

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, ET AL.,  
*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 OF CROPLIFE AMERICA AS *AMICUS*  
*CURIAE* SUPPORTING AFFIRMANCE**

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DOUGLAS T. NELSON  
JOSHUA SALTZMAN  
CROPLIFE AMERICA  
1156 15th Street, NW  
Suite 400  
Washington, DC 20005  
(202) 872-3882

J. SCOTT BALLENGER  
*Counsel of Record*  
LORI ALVINO MCGILL  
DREW C. ENSIGN  
LATHAM & WATKINS LLP  
555 11th Street, NW  
Suite 1000  
Washington, DC 20004  
(202) 637-2200  
scott.ballenger@lw.com

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## INTEREST OF *AMICUS CURIAE*<sup>1</sup>

CropLife America is the national voice of the agricultural crop protection industry. It represents the companies that develop, manufacture, and distribute virtually all crop protection and biotechnology products used by American farmers. CropLife America represents its members' interests by, *inter alia*, monitoring federal agency regulations and agency actions and related litigation to identify issues of concern to the crop protection and pest control industry, and participating in such actions when appropriate. Because many genetically engineered ("GE") crops are critical crop protection systems, CropLife America's members have an interest in proper resolution of the questions presented.

## BACKGROUND

This case has enormous potential implications for American agriculture. Over the last decade, GE crops have become a mainstay of U.S. agriculture. Because of the significant economic and environmental benefits they confer, farmers and seed companies have invested heavily in those crops—which now account for over 85% of corn, soybean, cotton and sugarbeet crops planted domestically. To shed light on the possible effects of this Court's decision, *amicus* provides the

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<sup>1</sup> Pursuant to Supreme Court Rule 37.6, *amicus curiae* states that no counsel for any party authored this brief in whole or in part and that no entity or person, aside from *amicus curiae*, its members, and its counsel, made any monetary contribution toward the preparation or submission of this brief. Petitioner and Respondents have consented to the filing of this brief, as reflected in letters filed with the Clerk of Court.

following background on domestic cultivation of GE crops in general and soybeans, in particular, as well as the benefits conferred by GE crops and the costs associated with developing them.

### A. Soybean Cultivation In The United States

The soybean is a legume prized for its protein content and nitrogen-fixing properties. Although native to East Asia, it is now the second-most cultivated crop in the United States (by acreage); each year approximately 75 million acres of soybeans are planted in this country, with an aggregate value ranging between \$27 billion and \$40.2 billion per year from 2007 to 2011.<sup>2</sup> The United States is the largest producer and exporter of soybeans in the world.<sup>3</sup>

When dealing in soybeans, “the crop is the seed” itself. *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179, 188 (1995). That seed is fit for consumption by either livestock or humans (*e.g.*, edamame).<sup>4</sup> Or the seed can

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<sup>2</sup> See Economic Research Serv., USDA, *Soybeans & Oil Crops: Background*, <http://www.ers.usda.gov/topics/crops/soybeans-oil-crops/background.aspx> (last visited Jan. 22, 2013); Economic Research Serv., USDA, *Soybeans & Oil Crops: Related Data & Statistics*, <http://www.ers.usda.gov/topics/crops/soybeans-oil-crops/related-data-statistics.aspx> (last visited Jan. 22, 2013).

<sup>3</sup> See FAOSTAT, *Food and Agricultural Commodities Production*, <http://faostat.fao.org/site/339/default.aspx> (select “Country rank in the world, by commodity”; then select “United States of America”) (last visited Jan. 22, 2013).

<sup>4</sup> See, *e.g.*, Mark Bittman, *Snacks Worth Their Salt*, N.Y. Times, Oct. 3, 2012, at D3, available at <http://www.nytimes.com/2012/10/03/dining/how-to-cook-everything-edamame-snacks-that-are-simple-to->

be processed into countless varieties of food products, such as soy milk, soybean oil, baby formula, and tofu. And, as a seed, soybeans can of course be planted and cultivated into growing new soybean plants.

Soybeans are self-pollinating and shed pollen only at very short distances. JA-100a; “Soybean,” *Encyclopaedia Britannica Online Library Edition*, Web 18 (2013). There is no evidence of unwanted cross-pollination from GE soybeans to conventional or organic soybeans. Unlike some other crops, soybean seeds can be saved and replanted without a significant decrease in yield as compared to the first generation. JA-100a.

Soybean farmers typically sell their soybeans either directly to a processor or to a grain elevator (which in turn sells the soybeans to processors). Resp. Br. at 6-7; BayhDole25, Inc. Amicus Br. at 7-12; *Asgrow*, 513 U.S. at 188. Grain elevators do not plant the seeds they buy and, outside of very rare circumstances—exemplified by this case—do not sell soybeans to farmers for replanting. Resp. Br. at 6 & n.6; BayhDole25, Inc. Amicus Br. at 7-12. Instead, grain elevators sell to companies and individuals interested in soybean seeds’ value as food for consumption by humans or livestock.

This case involves Roundup Ready soybeans, a variety of soybean that has been genetically engineered for resistance to the herbicide glyphosate. JA-87. Roundup Ready soybeans are one of many GE crops planted in the U.S., which are quite popular due to the significant benefits they confer.

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make.html?\_r=2&; “Soybean,” *Encyclopaedia Britannica Online Library Editions*, Web 18 (2013).

## B. The Benefits Of GE Crops

The vast majority of GE crops cultivated in the United States are so-called “first generation” GE crops, which have been engineered to have traits that confer resistance to herbicides or insects. These biotechnological innovations confer significant economic and environmental benefits.

1. The development of GE crops has yielded remarkable economic benefits. “In 2010, the direct global farm income benefit from biotech crops was \$14 billion.” Graham Brookes & Peter Barfoot, *The Income and production effects of biotech crops globally 1996-2010*, 3 *GM Crops & Food: Biotechnology in Agric. & the Food Chain* 265, 266 (2012). “Since 1996, farm incomes have increased \$78.4 billion.” *Id.* Roughly “[h]alf of this has been derived by farmers in developing countries.” *Id.* at 271. In addition to those direct benefits, “[i]mportant non-pecuniary benefits have also been derived by many farmers, which in the case of US farmers added a further \$7.6 billion to the farm income benefits derived from the technology.” *Id.*

A substantial portion of those economic benefits is derived from herbicide-resistant soybeans—which are overwhelmingly the Roundup Ready variety at issue here. “HT [herbicide-tolerance] technology in soybeans has boosted farm incomes by \$3.3 billion in 2010, and since 1996 has delivered over \$28 billion of extra farm income (the highest cumulative increase in farm income of the biotech traits).” *Id.* at 267.

The economic benefits of GE crops radiate well beyond the owners of the relevant intellectual property. Of the \$1.2 billion in economic benefits created by Roundup Ready soybeans in 2001, a full \$652 million flowed to consumers “due to lower prices.”

Greg Traxler, *The GMO experience in North and South America*, 2 Int'l J. Tech. & Globalization 46, 54 (2006). In addition, farmers “received net benefits of \$152 million, and biotechnology and seed firms received \$421 million as technology revenue.” *Id.*

2. GE crops also provide substantial environmental benefits. They reduce fuel consumption, promote soil conservation, and reduce greenhouse gas emissions.

Herbicide-resistant crops greatly enhance farmers’ ability to control weeds. As a result, farmers can typically apply herbicides less frequently and rely less on mechanical plowing.<sup>5</sup> The resulting environmental benefits are significant: “Over the period 1996 to 2010, the cumulative permanent reductions in fuel use has been about 12,232 million kg of carbon dioxide, arising from reduced fuel use of 4,582 million litres.”<sup>6</sup> In 2010 alone, an estimated 1,715 million kilograms of carbon dioxide and 642.2 million liters of fuel was saved as a result of GE crops.<sup>7</sup> A significant majority of those savings—roughly 85%—“have come from the adoption of GM HT technology in soybeans,” such as Roundup Ready soybeans.<sup>8</sup>

GE crops also promote soil conservation, which has been a critical priority of environmental policy since

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<sup>5</sup> Graham Brookes & Peter Barfoot, *Global Impact of Biotech Crops: Environmental Effects, 1996-2010*, 3 GM Crops & Food: Biotechnology in Agric. & the Food Chain 129, 131-32 (2012).

<sup>6</sup> *Id.*

<sup>7</sup> *Id.* at 133, 131.

<sup>8</sup> *Id.* at 131.

the Dust Bowl.<sup>9</sup> “The use of conservation tillage reduces soil erosion by wind and water, increases water retention, and reduces soil degradation and water and chemical runoff.” Jorge Fernandez-Cornejo & Margriet Caswell, USDA, *The First Decade of Genetically Engineered Crops in the United States* 13 (2006), available at [http://www.ers.usda.gov/media/255908/eib11\\_1\\_.pdf](http://www.ers.usda.gov/media/255908/eib11_1_.pdf) Farmers’ adoption of “no-till” and “reduced-till” farming systems “ha[s] increased significantly with the adoption of GM HT crops because the GM HT technology has improved growers’ ability to control competing weeds, reducing the need to rely on soil cultivation and seed-bed preparation as a means to getting good levels of weed control.” Graham Brookes & Peter Barfoot, *Global Impact of Biotech Crops: Environmental Effects, 1996-2010*, 3 *GM Crops & Food: Biotechnology in Agric. & the Food Chain* 129, 132 (2012). “As a result, tractor fuel use for tillage is reduced, soil quality is enhanced and levels of soil erosion cut.” *Id.*

This soil conservation also facilitates lower greenhouse gas emissions through carbon sequestration in soil: “more carbon remains in the soil and this leads to lower [greenhouse gas] emissions.” *Id.* Through adoption of GE crops, “an extra 4,805 million kg of soil carbon is estimated to have been

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<sup>9</sup> See, e.g., Natural Resources Conservation Service, USDA, *Soil Health: Unlocking the Secrets in the Soil*, available at <http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/soils/health/> (list visited Jan. 22, 2013) (explaining that soil conservation is of “paramount importance” and that “improving the health of our Nation’s soil is one of the most important endeavors of our time”).

sequestered,” which is “equivalent to removing 7.84 million cars from the roads.” *Id.* (emphasis added).

Roundup Ready soybeans are particularly effective at promoting soil conservation: “According to USDA survey data, about 60 percent of the area planted with HT soybeans was under conservation tillage in 1997, compared with only about 40 percent of the acres planted with conventional soybeans.” Fernandez-Cornejo, *supra*, at 13. “Differences in the use of no-till between adopters and nonadopters of HT soybeans are even more pronounced: 40 percent of acres planted with HT soybeans were under no-till, twice the corresponding share of acreage planted with conventional soybeans.” *Id.*; see also Dan Towery & Steve Werblow, Conservation Technology Information Center, *Facilitating Conservation Farming Practices and Enhancing Environmental Sustainability with Agricultural Biotechnology* 1 (2010), available at <http://www.ctic.org/BiotechSustainability> (explaining “how plant biotechnology and the sustainable farming systems it helps facilitate ... are helping farmers grow more food, feed, fiber and fuel while protecting the environment”).

3. Nearly all of these benefits have been derived from first-generation GE traits that convey herbicide or insect resistance. More recently, crops with new GE traits have become commercially available or are nearing approval. For example, as explained in a recent White House report, “in December 2011, drought tolerant corn was approved by the USDA, and strategies to improve other crops for drought-tolerance

are underway.”<sup>10</sup> “Biotechnology advancements combined with breeding techniques are expected in the near future to lead to crops with other desirable traits such as improved nutritional value, enhanced disease resistance, and higher crop yields.”<sup>11</sup> That same report concluded that biotechnological research may yield even greater, transformative gains: “As research moves beyond the biotechnology and breeding techniques of today, an increased understanding of biodiversity and food crops as ecosystems has the potential to transform the management and practice of agriculture and move this mainstay of the bioeconomy to a new level.”<sup>12</sup>

### C. Industry Investment In GE Crops

Because of the significant economic and environmental benefits that GE crops confer, they have enjoyed remarkable popularity with farmers in the U.S., notwithstanding licensing fees. In 2012, for example, 88% of domestic corn (the largest crop in the U.S.) consisted of GE varieties.<sup>13</sup> Similarly, more than 90% of cotton and sugarbeets grown domestically are genetically engineered.<sup>14</sup> And GE soybeans, first

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<sup>10</sup> White House, *National Bioeconomy Blueprint* 11 (2012), available at [http://www.whitehouse.gov/sites/default/files/microsites/ostp/national\\_bioeconomy\\_blueprint\\_april\\_2012.pdf](http://www.whitehouse.gov/sites/default/files/microsites/ostp/national_bioeconomy_blueprint_april_2012.pdf).

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> See Economic Research Service, USDA, *Genetically engineered (GE) corn varieties by State and United States 2000-2011*, <http://www.ers.usda.gov/Data/BiotechCrops/alltables.xls>.

<sup>14</sup> *Id.*; Western Farm Press, *Roundup Ready sugar beets get USDA approval for spring planting*, Feb. 4, 2011, available at

commercialized in 1996, now account for 93% of all soybeans planted in the U.S.<sup>15</sup>

Most GE crops are grown pursuant to a license between the farmer and the owner of the relevant intellectual property. *E.g.*, Fed. Cir. Joint Appendix at A-282. Such a license typically provides that the farmer will pay a patent royalty, usually in the form of a “technology fee.” JA-40. Those licenses also contain other restrictions, such as requiring stewardship measures to address potential development of resistance to herbicides in weeds.<sup>16</sup> The licenses for Roundup Ready soybeans at issue here notably include an explicit prohibition against saving seed for replanting and cultivation of a second generation. JA-40, 126-27.

Unlocking the benefits of GE crops is not an inexpensive endeavor. The development of GE crops is a product of an important long-term trend in agriculture: the massive increase in private investment in agricultural research and development. As USDA has explained, over the last few decades “R&D expenditures on plant breeding for many major crops shifted from mainly public to mainly private” as “[p]rivate spending on crop variety R&D increased *fourteenfold* between 1960 and 1996 (adjusted for inflation), while public expenditures changed little.”

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<http://westernfarmpress.com/government/roundup-ready-sugar-beets-get-usda-approval-spring-planting>.

<sup>15</sup> See Economic Research Service, USDA, *Genetically engineered (GE) corn varieties by State and United States 2000-2011*, <http://www.ers.usda.gov/Data/BiotechCrops/alltables.xls>.

<sup>16</sup> See Monsanto, *U.S. Technology Use Guide*, available at <http://www.genuity.com/stewardship/Documents/TUG.pdf>.

Fernandez-Cornejo, *supra*, at 2 (emphasis added); *see also* GianCarlo Moschini, Iowa State Univ. Dep't of Economics, *Competition Issues in the Seed Industry and the Role of Intellectual Property* Working Paper No. 10015, at 1 (2010) (“[I]n agriculture, private R&D has exceeded public R&D expenditures since the early 1980s.”).

USDA has further explained that this substantial increase in private investment was the result of “[s]trengthening of intellectual property rights protection in the 1970s and 1980s [that] increased returns to research and offered greater incentives for private companies to invest in seed development and crop biotechnology.” Fernandez-Cornejo, *supra*, at iii; *see also* Moschini, *supra*, at 2 (“[P]atent protection is now available on many aspects of seed production, including GM traits and varieties, and that has tremendously enlarged the scope of profitable private R&D investments in the seed industry.”). As Petitioner notes, that strengthening of intellectual property includes “case law since the 1980s holding that sexually reproducing plants qualify for utility patent protection.” *See* Pet. Br. at 52 (citing *Ex parte Hibberd*, 227 U.S.P.Q. 443, 444-46 (B.P.A.I. 1985)).

That substantial increase in investment was driven in part by the relatively high research and development costs associated with creating new GE crops. Fernandez-Cornejo, *supra*, at 2; Moschini, *supra*, at 1-2; Resp. Br. at 32-33. On average, a new GE trait requires an investment of \$136 million and requires more than 13 years to develop and

commercialize.<sup>17</sup> It is doubtful that private industry would have made these long-term, substantial investments in agricultural research absent a high degree of confidence in their ability to enforce substantial intellectual property rights in those innovations. Moschini, *supra*, at 1-4.

### SUMMARY OF ARGUMENT

In the decision below, the Federal Circuit held that the authorized sale of a patented article exhausts the patentee's property interest in that *specific article*, but does not convey any right to make *new copies*. That holding is consistent with this Court's decisions from the mid-nineteenth century through today. Petitioner's invitation to depart from these precedents in order to create a special rule for—in Petitioner's words—inventions that are “self-replicating”—should be rejected.

I. For 140 years, this Court has consistently emphasized that patent exhaustion applies only to the *specific* article that has been the subject of an authorized sale. This Court has been equally clear that an authorized sale of an article does not authorize the buyer to *reproduce* the patented article.

Petitioner's characterization of the seeds at issue as “self-replicating” is a misnomer. The GE soybean seeds at issue here do not plant, cultivate, and harvest themselves. In any event, the level of intellectual property protection conveyed by patent law has never turned on the ease with which an article can be copied.

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<sup>17</sup> See CropLife Int'l, *Study: Cost of Bringing a Biotech Crop to Market*, <http://www.croplife.org/PhillipsMcDougallStudy> (last visited Jan. 22, 2013).

B. This Court’s decisions in *Asgrow* and *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Int’l, Inc.*, 534 U.S. 124 (2001), further support the Federal Circuit’s judgment that the authorized sale of a first-generation seeds does not exhaust the patentees’ rights in progeny seeds. In *Asgrow*, this Court granted certiorari to address the scope of the seed-saving provision of the Plant Variety Protection Act (PVPA). That question would have been purely academic if Petitioner’s view were correct, because the respondents in *Asgrow* would have prevailed on exhaustion grounds. And in *J.E.M.*, this Court expressly stated that the Patent Act conveys “greater rights of exclusion” than the PVPA—a rationale that is squarely at odds with Petitioner’s argument. 534 U.S. at 143.

C. Congress has ratified the Federal Circuit’s interpretation of the patent exhaustion doctrine, as well as this Court’s holdings in *Asgrow* and *J.E.M.* Congress is presumed to have been aware of those decisions, and to have adopted their holdings, when it made significant changes to the Patent Act in 2011, while leaving the patent exhaustion doctrine untouched.

Congress’s enactment of the seed-saving exemption in the PVPA is further evidence that it agrees with the Federal Circuit’s view. If, as Petitioner contends, the authorized sale of first-generation seeds exhausted intellectual property rights in subsequent generations, the seed-saving exemption—which allows a farmer to save seed for replanting and sale in specified circumstances—would be entirely superfluous.

D. Contrary to Petitioner’s suggestion, neither *Quanta Computer, Inc. v. LG Electronics, Inc.*, 553 U.S. 617 (2008), nor *United States v. Univis Lens Co.*,

316 U.S. 241 (1942), undermines the judgment below. Neither case casts any doubt on the longstanding rule that even the lawful owner of a patented article may not use it to create another copy of the patented article. *Quanta* and *Univis* are, in any event, inapposite because the Court relied in both cases on the fact that the patented articles at issue had only one “reasonable and intended” use—incorporation into a patented invention. But soybean seeds have beneficial uses aside from their ability to reproduce.

II. Petitioner’s proposed rule would also be profoundly unwise as a matter of policy. It would drastically weaken the incentive to develop new crop protection technologies, substantially frustrating the innovation-promoting purpose of the Patent Act. Adoption of Petitioner’s position would also cause enormous disruption in the agricultural industry, which has for more than a decade relied on the Federal Circuit’s holding that the authorized sale of a first-generation seed does not exhaust patent rights in progeny seeds. Any change to the patent exhaustion doctrine as applied to technologies like GE seeds should be left to Congress.

**ARGUMENT**

- I. THE FEDERAL CIRCUIT CORRECTLY HELD THAT AN AUTHORIZED SALE OF A FIRST-GENERATION GE SEED DOES NOT EXHAUST THE PATENTEE'S RIGHTS IN SUBSEQUENT GENERATIONS OF SEED**
  - A. The Federal Circuit's Holding Follows Directly From This Court's Precedents**

For 140 years, this Court has consistently emphasized that patent exhaustion applies only to the *specific* article that has been the subject of an authorized sale and does *not* authorize the purchaser to cause the reproduction of that article. The Federal Circuit correctly recognized that this settled principle of patent law controls here. Petitioner infringed Respondents' patents by intentionally making patented progeny seeds through planting and cultivation, and using and selling those seeds in a manner not permitted by any license.

As Respondents and the United States explain, this Court has repeatedly and steadfastly limited the patent exhaustion doctrine to the specific article that has been sold. U.S. Br. at 9-10; Resp. Br. at 15-17. Beginning with *Adams v. Burke*, this Court stressed that the sale of a patented item "carries with it the right to the use of *that machine*." 84 U.S. (17 Wall.) 453, 455 (1873) (emphasis added). *Adams* further explained that by making an authorized sale of a patented article, the patent holder has "received all the royalty or consideration which he claims for the use of his invention in *that particular machine or instrument*." *Id.* at 456 (emphasis added). This Court's precedents in

the fourteen decades since *Adams* are entirely consistent with that bright-line rule. See, e.g., *Quanta Computer, Inc. v. LG Elecs., Inc.*, 553 U.S. 617, 625 (2008) (“[T]he initial authorized sale of a patented item terminates all patent rights *to that item*.” (emphasis added)); *United States v. Univis Lens Co.*, 316 U.S. 241, 251 (1942) (holding that an authorized sale exhausts patent rights “so far as [the patent] is or may be embodied in *that particular article*.” (emphasis added)); *United States v. Gen. Elec. Co.*, 272 U.S. 476, 489 (1926) (sale of an article exhausts patent holder’s rights “with *the article* after his purchase” (emphasis added)); *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 516 (1917) (“[T]he article sold [is] thereby carried outside the monopoly of the patent law.” (emphasis added)); *Bauer & Cie v. O’Donnell*, 229 U.S. 1, 17 (1913) (holding that “a patentee who has parted with a patented machine by passing title to a purchaser has placed *the article* beyond the limits of the monopoly [conferred by patent law]” (emphasis added)).

This Court has been equally clear that an authorized sale of an article does not authorize the buyer to *reproduce* the patented article. See, e.g., *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 346 (1961) (purchaser of a patented item does not acquire any right to make a “second creation of the patented entity”); *Bloomer v. McQuewan*, 55 U.S. (14 How.) 539, 549 (1853) (explaining that “the distinction ... between the grant of the *right to make* and vend the machine, and the grant of the *right to use* it” is a “plain one” (emphasis added)); *Mitchell v. Hawley*, 83 U.S. (16 Wall.) 544, 548 (1873) (purchaser of a patented article “does not acquire any right to construct another

machine”); *see also 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.”).

Petitioner urges this Court to depart from this longstanding distinction between the patentee’s rights in the article actually sold and its rights in new copies of the article—which has prevailed for nearly a century and a half. Petitioner’s theory appears to be that a different rule ought to apply to so-called “self-replicating” inventions. Pet. Br. at 14-17, 34-44. As Respondents (at 23) and the United States (at 26-27) correctly observe, however, that characterization badly misconceives the nature of soybean cultivation, which requires significant human intervention for its success. Seeds do not plant themselves, apply glyphosate to themselves to kill competing plants (*i.e.*, weeds), or perform any of the other essential steps in cultivation that must be performed by human beings in order to cause the successful reproduction of the seed.

Stripped of its mistaken premise, the distinction urged by Petitioner boils down to a contention that a different exhaustion rule is required where, as here, the patented item is more easily replicable than some other inventions. But the level of intellectual-property protection afforded to an invention has never turned on the ease with which it may be copied. And such a regime would have broad implications well beyond GE technologies. *Cf. Microsoft Corp. v. AT&T Corp.*, 550 U.S. 437, 453-54 (2007) (“Copying software ... is indeed easy and inexpensive. But the same could be said of other items: ‘... chemical or biological substances might be created by reproduction ....’” (citation omitted)).

**B. This Court's Decisions In *Asgrow* And *J.E.M.* Support The Federal Circuit's Holding**

This Court's decisions in *Asgrow Seed Co. v. Winterboer*, 513 U.S. 179 (1995), and *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124 (2001), further support the Federal Circuit's holding that an authorized sale exhausts the patentee's rights only as to the specific seeds sold, and does not exhaust patent rights in subsequent generations of seeds.

In *Asgrow*, this Court granted certiorari to resolve the scope of the seed-saving exemption in the Plant Variety Protection Act of 1970. The PVPA extends patent-like protection to novel varieties of plants grown from seed. It contains an explicit exemption, however, that allows a farmer to "save seed ... and use such saved seed in the production of a crop for use on his farm, or for sale," in specified circumstances. 7 U.S.C. § 2543. This Court held that a farmer who meets the requirements set forth in § 2543 may sell, for reproductive purposes, only such seed as he has saved for the purpose of replanting his own acreage. *See* 513 U.S. at 190-91.

If Petitioner's theory of exhaustion were correct, the question presented in *Asgrow* would have been a purely academic one. Under Petitioner's theory, the initial sale of the first-generation GE soybean seeds in this case exhausted the intellectual property rights in that seed *and* all subsequent progeny seeds. Petitioner offers no persuasive reason why the exhaustion rule—which is derived from general common-law property principles that are not unique to patented goods—would be different under the PVPA. Under that rule,

the respondents in *Asgrow* could have prevailed on exhaustion grounds—without any need to rely on the PVPA’s seed-saving exemption.

This Court’s decision in *J.E.M.*, also supports the Federal Circuit’s judgment here. In *J.E.M.*, this Court addressed whether plants could be protected under the Patent Act or, rather, whether the PVPA and a related statute were “the exclusive means of obtaining a federal statutory right to exclude others from reproducing, selling, or using plants or plant varieties.” 534 U.S. at 127.

In reconciling the PVPA and the Patent Act, this Court reasoned that “utility patent holders receive *greater* rights of exclusion” than PVP certificate holders. *Id.* at 143 (emphasis added); *accord id.* at 142 (“[T]he protections afforded by a utility patent are *greater* than those afforded by a PVP certificate.”) (emphasis added). That conclusion was based in part on the fact that “it is harder to qualify for a utility patent than for a Plant Variety Protection (PVP) certificate, [so] it only makes sense that utility patents would confer a *greater* scope of protection.” *Id.* at 138 (emphasis added). To illustrate the point, the Court explained that while “the PVPA provides exemptions for research and for farmers to save seed from their crops for replanting[,] [u]tility patents issued for plants do not contain such exemptions.” *Id.* at 129 n.1; *accord id.* at 143 (noting that there is no “exemption[] for ... saving seed under a utility patent”); *id.* at 140 (“The utility patent statute does not contain similar exemptions.”).

Petitioner’s arguments are irreconcilable with this core aspect of *J.E.M.*’s reasoning. Owners of utility patents in plants certainly would not have “greater

rights of exclusion” under his proposed rule; instead, there would be a blanket extinguishment of patent rights in subsequent generations of seeds. Adoption of Petitioner’s proposed rule would thus undermine this Court’s holding in *J.E.M.*

The Federal Circuit has correctly recognized as much, relying on *J.E.M.* and other decisions of this Court for more than a decade in holding that an authorized sale of a first-generation GE seed does not exhaust the patentee’s rights in progeny seeds. *See, e.g., Monsanto Co. v. McFarling*, 302 F.3d 1291 (Fed. Cir. 2002), *cert. denied*, 537 U.S. 1232, 1299 (2003) (“The ‘first sale’ doctrine of exhaustion of the patent right is not implicated, as the new seeds grown from the original batch had never been sold.”); *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1335-36 (Fed. Cir. 2006), *cert. denied*, 549 U.S. 1342 (2007).

### **C. Congress Has Ratified This Court’s And The Federal Circuit’s Decisions**

1. Against this backdrop of judicial decisions, in 2011 Congress effected “comprehensive patent reform” by enacting the America Invents Act, Pub. L. No. 112-29 (2011). *Ass’n for Molecular Pathology v. U.S. PTO*, 689 F.3d 1303, 1330-31 (Fed. Cir. 2012), *cert. granted in part*, 133 S. Ct. 694 (2012). But Congress notably left patent exhaustion principles untouched.

Congress is presumed to have been aware of the relevant decisions of this Court and the Federal Circuit, and to have adopted their holdings, when it re-enacted the Patent Act with substantial changes leaving the patent exhaustion doctrine untouched. *See, e.g., Bruesewitz v. Wyeth LLC*, 131 S. Ct. 1068, 1082 (2011) (“When ‘all (or nearly all) of the’ relevant judicial

decisions have given a term or concept a consistent judicial gloss, we presume Congress intended the term or concept to have that meaning when it incorporated it into a later-enacted statute.” (citation omitted); *Lorillard, Div. of Loew’s Theatres, Inc. v. Pons*, 434 U.S. 575, 581 (1978). It is also “realistic to presume that Congress ... expect[s] [the Act] to be interpreted in conformity with” this Court’s decisions, including *Asgrow* and *J.E.M.* See *North Star Steel Co. v. Thomas*, 515 U.S. 29, 34 (1995) (quoting *Cannon v. Univ. of Chi.*, 441 U.S. 677, 699 (1979)).

2. Congress’s enactment of the PVPA is also instructive of its intent regarding exhaustion principles. If Congress agreed with Petitioner’s view, there would have been no need for it to enact an *exemption* for personal seed saving. Congress’s enactment of the PVPA’s seed-saving provision (and subsequent inaction after *Asgrow*) indicates that Congress understood that the authorized sale of first-generation seeds would not exhaust intellectual property rights in subsequent generations of seeds. See, e.g., *TRW Inc. v. Andrews*, 534 U.S. 19, 31 (2001) (“It is ‘a cardinal principle of statutory construction’ that ‘a statute ought, upon the whole, to be so construed that, if it can be prevented, no clause, sentence, or word shall be superfluous, void, or insignificant.” (citation omitted)).

#### **D. Neither *Quanta* Nor *Univis* Casts Doubt On The Federal Circuit’s Holding**

Relying on *Quanta* and *Univis*, Petitioner argues (at 35-37) that the initial sale of any patented seeds necessarily exhausts the patentee’s rights in all

subsequent generations of seeds. Petitioner’s reliance on these cases is misplaced, for several reasons.

First, as the United States explains, *Quanta* addressed exhaustion of method patents, and its analysis cannot be translated uncritically to the patents at issue here. *See* U.S. Br. at 20.

Second, the Court in *Quanta* applied the well-established exhaustion rule to an “incomplete article” acquired through an authorized sale, because that article “substantially embodie[d]” the method patent at issue. 553 U.S. at 633. But it is equally well established that even the lawful owner of a patented article may not, without a license, use that article to *make* another iteration of the patented article. Nothing in *Quanta* or *Univis* casts doubt on that well-settled proposition.

Finally, in both *Quanta* and *Univis*, this Court relied in significant part on the fact—not present here—that the sold article had no value apart from its use as a substantial component of a patented article. In *Univis*, for example, “the only object of the sale [of the lens blanks was] to enable the [finishing retailer] to grind and polish it for use as a lens by the prospective wearer.” 316 U.S. at 249; *see also Quanta*, 553 U.S. at 627-28 (explaining that in *Univis* the “*only* and intended use [of the lens blanks was] to be finished under the terms of the patent” (emphasis added)); *id.* at 631 (explaining that lens blanks’ “only reasonable and intended use was to practice the patent”). Similarly, the only value of the computer component in *Quanta* was derived from its intended use as a component in the computer chips. *See Quanta*, 553 U.S. at 632 (“Here, LGE has suggested no reasonable use for the Intel Products other than incorporating them into

computer systems that practice the LGE Patents. Nor can we discern one: A microprocessor or chipset cannot function until it is connected to buses and memory.” (footnote omitted)); *id.* (“[H]ere, as in *Univis*, the only apparent object of Intel’s sales to Quanta was to permit Quanta to incorporate the Intel Products into computers that would practice the patents.”).

Unlike the lens blanks in *Univis* and the computer components at issue in *Quanta*, soybean seeds *do* have a reasonable use wholly apart from their ability to be reproduced through planting and cultivation. As explained above, there is a robust market for soybean seeds to be consumed as food by humans or livestock. *Supra* at 2-3. The very existence of grain elevators is persuasive evidence that soybean seeds have significant value independent of their reproductive capacity. Grain elevators exist in order to purchase soybean seeds from farmers for subsequent sale to parties that value soybean seeds’ usefulness as *food*. Resp. Br. at 6-7; BayhDole<sup>25</sup>, Inc. Amicus Br. at 7-12. Absent those beneficial uses of soybean seeds, the seeds’ reproductive capacity would have little, if any, value. U.S. Br. at 21.

Even if selling soybeans would, in ordinary situations, convey an *implied license* for the purchaser to plant them and harvest a second generation, there is no reason to adopt a rigid exhaustion rule that would effectively force such a license by operation of law, limiting freedom of contract. Soybeans have other commercially reasonable uses, and some purchasers may not want to pay the associated price of a license to plant and cultivate progeny seeds. Petitioner’s proposed rule would make it impossible to sell patented agricultural products at a different prices to purchasers

who intend to eat them, on the one hand , and purchasers who intend to replicate the seeds *ad infinitum* for resale, on the other.

## **II. PETITIONER'S RULE WOULD UNDERMINE INNOVATION AND INFLICT ENORMOUS COSTS ON THE INDUSTRY**

Petitioner's proposed rule is not just inconsistent with more than a century of precedent, ratified by Congress—it would also be remarkably bad policy. Extending exhaustion to progeny generations would both undermine the incentive to innovate new technologies and have significant disruptive effects on an industry that has invested enormous resources in reliance on the existing doctrine.

### **A. Petitioner's Proposed Rule Would Dampen The Incentive To Develop New Crop Protection Technologies, As Well As Readily Replicable Technologies In Other Industries**

In addition to conflicting with this Court's precedents interpreting the Patent Act, Petitioner's proposed rule of exhaustion also clashes with the Patent Act's purpose: to promote technological innovation. *See, e.g., Diamond v. Chakrabarty*, 447 U.S. 303, 307 (1980) (“The patent laws promote ... progress by offering inventors exclusive rights for a limited period as an incentive for their inventiveness and research efforts.”). Petitioner's argument would dramatically thwart that objective for easily replicable technologies generally and GE crops specifically.

If Petitioner's rule had prevailed in the 1980s and 1990s, it is doubtful that Roundup Ready soybeans—or many other varieties of GE crops—would exist today.

As USDA has observed, the increased private investment in agricultural research that culminated in the development of GE crops is directly tied to the intellectual property protections that Petitioner would eviscerate. *Supra* at 9-10. Because the costs of developing a new GE trait typically exceed \$100 million, *supra* at 10-11, innovators require, as a practical matter, multiple generations of sales to recover their investments. On Petitioner's view, a developer and patentee of a new GE trait (or, for that matter, any other readily replicable innovation) must recover its investment, if at all, in the first generation of commercial sales—after which progeny articles could be freely reproduced and sold by first-generation purchasers without licensing fees or other limitations. In that universe, there would be little incentive for future innovation, and many of the reasonably anticipated benefits from second or third generations of existing GE crops may be lost: an economically rational innovator would abandon the development of a new GE crop unless the remaining marginal costs of developing the crop and bringing it to market were predictably less than the royalties they would recover from the sale of a single generation.<sup>18</sup>

Moreover, the mischief of Petitioner's proposed rule could easily spread beyond the agricultural realm.

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<sup>18</sup> Petitioner suggests (at 53-55) that innovators could obtain some limited protection for GE crop inventions through the PVPA. But as discussed above, Petitioner fails to identify why the same exhaustion principles would not also apply under the PVPA. *See supra* at 17-18. In any event, Petitioner concedes that the PVPA provides lesser intellectual property protection to innovators and thus unquestionably diminishes the incentive to innovate.

Many other inventions are readily replicable—and indeed, can be replicated with less human intervention or effort than plant life. The harm to innovation is thus unlikely to be confined to the agricultural industry and instead could have ripple effects on countless other industries.

**B. Adoption Of Petitioner’s Theory Would Cause Dramatic Disruption To The U.S. Agricultural Industry**

Petitioner’s proposed rule of exhaustion would cause dramatic upheaval in the agricultural industry, upending at least a decade of reasonable reliance on the Federal Circuit’s interpretation.

GE crops have enjoyed widespread popularity with farmers and now occupy tens of millions of planted acres in this country and extraordinarily high market share. *Supra* at 8-9. In 2002, GE market shares of soybeans, corn, and cotton were 75%, 34%, and 71%, respectively. *Supra* at 8 n.13. At that time, the intellectual property value of progeny seeds was sufficiently obvious that the market could command—and receive—licensing fees on subsequent generations of seeds. Following the Federal Circuit’s 2002 ruling in *McFarling*, market shares for GE crops only continued to grow—to 93%, 88%, and 94% in 2012 for soybeans, corn, and cotton, respectively. During that time, innovators, seed companies, and farmers all relied on prevailing law and practice in making investment and planting decisions. Given that extensive reliance, sudden adoption of Petitioner’s proposed rule would cause significant disruption within the agricultural industry.

There is not the slightest shred of evidence that Congress intended such a disruptive outcome. Quite the contrary: Congress's long silence, followed by its enactment of landmark patent reform, while leaving exhaustion doctrine untouched, is strong evidence that no such disruption was intended. *See Edmonds v. Compagnie Generale Transatlantique*, 443 U.S. 256, 266-67 (1979) (“[S]ilence is most eloquent, for such reticence while contemplating an important and controversial change in existing law is unlikely.”); *see also Jones v. United States*, 526 U.S. 227, 234 (1999) (It is a “fair assumption that Congress is unlikely to intend any radical departures from past practice without making a point of saying so.”); *supra* at 19-20. Any future change to the patent exhaustion doctrine ought to be squarely the prerogative of Congress.

### CONCLUSION

The judgment of the Federal Circuit should be affirmed.

DOUGLAS T. NELSON  
JOSHUA SALTZMAN  
CROPLIFE AMERICA  
1156 15th Street, NW  
Suite 400  
Washington, DC 20005  
(202) 872-3882

Respectfully submitted,  
J. SCOTT BALLENGER  
*Counsel of Record*  
LORI ALVINO MCGILL  
DREW C. ENSIGN  
LATHAM & WATKINS LLP  
555 11th Street, NW  
Suite 1000  
Washington, DC 20004  
scott.ballenger@lw.com  
(202) 637-2200

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