), ECF Nos. 130, 131. Bowman appeals, and this court has jurisdiction under 35 U.S.C. § 1295(a)(1).

## II. DISCUSSION

### A. Standard of Review

This court reviews a district court’s order granting a motion for summary judgment *de novo*. *See, e.g., Leviton Mfg. Co. v. Universal Sec. Instruments, Inc.*, 606 F.3d 1352, 1358 (Fed. Cir. 2010).

### B. Patent Exhaustion

Bowman argues that Monsanto’s patent rights are exhausted with respect to all Roundup Ready® soybean seeds that are present in grain elevators as undifferentiated commodity. According to Bowman, the “[s]ales of second-generation seeds by growers to grain elevators, and then from grain elevators to purchasers (like Bowman) are authorized according to the terms of Monsanto’s [T]echnology [A]greement[], and are thus exhausting sales . . . under the Supreme Court’s analysis in *Quanta [Computer, Inc. v. LG Electronics, Inc.]*, 553 U.S. 617 (2008).” Appellant Br. 23.

Bowman further argues that if the right to use patented seeds does not include the unlimited right to grow subsequent generations free of liability for patent infringement, then any exhaustion determination “is useless.” Appellant Br. 31. Bowman urges the court to hold, under *Quanta*, that each seed sold is a “substantial embodiment” of all later generations, thus adopting a “robust” exhaustion doctrine that encompasses the progeny of seeds and other self-replicating biotechnologies. According to Bowman, “[t]he Supreme Court disapproved undermining the exhaustion doctrine by categorically eliminating its application [to] method patents [and t]his [c]ourt should not condone effectively eliminating the doctrine for self-replicating products.” Appellant Br. 31.

Monsanto counters that licensed growers’ sales of second-generation seeds to grain elevators as commodity seeds did not exhaust Monsanto’s patent rights in those seeds “[b]ecause of the express condition [in the Technology Agreement] that the progeny of licensed seed never be sold for planting.” Appellee Br. 32. According to Monsanto, “a grower’s sale of harvested soybeans to a grain elevator is not an ‘authorized sale’ when it results in those soybeans subsequently being planted.” *Id.*

Monsanto argues that, even if there was exhaustion with respect to commodity seeds, Bowman is nevertheless liable for infringement by planting those seeds because patent protection “is independently applicable to *each* generation of soybeans (or other crops) that contains the patented trait.” *Id.* 15-16. *See Monsanto Co. v. Scruggs*, 459 F.3d 1328 (Fed. Cir. 2006); *Monsanto Co. v. McFarling*, 302 F.3d 1291 (Fed. Cir. 2002). Monsanto contends that “under Bowman’s analysis, patent protection for self-replicating inventions would be eviscerated.” Appellee Br. 20. Monsanto further cites *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124 (2001), a Plant Variety Protection Act (“PVPA”) case, for the propo-

sition that patent exhaustion in seeds, if applicable, must be limited to the seeds sold. In *J.E.M.*, in explaining the differences between seed variety protection under the PVPA and utility patents, the Court stated: “Most notably, there are *no exemptions for research or saving seed under a utility patent.*” *Id.* at 143 (emphases added).

In *McFarling* and *Scruggs*, the court dealt with unauthorized planting of second-generation seeds. In *McFarling*, one of Monsanto’s licensed growers, McFarling, violated the terms of his Technology Agreement by saving 1500 bushels of Roundup Ready® soybeans from his harvest during one growing season, and replanting those seeds in the next season. 302 F.3d at 1293. McFarling repeated this activity, without paying any license fee in either year for the saved seed, which retained Monsanto’s Roundup Ready® technology. *Id.* McFarling defended against Monsanto’s patent infringement allegation on the ground that, *inter alia*, the conditions in the Technology Agreement “violate[d] the doctrine of patent exhaustion and first sale.” *Id.* at 1298. This court held, based on *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992), that the conditions in Monsanto’s Technology Agreement were valid and legal and did not implicate the doctrine of patent exhaustion. *McFarling*, 302 F.3d at 1298-99. In any event, the court stated, “[t]he ‘first sale’ doctrine of patent exhaustion . . . [wa]s not implicated, as the new seeds grown from the original batch had never been sold. The price paid by the purchaser ‘reflects only the value of the ‘use’ rights conferred by the patentee.’” *Id.* at 1299 (citing *B. Braun Med., Inc. v. Abbott Labs.*, 124 F.3d 1419, 1426 (Fed. Cir. 1997)).

In *Scruggs*, Scruggs purchased Roundup Ready® soybean seeds from one of Monsanto’s authorized seed companies and never executed the Technology Agreement. 459 F.3d at 1333. Scruggs planted the purchased seeds, harvested them, and replanted the second-generation

seeds containing the Roundup Ready® trait. *Id.* Scruggs asserted the doctrine of patent exhaustion as one of many defenses, and the court held that it was inapplicable: “There was no unrestricted sale because the use of the seeds by seed growers was conditioned upon obtaining a license from Monsanto.” *Id.* at 1334.

Thus, the doctrine of patent exhaustion did not bar the infringement claims in *McFarling* or *Scruggs*. Similarly, here, patent exhaustion does not bar an infringement action. Even if Monsanto’s patent rights in the commodity seeds are exhausted, such a conclusion would be of no consequence because once a grower, like Bowman, plants the commodity seeds containing Monsanto’s Roundup Ready® technology and the next generation of seed develops, the grower has created a newly infringing article. *See, e.g.*, ’247E Patent, col.164 ll.15-29. “The fact that a patented technology can replicate itself does not give a purchaser the right to use replicated copies of the technology. Applying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder.” *Scruggs*, 459 F.3d at 1336. The right to use “do[es] not include the right to construct an essentially new article on the template of the original, for the right to make the article remains with the patentee.” *Jazz Photo Corp. v. Int’l Trade Comm’n*, 264 F.3d 1094, 1102 (Fed. Cir. 2001). The court disagrees with Bowman that a seed “substantially embodies” all later generation seeds, at least with respect to the commodity seeds, because nothing in the record indicates that the “only reasonable and intended use” of commodity seeds is for replanting them to create new seeds. *See Quanta*, 553 U.S. at 631. Indeed, there are various uses for commodity seeds, including use as feed. While farmers, like Bowman, may have the right to use commodity seeds as feed, or for any other conceivable use, they cannot “replicate” Monsanto’s patented technology by planting it in the ground to create newly infringing ge-

netic material, seeds, and plants. *See, e.g.*, '247E Patent, col.164 ll.15-29; col. 165 ll.18-20, 30-32, 45-48.

### C. Notice Under 35 U.S.C. § 287(a)

#### 1. Waiver

Bowman argues that Monsanto cannot recover pre-Complaint damages because it did not provide actual notice and did not mark or require growers to mark second-generation seeds in compliance with 35 U.S.C. § 287(a). Section 287(a) provides that a patent owner may recover damages for patent infringement only after providing actual notice to the accused infringer or constructive notice through marking the patented article or its package with the applicable patent number(s). 35 U.S.C. § 287(a); *Dunlap v. Schofield*, 152 U.S. 244, 247-48 (1894). Bowman argues that, although he did not expressly cite § 287(a) at the district court, Monsanto's failure to provide notice formed one of his primary arguments on summary judgment, and that he should be entitled to leniency as a *pro se* litigant.

Monsanto counters that Bowman waived this argument by failing to raise it at the district court. Monsanto argues that even if not waived, Monsanto complied with § 287(a) because Monsanto gave Bowman actual notice of infringement in a 1999 letter and again in the Technology Agreement, and alternatively put Bowman on constructive notice by marking and requiring all seed partners to mark first-generation seeds containing Monsanto's patented technology.

This court holds that Bowman did not waive his lack of notice argument under § 287(a) because he argued before the district court that Monsanto failed to put any growers or grain elevators on notice of its patent rights

with respect to commodity grain. For example, Bowman argued that “Monsanto did not take the necessary steps to keep their patented grain from being mixed with non-patented grain at the grain elevators.” Def.’s Resp. to Pls.’ Mot. Summ. J. at 2, *Bowman*, No. 07-cv-0283 (Nov. 18, 2008), ECF No. 73. He contended that “if Monsanto is going to complain about farmers using the age old practice of buying commodity grain for seed; they could have . . . had their Technology Agreements require farmers to sell their patented grain to pre-approved grain dealers who would keep Monsanto’s patented traits separate . . .” *Id.* at 3. While Bowman did not cite § 287(a) as the legal basis for this “lack of notice” contention, this court holds that, as a *pro se* litigant, he alleged facts and proffered argument sufficient to preserve the issue for appeal.

## 2. Actual Notice

Monsanto sent Bowman a letter on June 11, 1999, specifically notifying Bowman of its patents covering Roundup Ready<sup>®</sup> soybeans and informing Bowman that the “[p]lanting of seed that is covered by a patent would be making the patented invention and using the patented invention.” Supp. Auth. of May 25, 2011. This letter was in the district court record attached to Bowman’s memorandum in opposition to Monsanto’s motion for summary judgment. *See Bowman*, No. 07-cv-0283 (Nov. 18, 2008), ECF No. 73-2. The letter (1) identified the allegedly infringing product (Roundup Ready<sup>®</sup> soybeans), (2) enclosed a Technology Agreement identifying the patents covering the Roundup Ready<sup>®</sup> soybeans, (3) explained that Bowman would infringe the identified patents by planting any unlicensed Roundup Ready<sup>®</sup> seeds, and (4) informed Bowman that he could not pay a fee to save Roundup Ready<sup>®</sup> seeds, but may license seeds only through the purchase of new seeds subject to the Technology Agreement. *Id.* This letter is an “affirmative com-

munication to the alleged infringer of a specific charge of infringement by a specific accused product or device,” *Gart v. Logitech, Inc.*, 254 F.3d 1334, 1345 (Fed. Cir. 2001) (internal citation omitted), and it is “sufficiently specific to support an objective understanding that the recipient may be an infringer,” *Funai Electric Co. v. Daewoo Electronics Corp.*, 616 F.3d 1357, 1373 (Fed. Cir. 2010).

The fact that this letter does not specifically mention commodity seeds is of no import because the specific accused products are not commodity seeds as a class, but rather Monsanto’s Roundup Ready® seeds. Bowman planted Roundup Ready® seeds with actual notice that Monsanto considered this activity to infringe its patents. Because Bowman received actual notice under § 287(a) as of June 11, 1999, the court need not reach the issue of constructive notice through marking. Accordingly, Monsanto may recover damages under § 287.

### III. CONCLUSION

For the foregoing reasons, this court affirms the district court’s holding that patent exhaustion does not apply to Bowman’s accused second-crop plantings.

### **AFFIRMED**

### COSTS

Each party shall bear its own costs.