

No. 11-796

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IN THE  
**Supreme Court of the United States**

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VERNON HUGH BOWMAN, *Petitioner*,  
v.  
MONSANTO COMPANY and  
MONSANTO TECHNOLOGY LLC, *Respondents*.

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ON WRIT OF CERTIORARI TO THE  
UNITED STATES COURT OF APPEALS  
FOR THE FEDERAL CIRCUIT

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**BRIEF FOR THE AMERICAN INTELLECTUAL  
PROPERTY LAW ASSOCIATION AS *AMICUS  
CURIAE* IN SUPPORT OF AFFIRMANCE**

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**TABLE OF CONTENTS**

TABLE OF AUTHORITIES .....iii

INTEREST OF THE AMICUS CURIAE ..... 1

SUMMARY OF ARGUMENT..... 2

ARGUMENT..... 4

    I. Exhaustion of the Right to Control Propagation  
    of Patented Seed Would Disrupt the Balance  
    Created by Congress between the Patent Act and  
    the PVPA ..... 4

        A. Differences between the Patent Act and the  
        PVPA ..... 5

        B. Differences Have Been Sustained in Subsequent  
        Legislation Amending the Patent Act and the  
        PVPA ..... 9

    II. Enforcement of Innovators’ Rights in Patented  
    Seed Promotes the Progress of Useful Arts ..... 14

    III. Monsanto’s Rights Are Not Exhausted Under  
    *Quanta*..... 17

        A. Second-generation soybean seed has  
        substantial noninfringing uses ..... 18

        B. Exhaustion extends only to the original  
        article sold by a patent owner..... 19

C. An authorized sale of patented seed does not exhaust the patent owner's right to exclude purchasers from making new seed...	21
IV. The Scope of Exhaustion of Biotechnology Patents Could Extend Far Beyond Specific Plants or Seeds.....	23
CONCLUSION.....	25

## TABLE OF AUTHORITIES

## CASES

<i>Adams v. Burke</i> , 84 U.S. (17 Wall.) 453 (1873) .....	19, 20, 21, 23
<i>American Cotton-Tie Co. v. Simmons</i> , 106 U.S. 89 (1882).....	21, 23
<i>Aro Mfg. Co. v. Convertible Top Replacement Co.</i> , 365 U.S. 336 (1961) .....	21, 23
<i>Asgrow Seed Co. v. Winterboer</i> , 513 U.S. 179, 181 (1995) .....	passim
<i>Delta &amp; Pine Land Co. v. Peoples Gin Co.</i> , 694 F.2d 1012 (5th Cir, 1983) .....	10
<i>Diamond v. Chakrabarty</i> , 447 U.S. 303 (1980) .....	14
<i>Invitrogen Corp. v. Biocrest Mfg. L.P.</i> , 327 F.3d 1364 (Fed. Cir. 2003) .....	22
<i>J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.</i> , 534 U.S. 124 (2001) .....	passim
<i>Kewanee Oil Co. v. Bicron Corp.</i> , 416 U.S. 470 (1974) .....	14
<i>Mitchell v. Hawley</i> , 83 U.S. (16 Wall.) 544 (1872) .....	22

<i>Monsanto Co. v. McFarling</i> , 302 F.3d 1291 (Fed. Cir. 2002), cert. denied, 537 U.S. 1232 (2003) .....	20-21
<i>Monsanto Co. v. Scruggs</i> , 459 F.3d 1328 (Fed. Cir. 2006), cert. denied, 549 U.S. 1342 .....	5
<i>Motion Picture Patents Co. v. Universal Film Mfg. Co.</i> , 243 U.S. 502 (1917) .....	20
<i>Quanta Computer, Inc. v. LG Electronics, Inc.</i> , 553 U.S. 617 (2008) .....	passim
<i>United States v. Univis Lens Co.</i> , 316 U.S. 241 (1942) .....	18, 20
<i>Universal Oil Co. v. Globe Co.</i> , 322 U.S. 471 (1944) .....	14

## STATUTES

35 U.S.C. § 163 .....	13
35 U.S.C. § 271(a) .....	13, 21
7 U.S.C. § 2401(a)(3) .....	10
7 U.S.C. § 2541(a)(1) .....	5
7 U.S.C. § 2541(a)(3) .....	5, 13
7 U.S.C. § 2541(a)(4) .....	5
7 U.S.C. § 2541(c)(1) .....	9
7 U.S.C. § 2544 .....	5, 9

## INTEREST OF THE AMICUS CURIAE

Amicus curiae American Intellectual Property Law Association (“AIPLA”) is a national bar association of approximately 14,000 members engaged in private and corporate practice, in government service, and in the academic community.<sup>1</sup> AIPLA represents a wide and diverse spectrum of individuals, companies, and institutions involved directly or indirectly in the practice of patent, trademark, copyright, and unfair competition law, as well as other fields of law affecting intellectual property. AIPLA has no stake in any of the parties to this litigation or in the result of this case other than its interest in seeking the correct and consistent interpretation of the law as it relates to intellectual property issues.<sup>2</sup>

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<sup>1</sup> Pursuant to Supreme Court Rule 37.6, AIPLA certifies that no counsel for a party authored this brief in whole or in part, and that no person or entity, other than AIPLA, its members, or its counsel, has made any monetary contribution to the preparation or submission of this brief. After reasonable investigation, AIPLA believes that (i) no member of its Board or Amicus Committee who voted to file this brief, or any attorney in the law firm or corporation of such a member, represents a party to this litigation in this matter, (ii) no representative of any party to this litigation participated in the authorship of this brief, and (iii) no one other than AIPLA, or its members who authored this brief and their law firms or employers, made a monetary contribution to the preparation of submission of this brief.

<sup>2</sup> In accordance with Supreme Court Rule 37.3(a), counsel for petitioner and counsel for respondent have consented to the filing of the brief of amicus in support of respondent. The consents are submitted herewith.

## SUMMARY OF ARGUMENT

This case raises an issue that has been directly addressed but not decided by the Court: whether the authorized sale of patented seed which is used by the purchaser to produce a first crop exhausts the patentee's right to control subsequent generations of seed that are grown from the first crop.

The propagation rights of plant innovators and farmers are governed by the Plant Variety Protection Act, 7 U.S.C. § 2321 *et seq.* ("PVPA"), as well as by utility patents and plant patents. Both Congress and the Court have acted on the express understanding that the exclusive rights conferred by utility patents are not subject to an exemption permitting farmers to grow subsequent generations of crops using patented seed. In confirming that plant inventions may be protected by utility patents as well as Plant Variety Protection certificates, the Court repeatedly emphasized that a principal distinction between the two forms of intellectual property protection is that utility patents are not subject to the "saved seed" exemption expressly provided by the PVPA at 7 U.S.C. § 2543 and recognized by this Court in *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int'l, Inc.*, 534 U.S. 124, 129 n.1, 140, 143 (2001) and in *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179, 181 (1995).

The Court should not carve out a broad exception from utility patent protection that would radically alter the respective rights of plant innovators and farmers in the interrelated statutory systems created by Congress. Such an exception would

effectively eliminate the incentive to discover and develop new genetically-engineered plants.

The parties' arguments are narrowly focused on patent rights in Roundup Ready® soybeans, but an extension of the patent exhaustion doctrine in this case could have consequences extending far beyond seeds, creating uncertainty with respect to the patent rights on which the broader biotechnology industry is based. Only two of the 21 claims asserted by Monsanto are specifically directed to soybeans and soybean plants; the rest relate to fundamental genetic engineering discoveries that can be applied to other crops, and to introduced genetic traits other than tolerance for glyphosate herbicides.<sup>3</sup> If the sale of a single soybean incorporating these varied technologies exhausts all of the patent rights that are "embodied" in the seed's DNA, competitors could be free to excise the patented, genetically engineered sequences and use them in other products, in derogation of the patent owner's rights in inventions having much broader uses and applications.

Although Bowman argues that the Federal Circuit created an exception from the patent exhaustion doctrine applied in *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008), patent exhaustion applies only to the specific product that is sold by the patentee. It does not confer a right to recreate the patented invention by propagating

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<sup>3</sup> The asserted claims of U.S. Patent 5,352,605 and U.S. Reissue Patent RE39,247E are reproduced and summarized in Monsanto's motion for summary judgment, A0256-A0260.



subsequent generations of seed that negate the patentee's right to exclude others from "making" the patented invention. The Federal Circuit correctly concluded that, although farmers "may have the right to use commodity seeds as feed, or for any other conceivable use, they cannot 'replicate' [respondent's] patented technology by planting it in the ground to create newly infringing genetic material, seeds, and plants." *Monsanto Co. v. Bowman*, 657 F.3d 1341, 1348. The decision of the Federal Circuit should be affirmed on this basis.

## ARGUMENT

### **I. Exhaustion of the Right to Control Propagation of Patented Seed Would Disrupt the Balance Created by Congress between the Patent Act and the PVPA**

The ability of farmers to use, sell, and propagate new varieties of seed is subject to the intellectual property rights of innovators under both patent law and the Plant Variety Protection Act, 7 U.S.C. § 2321 *et seq.* ("PVPA"), which establishes a "patent-like" parallel system for certain plants that are sexually reproduced and propagated by seed. *J.E.M. Ag Supply, Inc.*, 534 U.S. at 138; *Asgrow Seed Co.*, 513 U.S. at 181. While the intellectual property protection of the Patent Act and the PVPA overlap as to subject matter, the two regimes contain critical differences for this case that are a result of deliberate policy decisions by Congress. One particular difference is the decision by Congress to provide certain infringement exemptions under the PVPA that are not available under the Patent Act.

This Court should not undermine that Congressionally dictated difference between these two regimes through an application of the exhaustion doctrine.

#### **A. Differences between the Patent Act and the PVPA**

Like a utility patent, a PVP certificate grants the owner of a protected variety the exclusive right to sell the variety or to offer it for sale, and to import the variety into the United States, among other exclusive rights. 7 U.S.C. § 2541(a)(1). The PVPA also grants exclusive propagation rights which generally correspond to a patent owner's right to exclude others from making the invention, including the right to sexually multiply the protected variety as a step in marketing (for growing purposes) the variety (7 U.S.C. § 2541(a)(3)), and to use the protected variety in producing (as distinguished from developing) a hybrid or different variety. 7 U.S.C. § 2541(a)(4).

The greatest difference between the protection for innovators afforded by a utility patent and by a PVP certificate is that the PVPA contains several exemptions from infringement of a PVP certificate that do not apply to utility patents. The exclusive rights granted by a certificate of plant protection are subject to a research exemption (7 U.S.C. § 2544), and to a crop exemption that permits farmers to save limited amounts of seed for replanting on their own farms (7 U.S.C. § 2543).

Soybean seed can be protected by a utility patent and by a PVP certificate, as in *Asgrow*, where the defendants purchased soybean seed varieties protected by a PVP certificate, planted 265 acres of the seed, and sold the entire salable crop to others for use as seed – 10,529 bushels, enough to plant 10,000 acres. 513 U.S. at 182. The defendants argued that their sales were not infringing under the “saved seed” exemption, which permitted a farmer to save seed from a crop of a protected variety and use it for replanting on his own farm, or for sale to other farmers. *Id.* at 184 (citing 7 U.S.C. § 2543). They contended that this provision gave them the right to sell an unlimited amount of seed produced from a protected variety to other farmers. *Id.* at 185. The Court disagreed, concluding that the amount of seed that can be saved for replanting under the PVPA is limited to the amount necessary to replant a farmer’s own acreage. *Id.* at 191 and n.5. The Court considered that while the text of the statutory saved seed provision “is by no means clear, this is in our view the only reading that comports with the statutory purpose of affording ‘adequate encouragement for research, and for marketing when appropriate, to yield for the public the benefits of new varieties.’” *Id.* at 192 (quoting 7 U.S.C. § 2581).

The limited statutory exemption from infringement under the PVPA, which does not permit propagating a novel variety as a step in marketing the variety for growing purposes, was the principal issue in *Asgrow*. *See id.* at 186-191. In 1994, Congress contracted the PVPA saved-seed exemption by eliminating the farmers’ right to sell

PVPA-protected seed to other farmers for reproductive purposes. *See id.* at 184 n.2.

In *J.E.M. Ag Supply* the Court contrasted the scope of protection afforded by the PVPA and utility patents, confirming that there is no exemption from patent infringement that permits growers to save or replant patented seed without authorization of the patent owner. *See* 534 U.S. at 140 (citing *Asgrow*) (“The PVPA also contains exemptions for saving seed and for research. A farmer who legally purchases and plants a protected variety can save the seed from these plants for replanting on his own farm. *See* § 2543. ... The utility patent statute does not contain similar exemptions.”); at 143 (“Because of the more stringent requirements, utility patent holders receive greater rights of exclusion than holders of a PVP certificate. Most notably, there are no exemptions for research or saving seed under a utility patent.”); and at 129 n.1 (“the PVPA provides exemptions for research and for farmers to save seed from their crops for replanting. ... Utility patents for plants do not contain such exemptions.”).

A reason that there is no parallel exemption for replanting patented commodity seeds, according to the Court, is that “the requirements for obtaining a utility patent under § 101 are more stringent than those for obtaining a PVP certificate, and the protections afforded by a utility patent are greater than those afforded by a PVP certificate. Thus, there is a parallel relationship between the obligations and the level of protection under each statute” *Id.* at 142.

The Court observed that “[i]t is much more difficult to obtain a utility patent for a plant than to obtain a plant variety certificate because a utility patentable plant must be new, useful, and nonobvious, 35 U.S.C. §§ 101-103.” *Id.* In order to be granted a utility patent, “a breeder must describe the plant with sufficient specificity to enable others to ‘make and use’ the invention after the patent term expires. § 112.” *Id.* The description requirement for a utility patent claiming plants “includes a deposit of biological material, for example, seeds, and mandates that such material be accessible to the public.” *Id.*; *see* 37 C.F.R. §§ 1.801-808 (2012). By contrast with a utility patent, a PVP certificate does not require a showing of usefulness or nonobviousness, and instead requires that “the variety be only new, distinct, uniform and stable.” 534 U.S. at 142 (citing 7 U.S.C. § 2402(a)). The PVPA does not require a description and disclosure as extensive as the utility provision, and is satisfied by “a description of the variety setting forth its distinctiveness, uniformity and stability and a description of the genealogy and breeding procedure, when known.” *Id.* at 142-43 (citing 7 U.S.C. § 2422(2)). While the PVPA requires a deposit of seed in a public depository, neither the statute nor the applicable regulation mandates that the deposited seed be accessible to the general public during the term of the certificate. *Id.* at 143 (citing 7 U.S.C. § 2422(4) and 7 C.F.R. §97.6 (2001)). The Court concluded that “[b]ecause of the more stringent requirements, utility patent holders receive greater rights of exclusion than holders of a PVP certificate. Most notably, there are no exemptions for research or saving seed under a utility patent.” *Id.*

**B. Differences Have Been Sustained in  
Subsequent Legislation Amending the Patent  
Act and the PVPA**

Although Congress increased the level of protection for seed producers under the PVPA in 1994, “a plant variety certificate still does not grant the full range of protections afforded by a utility patent.” *Id.* For example, “a breeder can use a plant that is protected by a PVP certificate to ‘develop’ a new inbred line while he cannot use a plant patented under §101 for such a purpose.” *Id.* The PVPA contains exemptions permitting a protected variety to be used for “plant breeding or other bona fide research” (7 U.S.C. § 2544), but the utility statute does not contain a similar exemption. *Id.* at 153-54.<sup>4</sup>

Furthermore, although the 1994 amendments extended the rights of PVP certificate holders to varieties that are “essentially derived” from protected varieties, the statute expressly excludes new varieties that are essentially derived from earlier essentially derived varieties. 7 U.S.C. § 2541(c)(1). In view of considerable uncertainty as to the extent to which genetically modified plants are “essentially derived” from protected varieties, utility patents may provide the only effective intellectual property protection for valuable new varieties

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<sup>4</sup> The PVPA also provides an infringement exemption for transporters and advertisers (7 U.S.C. § 2545) and a compulsory licensing clause with a “just price” provision (7 U.S.C. § 2404).

combining the genomes and traits of existing plant varieties.<sup>5</sup>

If, contrary to the reasoning of *J.E.M. Ag Supply*, purchasers of patented commodity seed are free to propagate commodity second-generation seed, because patent rights were exhausted by a prior authorized sale, patent holders would not “receive greater rights of exclusion than holders of a PVP certificate.” 534 U.S. at 143. Innovators would lose the ability to recover investment costs of developing new plants with valuable traits following a first sale, to the detriment of innovators and users alike.

In considering the scope of the PVPA saved seed exemption, the Fifth Circuit construed the provision narrowly, to exclude sales made through intermediaries such as agricultural cooperatives. *See Delta & Pine Land Co. v. Peoples Gin Co.*, 694 F.2d 1012 (5th Cir. 1983). Weighing the benefits that Congress expected from increased private research

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<sup>5</sup> An essentially derived variety is defined in 7 U.S.C. § 2401(a)(3), which provides in part that an essentially derived variety is one that “except for differences that result from the act of derivation, conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety.” 7 U.S.C. § 2401(a)(3)(iii). The key term “essential characteristics” is not defined in the statute, and the scant legislative history provides little guidance on the intended scope of the essential derivation provision. *See* H.R. REP. NO. 103-699, at 19 (1994) (statement of Kenneth C. Clayton, USDA) (the essential derivation provision will “end the practice of altering just slightly the successful varieties of others, and escaping infringement charges under present law while benefiting from the desirable characteristic of the initial variety”).

and development, the Fifth Circuit reasoned as follows:

The broader the construction given the exemption, the smaller the incentive for breeders to invest the substantial time and effort necessary to develop new strains. The less time and effort that is invested, the smaller the chance of discovering superior agricultural products. If less time and effort is invested, long-term benefits to the farmer in the form of superior crops and higher yields will be lost. Although it may appear that the broadest reading of the exemption would benefit farmers today, it could be detrimental to their interests tomorrow.

*Id.* at 1016. This pragmatic analysis, which applies with even greater force to utility patents, was based on recognition that it is expensive to develop new seeds that produce better results. It recognizes that the grant of a meaningful exclusive right in the new variety “is the only way we know to get people to invest their time and money.” *Ibid.* (quoting a statement of Rep. William R. Poage, a Texas congressman instrumental in the passage of the PVPA, 116 Cong. Rec. 40,295-40,303, 40,295 (daily ed. Dec. 8, 1970)).

Similar reasoning motivated Congress in enacting the Plant Patent Act of 1930 (35 U.S.C. §§ 161-164). In the absence of patent protection, Congress considered that the cost of new asexually reproduced plants was unnecessarily increased, and their availability restricted, since “the breeder to-day must make excessive charges for specimens of the



new variety disposed of by him at the start in order to avail himself of his only opportunity for financial reimbursement. Under the bill the breeder may give the public immediate advantage of the new varieties at a low price with the knowledge that the success of the variety will enable him to recompense himself through wide public distribution by him during the life of the patent.” S. REP. NO. 71-315, at 2 (1930). As with utility patents, a first-sale patent exhaustion doctrine applied to plant patents would vitiate this legislative goal.

In considering proposed amendments to the PVPA in 1993, Congress was aware of the differences between PVPA and utility patent protection for plants emphasized by the Court in *J.E.M. Ag Supply*. At a hearing on the Senate bill to amend the PVPA Senator Robert Kerrey, who was a sponsor, stated: “Under current law, Federal protection of the intellectual property rights that arise from plant breeding is available in the United States in three forms: plant patents, plant variety protection, and utility patents.” *Plant Variety Protection Act Amendments of 1993: Hearing on S. 1406 Before the Subcomm. On Agricultural Research, Conservation, Forestry, and General Legis.*, 103<sup>rd</sup> Cong. 2 (1993) (statement of Sen. Robert Kerrey). As Senator Kerrey observed, “While similar in its intent of providing incentive and protection to inventors, the PVPA differs from the Patent and Trademark Act in a number of ways: the legal standards for protection are less stringent; administration is through the Department of Agriculture rather than the Department of Commerce Patent and Trademark office [*sic*] and

exemptions allow the use of protected varieties in the development of new varieties and permit individual farmers to save and sell limited quantities of seed—the so-called ‘farmer’s exemption.’” *Id.* at 2-3.

In 1999 Congress amended § 119 of the utility patent statute to extend patent protection afforded to plant inventions, without creating a saved seed exemption.<sup>6</sup> *See J.E.M. Ag Supply*, 534 U.S. at 527. The relevant legislative history indicated that § 119 was amended because patent applicants were “unable to base a priority claim on a foreign application for a plant breeder’s right when seeking plant or utility patent protection for a plant variety in this country” prior to amendment.<sup>7</sup> Congress thus confirmed and extended utility patent protection for plant inventions, without imposing an infringement exemption similar to the saved seed provision of the PVPA.

The fundamental right to exclude buyers of a plant or seed from propagating a plant, whether by “making” an invention protected by a utility patent under 35 U.S.C. §§ 154(a)(1) and 271(a), or by sexually multiplying a protected variety as a step in marketing (for growing purposes) the variety under the PVPA (7 U.S.C. § 2541(a)(3)), or by asexually reproducing a plant covered by a plant patent (35 U.S.C. § 163) is the core of intellectual property

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<sup>6</sup> Pub. L. No. 106-113, § 1000(a)(9), 113 Stat. 1501A-589, (1999), amending 35 U.S.C. § 119 by adding subsections (f) and (g).

<sup>7</sup> *See* H. R. CONF. REP. NO. 106-464, § 4802 at 145-146 (1999) (App. A at 15a).

protection for plants under the three interrelated systems provided by Congress.

The Court should not carve out new use rights from patent protection that would radically alter the respective rights of plant innovators and farmers in the statutory system fashioned by Congress, as recognized in *J.E.M. Ag Supply* and *Asgrow*.

## **II. Enforcement of Innovators' Rights in Patented Seed Promotes the Progress of Useful Arts**

In agriculture as in other industries, patents fulfill the constitutional purpose of “promoting the Progress of Science and the Useful Arts.” U.S. Const., Art. I, § 8; *see J.E.M. Ag Supply*, 534 U.S. at 130-31 (“The patent laws promote this progress by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts.”); *Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) (citing *Kewanee Oil Co. v. Bicron Corp.*, 416 U.S. 470, 480-481 (1974); *Universal Oil Co. v. Globe Co.*, 322 U.S. 471, 484 (1944)). The legislative authority to enact patent laws is “exercised in the hope that [t]he productive effort thereby fostered will have a positive effect on society through the introduction of new products and processes of manufacture into the economy, and the emanations by way of increased employment and better lives for our citizens.” *Chakrabarty*, 447 U.S. at 307 (quoting *Kewanee*, 416 U.S. at 480). The present case provides a concrete example that illustrates the fulfillment of the constitutional purpose by strong patent rights.

Monsanto invented and developed fundamental technology for genetically modifying plants to express desirable, non-native traits by using DNA from a virus capable of infecting plant cells. That DNA is combined with a “heterologous” protein-encoding DNA sequence, forming a chimeric gene conferring the desired trait that is expressed in the plant cell.

This technology is claimed in the asserted claims of U.S. Patent 5,352,605, which are not limited to particular plants or to any specific heterologous DNA included in the chimeric gene, such as DNA conferring resistance to glyphosate herbicides. A far broader invention is disclosed, enabling other innovators to insert additional desirable traits into plants, using chimeric genes that include the claimed promoters from a cauliflower mosaic virus and any other heterologous DNA sequence encoding for a desired genetic trait. '605 Patent, claims 1, 2, 4 and 5, A0256-A0257.

By providing a basic genetic engineering tool that can be used to transform other valuable crops with desirable traits, Monsanto's '605 Patent, which expired in 2011, promotes the progress of science and the useful arts in an industry that did not exist before Monsanto's inventions.

The asserted claims of U.S. Reissue Patent RE39,247E relate to recombinant chimeric genes that confer resistance to glyphosate herbicides to plant cells, plants, and seeds containing the chimeric genes. *Bowman*, 657 F.3d at 1343-44; A0257-A0260. Although the product accused of infringement in the

present case is glyphosate-tolerant soybean seed, the technology for conferring glyphosate tolerance disclosed in the '247E Patent is more generally applicable to plants and crops, *e.g.*, “corn, wheat, rice, barley, soybean, cotton, sugarbeet, oilseed rape, canola, flax, sunflower, potato, tobacco, tomato, alfalfa, poplar, pine, eucalyptus, apple, lettuce, peas, lentils, grape or turf grass seed.” *See* '247E Patent claims 117, 123, A0258.

Once again, Monsanto's contribution to the science of agriculture far exceeds its patented Roundup Ready® soybean product. When the '247E Patent expires in 2014, another industry of innovators will be created, which will be able to use technology disclosed in the patent to create other crops and plants in which glyphosate resistance will be a valuable trait.<sup>8</sup>

Apart from claims to plant cells, plants and seed, the '247E Patent contains claims to the method that was also infringed by Bowman – planting seeds covered by Monsanto's asserted claims, applying glyphosate herbicide to control undesired weeds, and growing soybean plants that are glyphosate-tolerant. (*e.g.*, Claim 130, A0258-A0259). Glyphosate herbicides are not separately patented by Monsanto, and a producer can use any glyphosate product

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<sup>8</sup> *See, e.g.*, Monsanto, Roundup Ready Soybean Patent Expiration, <http://www.monsanto.com/newsviews/Pages/roundup-ready-patent-expiration.aspx> (last visited Jan. 10, 2013) (“Monsanto will not use variety patents against any U.S. farmers who save varieties containing the Roundup Ready trait for planting on their own farms after expiration of the trait patent.”).

produced by a number of competing manufacturers in the patented method. Monsanto's inventions in the field of glyphosate-tolerant plants have created another competing industry providing glyphosate herbicides that can be used in the methods claimed in the '247E patent.

This case provides a concrete illustration of the ways in which broad patent protection for genetic engineering inventions promotes science and the useful arts, not just by increasing yields of food crops, but by expanding useful technologies that extend far beyond soybeans or the trait of glyphosate tolerance that is present in Roundup Ready® seeds.

### **III. Monsanto's Rights Are Not Exhausted Under *Quanta***

Bowman argues that a single authorized sale of RoundUp Ready® soybean seed exhausts all of Monsanto's patent rights in their progeny, including commodity soybeans produced by the original purchaser that are sold to grain elevators, relying on *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008).

In *Quanta*, the Court held that an authorized sale of a patented item exhausts the patent owner's right to exclude downstream purchasers from using the specific item sold, in certain other patented combinations or methods. *Id.* at 638. Exhaustion of the right to use or sell an item extends to patented combinations including the item, and to methods of using the item as well, if that specific item is

“capable of use only in practicing the patent” or has “no reasonable use” other than being incorporated into the claimed combination or used in the patented method. *Id.* at 631-32 (quoting *United States v. Univis Lens Co.*, 316 U.S. 241, 249 (1942)).

In *Quanta*, the authorized sale of microprocessors and chipsets by Intel exhausted LGE’s ability to prevent purchasers of the products from using them in separately-patented combinations with other components such as buses and RAM, where the products had no reasonable use except in combination with these other components. *Id.* at 631, 632, 634 (the Intel products were “specifically designed to function only when memory or buses are attached”). Patents claiming methods of using the products to organize read and write requests from and to main memory, and to manage data traffic on a bus connecting computer components, were also exhausted. *Id.* at 622, 628-29.

**A. Second-generation soybean seed has substantial non-infringing uses**

In order for an authorized sale to exhaust rights in other combination or method patents, the article that is sold must have no reasonable noninfringing use, apart from its use in the separately-patented combination or method. *Quanta*, 553 U.S. at 638; *Univis*, 316 U.S. at 249, 251-51. In addition, the article must sufficiently “embody” the claims of the patent that is exhausted, *i.e.*, “its only and intended use” must be to practice the second patent’s claims, and the product must “all but completely practice” them. *Quanta*, 553 U.S. at 633. The present case

does not involve infringement of a combination patent separately claiming a patented component, as in *Quanta*.

As the Federal Circuit stated in this case, patented seed has uses other than propagation, including as a commodity or as feed. *Bowman*, 657 F.3d at 1348. Indeed, because soybean seed replicates exponentially, its *principal* use is as feed or a commodity, except for seed companies who produce the first generation seed under license from Monsanto. In *Asgrow*, the defendants planted 265 acres of Asgrow's protected variety soybean seed and sold the entire salable crop, 10,529 bushels, to others for use as seed – enough to plant 10,000 acres. *See* 513 U.S. at 182. For the same reasons, when Bowman planted 299.1 acres of glyphosate-tolerant commodity soybean seed, the principal use of the crop was undoubtedly for uses other than propagating additional generations of the seed on Bowman's farm. *See* 657 F.3d at 1343.

**B. Exhaustion extends only to the original article sold by a patent owner**

The Court's precedent, from *Adams v. Burke*, 84 U.S. (17 Wall.) 453, 455 (1873) to *Quanta*, uniformly limits patent exhaustion to the specific item that is sold. In *Quanta*, the Court held that “[t]he longstanding doctrine of patent exhaustion provides that the initial authorized sale of a patented item terminates all patent rights to that item.” 553 U.S. at 625. In the precedent cited in *Quanta*, the scope of exhaustion extends only to patent rights to the specific article sold by the patent owner. *See id.* at



626; *Adams*, 84 U.S. at 455 (1873) (the purchase of a patented machine “carrie[s] with it the right to the use of that machine so long as it [is] capable of use.”), and at 456 (when a patent owner receives all of the consideration “which he claims for the use of his invention in that particular machine or instrument” it is open to the use of the purchaser without further restriction); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 516 (1917) (“[T]he right to vend is exhausted by a single, unconditional sale, the article sold being thereby carried outside the monopoly of the patent law and rendered free of every restriction which the vendor may attempt to put upon it.”); *Univis*, 316 U.S. at 249 (“[T]he authorized sale of an article which is capable of use only in practicing the patent is a relinquishment of the patent monopoly with respect to the article sold.”); and at 250-51 (“[W]here one has sold an uncompleted article which, because it embodies essential features of his patented invention, is within the protection of his patent, and has destined the article to be finished by the purchaser in conformity to the patent, he has sold his invention so far as it is or may be embodied in that particular article.”).

The only glyphosate-tolerant seed that is sold with Monsanto’s authorization is the first generation of seed, used to produce crops that are sold to grain elevators as commodity seed. The court of appeals correctly observed that the exhaustion doctrine is not implicated, when “the new seeds grown from the original batch had never been sold.” *See Bowman*, 657 F.3d at 1347 (quoting *Monsanto Co. v.*

*McFarling*, 302 F.3d 1291, 1299 (Fed. Cir. 2002), *cert. denied*, 537 U.S. 1232 (2003)).

**C. An authorized sale of patented seed does not exhaust the patent owner's right to exclude purchasers from making new seed**

Each of the enumerated exclusive rights to “make, use, and sell” is a “substantive right[]” that “may be granted or conferred separately by the patentee.” *Adams*, 84 U.S. at 456; *see* 35 U.S.C. §§ 154(a)(1), 271(a). The patent statute grants patent owners the separate right to exclude purchasers from making patented articles, after they are first sold, in order to permit patent owners to recover development costs and profits over the entire course of the patent term.

If a single sale of patented seed to a farmer were to exhaust the separate exclusive right to make the seed, as Bowman argues, the first sale of a bag of seed by Monsanto would permit the purchaser to go into business manufacturing and selling it in competition with the patent owner. This has never been the law.

An authorized sale of a patented item exhausts the patent owner's right to control further use or sale of the specific item, but confers no right on the purchaser to make “a second creation of the patented entity.” *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1961) (citing *American Cotton-Tie Co. v. Simmons*, 106 U.S. 89, 93-94 (1882) (“Whatever right the [purchasers] could acquire to the use of the old buckle, they acquired no right to combine it with a substantially new band, to make a cotton-bale

tie.”)). In *Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544, 547 (1872), the Court explained that after an authorized sale, a patentee “ceases to have any interest whatever in the patented machine so sold and delivered.” However, the purchaser of the patented article “does not acquire any right to construct another machine.” *Id.* at 548.

Bowman argues that the sale of patented seed exhausts the right to “use” patented soybean seed by propagating a new generation of seed, without restriction, because seeds are “self-replicating.” This is no different from the argument that, by buying a patented machine, the purchaser is entitled to “use” the machine to make other identical machines. That possibility is foreclosed by *Mitchell*, 83 U.S. at 548 (“the purchaser of the implement or machine for the purpose of using it in the ordinary pursuits of life ... does not acquire any right to construct another machine either for his own use or to be vended to another for any purpose.”).

As shown by the facts of *Asgrow*, soybean plants are no different from very efficient “machines” for reproducing soybeans at an exponential rate. *See* 513 U.S. at 182. This is a characteristic of many other biotechnology inventions that can be replicated or propagated by cultivation. *See, e.g., Invitrogen Corp. v. Biocrest Mfg. L.P.*, 327 F.3d 1364, 1366 (Fed. Cir. 2003) (“To produce proteins, a laboratory may introduce a DNA molecule containing a particular gene into the bacterium *E. coli*, which serves as a factory to replicate many copies of the DNA molecule and its gene. When an *E. coli* cell replicates by cell division, the DNA in that *E. coli* cell also replicates, providing an increased number of

gene sequences from which protein can be expressed. Thus, the *E. coli* can serve as a factory to produce important proteins.”).

Moreover, the soybeans sold by Monsanto and its licensees no longer exist after they are planted, sprout, and grow into plants. Once it is planted, the original seed is spent, and no longer capable of use; it is a “patented manufacture which perishes in the first use of it.” *Adams*, 84 U.S. at 456. When the specific seed that is sold is planted, it is used “to the full extent to which it can be used in point of time.” *Id.* at 455. “Its capacity for use as [seed] was voluntarily destroyed.” *American Cotton-Tie*, 106 U.S. at 94. After planting, “it could not be used again as [seed].” *Id.* Propagation of the original seed is a “second creation of the patented entity,” rather than a “use” permitted under the exhaustion doctrine. *See Aro*, 365 U.S. at 346.

#### **IV. The Scope of Exhaustion of Biotechnology Patents Could Extend Far Beyond Specific Plants or Seeds**

A holding that an authorized sale of seed exhausts Monsanto’s patent rights to prevent unauthorized propagation of RoundUp Ready® soybeans would have unpredictable consequences affecting the broader biotechnology industry.

The absolute exhaustion doctrine proposed by Bowman, which would extend to all patent rights “embodied” in the product sold by a patent owner, could extend far beyond a purchaser’s right to replant and harvest the soybeans in dispute. Only

two of the 21 patent claims asserted by Monsanto are limited to soybean plants or seeds. *See* A0257-A0259. The rest cover far broader inventions, including recombinant DNA molecules and promoters that can be used to introduce desirable traits other than glyphosate resistance into a broad variety of plants other than soybeans. If all patent rights in these broad and diverse technologies were exhausted by the sale of a soybean “embodying” them, fundamental biotechnology inventions would be subject to an unfettered research exemption to infringement. In addition, such inventions would be subject to commercial use by competitors in other, unrelated products, despite the Court’s conclusion in *J.E.M. Ag Supply* that there is no research exemption to infringement of a utility patent. *See* 534 U.S. at 143.

Like many biotechnology patents, the Monsanto patents at issue claim a spectrum of genetic engineering technologies, from fundamental discoveries that are applicable to plants in general, to their specific applications in soybean plants and seeds. All of the claimed technologies may be “embodied” in the DNA of a single RoundUp Ready® soybean seed. The extension of the patent exhaustion doctrine to all of the claimed technologies that are present in a patented seed or biological product could devastate the seed and biotechnology industries.

For example, patented genes, products and genetic traits are present in products including: recombinant enzymes, useful in fields from food processing to textile production; biopharmaceuticals,

such as human insulin, growth factors, recombinant antibodies and vaccines; disease diagnostic kits and diagnostic research tools, for detecting cancers and HIV, and tools useful in the identification of specific targets that are promising for new drug development; personalized medicine and individual genome analysis tools, such as those involved in the field of bioinformatics; and cell lines. All of these biological products can be easily replicated on a massive scale based on similarly patented techniques.

If the purchaser of a soybean seed were permitted to excise a patented promoter or other patented genetic construct, and use it to introduce other valuable traits in different crops or plants, plant biotechnology patents would be valueless after the first sale of any product that includes the patented genes or “embodies” any claimed technology.

### CONCLUSION

For the foregoing reasons, the AIPLA urges the Court to affirm the decision of the Federal Circuit.

Respectfully submitted,

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