

NOT SO FAST MY FRIEND: WHAT THE PATENT EXHAUSTION DOCTRINE MEANS TO THE SEED INDUSTRY AFTER *QUANTA V. LG ELECTRONICS*

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I. INTRODUCTION

“And God said, Let the earth bring forth grass, the herb yielding seed, *and* the fruit tree yielding fruit after his kind, whose seed *is* in itself, upon the earth: and it was so.”¹ Seeds and the saving of seeds have always played an important role in our society. “Ever since humans began the transition from nomadic herders to farmers, saving seed for planting the following year’s crop has been

* J.D., Drake University Law School, 2009. The author retains copyright of this article.

1. *Genesis* 1:11.

a basic tenet in the practice of agriculture.²² In particular, farmers have saved seeds for the purpose of creating stronger, higher yielding organisms since the beginning of agriculture more than 10,000 years ago.³ The methods used to create stronger, higher yielding seeds have advanced from those used by our nomadic ancestors to today's genetically modified seeds.⁴ Today, the saving of seeds, specifically second-generation, genetically-modified seeds, has caused a heated debate in the seed industry.

Before addressing the effects of seed saving, it is necessary to set provide some foundation on patent law, and more particularly patent exhaustion. The Constitution confers on the legislature the ability "to promote the Progress of Science and useful Arts, by securing for limited times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries[.]"⁵ Using the power provided by this clause, the legislature enacted the Patent Act which protects the patentee's exclusive right not only to use the invention but to make it.⁶ Patent law has long established that the authorized use of the invention does not authorize the right to make the product.⁷ The patent exhaustion doctrine follows this distinction and, as defined *supra*, applies when there is an authorized sale and the purchaser is authorized to buy.⁸ The authorized sale fully exhausts the patent owner's rights with respect to that article during its ordinary useful life. From this definition, it can be implied that patent exhaustion does not apply in at least two scenarios: (1) the sale was not authorized, or (2) the purchaser lacked authority to buy. Consequently, patent exhaustion is limited to the purchaser's right to use and sell the product, and does not extend to the patentee's right to "make a new article."⁹ For example, courts have held that a patentee's exclusive

2. Jeremy P. Oczek, Note, *In the Aftermath of the "Terminator" Technology Controversy: Intellectual Property Protections for Genetically Engineered Seeds and the Right to Save and Replant Seed*, 41 B.C. L. REV. 627, 647 (2000).

3. See Lara E. Ewens, Note, *Seed Wars: Biotechnology, Intellectual Property, and the Quest for High Yield Seeds*, 23 B.C. INT'L & COMP. L. REV. 285, 286 (2000).

4. See generally Oczek, *supra* note 3, at 647.

5. U.S. CONST. art. I, § 8, cl. 8.

6. 35 U.S.C. § 154(a) (2009).

7. *Mitchell v. Hawley*, 83 U.S. 544, 548 (1872) ("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").

8. *United States v. Univis Lens Co.*, 316 U.S. 241, 250 (1942).

9. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 343 (1961); see also *Univis Lens*, 316 U.S. at 249 (purchaser gains the "right to use and sell").

right, as manifested by the patent, terminates when there is a first sale of the patented good.¹⁰ This definition is deceptively simple, however, and application of this doctrine is inconsistent at best. Closer inspection of the case law reveals a unifying theme: a patentee's exclusive right is exhausted when an article having the "essential features" of the patent is transferred with authorization and without restrictions.¹¹

II. THE EFFECTS OF SEED SAVING ON THE SEED INDUSTRY

So why is the seed industry concerned about the saving of second-generation, genetically-modified seeds? The reproductive qualities of seeds, particularly soybean seeds, create a sizable problem when companies try to protect their patented technologies. To illustrate, Monsanto has developed and patented a genetically modified soybean called Roundup Ready[®] soybeans.¹² Roundup Ready[®] soybeans have been genetically altered to resist a particular type of herbicide, Roundup, such that a farmer can spray the field with herbicides and kill all the weeds, but not the soybean plants.¹³ Roundup Ready[®] soybeans are self-pollinating and the offspring are identical replicates of the initial seed bought by the farmer.¹⁴

In contrast, hybrid corn is not self-pollinating and thus does not provide built in protection for the producer.¹⁵ As a result, the soybean industry faces a different, more severe problem than of that found in the "Bt" corn industry. "Bt" corn is genetically engineered to carry genes from *Bacillus thuringiensis*, a naturally-occurring soil bacterium that produces a protein toxic to some insects.¹⁶ Since "Bt" corn is a hybrid corn, it has built in protection for the seed company.

10. United States v. Univis Lens Co., 316 U.S. 241, 250 (1942).

11. John W. Osborne, *A Coherent View of Patent Exhaustion: A Standard Based on Patentable Distinctiveness*, 20 SANTA CLARA COMPUTER & HIGH TECH. L.J. 643, 646 (March 2004).

12. Monsanto Co. v. McFarling (*McFarling II*), 363 F.3d 1336, 1338-39 (Fed. Cir. 2004) (Monsanto's U.S. Patent Nos. 5,633,435 and 5,352,605 cover a modified gene and the promotion of the modified gene respectively).

13. Jay P. Kesan, *Licensing Restrictions and Appropriating Market Benefits from Plant Innovation*, 16 FORDHAM INTELL. PROP., MEDIA & ENT. L.J. 1081, 1082-83 (2006).

14. *Id.* at 1083.

15. *Id.*

16. JORGE FERNANDEZ-CORNEJO ET AL., USDA, GENETICALLY ENGINEERED CROPS FOR PEST MANAGEMENT IN U.S. AGRICULTURE: FARM-LEVEL EFFECTS 2, AGRIC. ECON. REPORT. NO. 786 (2000), available at <http://www.ers.usda.gov/publications/AER786/AER786.pdf>.

Soybean seeds, on the other hand, self-replicate indefinitely and at an enhanced rate.¹⁷

Accordingly, a problem arises when soybean seed companies invest a great deal into the technical innovation behind a genetically modified seed only to have the farmer plant the original genetically modified soybean seed and replant the resulting seeds over and over again.¹⁸ Seed companies rely on licensing agreements and the protections offered by a patent to deter farmers from saving genetically modified seed.¹⁹

It was not until recently, though, that plants and seeds were recognized as patentable material thus giving companies an additional means for protecting genetically modified seeds.²⁰ Prior to *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, seed companies had to rely on the Plant Variety Protection Act ("PVPA").²¹ The PVPA offered limited patent-like protection for certain sexually reproduced seeds but had an exemption allowing farmers to save seed produced from protected plants for replanting.²² But, as was recognized in *J.E.M. Ag Supply*, the PVPA is not the exclusive source of protection for plants.²³ Thus, it is proper for plants to receive the heightened protection under a utility patent.

A number of cases have arisen where farmers have been sued for saving seed.²⁴ In fact, Monsanto has filed some 1,200 cases against infringers of its patented seed technologies, although only three of these cases have progressed beyond the district court level.²⁵ In the two most prominent cases, *Scruggs* and

17. Corrected Brief of Appellant at 49, *Monsanto Co. v. David*, 516 F.3d 1009 (Fed. Cir. 2008) (No. 2007-1104) (discussing Monsanto's argument that one soybean plant grown from a single genetically modified seed can produce 36 identical soybean seeds containing the same genetically modified technology).

18. Kesan, *supra* note 9, at 1083.

19. Jason Savich, Note, *Monsanto v. Scruggs: The Negative Impact of Patent Exhaustion on Self-Replicating Technology*, 22 BERKELEY TECH. L.J. 115, 115-16 (2007).

20. *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred Intern., Inc.*, 534 U.S. 124, 127 (2001) (holding that plants are eligible subject matter for protection under the utility patent regime).

21. Plant Variety Protection Act, 7 U.S.C. §§ 2321-2582 (2009).

22. *Id.* at § 2543.

23. *J.E.M. Ag Supply*, 534 U.S. at 129, 143 (stating that "[u]tility patents issued for plants do not contain such [a seed saving] exemption" and "utility patent holders receive greater rights of exclusion" for having met "more stringent requirements.").

24. See, e.g., *McFarling II*, 363 F.3d 1336 (Fed. Cir. 2004); *Monsanto Co. v. Scruggs*, 459 F.3d 1328 (Fed. Cir. 2006).

25. Kesan, *supra* note 9, at 1081-82; *Monsanto Co. v. David*, 516 F.3d 1009 (Fed. Cir. 2008) (involving the saving of seeds containing Monsanto's Roundup Ready[®] gene, which, when incorporated into plants, causes the plants to exhibit tolerance to the herbicide glyphosate).

McFarling, Monsanto sued Mississippi farmers that planted patented Roundup Ready[®] soybean seed and retained the resulting new generation of seed for rep-lanting.²⁶ In *Scruggs*, the United States Court of Appeals for the Federal Circuit affirmed the lower court's grant of Monsanto's motion for summary judgment.²⁷ The court rejected Scruggs' argument that Monsanto's patent rights had been exhausted after he purchased the initial bags of seed.²⁸ The patent exhaustion doctrine, as asserted by Scruggs, stated that once the patented Roundup Ready[®] soybean seed was sold by the dealer, Monsanto had no further rights in the item.²⁹ Prior to *Scruggs*, the Federal Circuit rejected a first sale or patent exhaustion defense by a Mississippi farmer situated similarly and held that subsequent generations of seed fall within the scope of Monsanto's patents.³⁰

As settled as the case law in the Federal Circuit appears to be, the Supreme Court will attempt to clarify the patent exhaustion doctrine in *Quanta Computer, Inc. v. LG Electronics, Inc.* LG sued numerous defendants for patent infringement of several computer related patents, including the lead party in the Supreme Court appeal, Quanta Computers.³¹ Quanta purchases microprocessors and chipsets from distributors such as Intel to install into computers.³² Intel is licensed by LG to sell the product under an agreement where purchasers are noti-

David argued that because the claims were directed to the sequence rather than the seeds or plants incorporating the sequence, the seeds were not covered by the patent. The court noted it had already decided this issue on more than one occasion, and the argument fared no better this time around. Since the district court's factual findings were not found to be clearly erroneous, the Federal Circuit affirmed the finding of infringement.).

26. *Scruggs*, 459 F.3d at 1333; *McFarling II*, 363 F.3d at 1340.

27. *Scruggs*, 459 F.3d at 1332.

28. *Id.* at 1336 (explaining that, "[a]pplying the first sale doctrine to subsequent generations of self-replicating technology would eviscerate the rights of the patent holder").

29. See Symposium, *Panel I: Monsanto v. Scruggs and The Scope of Downstream Licensing Restrictions*, 16 FORDHAM INTELL. PROP., MEDIA & ENT. L.J. 1025, 1029 (2006).

30. *Monsanto Co. v. McFarling (McFarling I)*, 302 F.3d 1291, 1299-1300 (Fed. Cir. 2002).

31. *LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1368 (Fed. Cir. 2006) (explaining the patents at issue were: U.S. Patent No. 4,918,645 "disclosing systems and methods that increase the bandwidth efficiency of a computer's system bus," U.S. Patent No. 4,939,641 "claiming, in relevant part, a system for ensuring that outdated data is not retrieved from memory," U.S. Patent No. 5,077,733 "claiming, in relevant part, a method that controls the access of a device to a bus shared by multiple devices," U.S. Patent No. 5,379,379 "claiming a system and method for ensuring that outdated data is not retrieved from memory," and U.S. Patent No. 5,892,509 "claiming networked computers capable of sharing certain video images").

32. *Id.*

fied that they are unauthorized to combine the products with non-Intel products.³³ As a result of the license with Intel, LG claimed that the unlicensed use by third parties, such as Quanta, of its patented technology infringes upon LG's patents.³⁴ The United States Court of Appeals Federal Circuit held, consistent with its precedent, that there was no exhaustion of patent rights because of the express provision prohibiting purchasers from combining Intel's licensed products with non-Intel products.³⁵ Accordingly the sale was not unconditional and patent exhaustion did not apply.³⁶

Subsequent to the Federal Circuit's judgment, Quanta petitioned the U.S. Supreme Court to answer "[w]hether the Federal Circuit erred by holding, in conflict with decisions of this court and other courts of appeals, that respondent's patent rights were not exhausted by its license agreement with Intel Corporation, and Intel's subsequent sale of product under the license to petitioners."³⁷ On September 25, 2007 the Supreme Court granted certiorari³⁸ and the court heard oral arguments on January 16, 2008.³⁹

At oral arguments, the Court seemed troubled by the relative ease that a patentee could contract around the patent exhaustion doctrine by making the sale to unlicensed parties unauthorized.⁴⁰ The Court also emphasized that the respondent's argument that the issue is essentially one of implied license, making the exhaustion doctrine inapplicable to sales of components of a system that realistically have no purpose other than use in the patented system.⁴¹

In a June decision, Supreme Court Justice Thomas delivered the Supreme Court's 19-page unanimous decision that breathed new life to the doctrine

33. *Id.*

34. *Id.*

35. *Id.* at 1370.

36. *Id.*

37. Petition for Writ of Certiorari, *Quanta Computer, Inc. v. LG Elecs., Inc.*, 128 S. Ct. 2109 (2008) (No. 06-937).

38. Petition for Writ of Certiorari Granted, *Quanta*, 128 S. Ct. 2109 (No. 06-937).

39. Transcript of Oral Argument, *Quanta*, 128 S. Ct. 2109 (No. 06-937).

40. *Id.* at 5-6 (Chief Justice Roberts stating that "[w]ell, if that's true then this case really isn't a big deal at all. It just depends on exactly how you word the contract when the patentee sells it to a purchaser. You can word it -- in other words, you can word it in such a way that the patentee's rights extend further downstream and you're saying all this case turns on is whether the wording here was correct or not").

41. *Id.* at 27 (Chief Justice Roberts again stating that "... there's nothing to do with these chipsets other than use them in the computers. I mean, you don't put them on your shelf. They're not good for anything other than using in the computer. So saying there's a separate patent doesn't seem to be very significant").

of patent exhaustion. The opinion reversed the Federal Circuit and held that the exhaustion doctrine applies to the authorized sale of components that “substantially embody” a process patent.⁴² Thus, Intel’s authorized sale of chip components to Quanta exhausted LGE’s patent rights.⁴³ Nestled within the decision, the court noted that the sales of products that do not fully practice the invention can still trigger exhaustion when the products include essential features of the patent and the “reasonable and intended use” of the product is to practice to patent.⁴⁴ Finally, the court reiterated its longstanding rule that “the 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.” *Motion Picture Patents*, 243 U. S. 502 (1917).⁴⁵

This Note addresses the patent exhaustion doctrine after *Quanta v. L.G.* and the application of the case to the seed industry. Section II looks at the typical licensing arrangement used by seed companies in dealing with farmers and the validity of these licenses under *McFarling* and *Scruggs*. Section III provides a historical summary of Supreme Court case law with regard to patent exhaustion. Finally, section IV examines the *Quanta* case and its implications on farmers and the seed industry.

III. SEED LICENSING AGREEMENTS AND CASE LAW INTERPRETING THEIR VALIDITY

Seed companies, such as Pioneer and Monsanto, have invested heavily in the production of genetically modified seeds.⁴⁶ According to an American Seed Trade Association internal survey in 2005, a small number of seed companies invested more than \$554 million in research and development of seed technologies.⁴⁷ Major seed companies face a precarious challenge in that the self-replicating nature of seeds turns every consumer into a potential producer.⁴⁸

To illustrate, there are approximately eighty-five million acres of corn and soybeans in the U.S. of which are planted approximately 50/50 corn-

42. *Quanta Computer, Inc. v. LG Electronics, Inc.*, 128 S.Ct. 2109 (U.S. 2008)

43. *Quanta Computer, Inc. v. LG Electronics, Inc.*, 128 S.Ct. 2109 (U.S. 2008)

44. *Quanta Computer, Inc. v. LG Electronics, Inc.*, 128 S.Ct. 2109 (U.S. 2008)

45. *Quanta Computer, Inc. v. LG Electronics, Inc.*, 128 S.Ct. 2109 (U.S. 2008)

46. *See Kesan*, *supra* note 9, at 1081-82.

47. Brief for Am. Seed Trade Ass’n as Amicus Curiae Supporting Neither Party at 12, *Quanta*, 128 S. Ct. 2109 (2008) (No. 06-937), 2007 WL 3353100.

48. Savich, *supra* note 15, at 116.

soybeans.⁴⁹ Considering the differences in the ideal amount of seed used for planting each respective crop, the amount of soybeans sold is many times lower than the amount of corn sold.⁵⁰ The most plausible reason for this difference is that farmers are “brown-bagging” or selling saved-seed in plain, brown bags.⁵¹ Licensing agreements, as viewed by seed companies, present the opportunity to make a return on their investment by preventing brown-bag and thus “encourag[ing] private agricultural seed companies to invest in research and development that will bring new technologies to farmers around the world.”⁵²

A. Protecting Seed through Licensing Agreements

To protect these patented technologies and prevent “brown-bagging”, major seed producers include express license restrictions called “bag tag” or “seed wrap licenses” on seed bags.⁵³ Seed companies often require growers to sign a technology agreement when purchasing seed.⁵⁴ One example of a bag tag license, used by Pioneer, states:

[I]f the tag indicates this product or the parental lines used in producing this product are protected under one or more US patents, Purchaser agrees that it is granted a limited license thereunder only to produce forage, or grain for feeding or processing. Resale of this seed or supply of saved seed to anyone, including Purchaser, for planting is strictly prohibited under this license.⁵⁵

Monsanto began placing a technology agreement on bags of Roundup Ready[®] soybean in the late 1990s.⁵⁶ The Monsanto licensing program involves two interrelated schemes.⁵⁷ First, Monsanto licenses the patented Roundup Ready[®] gene to seed companies that insert the genetic trait into the germplasm of their own seed.⁵⁸ The seed companies then pay Monsanto a royalty of \$6.50 per

49. Kesan, *supra* note 9, at 1083.

50. *Id.*

51. *Id.* at 1083-84.

52. Press Release, Seedquest, Consumers Benefit from Strong, Enforceable Intellectual Property Protection in Seed Industry, According to Iowa State University Study (Oct. 31, 2005) available at <http://www.seedquest.com/News/releases/2005/october/13929.htm>.

53. Mark D. Janis & Jay P. Kesan, *Intellectual Property Protection for Plant Innovation: Unresolved Issues After J.E.M. v. Pioneer*, 20 NATURE BIOTECHNOLOGY 1161, 1163 (2002).

54. *Id.*

55. *Id.* (internal quotes omitted)

56. *See id.*

57. McFarling II, 363 F.3d 1336, 1339 (Fed. Cir. 2004).

58. *Id.*

bag sold by the company.⁵⁹ These seed companies then resell the seed to farmers for an additional cost of \$19 to \$22 per bag for a total out-of-pocket cost of \$25.50 to \$28.50.⁶⁰ Second, Monsanto requires that the seed companies execute licenses or technology agreements with each sale to a farmer customer.⁶¹ The Monsanto technology agreement provides that in exchange for the “[o]ppportunity to purchase and plant” Roundup Ready[®] technology, the farmers must agree:

To use the seed containing the Monsanto gene technologies for planting a commercial crop only in a single season. To not supply any of this seed to any other person or entity for planting, and to not save any crop produced from this seed for replanting, or supply saved seed to anyone for replanting. To not use [the] seed or provide it to anyone for crop breeding, research, generation of herbicide registration data or seed production.⁶²

Each technology agreement also contains a damage clause if the farmer breaches by saving seeds, supplying seed or acquires seed for replant.⁶³ Under Federal Circuit precedent construing these damage clauses, farmers who save Roundup Ready[®] soybean seed in violation of a bag tag may be liable for up to \$40 per seed-bag royalty.⁶⁴

B. *The Most Recent Seed Saving Cases—Scruggs and McFarling*

As previously mentioned, *Scruggs* and *McFarling* involve two Mississippi farmers who were sued by Monsanto for patent infringement and breach of contract. After signing the licensing agreement, McFarling saved seeds from his 1998 crop for planting in 1999 and did the same with his 1999 crop for planting in 2000.⁶⁵ In total, McFarling saved 1,500 bushels from the 1998 crop and 3,075 bags of soybeans from the 1999 crop for replanting.⁶⁶

59. *Id.*

60. *Monsanto Co. v. McFarling (McFarling III)*, 488 F.3d 973, 979-980 (Fed. Cir. 2007) (explaining that “[i]n effect, the amount of that cost that can be characterized as a pure royalty payment was \$25.50 to \$28.50 minus the cost of cleaning and bagging the seed and other transaction costs”).

61. *McFarling II*, 363 F.3d at 1339.

62. *Id.*

63. *Id.*

64. *McFarling III*, 488 F.3d at 981 (upholding the jury verdict where “it was reasonable for the jury to suppose that, in a hypothetical negotiation, a purchaser would pay a royalty of \$40 per bag for Roundup Ready[®] seed.”).

65. *McFarling II*, 363 F.3d at 1339.

66. *Id.*

Monsanto sued McFarling for patent infringement in January 2000 in the United States District Court for the Eastern District of Missouri.⁶⁷ Monsanto alleged infringement of two patents—U.S. Patent No. 5,633,435 (the ‘435 patent) and U.S. Patent No. 5,352,605 (the ‘605 patent).⁶⁸ The ‘435 patent relates to a modified EPSPS enzyme and the “isolated DNA molecule” encoding it.⁶⁹ The ‘605 patent pertains to use of a promoter in genetically modified plant cells.⁷⁰ The promoter is a DNA sequence that encodes a protein and tells the cell how much protein to make.⁷¹ Through the technology disclosed in the ‘605 and ‘435 patents, Monsanto developed Roundup Ready[®] soybeans and cotton which allow the farmer to spray Roundup or other glyphosate herbicides to kill weeds but leave the crops unharmed.⁷²

At the district court level, McFarling asserted several defenses in response to Monsanto’s patent infringement claims.⁷³ McFarling argued that the provision in the technology agreement which prohibited seed saving contradicted the concept of the patent exhaustion doctrine.⁷⁴ However, the court found no genuine issue of material fact regarding breach of the technology agreement and infringement of the ‘605 and ‘435 patents.⁷⁵ Consequently, summary judgment was entered against McFarling in favor of Monsanto on some, but not all, of the claims in suit.⁷⁶ On appeal, the Federal Circuit briefly analyzed the rules of patent exhaustion and concluded that “[t]he ‘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.”⁷⁷

67. *McFarling I*, 302 F.3d 1291, 1294 (Fed. Cir. 2002).

68. *McFarling II*, 363 F.3d at 1338-39.

69. *Id.* (explaining that the ‘435 patent also claims inter alia “[a] glyphosate-tolerant plant cell comprising” that plant cell, [a] seed of a glyphosate-tolerant plant, [a] transgenic soybean plant, and [a] method of producing genetically transformed plants which are tolerant toward glyphosate herbicide.”).

70. *McFarling II*, 363 F.3d at 1339.

71. *Id.*

72. *Id.* at 1338 (“Roundup, or other glyphosate-based herbicides, can thus be sprayed over the top of an entire field, killing the weeds without harming the Roundup Ready[®] soybeans”).

73. *McFarling I*, 302 F.3d 1291, 1297 (Fed. Cir. 2002).

74. *Id.* at 1298 (McFarling also asserted the defenses of patent misuse, antitrust violation, and violation of the Plant Variety Protection Act.).

75. *McFarling II*, 363 F.3d at 1352.

76. *Id.*

77. *McFarling I*, 302 F.3d at 1299.

One year after filing suit against McFarling, Monsanto sued another Mississippi farmer, Scruggs, for infringement of the '605 patent.⁷⁸ One notable difference between the two cases was that Scruggs never signed the technology agreement.⁷⁹ At the district court level, Scruggs' patent exhaustion defense was rejected for one primary reason—Scruggs was supposed to be under the Monsanto licensing program so the fact that he did not sign the technology agreement did not give him unencumbered use of the seeds under the patent exhaustion doctrine.⁸⁰ Scruggs appealed this ruling to the Federal Circuit where the court went on to reaffirm its holding in *McFarling* by stating that “[t]he fact that a patented technology can replicate itself does not give a purchaser the right to use replicated copies of the technology.”⁸¹ Both McFarling and Scruggs sought a petition for writ of certiorari from the Supreme Court and were ultimately denied.⁸²

IV. HISTORICAL SUMMARY OF THE PATENT EXHAUSTION DOCTRINE

As indicated *supra*, the patent exhaustion doctrine states that the first authorized sale of an article embodying the features of a patent fully exhausts the patent owner's rights with respect to that article during its ordinary useful life.⁸³ The Federal Circuit has stated that an authorized unrestricted first sale by a patentee of his patented product exhausts the patent rights to the particular product.⁸⁴

Patent exhaustion has also been applied when there is a restrictive license to the patented article granted to a manufacturer. This category raises the question of the degree of control that the patentee has over downstream sales by the manufacturer. Courts have long observed that “[t]he granting of licenses for a restricted use is an old one.”⁸⁵ Moreover, a restricted license to use a patented article, similar to a conditional sale of a patented article, within the temporal

78. See *Monsanto v. Scruggs*, 459 F.3d 1328, 1333 (Fed. Cir. 2006).

79. *Id.*

80. *Id.* at 1336.

81. *Id.*

82. *Scruggs v. Monsanto*, 127 S. Ct. 2062 (2007); *McFarling v. Monsanto*, 545 U.S. 1139 (2005).

83. See *United States v. Unis Lens Co.*, 316 U.S. 241, 250 (1942).

84. See *LG Elecs., Inc. v. Bizcom Elecs., Inc.*, 453 F.3d 1364, 1369 (Fed. Cir. 2006); *Mallinckrodt, Inc. v. Medipart, Inc.*, 976 F.2d 700, 708 (Fed. Cir. 1992).

85. *Gen. Talking Pictures Corp. v. W. Elec. Co.*, 305 U.S. 124, 127 (1938); see also *United States v. Gen. Elec. Co.*, 272 U.S. 476, 490 (1926) (“The patentee may make and grant a license to make and use the patented articles but withhold his right to sell them”).

scope of the patent grant does not fully exhaust the patent holder's rights in the article.⁸⁶ But, as illustrated below, patent exhaustion has also been found to apply where a conditional sale is made to the purchaser of a product but the only use for the article would be that practiced by the patent.⁸⁷

In *Univis Lens*, the Supreme Court explained that the owner's

monopoly remains so long as he retains the ownership of the patented article. But sale of it exhausts the monopoly in that article and the patentee may not thereafter, by virtue of his patent, control the use or disposition of the article.⁸⁸

As demonstrated by the decision in *Quanta*, there remains a great deal of confusion as to the extent of application of the patent exhaustion doctrine to purchasers and the sale of the patented items by manufacturing. Cases applying the patent exhaustion doctrine can be broken into two categories: restrictions imposed on purchasers and restrictions imposed on licensees. This section of the Note will address restrictions imposed on purchasers and restrictions imposed on licensees in turn.

A. *Restrictions Imposed on Purchasers*

Restrictions imposed on purchasers have on a number of occasions been held enforceable; however, it is uncertain as to the effect of such a provision when dealing with a self-replicating technology. *Adams v. Burke*, decided by the Supreme Court in 1873, is widely regarded as the seminal case on the doctrine of patent exhaustion.⁸⁹ In *Adams*, the owner of a patented coffin lid granted various dealers exclusive territories in which they could sell coffin lids.⁹⁰ When one undertaker purchased lids from a dealer in one territory and then subsequently sold the lids in another territory, the patent owner sued the purchaser for infringement.⁹¹ Ultimately the court rejected the claim.⁹²

86. *Mallinckrodt*, 976 F.2d at 708.

87. *Univis Lens*, 316 U.S. at 249.

88. *Id.* at 250.

89. *Adams v. Burke*, 84 U.S. 453 (1873).

90. *Id.* at 457.

91. *Id.* at 454.

92. *Id.* at 456 (holding that "in the essential nature of things, when the patentee, or the person having his rights, sells a machine or instrument whose sole value is in its use, he receives the consideration for its use and he parts with the right to restrict that use. The article, in the language of the court, passes without the limit of the monopoly").

Prior to *Adams* being decided, another case, *Mitchell v. Hawley*, dealt with a defendant who bought patented machines from the patent owner's licensee.⁹³ The licensee took the machines under a license which said that he had no authority to "dispose of, sell, or grant any license to use the said machines beyond" the expiration of the original patent term.⁹⁴ The Court reasoned that the patented machines or goods may be sold conditionally or unconditionally but if sold unconditionally the purchaser may do with it just as he would as if dealing with property of any other kind.⁹⁵

Despite the apparent inconsistencies between the *Adams* and *Mitchell* decisions, they remained the law for almost twenty-two years. It wasn't until *Keeler v. Standard Folding Bed Co.* that the Court reconsidered the doctrine of patent exhaustion. In *Keeler*, the court stated that the payment of a royalty or purchase from one licensed by the patentee for a patented article "emancipates such article from any further subjection to the patent throughout the entire life of the patent"⁹⁶ The issue of whether a patentee may use a license to protect himself was not before the Court in *Keeler*, and the court explicitly declined to express an opinion at that time.⁹⁷ Nevertheless, the court said that it was obvious that if such a question were to be presented it would be a question of contract, and not one to be considered under patent laws.⁹⁸

The relative stability of the patent exhaustion doctrine was again upset in 1912 by *Henry v. A.B. Dick*.⁹⁹ The patentee in *A.B. Dick* sold a mimeograph machine stamped with a notice that said, "[t]his machine is sold by the A.B. Dick Co. with the license restriction that it may be used only with the stencil, ink, and other supplies made by A.B. Dick Company, Chicago, U.S.A."¹⁰⁰ A purchaser of the mimeograph machine subsequently bought ink from a non-A.B. Dick ink supplier.¹⁰¹ The supplier was then sued for contributory infringement and asserted the defense that the restriction was invalid due to patent exhaustion or at

93. *Mitchell v. Hawley*, 83 U.S. 544 (1872).

94. *Id.* at 545.

95. *Id.* at 548.

96. *Keeler v. Standard Folding-Bed Co.*, 157 U.S. 659, 666 (1895).

97. *Id.* ("[w]hether a patentee may protect himself and his assignees by special contracts brought home to the purchasers is not a question before us, and upon which we express no opinion").

98. *Id.*

99. *Henry v. A.B. Dick Co.*, 224 U.S. 1 (1912).

100. *Id.* at 11.

101. *Id.* at 11-12.

most enforceable only in a breach of contract action.¹⁰² The Court said that if sold unconditionally the entire right of use of the invention passes to the purchaser because of an implied intent.¹⁰³ The right to use, according to the court, was nothing more “than an unrestricted license presumed from an unconditional sale.”¹⁰⁴ As a result, the Court redefined the entire patent exhaustion doctrine as a waivable implied license to use an invention and found that so long as the purchaser had notice, virtually any condition imposed on purchasers would be upheld.¹⁰⁵ Because the A.B. Dick mimeograph was sold conditionally, the Court found that the restriction was a viable strategy to capitalize on a patent.¹⁰⁶

The bright line rule expressed in *A.B. Dick* was muddled the very next year in *Bauer & Cie v. O'Donnell*.¹⁰⁷ The Court held that a resale price notice could not be enforced against retailers selling the product for less than the patentee mandated floor price.¹⁰⁸ The Court highlighted its refusal to enforce similar notices under the copyright statute because an authorized first sale of a book exhausts the copyright.¹⁰⁹ It explained, “there is a strong similarity between the identity of purpose in the two statutes” in the exclusive right to sell the patented or copyrighted item.¹¹⁰ Lastly, the Court in *Bauer & Cie* distinguished *A.B. Dick* by noting that it dealt with a restriction on a purchaser’s right to use rather than a right to vend.¹¹¹ The right to use, according to the Court, did not have an equivalent in the copyright statute.¹¹²

Some five years later, *A.B. Dick* was overruled in part by *Motion Picture Patents Co. v. Universal Film Manufacturing Co.*¹¹³ The Court dealt with a notice purporting to restrict movie projectors to use only with film leased by the patent owner.¹¹⁴ The Court noted that the extent to which a patentee may prescribe by notice attached to the patented machine the conditions of its use was

102. *Id.* at 12.

103. *Id.* at 24.

104. *Id.*

105. *Id.* at 47.

106. *Id.* at 32.

107. *Bauer & Cie v. O'Donnell*, 229 U.S. 1 (1913)

108. *Id.* at 8, 18 (notice stated that the product is “licensed by us for sale and use at a price not less than one dollar . . .”).

109. *Id.* at 12.

110. *Id.* at 13.

111. *Id.* at 13-15.

112. *Id.* at 14.

113. *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 518 (1917).

114. *Id.* at 506.

arising with increasing frequency.¹¹⁵ The *Motion Picture Patents*' Court went on to reject such a tying arrangement between patented and unpatented articles.¹¹⁶ Not only did the *Motion Picture Patents* court overrule *A.B. Dick*, it also abandoned the attempt by the court in *Bauer & Cie* to distinguish *A.B. Dick* on the "right to use" and "right to vend" distinction.¹¹⁷

B. *Restrictions Imposed on Manufacturing Licensees*

Although restrictions imposed on purchasers are not routinely found enforceable, there are several examples where restrictions imposed on manufacturing licensees were found to be enforceable. The Court in *Bement v. National Harrow Co.* upheld a resale price restriction on a manufacturing licensee.¹¹⁸ The Court reiterated the rule that conditions imposed by the patent owner and agreed to by the licensee of patented article for the right to manufacture, sell, or use will be upheld provided that the conditions are not in their very nature illegal.¹¹⁹

In *United States v. General Electric Co.*, the patentee established a system of contracts with a number of wholesale and retail dealers in electrical supplies.¹²⁰ The dealers were appointed agents of the company to sell by commission the lamps and the sales were to be at prices fixed by the company.¹²¹ The Court recognized that patent exhaustion applied after an authorized sale.¹²² The Court went on to explain that this was not the precise issue before it, but rather the question was whether the patentee may impose restrictions on its licensees involving the right to sell.¹²³ Importantly, the Court said that the "patentee may

115. *Id.* at 509

116. *Id.* at 515-16

117. *Id.* at 516 (stating that "[t]he statutory authority to grant the exclusive right to 'use' a patented machine is not greater, indeed, it is precisely the same, as the authority to grant the exclusive right to 'vend'").

118. *Bement v. Nat'l Harrow Co.*, 186 U.S. 70, 95 (1902).

119. *Id.* at 91, 93 (providing that "[t]he owner of a patented article can, of course, charge such price as he may choose, and the owner of a patent may assign it or sell the right to manufacture and sell the article patented upon the condition that the assignee shall charge a certain amount for such article.").

120. *United States v. Gen. Elec. Co.*, 272 U.S. 476, 481-82 (1926).

121. *Id.* at 482-83.

122. *Id.* at 489 (explaining that "[i]t is well settled . . . that where a patentee makes the patented article and sells it, he can exercise no further control over what the purchaser may wish to do with the article after the purchase. It has passed beyond the scope of the patentee's rights").

123. *Id.* at 489-90.

make and grant a license to another to make and use the patented articles but withhold the right to sell them.”¹²⁴

The Court again considered the scope of patent exhaustion in 1938. In *General Talking Pictures Corp. v. Western Electric Co.*, the Court dealt with a license which expressly restricted the right to manufacture and sell patented amplifiers to a handful of categories.¹²⁵ A licensee of the patent in question then knowingly sold the amplifiers for use in a field prohibited by the license.¹²⁶ Ultimately, the Court found that the defendant who purchased the amplifiers had infringed on the patent as this was an unauthorized sale by virtue of the defendant’s knowledge of the original license restrictions.¹²⁷

As a result of *General Talking Pictures*, if a purchaser knowingly buys from a manufacturing licensee in violation of a condition in the license, the purchaser and the licensee may be sued for infringement.¹²⁸ The Court, however, seemed to qualify this statement in that the condition must be related to the subject matter reasonably within the scope of the patent grant.¹²⁹

The Supreme Court’s last significant pronouncement regarding either of the aforementioned categories of patent exhaustion was in *Univis Lens*. Univis owned several patents for making eyeglass lenses.¹³⁰ Univis produced the lens blanks and sold them to three categories of licensees: wholesalers, prescription retailers, and finishing retailers.¹³¹ The wholesalers ground the lenses and resold them to prescription retailers.¹³² The prescription retailers fitted them into glasses and sold them to consumers.¹³³ Finally, the finishing retailers ground their own lenses, fitted them into glasses, and sold the glasses directly to consumers.¹³⁴ Univis had a license agreement with each group that placed restrictions to whom and for how much the processed blanks could be sold.

124. *Id.* at 490.

125. *Gen. Talking Pictures Corp. v. W. Elec. Co.*, 304 U.S. 124, 175, 180 (1938) (restricting the manufacture and sales of radio amplifiers for radio amateur reception, radio experimental reception, and home broadcast reception).

126. *Id.*

127. *Id.* at 182.

128. *Id.* at 127.

129. *Id.* (citing *United States v. General Electric Co.*, 272 U.S. 476, 489 (1926)) (stating that “the patentee may grant a license ‘upon any condition of the performance of which is reasonably within the reward which the patentee by the grant of the patent is entitled to secure . . .’”).

130. *United States v. Univis Lens Co.*, 316 U.S. 241, 243 (1942).

131. *Id.* at 244.

132. *Id.*

133. *Id.*

134. *Id.*

The Court concluded patent exhaustion applies when an authorized sale occurs or when there is an authorized sale and the only capable use is that practiced by the patent.¹³⁵ The Court further explained:

where one has sold an uncompleted article which, because it embodies essential features of his patent, and has destined the article to be finished by the purchaser in conformity with the patent, he has sold his invention so far as it is or may be embodied in that particular article.¹³⁶

The sales of the lens blank, according to the Court, by the patentee or his licensee was a license to practice the final stage of the patent procedure.¹³⁷ Because the purchaser could only use the lens to practice the final stage of the product, patent exhaustion applied and the patentee, Univis, is no longer free to control the price at which it may be sold in either unfinished or finished form.¹³⁸

V. PATENT EXHAUSTION AND THE SEED INDUSTRY

The Constitution confers on the legislature the ability “to promote the Progress of Science and useful Arts, by securing for limited times to Authors and Inventors the exclusive Right to their respective Writings and Discoveries[.]”¹³⁹ Using the power provided by this clause, the legislature enacted the Patent Act which protects the patentee’s exclusive right not only to use the invention but to make it.¹⁴⁰ Patent law has long established that the authorized use of the invention does not authorize the right to make the product.¹⁴¹ The patent exhaustion doctrine follows this distinction and, as defined *supra*, applies when there is an authorized sale and the purchaser is authorized to buy.¹⁴² The authorized sale fully exhausts the patent owner’s rights with respect to that article during its or-

135. *Id.* at 249.

136. *Id.* at 250-51.

137. *Id.* at 249.

138. *Id.* at 251 (further stating that “[n]o one would doubt that if the patentee’s licensee had sold the blanks to a wholesaler or finishing retailer, without more, the purchaser would not infringe by grinding and selling them” and “[t]he added stipulation by the patentee fixing resale prices derives no support from the patent and must stand on the same footing under the Sherman Act as like stipulations with respect to unpatented commodities.”).

139. U.S CONST. art. I, § 8, cl. 8.

140. 35 U.S.C. § 154(a) (2009).

141. *Mitchell v. Hawley*, 83 U.S. 544, 548 (1872) (“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”).

142. *United States v. Univis Lens Co.*, 316 U.S. 241, 250 (1942).

dinary useful life. From this definition it can be implied that patent exhaustion does not apply in at least two scenarios: (1) the sale was not authorized, or (2) the purchaser lacked authority to buy. Consequently, patent exhaustion is limited to the purchaser's right to use and sell the product, and does not extend to the patentee's right to "make a new article."¹⁴³ Many questions must be answered before it can be concluded that these licenses are enforceable and appropriate. The broad question is whether patent exhaustion is an issue of patent law, contract law or antitrust law? During oral arguments in *Quanta*, Justice Breyer's questions appeared to suggest that using a contract law theory, a patentee should not be able to put a customer restriction in a license because it would impose improper "equitable servitude's on chattel".¹⁴⁴

The most pertinent question in this Note is whether patent exhaustion applies when farmers purchase genetically modified seed from dealers and then save the resulting second-generation seed. The practical impact of *Quanta* is that the patentee has direct power through only the first level of the production and marketing process. However, the Supreme Court crafted its decision very narrowly. Thus, if seed companies construct the sale of their seed such that the ultimate farmer is the first transaction in which title passes, then patent exhaustion will likely not apply. The restriction is then on the first level, i.e., the first purchaser from the patentee. But if title passes from the seed company to the distributor and then the distributor to the customer, patent exhaustion would occur and the first sale doctrine does exhaust the patent right, before it ever gets to the ultimate farmer. This shift is less desirable for patentees because there is the potential for a lack of privity with downstream users and remedies under patent law are typically stronger than those under contract law. Moreover, the distributor of the seed is unlikely to agree to be liable for improper downstream uses, such as seed saving, and so patentees will now have even more difficulty controlling downstream users and purchasers.

However, if seed companies choose not to alter the way they structure seed sales then they will need to take a leap of faith and rely on several arguments that, for the moment, have Federal Circuit support. The Federal Circuit has held that the second-generation seed was "made" and thus infringes upon the patent.¹⁴⁵ In *McFarling I*, the Federal Circuit concluded that patent exhaustion

143. *Aro Mfg. Co. v. Convertible Top Replacement Co.*, 365 U.S. 336, 343 (1961); *see also Univis Lens*, 316 U.S. at 249 (purchaser gains the "right to use and sell").

144. Transcript of Oral Argument, *supra* note 35 at 21.

145. *Univis Lens*, 316 U.S. at 249 (patent monopoly is relinquished only "with respect to the article sold.").

does not apply to the second generation as it is made and not sold.¹⁴⁶ The court reasoned that Monsanto's patent read on second-generation seeds that were made by the originally purchased seed.¹⁴⁷ This result finds some support in *Aro Manufacturing v. Convertible Top Replacement Co.*, where the Court stated that the purchaser's replication or "second creation of the patented entity" will "call the monopoly, conferred by the patent grant, into play for a second time[.]"¹⁴⁸ *Aro Manufacturing* did not deal with a self-replicating product where replication by the purchaser is inevitable, but rather, dealt with a convertible folding top.¹⁴⁹

Opponents of this approach argue that the standards put forth in *Univis Lens* should control the inquiry.¹⁵⁰ This argument posits that when an uncompleted article (the original seed) is purchased and the only use is that which is practiced by the invention, patent exhaustion applies.¹⁵¹ *McFarling*, *Scruggs*, and *David* all, for the most part, assert that saving the second-generation seed is part of the "use" of the purchased genetically modified seed. Since the second-generation seed is merely the result of the only capable use of the original seed, the patentee has no control over the second-generation seed.¹⁵² But as stated earlier, this argument was rejected in each of these cases on the grounds that restrictions were within the scope of the patent and the patent exhaustion was not implicated because the second-generation seeds had never been sold.¹⁵³

The Supreme Court has the opportunity to shed some light on this conclusion as it will certainly address the *Univis* standard in resolving the *Quanta* case. The line between using and making is a fine one in the case of self-replicating products such as seeds and some computer software. If the Court adopts the *Univis* standard, the patent rights of seed companies may well be "eviscerated"¹⁵⁴ or at least may require the seed companies to dramatically readjust their pricing schemes to account for the power of purchasers to save seed.

Other questions have arisen since *Quanta*. The broad question is whether patent exhaustion is an issue of patent law, contract law or antitrust law? During oral arguments in *Quanta*, Justice Breyer's questions appeared to suggest that using a contract law theory, a patentee should not be able to put a customer re-

146. *McFarling I*, 302 F.3d 1291, 1299 (Fed. Cir. 2002).

147. *Id.*

148. *Aro Mfg.*, 365 U.S. at 346.

149. *Id.* at 337.

150. *See e.g., McFarling I*, 302 F.3d at 1298.

151. *Id.*

152. *Id.*

153. *See Supra* §§ II, III.

154. *Monsanto Co. v. Scruggs*, 459 F.3d 1328, 1336 (Fed. Cir. 2006).

striction in a license because it would impose improper "equitable servitude's on chattel".¹⁵⁵ Moreover, many assert that seed companies should enforce the license agreement through contract law. It has been argued that to hold otherwise would represent a "Conceptual Collapse of Contract Law and Property Law" that would allow for the imposition of servitudes or restraints on alienation enforceable with the full weight of patent law.¹⁵⁶ Patent exhaustion allows purchasers to trust that they have purchases which they can use for their own reasonable use.¹⁵⁷ Accordingly, patent exhaustion would "not deprive a patentee of his just rights, because no article can be unfettered from the claim of his monopoly without paying its tribute."¹⁵⁸

However, this argument fails to account for the chilling effect on research and development in the seed industry that would surely occur if patent exhaustion applies to second-generation seeds. The biotechnology industry has spent billions on research and development, relying on stable and vigorous patent law protections.¹⁵⁹ Contract law does not provide patentees recourse against unauthorized downstream users of second-generation seed, who are not in privity with the parties to the license and technology agreement. If held otherwise, all parties would lose.

VI. CONCLUSION

Licensing restrictions on the use of second-generation seed present an uncomfortable situation for both the general public and the courts. How do we best protect seed companies which have invested millions, if not billions, into developing desirable seed lines? Should research and development be promoted through contract law only or through both patent law and contract law? The best option, considering the self-replicating nature of seeds, is to allow for both patent law and contract law protection. Simply put, the *Univis Lens* standard must yield to the unique nature of seeds. Allowing seed purchasers to save genetically mod-

155. Transcript of Oral Argument, *supra* note 35 at 21.

156. See Arthur J. Gajarsa, et al., *How Much Fuel to Add to the Fire of Genius? Some Questions About the Repair/Reconstruction Distinction in Patent Law*, 48 AM. U. L. REV. 1205, 1229 (1999).

157. See generally *id.* at 1229-30.

158. *Keeler v. Standard Folding-Bed Co.*, 157 U.S. 659, 666-67 (1895) (further explaining that "[t]he inconvenience and annoyance to the public that an opposite conclusion would occasion are too obvious to require illustration").

159. See FTC, TO PROMOTE INNOVATION: THE PROPER BALANCE OF COMPETITION AND PATENT LAW AND POLICY (Oct. 2003), available at www.ftc.gov/os/2003/10/innovationrpt.pdf.

ified seeds would eviscerate the rights of the patent holders. Furthermore, seed companies would be forced to charge higher prices to account for a decrease in sales. This would impair future innovation and would surely not “promote the progress” of the art. Thomas Jefferson once wrote that, “[t]he greatest service which can be rendered any country is, to add an useful plant to its culture”¹⁶⁰ If second-generation seeds are not able to be controlled by the patentee, our country will surely miss out on the addition of useful plants to its culture.

160. PAUL LEICESTER FORD, *THE WRITINGS OF THOMAS JEFFERSON 477* (1892-1899).