

# IN PARI DELICTO AND CROP GENE PATENTS: AN EQUITABLE DEFENSE FOR INNOCENTLY INFRINGING FARMERS

DAVID COSTA, PH.D.\*

## I. INTRODUCTION

The landmark Supreme Court decision *Diamond v. Chakrabarty*<sup>1</sup> opened the floodgates for patenting eligible living organisms and transgenic technologies,<sup>2</sup> while *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*<sup>3</sup> unequivocally confirmed the right to file utility patents for sexually reproducing plants.<sup>4</sup> Since then, farmer use of genetically modified (GM) plant species — plants which have man-made alterations to their genome so that non-naturally occurring traits are expressed — has become the norm rather than the exception. In fact, in 2005 the billionth acre of crop planted from GM seeds was harvested.<sup>5</sup>

Plants are living organisms capable of producing pollen and seeds, and are thus able to replicate without human intervention. Besides merely producing offspring, the character of pollen and the nature of genetics are such that a plant's genes may spread for many miles so that far away plants ultimately express these genes too.<sup>6</sup> Therefore, a farmer may unknowingly, unintentionally, and innocently grow plants expressing patented genes because a patent holder has introduced into the environment a self-propagating life form capable of disseminating a patented gene onto another farmer's lands without human aid.<sup>7</sup> In fact, human intervention cannot

---

\* David Costa is a member of the patent bar, holds a J.D. from the University of Florida Frederick G. Levin College of Law with a certificate in Intellectual Property, a Ph.D. in Medical Sciences from the University of South Florida Department of Biochemistry and Molecular Biology, and a M.S. in Biomedical Engineering from the University of South Florida, College of Engineering.

<sup>1</sup> *Diamond v. Chakrabarty*, 447 U.S. 303 (1980).

<sup>2</sup> *Id.* at 309 (1980) ("Here, . . . the patentee has produced a new bacterium with markedly different characteristics from any found in nature and one having the potential for significant utility. His discovery is not nature's handiwork, but his own; accordingly it is patentable. . .").

<sup>3</sup> *J.E.M. Ag Supply, Inc. v. Pioneer Hi-Bred International, Inc.*, 534 U.S. 124 (2001).

<sup>4</sup> *Id.* at 127 ("We hold that utility patents may be issued for plants").

<sup>5</sup> Monsanto, *Company History*, <http://www.monsanto.com/whoweare/Pages/monsanto-history.aspx> (last visited Feb. 25, 2011).

<sup>6</sup> See generally Ken Belcher et. al., *Genetically Modified Crops and Agricultural Landscapes: Spatial Patterns of Contamination*, 53 *ECOLOGICAL ECONOMICS* 387 (2005).

<sup>7</sup> See Norman Siebrasse, *The Innocent Bystander Problem in the Patenting of Higher Life Forms*, 49 *MCGILL L.J.* 349, 356-57 (2004).

contain the spread of genetic material between plants once a genetically modified plant is released into the world ecosystem.<sup>8</sup>

Technology is ever changing, and the patent system was not developed with such scenarios in mind. Congress and the courts therefore must adapt to promote the just adjudication of such cases. As it stands, any unauthorized acquisition and subsequent planting of seeds expressing patented genes is infringement, and therein lies the heart of the legal conundrum addressed in this Article. The Federal statute defining infringement, 35 USC §271(a), states that “whoever without authority makes, uses, offers to sell, or sells any patented invention” infringes upon a patent.<sup>9</sup> No element of intent therefore is required to find infringement. Thus, when a farmer innocently and unintentionally grows a crop containing a patented gene, that farmer, by the letter of the law, is infringing that patent and has little recourse when an infringement action is brought in court. This issue specifically arises because of the special nature of plant gene patents.

A recent Canadian Supreme Court case, *Monsanto Canada Inc. v. Schmeiser*, brought this precise issue to the world legal stage, but due to the specific circumstances of the case, the court failed to rule on the issue of “innocent infringement” by farmers.<sup>10</sup> Several court cases have hinted at the subject in dicta, but no case law exists directly addressing the matter. This Article posits that strict liability for patent infringement applied to a truly innocently infringing farmer cannot possibly yield a just outcome. The common law equitable doctrine of *in pari delicto*, which basically prohibits a plaintiff from recovering damages arising out of misconduct for which the plaintiff bears responsibility,<sup>11</sup> should be an available defense to innocent farmers faced with charges of infringement, for such infringement is unavoidable due to the nature of plant reproduction.

It should be noted that while this Article focuses almost exclusively on farmers and the unintentional growing of patented crop varieties, the discussions herein are not limited to farmers and plants, but can be applied to any life form capable of harboring patented genes and spreading those genes to future generations without human intervention.

## II. GENETICS 101

Whether it be a canola plant, a white rhinoceros, or the bacteria under one’s fingernails, the basics of genetics remains the same for each

---

<sup>8</sup> Henry Daniell, *Molecular Strategies for Gene Containment in Transgenic Crops*, 20 NATURE BIOTECHNOLOGY 581, 585 (2002).

<sup>9</sup> 35 U.S.C. § 271(a) (2010).

<sup>10</sup> *Monsanto Can. Inc. v. Schmeiser*, [2004] 1 S.C.R. 902, ¶ 2 (Can.).

<sup>11</sup> See BLACK’S LAW DICTIONARY (9th ed. 2009).

organism. The focus of this particular lesson is the genesis and formation of proteins. Proteins are the major macromolecular component of the cell, and are constructed from a series of amino acids linearly bound to each other.<sup>12</sup> Proteins are responsible for a myriad of duties in an organism including *inter alia* the catalysis of biological reactions (enzymes),<sup>13</sup> mechanical functions (such as the actin and myosin proteins responsible for actuating the movement of muscle tissue),<sup>14</sup> and transport functions (oxygen transport via hemoglobin tetramers).<sup>15</sup> A cell constructs proteins from amino acids as needed, but how does a cell know how to make such a wide variety of proteins from a limited variety of amino acids? The answer is via deoxyribonucleic acid (DNA).

DNA is the central “blueprint” contained in each cell of an organism.<sup>16</sup> In simple terms, DNA can be thought of as a long string of pearls, each “pearl” being a nucleotide.<sup>17</sup> It is this very specific sequence of nucleotides which contains the instructions or code for making particular proteins.<sup>18</sup> When a gene is “expressed” this means that the cell finds and exposes a particular stretch of DNA — a gene — and makes a working copy of this master DNA blueprint.<sup>19</sup> This copy is comprised of RNA (ribonucleic acid), and it, like DNA, is a series of nucleotides.<sup>20</sup> Complex cellular machinery can “read” the sequence of the RNA (the copy of the master blueprint, so to say), translate it, and ultimately construct a sequence of amino acids based on the instructions provided.<sup>21</sup> The result is a string of particular amino acids, a polypeptide, that are originally encoded by the cell’s DNA.<sup>22</sup> This polypeptide string, via modification by other cellular machinery or merely intermolecular forces, will fold into a particular shape; it is this three-dimensional molecule that is referred to as a protein.<sup>23</sup> The variety and number of amino acids is such that the variety and number of protein variants is unimaginably large. For example, the human species alone is estimated to have over three billion base pairs of DNA in *each* cell,

---

<sup>12</sup> See BRUCE ALBERTS ET AL., *MOLECULAR BIOLOGY OF THE CELL* 111 (Garland Publishing Inc., 3<sup>rd</sup> ed. 1994).

<sup>13</sup> See *id.* at 128.

<sup>14</sup> See *id.* at 847.

<sup>15</sup> See HARVEY LODISH ET AL., *MOLECULAR CELL BIOLOGY* 74-75 (W.H. Freeman and Co., 4<sup>th</sup> ed. 2000).

<sup>16</sup> See generally *id.* at 101.

<sup>17</sup> *Id.* The four nucleotides of DNA are Adenine, Guanine, Thymine, and Cytosine.

<sup>18</sup> JOCELYN KREBS ET AL., *LEWIN’S GENES X* (Jones & Bartlett 2009).

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

<sup>20</sup> Lodish, *supra* note 15 at 101 (stating RNA, Uracil is substituted for Thymine).

<sup>21</sup> *Id.* at 102.

<sup>22</sup> *Id.* at 100-01.

<sup>23</sup> *Id.*

making up between 20,000 and 25,000 genes,<sup>24</sup> which code for at least that many proteins.<sup>25</sup>

Each organism expresses its own repertoire of proteins, with variations existing within and between species. When a plant variety, or any other living organism (a show dog, for example), is “bred,” the hope is that over time, with careful selection, the most desired traits (physical expressions of an underlying gene) are more often, or even permanently, expressed. Selective breeding is merely a means to select the desired genes, and, more importantly for the breeder, the proteins expressed in a particular familial line of an organism in order to acquire certain desired physical characteristics.<sup>26</sup> The process is essentially one of evolution in which desirable traits are naturally selected, but in the case of selective breeding this process is accelerated by human intervention. Though technically selective breeding results in an end product containing a certain compliment of desired genes, in the modern realm of science, “genetically modified” means something quite different.

Modern genetics allows for pinpoint accuracy of genetic changes, and, more importantly, allows for combinations of genes that would otherwise be impossible in nature. Selective breeding is limited to organisms that are capable of reproducing with each other. For example, breeding canola with other strains of canola would, and does, work over time, but it would be quite impossible to breed a canola plant with a giraffe. Transgenic technology allows DNA sequences from one organism to be expressed in a wholly unrelated organism,<sup>27</sup> and has become a rather common tool in biological science<sup>28</sup> and agriculture.<sup>29</sup> A transgenic organism incorporates exogenous DNA sequences into its own genome, and

<sup>24</sup> NATIONAL HUMAN GENOME RESEARCH INSTITUTE, A GUIDE TO YOUR GENOME 4, <http://www.genome.gov/Pages/Education/AllAbouttheHumanGenomeProject/GuidetoYourGenome07.pdf> (last visited Feb. 17, 2011).

<sup>25</sup> *Id.*

<sup>26</sup> Gregor J. Mendel, *Versuche über Pflanzenhybriden Verhandlungen des naturforschenden Vereines in Brünn*, Bd. IV Abhandlungen:3–47 (1865).

<sup>27</sup> See Gareth Cook, *Cross Hare: Hop and Glow*, BOSTON GLOBE, September 17, 2000, at A01, available at <http://ekac.org/bostong.html> (illustrating an infamous example of transgenic technology where a glowing jellyfish protein was expressed in a white rabbit, yielding a bunny that glows under a black light).

<sup>28</sup> See generally David Costa et al., *Enrichment Improves Cognition in AD Mice by Amyloid-related and Unrelated Mechanisms*, 28(6) NEUROBIOLOGY OF AGING 831 (2007); David Costa et al., *Apolipoprotein is Required for the Formation of Filamentous Amyloid, but not for Amorphous Abeta Deposition, in an AbetaPP/PS Double Transgenic Mouse Model of Alzheimer's Disease*, 6(5) J. ALZHEIMERS DISEASE 509 (2004). These sources provide two examples of my own research using transgenic mice that express human Alzheimer's Disease (AD) genes, resulting in mice that exhibit AD pathology and behavioral symptoms.

<sup>29</sup> See Juan J. Estruch et al., *Transgenic Plants: An Emerging Approach to Pest Control*, 15 NATURE BIOTECHNOLOGY 137, 137 (1997) (outlining the potential of transgenic crops to combat insect damage to crops).

expresses this “foreign” DNA as if it were naturally part of that organism; therefore it expresses a protein that, in nature, is found in a different organism.<sup>30</sup>

### III. MONSANTO’S TECHNOLOGY

Monsanto Company, a leader in agricultural products, is the world’s largest seed company<sup>31</sup> and offers a range of genetically engineered seeds that are protected by a large patent portfolio.<sup>32</sup> In the early 1970s, Monsanto developed and patented the herbicide glyphosate.<sup>33</sup> Glyphosate [N-(phosphonomethyl)glycine] is a broad spectrum herbicide that selectively targets and inhibits the action of the enzyme EPSP Synthase.<sup>34</sup> This enzyme is responsible for a crucial step in a biological pathway that, when disrupted, is thought to prevent a plant from synthesizing proteins, therefore resulting in the plant’s death.<sup>35</sup> Glyphosate has become the world’s most used agrochemical because it specifically targets all higher plant species, is relatively non-toxic to other species,<sup>36</sup> and does not readily leach into ground water<sup>37</sup>. The first two decades after its discovery, glyphosate was used only as a broad spectrum herbicide.<sup>38</sup> Monsanto has since further capitalized on the success of glyphosate by creating and patenting a number of crops, including canola, which are immune or largely resistant to glyphosate.<sup>39</sup> In particular, it was discovered that the CP4 gene of bacteria from the genus *Agrobacterium* expressed a variety of the EPSP Synthase enzyme that was resistant to glyphosate.<sup>40</sup> Monsanto therefore developed transgenic crops which express the *Agrobacterium* CP4 gene, resulting in plants that do not die when exposed to glyphosate, for they

---

<sup>30</sup> David A. Andow & Angelika Hilbeck, *Science-Based Risk Assessment for Nontarget Effects of Transgenic Crops*, 54 BIOSCIENCE 637, 638 (2004) (stating that genetic modifications are not limited to the expression of genes from other species. Mutations may be conferred upon an organism, genes may be selectively expressed temporally or regionally, and native genes may be “knocked out” so that a particular protein is not expressed).

<sup>31</sup> ETC Group, *World’s Top 10 Seed Companies*, <http://www.etcgroup.org/en/node/615> (last visited Feb. 26, 2010) (showing Monsanto selling \$4,028 million seeds in 2006 as compared to the next largest company, Dupont, which sold only @,781 million seeds in the same year).

<sup>32</sup> See generally *Agricultural Seeds*, [http://www.monsanto.com/products/seeds\\_traits.asp](http://www.monsanto.com/products/seeds_traits.asp) (last visited Feb. 13, 2011). A March, 2010 Google search of “Patents” yielded over 540 patents assigned to the Monsanto Company.

<sup>33</sup> Alan Baylis, *Why Glyphosate is a Global Herbicide: Strengths, Weaknesses and Prospects*, 56 PEST MGMT. SCI. 299, 299 (2000).

<sup>34</sup> Stephen Duke & Stephen Powles, *Glyphosate: A Once-in-a-Century Herbicide*, 64 PEST MGMT. SCI. 319, 319 (2008). EPSPS stands for 5-enolpyruvyl-shikimate-3-phosphate synthase.

<sup>35</sup> *Id.* at 320.

<sup>36</sup> Baylis, *supra* note 33, at 306.

<sup>37</sup> Duke & Powles, *supra* note 34, at 320.

<sup>38</sup> *Id.*

<sup>39</sup> See Canadian Patent No. 1,313,830 (filed Aug. 6, 1986).

<sup>40</sup> Duke & Powles, *supra* note 34, at 321-22.

produce enough transgenic EPSP Synthase proteins to be resistant to the herbicide.<sup>41</sup> Roundup is the trade name for the glyphosate herbicide marketed and sold by Monsanto, and so Monsanto logically markets crops containing these Roundup resistant genes as “Roundup Ready.”<sup>42</sup> The adoption rate of Monsanto’s Roundup Ready crops in North America has been staggering, with over 80 % of all U.S. soybeans<sup>43</sup> and over 75% of U.S. canola<sup>44</sup> containing glyphosate resistance genes by 2003.

Once Monsanto, or any other entity, creates a transgenic crop line, the resulting organism possesses a relatively permanent addition to its genome.<sup>45</sup> These genes, like the natural genes encompassed by a plant’s genome, will be passed to future plant generations.<sup>46</sup> This movement of genes, called gene flow, is mediated by both seed dispersal and pollen transfer.<sup>47</sup> Seed-mediated gene flow primarily occurs via human intervention — namely stray seed may make their way to other farms via rental farm machinery or contaminated storage and hauling means.<sup>48</sup> Also, wind, animal, and insect transfer mediates pollen movement.<sup>49</sup> Studies show that the pollen of wind-blown crops can travel and pollinate other plants as far as 144 kilometers away.<sup>50</sup> Similarly, insects (bees in particular) are capable of disseminating pollen at distances of up to several kilometers.<sup>51</sup> Whatever the route, farmers growing organic or non-genetically modified crops are at a high risk of having their crops contaminated with laboratory-modified genes. The legal ramifications are such that when a farmer’s previously non-genetically modified canola crosses with pollen from a Roundup Ready plant, the resulting seeds and plants can contain genes patented by Monsanto, leading to claims of infringement. What is a farmer to do in this case?

---

<sup>41</sup> See *id.* .

<sup>42</sup> See *Backgrounder: History of Monsanto’s Glyphosate Herbicides*, MONSANTO, [http://www.monsanto.com/products/Documents/glyphosate-background-materials/back\\_history.pdf](http://www.monsanto.com/products/Documents/glyphosate-background-materials/back_history.pdf) (last visited Feb. 17, 2011).

<sup>43</sup> Leonard Gianessi, *Economic and Herbicide Use Impacts of Glyphosate-Resistant Crops*, 61 PEST MGMT. SCI. 241, 242 (2005).

<sup>44</sup> *Id.* at 244.

<sup>45</sup> See generally Mary Rieger et al. *Risks of Gene Flow From Transgenic Herbicide-Resistant Canola (Brassica napus) to Weedy Relatives in Southern Australian Cropping Systems*, 50 AUST. J. AGRIC. RES., 115 (1999).

<sup>46</sup> See generally *id.*

<sup>47</sup> *Id.* at 117.

<sup>48</sup> See *id.* at 119.

<sup>49</sup> *Id.* at 117.

<sup>50</sup> L.S. Watrud et al., *Evidence for Landscape-Level, Pollen-Mediated Gene Flow from Genetically Modified Creeping Bentgrass with CP4 EPSPS as a Marker*, 101 PROC. NATL. ACAD. SCI. 14533, 14533 (2004); see also G. Squire et al., *The Potential for Oilseed Rape Feral (Volunteer) Weeds to Cause Impurities in Later Oilseed Rape Crops* (Dep’t for Env’t, Food, & Rural Affairs Aug. 2003).

<sup>51</sup> Rieger, *supra* note 45, at 118.

## IV. THE FARMERS

Traditionally, a farmer would need to till the soil in which their crops would grow before a planting season to help minimize weeds and soil-incorporated herbicides.<sup>52</sup> After tilling, the land would additionally be treated with herbicides to further reduce the growth of unwanted weeds.<sup>53</sup> Besides the time, labor, and expense of tilling, the farmer would need to wait until the herbicide potency sufficiently waned so as to not adversely affect the crops planted in the future. The development of Roundup Ready crops has vastly simplified this process, for planting seed resistant to glyphosate allows the application of herbicide after the desired crop has sprouted, killing surrounding weeds, and therefore 1) minimizing the use of additional herbicides; 2) eliminating the need to excessively fallow the land, thus saving labor expenditures while maintaining ground moisture; and 3) allowing the farmer to plant seeds earlier in the season, for the need to delay for pre-planting herbicide applications is eliminated.<sup>54</sup> Additionally, glyphosate is one of the safest herbicides on the market to humans.<sup>55</sup> With such clear advantages over traditional crops it is not surprising that many farmers have switched to Roundup Ready crops.<sup>56</sup>

When a farmer purchases Roundup Ready seed from Monsanto or an authorized agent, he/she also purchases the right to use the patented genetic technology the seed expresses.<sup>57</sup> Monsanto requires any farmer who wishes to grow Roundup Ready canola to sign a 'Technology Use Agreement,' (TUA) which subjects the farmers to a number of licensing terms.<sup>58</sup> In particular, farmers may not sell or give seed to any third party, may only use seed for a single crop season, and may not save seed for following harvests.<sup>59</sup> They must also purchase Roundup branded herbicide with the TUA as a package and must allow Monsanto to inspect their crops and to remove crop samples from their land for testing.<sup>60</sup> Lastly, farmers

---

<sup>52</sup> See NICHOLAS G. KALAITZANDONAKES, *THE ECONOMIC AND ENVIRONMENTAL IMPACTS OF AGBIOTECH: A GLOBAL PERSPECTIVE* 19-63, 56 (Kluwer Academic 2003).

<sup>53</sup> *Id.*

<sup>54</sup> See Genuity Roundup Ready Canola, MONSANTO, [http://www.monsanto.com/monsanto/ag\\_products/input\\_traits/products/roundup\\_ready\\_canola.asp](http://www.monsanto.com/monsanto/ag_products/input_traits/products/roundup_ready_canola.asp) (listing purported benefits of Roundup Ready Canola) (last visited Feb. 13, 2011).

<sup>55</sup> See Duke & Powles, *supra* note 37, at 320 (stating that "there should be no human health safety issues with glyphosate").

<sup>56</sup> See *id.* at 322 (providing statistics for the adoption rate of GR crops in different countries).

<sup>57</sup> Technology Use Agreement, MONSANTO, [http://www.monsanto.ca/seeds\\_traits/tua/default.asp](http://www.monsanto.ca/seeds_traits/tua/default.asp) (last visited Feb. 13, 2011).

<sup>58</sup> See Technology Use Agreement, PERCY SCHMEISER, <http://www.percyschmeiser.com/TUA.pdf> (last visited Feb. 13, 2011) [hereinafter Monsanto TUA].

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

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

must pay a licensing fee of \$15.00 per acre of canola planted in addition to the price of the seed and fertilizer.<sup>61</sup> If a farmer gives away or sells seed to a third party or even saves their own seed to plant in future years, this would not only be a contractual violation on the part of the farmer conveying the seed, but also patent infringement under 35 U.S.C. § 271(a) by the party receiving seed as the use is without Monsanto's consent.<sup>62</sup>

Despite the apparent benefits of planting Roundup Ready crops, farmers have not universally adopted the technology.<sup>63</sup> This could be for any number of reasons, such as the desire to grow non-genetically modified crops (some export markets prohibit or limit the importation of genetically modified agricultural products)<sup>64</sup>, the intent to grow organic crops, or merely the hope to avoid entering into a contractual agreement with Monsanto that severely restricts a farmer's freedoms.<sup>65</sup> A particularly unpopular provision, and the genesis of many lawsuits, is the TUA provision which expressly prohibits the saving of seed.<sup>66</sup> It is a long-established agricultural custom for farmers to retain some of the current year's harvested seed for use in future harvests.<sup>67</sup> By reusing their own seed, a farmer saves money over the roughly \$40 to \$50 per acre that Monsanto charges for their Roundup Ready seeds.<sup>68</sup> Additionally, once a farmer grows a single crop year of Roundup Ready plants, any seeds that develop and fall to the soil could grow the following season and constitute an infringing use of patented technology should the farmer decide to switch to a non-Roundup Ready crop. This effectively locks a farmer into purchasing genetically modified seeds every year, which could be an unpalatable option for some.

It is those farmers choosing not to embrace Monsanto's technology, yet innocently and inadvertently harbor their invention, who are the focus of this Article. It is posited that a spectrum of inadvertent user classes should be recognized by the judiciary.<sup>69</sup> Specifically, a farmer who inadvertently grows patented crops should only be liable for infringement to the extent of the benefit derived from the use of the patented genes. There

---

<sup>61</sup> *Monsanto*, 1 S.C.R. 902 ¶ 5.

<sup>62</sup> See 35 U.S.C. § 271(a).

<sup>63</sup> Duke & Powles, *supra* note 37, at 322.

<sup>64</sup> Kynda R. Curtis and Klaus Moeltner, *Genetically Modified Food Market Participation and Consumer Risk Perceptions: A Cross-Country Comparison*, 54 CAN. J. AGRIC. ECON. 289, 204-06 (2006).

<sup>65</sup> *Id.*

<sup>66</sup> *Monsanto TUA*, *supra* note 62.

<sup>67</sup> Jason Barron, *Genetic Use Restriction Technologies: Do the Potential Environmental Harms Outweigh the Economic Benefits*, 20 GEO. INT'L ENVTL. L. REV. 271, 272 (2008).

<sup>68</sup> Karen McMahon, *Roundup Ready Seed Prices Increase*, Farm Industry News (Aug. 31, 2004), <http://farmindustrynews.com/roundup-ready-seed-prices-increase> (last visited Feb. 13, 2011) (prices based upon the seed cost in 1996).

<sup>69</sup> See Siebrasse, *supra* note 8, at 357.



are three potential benefit classes under which an unintentional user may fall: (1) an unintentional, non-benefiting infringer; (2) an unintentional, benefiting infringer; and (3) an unintentional, non-benefiting infringer that has the potential opportunity to benefit.<sup>70</sup> It is proposed that an unintentional, benefiting infringer should be held liable to the extent that they benefited from using the invention.<sup>71</sup> Under this benefits-based theory, for example, if a patented gene was engineered to produce a higher crop yield, the additional profits earned over that of planting a non-GM variety would be the extent to which a farmer would be held liable for infringement.

In the *Monsanto* case introduced in the next section, the situation is not as straight forward. The patented gene conferring Roundup resistance did not actually cause an increase in crop yield, or confer any actual advantage to the defendant, Percy Schmeiser, for he never took advantage of the Roundup Ready genes since he did not apply Roundup to his crops.<sup>72</sup> However, the court recognized that Schmeiser derived a benefit from the patented invention's stand-by or insurance value, meaning that Schmeiser could, at any time, decide to use the glyphosate resistance to his advantage.<sup>73</sup> The court compared this to keeping a fire extinguisher, yet never using it; the option to use it is still always there.<sup>74</sup> These scenarios highlight the complexities inherent in the issues of innocent infringement. The discussion this article provides is from a position assuming a totally innocent infringer who did not benefit from the patented gene.

#### V. MONSANTO CANADA INC. V. SCHMEISER

The *Monsanto* case brought the issue of "innocent infringement" by farmers to the world stage. Percy Schmeiser was a Canadian farmer from the province of Saskatchewan who had grown crops, including canola, for over 50 years.<sup>75</sup> Though Schmeiser historically grew non-genetically modified canola, in 1996 at least five nearby (one being adjacent) farmers to Schmeiser grew genetically modified canola containing genes that had been patented by Monsanto.<sup>76</sup> It should be noted that by the year 2000, it was estimated that between 4.5 and 5 million acres, roughly 40%, of all canola grown in Canada contained Monsanto's glyphosate resistance

---

<sup>70</sup> See *id.*

<sup>71</sup> See *id.* at 369.

<sup>72</sup> *Monsanto Can. Inc. v. Schmeiser*, [2001] 202 F.T.R. 78 ¶¶ 11, 31 (Can.).

<sup>73</sup> See *Monsanto*, 1 S.C.R. 902 ¶ 47.

<sup>74</sup> *Id.*

<sup>75</sup> *Id.* at ¶¶ 1, 4.

<sup>76</sup> *Id.* at ¶ 5, 60.

genes.<sup>77</sup> Schmeiser never purchased genetically modified seed, nor did he ever have a license to plant it.<sup>78</sup> In 1998, Monsanto secretly tested Schmeiser's crop and claimed that the canola grown by Schmeiser was 95% to 98% Roundup resistant.<sup>79</sup> Monsanto brought a patent infringement suit against Schmeiser, alleging Schmeiser had grown and sold Roundup Ready canola without a license.<sup>80</sup>

In the trial, Schmeiser contended that he was an innocent bystander.<sup>81</sup> He maintained that he did not know how the patented seeds came to be on his land and surmised that they may have blown onto his land from nearby farms, transferred by insects, or arrived from passing trucks carrying seed that were inadvertently blown from the transport vehicle.<sup>82</sup> A legally fatal act for Schmeiser was that in prior planting seasons he sprayed a portion of his crop with roundup, eventually harvesting the canola that survived the herbicide application and saving that seed for future seasons.<sup>83</sup> This act combined with the large percentage of Roundup Ready canola that Schmeiser was growing, led the trial court to find that "none of the suggested sources could reasonably explain the concentration or extent of Roundup Ready canola of a commercial quality evident from the results of tests on Schmeiser's crop."<sup>84</sup> In addition, the trial court found that the Monsanto patent was valid, despite proffered arguments of patent invalidity, and further found that Schmeiser used the patented product in violation of the Canadian Patent Act.<sup>85</sup> The Canadian Federal Court of Appeals upheld the decision, and the Supreme Court of Canada, though altering the damages calculation, affirmed that Schmeiser was liable for infringing Monsanto's patent.<sup>86</sup>

Schmeiser, in attacking the validity of the patent, argued that replication of the patented gene was a natural mechanism, requiring no human intervention, and that it could not be contained or controlled.<sup>87</sup> Furthermore, he observed that since varieties of canola may naturally cross in the wild, different varieties that were not contemplated by the patent

---

<sup>77</sup> *Id.* at ¶ 10.

<sup>78</sup> *Id.* at ¶ 6.

<sup>79</sup> *Schmeiser*, 202 F.T.R. 78 ¶ 64.

<sup>80</sup> *Monsanto Can. Inc. v. Schmeiser*, [2001] 202 F.T.R. 78 ¶¶ 8-9, *rev'd in part*, [2004] 1 S.C.R. 902 (Can.).

<sup>81</sup> *Id.* at ¶ 115.

<sup>82</sup> *Id.* at ¶ 116-17.

<sup>83</sup> *Monsanto Can. Inc. v. Schmeiser*, [2004] 1 S.C.R. 902 ¶¶ 61-64 (Can.).

<sup>84</sup> *Monsanto Can. Inc. v. Schmeiser*, [2001] 202 F.T.R. 78 ¶¶ 118, *rev'd in part*, [2004] 1 S.C.R. 902 (Can.).

<sup>85</sup> *Id.* at ¶ 90; *See Patent Act*, R.S.C. 1985, c. P-4 (Can.).

<sup>86</sup> *Monsanto Can. Inc. v. Schmeiser*, [2003] 2 F.C. 165, ¶ 89 (Can. C.A.); *Monsanto Can. Inc. v. Schmeiser*, [2004] 1 S.C.R. 902, ¶ 97 (Can.).

<sup>87</sup> *Monsanto Can. Inc. v. Schmeiser*, 202 F.T.R. 78 ¶ 78 (Can.).

would arise.<sup>88</sup> Therefore, Schmeiser argued, that the patent should be invalidated as non-patentable subject matter.<sup>89</sup> The court disagreed with this argument, and held that nothing in the patent act or related court precedent precludes the patenting of plants.<sup>90</sup> The above argument, though not applied to the validity of plant patents, but rather used as a defense for the “innocent infringer” is the central thesis of this Article.

Percy Schmeiser did not seem a mere innocent bystander, as he was admittedly aware of the presence of Roundup Ready canola growing on his land.<sup>91</sup> By spraying large swathes of crops with Roundup and saving the surviving plants, it is difficult to believe that Schmeiser, a farmer for over 50 years, did not recognize the consequences of his actions—namely that he would be growing plants that were resistant to Roundup. By saving these survivor seeds and replanting them, Schmeiser was knowingly, as all three courts found, growing plants expressing Monsanto’s patented invention, causing Schmeiser’s innocent infringer defense to fail. The Canadian Supreme Court, at the beginning of its opinion stated that “we emphasize from the outset that we are not concerned here with the innocent discovery by farmers of ‘blow-by’ patented plants on their land or in their cultivated fields,”<sup>92</sup> and then later observed that “[h]ad [Schmeiser] been a mere ‘innocent bystander,’ he could have refuted the presumption of use arising from his possession of the patented gene and cell.”<sup>93</sup> The court, therefore recognized the possibility of an innocent bystander defense (though the dicta does not cite any authority for this proposition), but failed to rule on the issue. However, the court went so far as to state that “if Parliament wishes to respond legislatively to biotechnology inventions concerning plants, it is free to do so. Thus far it has not chosen to do so.”<sup>94</sup>

In the case of a truly innocent infringer growing patented crops, American farmers are in a particularly bad position as intent is not an element of infringement under U.S. patent law. Should statutory silence on an intent element be dispositive against innocent use?<sup>95</sup> Why treat patented crops differently than any other patented article? This article posits that

---

<sup>88</sup> *Id.*

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

<sup>90</sup> *Id.* at ¶ 81 (citing *Pioneer Hi-Bred International Inc. v. J.E.M. Ag Supply Inc.* 534 U.S. 124 (2001)).

<sup>91</sup> *Monsanto Can. Inc. v. Schmeiser*, 202 F.T.R. 78 ¶ 11 (Can.).

<sup>92</sup> *Monsanto Can. Inc. v. Schmeiser*, [2004] 1 S.C.R. 902 ¶ 2 (Can.).

<sup>93</sup> *Id.* at ¶ 95.

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

<sup>95</sup> 35 U.S.C. § 271(a) (2010) (“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.”).

innocent use of patented crops should be a defense to a patent infringement action. The following discussion will more specifically address this issue.

## VI. AN EQUITABLE DEFENSE TO INNOCENT INFRINGEMENT

### *A. Common Law Defenses in Equity Against Patent Infringement*

Although the patent laws of the United States are codified in Title 35 of the United States Code, there are a number of non-statutory, yet well established, precedents for applying common law legal defenses in equity to patent infringement cases. In particular, defendants have the defenses of laches and estoppel at their disposal to combat charges of infringement.<sup>96</sup>

Courts such as the 10<sup>th</sup> Circuit Court of Appeals hold that the equitable defense of laches, or sleeping on one's rights, is available in patent cases realizing that "it is inequitable for an infringer to deprive the owner of a patent of royalties and other rights which the patent affords. It is equally inequitable for the patent owner to sleep on his rights and lead an infringer to make large investments in the belief that he is not infringing or that the patent rights are not to be pressed."<sup>97</sup> In particular, there exists a six-year statute of limitations for the recovery of damages,<sup>98</sup> but according to U.S. law, "[a] patentee shall have remedy by civil action for infringement of his patent."<sup>99</sup> Courts thus have recognized that:

[s]ince the statute limits only the period for recovery of damages, courts employ the traditional, equitable doctrine of laches for determining the timeliness of infringement actions. Courts use the six year statutory period for damages, however, as a frame of reference for the application of the doctrine. This is consistent with normal equity practice which considers the passage of time equivalent to a comparable statute of limitations as presumptive of laches.<sup>100</sup>

This is an excellent example of how a common law legal defense in equity has been adapted to work within the confines and intent of codified patent law.

---

<sup>96</sup> See *Potash Co. of Am. Int'l Minerals & Chem. Corp.*, 213 F.2d 153, 154 (10th Cir. 1954) (applying these doctrines in a patent case).

<sup>97</sup> *Id.* at 156.

<sup>98</sup> 35 U.S.C. § 286 (1952) ("Except as otherwise provided by law, no recovery shall be had for any infringement committed more than six years prior to the filing of the complaint or counterclaim for infringement in the action.").

<sup>99</sup> 35 U.S.C. § 281 (1952).

<sup>100</sup> *TWM Mfg. Co. v. Dura Corp.*, 592 F.2d 346, 348 (Mich. Ct. App. 1979).

Similarly, U.S. courts adjudicating patent cases have also permitted defendants to raise the common law defense of estoppel. “[t]o work an estoppel, [a] defendant must normally show, in addition to laches, that he was misled in some fashion by the plaintiff.”<sup>101</sup> The defense of laches arises when a plaintiff sits on his/her rights and fails to enforce an infringement, but estoppel “arises only when one has so acted as to mislead another and the one thus misled had relied upon the action of the inducing party to his prejudice.”<sup>102</sup> A successful defense of equitable estoppel therefore requires actions on the part of the plaintiff that an ordinary observer would infer as an intentional abandonment of a claim to infringement, which, as a result, induced the defendant to believe that an infringement was permissible.<sup>103</sup> Again, the courts have adopted common law principles of equity and incorporated them into the large body of patent law.

The courts have also recognized an additional variant on the common law principle of estoppel, implied license by estoppel. This doctrine may also be used as a defense against patent infringement. This analysis basically determines whether the behavior of the patent holder has made a potential infringer a licensee by implication. In the seminal case of *De Forest Radio T & T v. U.S., AT&T*, as licensee of a patented vacuum tube, expressed permission for the U.S. government to manufacture the licensed invention.<sup>104</sup> The U.S. Supreme Court prevented De Forest from later claiming patent infringement on the grounds of implied license by estoppel.<sup>105</sup> The Court stated that any “language used by the owner of the patent or any conduct on his part exhibited to another, from which that other may properly infer that the owner consents to his use of the patent in making or using it, or selling it, upon which the other acts, constitutes a license.”<sup>106</sup> There is a long line of implied licensing cases, and “one common thread in cases in which equitable estoppel applies is that the actor committed himself to act, and indeed acted, as a direct consequence of another’s conduct. Thus, an implied license cannot arise out of the unilateral expectations or even reasonable hopes of one party.”<sup>107</sup> It would therefore seem that an average farmer would, and should, know, especially in light of the famous *Schmeiser* case, that Monsanto owns the patent on

---

<sup>101</sup> *Id.* at 350.

<sup>102</sup> *Advanced Hydraulics, Inc. v. Otis Elevator Co.*, 525 F.2d 477, 479 (7th Cir. 1975) (quoting *Lebold v. Inland Steel Co.*, 125 F.2d 369, 375 (7th Cir. 1941)).

<sup>103</sup> *See Continental Coatings Corp. v. Metco, Inc.*, 464 F.2d 1375, 1379-80 (7th Cir. 1972).

<sup>104</sup> *De Forest Radio Telephone & Telegraph Co. v. U.S.*, 273 U.S. 236, 236-239 (1927).

<sup>105</sup> *Id.* at 242.

<sup>106</sup> *Id.* at 241.

<sup>107</sup> Michael Swope, *Recent Developments in Patent Law: Implied License—An Emerging Threat to Contributory Infringement Protection*, 68 TEMP. L. REV. 281, 291-94 (1995) (citing *Stickle v. Heublein, Inc.*, 716 F.2d 1550, 1559 (Fed. Cir. 1983)).

Roundup Ready crops and does not permit their use outside of a licensing agreement. It would be difficult given their reputation for initiating lawsuits, to show that Monsanto conveyed a message that would indicate to a farmer that he would be allowed to possess Roundup Ready crops that are unintentionally grown.

Furthermore, 35 U.S.C. §283 provides that “the several courts having jurisdiction of cases under this title may grant injunctions in accordance with the *principles of equity* to prevent the violation of any right secured by patent, *on such terms as the court deems reasonable*.”<sup>108</sup> Though not a defense against infringement, this exemplifies, yet again, the codification and the specific legislative intent embodied in U.S. patent law for courts to apply common law principles of equity to patent cases and to do so at their discretion.

It is therefore suggested that the courts, in alignment with their embrace of common law equitable defenses, allow allegedly innocently infringing farmers the opportunity to proffer another common law defense—in *pari delicto*—against suits of patent infringement when self-propagating organisms harboring patented genes are intentionally released into nature.

### *B. Equity: In Pari Delicto*

During the last few centuries, the Anglo-American courts of common law developed a well-established set of equitable defenses devised to provide appropriate legal remedies, such as injunctive relief, when monetary awards alone did not suffice to create a “fair” outcome.<sup>109</sup> The equitable maxim of *in pari delicto* serves as an affirmative defense prohibiting a plaintiff from recovering damages arising out of misconduct for which the plaintiff bears responsibility.<sup>110</sup> “The expression ‘in pari delicto’ is a portion of the longer Latin sentence, ‘In pari delicto potior est conditio defendantis,’ which means that where the wrong of both parties is equal, the position of the defendant is the stronger .... Equity looks beneath rigid rules to find substantial justice and has the power to prevent strict rules from working an injustice.”<sup>111</sup> This common law theory of equity is not codified in U.S. patent law; yet, in the trial of *SmithKline Beecham v. Apotex*, Judge Posner stated that “[a]lthough I cannot find any statutory

---

<sup>108</sup> 35 U.S.C. § 283 (2011) (emphasis added).

<sup>109</sup> See 42 AM. JUR. 2d *Injunctions* § 1 (2010).

<sup>110</sup> 27A AM. JUR. 2d *Equity* § 103 (2010).

<sup>111</sup> *Knauer v. Jonathon Roberts Fin. Group, Inc.*, 348 F.3d 230, 237 (7th Cir. Ind. 2003) (quoting W. M. Moldoff, Annotation, *Purchaser's Right To Set Up Invalidity of Contract Because of Violation of State Securities Regulation as Affected by Doctrines of Estoppel or Pari Delicto*, 84 A.L.R.2d 479, 491; and 12 Indiana Law Encyclopedia Equity § 3).

language or case law that bears on the question, I believe that as a matter of fundamental principle it must be a defense to a charge of patent infringement that the patentee caused the infringement. There are many analogies, but one will suffice: it is a completely orthodox defense to a suit for breach of contract that the plaintiff prevented the defendant from performing his contractual duty.”<sup>112</sup>

In this factually complex patent case, SmithKline held patent rights for, and produced, a hemihydrate crystalline form of the compound paroxetine.<sup>113</sup> The anhydrate crystalline product, as attempted to be produced by Apotex, was found by the court not infringe the patent.<sup>114</sup> However, the scientific principles of “disappearing polymorphs” and “Ostwald’s Rule,” generally state that once a new polymorph appears in the environment (in this case, the hemihydrate crystalline product), these later-appearing, more stable crystal variants may cause the earlier form of the crystal to become extinct (or at least make it virtually impossible<sup>115</sup> to create the earlier polymorph in a laboratory or factory without also creating the later polymorph).<sup>116</sup> This conversion occurs via “seeding,” where an amount as small as tens of molecules of the hemihydrate could contaminate an entire production plant and catalyze the conversion of anhydrate crystals to the hemihydrate form.<sup>117</sup> Therefore, SmithKline, by introducing the hemihydrate form of the drug into the environment, effectively made the production of the pure anhydrate form impossible. Said in infringement terms, SmithKline’s creation of the hemihydrate makes it virtually impossible for Apotex to not infringe the hemihydrate patent, despite their best efforts to produce the public domain anhydrous polymorph.

The case of Monsanto, or any other biotech company involved in the patenting of transgenic organisms, the *SmithKline* case is highly analogous. The creation of a transgenic organism capable of exponential sexual reproduction is hardly different from a stable crystal polymorph introduced into the environment. Once this organism is released into the wild, it can never be taken back, thereby changing the genetic compliment of an entire species on a world-wide scale. A single crop of Roundup Ready canola releases pollen containing patented genes that will, by wind

---

<sup>112</sup> *SmithKline Beecham Corp. v. Apotex Corp.*, 247 F. Supp. 2d 1011, 1043 (N.D. Ill. 2003).

<sup>113</sup> *Id.* at 1015.

<sup>114</sup> *Id.* at 1052.

<sup>115</sup> *Id.* at 1021-22 (An expert in the case testified that “[I]f Apotex, desperate to avoid a charge of infringement, built a new plant in Antarctica where no hemihydrate seeds had ever been and started manufacturing anhydrate there, and a depressed worker in the plant dropped a Paxil on the floor, the result might be to seed the plant and make it impossible from then on to produce pure anhydrate there. For that matter, he might have dropped it on the floor of his bathroom at home, releasing crystals that adhered to his skin or clothing.).

<sup>116</sup> *Id.* at 1019-20.

<sup>117</sup> *Id.* at 1020.

or insect or animal, eventually cross with other strains of wild and cultivated canola.<sup>118</sup> To further compound the issue, the genetic traits conferred upon these GM crops, including glyphosate resistance, are generally invisible to the naked eye.<sup>119</sup> Therefore, any farmer with even a single plant contaminated by Roundup Ready pollen will unknowingly create future generations of seeds and cause an exponential spread of the resistant gene, as a canola plant can produce up to 100 new pods, each containing 20 to 30 seeds.<sup>120</sup> This exemplifies only a single contamination event from a single field to a single farmer.

However, the reality is that over a billion acres of transgenic crops have been grown to date.<sup>121</sup> By releasing a self-propagating organism that naturally spreads a patented gene, Monsanto effectively makes it impossible for farmers of other strains of canola to avoid infringing their patents. The equitable maxim of *in pari delicto* should be an available defense for any farmer who has unintentionally grown crops containing patented genes, for this infringement is a direct result of Monsanto forever altering the ecological landscape. It should be noted that the appellate court in the *SmithKline* case made the connection between releasing a self-propagating entity into the environment and equitable relief, even creating a hypothetical example based on a GM crop model:

This crystalline compound raises a question similar to one that might arise when considering the invention of a fertile plant or a genetically engineered organism, capable of reproduction, released into the wild. Consider, for example, what might happen if the wind blew fertile, genetically modified blue corn protected by a patent, from the field of a single farmer into neighboring cornfields. The harvest from those fields would soon contain at least some patented blue corn mixed in with the traditional public domain yellow corn —thereby infringing the patent. The wind would continue to blow, and the patented crops would spread throughout the continent, thereby turning most (if not all) North American corn farmers into unintentional, yet inevitable, infringers. The implication — that the patent

---

<sup>118</sup> See Rachid Sabbahi, Domingos de Oliveira & Jocelyn Marceau, *Influence of Honey Bee (Hymenoptera: Apidae) Density on the Production of Canola (Crucifera: Brassicaceae)*, 98(2) J. ECON. ENTOMOLOGY 367, 368 (2005).

<sup>119</sup> Even worse than being invisible, for a farmer to test for Roundup Ready contamination, the crops must be sprayed with Roundup, the result being that only the contaminant plants survive!

<sup>120</sup> *About Canola*, MANITOBA CANOLA GROWERS, [www.mcgcacola.org/about\\_canola.cfm](http://www.mcgcacola.org/about_canola.cfm) (last visited August 10, 2011).

<sup>121</sup> INT'L SERV. FOR THE ACQUISITION OF AGRI-BIOTECH APPLICATIONS, ISAAA BRIEF 39-2008: EXECUTIVE SUMMARY, <http://www.isaaa.org/resources/publications/briefs/39/executivesummary/default.html> (last visited Feb. 17, 2011).



owner would be entitled to collect royalties from every farmer whose cornfields contained even a few patented blue stalks--*cannot possibly be correct*.<sup>122</sup>

Judge Posner's stance in *SmithKline* the Canadian Supreme Court's in *Schmeiser*, both indicate a court's general acknowledgement of the fundamental injustice of holding an unintentional infringer liable when the party pursuing the infringement made the act unavoidable. It is precisely a case like this where the equitable defense of *in pari delicto* should be raised. Equity demands that Monsanto should, under this maxim, be barred from recovering on an infringement action arising out of the unintentional use of their patented genes, for Monsanto itself bears some of the responsibility for releasing an uncontrollable gene-spreading mechanism into the environment.

### C. Inducing Infringement under 35 USC §271(b)

35 U.S.C. §271(b) states that "whoever actively induces infringement of a patent shall be liable as an infringer."<sup>123</sup> Though a federal statute, the induction of infringement stems from the common law theory of respondeat superior. Specifically, one who aids or causes another to infringe should be liable for infringement. Likewise, under §271(b) a person who actively and knowingly aids and abets another's direct infringement of a patent is liable for infringement.<sup>124</sup> The language of this section requires "active" inducement, and it is generally held that:

"[a]ctively inducing," like facilitating," requires an affirmative act of some kind: Of course inducement has connotations of active steps knowingly taken--knowingly at least in the sense of purposeful, intentional as distinguished from accidental or inadvertent. But with that qualifying approach, the term is as broad as the range of actions by which one in fact causes, or urges, or encourages, or aids another to infringe a patent.<sup>125</sup>

The court in *SEB S.A. v. Montgomery Ward* also made it clear that a "specific intent to encourage another's infringement" of the patent is

---

<sup>122</sup> *SmithKline Beecham Corp. v. Apotex Corp.*, 403 F.3d 1331, 1360-61 (Fed. Cir. 2005) (emphasis added).

<sup>123</sup> 35 U.S.C. § 271(b) (2010).

<sup>124</sup> DONALD CHISUM, 5-17 CHISUM ON PATENTS § 17.04 (Matthew Bender 2010).

<sup>125</sup> *Tegal Corp. v. Tokyo Electron Co.*, 248 F.3d 1376, 1378-79 (Fed. Cir. 2001) (citing *Fromberg Inc. v. Thornhill*, 315 F.2d 407, 411 (5th Cir. 1963)).

necessary under this section.<sup>126</sup> The court in *DSU Medical* “addressed the intent necessary to support a finding of induced infringement. Under that rule, the plaintiff must show that the alleged infringer *knew or should have known* that his actions would induce actual infringements.”<sup>127</sup> This intent element is the facet of 271(b) that is subject to the most contention in the judicial arena. One law review article succinctly describes this tension by stating that:

Courts have routinely declared that 271(b) imposes liability for “aiding and abetting” the commission of a legal wrong, yet a clear definition of the mens rea required for inducement liability has eluded even the Federal Circuit: must a 271(b) plaintiff prove that the defendant specifically intended to induce violation of the law, or is it sufficient to prove that the defendant intended to induce the acts later held to constitute infringement?<sup>128</sup>

In *Manville Sales Corp. v. Paramount Systems, Inc.*, like in *SEB S.A.*, the court utilized the latter interpretation and found that “[t]he plaintiff has the burden of showing that the alleged infringer’s actions induced infringing acts and that *he knew or should have known* his actions would induce actual infringements.”<sup>129</sup> A UC Davis law review article exploring the confusing implementation of 271(b) stated that “[t]o have intended to encourage or aid infringement, a defendant must in fact understand that he is encouraging an act of patent infringement.”<sup>130</sup> Furthermore, “the more integrally involved a defendant is in causing or encouraging the infringement, the closer in culpability he should logically be considered to the direct infringer.”<sup>131</sup>

It seems natural that inducing infringement would, historically and logically, be used offensively by plaintiffs to hold not only actual infringers liable for infringement,<sup>132</sup> but additionally those other parties that have aided and abetted in the infringing activities. To this author’s knowledge, no case has proffered the inducing of infringement by the patent holder

---

<sup>126</sup> *SEB S.A. v. Montgomery Ward & Co.*, 594 F.3d 1360, 1376 (Fed. Cir. 2010) (quoting *Broadcom Corp. v. Qualcomm Inc.*, 543 F.3d 683, 699 (Fed. Cir. 2008)).

<sup>127</sup> *SEB S.A.*, 594 F.3d at 1376 (emphasis added) (citing *DSU Med. Corp. v. JMS Co.*, 471 F.3d 1293 (Fed. Cir. 2006)).

<sup>128</sup> Recent Cases, *Patent Law - Active Inducement of Infringement - District Court Holds That Inducement Liability Requires Proof of Intent To Induce Violation of the Law*, 115 HARV. L. REV. 1246, 1246 (2002)..

<sup>129</sup> *Manville Sales Corp. v. Paramount Systems, Inc.*, 917 F.2d 544, 553 (Fed. Cir. 1990) (emphasis added).

<sup>130</sup> Mark Lemley, *Inducing Patent Infringement*, 39 U.C. DAVIS L. REV 225, 243 (2005).

<sup>131</sup> *Id.* at 242.

<sup>132</sup> See 35 U.S.C. §271(a) (2010).

themselves as an affirmative defense against such infringement action since logically a patent holder can not infringe their own patent.

In the case of patented transgenes expressed by self-propagating organisms that are permanently and irrevocably released into the environment, the patent holder is willfully and knowingly, albeit indirectly, *forcing* countless future parties, the identities of which remain unknown at the time of release, to infringe their patent. In considering whether Monsanto is *effectively* inducing innocent infringement with the release of its Roundup Ready crops, the first element of inducing infringement need not be discussed, for it is self-evident that Monsanto, the patent holder and in this scenario the alleged inducer, is unequivocally aware of its own patent. The question of whether Monsanto has effectively induced innocent infringement thus turns on whether Monsanto has (1) actively induced the innocent infringement by the farmers, and (2) possessed the specific intent to induce actual infringement of their patented genes by said farmers.

In the context of the current discussion, the general meaning of the word “induce” is to cause a party to act in a way in which they would have not acted otherwise.<sup>133</sup> By releasing self-propagating Roundup Ready crops into the environment, Monsanto did *induce* innocent infringement, for their action *caused* patented replicating vectors of transgenes to be released into the global ecosystem. These vectors created, and will continue to create, pollen and seeds that will further, unstoppably, propagate infringing organisms well outside the control of Monsanto. When these seeds and pollen land on a farmer’s crop, these farmers have technically infringed Monsanto’s patent, but only because Monsanto made such infringement unavoidable. These farmers have therefore involuntarily acted in a manner in which they would not have otherwise acted but for Monsanto’s actions.

The pivotal question is whether Monsanto possesses the specific intent, as required by case law, to promote infringement of their patent by farmers. If Monsanto *knew or should have known* that the release of self-propagating Roundup Ready crops into the environment would cause pollen and seed dispersal such that bystander farmers eventually would innocently grow plants containing patented genes, then Monsanto does possess the specific intent to induce infringement. What does Monsanto know? In Monsanto’s very own “Technology Use Guide” provided to farmers who buy Roundup Ready seeds, Monsanto writes, “[s]ince corn is a naturally cross-pollinated crop, a minimal amount of pollen movement (some of which can carry genetically improved traits) between neighboring fields is a

---

<sup>133</sup> Merriam-Webster, Induce, <http://www.merriam-webster.com/dictionary/induce> (last visited Feb. 14, 2011) (“[(1)(a)] to move by persuasion or influence[; (b)] to call forth or bring about by influence or stimulation[; (2)(a)] EFFECT, CAUSE[; (b)] to cause the formation of[; (c)] to produce (as an electric current) by induction . . . .”).

*well known and normal occurrence* in corn seed or grain production.”<sup>134</sup> The concession that pollen movement between fields is a “well known and normal occurrence” is an unequivocal admission that Monsanto is aware of the consequences of its release of self-replicating technology. Not just Monsanto, but the scientific community as a whole is quite aware that “crosspollination (also referred to as ‘genetic drift’) is unavoidable [and] was confirmed by a British Royal Society report that found hybridization between plants to be pervasive, frequent, and not limited by physical barriers such as buffer zones.”<sup>135</sup> Though the scientific community as a whole knows, and Monsanto admits, that pollen drift occurs generally, the most persuasive evidence that Monsanto knows that the pollen drift directly *causes infringement* comes from an officer of the company: Ray Mowling, a vice president for Monsanto Canada in Mississauga, was cited as “agree[ing] that some cross pollination occurs, and acknowledge[ing] the awkwardness of prosecuting farmers who may be *inadvertently growing* Monsanto seed through cross-pollination. . . .”<sup>136</sup> Though the general knowledge of the scientific community, which should be arguably imputed to the world’s scientific leader in transgenic crop technology, is convincing evidence, the actual admission that Monsanto knows with 100% certainty that the release into the ecosystem of self-replicating transgenic Roundup Ready crops actually causes pollen and seed dispersal forcing bystander farmers to inadvertently infringe Monsanto’s patents unquestionably demonstrates the specific intent to induce infringement.

As traditionally applied, the doctrine of inducing infringement is brought against a party other than the patent holder, and it is nonsensical to think that a patent holder would sue themselves for infringement. From the standpoint of equity, it makes sense in the limited circumstance of self-propagating biological technology capable of disseminating patented genes, that a patent owner can indeed induce others to infringe their own patent. If Monsanto had covertly planted seeds on a farmer’s property and later claimed that farmer infringed their patent, it would be difficult to view a finding of infringement as anything but an inequitable outcome. The same principle of equity should apply when Monsanto releases the same genes into the environment with reckless indifference and the full knowledge that their genes will indeed cause unintentional infringement. A farmer growing such unwanted crops is an infringer by the letter of the law, for there is no

---

<sup>134</sup> ANDREW KIMBRELL & JOSEPH MENDELSON, CTR. FOR FOOD SAFETY, *MONSANTO V. U.S. FARMERS* 20 (2005), <http://truefoodnow.files.wordpress.com/2009/12/cfsmontantovsfarmerreport1-13-05.pdf> (last visited Feb. 14, 2011) (emphasis added) (*quoting* MONSANTO CO., 2005 TECHNOLOGY USE GUIDE 17 (2005)).

<sup>135</sup> *Id.* at 37.

<sup>136</sup> Rich Weiss, *Seeds of Discord: Monsanto's Gene Police Raise Alarm on Farmer's Rights, Rural Tradition*, WASH. POST, Feb. 3, 1999, at A6 (emphasis added)..

element of intent in an infringement action. However, in this scenario, Monsanto is culpable for inducing the infringement.

The courts have applied the common law defense of laches under the guidance of 35 USC §281, and injunctive relief under 35 USC §283 which follows “principles of equity.” It is therefore no great leap for the courts to apply the equitable doctrine of *in pari delicto*—barring an infringement action arising out of the unintentional use of patented genes when the plaintiff bears responsibility for releasing an uncontrollable gene-spreading mechanism into the environment—relying on the underlying principles and intent of 35 USC §271(b). Specifically, as it applies to the scenario at hand, Monsanto should be barred from recovering infringement damages (§271(a)) arising out of Monsanto’s own misconduct which is violative of the principles enveloped by §271(b). Where there is misconduct on the side of both parties, the position of the defendant is stronger.

## VII. CONCLUSION

Transgenic crop technology will continue to be utilized, and patent holders will undoubtedly continue to assert their rights to prevent unauthorized use of their technology via litigation. The uncontrolled spread of patented genes is an unquestionable certainty due to the self-propagating nature of plants. The current standards of §271(a) infringement, when rigidly and traditionally applied, leave no room for farmers to escape liability when they are merely victims of unintentional “contamination” of their crops with patented genes.<sup>137</sup> This result is not in accord with general standards of justice, and therefore an equitable defense should be available to farmers, for “[e]quity looks beneath rigid rules to find substantial justice and has the power to prevent strict rules from working an injustice.”<sup>138</sup> There is no “innocent infringement” defense codified in patent law, and court dicta only allude to such an idea. Invoking the equitable maxim of *in pari delicto* as an affirmative defense should prohibit a plaintiff, such as Monsanto, from recovering damages arising out of misconduct for which they bear at least some responsibility, for such infringing use is absolutely unavoidable due to the nature of plant genetics and reproduction. The arguments for such an equitable defense are, at the time of writing, only legal theory and therefore not tested or implemented by the courts. To promote certainty and, more importantly, justice, Title 35 of the United States Code should be amended to add a provision that embodies the legal discussion herein. Thus, parties who can show a likelihood of innocent

---

<sup>137</sup> See 35 U.S.C. §271 (2010).

<sup>138</sup> *Knauer*, 348 F.3d at 237.

patented gene use, where a living self-propagating gene was knowingly released into the environment, should escape liability for infringement.