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Abstract

A number of important agricultural biotechnology patent disputes have arisen in Canada since the 2004 Supreme Court of Canada decision in Monsanto v. Schmeiser. Typically, defendants no longer contest issues of patent validity or infringement. Instead, the controversies have shifted to discussions about applicable remedies for infringement. The Schmeiser case ostensibly marked a fundamental change in the appropriate method for conducting an accounting of the profits that a defendant infringer must disgorge to a plaintiff patentee. The remedy of accounting of profits in patent cases, however, remains mired in definitional and conceptual confusion, which the Schmeiser case has brought to the forefront of disputes. The lack of clarity and certainty is harmful to all stakeholders in the patent system. This article makes three key contributions in the field of agricultural biotechnology patents. First, it exposes a largely unrecognized problem pertaining to the legal remedy of accounting of profits for patent infringement. To address this problem, the article corrects misunderstandings about recent court decisions pertaining to the accounting of profits remedy. Second, the article critically examines the discourse used to discuss accounting of profits, which includes sometimes inconsistent concepts, terms, and definitions. This article proposes strategies to facilitate definitional and conceptual coherence in order to establish a framework for future jurisprudence and scholarship on this topic. Finally, the article provides insights into the unsustainability of current trends in this area of law.

Keywords

Agricultural biotechnology--Law and legislation; Patent infringement; Remedies; Canada

Accounting of Profits to Remedy Biotechnology Patent Infringement

KURTIS ANDREWS & JEREMY DE BEER*

A number of important agricultural biotechnology patent disputes have arisen in Canada since the 2004 Supreme Court of Canada decision in *Monsanto v. Schmeiser*. Typically, defendants no longer contest issues of patent validity or infringement. Instead, the controversies have shifted to discussions about applicable remedies for infringement. The *Schmeiser* case ostensibly marked a fundamental change in the appropriate method for conducting an accounting of the profits that a defendant infringer must disgorge to a plaintiff patentee. The remedy of accounting of profits in patent cases, however, remains mired in definitional and conceptual confusion, which the *Schmeiser* case has brought to the forefront of disputes. The lack of clarity and certainty is harmful to all stakeholders in the patent system.

This article makes three key contributions in the field of agricultural biotechnology patents. First, it exposes a largely unrecognized problem pertaining to the legal remedy of accounting of profits for patent infringement. To address this problem, the article corrects misunderstandings about recent court decisions pertaining to the accounting of profits remedy. Second, the article critically examines the discourse used to discuss accounting of profits, which includes sometimes inconsistent concepts, terms, and definitions. This article proposes strategies to facilitate definitional and conceptual coherence in order to establish a framework for future jurisprudence and scholarship on this topic. Finally, the article provides insights into the unsustainability of current trends in this area of law.

Un certain nombre de différends importants en matière de brevet de biotechnologie agricole est survenu au Canada depuis la décision de la Cour suprême du Canada de 2004 dans l'affaire de *Monsanto c. Schmeiser*. En général, les défendeurs ne contestent plus les questions de validité ou de contrefaçon de brevet. Au contraire, les controverses portent désormais davantage sur les discussions entourant les recours applicables à la contrefaçon.

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L'affaire *Schmeiser* a marqué en apparence un changement fondamental dans la façon appropriée de remettre les profits qu'un contrefacteur défendeur doit verser à un demandeur titulaire d'un brevet. Le recours à la remise des profits dans les affaires de brevet demeure cependant une source de confusion sur les plans de la définition et du concept que l'affaire *Schmeiser* a porté à l'avant-scène des différends. Le manque de clarté et de certitude est préjudiciable pour tous les intervenants du système de brevet.

Le présent article apporte trois contributions clés dans le domaine des brevets de biotechnologie agricole. Premièrement, il expose un problème en grande partie non reconnu, relatif au recours judiciaire de la remise des profits en ce qui a trait à la contrefaçon de brevet. Afin de régler ce problème, l'article rectifie les malentendus au sujet des décisions judiciaires récentes relatives au recours de la remise des profits. Deuxièmement, l'article jette un regard critique sur le discours employé pour traiter de la remise des profits, qui comprend parfois des concepts, des définitions et des termes incohérents. Le présent article propose des stratégies pour faciliter la cohérence des définitions et des concepts, établir un cadre de la jurisprudence future et une bourse d'études pour ce sujet. En dernier lieu, l'article permet de mieux comprendre la non-viabilité des tendances actuelles dans ce domaine du droit.

A HEADLINE IN THE 20 DECEMBER 2007 edition of *The Western Producer* declared a stern warning to farmers: "Monsanto wins Ontario patent cases: farmers ordered to pay $160 and $274 per acre for infringement."[1] The story reported the outcomes of two "Percy Schmeiser-type"[2] court cases, *Monsanto*

1. Sean Pratt, "Monsanto Wins Ontario Patent Cases" *The Western Producer* (20 December 2007), online: <http://www.producer.com/News/Archive-Article.aspx?aid=221637>.
2. *Ibid.*

Canada Inc. v. Beneteau[3] and *Monsanto Canada Inc. v. Wouters*,[4] which involved farmers who planted genetically modified soybean seed containing Monsanto's patented Roundup Ready technology. Mirroring a Monsanto-issued press release,[5] the *Western Producer* article suggested that Canadian courts are motivated to punish severely farmers who infringe Monsanto's patents. The reported awards were substantial and the message was clear: if you plant saved seed containing Monsanto's technology without a licence, you risk dire consequences. Furthermore, the story implied that the cases set strong legal precedents as the only judgments since the Supreme Court of Canada's 2004 decision in *Monsanto Canada Inc. v. Schmeiser*.[6]

The article did not, however, accurately portray the awards in light of the nature of the two judgments: *Beneteau* was a *consent* judgment,[7] and *Wouters* was a *default* judgment.[8] The article also did not attempt to reconcile these awards with the much lower monetary award granted by the courts in *Schmeiser*[9] or the legal principles outlined in other Canadian patent infringement cases. A contextual assessment of these two awards would have revealed that they were unusually high and inconsistent with other Canadian patent infringement awards. Neither the *Beneteau* nor the *Wouters* award reflects what most plaintiffs should expect to receive, or defendants should expect to pay, in agricultural biotechnology patent infringement proceedings decided on their merits.

In December 2008, Monsanto again publicized the high price of infringing its patents. This time, a press release described settlement terms of $200 per acre reached with three farmers from Quebec.[10] That announcement came one

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3. (27 November 2007), Toronto T-1723-07 (F.C.T.D.) [*Beneteau*].
4. (2007), 158 A.C.W.S. (3d) 396 (F.C.) [*Wouters*].
5. Monsanto Canada, News Release, "Ontario Grower Ordered to Pay Monsanto $160 per acre for Violating Patent Rights on Roundup Ready® Soybeans" (11 December 2007), online: <http://www.monsanto.ca/about/news/2007/12_11_07.asp> [*Monsanto v. Beneteau*, News Release].
6. [2004] 1 S.C.R. 902 [*Schmeiser* (2004)].
7. *Beneteau*, *supra* note 3.
8. *Wouters*, *supra* note 4.
9. *Monsanto Canada Inc. v. Schmeiser*, [2003] 2 F.C. 165 at para. 84 [*Schmeiser* (2003)]; *Schmeiser* (2004), *supra* note 6.
10. Monsanto Canada, News Release, "Quebec Farmers Admit to Patent Violation for Growing

month before two other infringement actions brought by Monsanto went to trial: *Monsanto Canada Inc. v. Rivett*[11] and *Monsanto Canada Inc. v. Janssens.*[12] When the decisions in *Rivett* and *Janssens* were released in Spring 2009—the first cases since *Schmeiser* that were determined on their merits—Monsanto announced in a stakeholder update that the court had awarded amounts of $66 per acre, $102 per acre, and $185 per acre against the various defendants.[13] The stakeholder update also repeated the whopping figures of $160 and $274 per acre from the previously decided *Beneteau* and *Wouters* cases.

A closer look at the *Rivett* and *Janssens* judgments reveals that the awards granted by the court are nowhere near the widely publicized outcomes of *Wouters, Beneteau,* and the Quebec settlements, nor even as high as the amounts claimed in Monsanto's stakeholder update. Monsanto's figures combine the costs and interest awarded in each case with the defendant's per acre profits to be disgorged. The profits awarded were $42.38 per acre in *Rivett*[14] and an average of $48.46 per acre, per defendant, in *Janssens.*[15] Schmeiser was ordered to pay only $19 per acre by the Federal Court of Appeal for his infringement, which was later reduced to zero by the Supreme Court (albeit because of the distinctive facts of that case). Monsanto's usual royalty rate for patented seed technology is, by the way, about $15 per acre.[16] Although Monsanto's reports are not technically false, the true value of the awards has typically been fairly small, usually $10,000 or less. In the few cases where defendants paid significantly more, the awards would surely have been lower if their cases had been adequately defended.

Monsanto's Roundup Ready® Technology Without a License" (15 December 2008), online: <http://www.monsanto.ca/about/news/2008/12_15_08.asp>.

11. (2009), 343 F.T.R. 203 (F.C.) [*Rivett*].

12. (2009), 343 F.T.R. 234 (F.C.) [*Janssens*].

13. Monsanto Canada, Stakeholder Update, "Federal Court of Canada Orders Ontario Growers to Pay Monsanto for Patent Infringement Violations" (24 July 2009) [copy on file with author].

14. *Rivett, supra* note 11 at paras. 76, 102.

15. This number is based on the amended reasons for judgment, issued 10 July 2009. See *Monsanto Canada Inc. v. Janssens* (10 July 2009), Toronto T-1545-05 (F.C.). The amount reported here is very close to the values set in *Janssens, supra* note 12 at para. 51.

16. At the material time that the *Schmeiser, Rivett,* and *Janssens* infringement allegations arose, the licensing fee was $15. See "In Depth: Genetic Modification – Percy Schmeiser's Battle" *CBC News Online* (21 May 2004), online: <http://www.cbc.ca/news/background/genetics_modification/percyschmeiser.html>. In recent years, the fee system has changed.

Nevertheless, international newspaper magazines such as *The Economist* have been reporting the *Rivett* and *Janssens* court decisions as Monsanto's "latest success in enforcing its stern line."[17] When confronted with public information from Monsanto or the media about the potentially grave consequences of defending an infringement claim, it should be no surprise that farmers are motivated to settle lawsuits early and keep them out of court. This is especially true for anyone unfamiliar with the legal process or without access to counsel experienced in patent law, which is the norm for most farmers facing patent infringement claims.

Given the fear among farmers of incurring very high costs to settle agricultural biotechnology patent infringement, the legal system seems to provide an effective deterrent against infringement and ostensibly promotes licensing. That, in turn, protects the incentives to develop innovative technologies. Patent owners, however, should probably be concerned about developments in this area of the law, while those facing infringement allegations might feel better about their legal prospects. Publicized information about potential damage awards, from both the media and Monsanto, can be somewhat misleading. Moreover, potentially misleading information is not in the best interests of farmers threatened, rightly or wrongly, with an infringement claim. A justice system works best when everyone has equal access to information about their legal rights and responsibilities, as well as qualified and well-informed counsel.

This article makes three key contributions to the scholarly literature in the field of agricultural biotechnology patent infringement. First, it exposes a new and largely unrecognized problem pertaining to the legal remedy of accounting of profits for patent infringement. To address this problem, the article corrects misunderstandings about recent court decisions pertaining to the accounting of profits remedy. Second, the article critically examines the discourse used to discuss accounting of profits, which includes sometimes inconsistent concepts, terms, and definitions. The article proposes strategies to facilitate definitional and conceptual coherence in order to establish a framework for future jurisprudence and scholarship on this topic. Finally, the article provides insights into the unsustainability of current trends in this area of law.

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17. "The Parable of the Sower" *The Economist* (19 November 2009), online: <http://www.economist.com/displaystory.cfm?story_id=14904184>.

To achieve these goals, the article focuses solely on remedies and does not discuss the validity of agricultural biotechnology patents. The article begins with a background on patented technology and enforcement strategies, followed by a discussion of the infringement remedies granted in recent cases. These cases are then situated within the broader legal framework for, and the discourse related to, patent infringement remedies, while highlighting the special considerations that apply in the agricultural biotechnology context. The article concludes with a summary, analytical insights, and considerations for going forward.

I. AGRICULTURAL BIOTECHNOLOGY PATENTS AND ENFORCEMENT STRATEGIES

There are many conflicting opinions on the effects of genetically modified crops on agribusiness. Few people would disagree that biotechnology has contributed to radical changes in how farmers conduct business. The changes range from how growers manage their crops, land, and pesticide programs to how they buy and save seeds for planting from year to year. Since the proliferation of genetically modified crops, seed saving has triggered particular legal challenges.[18]

The Monsanto Company of St. Louis, Missouri and its Canadian subsidiary, Monsanto Canada Inc.,[19] are leaders in agricultural biotechnology development, marketing, and sales. Monsanto sells several genetically modified seed varieties, including its Roundup Ready brands. Roundup Ready seed has been marketed by Monsanto since 1996[20] for a variety of crops, including soybeans, canola, corn, and cotton.

Seeds containing Roundup Ready technology grow into plants that are tolerant to glyphosate-based herbicides. Roundup Ready plants are desirable because they permit growers to spray fields with glyphosate-based herbicides to kill weeds without harming the glyphosate-tolerant crop. This trait has been very lucrative.[21]

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18. See Jeremy de Beer, "Reconciling Property Rights in Plants" (2005) 8 J. World Intell. Prop. 5 at 9.

19. For the purposes of this article, Monsanto Company and Monsanto Canada Inc. are collectively referred to as "Monsanto."

20. Monsanto Canada, "Company History," online: <http://www.monsanto.com/who_we_are/history.asp>.

21. Monsanto Canada, News Release, "Monsanto Biotechnology Trait Acreage: Fiscal Years

Legal use of Roundup Ready technology requires growers to sign a Technology Use Agreement (TUA) and pay a licensing fee to Monsanto.[22] Contracts prohibit the traditional farming practice of saving and replanting harvested seeds. Farmers who licence the technology, therefore, have recurring seed purchase costs that generate revenues for the licensor every growing season. Relying on contracts alone to support this business model is inadequate, however; third parties who have never purchased Monsanto seed are not bound by Monsanto's terms and conditions. Monsanto, therefore, relies on patent protection to prevent these farmers from acquiring and growing Roundup Ready crops.

Prior to the Supreme Court's decision in *Schmeiser*, it was not certain whether genetically modified crops were patentable subject matter under the *Patent Act*.[23] In an earlier decision, *Harvard College v. Canada (Commissioner of Patents)*, it was held that higher life forms, specifically plants and seeds, are not patentable.[24] The Supreme Court of Canada has also highlighted, in *Pioneer Hi-Bred Ltd. v. Canada (Commissioner of Patents)*, that patenting plant crossbreeding is problematic.[25]

Unlike the patent claims at issue in *Harvard Mouse*, however, Monsanto's patent did not claim an entire higher life form. Instead, its claims were limited to the specific genes and cells within seeds and plants that provide glyphosate-based herbicide resistance.[26] In *Schmeiser*, the Supreme Court of Canada concluded that genes and cells are not higher life forms and are patentable.[27] In addition, unlike the failed patent application in *Pioneer Hi-Bred*, Mon-

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1996 to 2007" (10 October 2007), online: <http://www.monsanto.com/pdf/investors/2007/FY2007BiotechAcres.pdf>. In 2007, 67.4 million acres of Roundup Ready corn, 61.2 million acres of Roundup Ready soybeans, and 8.6 million acres of Roundup Ready cotton was grown in the United States, while 6.8 million acres of Roundup Ready canola was grown in Canada.

22. For an example of a Monsanto Technology Use Agreement, see Monsanto Canada, "Genuity™ Roundup Ready® Canola Technology Use Agreement," online: <http://www.monsanto.ca/seeds_traits/tua/default.asp>.

23. R.S.C. 1985, c. P-4.

24. [2002] 4 S.C.R. 45 at para. 206 [*Harvard Mouse*].

25. [1989] 1 S.C.R. 1623 at para. 30.

26. *Schmeiser* (2004), *supra* note 6 at paras. 129-31.

27. *Ibid.* at para. 22.

santo's application sufficiently disclosed the invention.[28] The Supreme Court, therefore, validated Monsanto's patent for glyphosate-resistant plants.[29]

The Court also held that Schmeiser infringed Monsanto's patent, contrary to section 42 of the *Patent Act*,[30] by planting saved seeds, which constitutes use of the patent technology.[31] Consequentially, saving and planting seeds containing patented cells and genes is considered infringement of a patent, and any farmer who does so breaks the law.[32]

Monsanto vigorously enforces its patents, explaining that its actions "keep the playing field level for all growers."[33] Its *Seed Piracy* newsletter warns farmers that infringers face penalties of up to $200 an acre, and identifies counties in Canada where a "sizable number" of infringers have been caught.[34] Critics contend that Monsanto is engaged in "ruthless legal battles against small farmers," among whom it strikes fear with a "shadowy army of private investigators and agents," and disrupts the millennia-old practice of saving seeds from one season to the next.[35] Furthermore, allegations persist that Monsanto aggressively pushes for ever-higher settlements, which in turn are held out as precedents to achieve even higher future settlements.[36]

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28. *Ibid.* at paras. 15-16.
29. *Ibid.* at para. 24. See also *Schmeiser* (2003), *supra* note 9 at para. 46; *Monsanto Canada Inc. v. Schmeiser* (2001), 202 F.T.R. 78 at para. 90 (F.C.T.D.) [*Schmeiser* (2001)].
30. *Supra* note 23, s. 42.
31. *Schmeiser* (2004), *supra* note 6 at paras. 26-27. See also *Schmeiser* (2003), *supra* note 9 at para. 60; *Schmeiser* (2001), *supra* note 29 at para. 127.
32. *Schmeiser* (2004), *ibid.* at para. 97.
33. Pratt, *supra* note 1 at para. 47.
34. Hyland Seeds, "Seed Piracy: Updates and Summaries" (March 2007), online: <http://www.hylandseeds.com/products/Seed%20Piracy%20newsletter%20-%20March%202007%20-%20English.pdf>. See also Jeffrey Carter, "Monsanto Goes After Biotech Crop Patent Violators" *Ontario Farmer* (4 April 2006).
35. Donald L. Barlett & James B. Steele, "Monsanto's Harvest of Fear" *Vanity Fair* (May 2008), online: <http://www.vanityfair.com/politics/features/2008/05/monsanto200805>. See also Armen Keteyian, "Agricultural Giant Battles Small Farmers" *CBS Evening News* (26 April 2008), online: <http://www.cbsnews.com/stories/2008/04/26/eveningnews/main4048288.shtml>; Andrew Kimbrell & Joseph Mendelson, *Monsanto vs. U.S. Farmers: A Report by the Center for Food Safety* (Washington: Center for Food Safety, 2005), online: <http://www.centerforfoodsafety.org/pubs/CFSMOnsantovsFarmerReport1.13.05.pdf>.
36. Carter, *supra* note 34.

II. RECENT AGRICULTURAL BIOTECHNOLOGY PATENT CASES

Since Monsanto first marketed Roundup Ready crops, the company has reached out-of-court settlements with more than one hundred growers in Canada.[37] As of August 2009, Monsanto had filed ten lawsuits against alleged infringers. Six proceeded to trial, of which three—*Schmeiser*, *Rivett*, and *Janssens*—resulted in a judgment on their merits. Four—*Monsanto Canada Inc. & Monsanto Company v. James Elmer Murray et al.*,[38] *Monsanto Canada Inc. et. al. v. Tee Chase Enterprises Inc. et al.*,[39] *Monsanto Canada Inc. et al. v. Erwin Deck*,[40] and *Monsanto Canada Inc. & Monsanto Company v. Sheldon Chamberlin et al.*[41]—were discontinued, presumably due to out-of-court settlements.

A. *Monsanto Canada Inc. v. Schmeiser*

In 2001, the Trial Division of the Federal Court ruled that Monsanto's glyphosate-resistant patent was valid and that Percy Schmeiser infringed that patent by growing 950 acres of glyphosate-resistant canola in 1998. The court considered the following claims for relief: "[A]n injunction; delivery up of any canola remaining from Schmeiser's 1998 crop; profits of $105,000 for Monsanto US; damages of $15,450 for Monsanto Canada; exemplary damages of $25,000 and pre-judgment and post-judgment interest."[42]

Because Schmeiser did not act "in a manner that would warrant punishment or that would deserve condemnation by the court,"[43] exemplary damages were denied. The trial judge granted the injunction and delivery up requests, however. He refused Monsanto's request for both an accounting of profits and compensatory damages, instead awarding only profits.[44]

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37. Pratt, *supra* note 1. As of the end of 2007, Monsanto had reached out-of-court settlements with 109 growers.
38. (12 August 2009), Winnipeg T-1362-08 (F.C.T.D.).
39. (27 July 2007), Winnipeg T-1525-05 (F.C.T.D.).
40. (11 October 2006), Saskatoon T-1704-04 (F.C.T.D.).
41. (3 February 2003), Edmonton T-1459-02 (F.C.T.D.).
42. *Schmeiser* (2001), *supra* note 29 at para. 128.
43. *Ibid.* at para. 141, citing *Lubrizol Corp. v. Imperial Oil Ltd* (1996), 67 C.P.R. (3d) 1 at 18 (F.C.A.) [*Lubrizol* (1996)].
44. *Ibid.* at para. 140.

Failing agreement on a figure representing profits, Monsanto would have been granted general damages, plus any additional established damages.[45] Two aspects of the trial decision were particularly important for the accounting of profits remedy. First, the judge rejected Schmeiser's argument that "there were no measurable profits earned" because "the defendants would have earned the same profits on sale of a canola crop that did not contain the gene."[46] Second, he expressly declared that Schmeiser's unpaid labour should be recognized as a deduction in accounting for profits.[47] The trial judge determined that the monetary award should equal no more than the profit from the sale of Schmeiser's 1998 canola crop, which was assessed at $19,832.[48] This figure was derived from the financial records of Schmeiser's accounting expert witness, who attributed a net profit of $35,034 to his crop,[49] minus an allowance of $15,202 for Schmeiser's labour. Another element of the assessment of deductions appears to be indirect fixed expenses, including those referred to as "accounting," "insurance," "depreciation,"[50] and others, which were apportioned relative to the acreage of the infringing canola. Both parties appealed to the Federal Court of Appeal.

Like the trial judge, the appellate court rejected Schmeiser's claim that, because "he realized no financial benefit" from the patent, he should not have to account for profits associated with the crop containing the patented technology.[51] It also dismissed Monsanto's appeal that the award was too high and cross-appeal that the award was too low. Accounting for profits is "fundamentally an equitable remedy" and, as such, the quantum may be adjusted on a "principled basis,"[52] which permitted Schmeiser's labour to be deductible. Both parties appealed to the Supreme Court of Canada, alleging, among other things, remedial errors.

The Supreme Court of Canada affirmed the trial and appellate rulings regarding patent infringement, but, unlike the Federal Court of Appeal, the Su-

45. *Ibid.*

46. *Ibid.* at para. 135.

47. *Ibid.* at para. 137.

48. *Schmeiser* (2003), *supra* note 9 at para. 74.

49. *Schmeiser* (2001), *supra* note 29 (Evidence, exhibit D-150). [*Schmeiser* Financial Records].

50. *Ibid.*

51. *Schmeiser* (2003), *supra* note 9 at paras. 78-80.

52. *Ibid.*

preme Court adjusted the remedy awarded by the Trial Division. The quantum of the award was reduced to zero, based on the argument that Schmeiser "made no profits *as a result of the invention.*"[53] The Supreme Court concluded that Schmeiser did not benefit from the invention because he did not sell the crop at a premium price as Roundup Ready. Schmeiser did not spray the crop with a glyphosate-based herbicide.[54] His yield, therefore, did not increase, nor were his costs reduced, by the seeds' herbicide resistance.

But what would happen if an infringer did use glyphosate-based herbicide, thus benefiting from the patent's utility? The Supreme Court's decision suggests that a patentee should only be entitled to the infringer's profits enjoyed as a result of infringement. Whether or not an infringer is liable to a patentee only for the difference between profits earned as a result of infringement and profits that would have been earned using a non-infringing alternative was an unanswered question between 2004 and 2009—a period when Monsanto settled most disputes without a trial, or, in many cases, even a lawsuit.

B. *Monsanto Canada Inc. v. Mazurkewich*

In March 2006, *Monsanto Canada Inc. v. Mazurkewich* became the first Canadian agricultural biotechnology patent infringement case to be delivered since *Schmeiser.*[55] The consent judgment in this case awarded Monsanto $80,279, with no costs, as a result of the defendant planting approximately 2000 acres of Roundup Ready canola without a licence. The award equalled roughly $40 per acre.

Mazurkewich reached the courts because the defendant breached the terms of a settlement agreement with Monsanto. Terms of the settlement had included $30,000 in monetary compensation to Monsanto and an additional undertaking to buy $70,000 worth of Monsanto products within approximately two years.[56] It is worth noting that the settlement, after subtracting the promises to purchase Monsanto products, amounted to approximately $15 per acre (roughly the ordinary licence fee for Roundup Ready seed).

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53. *Schmeiser* (2004), *supra* note 6 at para. 103 [emphasis in original].

54. *Ibid.* at paras. 102-04.

55. (20 March 2006), Edmonton T-1325-02 (F.C.T.D.).

56. *Ibid.*

C. *Monsanto Canada Inc. v. Wouters*

In June 2007, the Federal Court Trial Division made the richest award of any agricultural biotechnology patent case tried in Canada. The defendant in *Wouters* was ordered to pay Monsanto over $97,000, plus $10,000 in costs, for planting 393 acres of Roundup Ready soybeans without signing an agreement or paying the requisite licensing fees.[57] This award represented Wouters' supposed profits and equalled approximately $274 per acre (the award without costs included was, perhaps confusingly, about $247 per acre). The outcome was triumphantly publicized by Monsanto, suggesting that it should be considered a precedent-setting case in the wake of *Schmeiser*.[58]

Wouters, however, was a default judgment resulting from an inadequate, almost non-existent defence.[59] The judge's reasons did not include meaningful analysis and, as such, provide little or no jurisprudential guidance. Nevertheless, it is worth reviewing the case to demonstrate the seriousness of patent infringement litigation and the need for appropriate representation.

Monsanto elected to seek an accounting of profits, rather than damages, as a remedy for patent infringement in the case. This put the onus on Monsanto to establish (through examination for discovery and other evidence gathering) Wouters' gross revenues. Wouters was then entitled to prove allowable deductions for expenses in order to assess the net profits to be disgorged.

Court records show that Wouters initially retained a lawyer, but that the relationship did not last for unspecified reasons. Wouters was self-represented during key phases of the litigation process. Without a lawyer, he repeatedly defaulted on his obligations to the court. Most notably he did not respond to Monsanto's "requests to admit," which then deemed him to have admitted all of the facts necessary to establish an infringement.[60] Wouters also did not produce a sworn affidavit of documents, which might have provided the court with a "principled basis" to assess deductible expenses.[61] Monsanto's lawyers repeat-

57. *Wouters*, *supra* note 4 at para. 4.

58. Pratt, *supra* note 1. See also Monsanto Canada, News Release, "Ontario Grower Ordered to Pay Monsanto $107,000 for Violating Patent Rights on Roundup Ready® Soybeans" (25 June 2007), online: <http://www.monsanto.ca/about/news/2007/06_25_07.asp> [*Monsanto v. Wouters*, News Release].

59. *Wouters*, *supra* note 4 at para. 5.

60. *Ibid.*

61. *Ibid.* at para. 6.

edly encouraged Wouters to find legal counsel. At one point, Wouters even announced to the court and opposing counsel that he intended to have Percy Schmeiser represent him. This proposal was promptly refused given that Mr. Schmeiser is not a lawyer. Wouters did eventually retain another lawyer to represent him, but not until shortly before a motion to have the defence struck. At the hearing of that motion, no one appeared on Wouters' behalf.[62]

Monsanto's motion was granted and the defence was struck out. The court found in favour of Monsanto on the question of infringement, and the company was awarded Wouters' estimated profits. The court could only estimate profits because there was no evidence to account for revenues or costs of production.[63] To estimate yields and income, the court adopted Monsanto's proposal to take the average county yields and crop prices from the website of the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA)[64] and subtract the few expense receipts Wouters had disclosed to Monsanto in an un-sworn affidavit of documents.[65] Because no evidence was tendered to compare the profits of the infringing crop in relation to the best non-infringing alternative, the court had no opportunity to tailor the award to reflect the benefit provided by the infringing crop.

Given the circumstances, the amount awarded to Monsanto was, in essence, Wouters' gross revenues. The award was undoubtedly disproportionate to the actual net profits (or Wouters had, by far, the most profitable soybean crop ever), but has nevertheless been touted publicly as a warning to deter other would-be patent infringers.

D. *Monsanto Canada Inc. v. Beneteau*

In November 2007, the *Beneteau* decision resulted in an order for the defendant to pay Monsanto a lump sum of $8,800 for growing and harvesting 55 acres of soybeans containing Monsanto's patented technology. Because court

62. *Ibid.* at para. 2.

63. *Ibid.* at para. 3.

64. *Ibid.* (Evidence, Monsanto's Affidavit of Documents) [*Monsanto v. Wouters*, Affidavit of Documents]. See also Agricorp and Statistics Canada (Field Crop Reporting Series), "Soybeans: Area and Production, Ontario by County, 2004," online: <http://www.omafra.gov.on.ca/english/stats/crops/ctysoy04.htm>; Bill McGee, "Soybeans – Prices, Ontario, 1981-2008," online: <http://www.omafra.gov.on.ca/english/stats/crops/price_soybean.htm>.

65. *Monsanto v. Wouters*, Affidavit of Documents, *ibid.*

documents do not provide any hints regarding the rationale behind the agreed amount, the case provides no guidance for analyzing legal remedies in biotechnology patent infringement cases. Yet, as with *Wouters*, the per acre result was highly publicized. The fact that *Beneteau* was a consent judgment was not acknowledged. While some newspapers reported the total award,[66] headlines proclaimed damages of $160 per acre. This per acre amount is a daunting sum when multiplied by the large acreages typical of most farmers. Given that the total amount owing to Monsanto was relatively small (being less than what might be expected for costs alone if it had proceeded to trial), however, it is unsurprising that the case settled.

E. *Monsanto Canada Inc. v. Rivett* and *Monsanto Canada Inc. v. Janssens*

In January 2009, the cases of *Rivett* and *Janssens* were both heard before Justice Russel Zinn of the Federal Court. Although the two cases were technically tried separately, counsel for the parties were the same in both, arguments from counsel were basically the same, and the two cases were heard back-to-back. Not surprisingly, the decisions were consistent. The reasons in the *Janssens* decision frequently reference *Rivett*, which provided a more detailed analysis.

It is interesting to note that, even though Monsanto filed its claim against Wouters at the same time it filed against Rivett, the awards granted in the two actions are very different. The *Wouters* award was almost six times larger, per acre, than the award in *Rivett*, certainly because of the involvement of legal counsel.

The defendants in *Rivett* and *Janssens* did not contest the validity of Monsanto's patent,[67] nor the fact that they infringed it by growing Roundup Ready soybeans without signing a TUA or paying licensing fees.[68] Rivett grew 947 acres in 2004,[69] and the multiple defendants in *Janssens* collectively grew a combined 300 acres in 2004 and 2005.[70] The defendants also admitted to spraying crops with glyphosate-based herbicide and benefiting from the patented invention.

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66. Canada News Services, "Monsanto Wins Patent Violation Case" *The Star Phoenix* (12 December 2007), online: <http://www.canada.com/saskatoonstarphoenix/news/national/story.html?id=fc2b7311-4758-44b9-ab85-ddd6766928e2>.

67. *Rivett, supra* note 11 at para. 11; *Janssens, supra* note 12 at para. 8.

68. *Rivett, ibid.* at para. 7; *Janssens, ibid.* at para. 12.

69. *Rivett, ibid.* at para. 11.

70. *Janssens, supra* note 12 at paras. 8, 13-15.

In both cases, Monsanto sought accounting of profits as a remedy. With the question of infringement established, and the remedy elected by the plaintiff, the main issue to be determined was the appropriate amount of profits, if any, to be disgorged by the defendants. Each defendant testified about details related to the expenses that they had incurred. A Monsanto executive testified about the benefits of Roundup Ready seeds and the additional profit the defendants might generate.[71] Notably, one individual who did *not* testify was the defendants' proposed accounting expert witness; his evidence as an expert was inadmissible for technical reasons. The expert's statement was not of the proper form, nor was it served on the plaintiffs on time.[72] Had he been allowed to testify, he would have presented evidence regarding the costs and benefits attributable to Roundup Ready soybeans.[73] Through admissible evidence, in the form of individually submitted exhibits, the defendants were able to provide the court with a number of receipts and other evidence of legitimate deductible expenses. The defendants did not, however, offer any evidence to question the net financial benefits attributable to Roundup Ready soybean seed production.

Given the evidence, the court considered legal issues regarding the proper method for conducting an accounting of profits, the allowable deductions for expenses, and the final calculation of profits to be disgorged.[74] Monsanto argued that only direct costs attributable to the infringement should be deductible from gross revenues in determining profits to be awarded, and that it is inappropriate to consider what profits might have been without the infringement.[75] In support of this position, the plaintiff relied on "what is claimed to be 30 years of jurisprudence,"[76] as well as a recent case commentary by D.A. Aylen and M.J. Graff.[77] Monsanto and the authors of the commentary posited that if the Supreme Court had intended to overrule thirty years of precedent, it would have addressed the issue and corresponding case law more explicitly: "That the

71. *Rivett, supra* note 11 at para. 12.

72. His evidence was disallowed pursuant to the *Federal Court Rules*, S.O.R./1998-106, s. 279.

73. *Rivett, supra* note 11 at para. 13; *Janssens, supra* note 12 at para. 23.

74. *Rivett, ibid.* at para. 17; *Janssens, ibid.* at para. 24.

75. *Rivett, ibid.* at paras. 30, 34.

76. *Ibid.* at para. 42.

77. D.A. Aylen & M.J. Graff, "The 'Differential Profit' Approach in Monsanto" in *Return of the Six Minute Intellectual Property Law Lawyer* (Law Society of Upper Canada, Continuing Legal Education, Toronto, 10 November 2004) Tab 21 at 5-7.

court did not do so ... supports the position that the court was addressing the equity demanded in the particular facts in *Schmeiser*."[78] Justice Zinn disagreed and, like the Supreme Court, adopted an approach that "looks to those profits that result from the invention that is protected and eliminates those profits that may be earned but that have no causal link to the invention."[79]

The analysis then shifted to the second issue: determining which expenses could be properly deducted from the gross revenues attributable to the sale of infringing soybeans. The court allowed deductions for the costs of fertilizer, land rent, fuel, herbicide, inoculants, carbon, and crop insurance,[80] even though the defendants could not directly correlate all of the expenses to the infringing crop. There was little doubt that these costs were incurred in the course of infringement. Rivett, for example, could show total farm operating expenses attributable to his entire 3,516-acre farm, but could not precisely identify how much of each expense was attributable to the 947 acres of infringing crop. The court, approaching the profits assessment on a principled basis, permitted an apportionment of these expenses based on the percentage of infringing acres, which was determined to be 26.9 per cent of the farming operation.[81]

Where the defendants did not offer any evidence related to a given expense, even if it was clear that the expense was incurred and could have been deductible, it was disallowed. For example, Rivett could not provide receipts for all the land he rented, so there was no basis to allow this particular deduction.[82] In *Janssens*, the court permitted no deductions for the 2004 infringing crop because there was no evidence pertaining to that crop, despite pleadings that "soybeans do not plant, cultivate and harvest themselves,"[83] and that the 2005 crop expenses should be comparable. Property tax deductions were also disallowed because the defendants provided no evidence in this regard.[84]

In addition to listing permissible deductions, the court commented on a number of expenses that should not normally be deductible. In *Rivett*, the court

78. *Rivett*, *supra* note 11 at para. 44.

79. *Ibid.* at para. 53.

80. *Ibid.* at paras. 70-93; *Janssens*, *supra* note 12 at paras. 35-41.

81. *Rivett*, *ibid.* at para. 68.

82. *Ibid.* at paras. 80-81. Determining an amount for land rent was further complicated by the fact that Rivett exchanged farm services and hay for some of the land rent.

83. *Janssens*, *supra* note 12 at para. 33.

84. *Ibid.* at para. 52.

expressly rejected costs such as "general farm insurances, capital depreciation, water, electricity, etc." as "too indirect."[85] The court also rejected submissions by the defendants in *Janssens* that deductions should be allowed to reflect services performed by the defendants, such as "harvesting, trucking, spraying, [and] marketing"[86] the infringing crop. The court felt that it would be too difficult to disentangle labour costs and profits normally figured into custom rates charged by third parties.[87] A deduction for the defendant's own labour was denied in both *Rivett* and *Janssens*.[88]

The kinds of deductions denied in *Rivett* and *Janssens* were allowed in *Schmeiser*, including general insurance, depreciation, accounting, and labour costs.[89] The table in Appendix A summarizes various allowable or disallowable deductions in these cases.

After determining deductible expenses, the remaining question was: what profits were attributable to the infringement? The only admissible evidence on this point came from testimony for Monsanto indicating the relative profitability of Roundup Ready crops compared to conventional crops, through increased yield and lower costs of production.[90] While Monsanto's evidence showed a difference in profitability of roughly 18 per cent, the court adjusted the figure, in Monsanto's favour, to 31 per cent because infringers paid nothing for their seed. This adjustment effectively compared the profitability of Roundup Ready soybeans from free seed with the profitability of conventional soybeans from bought seed. By implication, the court discounted the defendants' actual net profits by 69 per cent to represent the profits that would have been earned using the best non-infringing option.

In the end, the court in *Rivett* calculated the damages award at $40,138, or $42 per acre.[91] The defendants in *Janssens* were ordered to disgorge a total of $14,538 between them, for both years of infringement, amounting on average

85. *Rivett, supra* note 11 at para. 69.

86. *Janssens, supra* 12 at para. 42.

87. *Ibid.* at para. 43.

88. *Rivett, supra* note 11 at paras. 90-92; *Janssens, ibid.* at para. 43.

89. *Schmeiser* Financial Records, *supra* note 49; *Schmeiser* (2003), *supra* note 9 at para. 87.

90. *Rivett, supra* note 11 at paras. 100-01.

91. *Ibid.* at para. 102.

to $48 per acre,[92] plus legal costs and interest. The tables in Appendix B provide a detailed financial breakdown of these awards.

III. REMEDIES IN GENERAL CONTEXT

The foregoing discussion of recent case law may lead some people to believe that the difficulties in this area of the law are mainly mathematical. To the contrary, there are deep conceptual problems, information asymmetries among plaintiffs' and defendants' counsel, quirky fact patterns, and seemingly *ad hoc* decision making in many patent infringement remedies cases. To understand fully the nature of the problem and to begin to explore possible solutions, it is necessary to put the remedy of accounting of profits in agricultural biotechnology patent infringement cases in a broader context.

Relief sometimes granted in Canadian patent infringement cases can include: general damages, punitive damages, accounting of profits, injunctions, and/or orders to deliver-up infringing goods.[93] Although injunctions and delivery-up orders are important remedies, this article focuses on the monetary remedies of general damages, punitive damages, and, more specifically, accounting of profits.

A. General Compensatory Damages

The *Patent Act* provides a patent holder with a right to damages for losses suffered from a proven patent infringement.[94] The aim of such an award is "to compensate the plaintiff for any losses suffered by the plaintiff as a result of the infringement"[95] and to put the patent holder back into the position that he or she would have been in had the infringement not occurred.[96] Although courts have stated that "damages should be liberally assessed," a damage award is still limited by "that which a plaintiff may lawfully prove."[97]

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92. *Janssens, supra* note 12 at para. 51.

93. See generally Daniel Gervais & Elizabeth F. Judge, *Intellectual Property: The Law in Canada* (Toronto: Thompson Canada, 2005) at 475.

94. *Patent Act, supra* note 23, s. 55.

95. *Bayer Aktiengesellschaft v. Apotex Inc.* (2001), 10 C.P.R. (4th) 151 (Ont. Sup. Ct.) at para. 12 [*Bayer*]; See also *Beloit Canada Ltd. v. Valmet-Dominion Inc.*, [1997] 3 F.C. 497 (F.C.A.) [*Beloit* (1997)].

96. (1998), 142 F.T.R. 241 at para. 19 (F.C.T.D.) [*AlliedSignal* (1998)].

97. *Unilever PLC v. Procter & Gamble Inc.* (1995), 98 F.T.R. 80 at para. 47 (F.C.A.).

Courts will consider various means to assess damages in patent cases. Generally, damage awards represent lost sales in the form of profits a patentee would have made but for the infringement. If a patentee's revenue stream happens to come from licences to use the patent, then damages will generally be based on lost royalties.[98] This principle was stated in *AlliedSignal Inc. v. Du Pont Canada Inc.*: "Where the patentee has licensed its invention in the past, it is 'almost a rule of law' to assess damages in terms of a reasonable royalty; *i.e.*, according to what the infringer would have paid if it had entered into a legitimate licensing agreement with the patentee."[99]

Because agricultural biotechnology licensing fees are a standard rate, calculating damages in patent infringement cases should be straightforward. A damage award merely covering lost royalties, however, is unappealing to patent owners, mainly because it provides little or no potential deterrent to future infringers.

B. Punitive Damages

Punitive damages are not compensatory in nature. Their goals are to punish a defendant, to express "outrage at the egregious conduct,"[100] and to "act as a deterrent to the defendant and to others from acting in this manner."[101] They are generally reserved for situations where they will "serve a rational purpose,"[102] and where compensatory damages "would be insufficient to achieve the goal of punishment and deterrence."[103] This requires "high-handed, malicious, arbitrary or highly reprehensible conduct that departs to a marked degree from ordinary standards of decent behaviour."[104] The general test is: "[W]as the misconduct of the defendant so outrageous that punitive damages were rationally required to act as deterrence?"[105]

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98. François M. Grenier & Alexandra Steele, "Litigation Procedures and Remedies" in Donald M. Cameron, Chair, *Intellectual Property Law Primer: Focus on Patent Law* (Law Society of Upper Canada, Donald Lamont Learning Centre, 18 September 2007) Tab 9 at 40-41.

99. *AlliedSignal* (1998), *supra* note 96 at para. 22. See also *Meters Ltd. v. Metropolitan Gas Meters Ltd.* (1911), 28 R.P.C. 157 at para. 164 (C.A.); *Catnic Components Ltd. v. Hill & Smith Ltd.* (1982), R.P.C. 183 (H.L.).

100. *Hill v. Church of Scientology of Toronto*, [1995] 2 S.C.R. 1130 at para. 196 [*Hill*].

101. *Ibid.* at para. 196.

102. *Ibid.* at para. 197.

103. *Ibid.* at para. 196.

104. *Whiten v. Pilot Insurance Co.*, [2002] 1 S.C.R. 595 at para. 94.

105. *Ibid.* at para. 100.

Canadian courts have been careful to not award punitive damages liberally. Requests for such awards should be subject to "careful consideration," and the courts' discretion to award them should be "cautiously exercised."[106] If a court finds punitive damages to be warranted, the quantum should not be excessive, but, rather, in keeping with the "Canadian experience" of "relatively modest" punitive damage awards.[107]

Although rare, punitive damages are available in Canadian patent infringement cases.[108] A court may grant such a remedy where the state of mind of the defendant is callous, reprehensible, vindictive, or outrageous.[109] Circumstances that have led Canadian courts to grant punitive damages in patent infringement cases include a wilful breach of an injunction,[110] litigation misconduct, or abuse of process.[111] In patent infringement cases, as in other cases, the purpose of awarding punitive damages is both to punish the defendant for wrongdoing and to deter others from engaging in similar conduct.[112]

Although deterrence is a factor in determining the appropriateness of punitive damages, Canadian courts are not inclined to provide such a remedy in cases where the only rationale for awarding punitive damages is the intentional infringement of a patent. In *Dimplex North America Ltd. v. CFM Corp.*, the judge stated: "There are no patent cases in the Federal Court that I am aware of where punitive damages have been awarded simply because the defendant knowingly or intentionally infringed the patent without more."[113]

This position was later affirmed in *Wi-Lan Technologies Corp. v. D-Link Systems Inc.*, where the court held that, despite "callously, knowingly and wil-

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106. *Vorvis v. Insurance Corporation of British Columbia*, [1989] 1 S.C.R. 1085 at para. 24.

107. *Ibid.* at para. 62.

108. *Lubrizol* (1996), *supra* note 43 at paras. 33, 41.

109. *Ibid.* at paras. 38, 40.

110. *Ibid.* at para. 38; *Apotex Inc. v. Merck & Co.* (2002), 219 F.T.R. 259 at paras. 41, 45 (F.C.T.D.).

111. In a recent case involving copyright infringement, for example, punitive damages were awarded where there was infringement, a cease-and-desist letter was ignored, and the defendant expressed a preference to pay legal fees rather than abide by the law. See *Profekta International Inc. v. Lee (c.o.b. Fortune Book & Gift Store)* (1997), 75 C.P.R. (3d) 369 at para. 6 (F.C.A.).

112. *Hill, supra* note 100 at paras. 195-203.

113. (2006), 292 F.T.R. 38 at para. 123 (F.C.).

fully" infringing the plaintiff's patent, the defendant's conduct failed to constitute "misconduct that represents a marked departure from ordinary standards of decent behaviour."[114] Short of facts that demonstrate "abuse, fraud, malice, contract, fiduciary obligation, agency, or the like," the court advised that there should be no definitive conclusion warranting punitive damages.[115] It has also been acknowledged that ignoring cease-and-desist threats from plaintiff's counsel will not warrant punitive damages.[116]

Canadian courts' cautious approach to punitive damages has been consistent in agricultural biotechnology patent infringement cases. In response to Monsanto's claims for punitive damages at trial in the *Schmeiser* case, for *e.g.*, the court determined that Schmeiser did not act in a manner that would "warrant punishment" or "condemnation by the court,"[117] regardless of his actual or imputed knowledge that he was using the company's patented technology. Since *Schmeiser*, Monsanto has reduced efforts to obtain punitive damages from infringing farmers. Although it initially claimed punitive damages in the *Rivett* and *Janssens* cases, by the time these cases went to trial, Monsanto dropped those claims, citing *Dimplex* as the reason.

In contrast, punitive damages have been readily awarded by US courts in agricultural biotechnology patent infringement cases. In the United States, intentional and wilful infringement could result in a tripling of damage awards. To date, Monsanto has filed over a hundred lawsuits against farmers and small farm businesses in the United States (compared to only ten lawsuits filed in Canada). Approximately half of these lawsuits have ended with damage amounts totalling over US $21,000,000 (compared to just over $240,000 in Canada). The largest US award is over $3,000,000 (compared to $97,000 in Canada), while the average has been about US $400,000.[118]

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114. (2006), 57 C.P.R. (4th) 1 at para. 7 (F.C.).

115. *Ibid.* at para. 10.

116. *Jay-Lor International v. Penta Farm Systems Ltd.* (2007), 59 C.P.R. (4th) 228 at para. 257 (F.C.) [*Jay-Lor*].

117. *Schmeiser* (2001), *supra* note 29 at para. 141.

118. For the source of these US statistics, see Center for Food Safety, Bulletin, "Monsanto vs. U.S. Farmers: November 2007 Update," online: Center for Food Safety <http://truefoodnow.files.wordpress.com/2009/12/monsanto20november20200720update.pdf>. Canadian statistics are current up to August 2009.

Arguably, the American approach to punitive damages provides a more effective deterrent against infringement. If damages are elected, the prospect for a large award is greater in the United States than it is in Canada. It is important to point out that an accounting of profits remedy is not available in the United States as it is in Canada. Since 1946, an infringer's profits have not been recoverable for infringement of a utility patent in the United States.[119] It may be argued that providing for an accounting of profits, which has the potential to generate large awards, is Canada's way of deterring infringement.

C. Accounting of Profits

Damages compensate a plaintiff for direct losses suffered as a result of infringing activity, or serve to punish infringers and deter future infringements. An accounting of profits, however, awards to a plaintiff the profits improperly earned by a defendant as a result of infringement. The objective is not to punish the infringer (though the infringer may be deterred), nor to compensate the plaintiff, but, rather, to remedy the defendant's unjust enrichment by transferring profits to the patent owner.[120] The principle was explained in one case as follows:

> An accounting of profits ... aims to disgorge any profits improperly received by the defendant as a result of its wrongful use of the plaintiff's property. Such profits, having been earned through the use of the plaintiff's property, rightly belong to the plaintiff. The aim is to remedy the unjust enrichment of the defendant by transferring these profits to their rightful owner.[121]

The Supreme Court in *Strother v. 3464920 Canada Inc.*[122] described the purpose of the disgorgement of profits remedy to be either or both "prophylactic" and "restitutionary." As pointed out in *Rivett*: "[I]f one assumes that the motive for the infringement is profit, then ordering a wrong-doer to hand over those

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119. See J. Thomas McCarthy, *McCarthy's Desk Encyclopedia of Intellectual Property* (Washington: BNA Books, 1991) at 246.

120. *Reading & Bates Construction v. Baker Energy Resources Corp.*, [1995] 1 F.C. 483 at para. 12 (F.C.A.) [*Reading & Bates*]. See also *Teledyne Industries v. Lido Industrial Products Ltd.* (1982), 68 C.P.R. (2d) 204 (F.C.T.D.) [*Teledyne*]; *Beloit Canada Ltd. v. Valmet Oy* (1994), 78 F.T.R. 86 at para. 71 (F.C.T.D.) [*Beloit* (1994)] , var'd on other grounds (1995), A.C.W.S. (3d) 1252; *Lubrizol* (1996), *supra* note 43 at paras. 37, 41; and *Bayer*, *supra* note 95 at para. 12.

121. *Bayer*, *ibid.*, citing *Beloit* (1994), *ibid.* at para. 130.

122. [2007] 2 S.C.R. 177 at paras. 75-76.

profits to the person who has been wronged will generally serve to deter that wrong-doer and others who might be like-minded."[123]

Canadian courts usually permit a plaintiff to elect between damages and accounting of profits.[124] The remedy however is equitable; therefore, offering this choice is at the court's discretion.[125] The court may consider practical consequences, including expediency,[126] difficulties associated with ordering accounting of profits,[127] and misbehaviour by either a plaintiff or a defendant in the course of litigation.[128]

In the past, a plaintiff was entitled to an accounting of profits, unless it was shown that he or she had somehow disentitled himself or herself from it. More recent case law, however, indicates that a patentee must show through positive evidence that he or she is entitled to an accounting of profits.[129] If an election is permitted by the court, a plaintiff's decision must be made at the beginning of the action, after discoveries, but before knowing which remedy the court will determine to be the greater award. A plaintiff cannot subsequently re-elect for the more profitable option.[130] The rule was affirmed in *Schmeiser*, where the court held that "damages [were] not available, in view of Monsanto's election to seek an accounting of profits."[131]

An accounting of profits awards net profits incurred as a result of a defendant's infringing activity. Where a defendant has been ordered to account for

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123. *Rivett*, *supra* note 11 at para. 20.

124. *AlliedSignal Inc. v. Du Pont Canada* (1995), 95 F.T.R. 320 at para. 77 (F.C.A.) [*AlliedSignal* (1995)].

125. *Ibid.* See also *Apotex Inc. v. Wellcome Foundation Ltd.* (1998), 145 F.T.R. 161 at para. 381 (F.C.T.D.) [*Apotex*], var'd on other grounds [2001] 1 F.C. 495 (F.C.A.), citing *Beloit* (1997), *supra* note 95 at para. 111.

126. *Apotex*, *ibid.* at para. 384, citing *Beloit* (1997), *ibid.*

127. *Ibid.*

128. Norman Siebrasse *et al.*, "Accounting of Profits in Intellectual Property Cases in Canada," (2008) 24 C.I.P.R. 82 at 119. For a revised and updated version, see Norman Siebrasse *et al.*, "Accounting of Profits in Intellectual Property Cases in Canada" at 39, online: <http://www.coleandpartners.com/pdf/Accounting.pdf>. See also Grenier & Steele, *supra* note 98 at para. 42; *Dableh v. Ontario Hydro* (1993), 67 F.T.R. 241 at paras. 121-25 (F.C.T.D.), rev'd on other grounds (1996), 68 C.P.R. (3d) 129 (F.C.A.).

129. Grenier & Steele, *ibid.* at 43.

130. *AlliedSignal* (1995), *supra* note 124 at para. 77.

131. *Schmeiser* (2004), *supra* note 6 at para. 100.

profits, the onus is on the plaintiff to prove the defendant's revenue generated through patent infringement,[132] though a defendant may provide evidence of the actual revenues received.[133] The defendant must, by positive evidence, prove legitimate deductions for expenses.[134]

It is critical that defendants properly evidence expenses when this remedy is sought. Failure to do so will dramatically affect any award granted. That explains the extraordinary per acre award in the *Wouters* decision, where the essentially self-represented defendant provided no account of his revenues and a woefully inadequate account of his expenses.[135] Although courts have called for "positive evidence"[136] when it comes to a defendant's obligation to account for deductions, case law confirms that the court may take a "principled approach" to assessing the quantum of allowable expenses.[137] Reasonable estimates of expenses may even be accepted.[138] In *AlliedSignal* (1998), for example, the court held that "[t]he fact that it is difficult to calculate the costs on a per-unit basis ... does not vitiate the Court's obligation to make its best estimate, and ultimately to take such costs into account."[139] This was also the approach in agricultural biotechnology patent cases, including *Schmeiser,* where the court permitted a "reasonable allowance" for the unaccounted labour of the defendant.[140] In *Rivett,* the court permitted the defendant to deduct a portion of input expenses, such as fertilizer and fuel, which were incurred in relation to the infringing activity, but not easily disentangled from other non-infringing activities.[141] Although the courts seem inclined to take a principled approach to as-

132. *Reading & Bates, supra* note 120 at para. 16. See also *Schmeiser* (2003), *supra* note 9 at para. 81.

133. Siebrasse *et al., supra* note 128 at para. 8.

134. *Schmeiser* (2003), *supra* note 9 at para. 81. See also *Teledyne, supra* note 120; *Rivett, supra* note 11 at para. 67.

135. *Wouters, supra* note 4 at para. 3.

136. *Teledyne, supra* note 120 at para. 11.

137. *Rivett, supra* note 11 at para. 67.

138. *Wellcome Foundation Ltd. v. Apotex* (2001), 11 C.P.R. (4th) 218 at paras. 44-45 (F.C.A.) [*Wellcome Foundation* (2001)].

139. *Supra* note 96 at para. 144.

140. *Schmeiser* (2001), *supra* note 29 at paras. 137-38, aff'd *Schmeiser* (2003), *supra* note 9 at paras. 82-87.

141. *Rivett, supra* note 11 at para. 68.

sessing expense deductions, there are limits. In both *Rivett* and *Janssens*, the court made it clear that the principled approach to assessing deductions is limited to the evidence before it.[142] That was also the case in *Wouters*.[143]

No one would dispute that some expenses are properly deductible from gross revenues in accounting for net profits to be disgorged. Controversy exists, however, over which expenses are deductible. The bulk of the case law since the 1982 *Teledyne* decision has addressed this question. The basic questions courts have been asking are: (1) Which expenses were incurred because of the infringing activity? and (2) Which expenses would have been incurred in any event?

Courts have taken several different approaches. One approach suggests that all expenses actually incurred are deductible against income. This is known as the "full cost" approach,[144] sometimes referred to by different courts and commentators as the "absorption method"[145] of assessing deductible expenses. Other courts have concluded that only expenses incurred because of the infringing activity, which would not have incurred but for the infringement, are deductible from income. This has been referred to in many cases and commentaries as the "differential cost"[146] approach, as well as the "differential"[147] approach, the "direct cost"[148] method, the "differential profit" approach, the "variable cost" approach,[149] and the "incremental"[150] method of assessing deductible expenses.

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142. *Ibid.* at paras. 78, 81; *Janssens, supra* note 12 at paras. 33, 52.

143. *Wouters, supra* note 4 at para. 3.

144. See *e.g. Diversified Products Corp. v. Tye-Sil Corp.* (1990), 38 F.T.R. 251 at para. 2 (F.C.T.D.) [*Diversified Products*]; *Beloit* (1994), *supra* note 120 at para. 23; *Wellcome Foundation Ltd. v. Apotex* (1998), 151 F.T.R. 250 at para. 42 (F.C.T.D.) [*Wellcome Foundation* (1998)]; *Baker Petrolite Corp. v. Canwell Enviro-Industries Ltd.*, [2002] 2 F.C. 3 at para. 161 (F.C.T.D.) [*Baker Petrolite*], rev'd on other grounds [2003] 1 F.C. 49 (F.C.A.); and *Rivett, supra* note 11 at paras. 32-33.

145. See *e.g. Diversified Products, ibid.* at para. 2; *Wellcome Foundation* (1998), *ibid.* at para. 31; and *Rivett, ibid.* at para. 28.

146. See *e.g. Diversified Products, ibid.*; *Wellcome Foundation* (1998), *ibid.*; *Jay-Lor, supra* note 116 at para. 137; and *Rivett, ibid.*

147. See *e.g. Baker Petrolite, supra* note 144 at para. 161; *Beloit* (1994), *supra* note 120 at para. 23; and *Teledyne, supra* note 120 at para. 15.

148. See *e.g. Teledyne, ibid.*

149. Siebrasse *et al.*, *supra* note 128 at 15-17.

Without diminishing the importance of the semantics, which are discussed in detail below, the real controversy in assessing which expenses are deductible to calculate net profits is a controversy over principle. The full cost method of assessing expenses resembles the generally accepted accounting principles (GAAP).[151] All direct expenses, plus a reasonable proportion of indirect expenses, are allowable deductions in calculating the costs associated with a particular product.[152] The differential cost method accounts for all revenue, minus only expenses that would not have occurred but for the infringing activity, thus omitting indirect expenses from the equation.

The so-called "differential cost" method has generally been adopted as the preferred approach since *Teledyne*. The court in that case decided that only expenses directly attributable to the infringing activity should be accounted for: "No part or proportion of any expenditure which would have been incurred had the infringing operation not taken place, is to be considered as deductible."[153] The court further held that:

> [J]ustice requires that [the differential] method of determining net profits be adopted. It would be contrary to the basic principles of equity to allow the infringer to deduct, as opposed to the increase of fixed expenses attributable to the infringing operation, such part of all its fixed costs as might be attributable proportionately to the operation. This would constitute in effect unjust enrichment of the infringer.[154]

Courts have adopted this reasoning in subsequent cases. For example, in *Diversified Products Corp. v. Tye-Sil Corp.*, the court held that "[i]t is well established ... that a differential [cost] or incremental approach is appropriate to determine an accounting of a defendant's [costs] in patent infringement cases."[155] The "differential cost" method was also preferred in *Wellcome Foundation* (1998), where the court held that:

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150. See *e.g. Diversified Products*, *supra* note 144 at para. 2; *Wellcome Foundation* (1998), *supra* note 144 at para. 42; *Jay-lor*, *supra* note 116 at para. 137; and *Rivett*, *supra* note 11 at para. 28.

151. GAAP is the common set of accounting principles, standards, and procedures that are used to compile financial statements in Canada and many other countries.

152. In the context of full cost accounting, see Siebrasse *et al.*, *supra* note 128 at 18.

153. *Teledyne*, *supra* note 120 at para. 9.

154. *Ibid.* at para. 7.

155. *Supra* note 144 at para. 3.

> No part or portion of any expenditure which would have been incurred had the infringing activity not taken place is to be considered deductible. In this approach only that portion of indirect costs or fixed costs that can fairly be attributable to the infringing activity is deductible, as opposed to the absorption or full cost approach which provides for allocation of a portion of all indirect or fixed costs to be attributed to that activity.[156]

This approach has also been accepted in agricultural biotechnology patent infringement cases, specifically. The Federal Court of Appeal stated in *Schmeiser* (2003) that "the only costs to be taken into account are those directly associated with the infringing activity."[157]

However, the amount actually awarded in *Schmeiser* by the appellate court appears to have been based on a standard income statement provided to the court by Schmeiser's accounting expert witness. Because a standard income statement allows deductions from a reasonable portion of indirect and fixed expenses, the court really used the "full cost" method to account for expense deductions. More precisely, the court allowed for deductions such as "accounting," "insurance," "depreciation," and others, proportioned relative to the acreage of infringing canola grown.[158] Even though the court expressly purported to prefer the differential cost method in *Schmeiser*, it contradictorily accepted deductions that would normally only be permitted when using the full cost approach. So it is not exactly true, as stated in *Rivett*, that: "If the full cost approach has ever been endorsed by this Court, it has not been of late."[159] It was actually adopted, albeit unintentionally perhaps, by the Federal Court of Appeal in *Schmeiser*. There is probably no better proof than this of the serious definitional and conceptual problems plaguing this area of the law.

One source of great confusion seems to involve basic accounting terminology: fixed versus variable, capital versus current, direct versus indirect, and so on. Take the discussion in *Rivett* as an example. Deductible expenses under the differential cost approach were said to include "the variable or current expenses directly attributable to the infringement and any increased, fixed or capital expenses that are directly attributable to the infringement."[160] In accounting par-

156. *Wellcome Foundation* (1998), *supra* note 144 at para. 42.

157. *Supra* note 9 at para. 81.

158. *Schmeiser* Financial Records, *supra* note 49.

159. *Supra* note 11 at para. 33.

160. *Ibid.* at para. 30.

lance, variable expenses and current expenses are not synonymous terms, nor are fixed expenses and capital expenses. It is not clear whether Justice Zinn was using them as such. What he really seemed to be saying is that, using the differential cost approach, all expenses—variable, current, increased, fixed, or capital—that are directly attributable to the infringement, are deductible. He characterized the "full cost approach" as additionally allowing deductions for "the relevant portion of the common costs incurred by the infringer."[161] It seems what he really meant by "common costs" were indirect costs.

Even the *Teledyne* decision at the root of this controversy used odd terminology to distinguish a defendant's deductible expenses ("the increase of fixed expenses attributable to the infringing operation") from its non-deductible expenses ("part of all its fixed costs attributable proportionately to the operation").[162] The court seemed to mean variable costs when it used the unorthodox phrase "increase of fixed expenses," but there also seems to have been some intention to distinguish directness from indirectness with the vague language surrounding "attributable" costs.

Similarly, in *Wellcome Foundation* (1998), a distinction was drawn between "that portion of indirect costs or fixed costs that can fairly be attributable to the infringing activity" (deductible) and "allocation of a portion of all indirect or fixed costs to be attributed to that activity" (non-deductible).[163] First, like variable and current costs, or fixed and capital costs, indirect and fixed costs are not synonyms, so they should not be used interchangeably. Fixed or variable costs can be direct or indirect. Second, it is nonsensical to speak about fairly attributing indirect costs to the infringing activity. If the costs are attributable (on a "but for" standard) to the infringing activity, then they are properly called direct costs of that cost object.

The Federal Court of Appeal in *Schmeiser* (2003) came the closest to stating the differential costs principle accurately (whether the principle is appropriate is another matter) when it said, simply, that "the only costs to be taken into account are those directly associated with the infringing activity."[164] The court muddied the waters when it said one thing and did another.

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161. *Ibid.* at para. 32.

162. *Teledyne*, *supra* note 120 at para. 12.

163. *Supra* note 144 at para. 42.

164. *Supra* note 9 at para. 81.

More generally, Professor Norman Siebrasse and his co-authors have correctly pointed out that the *Teledyne* decision should not be interpreted to rule out the possibility of ever deducting indirect, fixed costs. They might be appropriately deductible in a case where the defendant can demonstrate that "but for the infringement, some non-infringing opportunity would have been taken up."[165] Similar sentiments were expressed by Justice Zinn in *Rivett*: "In short, *Teledyne* was a situation where the Court was assessing the profits made by an existing business, by the addition of a new product line, where there was no next best alternative available that would have generated profit."[166]

Disallowing deductions for portions of fixed costs may make sense in relation to non-agriculture-related Canadian patent infringement cases because such cases typically involve similar facts as *Teledyne*: a defendant who had allegedly improperly used or made a patented invention in relation to a product line that would not have existed otherwise. For example, in *Diversified Products*, the court referred to the "differential [cost] method as being the proper approach to determine the profit added to an existing business, as the result of the establishment of a new product line."[167] In agricultural biotechnology patent infringement cases, however, the infringing activity typically substitutes for a readily available and rather similar non-infringing option. As a result, all or most expenses would have been incurred if the infringement had not taken place. Accordingly, there would be no, or few, deductible expenses, which could result in an award of gross rather than net profits.

Although the terms and concepts just discussed were coined and adopted by courts and commentators for the purpose of calculating the expenses which should be deductible from income, problems are compounded because similar language is sometimes used to differentiate various approaches to calculating net profits, which depends on *both* attributable expenses and income. For example, in *Diversified Products*, the court considered the "differential method as being the proper approach to determine the *profit*."[168] So long as expenses were the only relevant variable in calculating profits (*i.e.*, speculative income comparisons were irrelevant), this language was fine. But the use of such terms by

165. Siebrasse *et al.*, *supra* note 128 at 18.

166. *Supra* note 11 at para. 58.

167. *Supra* note 144 at para 3.

168. *Ibid.* [emphasis added].

the Federal Court in *Rivett*, the court's most recent decision on this topic, is confusing. *Rivett* considered "three possible approaches to determining the profits of the infringer [including:] (a) The value based or differential profit approach; (b) The variable cost or incremental costs or differential cost approach; and (c) The full absorption or full cost approach."[169] This framework obscures the correlation between the parallel but distinct investigations into calculating revenues and expenses that together determine profits.

Much of the recent confusion stems from remarks made by the Supreme Court of Canada in *Schmeiser*, where, for the first time in Canada, it was held that accounting of profits might involve a comparison of the benefits attributable or not attributable to the patent infringement. The Court called this the "differential profit"[170] approach, a term that had been used before. In looking at the benefits of infringement, however, the Supreme Court opened the new possibility to differentiate between attributable and unattributable income.

Income differentials resulting from patent infringement could result from higher prices for the product or, as is particularly relevant in the context of agricultural biotechnology patents, higher yields. In general, this sort of analysis has been referenced (though never adopted prior to *Schmeiser*) as the "value-based"[171] approach, the "comparative"[172] method, or the "apportionment"[173] method in various cases.[174] The Court in *Schmeiser* took the position that "the inventor is only entitled to that portion of the infringer's profit which is causally attributable to the invention."[175] In effect, the *Schmeiser* ruling limits potential claims to actual profits earned from the infringing activity, minus those profits which could have been made by using an available non-infringing alternative.

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169. *Rivett, supra* note 11 at para. 28.

170. *Schmeiser* (2004), *supra* note 6 at para. 102. See also *Rivett, supra* note 11 at para. 29; *Janssens, supra* note 12 at para. 25.

171. See *e.g. Rivett, ibid.* at para. 28.

172. See *e.g. Reading & Bates, supra* note 120 at para. 21; *Wellcome Foundation* (1998), *supra* note 144 at para. 31.

173. See *e.g. Beloit* (1994), *supra* note 120 at para. 72; *Bayer, supra* note 95 at para. 11.

174. *Schmeiser* (2004), *supra* note 6 at para. 101; *Rivett, supra* note 11 at para. 53; and *Janssens, supra* note 12 at para. 25. See also *Calgon Carbon Corp. v. North Bay (City)* (2006), 304 F.T.R. 1 at para. 218 (F.C.T.D.) [*Calgon Carbon*].

175. *Schmeiser* (2004), *ibid.* at para. 101.

The Supreme Court's acceptance of this approach represents a fundamental change in the method of calculating an award for accounting of profits in some cases. In the decades before *Schmeiser*, courts had determined "actual profits,"[176] sometimes called "gross profits," as a simple matter of fact.[177] The pre-*Schmeiser* jurisprudence is illustrated in *Reading & Bates Construction Co. v. Baker Energy Resources Corp.*, where the court rejected the defendant's contention that profits are determined by comparing the profits made from the infringing activity with those that could have been made from a non-infringing alternative.[178] It held, instead, that one must look at the profits that were "actually made through the infringing acts," not the profits that could have been made without infringement.[179] A similar conclusion was reached in *Wellcome Foundation* (2001),[180] citing the US Supreme Court decision of *Tilghman v. Proctor*[181] as an authority. The court concluded that the "comparative method" of assessing profits was too "speculative" and ignored "actual profits earned by [the defendant] which the remedy to account for profits is intended to capture."[182]

The Supreme Court of Canada in *Schmeiser*, however, held that a "comparison is to be made between the defendant's profit attributable to the invention and his profit had he used the best non-infringing option."[183] Similar to the *Teledyne* principle, where only expenses that would have not occurred but for the infringement may be deducted from revenue, the so-called differential profits approach essentially considers both *revenues* and *expenses* that would not have been made but for the infringement.[184] The combination of factors that

176. See *e.g. Beloit* (1994), *supra* note 120 at para. 69; *Reading & Bates*, *supra* note 120 at para. 22; *Wellcome Foundation* (1998), *supra* note 144 at para 32; *Bayer*, *supra* note 95 at para. 14; and Siebrasse *et al.*, *supra* note 128 at 18.

177. See *e.g. Rivett*, *supra* note 11 at paras. 96, 98; *Janssens*, *supra* note 12 at para. 26.

178. *Supra* note 120 at para. 21.

179. *Ibid.* at para. 22.

180. *Wellcome Foundation* (2001), *supra* note 138 at para. 15.

181. 125 U.S. 136 (1888).

182. *Wellcome Foundation* (1998), *supra* note 144 at para. 37, aff'd *Wellcome Foundation* (2001), *supra* note 138 at para. 19.

183. *Schmeiser* (2004), *supra* note 6 at para. 102.

184. Norman V. Siebrasse, "Accounting of Profits" *CA Magazine* 139:10 (December 2006) 45.

might influence profitability—price, yield, and costs—is reflected in the following statement from the Supreme Court:

> Their (the defendants') profits were precisely what they would have been had they planted and harvested ordinary canola. They sold the Roundup Ready Canola they grew in 1998 for feed, and thus obtained no premium for the fact that it was Roundup Ready Canola. Nor did they gain any agricultural advantage from the herbicide resistant nature of the canola, since no finding was made that they sprayed with Roundup herbicide to reduce weeds.[185]

The novelty of the *Schmeiser* decision was an attribution of income (through price and/or yield), not just costs, to particular infringing versus non-infringing activities—or, more accurately, infringing versus non-infringing traits of the crop. Subsequent case law and commentary has so far failed to frame the change in this way. Nevertheless, this new approach now appears to be the preferred method to calculate profits in recent Canadian patent infringement cases. In *Rivett*, Justice Zinn, after a lengthy analysis that discussed the merits of the method, applied the differential profits approach.[186] For the same reasons described in *Rivett*, the differential profits approach was also employed in *Janssens*.[187]

One of the problems in coming to terms with the *Schmeiser* approach is related to terminology. The Court in *Schmeiser* spoke about and adopted the "differential profits" approach, which is easily confused with the "differential costs" approach. The effects of these approaches could not be more different. Employing the differential *costs* approach reduces infringement-attributable deductions, resulting in a higher accounting of profits. The differential *profits* approach reduces infringement-attributable income, as well as costs, potentially resulting in a lower accounting of profits. Defendants in patent infringement cases would want to support the *differential profits* and *full cost* approaches. Plaintiffs would want to support the *full* or *actual profits* and *differential cost* approaches. Judges, counsel, or anyone else cannot be blamed for being confused. The solution proposed in this article is a rule of thumb requiring consistent application of the *differential profits approach* to both income and costs, and, therefore, profits.

Siebrasse and his co-authors have pointed out, insightfully, that *Schmeiser*'s new approach to calculating comparative profits "does not require wholesale

185. *Schmeiser* (2004), *supra* note 6 at para. 104.

186. *Rivett*, *supra* note 11 at paras. 34-65.

187. *Janssens*, *supra* note 12 at para. 25.

rejection of prior case law," and that the current and former approaches may often converge in practice.[188] Specifically, pre-*Schmeiser* cases that calculate profits to be accounted for attempted to allocate benefits attributable to infringement indirectly by using complicated and inconsistent cost-based approaches.[189] Justice Zinn cited Siebrasse's work in correctly observing that it has long been held "that there are occasions when, in spite of there being an infringement, an accounting of profits, to be equitable, requires an apportionment of the profits made between the infringer and the patentee."[190]

Though it is true that, in some cases, the new approach may make little difference, in other cases it may have a significant impact on awards. If an accounting of profits is elected, the differential profits approach may even lead to circumstances where a plaintiff will not be entitled to any award, such as in *Schmeiser*, where the defendant used, but did not benefit financially from, the patented technology.[191] In other circumstances, a zero award may be granted if a defendant successfully argues that the plaintiff's invention does not measurably increase revenue or decrease costs compared to non-infringing options.

In both *Rivett* and *Janssens*, the court differentiated the actual profits from infringement and the hypothetical profits from non-infringement based on the testimony of the plaintiff's witness quantifying the benefits of Roundup Ready over conventional soybeans.[192] There are different, credible opinions about the extent to which genetically modified crops affect relative profitability. Some sources indicate that Roundup Ready soybeans offer no measurable returns per acre advantage compared to conventional options.[193] The government of Ontario suggests that modest benefits are causally attributable to Roundup Ready soybeans.[194] According to OMAFRA budgeting

188. Siebrasse *et al.*, *supra* note 128 at 2.

189. *Ibid.* at 112-14.

190. *Rivett*, *supra* note 11 at para. 46.

191. *Ibid.* at para. 47.

192. *Ibid.* at para. 99; *Janssens*, *supra* note 12 at para. 50.

193. Mike Duffy, "Does Planting GMO Seed Boost Farmers' Profits?" *Leopold Letter* 11:3 (Fall 1999), online: Leopold Centre for Sustainable Agriculture, Iowa State University <http://www.leopold.iastate.edu/pubs/nwl/1999/1999-3-leoletter/99-3gmoduffy.htm>.

194. The government of Ontario was also the same source Monsanto used to estimate the crop yields and prices for the defendant's soybean production in the *Wouters* case. *Wouters*, *supra* note 4 at para. 6.

tools,[195] Roundup Ready soybeans only produce an expected 7 per cent net profit improvement over conventional beans grown using "no-till" cultivation methods.

There are other considerations that complicate an analysis of differential profits in the context of agricultural biotechnology patent cases. Courts will consider profits relative to the next best non-infringing alternative, but precisely how this comparison should be made is unclear. It may be that the best non-infringing alternative is a licence to use the patented technology. In such cases, calculating the differential profits should be simple: it should be the royalty rate which was avoided by infringing rather than licensing. If this approach were adopted, electing an accounting of profits or an award of damages should generate identical remedies. Justice Zinn explicitly rejected this approach as inappropriate because it would provide no deterrent to potential infringers. As it relates to profits to be disgorged in agricultural biotechnology patent infringement cases, "the comparison is not to the profits that Rivett would have generated had he legally bought the Roundup Ready soybean seed and purchased the license; it must be to soybean seed that has none of the plaintiffs' invention. Thus, conventional soybean is the appropriate comparator."[196]

Perhaps, alternatively, the next best non-infringing option would be to grow certified organic crops rather than genetically modified crops. In *Rivett*, Justice Zinn held: "The advantage of the plaintiffs' invention does not lie in the uniqueness of the bean; the fact that it contains the plaintiffs' gene adds no value at the time of sale. It is worth the same as the bean without the gene."[197] Possibly, however, a bean containing molecularly engineered genes and cells would be worth *less* than a bean without the gene. The price differential between organic and genetically modified crops can be significant in some markets.[198] The next best non-infringing option for a farmer could actually lead to greater net profits than the infringing option.

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195. OMAFRA, "Budgeting Tools," online: <http://www.omafra.gov.on.ca/english/busdev/bear2000/Budgets/budgettools.htm>.

196. *Rivett*, *supra* note 11 at para. 57.

197. *Ibid.* at para. 62.

198. William D. McBride & Catherine Greene, "The Profitability of Organic Soybean Production" (Paper presented at the American Agricultural Economics Association Annual Meeting, Orlando, Florida, July 27-29, 2008) [unpublished].

Even if a plaintiff could successfully show the court that patented seed technology provides significant benefit compared to non-infringing alternatives, a plaintiff may still risk realizing a small or no award when an accounting for profits is the elected remedy. There is a chance that a defendant did not realize any profit in the course of infringement. In addition, it does not matter whether or not a defendant could or should have made a profit by using the patented technology; an award is only available if the infringer did make a profit.[199]

Given that a plaintiff's choice between damages and an accounting for profits cannot depend on whichever amount is ultimately decided to be higher,[200] and given that a quantum of damages, if elected, is almost certain in cases where licensing fees are well established,[201] electing for an accounting for profits can be a gamble. The choice is essentially between a more certain award of damages and a less certain, but potentially larger, award of accounting for profits. The risk may be particularly high when an accounting for profits is elected in cases involving agricultural biotechnology. Farming is an inherently risky endeavour; it is especially vulnerable to uncontrollable weather conditions, perishable products, and volatile commodity prices, all of which may adversely affect profitability. From one year to the next, farmers and farming businesses in Canada, regardless of size, efficiency, or location, may go from a high profit margin one year to a net loss the next. For example, recent rises in agricultural commodity prices provided Canadian farmers with relatively high net profits in 2008,[202] while conditions over the previous several years caused many, if not most, Canadian farmers to operate at the margins of profitability.[203]

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199. Siebrasse *et al.*, *supra* note 128 at 3.

200. *AlliedSignal* (1995), *supra* note 124 at para. 81.

201. *AlliedSignal* (1998), *supra* note 96 at para. 22.

202. Ashleigh Patterson, "Canada Net Farm Income Up on Grain Prices" *Calgary Herald* (26 May 2008), online: <http://www.canada.com/calgaryherald/news/story.html?id=aa0640de-f310-42a9-9524-cc512d09db9c>. Soybean prices have more than doubled between May 2006 and May 2008. See Brazilian Association of Vegetable Oil Industries, "Soybean Complex Average Prices – 2008" (10 June 2008), online: <http://www.abiove.com.br/english/cotacoes_us_08.html>.

203. Canada, Senate, Standing Senate Committee on Agriculture and Forestry, *Beyond Freefall: Halting Rural Poverty* (June 2008) at 37, online: <http://www.parl.gc.ca/39/2/parlbus/commbus/senate/com-e/agri-e/rep-e/rep09jun08-e.pdf> (Chairs: Joyce Fairbairn & Leonard J. Gustafson). See also National Farmers Union, Press Release, "Ag. Policy Framework Years Worst in Ontario History" (14 February 2007), online: <http://www.nfu.ca/press_releases/

Plaintiffs in cases involving agricultural biotechnology patent infringement should take care when reviewing defendants' disclosures pertaining to income. If it is possible that a defendant has had an unprofitable year, then a plaintiff should be cautious about pursuing an award based on accounting for profits. In such cases, if an accounting for profits is elected, a plaintiff may realize nothing.

IV. SUMMARY, SOLUTIONS, AND IMPLICATIONS

Remedies in Canadian agricultural biotechnology patent infringement cases have generally been consistent with other Canadian patent infringement cases. In addition to injunctive relief and orders to destroy infringing goods, available remedies include general damages, punitive damages, and accounting of profits. Plaintiffs usually have the option to seek either damages or accounting of profits, but not both.

If damages are elected and infringement is found, a court will normally award an amount equal to the product's ordinary licensing fees. Canadian courts are generally reluctant to award punitive damages in patent cases. Given that merely intentional infringement does not justify punitive damages, it is hard to imagine a case where a Canadian farmer would have to pay such an award.

If an accounting of profits is elected, then the amount of an award would depend on a defendant's profits attributable to the infringement. In the case of agricultural biotechnology patents, this will depend on whether and how much the infringing farmer benefited from the patent. Canadian courts have recently accepted the differential profits approach in assessing profits to be disgorged. An award will be based on only the portion of profits that would not have arisen but for the infringing activity.

One of the underlying problems impeding conceptual clarity in this area of the law seems to be the inability of courts to disentangle legal and financial principles. For example, different legal approaches have been used to calculate actual or differential expenses and actual or differential profits. A part of this problem is the courts' failure to distinguish adequately between discussions of income, expenses, and profits. Profits should be the paramount consideration for courts calculating the value of awards. Much of the early jurisprudence, however, focused on issues pertaining to expenses. Until recently, no court had ever decided that

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press/2007/February-07/Ag_Policy_Framework_coincides_with_worst_5_years_of_Ontari%5B1%5D.pdf>.

it was necessary or appropriate to distinguish income earned as a result of infringement and income that might have been earned otherwise. Consequently, merely determining which expenses were allowable as deductions from total income earned would determine the profits to be disgorged. This led to the use of loose language. While courts were only concerned with deductible expenses, because speculative income comparisons were considered irrelevant, both expenses and profits were referenced interchangeably.

Uncertainty about the distinct legal treatment of infringement-attributable expenses and infringement-attributable income could be excused, but if that is really the crux of the debate, then people seem to be confused more by the language they employ than by the principles at issue. Controversy over a principled distinction seems silly when one realizes that, from an accounting perspective, profit (or net income) is nothing other than gross income less expenses. Whichever approach is used to calculate profits should subsume the identical approach toward expenses and toward income. Consistency among approaches to calculating differential expenses, differential income, and, therefore, differential profits is the first step toward coherence in this area of the law.

Linguistic precision is another prerequisite for conceptual coherence. In the simplest language possible, the practical matter to be decided is whether an infringing defendant must disgorge all profits or only those profits attributable to the infringement. If disgorgement should equal only profits attributable to the infringement—which courts and commentators seem to universally accept—the next question must address *how* to distinguish infringement-attributable profits from other profits.

Basic accounting concepts can direct courts through a simple two-step answer to this question. The first step is an inquiry comparing income created by patent infringement and income that would have been earned otherwise. Income differentials could be the result of price premiums, production yields, competitive advantages in the marketplace, or other factors. The second step investigates the relative cost advantages of infringement over non-infringement. The key issue should be whether the costs are directly or indirectly related to the infringement, not whether they are fixed or variable, increased or not, capital or current, or anything else. Courts should jettison any imprecise language taken from previous jurisprudence in order to focus on the key principle of attribution.

With judges and counsel better prepared to deal with the definitional and conceptual difficulties in this area of the law, a remaining task is to provide

more accurate information about available patent infringement remedies to patentees, farmers, and the general public. Sophisticated public relations campaigns regarding awards have been promoted in a potentially misleading manner. The fact that the patentee received no accounting of profits following the Supreme Court's decision in *Schmeiser* is generally unknown among farmers, while the trial level consent judgment of $160 per acre in *Beneteau*, the default judgment of $274 per acre in *Wouters*, and the $200 per acre settlement against three Quebec farmers have been recently publicized in farm publications. Such extraordinarily high awards are proclaimed as seminal precedents, despite being the result of consent and default judgments. The Federal Court of Appeal's award in *Schmeiser* of approximately $19 per acre,[204] the $42 per acre award in *Rivett*,[205] and the average $48 per acre award in *Janssens*[206] are all closer to the norm that future defendants might expect to pay and plaintiffs might expect to receive.

Although it is understandable that patent owners would not publicize the outcomes of settlements and judgments less favourable to their interests, the capacity to promote a distorted version of the norm affects conventional beliefs among farmers and creates an impression that large awards are typical in these cases. These beliefs may then contribute to exaggerated fears held by farmers facing possible litigation. This increased fear could lead to a greater likelihood of settlement agreements that are disproportionate to the harm caused by the infringement and the potential liability facing infringers.

Moreover, promoting the impression that patent infringement damage awards are routinely higher than they really are, or would be in most cases, is detrimental to those who rely on the integrity and predictability of the patent system. Other patent owners and the investors who fund innovative research and development deserve an accurate portrayal of the amounts that can be realistically expected in normal infringement proceedings. Information conveyed to and through the media is misleading in this respect.

In sum, farmers facing patent infringement claims are in a much stronger legal position than Monsanto and the media seem to suggest. This realization,

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204. *Schmeiser* (2003), *supra* note 9 at paras. 84, 87.

205. *Rivett*, *supra* note 11 at para. 102.

206. *Janssens*'s numbers in this article are based on the amended reasons for judgment, which are very close to the values set in *Janssens*, *supra* note 12 at para. 51. See *Monsanto Canada Inc. v. Janssens*, [2009] F.C.J. No. 1355 (Q.L.).

however, triggers antecedent questions about whether the status quo is sustainable or even desirable as a matter of public policy. For innovative firms researching and developing new technologies, and the investors that support such endeavours, serious concerns emerge about the real effectiveness of patent enforcement techniques. Indeed, a refined understanding of actual remedies available, based on the revelations in this article, could make businesses' patent portfolios vulnerable to revaluation, both financially and strategically.

Given this possibility, it appears that both the courts and policy makers could face pressures to reform patent law. For courts confronted with the dilemma of ineffective infringement remedies, one option might be to make punitive damages more frequently available. Meanwhile, legislators are likely to be pressured to adopt another solution: the introduction of statutory damages of the sort available for infringements of other intellectual property rights, most notably copyright.

The consequences of law reform for farmers facing infringement allegations could be grave. Such farmers may currently believe they are in a vulnerable legal position, but, as this article demonstrates, that is not really so. Paradoxically, revealing the real strength of accused farmers' bargaining posture may undermine their legal position in the longer term.

This article points out some implications of realizing the conceptual and practical challenges that exist in determining remedies for agricultural biotechnology patent infringement. Its principal contribution has been to identify a previously under-recognized problem, analyze its underlying causes and effects, and propose simple strategies to reduce complexity and facilitate coherence. This framework enables clearer insights into the broader implications of the remedy of accounting of profits for agricultural biotechnology patent infringement, and lays the groundwork for future scholarly work and rational jurisprudence in this area.

APPENDIX A: DEDUCTIBLE EXPENSES IN RECENT CASES

Expenses	*Schmeiser*	*Rivett*	*Janssens*
Herbicide	Yes	Yes	Yes
Fertilizer	Yes	Yes	Yes
Soil Treatment	Yes	Yes	Yes
Crop Insurance	Yes	Yes	Yes
Land Rent	Yes	Yes	Yes
Property Tax	Yes		
Labour	Yes	No	No
Fuel	Yes	Yes	
Equipment Repairs	Yes		
Utilities	Yes	No	
Trucking	Yes		
Insurance	Yes	No	
Office Expenses	Yes		
Legal/Accounting	Yes		
Salaries	Yes		
Meetings/Travel	Yes		
Workers Compensation	Yes		
Interest on Loans	Yes		No
Depreciation	Yes	No	

APPENDIX B: FINANCIAL DETAILS AND ACCOUNTING FOR PROFITS IN *RIVETT* AND *JANSSENS*

TABLE 1: ACCOUNTING FOR PROFITS IN *RIVETT*: CHARLES RIVETT

	2004	Per Acre
Acres Grown	947	
Revenue	$233,311.73	$246.37
Expenses		
Land Rent (allowed on 628 acres only)	$44.795.62	$47.30
Fuel	$7,916.92	$8.36
Fertilizer	$15,379.83	$16.24
"Seaweed" Fertilizer	$4,261.50	$4.50
"Hystick" Inoculant	$4,574.01	$4.83
Carbon	$700.78	$0.74
Herbicide	$13,317.19	$14.06
Crop Insurance	$12,888.67	$13.61
Total Expenses	$103,834.52	$109.65
Total Net Profit	$129,477.21	$136.72
Total Differential Profit at 31%	$40,137.94	$42.38

TABLE 2: ACCOUNTING FOR PROFITS IN *JANSSENS*: DEFENDANTS COLLECTIVELY

	2004	2005	Total	Per Acre Average
Acres Grown	50	250	300	
Revenue	$10,241.00	$80,961.70	$91,202.70	$304.01
Total Expenses	$0.00	$44,307.50	$44,307.50	$147.69
Total Net Profit	$10,241.00	$36,654.20	$46,895.20	$156.32
Total Differential Profit at 31%	$3,174.71	$11,362.80	$14,537.51	$48.46

TABLE 3: ACCOUNTING FOR PROFITS IN *JANSSENS*: ALAN KERKHOF

	2004	2005	Total	Per Acre Average
Acres Grown	20	100	120	
Revenue	$4,096.40	$32,384.68	$36,481.08	$304.01
Expenses				
Herbicide	$0.00	$1,095.00	$1,095.00	$10.95
"Touch Down"	$0.00	$730.00	$730.00	$7.30
Fertilizer	$0.00	$4,050.00	$4,050.00	$40.50
Ammonium Sulphate	$0.00	$180.00	$180.00	$1.80
"Matador"	$0.00	$542.00	$542.00	$5.42
"Agral"	$0.00	$83.00	$83.00	$0.83
Crop Insurance	$0.00	$1,043.00	$1,043.00	$10.43
Rent	$0.00	$12,500.00	$12,500.00	$125.00
Total Expenses	$0.00	$20,223.00	$20,223.00	$202.23
Total Net Profit	$4,096.40	$12,161.68	$16,258.08	$101.78
Total Differential Profit at 31%	$1,269.88	$3,770.12	$5,040.00	$42.00

TABLE 4: ACCOUNTING FOR PROFITS IN *JANSSENS*: LAWRENCE JANSSENS

	2004	2005	Total	Per Acre Average
Acres Grown	20	100	120	
Revenue	$4,096.40	$32,384.68	$36,481.08	$304.01
Expenses				
Herbicide	$0.00	$1,095.00	$1,095.00	$10.95
"Touch Down"	$0.00	$730.00	$730.00	$7.30
Fertilizer	$0.00	$4,050.00	$4,050.00	$40.50
Ammonium Sulphate	$0.00	$180.00	$180.00	$1.80
"Matador"	$0.00	$542.00	$542.00	$5.42
"Agral"	$0.00	$83.00	$83.00	$0.83
Crop Insurance	$0.00	$1,043.00	$1,043.00	$10.43
Rent	$0.00	$12,500.00	$12,500.00	$125.00
Total Expenses	$0.00	$20,223.00	$20,223.00	$202.23
Total Net Profit	$4,096.40	$12,161.68	$16,258.08	$101.78
Total Differential Profit at 31%	$1,269.88	$3,770.12	$5,040.00	$42.00

TABLE 5: ACCOUNTING FOR PROFITS IN *JANSSENS*: RONALD JANSSENS

	2004	2005	Total	Per Acre Average
Acres Grown	10	50	60	
Revenue	$2,048.20	$16,192.34	$18,240.54	$304.01
Expenses				
Herbicide	$0.00	$547.50	$547.50	$10.95
"Touch Down"	$0.00	$365.00	$365.00	$7.30
Fertilizer	$0.00	$2,025.00	$2,025.00	$40.50
Ammonium Sulphate	$0.00	$90.00	$90.00	$1.80
"Matador"	$0.00	$271.00	$271.00	$5.42
"Agral"	$0.00	$41.50	$41.50	$0.83
Crop Insurance	$0.00	$521.50	$521.00	$10.43
Rent	$0.00	$0.00	$0.00	$0.00
Total Expenses	$0.00	$3,861.50	$3,861.50	$77.23
Total Net Profit	$2,048.20	$12,330.84	$14,379.04	$226.78
Total Differential Profit at 31%	$634.94	$3,822.56	$4,457.50	$74.29