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**The Horns of a Dilemma: The Application of  
the Doctrine of Patent Exhaustion and  
Licensing of Patented Seeds**

by

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# THE HORNS OF A DILEMMA: THE APPLICATION OF THE DOCTRINE OF PATENT EXHAUSTION AND LICENSING OF PATENTED SEED

## OVERVIEW

The use of patented seed involves the making of more seed under conditions which virtually guarantee a lack of control over the patented genetic material. Enforcement of patent rights is particularly difficult when the patented article may be easily reproduced by the affirmative act of saving seed produced from one crop to replant in subsequent seasons (seed saving), accidental seed distribution by seed spilling in transit or mixing with other seed in grain elevators, contamination of non-patented seed by patented seed before the initial sale, and by no affirmative human act whatsoever but simply through pollen drifting on the wind.

Licensing, through the use of Technology Use Agreements and Dealer Agreements, has been used to enforce patent rights while allowing patent holders to profit from the sale of the patented seed and to tie the sale of a particular seed variety manufactured by a seed manufacturer with the sale of another product produced by the same seed manufacturer.<sup>1</sup> The licensing provisions allow seed manufacturers to monitor and control both sale of seed by the wholesaler or distributor and the purchase of that seed by the farmer or end user. The provisions of these licensing agreements force the disclosure of every link in the chain of distribution, weaken the real property rights of farmers who buy the seed and their neighbors, and ultimately may restrain trade and reduce the availability of seed.

Historically, patent rights were limited by the Doctrine of Patent Exhaustion wherein after the authorized first sale of the patented product, the patentee was divested of the exclusive right, granted by the issuance

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<sup>1</sup> See Monsanto Technology Use Agreement, line 2 (This licensing agreement is used in the sale of Roundup Ready Canola. Before the farmer purchases the Roundup Ready crop, the agreement must be executed whereby the user agrees, in part, to purchase and use only Roundup branded herbicide in conjunction with the seed. The agreement is on file with San Joaquin Agricultural Law Review).

of the patent, to prohibit others from using or selling the claimed invention.<sup>2</sup> Modernly, licensing agreements are legal instruments used to allow the patentee to circumvent the operation of the Doctrine of Patent Exhaustion such that the patentee effectively retains the exclusive right to prohibit others from using, selling, or offering to sell the claimed invention.

In *Diamond v. Chakrabarty*, the Supreme Court ruled that living micro-organisms are patentable.<sup>3</sup> Subsequently, the Court held that plants and seeds are patentable subject matter.<sup>4</sup> The Court held that "neither the PPA (Plant Patent Act of 1930) nor the PVPA (Plant Variety Protection Act) limits the scope of (35 U.S.C.) section 101's coverage."<sup>5</sup> 35 U.S.C. §101 establishes the criteria for obtaining a utility patent, providing:

Whoever invents or discovers any new and useful process, machine manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Ottawa Plant Food, Inc., a customer of J.E.M., purchased Pioneer seed from J.E.M. and as a result of discovery conducted in the *J.E.M.* case, was subsequently accused of patent infringement for purchasing the seed from J.E.M. without a license to purchase granted by Pioneer Hi-Bred.<sup>6</sup> Arguments made by Ottawa Plant Food, Inc, in part, were as follows: first, that the Doctrine of Patent Exhaustion is a complete defense to the charge of patent infringement<sup>7</sup> and, second, in the alternative, the licensing provisions failed to provide adequate notice<sup>8</sup> and were unenforceable as being against public policy due to the anticompetitive effect the licensing provisions create.<sup>9</sup>

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<sup>2</sup> E.g., *Motion Picture Patents Co. v. Universal Film Mfg. Co.*, 243 U.S. 502, 518 (1917)(not patent infringement for purchaser to disobey restrictions against use of machine with unauthorized other products); *Straus v. Victor Talking Machine Co.*, 243 U.S. 490, 500-501 (1917) (patent owners may not place restraints upon a patented article which further alienation after sale); *Adams v. Burke*, 84 U.S. 453, 456-457 (1973) (it is not patent infringement for a purchaser to disregard territorial restrictions on use).

<sup>3</sup> *Diamond v. Chakrabarty*, 447 U.S. 303, 305, & 318 (1980).

<sup>4</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 129 (2001). 35 U.S.C. § 101, et.seq. provide for the creation and enforcement of utility patents.

<sup>5</sup> *Id.* at 145.

<sup>6</sup> *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, 238 F.Supp.2d 1018, 1023 (N.D. Iowa 2003).

<sup>7</sup> *Id.* at 1031.

<sup>8</sup> *Id.* at 1035.

<sup>9</sup> *Id.* at 1042.

The patenting of plants and seeds presents the following dilemma: either the Doctrine of Patent Exhaustion must apply to patented seeds and plants independent of any licensing arrangements, or the licensing arrangements are to be held valid independent of the scope of the underlying patented invention. If the Doctrine of Patent Exhaustion is held to be valid independent of any licensing arrangement, then the incentive to manufacturers to continue research and development of potentially beneficial plant varieties may be inhibited. However, if the licensing arrangements are held to be valid independent of the scope of the underlying claimed invention, then trade may be restrained, the real and personal property rights of the farmer will be eroded, retail grocery purchasers may be unwitting patent infringers, and the right to manufacture, develop, and distribute seeds will be concentrated within the control of only a few seed manufacturing companies.<sup>10</sup>

This comment will discuss the protections historically provided to agricultural seed and the consequences to seed manufacturers, seed distributors, and agricultural producers, the gravamen of the *J.E.M. AgSupply* and *Ottawa Plant Food* holdings and their practical consequences. Finally, the legal and practical consequences of the application of the Doctrine of Patent Exhaustion as opposed to continuation of current licensing practices, as they apply to patented seed, will be examined.

## I. HISTORICAL PROTECTIONS PROVIDED TO SEED & THE EFFECT UPON AGRICULTURAL PRODUCERS

### A. *Seed Bank*

Seed saving, and the associated germplasm<sup>11</sup> development, was well established in this country prior to the independence of the United States.<sup>12</sup> At the inception of this country, the most wealthy, at great cost to themselves, brought rare seeds from Europe to this country for cultivation.<sup>13</sup> Seeds that successfully adapted to the new land were shared only amongst the wealthy who belonged to agricultural societies, thereby

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<sup>10</sup> I wish to recognize Nathan A. Busch, an attorney practicing in the area of intellectual capital law and complex intellectual property litigation in Saint Louis Park, Minnesota from whom I received the suggestion for this topic and Sally Perring, Associate Dean of San Joaquin College of Law. Without their patient assistance and guidance, this work would never have been brought forward.

<sup>11</sup> WEBSTER'S THIRD NEW INTERNATIONAL DICTIONARY 952 (Germplasm is the hereditary material of the germ cell: genes.)

<sup>12</sup> Nathan A. Busch, *Jack and the Beanstalk: Property Rights in Genetically Modified Plants*, 3 MINN.INTELL.PROP.REV. 1, 8 (2002).

<sup>13</sup> *Id.*

placing the common farmer at a disadvantage and limiting the areas in which this valuable seed was planted.<sup>14</sup>

In 1819, Secretary of the Treasury, William H. Crawford gave military officers and ambassadors the mission to retrieve new varieties of seeds and, in 1839, Henry Ellsworth, the Commissioner of Patents, obtained federal funding for the collection and distribution of the new plant varieties to the farmers.<sup>15</sup> The United States Department of Agriculture was established with the mission to

acquire and to diffuse among the people of the United States useful information in subjects connected with agriculture in the most general and comprehensive sense of that word, and to procure, propagate, and distribute among the people new and valuable seeds and plants.<sup>16</sup>

The farmer donated seed saved from his crop to the seed bank, and seed was distributed throughout the country to all the farmers from this bank at no charge to the farmer.<sup>17</sup> In this way, the seed stock was preserved and strengthened by increasing the number of environments in which the seed was planted and to which it adapted, thereby reducing the likelihood of losing the seed altogether through massive crop failure.

As our economic base developed and our understanding of plant propagation increased, private interests saw an opportunity to create new varieties of seed and sell that seed.<sup>18</sup> The underlying purpose of the government's gratuitous seed program, which, by 1897, had grown to distributing approximately one billion packets of seed per year, was to expand the germplasm available and to allow farmers to develop varieties that were particularly well suited for the local environment.<sup>19</sup>

Those who sought to commercialize the development and distribution of seed had as their main goal maximization of profits, and this could most effectively be accomplished through the minimization of varieties available.<sup>20</sup> From 1924 until 2001, this was accomplished through a sequence of events. In 1924, following years of political controversy, Congress terminated the gratuitous seed program, causing farmers to either save their own seed from their harvest or rely on private seed

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<sup>14</sup> *Id.* at 9.

<sup>15</sup> *Id.* at 10.

<sup>16</sup> *Id.* at 12-13.

<sup>17</sup> *Id.* at 11-12.

<sup>18</sup> *Id.* at 14.

<sup>19</sup> *Id.* at 19.

<sup>20</sup> *Id.*

manufacturers.<sup>21</sup> In 1930, the PPA established protection for asexually reproduced plants.<sup>22</sup> In 1970, Congress passed the PVPA creating limited protection for sexually reproduced plants.<sup>23</sup> In 1980, the Court held that genetically engineered microorganisms were patentable under 35 U.S.C. § 101, affording utility patent protection.<sup>24</sup> In 1994, the PVPA was amended resulting in the prevention of seedsaving by farmers.<sup>25</sup> Finally, in 2001, the Court ruled that plants could be afforded patent protection under 35 U.S.C. § 101.<sup>26</sup> These events transformed the farmer from one freely contributing to and benefiting from the availability of a diverse germplasm to a grower completely dependent upon private seed producers to provide seed. This seed was protected so as to hold any farmer who might knowingly or unknowingly grow seed from the protected seed without being licensed to do so, strictly liable for patent infringement.

### *B. Plant Patent Act of 1930 (PPA)*

Prior to 1930, two factors were thought to remove plants from patent protection. The first was the belief that plants, even those artificially bred, were products of nature for purposes of patent law...The second obstacle to patent protection for plants was the fact that plants were thought not amenable to the 'written description' requirement of the patent law. Congress addressed these concerns with the 1930 PPA, which recognized that the work of a plant breeder was a patentable invention and relaxed the written description requirement.<sup>27</sup>

The Court in *J.E.M. AgSupply*, characterized the move in 1952 of the Patent Act out of the utility patent provision and into § 161, a separate section covering plant patents under the Plant Patent Act (PPA), as an act of "housekeeping" and not an express indication that Congress intended § 161 to be the exclusive means of patenting plants.<sup>28</sup>

The Plant Patent Act states,

whoever invents or discovers and asexually reproduces any distinct and new variety of plant, including cultivated sports, mutants, hybrids, and newly

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<sup>21</sup> See generally Nathan A. Busch, *Jack and the Beanstalk: Property Rights in Genetically Modified Plants*, 3 MINN.INTELL.PROP.REV. 1 (2002) (for an in depth discussion of the political history of seed development).

<sup>22</sup> 35 U.S.C. § 161 (1930), amended by 35 U.S.C. § 161 (1954).

<sup>23</sup> 7 U.S.C. § 2483 (2003).

<sup>24</sup> *Diamond, Commissioner of Patents and Trademarks v. Chakrabarty*, 447 U.S. 303, 305 & 318 (1980).

<sup>25</sup> 7 U.S.C. § 2543 (1970) amended by 7 U.S.C. § 2543 (1994).

<sup>26</sup> *J.E.M. AgSupply v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 127 (2001).

<sup>27</sup> *Id.* at 134.

<sup>28</sup> *Id.* at 133.

found seedlings, other than a tuber propagated plant or a plant found in an uncultivated state, may obtain a patent therefore, subject to the conditions and requirements of this title.<sup>29</sup>

In order to obtain a patent under this provision, the inventor must “invent or discover a new and distinct variety of plant and asexually reproduce the plant.”<sup>30</sup> Under the PPA, the holder of a plant patent has “the right to exclude others from asexually reproducing the plant, and from using, offering for sale, or selling the plant so reproduced, or any of its parts, throughout the United States, or from importing the plant so reproduced, or any parts thereof, into the United States.”<sup>31</sup> This act had very little effect on farmers’ ability to plant or sell seed saved from their crop because the seed farmers used was sexually reproduced and therefore, not limited in distribution by this act.

### *C. Plant Variety Protection Act (PVPA)*

The limitation of protection to asexually reproduced plants “reflected the reality of plant breeding in 1930.”<sup>32</sup> Seed companies did not have the scientific knowledge to increase agricultural productivity through formal breeding.<sup>33</sup> When that knowledge increased, Congress authorized patent-like protection for certain sexually reproduced plants by passing the Plant Variety Protection Act (PVPA).<sup>34</sup>

Under the PVPA, enacted in 1970, sexually reproduced plants could be protected in a patent-like system of certificates<sup>35</sup> under the auspices of the Department of Agriculture.<sup>36</sup> The PVPA of 1970 protected owners of novel seed varieties against unauthorized sales of their seed for replanting purposes but allowed farmers to make some sales of the protected variety of seed to other farmers.<sup>37</sup> This Act provided some protections for plant developers;<sup>38</sup> however, research exemptions<sup>39</sup> and farmers’ crop exemptions were also included.<sup>40</sup> Specifically, seed saving, replanting, and sale of seed saved

<sup>29</sup> 35 U.S.C. § 161 (2003).

<sup>30</sup> *Bourne v. Jones*, 114 F.Supp. 413, 418 (S.D. Fla. 1951).

<sup>31</sup> 35 U.S.C. § 163 (2003).

<sup>32</sup> *J.E.M. AgSupply v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 135 (2001).

<sup>33</sup> *Id.* at 137.

<sup>34</sup> *Id.* at 138.

<sup>35</sup> 7 U.S.C. § 2482 (2003).

<sup>36</sup> 7 U.S.C. § 2321 (2003).

<sup>37</sup> *Asgrow Seed Company v. Winterboer*, 513 U.S. 179, 181 (1994).

<sup>38</sup> 7 U.S.C. § 2541 (2003).

<sup>39</sup> 7 U.S.C. § 2544 (2003).

<sup>40</sup> 7 U.S.C. § 2543 (2003).

from seed obtained, or descended from seed obtained by authority of the owner of the variety for seeding purposes and use of such saved seed in the production of a crop for use on the farm of the person, or for sale<sup>41</sup>

were exempt from infringement causes of action.

The Supreme Court decided that the farmer was limited to selling “for reproductive purposes only such seed as he has saved for the purpose of replanting his own acreage.”<sup>42</sup> The result of this holding was that the farmer could only save for planting on his own fields, or for sale to another for planting, an amount of seed equal to that which the farmer had originally purchased. The objective of this ruling was to limit the amount of seed in circulation for the purpose of planting to the amount of seed which was originally purchased. The Court reasoned that the intent of Congress was to provide protections (to the certificate holder and the patentee) in order to encourage research and marketing of new varieties of plants which would yield public benefits.<sup>43</sup>

In 1994, an amendment to the PVPA was passed which “ha[d] the effect of eliminating the exemption from infringement liability for farmers who sell PVPA-protected seed to other farmers for reproductive purposes.”<sup>44</sup> The purpose of the amendment was to strengthen the plant breeders protection in other countries by bringing our laws into alignment with those of the signatory countries to the 1978 Act of the UPOV Convention as revised in 1991.<sup>45</sup> This provided protection to the 25

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<sup>41</sup> *Id.*

<sup>42</sup> *Winterboer*, 513 U.S. at 192.

<sup>43</sup> *Id.*

<sup>44</sup> *Id.* at 185.

<sup>45</sup> H.R. REP. NO. 103-349 at 9 (1994). (The UPOV, International Union for the Protection of New Varieties of Plants, was established in 1961 and is an intergovernmental organization with headquarters in Geneva. The Convention was revised in 1972, 1978, and 1991 for the purpose of protecting new varieties of plants by an intellectual property right. Changes to the acts loosely correlate to changes in statutes established within the United States during the same periods of time. The 1978 Act was revised in 1991 to provide reciprocal agreements between member governmental organizations or States for the protection of breeder's rights. The definition of variety has changed over time to include those “defined by the expression of the characteristics resulting from a given genotype or combination of genotypes, distinguished from any other plant grouping by the expression of at least one of the said characteristics and considered as a unit with regard to its suitability for being propagated unchanged.” (International Convention for the Protection of New Varieties of Plants of December 2, 1961, as revised at Geneva on November 10, 1972, on October 23, 1978, and on March 19, 1991.) In contrast, the December 2, 1961 Act defined “variety” as “any cultivar, clone, line, stock or hybrid which is capable of cultivation and which...(are) sufficiently homogeneous, having regard to the particular features of its reproduction or vegetative propagation...(and the variety) must be stable in its essential characteristics, that is, it must remain true to its description after repeated reproduction or propagation, or where the breeder has defined a particular cycle

member countries by ensuring a uniformity of practices in the construction and administration of the laws relating to plants protected domestically under the PVPA.<sup>46</sup> Provisions were made to allow producers of seed, who contracted with the seed owners, to sell seed if the owner did not fulfill their contract with the seed producer and after adequate warning of the impending sale.<sup>47</sup>

The justification offered for changing the balance of rights was that additional incentive was needed for seed producers to invest time and money in research to produce seed.<sup>48</sup> This was seen as a response to the increasing risks of plant pests and diseases, drought, and the need for increased efficiency of food production as more and more land was (and is) converted from agricultural use to use in housing and industry.<sup>49</sup> Under this revision, it is not an act of infringement to reproduce seed privately and for noncommercial purposes.<sup>50</sup> The legislature stated that "it (was) not the intent of the Committee that deletion of the provision allowing the sale of saved seed to be viewed as a step toward the eventual end to the traditional right of farmers to save seed for use on their own holdings."<sup>51</sup> They noted that the exemption "should be interpreted in a practical manner...not to be limited, for example, to the replanting of saved seed on the same acre from which it was harvested"<sup>52</sup> nor is the saved seed exemption to be "interpreted so restrictively as to place cotton farmers (or other farmers in similar situations) in jeopardy of violating the PVPA because seed may become commingled due to established agricultural practices."<sup>53</sup>

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of reproduction or multiplication, at the end of each cycle." (Article 2(2) and Article 6(1)(c)(d) International Convention for the Protection of New Varieties of Plants of December 2, 1961, as revised at Geneva on November 10, 1972, on October 23, 1978, and on March 19, 1991.) Clearly, as scientific understanding of gene theory as applied to the identification of plants evolved, the protections for breeders evolved internationally as well as domestically. Copies of each of the acts are available at [www.upov.org](http://www.upov.org) (last visited May 16, 2004.).

<sup>46</sup> *Id.*

<sup>47</sup> 7 U.S.C. § 2541(b)(2) (1994).

<sup>48</sup> H.R. REP. NO. 103-349 at 9 (1994).

<sup>49</sup> *Id.*

<sup>50</sup> § 2541(e).

<sup>51</sup> H.R. REP. NO. 103-699, at 14 (1994).

<sup>52</sup> *Id.*

<sup>53</sup> *Id.* at 14-15.

II. *J.E.M. v. PIONEER* RECOGNIZES THE AVAILABILITY OF PROTECTION UNDER THE PVPA OF GENETICALLY MODIFIED AND ENHANCED SEED DOES NOT PRECLUDE PROTECTION UNDER 35 U.S.C. SECTION 101

A. *The Holding and Rationale in Pioneer*

In 1980, the Supreme Court considered whether or not a genetically engineered microorganism is patentable under 35 U.S.C. § 101 and, in doing so, ruled living micro-organisms are patentable.<sup>54</sup> This decision was extended to apply to patented seed when Pioneer Hi-Bred International, Inc., which held seventeen utility patents covering the manufacture, use, sale, and offer for sale of inbred and hybrid corn seed,<sup>55</sup> also called enhanced seed,<sup>56</sup> sought protection from redistribution of its seed by an unlicensed seed dealer, J.E.M. AgSupply, Inc., Farm Advantage, Inc.<sup>57</sup> In response to J.E.M.'s general denial of patent infringement and counterclaim arguing that sexually reproducing plants were not patentable subject matter under 35 U.S.C. § 101,<sup>58</sup> the Supreme Court held that "newly developed plant breeds fall within the terms of section 101, and that neither the PPA nor the PVPA limits the scope of section 101's coverage."<sup>59</sup>

The Court ruled that utility patents may be issued for plants under 35 U.S.C. § 101 and that the Plant Variety Protection Act, and the Plant Patent Act of 1930 are not the exclusive means of obtaining a federal statutory right to exclude others from reproducing, selling or using plants or plant varieties.<sup>60</sup>

At the time this case was heard by the Supreme Court, Pioneer Hi-Bred was the world's largest producer of corn seed.<sup>61</sup> Pioneer obtained 17 patents for inbred and hybrid corn, the infringement of which was the subject of this suit.<sup>62</sup> Pioneer sold its patented hybrid seeds under a limited license that provided the licensee the right to produce grain and/or

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<sup>54</sup> *Diamond v. Chakrabarty* 447 U.S. 303, 305 & 318 (1980).

<sup>55</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 127 (2001).

<sup>56</sup> Brief Amicus Curiae of the American Seed Trade Association in Support of Respondent at 12, *J.E.M. AgSupply, Inc. Farm Advantage, Inc., et al., v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124 (2001) (No. 99-1966) [herein after *Brief*].

<sup>57</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 128 (2001).

<sup>58</sup> *Id.* at 129.

<sup>59</sup> *Id.* at 145.

<sup>60</sup> *Id.* at 127.

<sup>61</sup> *Pioneer Hi-Bred International, Inc. v. J.E.M. AgSupply, Inc.*, 1998 U.S. Dist. Lexis 21782, at \*2 (1998).

<sup>62</sup> *Id.* at 3.

forage but not to use the seed to sell or propagate the seed for development of more seed or as a base for creating another hybrid or different variety of seed.<sup>63</sup>

J.E.M. purchased Pioneer's patented seed in bags bearing the licensing agreement and resold the seed in the same bags bearing the licensing agreement and at no time rebagged the seed except in connection with court proceedings.<sup>64</sup> J.E.M. was not a licensed sales representative of Pioneer and consequently, Pioneer filed a complaint for patent infringement against J.E.M. and several other corporations and residents of the State of Iowa who were distributors and customers for J.E.M. AgSupply.<sup>65</sup>

Counsel for J.E.M. AgSupply erroneously contended that the issues addressed in the summary judgment were "dispositive of all issues in the case."<sup>66</sup> Although patenting of living organisms has been a topic of heated debate, counsel, in focusing on the right to patent, failed to present to the Supreme Court, and the Court did not consider the alternative argument. That is, the Court did not consider whether the Doctrine of Exhaustion applies to patented products capable of reproduction in the absence of human intervention.

### *B. Utility Patents*

Title 35 § 271(a) of the United States Code provides that:

Except as otherwise provided in this title, whoever without authority makes, uses, offers to sell, or sells any patented invention, within the United States or imports into the United States any patented invention during the term of the patent therefor, infringes the patent.<sup>67</sup>

The statute establishes strict liability for patent infringement as intent does not need to be shown to establish a cause of action for those who use, make, sell, offer to sell or import a patented product without authorization. This provision does not provide protection for the farmer from violations which could occur as a result of established agricultural practices.

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<sup>63</sup> *Id.*

<sup>64</sup> *Id.* at 4.

<sup>65</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 128-129 (2001).

<sup>66</sup> *Pioneer Hi-Bred International, Inc. v. J.E.M. AgSupply, Inc.*, 33 F.Supp.2d 794, 795 (N. I.A. 1999).

<sup>67</sup> 35 U.S.C. §271(a) (2003).

"The laws of nature, physical phenomena, and abstract ideas have been held not patentable."<sup>68</sup> In order to qualify for a utility patent, a plant variety must be shown to be "new, useful, and nonobvious."<sup>69</sup> In addition, the plant must be described by the breeder with sufficient specificity to enable others to 'make and use' the invention after the expiration of the patent term.<sup>70</sup> "The disclosure required by the Patent Act is 'the *quid pro quo* of the right to exclude."<sup>71</sup> The description requirement for plants includes a deposit of biological matter and requires that the material be accessible to the public.<sup>72</sup> There is not, however, any requirement for the deposit of unmodified seed.<sup>73</sup>

Utility patents have issued for hybrid, inbred, and genetically modified seed.<sup>74</sup> Typically hybrid plants do not reproduce true to type.<sup>75</sup> However, when plants with desirable traits are inbred, the resulting plants will be homogenous and have the desirable characteristics but will often have weak and low yield.<sup>76</sup> Inbred plants are primarily used for making hybrids.<sup>77</sup> Genetically modified seed is created by inserting the genes into the seed to make the resulting plant demonstrate the desired traits.<sup>78</sup>

### *C. Protection Afforded Seed Producers Under 35 U.S.C. § 101 in Contrast to the PVPA*

In contrast to the requirements for obtaining a utility patent, "a plant variety may receive a PVP certificate without a showing of usefulness or nonobviousness."<sup>79</sup> It requires only that the variety be new, distinct, uni-

<sup>68</sup> *Diamond v. Chakrabarty*, 447 U.S. 303, 309 (1980) (citing *Parker v. Flook*, 437 U.S. 584 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 67 (1972); *Funk Brothers Seed Co. v. Kalo Inoculant Co.*, 333 U.S. 127, 130 (1948); *O'Reilly v. Morse*, 15 How. 62, 112-121 (1854); *Le Roy v. Tatham*, 14 How. 156, 175 (1853).

<sup>69</sup> 35 U.S.C. § 101 (2003); 35 U.S.C. § 103 (2003) (respectively).

<sup>70</sup> 35 U.S.C. § 112 (2003).

<sup>71</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 142 (2001).

<sup>72</sup> *Id.*

<sup>73</sup> *Id.* (This is significant because it is foreseeable that unmodified seed may become impossible to obtain as modified seed pollen drifts and pollinates remaining unmodified plants resulting in more modified seed and less unmodified seed.)

<sup>74</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 127 (2001); *Brief supra* note 56 at 11-12.

<sup>75</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 128 (2001).

<sup>76</sup> *Id.* at 127-128.

<sup>77</sup> *Id.* at 128.

<sup>78</sup> *Monsanto Co. v. William Trantham*, 156 F.Supp.2d 855, 857 (W.D.Tenn. 2001).

<sup>79</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 142 (2001).

form, and stable.<sup>80</sup> Nor does the PVPA require a description and disclosure as extensive as those required under § 101.<sup>81</sup> The PVPA requires a “description of the variety setting forth its distinctiveness, uniformity and stability and a description of the genealogy and breeding procedure, when known.”<sup>82</sup> Seed must also be deposited in a public depository; however, “neither the statute nor the applicable regulation mandates that such material be accessible to the general public during the term of the PVPA certificate.”<sup>83</sup>

Utility patent holders have the right to exclude others from doing research or saving seed, which is not a right given under the PVPA.<sup>84</sup> Additionally, a utility patent protects inbred as well as hybrid lines and although protections were strengthened under the 1994 revision of the PVPA, it “still falls short of a utility patent... because a breeder can use a plant that is protected by a PVPA certificate to ‘develop’ a new inbred line while he cannot use a plant patented under § 101 for such a purpose.”<sup>85</sup>

The limited monopoly afforded the utility patentholder and the protection associated with it is sought by seed producers as a means of assuring a return of the research and development costs required to create and patent the modified seed.<sup>86</sup> The extent to which those monopoly rights should be allowed to be extended through licensing was left unaddressed in *Pioneer Hi-Bred, Inc. v. J.E.M. AgSupply, Inc.*

### III. THE DOCTRINE OF EXHAUSTION AND LICENSING IN GENERAL

#### A. *The Doctrine of Patent Exhaustion*

“The patent system represents a carefully crafted bargain that encourages both the creation and the public disclosure of new and useful advances in technology, in return for an exclusive monopoly for a limited period of time.”<sup>87</sup> Thomas Jefferson, as the Secretary of State, “was not only the administrator of the patent system under the 1790 Act, but was

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<sup>80</sup> 7 U.S.C. §2402(a).

<sup>81</sup> 7 U.S.C. §2422(2).

<sup>82</sup> *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 142-143 (2001).

<sup>83</sup> *Id.* at 143.

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> *Brief supra* note 56 at 6.

<sup>87</sup> *Id.* at 10.

also the author of the 1793 Patent Act<sup>88</sup> and had an aversion to monopolies.<sup>89</sup> He clearly saw the difficulty in “drawing a line between the things which are worth to the public the embarrassment of an exclusive patent, and those which are not.”<sup>90</sup>

The tension of the bargain can be seen in even clearer perspective through a discussion of the Doctrine of Patent Exhaustion and the licensing of patented products. Specifically, the question is, what limitations, if any, should be placed on the means of rewarding the patentholder so as to maximize the benefit to society by “promot(ing) the Progress of Science and the useful Arts<sup>91</sup>” without undue restraints on trade which may not be “worth to the public the embarrassment of an exclusive patent.”<sup>92</sup>

### 1. The Doctrine of Patent Exhaustion and Licensing Prior to 1992

The Doctrine of Patent Exhaustion is well established through caselaw dating back to the 1873 decision of *Adams v. Burke* where the court found that:

the sale by a person who has the full right to make, sell, and use a machine carries with it the right to the use of that machine to the full extent to which it can be used in point of time...(and)...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...(and) the article...passes without the limit of the monopoly.<sup>93</sup>

The court reasoned that the sale constitutes “all the royalty or consideration which he claims for the use of his invention in that particular machine or instrument.”<sup>94</sup> Historically, the use of a patented product by a customer for any purpose, in any manner, and in any place was not, an act of patent infringement.<sup>95</sup>

Furthermore, reselling the patented product wherever and whenever the customer chose was not patent infringement.<sup>96</sup> In *Keller v. Standard Folding-Bed Co.*, the Court recognized that under the Doctrine of Patent Exhaustion established in *Adams*, a purchaser could resell as well as use

<sup>88</sup> MARGRETH BARRETT, *INTELLECTUAL PROPERTY CASES AND MATERIALS* 112 (2d ed. 2001).

<sup>89</sup> *Id.*

<sup>90</sup> *Id.* at 113.

<sup>91</sup> U.S. CONST. art. I, § 8, cl. 8.

<sup>92</sup> BARRETT, *supra* note 88, at 113.

<sup>93</sup> *Adams v. Burke*, 84 U.S. 453, 455 (1873).

<sup>94</sup> *Id.*

<sup>95</sup> Richard H. Stern, *Post-Sale Patent Restrictions After Mallinckrodt—An Idea in Search of Definition*, 5 Alb. L.J. Sci. & Tech. 1, 3 (1994).

<sup>96</sup> *Id.*

the patented product free of the patent monopoly<sup>97</sup> and there was no "sold distinction to be made...between the right to use and the right to sell."<sup>98</sup>

### B. Licensing

A license is an agreement by the patentee, usually for consideration, not to sue the licensee of the patent for infringement of the patent...Frequently, a patentee grants licenses on certain conditions, in addition to the requirement that the licensee pay royalties. The validity of various restrictions in licensing agreements has been the focus of much patent-antitrust litigation.<sup>99</sup>

"Any limitation contained in a patent license, by definition, results in a restraint of trade."<sup>100</sup> However, "(t)he proper standard for assessing the legality of a patent license is the legitimate scope of the monopoly."<sup>101</sup>

The Court in *Adams* recognized that, "the right to manufacture, the right to sell, and the right to use are each substantive rights, and may be granted or conferred separately by the patentee."<sup>102</sup> Relying on the fact that, "the right to exclude may be waived in whole or in part,"<sup>103</sup> patentees, under some circumstances have maximized the exploitation of patent benefits by licensing another to make and vend the patented product.<sup>104</sup> Licensing, which limited the use and disposition of the patented product, was granted "provided the conditions of sale are normally and reasonably adapted to secure pecuniary reward for the patentee's monopoly."<sup>105</sup>

The licensing versus sale distinction can be seen as the attempt by the court to resolve differing property claims, that of the customers' property rights in the goods and the patentee's right to exclude under patent law.<sup>106</sup> The customers' personal property rights were superior to the patentee's intellectual property rights if the product was sold, but the patentee's rights governed over the customers' if the product was licensed.<sup>107</sup> The courts, however, did not allow the use of a license to cover up what was actually a sale.<sup>108</sup> It was the point of sale at which the patentee relin-

<sup>97</sup> *Keeler v. Standard Folding-Bed Co.*, 157 U.S. 659, 662 (1895).

<sup>98</sup> *Id.* at 662 & 665.

<sup>99</sup> *United States of America v. Studiengesellschaft Kohle, M.B.H.*, 216 U.S. App. D.C. 303; 670 F.2d 1122, 1127 (1981).

<sup>100</sup> *United States of America v. CIBA Geigy Corporation*, 508 F.Supp. 1118, 1149 (N.J. 1976).

<sup>101</sup> *Id.* at 1150.

<sup>102</sup> *Adams v. Burke*, 84 U.S. 453, 456 (1873).

<sup>103</sup> *Mallinckrodt v. Medipart, Inc.*, 976 F.2d 700, 703 (Fed. Cir. 1992).

<sup>104</sup> *Stern*, *supra* note 95, at 4.

<sup>105</sup> *Id.*

<sup>106</sup> *Id.* at 5.

<sup>107</sup> *Id.*

<sup>108</sup> *Id.* at 53, n.5.

quished the patent right, at which time the rights were said to have become “exhausted”, from which the name Doctrine of Patent Exhaustion was derived.<sup>109</sup>

### C. The *Mallinckrodt Decision* - Licensing after 1992

The *Mallinckrodt, Inc. v Medipart, Inc.* case is relied upon to establish the validity of licensing provisions for patented seed.<sup>110</sup> This decision overturned a century of decisions relying on the Doctrine of Patent Exhaustion.<sup>111</sup> Prior to 1992, the courts considered the transfer of possession of a patented product to constitute a sale regardless of whether or not it was accompanied by what purported to be a license.<sup>112</sup> Restrictions on sales which would have been forbidden under the Doctrine of Patent Exhaustion were allowed as a result of the *Mallinckrodt* decision if the sale was rewritten as a limitation on the scope of a license.<sup>113</sup> The result of the new rule is to increase the economic power of patentees and to diminish the power and revenue of licensees.<sup>114</sup>

In *Mallinckrodt*, the patentee for a patented medical device marked “For Single Use Only” sued the defendant claiming patent infringement and inducement to infringe because they provided a servicing that allowed hospitals to reuse *Mallinckrodt*’s device.<sup>115</sup> The device was marked with the appropriate patent numbers, trademark, and had the inscription “Single Use Only.”<sup>116</sup> The defendant did not dispute actual notice of the restrictions and consequently, the court did not decide any issues related to the sufficiency of a “label license” nor did they decide if subsequent notice by the plaintiff cured any flaws in that notice.<sup>117</sup>

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<sup>109</sup> *Id.* at 5.

<sup>110</sup> *Mallinckrodt v. Medipart, Inc.*, 976 F.2d 700 (Fed. Cir. 1992). *Monsanto Company v. Homan McFarling*, 302 F.3d 1291, 1298 (Fed. Cir. 2002) (citing *Mallinckrodt* to justify licensing provision, it was held patent infringement for a farmer to save and replant seeds from one crop to plant in a subsequent planting season); *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, 283 F. Supp.2d 1018, 1033-1034 (N.D. Iowa 2003); *Monsanto Company v. Hartkamp*, No. 00-164-P, 2001 U.S. Dist. LEXIS 25253, at \*6 (E.D. Okla. April 19, 2001); *Monsanto v. Swann*, No. 4:00-CV-1481 (CEJ), 2003 U.S. Dist. LEXIS 5338, at \*10-12 (E.D. Mo. Jan. 8, 2001)(relying on *McFarling* which relies on *Mallinckrodt*); *Monsanto Company v. Dawson*, No. 4:98CV2004 TCM, 2000 U.S. Dist. LEXIS 22392, at \*7 (E.D. Mo. Nov. 24, 2000).

<sup>111</sup> *Stern*, *supra* note 95, at 6.

<sup>112</sup> *Id.* at n.5.

<sup>113</sup> *Id.* at 20.

<sup>114</sup> *Id.* at 10.

<sup>115</sup> *See Mallinckrodt*, 976 F.2d at 701.

<sup>116</sup> *Id.* at 701.

<sup>117</sup> *Id.*

The district court, noting that "cases sustaining field of use and other restrictions (were) 'in tension' with cases... holding that the patent right is exhausted with the first sale,"<sup>118</sup> held that the restriction to a single use was unenforceable because "no restriction whatsoever could be imposed under the patent law, whether or not the restriction was enforceable under some other law, and whether or not this was a first sale to a purchaser with notice."<sup>119</sup>

The federal Court of Appeals disagreed saying that if the "restriction was a valid condition of the sale, then in accordance with *General Talking Pictures Corp. v. Western Electric Co.* ... it was not excluded from enforcement under the patent law."<sup>120</sup> The Court stated that provided the conditions of a license are not illegal, are imposed by the patentee, and agreed to by the licensee with regard to the right to manufacture or use or sell the patented article, the license will be upheld by the courts.<sup>121</sup>

The *Mallinckrodt* Appellate Court stated that "unless the condition violates some other law or policy (in the patent field notably the misuse or antitrust law...) private parties retain the freedom to contract concerning conditions of sale."<sup>122</sup> Conditions which could violate law or policy are: price-fixing, tying, antitrust, and misuse.<sup>123</sup> The court said that the appropriate criterion by which to review the anticompetitive effects of licensing conditions which are not per se violations of law is "whether the restriction is reasonably within the patent grant, or whether the patentee has ventured beyond the patent grant and into behavior having an anticompetitive effect not justifiable under the rule of reason."<sup>124</sup>

#### IV. THE APPLICATION OF THE DOCTRINE OF PATENT EXHAUSTION TO SEED CASES

Prior to 1992, the Doctrine of Patent Exhaustion would have provided an adequate defense, for both J.E.M. AgSupply and Ottawa, to the allegation of infringement. Because a transfer of possession of the seed had been accomplished in the sale, the licensing would not have limited the ownership and therefore the ability to resell would not have been curtailed.

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<sup>118</sup> *Id.* at 703.

<sup>119</sup> *Id.* at 701.

<sup>120</sup> *Id.*

<sup>121</sup> See *Mallinckrodt*, 976 F.2d at 703.

<sup>122</sup> *Id.* at 708.

<sup>123</sup> *Id.*

<sup>124</sup> *Id.*

However, after the Supreme Court ruled that seed could be patentable under § 101 and protected under the PVPA, the original defendants in the J.E.M. case settled out of court.<sup>125</sup> During the discovery process, Pioneer discovered that J.E.M. had sold seed to Ottawa Plant Food, Inc., who was not an authorized Pioneer Sales Representative.<sup>126</sup> Ottawa was added as a defendant in an amended complaint on September 11, 1998 and remained the only defendant who did not settle.<sup>127</sup>

Pioneer sells its seed through licensed sales representatives and licensed dealers.<sup>128</sup> Licensed sales representatives never take title to the seed but are only licensed to sell the seed to the farmers who plant the seed.<sup>129</sup> Licensed dealers take title to the seed but are only licensed to resell it to other authorized dealers or end users.<sup>130</sup> "Pioneer sells the overwhelming amount of its seed through sales reps/agents in the Corn Belt," with a minority of its sales in the South and West; excluding Texas and Oklahoma, the corn is sold through a dealer system in which the dealer takes possession of the seed and is allowed to sell other seed products and alternatively, in Texas and Oklahoma, seed is sold through a sales representative system in which the seed is sold on commission, selling only Pioneer seed.<sup>131</sup>

Like J.E.M. AgSupply, Ottawa purchased and resold patented corn seed in its original packaging without alteration of the bags or contents, without removal of any tags, and without repackaging the seed.<sup>132</sup> The seed was resold to other farmers and dealers, including Pioneer dealers or representatives who were having difficulty obtaining the particular variety of Pioneer seed corn which was at issue.<sup>133</sup>

From 1986 through 1995 the seed bag labels, in pertinent part, read as follows:

THE FOLLOWING PROVISIONS ARE PART OF THE TERMS OF SALE  
OF THIS PRODUCT

<sup>125</sup> Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc., 283 F. Supp.2d 1018, 1023 (N.D. Iowa 2003).

<sup>126</sup> *Id.* at 1022-1023.

<sup>127</sup> *Id.*

<sup>128</sup> *Id.* at 1024.

<sup>129</sup> *Id.*

<sup>130</sup> *Id.*

<sup>131</sup> Telephone interview with Mr. Jerry Harrington, Sales and Marketing Public Relations Manager, Pioneer Hi-Bred International, Inc. (Feb. 21, 2003) and email from Mr. Jerry Harrington, Sales and Marketing Public Relations Manager, Pioneer Hi-Bred International, Inc. (Jan. 19, 2005, 09:47:11 PST) (on file with San Joaquin Agricultural Law Review) [Hereinafter *Interview*].

<sup>132</sup> See *Ottawa Plant Food, Inc.*, 283 F. Supp.2d at 1024.

<sup>133</sup> *Id.*

One or more of the parental lines used in producing this hybrid are the exclusive property of Pioneer Hi-Bred International, Inc. Buyer intends to purchase and seller intends to sell only hybrid seed. *Buyer agrees that purchase of this bag of seed does not give any rights to use any such parental line seed which may be found herein, or any plant, pollen or seed produced from such parental line seed, for breeding, research or seed production purposes or for any purpose other than production of forage or grain for feeding or processing.*

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By acceptance of the seed or other products the Buyer acknowledges that the foregoing terms are conditions of the sale and constitute the entire agreement between the parties regarding warranty or other liabilities and the remedy therefor.<sup>134</sup>

From 1996 through 1998 a new label license, which Pioneer asserted was essentially the same with regard to the limited license granted to buyers,<sup>135</sup> was, in pertinent part, as follows:

THE FOLLOWING PROVISIONS ARE PART OF THE TERMS OF SALE OF THIS PRODUCT

One or more of the parental lines used in producing this product are proprietary to Pioneer Hi-Bred International, Inc. ("Pioneer"). Parental lines are U.S. Protected Varieties and may be protected under the laws of other countries; export or transfer of possession is prohibited. Pioneer intends to supply only hybrid seed. *Customer agrees that it is not acquiring the rights to use any parental line for any purpose other than production of forage or grain for feeding or processing. If the tag indicated this product is produced under one or more U.S. patents, customer is licensed thereunder only to produce forage or grain for feeding or processing.* All uses outside the U.S. are prohibited to the extent they result in infringement of U.S. patents. For availability of other licenses, contact Pioneer.

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By acceptance of the seed or other products the Buyer acknowledges that the foregoing terms are conditions of the sale and constitute the entire agreement between the parties regarding warranty or other liabilities and the remedy therefor.<sup>136</sup>

Beginning in 1999, a specific prohibition on "resale" of seed was included in the labeling on the bag.<sup>137</sup> However, it was agreed by both sides that any possible infringement had ceased by this time.<sup>138</sup>

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<sup>134</sup> *Id.* at 1024 - 1025.

<sup>135</sup> *Id.* at 1025.

<sup>136</sup> *Id.*

<sup>137</sup> Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc., 283 F.Supp.2d 1018, 1025 (N.D.IA. 2003).

<sup>138</sup> *Id.*

The issues regarding liability considered by the district court in the *Ottawa* case were as follows:

(1) whether Ottawa's purchase and resale of Pioneer(R) brand seed corn is immunized from liability for patent infringement under the "first sale" or "patent exhaustion" doctrine; (2) whether Ottawa had notice of and was bound by Pioneer's restrictions in its "limited label license"; (3) whether Pioneer's "limited label license" restrictions are enforceable or are instead unenforceable as against public policy owing to their anticompetitive effect or unenforceable under applicable contract principles.<sup>139</sup>

*A. First Sale or Patent Exhaustion as Argued in Ottawa*

Ottawa contended that Pioneer's patent rights were "exhausted" by the first sale which was made to J.E.M. AgSupply.<sup>140</sup> Indeed, under the pre-1992 analysis, a transfer of possession constituted a sale and the patent rights regarding resale would have been exhausted. Furthermore, it was argued that the pricing reflected full compensation for the value of the invention and therefore Pioneer was barred from obtaining damages for resale and from controlling any resale of the seed.<sup>141</sup> If a limitation existed at all as a result of the limited label license, Ottawa contended, it limited use only, not resale.<sup>142</sup>

In contrast, Pioneer argued that the first sale was not unconditional but was limited by the license and consequently full rights were not granted nor full value received.<sup>143</sup> Following *U.S. v. Masonite Corp.*, the district court agreed that the Doctrine of Patent Exhaustion only applied to unrestricted sales of a patented article.<sup>144</sup> They stated that the exhaustion of the patent right depends upon "whether or not there has been such a disposition of the article that...the patentee has received his reward for the use of the article."<sup>145</sup> Without discussing whether Pioneer had in fact received their reward, the district court turned to *Mallinckrodt* to support the proposition that the Doctrine of Patent Exhaustion should not apply at all.<sup>146</sup>

The *Mallinckrodt* case was cited for the proposition that conditions may be placed on the sale of patented goods and the first sale does not turn a conditional sale into an unconditional sale.<sup>147</sup> The *Mallinckrodt*

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<sup>139</sup> *Id.* at 1031.

<sup>140</sup> *Id.*

<sup>141</sup> *Id.* at 1031.

<sup>142</sup> See *Ottawa Plant Food, Inc.*, 283 F. Supp.2d at 1032.

<sup>143</sup> *Id.*

<sup>144</sup> *Id.*

<sup>145</sup> *Id.*

<sup>146</sup> *Id.* at 1033.

<sup>147</sup> *Id.*

decision cited *General Talking Pictures v. Western Electric Co.*, in which the Court simply noted that a patentee may grant a license provided that the condition of performance is “reasonably within the reward which the patentee...is entitled to secure” and that the use of restrictive licenses was an old one.<sup>148</sup>

However, the court failed to consider what scope of restriction is reasonable and at what point the patented article must be deemed to have passed into the hands of a purchaser. It is the position of this author that the licensing agreement should be limited to the claimed invention. The claimed invention, in the case of modified seed, is the genetic modification inserted into the gene plasm, not the entire seed. By inserting the gene into the plant and then restricting the use, sale, and reproduction of the entire plant and its seed, seed manufacturers are expanding the scope of protection from the gene inserted to the entire plant. This constitutes an unreasonable expansion of the scope of the patent which, when combined with licensing schemes, results in the total control of the entire seed and its progeny which should not be allowed.

The district court in *Ottawa* citing *Mallinckrodt*, found that any condition placed on the sale of a patented item invalidates the Doctrine of Patent Exhaustion.<sup>149</sup> The Patent Exhaustion defense could only be used if the conditions were found to be unenforceable.<sup>150</sup> However, in failing to recognize or even address the fact that the protected invention is the gene, not the entire plant, the court also failed to address the expansion of the scope of the patent to the carrier of the patented material. If by inserting a gene into a plant, the entire plant is claimed by the seed manufacturer, licensing may be used under this theory to limit the development of seed to the first to seize the germplasm, resulting in the restriction of the carrier for the claimed invention as well as the invention itself. Furthermore, if genetic drift occurs between patented seed strains, owned by different companies, it is unclear who would own the resulting plant and what the limits of potential liability are to distributors, farmers, and the public.

### B. Licensing Practices for Patented Seed

The owner of the patent on seed is typically the seed manufacturer or a parent company which owns controlling stock in the seed manufacturing company that produces the seed, thereby effectively making the owner of

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<sup>148</sup> *General Talking Pictures Corp. v. Western Electric*, 305 U.S. 124, 127 (1938).

<sup>149</sup> *See Ottawa Plant Food, Inc.*, 283 F. Supp.2d at 1033.

<sup>150</sup> *Id.* at 1035.

the patented seed the owner of the means of production.<sup>151</sup> In some cases, the owner of the patented genetically modified trait will license others to use the trait in the production of seed.<sup>152</sup> In August of 2002, according to Pioneer's assessment, there were six companies worldwide which sold the vast majority of seed.<sup>153</sup> They were Monsanto, Syngenta Ag, AstraZeneca PLC, E.I. DuPont de Nemours & Co., Bayer AG, and Dow Chemical Company. The web of ownership and control from these companies is vast and at times they collaborate with one another and also with smaller cooperatives.<sup>154</sup> E.I. DuPont de Nemours & Co. is the parent company for Pioneer.<sup>155</sup> All of the six major companies are either foreign or multinational corporations.<sup>156</sup>

In order for dealers to sell the seed<sup>157</sup> and farmers to buy and plant it, they must sign licensing agreements which restrict the sale and use of the seed.<sup>158</sup> Therefore, from the initial creation of the seed, or the technology which created the seed, to the point of harvest, the patentee either has complete control of the seed or has a licensing agreement which limits the use of the seed by the licensee.

Typically, seed manufacturers either sell through representatives who are licensed to sell on commission directly to the farmer or through dealers who take ownership of the seed, operating on a markup.<sup>159</sup> The licensing agreements with the dealers designate specific geographic territories within which they are limited to selling although these are not exclusive dealerships as the seed manufacturers reserve the right to license

<sup>151</sup> Seed Industry Structure, August 2002 (This chart shows an overview of the ownership and control of the seed industry and is available at the San Joaquin Agricultural Law Review.) [*Hereinafter* "Chart"].

<sup>152</sup> *Interview, supra* note 131. (For an example of the chain of distribution from seed development through end use see *Latham Seed Company v. Nickerson American Plant Breeders, Inc.*, 978 F.2d 1493, 1496 (8th Cir. 1992) (Agripro, Inc which sold the seed in *Latham*, was a subsidiary of AstraZeneca PLC, *supra* note 151).)

<sup>153</sup> *Chart, supra* note 151.

<sup>154</sup> *Id.*

<sup>155</sup> *Id.*

<sup>156</sup> *Id.*

<sup>157</sup> *See for example* *Seminis Dealer Agreement*, Syngenta Seed, Inc. VIP and ASM Dealer Agreement, Syngenta Seeds, Inc. Vegetables NAFTA VIP Dealer Agreement, Syngenta Seeds, Inc. - Vegetables NAFTA Commercial Dealer Agreement, Sakata Seed America Distributor Agreement, on file with the San Joaquin Agricultural Law Review.

<sup>158</sup> *See for example* *Pioneer Hi-Bred Technology Agreement and Monsanto's Roundup Ready Canola Technology Use Agreement* on file with the San Joaquin Agricultural Law Review. *Also see* *Blowin' in the Wind*, *THE NATIONAL ONLINE*, at <http://tv.cbc.ca/national/pgminfo/canola/index.html> (last visited March 13, 2004). (Stating, "Farmers buying Monsanto's seed must sign a contract promising to buy fresh seed every year...and let Monsanto inspect their fields for cheating.")

<sup>159</sup> *Interview, supra* note 131.

other dealers.<sup>160</sup> The licenses also limit the dealers' authority to sell to those who are authorized sub-dealers, have a valid seed license,<sup>161</sup> and have signed licensing agreements with the seed manufacturers.<sup>162</sup> Thus, every link in the chain of supply must be licensed to avoid suit for patent infringement.

Some licensing agreements require that dealers provide to the seed manufacturer "all records relating to ... sales, inventories, orders booked, inquiries received and other activities undertaken by the dealer as the (seed manufacturer) may reasonably request."<sup>163</sup> In addition, some require that the dealer allow the manufacturer to meet with the dealer's sales force and make joint sales calls<sup>164</sup> and in other cases dealers have been forced to produce their client list at discovery in preparation for litigating a dispute between the dealer and the seed manufacturer.<sup>165</sup> This leaves the dealer vulnerable to the seed manufacturers circumventing them in the chain of supply. The contracts provide for a non-competition clause protecting the seed manufacturer;<sup>166</sup> however, the dealers are provided with no protection. There are a variety of clauses requiring dealers to limit distribution of seed to licensed buyers<sup>167</sup> and authorized sub-dealers that have a valid seed license,<sup>168</sup> to report non-compliance on the part of any farmer to the seed manufacturer,<sup>169</sup> and to promise not to reproduce the seed or sell to anyone they know or have reason to know

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<sup>160</sup> *Supra* note 157.

<sup>161</sup> *See for example* Seminis Dealer Agreement, page 2, line f.

<sup>162</sup> *See for example* Seminis Dealer Agreement, page 4, line R; Syngenta Seeds, Inc. - Vegetables NAFTA VIP and ASM Dealer Agreement, page 2, line 7(b) and VIP Dealer Agreement, page 1, line 1(e); and Syngenta Commercial Dealer Agreement, Page 1, line 2. (on file with the San Joaquin College of Law, Law Review).

<sup>163</sup> *See* Seminis Dealer Agreement, page 3, line J. (on file with the San Joaquin Agricultural Law Review).

<sup>164</sup> *Id.* at line K and Syngenta Seeds, Inc. Vegetables NAFTA VIP and ASM Dealer Agreement, page 1, line 1(d)(1). (on file with the San Joaquin Agricultural Law Review).

<sup>165</sup> *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, 283 F. Supp.2d 1018, 1022-1023 (N.D.IA. 2003).

<sup>166</sup> *See* Syngenta Seeds, Inc. Vegetables NAFTA VIP and ASM Dealer Agreement, page 2, Section B, Line 4. (on file with the San Joaquin Agricultural Law Review).

<sup>167</sup> *See* Seminis Dealer Agreement, page 4, line R; Syngenta Seeds, Inc. Vegetable NAFTA VIP and ASM Dealer Agreement, page 2, Section B, line 7(b); Syngenta Seeds, Inc. Vegetables NAFTA VIP Dealer Agreement, Section E, line 1(e); Syngenta Seeds, Inc. Vegetables NAFTA Commercial Dealer Agreement, line 2. (on file with the San Joaquin Agricultural Law Review).

<sup>168</sup> *See* Seminis Dealer Agreement, page 2, line F. (on file with the San Joaquin Agricultural Law Review).

<sup>169</sup> *See* Syngenta Seeds, Inc. Vegetable NAFTA VIP Dealer Agreement, Section E, line 1(g). (on file with the San Joaquin Agricultural Law Review).

would resell the seed.<sup>170</sup> Violation of the licensing agreement can result in termination of any right to sell the product and in some cases, the whole class of plants to which the seed belongs.<sup>171</sup> Therefore, in addition to any costs the dealer would pay resulting from litigation, should there be a parting of the ways between the dealer and the seed manufacturer, there is no provision in the licensing agreement to prevent the seed manufacturers from contacting the farmer directly, thereby destroying the dealer's customer base.

In order to be authorized to buy, the farmer must sign what is called a technology agreement.<sup>172</sup> Seed manufacturers argue that these agreements are necessary to insure that they maintain control of the seed, both for purposes of retaining the economic benefits of a patent and for purposes of insuring that Environmental Protection Act (EPA) requirements, regarding the method of their use, are adhered to by the grower.<sup>173</sup> Indeed, there are provisions in some of the agreements that require growers to institute planting methods required by the EPA.<sup>174</sup>

Absent an oral promise not to compete, *Latham Seed Company v. Nickerson American Plant Breeders, Inc.*<sup>175</sup> might have represented a case in which licensing provisions were used to gain information through dealers and then circumvent the dealer by selling directly to their customers. Here, Nickerson American Plant Breeders, Inc. lost a suit for fraud and breach of oral contract and was held liable for punitive damages<sup>176</sup> when they made an oral promise to a new associate that "its asso-

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<sup>170</sup> See Sakata Seed America Distributor Agreement, page 1, line 1(c). (on file with the San Joaquin Agricultural Law Review).

<sup>171</sup> See Seminis Dealer Agreement, page 4, line Q; Syngenta Seeds, Inc. Vegetables NAFTA VIP and ASM Dealer Agreements, page 2, Section B, line 8; Syngenta Seeds, Inc. Vegetables NAFTA VIP Dealer Agreement, Section E, line 3. (on file with the San Joaquin Agricultural Law Review).

<sup>172</sup> See Pioneer Hi-Bred Technology Agreement; Seminis Dealer Agreement, page 4, line R; Syngenta Seeds, Inc. Vegetable NAFTA VIP and ASM Dealer Agreement, page 2, Section B, line 7(b); Syngenta Seeds, Inc. Vegetables NAFTA VIP Dealer Agreement, Section E, line 1(e); Syngenta Seeds, Inc. Vegetables NAFTA Commercial Dealer Agreement, line 2. (on file with the San Joaquin Agricultural Law Review).

<sup>173</sup> See *Monsanto v. Scruggs*, 249 F.Supp. 2d 746, 757-758 (W.D. Iowa March 16, 2001); *Blowin' in the Wind*, THE NATIONAL ONLINE, at <http://tv.cbc.ca/national/pgminfo/canola/index.html> (last visited March 13, 2004) at 3 (on file with the San Joaquin Agricultural Law Review).

<sup>174</sup> See Pioneer Hi-Bred Technology; 2003 Yieldgard Corn Borer Product Use Guide Insect Resistance Management (IRM) Requirements; Herculex I Insect Protection Technology 2003 Product Use Guide (all documents are on file at San Joaquin Agricultural Law Review).

<sup>175</sup> *Latham Seed Company v. Nickerson American Plant Breeders, Inc.*, 978 F.2d 1493, 1495 & 1500 (8th Cir. 1992).

<sup>176</sup> *Id.* at 1495-1496.

ciation with Nickerson was a 'long-term thing' and that it could continue as an associate as long as it did a good job."<sup>177</sup> The court found that "an agreement to keep the associates informed of matters relevant to the associate program was embodied in Nickerson's written policies."<sup>178</sup> Despite "a separate oral agreement...that only associates could sell...(the) seed",<sup>179</sup> Nickerson "used various ruses to procure the associates' dealer lists to facilitate its undisclosed plan to recruit the associates' dealer customers"<sup>180</sup> and "encouraged the associates to order large amounts of seed stock...knowing that it intended to terminate the program later that year."<sup>181</sup> However, absent the oral agreement, it appears likely that, under principles established in *Mallinckrodt*, the attempt to circumvent the associates, selling directly to the farmer would have been allowed as an exercise of their patent rights.

The courts have relied on *Mallinckrodt* to the exclusion of all previous holdings which would limit licensing, thereby upholding licensing restrictions on the use and sale of seed by dealers and farmers.<sup>182</sup> If this appellate decision is allowed to stand, the dealers are similarly vulnerable to being circumvented by the seed companies in the distribution process if the monopoly created by the patenting of seed is not limited in any way other than in the duration of the patent.

Many of the suppliers of seed to farmers are independent contractors and are not authorized to negotiate contracts on behalf of the seed manufacturers, therefore the only area of negotiation between the farmer and dealer is the price.<sup>183</sup> This has brought accusations that the licenses are really adhesion contracts.<sup>184</sup>

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<sup>177</sup> *Id.* at 1498.

<sup>178</sup> *Id.*

<sup>179</sup> *Id.* at 1497.

<sup>180</sup> *Id.* at 1500.

<sup>181</sup> *Id.* at 1498.

<sup>182</sup> *Monsanto Company v. Homan McFarling*, 302 F.3d 1291, 1298 (Fed. Cir. 2002) (citing *Mallinckrodt* to justify licensing provision, it was held to be an act of patent infringement for a farmer to save and replant seeds from one crop to plant in a subsequent planting season); *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, 283 F. Supp.2d 1018, 1033-1034 (N.D. Iowa 2003); *Monsanto Company v. Hartkamp*, No. 00-164-P, 2001 U.S. Dist. LEXIS 25253, at \*5-6 (E.D. Okla. April 19, 2001); *Monsanto v. Swann*, No. 4:00-CV-1481 (CEJ), 2003 U.S. Dist. LEXIS 5338, at \*11-12 (E.D. Mo. Jan. 8, 2001) (relying on *McFarling* which relies on *Mallinckrodt*); *Monsanto Company v. Dawson*, No. 4:98CV2004 TCM, 2000 U.S. Dist. LEXIS 22392, at \*7 (E.D. Mo. Nov. 24, 2000).

<sup>183</sup> See *Seminis Dealer Agreement*, Section 2; *Syngenta Seeds, Inc. Vegetables NAFTA Commercial Dealer Agreement*, page 2, line 9; *Sakata Seed America Distributor Agreement*, page 7, line 15 (on file with San Joaquin Agricultural Law Review).

<sup>184</sup> *McFarling*, 302 F.3d at 1300.

Using the Technology Use Agreement for Roundup Ready Canola as an example, a farmer who purchases this seed is restricted to “planting one and only one crop for resale for consumption”<sup>185</sup> and the farmer must not “harvest any volunteer Roundup Ready canola seed crops.”<sup>186</sup> The grower must purchase both the Roundup branded herbicide and the Technology Use Agreement as a package from his retailer of choice.<sup>187</sup> The patent on Roundup expired in the year 2000.<sup>188</sup> Although it has yet to be heard by the Supreme Court, this may be deemed to be tying, a form of patent misuse which would void the patent on the seed because the patent on the seed has been used to extend the functional patent life of another product, the herbicide, Roundup.<sup>189</sup> Furthermore, the grower must allow Monsanto, the owner of the patented technology, to “inspect, take samples and test all of the grower’s owned and/or leased fields planted with canola, or any other land farmed by the grower, and to monitor the grower’s canola fields and storage bins for the following three years for compliance with the terms of (the) Agreement.”<sup>190</sup>

Violation of this agreement on the part of the grower results in the immediate termination of the contract and forfeiture of any right to obtain an agreement in the future.<sup>191</sup> The courts have said that this is not of consequence as the grower can simply get non-patented seed from other sources. However, the reality in the market place is that the Roundup Ready genetic trait is being inserted in canola, corn, cotton, soybeans, sugar beets, and new leaf potatoes,<sup>192</sup> all of which require the purchase of Roundup and the signing of the Technology Use Agreement, regardless of the retailer that is supplying the product; and acquiring non-patented seed is becoming increasingly difficult, if not impossible.<sup>193</sup> Although there are over 200 seed companies that sell Roundup Ready soybean seed, all of them require farmers to sign Monsanto’s technology agree-

<sup>185</sup> Roundup Ready Canola Technology Use Agreement, line 1.

<sup>186</sup> *Id.*; “Farmers describe (a plant) that has spread and is growing where it was not deliberately planted as ‘volunteer’..” MEMORANDUM OF FACT AND LAW OF THE DEFENDANTS, PERCY SCHMEISER AND SCHMEISER ENTERPRISES LTD. at <http://tv.cbc.ca/national/pgminfo/canola/gif/s4.gif> (last visited March 13, 2004).

<sup>187</sup> Roundup Ready Canola Technology Use Agreement, line 2.

<sup>188</sup> *Florida Seed Company v. Monsanto*, 915 F. Supp. 1167, 1170 (M.D. Ala. 1995) (No. 94-D-514-N).

<sup>189</sup> *See* Monsanto Technology Use Agreement, line 2 (on file with San Joaquin Agricultural Law Review).

<sup>190</sup> *Id.* at line 4.

<sup>191</sup> *Id.* at line 5.

<sup>192</sup> MONSANTO’S ROUNDUP READY PRODUCTS at <http://www.love.telinco.co.uk/Monsanto/Products/roundup.htm> (last visited March 22, 2004).

<sup>193</sup> *McFarling*, 302 F.3d at 1301.

ment.<sup>194</sup> Consequently, the impression that choices exist is actually an illusion.

It has been argued by the seed industry that the right to grant licenses for the limited use of patented seed must be preserved in order to provide the financial incentive needed to encourage research which feeds a growing world.<sup>195</sup> But this view is rebutted in a report by the United States Department of Agriculture (USDA) showing that at least 73% of the soybean and cotton seed planted in 1992 was purchased new, and this was before the 1994 amendment to the PVPA requiring the purchase of new seed with each planting.<sup>196</sup> In fact, in *Ottawa*, the defendant, an unlicensed distributor was distributing seed to licensed distributors who were unable to obtain seed.<sup>197</sup> This would seem to imply that the licensing scheme was reducing rather than increasing the availability of seed.

Some licensing agreements require distributors to report farmers who violate the farmer's licensing agreement with the seed manufacturers. This creates the awkward arrangement by which the dealer who needs the farmer and the seed manufacturer to survive and who has been deemed to be an independent contractor, must act as a policing agent for the seed manufacturer's interests. Further, the licensing agreement leaves the grower unable to dispose of unwanted or unneeded seed.

Finally, it is not clear that the person signing the agreement receives anything other than an opportunity to buy seed without being sued. It remains to be decided if this opportunity can be deemed the consideration needed for a valid contract since there is no guarantee that the seed manufacturer will authorize any party to purchase the seed and without this authorization the consideration would be a sham.

### *C. Consequences of Allowing Current Licensing Provisions versus Applying the Doctrine of Exhaustion*

Farmers and dealers have been found to have infringed patent rights established under 35 U.S.C. §101 for replanting saved seed, planting unlabeled seed and using it as if they knew it had the protected traits, reselling seed without a license to sell, and buying seed without a license

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<sup>194</sup> *Id.*

<sup>195</sup> *Brief supra* note 56 at 10.

<sup>196</sup> David Dechant, *Monsanto wins \$780,000 Verdict Against Mississippi Soybean Farmer for "Infringing Company's Patent"*, The Agribusiness Examiner #208 at <http://www.electrarrow.com/CARP/agbiz/208.htm> (last visited March 22, 2004).

<sup>197</sup> *Pioneer Hi-Bred International, Inc. v. Ottawa Plant Food, Inc.*, 283 F. Supp.2d 1018, 1024 (N.D.IA. 2003).

to buy.<sup>198</sup> In fact, the mere existence of a license has been deemed enough to hold the person who possesses the seed obliged to follow the terms of the license whether or not they have seen the license.<sup>199</sup>

Liquidated damages provisions in the licensing agreements have been upheld for infringement found as a result of a current planting; however, in *Monsanto v. Swann*, the court refused to extend those damages to potential future damages resulting from planting seed produced from the current infringing incident<sup>200</sup> and in *Monsanto v. Scruggs*, the court only allowed injunctive relief to attempt to limit potential future damages.<sup>201</sup>

<sup>198</sup> *Monsanto Company v. Dawson*, No. 4:98CV2004 TCM, 2000 U.S. Dist. LEXIS 22392, at \*2-4 (E.D. Mo. Nov. 24, 2000) (defendant did not sign a licensing agreement...asked to purchase 10,000 bags of 'Roundup Ready(R)' soybean seeds...(and) directed his employee...to spray the soybean crops...with 'Roundup(R)')." There was no indication that any of the bags of purchased seed were labeled.); *J.E.M. AgSupply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124, 128-129 (2001) ("although not a licensed sales representative of Pioneer, Farm Advantage resold these bags (bearing the license agreement) and Pioneer subsequently brought a complaint for patent infringement against Farm Advantage and several other corporations and residents of the State of Iowa who are distributors and customers for Farm Advantage"); *Monsanto Company v. Hartkamp* 2001 U.S. Dist. Lexis 25253, at \*3 (2001) ("The defendant saved a portion of the 1998 crop to use as planting seed in the 1999 growing season...(and) the defendant did not obtain either a license of other authorization from Monsanto to plant Roundup Ready soybean seed in either 1998 or 1999."); *Monsanto v. McFarling*, 302 F.3d 1291, 1293 (Fed. Cir. 2002)("Defendant) saved 1,500 bushels of the patented soybeans from his harvest during one season, and instead of selling these soybeans as crop he planted them as seed in the next season. He repeated this activity in the following growing season, and stated that unless enjoined he intended to plant soybeans saved from the 2000 harvest in 2001. McFarling paid no license fee for this saved soybean seed."); *Monsanto v. Swann*, No. 4:00-CV-1481 (CEJ), 2003 U.S. Dist. LEXIS 5338, at \*17-18 (E.D. Mo. Jan. 8, 2001) ("Plaintiff has established that it has been harmed by defendants' breach...(by) defendants misuse of plaintiff's patented biotechnology—to, in effect, manufacture more of that technology...(and) by denying compensation for the use of plaintiff's patented biotechnology.").

<sup>199</sup> *See Monsanto v. Scruggs*, 249 F. Supp. 2d 746, 754 (W.D. Iowa March 16, 2001) ("In accordance with the Uniform Commercial Code a license notice may become a term of sale, even if not part of the original transaction, if not objected to within a reasonable time." *Id.* (citing U.C.C. § 2-207(2)(c))(codified under Mississippi statutory law as *Miss. Code Ann. § 75-2-207(2)(c)*)).

<sup>200</sup> *See Monsanto v. Swann*, No. 4:00-CV-1481 (CEJ), 2003 U.S. Dist. LEXIS 5338, at \*23 (E.D. Mo. Jan. 8, 2001).

<sup>201</sup> *See Monsanto v. Scruggs*, 249 F. Supp. 2d 746, 754 (W.D. Iowa March 16, 2001) (stating that quantification of "other damages, including that resulting from previous and potential future unlicensed brown bag sales of Monsanto's patented Roundup Ready(R) and Bollgard(R) technology, are far less easily determined and computed. Equally difficult to discern are the resulting damages due to loss of consumer good will, the effect on Monsanto's efforts to control and steward its technology, and the corresponding dampening effect on Monsanto's research and development activities in the agricultural arena..." and found that injunctive relief was appropriate rather than monetary relief.).

If one is found guilty of willful infringement of a patent, treble damages can be assessed and there is the chance that the debt may not be discharged in bankruptcy.<sup>202</sup> It has been held at the appellate level that if the defendant in an infringement suit invokes his Fifth Amendment right not to incriminate himself, it may be evidence of a lack of good faith in the bankruptcy hearing at which the defendant seeks discharge of the debt incurred as a result of the infringement action.<sup>203</sup>

Further, there is evidence that farmers who are suspected of using patented seed are being presented with the choice of facing a patent infringement suit or signing contracts requiring them to pay the seed company, allow the seed manufacturer to take samples from all of their owned or leased land and storage bins for three years, and not to disclose any of the terms of the settlement, while the seed manufacturer has the right to disclose their understanding of the facts and settlement terms at its own discretion.<sup>204</sup> Given the unequal bargaining power of the respective parties and the potential for loss on the part of dealers and growers, it is reasonable to assume that growers and dealers are signing licensing agreements and paying seed companies simply to avoid prosecution which could devastate them financially irrespective of whether they are guilty of the accused infringement.

In order to determine if a license has been signed by those using patented seed, the patentee must be able to determine who is using the patented seed. Detection of modified seed has been deemed to require field inspections,<sup>205</sup> private investigators,<sup>206</sup> secret visits with seed processors to obtain samples of farmer's seed,<sup>207</sup> and disclosure of customer lists by suppliers; and some have argued that weedkiller has been dropped on crops by agents of seed companies to determine if the crop growing had the seed company's patented gene.<sup>208</sup> The problem remains that without the appropriate equipment and training, those growing seed legally saved or obtained cannot tell if their crop has been pollinated or otherwise compromised by patented seed or pollen.

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<sup>202</sup> 35 USC § 284 (2004).

<sup>203</sup> *In re Gil Elisade*, 172 B.R. 996, 1001(M.D. Fla. 1994).

<sup>204</sup> See Letter from Keith A. MacMillian, Director, Legal Affairs for Monsanto to Mr. Zielinski of November 12, 1998 available at <http://tv.cbc.ca/national/pgminfo/canola/gif> (last visited March 13, 2004) (on file with San Joaquin Agricultural Law Review).

<sup>205</sup> *Blowin' in the Wind*, THE NATIONAL ONLINE, at <http://tv.cbc.ca/national/pgminfo/canola/index.html> (last visited March 13, 2004) (Stating, "Farmers buying Monsanto's seed must sign a contract promising to buy fresh seed every year.") at 2 (on file with San Joaquin Agricultural Law Review).

<sup>206</sup> *Id.* at 3.

<sup>207</sup> *Id.* at 4.

<sup>208</sup> *Id.* at 5.

J.E.M.'s counsel was mistaken when they claimed that the issue of whether the availability of the PVPA to protect plants precluded patenting of plants under 35 U.S.C. § 101 was exhaustive of the issues in the case.<sup>209</sup> Had they argued, with the facts available at the time, that the Doctrine of Patent Exhaustion applied and failure to apply the doctrine resulted in the breakdown of the chain of supply of commercial seed, the Court would have been forced to decide if there are truly any limits to the "limited monopoly" established by a patent.

Seed is, by its very nature, difficult to control.<sup>210</sup> It is produced intentionally through human cultivation but also "seed or pollen can be blown off uncovered trucks and...farm equipment"<sup>211</sup> by animals, through mixing of grains in grain elevators, and through pollen drift to neighboring fields.<sup>212</sup> Although the unauthorized making of a patented article constitutes infringement,<sup>213</sup> practically speaking, it may be impossible to prevent the unauthorized making of patented seed once that seed is first sold. Because the gene introduced into the genetically modified (plant) expresses itself as a dominant gene,<sup>214</sup> a "non-genetically modified ... plant can be transformed into a genetically-modified plant"<sup>215</sup> simply by pollen drifting on the wind, insects transporting the pollen, or plants coming in contact with one another as well as the methods previously listed, resulting in the pollination of a non-genetically modified plant by pollen with the modified gene.

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<sup>209</sup> Pioneer Hi-Bred International, Inc. v. J.E.M. AgSupply, Inc., 33 F. Supp. 2d 794, 795 (N.D. Iowa January 29, 1999).

<sup>210</sup> See *Blowin' in the Wind*, THE NATIONAL ONLINE, *supra* note 200 at 4-5 (on file with San Joaquin Agricultural Law Review).

<sup>211</sup> *Id.* at pg 5.

<sup>212</sup> Andrew Pollack, *Genes From Engineered Grass Spread for Miles, Study Finds*, N.Y. TIMES, Sept. 21, 2004 at A1 and C4. (Scientists with the Environmental Protection Agency "found that...genetically engineered bentgrass pollinated test plants as far as they measured—about 13 miles downwind from a test farm...Natural growths of wild grass of a different species were pollinated by the gene-modified grass nearly nine miles away." The National Forest Service, Bureau of Land Management, and environmental groups have opposed the release of a strain of creeping bentgrass developed by Monsanto and Scotts because studies have shown that the grass could spread to areas not wanted resulting in the transfer of the herbicide resistant genes to areas where it is not wanted or transferring the trait to weedy relatives.).

<sup>213</sup> 35 U.S.C. § 271(a).

<sup>214</sup> See *Blowin' in the Wind*, THE NATIONAL ONLINE, MEMORANDUM OF FACT AND LAW OF DEFENDANTS PERCY SCHMEISER AND SCMEISER ENTERPRISES LTD., at <http://tv.cbc.ca/national/pgminfo/canola/index.html> (last visited March 13, 2004) at 2 (on file with San Joaquin Agricultural Law Review).

<sup>215</sup> *Id.*

Not surprisingly, seed manufacturers have taken substantial steps to attempt to prevent the unauthorized production of patented seed. Licensing, as it is being used to protect the patentee's rights on patented seed, creates a series of legal and practical problems that reverberate through the chain of supply. Furthermore, an implied license may be shown where the defendant shows "there were no other non-infringing uses of the patented material and ... the circumstances of the sale plainly indicate that the grant of an implied license should be inferred."<sup>216</sup> In at least one instance, a dealer who was an agent of the patentee was found to have forged the defendant's signature to the licensing agreement and the court found that the doctrine of unclean hands would only apply if the plaintiff was suing to enforce the licensing agreement but it would not apply to patent infringement.<sup>217</sup> If the Doctrine of Patent Exhaustion has any meaning whatsoever, this holding should be overturned as a sale without a valid license would release the rights to resell under the doctrine.

To examine the possible consequences of these holdings consider the sale of unlabeled, patented corn which is sold to retail customers and subsequently composted in backyards. This corn may grow as volunteer plants in gardens making homeowners patent infringers. Subsequent notice to the homeowner might give the homeowner the chance to pay for the licensing right to compost or, in the alternative, damages for patent infringement.

Licensing the use and distribution of seed, as mentioned above, may cause a conflict between the dealers and the seed manufacturers, between the dealers and the growers, and between neighboring farmers.<sup>218</sup> Licensing agreements, requiring dealers to release grower's names and addresses as well as requiring joint sales calls with seed manufacturer representatives, put the dealer at risk for being squeezed out as the middleman. Under *Mallinckrodt*, the manufacturer could license the dealer to sell only in a particular niche market, thereby increasing potential profit by selling at differing rates to different markets.<sup>219</sup> Conceivably, the market could be restrained, by licensing virtually all of the available seed, in such a way that the license would restrict the dealer's viability in the market. Finally, the dissent in *McFarling* alluded to the fact that all that is received by the licensee is an opportunity to purchase and plant; however, the patentee is receiving remuneration for the right to a single

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<sup>216</sup> *Monsanto Company v. William Trantham*, 156 F. Supp. 2d 855, 870 (W.D. Tenn. August 17, 2001).

<sup>217</sup> *Id.* at 871.

<sup>218</sup> See *Blowin' in the Wind*, *THE NATIONAL ONLINE*, *supra* note 200 at 3, (Farmers are asked to turn in neighbors they suspect of growing seed without paying for the seed).

<sup>219</sup> See *Stern*, *supra* note 95, at 8.

use.<sup>220</sup> It is not clear what consideration is received by the licensee for the license payment required by some companies.

Some say it is no longer possible to purchase seed which is guaranteed to be free from genetically engineered seed, and therefore, it is not possible to buy seed guaranteed to be free from patented seed.<sup>221</sup> A license is a promise not to sue for patent infringement.<sup>222</sup> Because patent infringement is a strict liability tort, farmers who buy seed without a guarantee that it is free from patented seed leave themselves open to a suit for patent infringement should they be found to be growing patented seed. Farmers who grow seed which is pollinated from neighboring farmers or that simply drifts from unidentified sources may produce a crop with patented seed in it, thereby becoming open to a patent infringement suit.<sup>223</sup> In fact, since farmers who buy conventional seed commercially are likely to find genetically modified seed in their crop,<sup>224</sup> they may find themselves paying for conventional seed and defending a patent infringement suit since there is currently “no worldwide uniform standard about what constitutes an appropriate level of seed purity...(and)...the assumption is that no seed on the market is 100 percent pure.”<sup>225</sup> Consequently, farmers who once served to establish the germplasm upon which the technology rests, will increasingly be forced to buy patented seed which is licensed for limited use to avoid inadvertent liability for infringement and even the purchase of licensed seed will not guarantee that the seed is free from contamination from other patented seed.

Notice is required to those who infringe upon a patent but that notice may be served after the infringement has already occurred.<sup>226</sup> If the infringement continues and the court finds this injury was inflicted will-

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<sup>220</sup> See *Monsanto Company v. Homan McFarling*, 302 F.3d 1291, 1301 (Fed. Cir. 2002).

<sup>221</sup> Gregory M. Lamb, *Are There Drugs in My Corn Flakes?*, THE CHRISTIAN SCIENCE MONITOR, March 11, 2004, at 14-15. (Christopher Novak, a spokesman for Syngenta recognized that genetically modified seed are present in conventional seed at low levels and a report by the Union of Concerned Scientists released Feb. 23, 2004 found that levels of genetically modified seed varying from only 0.05 to 1 percent were mixed with traditional seed.)

<sup>222</sup> *Monsanto Company v. Dawson*, No. 4:98CV2004 TCM, 2000 U.S. Dist. LEXIS 22392, at \*7-8 (E.D. Mo. Nov. 24, 2000).

<sup>223</sup> See *Monsanto Can., Inc. v. Schmeiser Enterpr., Ltd.*, 12 C.P.R. (4th) 204, at \*7.

<sup>224</sup> Gregory M. Lamb, *Are There Drugs in My Corn Flakes?*, THE CHRISTIAN SCIENCE MONITOR, March 11, 2004, at 14.

<sup>225</sup> *Id.* at 15.

<sup>226</sup> See *Monsanto v. Scruggs*, 249 F.Supp. 2d 746, 754 (W.D. Iowa March 16, 2001) (“In accordance with the Uniform Commercial Code a license notice may become a term of sale, even if not part of the original transaction, if not objected to within a reasonable time.” *Id.* (citing U.C.C. § 2-207(2)(c))(codified under Mississippi statutory law as *Miss. Code Ann. § 75-2-207(2)(c)*)).

fully and maliciously, the debt may not be discharged in bankruptcy.<sup>227</sup> This can mean financial ruin as the farmer is faced with the choice of uprooting the crop in which he has invested or paying whatever licensing fee the seed company demands. In the case of the dealer, regardless of whether or not the infringement is innocent, generally, licensing provisions as they exist today require the dealer to deliver to the seed company the information required to put them out of business, the names and addresses of those to whom they distribute, without any promise on the part of the seed manufacturers not to compete. Furthermore, the seed manufacturers, by licensing buyers as well as sellers have complete control of who will be capable of making a living in the farming industry. Although courts have not treated these restrictions as price control per se, the ultimate price control is a ban on selling the product whatsoever.

By recognizing that the Doctrine of Patent Exhaustion still has a place in patent law, the Court would uphold more than a century of case law. Seed companies would be inclined to sell their seed for the full value of the seed for the purpose of use and resale. Although it will be argued that this reduces the ability of the seed company to enforce its patent rights by assuring that seed is not reproduced for resale as seed (seed saving), it is unlikely that complete patent enforcement will be possible under any system as the seed is reproduced through pollen drift and contamination of the seed supply from other sources.

## V. CONCLUSION

The law presumes that every man intends the consequences of his actions.<sup>228</sup> The seed industry has knowingly produced a product capable of independent reproduction and distribution. It stands to reason that the reasonable consequence of this action is that the seed will reproduce and disseminate independent of any intentional act on the part of growers. Licensing to attempt to control that which has not been proven to be controllable and to hold those in possession strictly liable for patent infringement when they use the product without benefit of licensing is unconscionable and serves to severely interfere with the chain of distribution of seed in the marketplace.

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<sup>227</sup> See *In re William Farris Trantham*, 286 B.R. 650, 665 (W.D. Tenn. Dec. 18, 2002) (in which the defendant found liable for patent infringement later filed bankruptcy. Here, although the debtor was allowed to discharge the debt incurred as a result of the patent infringement, the court made it clear that in some cases the debt may not be discharged in bankruptcy, potentially leaving the grower indebted for life.).

<sup>228</sup> *Washington v. Davis*, 426 U.S. 229, 253 (1976).

The seed industry has argued that failing to grant patent protection after over 1800 patents have been granted for plants will severely affect established commercial relationships.<sup>229</sup> This fails to address the number of farmers using seed that is not patented, is currently freely traded and which stands to be eliminated through the spread of patented seed and its pollen. Neither does it address the numbers of commercial relationships that stand to be undermined as a result of eliminating those who have done the work to find seed buyers, the distributors, who now must be licensed and whose livelihood is limited by the number of buyers licensed by the seed manufacturers. These commercial relationships also may be destroyed due to a lack of seed known to be unaffected by genetic drift, and although it might be suggested that it is the seed manufacturers' burden to be sure that their seed is pure, even they acknowledge the difficulty in controlling the spread of the intellectual property embodied in the seed.<sup>230</sup>

"The purpose of our patent laws is not the creation of private fortunes for the owners of patents but is 'to promote the progress of science and the useful arts' (Constitution, Article I section 2)."<sup>231</sup> A patentee may surrender his monopoly through the sale of his patent or by selling an article embodying the invention.<sup>232</sup> As long as the patentee retains ownership of the patented item, he retains his monopoly as to that item.<sup>233</sup> However, once he sells the item, the purpose of patent law is fulfilled and "patent law affords no basis for restraining the use and enjoyment of the thing sold."<sup>234</sup> The purpose of the Patent Act, as stressed by the courts, is not to ensure the greatest possible financial return but to benefit the public, and once the initial sale is made, the inventor has received his financial incentive to invent and the purpose is fulfilled.<sup>235</sup> Extending the patent monopoly for selling beyond the first sale, through the stream of commerce, is more than is necessary to provide an incentive to invent, and unduly interferes with the free movement of goods in the market-

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<sup>229</sup> *Brief supra* note 56 at 2.

<sup>230</sup> Gregory M. Lamb, *Are There Drugs in My Corn Flakes?*, THE CHRISTIAN SCIENCE MONITOR, March 11, 2004, at 14. (February 23, 2004, the Union of Concerned Scientists released a study finding levels of genetically modified seed varying from .05 to 1 percent mixed with traditional seed.).

<sup>231</sup> *Motion Picture Patents Company v. Universal Film Manufacturing Company*, 243 U.S. 502, 511 (1917).

<sup>232</sup> *United States v. Univis Lens Co.*, 316 U.S. 241, 250 (1942).

<sup>233</sup> *Id.*

<sup>234</sup> *Id.* at 251.

<sup>235</sup> MARGRETH BARRETT, *INTELLECTUAL PROPERTY CASES AND MATERIALS* 112 (2d ed.2001).

place.<sup>236</sup> When a product changes hands, the sale must be considered complete or the result will be complete control of the market by a few foreign and multinational companies, with virtually no bargaining power for the citizens to ensure that the patent laws provide the public benefit for which it was designed. "Whilst the remuneration of genius and useful ingenuity is a duty incumbent upon the public, the rights and welfare of the community must be fairly dealt with and effectually guarded. Considerations of the individual emolument can never be permitted to operate to the injury of these."<sup>237</sup>

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<sup>236</sup> *Id.*

<sup>237</sup> *United States v. Masonite Corp.*, 316 U.S. 265, 278 (1942).