

# PLANT BREEDERS' RIGHTS IN CANADA\*

*Serge Lapointe and Nicholas Torti\*\**

## ABSTRACT

Plant breeders' rights (PBRs) entitle owners to an exclusive legal right over certain acts pertaining to new plant varieties during a fixed period of time. In Canada, these intellectual property rights are delineated in the *Plant Breeders' Rights Act*, which Canada amended in February 2015. The amendments form the basis of Canada's accession to the 1991 revision of the *Convention of the International Union for the Protection of New Varieties of Plants*, which Canada signed in July 2015. In light of this signature, additional, international protections now apply to expand further the rights of owners of PBRs that reside in Canada.

This article begins with a history of plant-breeding methods and the legal protections offered to developers of new plant varieties, followed by an examination of several of the recent changes to the owner and user rights in the Act and by a comparison of the protections available in Canada and the United States.

## RÉSUMÉ

Les obtentions végétales accordent aux titulaires un droit légal exclusif sur certains actes relatifs aux nouvelles variétés de plantes sur une durée déterminée. Au Canada, ces droits de propriété intellectuelle sont définis dans la *Loi sur les obtentions végétales* que le Canada a modifiée en février 2015. Ces modifications constituent la base de l'accèsion du Canada à la révision de la *Convention internationale pour la protection des obtentions végétales* de 1991 que le Canada a signée en juillet 2015. À la lumière de cette signature, les titulaires canadiens d'obtentions végétales bénéficient désormais de protections supplémentaires plus étendues à l'échelle internationale.

Cet article commence par une histoire sur les méthodes de l'amélioration des plantes et les protections légales offertes aux développeurs de nouvelles variétés de plantes. Ensuite, nous examinons certains des changements récents à la Loi concernant les droits du titulaire et ceux de l'utilisateur et faisons une comparaison des protections disponibles au Canada et aux États-Unis.

---

\* Submission to the Editor, December 21, 2015.

\*\* © 2016 Serge Lapointe, PhD, Partner, Fasken Martineau, Montreal, and Nicholas Torti, Fasken Martineau, Montreal.

## CONTENTS

1.0	Context of Plant Breeding and Its Legal Protections . . . . .	54
1.1	History of Plant Breeding . . . . .	54
1.2	Legal Context . . . . .	56
2.0	Amendments to the Plant Breeders' Rights Act Pursuant to UPOV 1991 . . . . .	57
2.1	Amendments That Expand the Ambit of Plant Breeders' Rights . . . . .	58
2.1.1	The Scope and Duration of the Owner's Monopoly . . . . .	58
2.1.2	Harvested Material . . . . .	59
2.1.3	Essentially Derived Varieties . . . . .	60
2.2	Expansion of the Ambit of Users' Rights . . . . .	61
2.2.1	Private, Non-Commercial, or Experimental Purposes . . . . .	61
2.2.2	Farmers' Right to Save Seeds . . . . .	62
3.0	Comparison of Legislation in Canada and the United States . . . . .	62
3.1	National Treatment Provision . . . . .	62
3.1.1	Overview . . . . .	62
3.1.2	Comparison with the United States . . . . .	63
3.2	Dual Protection . . . . .	65
4.0	Conclusion . . . . .	68
5.0	References . . . . .	69

## 1.0 CONTEXT OF PLANT BREEDING AND ITS LEGAL PROTECTIONS

### 1.1 History of Plant Breeding

The practice of plant breeding refers to the “application of techniques for exploiting the genetic potential of plants.”<sup>1</sup> Specifically, these techniques include both conventional and modern approaches to breeding that target the development of new plant varieties (referred to in the scientific community as cultivars, a contraction of the term “cultivated variety”) showing specific, desirable attributes.<sup>2</sup> Plants with these attributes can often have a heightened nutritional content or a greater resistance to pests and disease, thereby facilitating efficient and sustainable agriculture.<sup>3</sup>

Plant breeding may best be understood in the wider context of humankind's desire to manage nature for its own and society's benefit, and its roots can be traced back to the early agricultural practices of the Neolithic hunter-gatherer ancestors of present-day humans.<sup>4</sup> Initially, these practices appear to have included burning (to

---

<sup>1</sup> Neal C Stoskopf, *Plant Breeding: Theory and Practice* (Boulder, Colo: Westview Press, 1993) at 1.

<sup>2</sup> *Ibid.*

<sup>3</sup> George Acquaah, *Principles of Plant Genetics and Breeding* (Malden, Mass: Blackwell Publishing, 2007) at 9-10.

<sup>4</sup> Noel Kingsbury, *Hybrid: The History and Science of Plant Breeding* (Chicago: University of Chicago Press, 2009) at 16.

facilitate the growth of other plants that were not burned, namely, herbaceous plants) and protective tending.<sup>5</sup> Later, the first domestication of crops, a process that involved the collection and replanting of propagating material, appears to have independently occurred (in chronological order) in China, the Middle East and Central America.<sup>6</sup> Unlike plants that grow in the wild, these domesticated plants did not have to struggle against uncontrollable environmental conditions in order to survive and propagate.<sup>7</sup> Therefore, humans began to exert an evolutionary pressure on these plants by selecting for specific qualities or attributes and retaining the seeds or tubers from the plants in question to be replanted, of which the progeny would over time carry the same selected traits.<sup>8</sup> This process of selection is the cornerstone of plant breeding and plays an essential role in the decisions made by modern plant breeders, irrespective of the specific method of plant breeding employed.

A second advance in plant-breeding methods occurred in 1694, when Rudolph Camerer first described (in scientific terms) plant sex and plant hybridization.<sup>9</sup> This discovery permitted the conscious development of practices whereby breeders may create plant varieties by “crossing” two existing ones—that is, in the case of sexually reproduced plants,<sup>10</sup> placing the pollen from one plant in the flower of another to create hybrid progeny.<sup>11</sup>

Finally, plant-breeding technology was improved dramatically through the 1865 discovery of the principle of genetic inheritance by Gregor Mendel, who found that when distinct cultivars were bred together, their characteristics that differ will generally separate and recombine in a predictable manner and will refrain from blending together.<sup>12</sup> Although this principle was largely ignored at first, its rediscovery shortly after 1900 began to inform plant-breeding techniques in the 20th century.

Alongside the above-mentioned conventional techniques exist modern approaches built on those that precede them, such as the use of recombinant DNA technology and genetic engineering, which permit the breeder to develop new varieties of plants by identifying and separating specific genes.<sup>13</sup> In some respects, these modern techniques sharpen the precision of earlier plant-breeding efforts, allowing scientists to develop new plant varieties with greater flexibility and accuracy. As discussed below,

---

<sup>5</sup> *Ibid* at 17.

<sup>6</sup> *Ibid* at 19; Stoskopf, *supra* note 1 at 2.

<sup>7</sup> Kingsbury, *supra* note 4 at 3.

<sup>8</sup> *Ibid* at 20.

<sup>9</sup> Stoskopf, *supra* note 1 at 10; Acquaah, *supra* note 3 at 7.

<sup>10</sup> Sexually reproduced plants are plants that reproduce by means of pollination or seed dispersal, whereas asexually reproduced plants are plants that reproduce through cuttings, grafting, or budding.

<sup>11</sup> Stoskopf, *supra* note 1 at 10; Natalie Derzko, “Plant Breeders’ Rights in Canada and Abroad: What Are These Rights and How Much Must Society Pay for Them?” (1994) 39 McGill LJ 144 at 148.

<sup>12</sup> Stoskopf, *supra* note 1 at 19.

<sup>13</sup> Kingsbury, *supra* note 4 at 409; Derzko, *supra* note 11 at 148.

the specific method of plant breeding employed to develop a new plant variety may also determine the range of different intellectual property rights that a plant breeder is entitled to receive.<sup>14</sup>

## 1.2 Legal Context

Intellectual property protection for plant varieties generally takes the form of either a patent right or a plant breeders' right. In some countries, there exists a dual regime of plant variety protection such that both the above rights are available. For example, in the United States, with respect to the same plant varieties, plant breeders may apply for a utility patent<sup>15</sup> on the one hand, or for one of either a plant variety right<sup>16</sup> or a plant patent<sup>17</sup> on the other hand.<sup>18</sup> In Canada, dual protection does not exist and plant breeders may apply only for PBRs because it is not possible to patent higher life forms under Canadian law.<sup>19</sup> It is, however, possible to patent transformed cell lines and plant cell cultures, as well as a method for producing a higher life form.<sup>20</sup>

<sup>14</sup> More specifically, in Canada, new plant varieties developed using a traditional method of plant breeding—for example, selection and crossing—are *only* eligible for protection by plant breeders' rights (PBRs). Conversely, transgenic or genetically modified plants are eligible not only for direct protection through PBRs but also for indirect protection through the grant of a patent: see Section 3.2.

<sup>15</sup> *Patent Act*, 35 USC § 101.

<sup>16</sup> *Plant Variety Protection Act*, 7 USC §§ 2321-2582. Note that the terminological concept of "plant variety right" in the United States is roughly equivalent to that of "plant breeders' right" in Canada, except that the scope of plants to which the right applies is more limited in the United States than in Canada: *infra* note 18.

<sup>17</sup> *Plant Patent Act*, 35 USC § 161-164. A primary distinction between plant patents and US utility patents is that in the former case, the typical requirement to show utility is replaced with a distinctness requirement: 35 USC § 161. Further, it is not possible to declare a plant invalid if the description is as complete as reasonably possible: 35 USC § 164.

<sup>18</sup> Plant breeders in the United States can decide between either the first or second branches of this dual protection framework. Within the second branch, the choice between a plant breeders' right and a plant patent depends on the type of plant for which protection is sought. Asexually reproduced plants are protected by plant patents, whereas sexually reproduced and tuber-propagated plants are protected by PBRs. In Canada, rights covering both categories of plants are subsumed within the *Plant Breeders' Rights Act*. Therefore, the American rights scheme is "dual" not because it makes the legal distinction between asexually reproduced plants on the one hand and sexually reproduced or tuber propagated plants on the other hand, but because it offers two contemporaneous pathways to protection over the same plant variety in any given instance: (1) utility patents, and (2) plant patents or PBRs: see Section 3.1.2.

<sup>19</sup> *Harvard College v Canada (Commissioner of Patents)*, 2002 SCC 76. Note that, notwithstanding this jurisprudence, Canada was still precluded from extending patent protection to plants by legislative enactment prior to signing UPOV 1991, since the previous text of the agreement to which Canada was a member (UPOV 1978) proscribed dual protection of plant varieties. Pursuant to article 2 of UPOV 1978, member states were required to provide only one intellectual property right over the same plant variety. Now that Canada has acceded to UPOV 1991, it is free to reverse the judgment of the Supreme Court in *Harvard College* as it pertains to plant varieties and establish, if it sees fit, a dual regime similar to that found in the United States: see Section 3.2.

<sup>20</sup> *Monsanto Canada Inc v Schmeiser*, 2004 SCC 34. Note that this may be used to protect the plant variety indirectly: see Section 3.2.

The legal protection of plant varieties in Canada began with the promulgation of the *Seeds Act*<sup>21</sup> (which was designed to prevent vendors of seed from selling bad varieties), though this appears only to have had an indirect impact on the protection of plant varieties.<sup>22</sup> The first law enacted specifically to protect plant varieties, entitled the *Plant Breeders' Rights Act*,<sup>23</sup> was passed in 1990 and formed the basis of Canada's accession to the 1978 revision of the *International Convention for the Protection of New Varieties of Plants* (often referred to as UPOV, derived from the French name "Union pour la protection des obtentions végétales").

The Union's purpose is "[t]o provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society."<sup>24</sup> Its first treaty was signed in Paris in 1961 ("UPOV 1961") and has undergone three revisions (in 1971, 1978, and 1991), each of which supplants the one that precedes it. The terms of each treaty establish certain thresholds for the protection of plant breeders' rights (PBRs) in countries that are permitted to join the Union, an accession that is achieved when the country in question either: (1) enacts legislation that conforms to the terms of the UPOV Convention in force at the time of the accession; or (2) incorporates the entirety of the UPOV Convention in force at the time of the accession into its existing law.<sup>25</sup>

The 1990 text of Canada's *Plant Breeders' Rights Act* formed the basis of Canada's accession to UPOV 1978; however, the agreement's revision the following year—that is, UPOV 1991—placed Canada out of date with any other countries that chose to sign the new agreement. Although Canada's accession to UPOV 1978 remained in effect after 1991, it was precluded from benefiting from any additional international protections provided to member states of the most recent revision of the agreement.

## 2.0 AMENDMENTS TO THE PLANT BREEDERS' RIGHTS ACT PURSUANT TO UPOV 1991

In the context of the *Plant Breeders' Rights Act*, creators or inventors are granted a limited, legal monopoly over certain acts pertaining to new plant varieties. Part of the justification for granting such a monopoly is that it offers an incentive to creators or inventors to develop new plant varieties that ultimately benefit society, while offering them a compensation for their investment in time and effort. Indeed,

---

<sup>21</sup> RSC 1927, c 185.

<sup>22</sup> See e.g. Victoriya Galushko, "Intellectual Property Rights and the Future of Plant Breeding in Canada" (PhD Thesis, University of Saskatchewan Department of Bioresource Policy, Business and Economics, 2008) [unpublished] at 39.

<sup>23</sup> SC 1990, c 20 (royal assent 19 June 1990).

<sup>24</sup> International Union for the Protection of New Varieties of Plants, Mission Statement (2011), online: UPOV <<http://www.upov.int/about/en/mission.html>>.

<sup>25</sup> Laurence R Helfer, "Intellectual Property Rights in Plant Varieties: International Legal Regimes and Policy Options for National Governments" (2004) Food & Agriculture Organization of the United Nations at 4.

UPOV's very purpose is "[t]o provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society."<sup>26</sup>

To facilitate the development of new plant varieties, however, it is necessary to ensure that owners' rights do not unduly preclude users from accessing them. Thus, as with other legislation pertaining to intellectual property rights, the *Plant Breeders' Rights Act* identifies certain rights as vested in the user that serve as exceptions to infringement.

The February 2015 amendments to the *Plant Breeders' Rights Act* introduce explicit language that expands the rights of both owners (in particular) and users; the changes are discussed below in the context of each of these two categories.<sup>27</sup> The relevant amendments are directly inspired by the content of UPOV 1991, which Canada was permitted to sign in July 2015.

## **2.1 Amendments That Expand the Ambit of Plant Breeders' Rights**

The February 2015 amendments to the *Plant Breeders' Rights Act* expand the ambit of PBRs in two important ways. First, they extend the range of acts that the owner is exclusively entitled to perform while prolonging the duration of the owner's monopoly over the commission of these acts (described in Section 3.1.1). Second, the amendments expand the class of objects to which the owner's rights pertain, thereby widening the range of contexts in which the owner is entitled to perform the enumerated acts to the exclusion of all other persons (described in Sections 3.1.2 and 3.1.3).

### **2.1.1 The Scope and Duration of the Owner's Monopoly**

The *Plant Breeders' Rights Act* provides that, in order to receive the grant of PBRs, an applicant must demonstrate that his or her plant variety is new, distinguishable from all other varieties, stable in its essential characteristics, and sufficiently homogenous from one generation of the plant to the next.<sup>28</sup> If the commissioner approves the application, the applicant is granted the exclusive right to perform all the acts listed in the *Plant Breeders' Rights Act* for a set period of time.

Section 5 of the *Plant Breeders' Rights Act* enumerates the range of acts that a holder of PBRs is exclusively entitled to perform, and applies specifically to the propagating material of a plant variety—that is, the seeds, buds, or cuttings from the plant. Prior to the February 2015 amendments, the *Plant Breeders' Rights Act*

---

<sup>26</sup> UPOV Mission Statement, *supra* note 24.

<sup>27</sup> The 2015 amendments also introduce several changes that are explored in the context of this article because they do not directly affect the balance between owners' and users' rights under the *Plant Breeders' Rights Act*—for example, the provisions that concern changes regarding the application process for PBRs.

<sup>28</sup> *Plant Breeders' Rights Act*, SC 1990, c 20, as amended by SC 2015, c 2 (royal assent 25 February 2015), s 4(2).

vested the owner with the exclusive right only to sell, produce, or make repeated use of the propagating material of the plant variety, in addition to providing the owner with the exclusive right to authorize others to perform any of the above acts. Under the amended *Plant Breeders' Rights Act*, this range of acts has been expanded to include the conditioning, export, import, and stocking of propagating material.

The term of the owner's exclusive grant of rights has also been expanded. While the *Plant Breeders' Rights Act* previously had stipulated that a grant subsists for 18 years commencing on the day of the issuance of the certificate of registration, it now provides that the duration of the grant is 25 years in the case of a tree, vine, or any other category of plant specified by the regulations (which currently provides none) and 20 years in any other case.<sup>29</sup>

### 2.1.2 Harvested Material

As mentioned above, section 5 pertains only to acts performed vis-à-vis the propagating material of the protected plant variety. Prior to the recent amendments, the Act omitted any mention of harvested material—that is, seeds, buds, or cuttings produced from plants grown from the initial propagating material sold to the buyer—such that the breeder could only control use of the specific propagating material that was the subject of the transaction between buyer and seller. Once the buyer planted the propagating material, he or she was free to collect the subsequent propagating material of any plants grown from the initial propagating material and do with it as he or she wished without violating the owner's exclusive rights.

Section 5.1 of the amended *Plant Breeders' Rights Act* expands the breadth of the owner's monopoly to comprise control over harvested material, thereby limiting the rights of users. However, this right of control is currently tempered by the right of users to save seed in certain circumstances. This user right does not extend to the exchange of propagating material with others, even if the buyer only wishes to do so for the purpose of crop and variety rotation.<sup>30</sup>

When read together with the passages discussed below concerning users' rights, the essence of the right over harvested material is to clarify that no person may lawfully possess the propagating material of a protected plant variety unless every predecessor in title—that is, all those who possessed the propagating material previously and sold it, through a chain of ownership, to the buyer—has been authorized to make each sale. In any case where there is a defect of title, section 5.1 entitles the owner of PBRs to the statutory remedies provided under the Act vis-à-vis the harvested material. This can include an injunction from harvesting the plants, the payment of compensatory damages, or the removal or delivery of the harvested material in question.<sup>31</sup>

---

<sup>29</sup> *Ibid*, s 6.

<sup>30</sup> Helfer, *supra* note 25 at 29.

<sup>31</sup> *Plant Breeders' Rights Act*, *supra* note 28, s 41.

### 2.1.3 Essentially Derived Varieties

Section 5.2(1)(a) of the amended *Plant Breeders' Rights Act* expands the scope of the owner's monopoly to include control over plant varieties that are "essentially derived" from the owner's initial plant variety. Prior to the recent amendments, such a provision did not appear in the *Plant Breeders' Rights Act*.

The term "essentially derived variety" is defined in the *Plant Breeders' Rights Act* in contradistinction to the "initial variety" and refers to plant varieties that derive predominantly from the initial variety and retain the essential characteristics that result from the genotype or combination of genotypes, are clearly distinguishable from the initial variety, and express the essential characteristics that result from the genotype or the combination of genotypes of the initial variety.<sup>32</sup>

Like the provision discussed earlier that pertains to control over harvested material, section 5.2(1)(a) increases protection for the first-generation breeder, in this case by granting him or her a right that is superordinate to that of all other breeders who subsequently develop plant varieties based on the initial variety—for example, where the subsequent variety differs from the initial variety on only a cosmetic level.<sup>33</sup>

This modification is sensible, considering the broader framework of the *Plant Breeders' Rights Act* and its other provisions pertaining to the grant of rights and the violation thereof. In contrast to other intellectual property legislation such as that pertaining to patents, the *Plant Breeders' Rights Act* presents a threshold for the grant of rights that is relatively low.<sup>34</sup> Because of this low threshold, it is easy for a breeder to meet the requirements for obtaining PBRs and accordingly to be entitled to the range of rights described above. Were it not for the new provision concerning essentially derived varieties, any plant breeder could be at risk for seeing the ambit of his or her right consequently narrowed if a subsequent breeder were to make only slight modifications to the variety. Such subsequent breeder could apply for and receive a right of the same nature and ambit as that of the original breeder, thereby disentiing the first breeder from his or her previous proprietary monopoly. In effect, including this provision is consistent with both the purpose of the *Plant Breeders' Rights Act* and UPOV 1991—that is, to encourage the development of new varieties of plants for the benefit of society) and the primacy of title under the *Plant Breeders' Rights Act* whereby the first breeder to file an application for the grant of rights is the one who receives priority.<sup>35</sup>

---

<sup>32</sup> *Ibid*, s 5.2(2).

<sup>33</sup> Helfer, *supra* note 25 at 28.

<sup>34</sup> Derzko, *supra* note 11 at 159.

<sup>35</sup> *Plant Breeders' Rights Act*, *supra* note 28, s 10.1.



## 2.2 Expansion of the Ambit of Users' Rights

While the cumulative effect of the February 2015 amendments of the *Plant Breeders' Rights Act* may be to strengthen owners' rights,<sup>36</sup> these improvements are tempered by a correlative expansion of the users' rights provided under the *Plant Breeders' Rights Act*. First, users are entitled to make use of propagating material if they do so for private, non-commercial, or experimental purposes (discussed in Section 3.2.1). Second, farmers are allowed to save propagating material and replant it for future harvests (discussed in Section 3.2.2).

### 2.2.1 Private, Non-Commercial, or Experimental Purposes

Section 5.3(1) of the amended *Plant Breeders' Rights Act* corresponds to article 15(1) of UPOV 1991, according to which users may use the propagating material of a plant variety if they are doing so (1) for private or non-commercial purposes, (2) for experimental purposes, or (3) to breed new plant varieties. These acts accordingly constitute exceptions to infringement under the *Plant Breeders' Rights Act*. None of these three exceptions appeared explicitly in the text of the *Plant Breeders' Rights Act* prior to the recent amendments; however the latter of the three exceptions existed implicitly—the right to use propagating material to breed new plant varieties existed under article 5(3) of UPOV 1978 and accordingly formed part of Canadian law despite the silence therein to this effect.<sup>37</sup>

Conversely, the first two exceptions to infringement—use of propagating material for private or non-commercial purposes and for experimental purposes—do in fact constitute new user rights that did not exist under the UPOV 1978 regime. The effect of their application is, however, negligible, since most infringements of interest to the owner of PBRs would be those committed by larger or commercial entities. These exceptions merely serve to set aside instances in which the commission of the infringing act is of little consequence and likely not to be injurious to the owner because it does not lead to commercial exploitation (in the case of experimental purposes) or because its impact is limited (in the case of private or non-commercial purposes).

---

<sup>36</sup> Derzko, *supra* note 11 at 167.

<sup>37</sup> *International Convention for the Protection of New Varieties of Plants*, adopted 2 December 1961, rev'd 10 November 1972 at Geneva and 23 October 1978, art 5(3) [UPOV 1978]; see also Helfer, *supra* note 25 at 25, 28. Because the text of the Convention is the "primary interpretive tool of the *Plant Breeders' Rights Act*" (Derzko, *supra* note 11 at 166), the latter of which was specifically promulgated to ratify UPOV 1978 in Canada (*ibid* at 162), it follows that prior to the recent amendments to the *Plant Breeders' Rights Act*, Canadians were already implicitly entitled to the rights provided under UPOV 1978 on which the Canadian Act was silent, including the right to breed new plant varieties using propagating material protected by PBRs.

### 2.2.2 Farmers' Right to Save Seeds

Section 5.3(2) of the amended *Plant Breeders' Rights Act* explicitly entitles farmers to save seeds, a right that was only implicit in the previous text of the *Plant Breeders' Rights Act* and the previous revision of UPOV. It allows farmers to save the propagating material of a protected plant variety from one year to the next without infringing the owner's exclusive rights.

This provision corresponds to article 15(2) of UPOV 1991, in which it is described as an "optional exception" for UPOV 1991 member states. What this means is that unlike the other UPOV 1991 amendments to the *Plant Breeders' Rights Act* described above, Canada is free to repeal this provision at any time without placing it in violation of the agreement. In this sense, the protection offered to owners is substantially stronger than that offered to farmers availing themselves of the farmers' rights provision, because owner rights in the *Plant Breeders' Rights Act* are of a more permanent nature. It bears noting, however, that this is true of legislation in any UPOV 1991 member state. A survey of the legislation in other member states at the time of the writing reveals that the farmers' rights provision has been added (and not yet removed) in all UPOV 1991 member states, even though this provision is optional.

## 3.0 COMPARISON OF LEGISLATION IN CANADA AND THE UNITED STATES

The 1991 UPOV Convention is the primary interpretive tool of domestic legislation that protects PBRs.<sup>38</sup> The Convention not only informs the content of each member state's legislation, but also supplements this content. This section of the article thus examines differences between the relevant Canadian and American legislation with reference to the UPOV 1991 provisions that supplement these statutes.

### 3.1 National Treatment Provision

#### 3.1.1 Overview

Like its predecessor, UPOV 1991 contains a national treatment provision that expands the rights of owners on an international level. It provides the following:

Without prejudice to the rights specified in this Convention, nationals of a Contracting Party as well as natural persons resident and legal entities having their registered offices within the territory of a Contracting Party shall, insofar as the grant and protection of breeders' rights are concerned, enjoy within the territory of each other Contracting Party the same treatment as is accorded or may hereafter be accorded by the laws of each such other Contracting Party to its own nationals, provided that the said nationals, natural persons or legal entities comply with the conditions and formalities imposed on the nationals of the said other Contracting Party.<sup>39</sup>

<sup>38</sup> See e.g. Derzko, *supra* note 11 at 165-66.

<sup>39</sup> *International Convention for the Protection of New Varieties of Plants*, 2 December 1961, rev'd 10 November 1972 at Geneva, 23 October 1978, and 19 March 1991, art 4 [UPOV 1991].

Thus, when a UPOV 1991 member state offers its own residents any owner's right that exceeds the minimum requirements stipulated under the agreement, this state must offer the same protections to owners who are residents of any other member state when they operate within the borders of the state offering the additional protections. Prior to July 2015, because Canada had not yet signed UPOV 1991, its residents were unable to avail themselves of this provision and accordingly had weaker rights than the residents of all other UPOV 1991 member states when operating in countries that provided protections that exceeded the minimum requirements of UPOV 1991.

UPOV 1991 also eliminates the previous reciprocity exception to the national treatment provision that existed under UPOV 1978. Pursuant to this exception, member states that provided rights that exceeded the minimum requirements of UPOV 1991 were allowed to restrict their additional protections to those countries that reciprocated with the same protections.<sup>40</sup> Because Canada has acceded to UPOV 1991, which omits the reciprocity exception, Canadian residents can enjoy the expanded rights of other countries irrespective of whether Canada offers these same protections to residents of those other member states.

Of the roughly 70 jurisdictions around the world to have acceded to UPOV 1991 prior to Canada's accession,<sup>41</sup> the United States is of particular importance in no small part because of the great volume of trade that occurs between the two jurisdictions.<sup>42</sup> With this in mind, a comparison of the domestic legislation of Canada with that of the United States is conducted below in an effort to elucidate the ambit of new protections offered to Canadian residents in light of the national treatment provision. Note, however, that because member states must meet only a minimum level of protection in their legislation to be compliant with UPOV 1991, the member states are free to repeal any of the additional protections they offer without violating UPOV 1991: so long as they maintain the minimum protections prescribed by the agreement, they remain in compliance.

### 3.1.2 Comparison with the United States

While the Canadian *Plant Breeders' Rights Act* subsumes both asexually reproduced plants on the one hand, and sexually reproduced and tuber-propagated plants

---

<sup>40</sup> UPOV 1978, *supra* note 37, arts 3, 5(4).

<sup>41</sup> UPOV, "Members of the International Union for the Protection of New Varieties of Plants" (22 October 2015), online: UPOV <<http://www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf>>.

<sup>42</sup> Statistics Canada, "Imports, Exports and Trade Balance of Goods on a Balance-of-Payments Basis, by Country or Country Grouping" (2005), online: Government of Canada <<http://www.statcan.gc.ca/tables-tableaux/sum-som/I01/cst01/gblec02a-eng.htm>>. The United States is also Canada's second-largest export destination: Agriculture and Agri-Food Canada, "An Overview of the Canadian Agriculture and Agri-Food System 2014" (2015), online: Government of Canada <<http://www.agr.gc.ca/eng/about-us/publications/economic-publications/alphabetical-listing/an-overview-of-the-canadian-agriculture-and-agri-food-system-2015/>>.

on the other hand,<sup>43</sup> the relevant American legislation protects these two categories of plants under distinct statutory instruments: sexually reproduced plants and tuber-propagated plants<sup>44</sup> are protected under the *Plant Variety Protection Act*, whereas asexually reproduced plants are protected under the *Plant Patent Act*. Utility patents granted under the *Patent Act* apply to both of these categories of plants.

Like the Canadian *Plant Breeders' Rights Act*, the content of the *Plant Variety Protection Act* largely mirrors that of UPOV 1991, the most recent revision of the agreement to which the United States has acceded. However, when it comes to the content of the owner rights more specifically, the Canadian and American statutes have important differences. The Canadian *Plant Breeders' Rights Act* provides only for the minimum exclusive rights guaranteed under UPOV 1991,<sup>45</sup> with the exception of one added right—the right “to make repeated use of propagating material of the variety to produce commercially another plant variety if the repetition is necessary for that purpose.”<sup>46</sup> Conversely, the US *Plant Variety Protection Act* enumerates a much wider range of owner rights than that offered under UPOV 1991, meaning that pursuant to the national treatment provision, plant breeders who are residents of Canada and other member states benefit from these increased protections when they operate in the United States.

Under the *Plant Variety Protection Act*, owners have the exclusive right to do any of the following acts with respect to the propagating material in the United States and in excess of the minimum requirements provided under UPOV 1991—solicitation of an offer to buy; delivery; shipment; consignment; exchange; sexual multiplication or other propagation of the variety by a tuber or part of a tuber as a step in marketing; use in producing a hybrid or different variety therefrom; use of seed that has been marked “unauthorized propagation prohibited” or “unauthorized seed multiplication prohibited” or progeny therefor for propagation of the variety; dispensation to another, in a form that can be propagated, without notice as to being a protected variety under which it was received; and performance of any of the prohibited acts even in instances in which the variety is multiplied other than sexually, except if pursuant to a valid US plant patent.<sup>47</sup>

---

<sup>43</sup> As stated above in note 10, sexually reproduced plants are plants that reproduce by means of pollination or seed dispersal; asexually reproduced plants are plants that reproduce through cuttings, grafting, or budding.

<sup>44</sup> Despite the fact that tuber-propagated plants are covered by the same US law as sexually reproduced plants, tuber-propagating plants are actually asexually reproduced plants.

<sup>45</sup> The minimum exclusive rights, which appear under UPOV 1991, *supra* note 39, art 14, are contained under the Canadian *Plant Breeders' Rights Act*, *supra* note 28, arts 5-5(4); see also Helfer, *supra* note 25 at 31.

<sup>46</sup> This right is a remnant of UPOV 1978, *supra* note 37, art 5(3), which tempers the user's right to use propagating material to create new plant varieties.

<sup>47</sup> *Plant Variety Protection Act*, 7 USC § 2541.

Therefore, Canada's accession to UPOV 1991 not only strengthens the rights of Canadian owners of PBRs through the explicit content of the Canadian *Plant Breeders' Rights Act*, but it also strengthens the rights of these individuals in the United States by extension, because the accession activates the mandatory application to Canadians of the heightened scope of rights offered to US residents under the *Plant Variety Protection Act*. However, it bears repeating that the *Plant Variety Protection Act* applies only to sexually reproduced and tuber-propagating plants. Because the United States protects asexually reproduced plants under a separate statute—the *Plant Patent Act*, which is not subject to the national treatment provision—the US rights of Canadian owners of PBRs over asexually reproduced plants remain unchanged.<sup>48</sup>

### 3.2 Dual Protection

In the context of intellectual property rights over new plant varieties, the term “dual protection” refers to the superimposition of two distinct statutory rights that contemporaneously apply to the same plant variety. The United States provides dual protection to plant breeders in that American plant breeders may opt for plant variety protection via two distinct pathways: (1) either plant patents or plant variety rights; and (2) utility patents (which protect plants covered by both of the other statutes). Such dual protection is not uncommon—many jurisdictions, including most European countries, provide protection via a utility patent that complements that available under plant variety rights.<sup>49</sup>

In Canada, PBRs are currently the sole statutory method of direct protection over plant varieties. In practice, Canada would have a dual regime of protection if it offered both PBRs and patent rights over the same plant varieties. However, prior to acceding to UPOV 1991, Canada was not permitted to do so, in light of its obligations under UPOV 1978. Specifically, article 2(1) of the 1978 agreement provides the following:

Each member State of the Union may recognise the right of the breeder provided for in this Convention by the grant either of a special title of protection or of a patent. Nevertheless, a member State of the Union whose national law admits of protection under both these forms may provide only one of them for one and the same botanical genus or species.<sup>50</sup>

---

<sup>48</sup> Specifically, UPOV 1991, *supra* note 39, art 4 states that national treatment applies to “the grant and protection of *breeders' rights*” (emphasis added). UPOV 1991, *ibid.*, art 1 defines breeders' rights as “the right of the breeder provided for in this Convention.” Because the legal requirements and the scope of the monopoly for patent rights (including plant patents) are distinct from those provided for breeders' rights, the former protections fall outside of the ambit of the national treatment provision.

<sup>49</sup> The United States, however, is different from these other jurisdictions in that it does not subsume into one statute the rights that apply to both asexually reproduced plants on the one hand, and sexually reproduced and tuber-propagating plants on the other hand.

<sup>50</sup> UPOV 1978, *supra* note 37, art 2.

This provision effectively precluded Canada from enacting legislation that resulted in dual protection so long as it remained a member of UPOV 1978.<sup>51</sup> When the Convention was revised in 1991, however, this ban on dual protection was removed.<sup>52</sup> As noted by Barry Greengrass, vice secretary-general of UPOV at the time of the 1991 revision, the removal of this ban allowed all UPOV 1991 signatories to offer contemporaneously both a patent right and a plant breeders' right over the same botanical genus or species of plant variety if they so desired.<sup>53</sup>

Canada was thus unable to recognize plant varieties as patentable subject matter under the Canadian *Patent Act* until it acceded to UPOV 1991, which it was not permitted to do until it enacted legislation compliant with this Convention. Because of the recent amendments to the Canadian *Plant Breeders' Rights Act* (permitting Canada's accession to UPOV 1991), coupled with the removal of the dual protection ban in the 1991 revision of the UPOV Convention, Canada is now free to extend patent protection to plant varieties, thereby creating a dual protection framework similar to that seen in the United States.

For the time being, however, plant varieties remain outside the ambit of direct patent protection in Canada in light of the Supreme Court's decision in *Harvard College v Canada (Commissioner of Patents)*,<sup>54</sup> and these varieties are accordingly only eligible for indirect patent protection pursuant to *Monsanto v Schmeiser*.<sup>55</sup> Here, the expression "indirect patent protection" is used to reflect the fact that owners can still patent transformed cell lines, plant cell cultures, and methods for using or producing the plant in question, and rely on these patents as a means to safeguard against conduct pertaining to the plant as a whole that would normally constitute patent infringement were the plant variety itself the subject of a patent right.

---

<sup>51</sup> For further information, see e.g. Mark D Janis & Jay P Kesan, "U.S. Plant Variety Protection" in David Vaver, ed, *Intellectual Property Rights: Critical Concepts in Law* (New York: Routledge, 2006) 274 at 305, n 69 (references omitted), in which the authors explain: "Reportedly, the delegates to the 1957 and 1961 UPOV conventions were inclined to leave the dual protection question to the member states. Nonetheless, parallel negotiations over utility patent law harmonization arrived at a different solution: *exclude plant varieties from the utility patent system, setting up sui generis variety protection as the exclusive form of protection for varieties*. Accordingly, perhaps as a product of the *realpolitik* of international patent law harmonization, the 1961 text of the UPOV included a *double protection prohibition*."

<sup>52</sup> See e.g. Laurence R Helfer, *supra* note 25 at 26.

<sup>53</sup> "The 1991 Act equally contains no provision corresponding to the second sentence of Article 2(1) of the 1978 Act (the so-called 'ban on double protection') so that a Contracting Party is, so far as the 1991 Act is concerned, free to protect varieties, in addition to the grant of a breeder's right, by the grant of other titles, particularly patents." Barry Greengrass, "The 1991 Act of the UPOV Convention" (1991) 13 Eur Intell Prop Rev 466 at 467. See also Mark D Janis, "Interfaces in Plant Intellectual Property" in Neil Wilkof & Shamnad Basheer, eds, *Overlapping Intellectual Property Rights* (Oxford: Oxford University Press, 2012) 83 at 87, n 23, noting that "as a consequence of the elimination of Article 2(1), member states could decide to offer utility patent protection for plant varieties."

<sup>54</sup> *Supra* note 19.

<sup>55</sup> *Supra* note 20.

In *Monsanto v Schmeiser*, the Supreme Court found that to find infringement, it is not necessary that the patented cell line be used in isolation from the rest of the plant to which it is related.<sup>56</sup> Therefore, if an inventor seeks patent protection over a cell line in a new plant variety, this patent can serve as an indirect protection over the plant variety itself, since the same conduct of replanting seeds that would normally constitute infringement of a utility patent that covers the plant in question (were such a right to exist in Canada as it does in the United States) also constitutes infringement of a utility patent over the gene and cells (currently permitted in both countries).

However, not all plant varieties are eligible in Canada for indirect patent protection under the rule in *Monsanto*—only those plant varieties that contain components susceptible to patent protection may receive indirect protection. More specifically, while transgenic or genetically modified plants can contain cell lines or plant cell cultures eligible for patent protection—meaning that those plant varieties are by extension indirectly patentable—traditional plant breeding methods (such as selection or crossing) do not implicate the creation of such patent-eligible cell lines or plant cultures—meaning that plants thereby developed are precluded from receiving indirect patent protection:

[In light of the *Monsanto* decision], transgenic (or genetically modified) varieties would enjoy patent protection, because a patented gene or a patented gene sequence has been added to them. The farmer's privilege and the breeder's exception could not apply under these circumstances. Consequently, breeders that used genetic engineering would have an advantage over those that used traditional methods of plant selection, because the latter can only rely on the PBRA [*Plant Breeders' Rights Act*] to protect their varieties.<sup>57</sup>

In this respect, Canada differs from the United States, which has recognized plant varieties<sup>58</sup> as well as other higher life forms as patentable subject matter.<sup>59</sup> Such recognition in the United States allows breeders to take advantage of a wider proprietary monopoly not subject to the same user exceptions as those that apply to PBRs. Further, it bears noting that in the United States, this potential to patent higher life forms subsists despite recent refinements to the patent examination process following the release of the United States Patent and Trademark Office (USPTO) interim eligibility guidance that concerns, *inter alia*, claims that cover laws of nature, natural phenomena, and natural products.<sup>60</sup>

---

<sup>56</sup> *Ibid* at paras 38-43 and 78-80.

<sup>57</sup> Frédéric Forge, "Intellectual Property Rights in Plants and the Farmer's Privilege" (2005), online: Parliament of Canada: Parliamentary Information and Research Service, Library of Parliament <<http://www.parl.gc.ca/Content/LOP/researchpublications/prb0533-e.pdf>>.

<sup>58</sup> *JEM Ag Supply, Inc v Pioneer Hi-Bred International, Inc*, 534 US 124 (2001).

<sup>59</sup> See generally *Diamond v Chakrabarty*, 447 US 303 (1980).

<sup>60</sup> "2014 Interim Guidance on Patent Subject Matter Eligibility," 79 Fed Reg 74618 (16 December 2014) [2014 Interim Guidance], replacing memorandum of Andrew H Hirschfeld, Deputy Commissioner for Patent Examination Policy, United States Patent and Trademark Office, "2014 Procedure for Subject Matter Eligibility Analysis of Claims Reciting or Involving Laws of Nature/ Natural Principles, Natural Phenomena, and/or Natural Products" (4 March 2014).

More specifically in this regard, the recent USPTO guidance document (which provides a more stringent test for subject matter eligibility that is informed by recent US jurisprudence) provides that a natural product such as a plant variety remains eligible for US utility patent protection provided that the plant variety differs markedly from its naturally occurring counterpart in its natural state, taking into account its structure, function, and other properties.<sup>61</sup> In practice, whether or not this is so depends on a case-by-case analysis of the claim in question.<sup>62</sup> Despite the fact that this may result in the exclusion of some plant varieties previously considered to be patentable, the range of plant varieties subject to a utility patent remains nonetheless wider under American law than it is under Canadian patent law, where plant varieties are excluded *prima facie* from being the subject of a patent in light of *Harvard College v Canada*.<sup>63</sup>

Until Canada explicitly includes plant varieties under the ambit of patentable subject matter, inventors of new plant varieties who wish to receive a legal monopoly exceeding that offered under the *Plant Breeders' Rights Act* will have to make do with the indirect patent protections offered in light of *Monsanto v Schmeiser*. Whether Canada intends to make such changes remains to be seen, although in light of Canada's accession to UPOV 1991, such a legislative enactment remains at the very least a possibility.

#### 4.0 CONCLUSION

Canada has amended its PBRs legislation and is now a signatory to the 1991 revision of the *International Convention for the Protection of New Varieties of Plants*. Its membership in UPOV 1991 enhances the protections offered to Canadian residents through the grant of PBRs in other member states, and expands on the rights granted to residents of other states who apply for PBRs in Canada.

As for the protection of new plant varieties in Canada, the country's membership in UPOV 1991 now entitles it to enact patent legislation to protect new plant varieties; however, it remains to be seen whether Canada will choose to do so.

---

<sup>61</sup> 2014 Interim Guidance, *supra* note 60 at 74622-24. In cases where a patent is rejected on the ground that it has failed this test, the subject matter can technically still be found to qualify for patent protection if it amounts to "significantly more" than a natural product. This second test has been referred to as the search for "inventive concept"—that is, an analysis as to whether there is a presence of one or several elements "sufficient to ensure that the patent in practice amounts to significantly more than a patent upon the [ineligible concept] itself": *Mayo Collaborative Services v Prometheus Laboratories, Inc.*, 132 S Ct 1289 at 1294 (2012), cited in *Alice Corporation Pty Ltd v CLS Bank International et al.*, 134 S Ct 2347 at 2357 (2014). However, a patent over a plant variety alone would not be subject to this second test because the claims cover only the composition of matter rather than the use thereof or related process.

<sup>62</sup> "Markedly different characteristics ... will be evaluated based on what is recited in the claim on a case-by-case basis": 2014 Interim Guidance, *supra* note 60 at 74623.

<sup>63</sup> *Supra* note 19.



## 5.0 REFERENCES

- “2014 Interim Guidance on Patent Subject Matter Eligibility,” 79 Fed Reg 74618 (16 December 2014).
- Acquaah, George. *Principles of Plant Genetics and Breeding* (Malden, Mass: Blackwell Publishing, 2007).
- Agriculture and Agri-Food Canada, “An Overview of the Canadian Agriculture and Agri-Food System 2014” (2015), online: Government of Canada <<http://www.agr.gc.ca/eng/about-us/publications/economic-publications/alphabetical-listing/an-overview-of-the-canadian-agriculture-and-agri-food-system-2015/>>.
- Alice Corporation Pty Ltd v CLS Bank International et al*, 134 S Ct 2347 (2014).
- Derzko, Natalie. “Plant Breeders’ Rights in Canada and Abroad: What Are These Rights and How Much Must Society Pay for Them?” (1994) 39 McGill LJ 144, online: <<http://lawjournal.mcgill.ca/userfiles/other/3107186-39.1.Derzko.pdf>>.
- Diamond v Chakrabarty*, 447 US 303 (1980).
- Forge, Frédéric. “Intellectual Property Rights in Plants and the Farmer’s Privilege” (2005), online: Parliament of Canada: Parliamentary Information and Research Service, Library of Parliament <<http://www.parl.gc.ca/Content/LOP/researchpublications/prb0533-e.pdf>>.
- Galushko, Victoriya. “Intellectual Property Rights and the Future of Plant Breeding in Canada” (PhD Thesis, University of Saskatchewan Department of Bio-resource Policy, Business and Economics, 2008) [unpublished], online: <<http://ecommons.usask.ca/bitstream/handle/10388/etd-08282008-162514/Galushko.pdf>>.
- Greengrass, Barry. “The 1991 Act of the UPOV Convention” (1991) 13 Eur Intell Prop Rev 466.
- Harvard College v Canada (Commissioner of Patents)*, 2002 SCC 76.
- Helper, Laurence R. “Intellectual Property Rights in Plant Varieties: International Legal Regimes and Policy Options for National Governments” (Food & Agriculture Organization of the United Nations: Rome, 2004), online: FAO Legislative Study 85 <<ftp://ftp.fao.org/docrep/fao/007/y5714e/y5714e00.pdf>>.
- Hirschfeld, Andrew H, Deputy Commissioner for Patent Examination Policy, United States Patent and Trademark Office. Memorandum, “2014 Procedure for Subject Matter Eligibility Analysis of Claims Reciting or Involving Laws of Nature/Natural Principles, Natural Phenomena, and/or Natural Products” (4 March 2014).
- International Convention for the Protection of New Varieties of Plants, 2 December 1961, rev’d 10 November 1972 at Geneva, 23 October 1978, online: UPOV <<http://www.upov.int/upovlex/en/conventions/1978/act1978.html>>.

International Convention for the Protection of New Varieties of Plants, 2 December 1961, rev'd 10 November 1972 at Geneva, 23 October 1978, and 19 March 1991, online: <<http://www.upov.int/upovlex/en/conventions/1991/act1991.html>>.

Janis, Mark D. "Interfaces in Plant Intellectual Property" in Neil Wilkof & Shamnad Basheer, eds, *Overlapping Intellectual Property Rights* (Oxford: Oxford University Press, 2012) 83.

Janis, Mark D & Jay P Kesan. "U.S. Plant Variety Protection" in David Vaver, ed, *Intellectual Property Rights: Critical Concepts in Law* (New York: Routledge, 2006) 274.

*JEM Ag Supply, Inc v Pioneer Hi-Bred International, Inc*, 534 US 124 (2001).

Kingsbury, Noel. *Hybrid: The History and Science of Plant Breeding* (Chicago: University of Chicago Press, 2009).

*Mayo Collaborative Services v Prometheus Laboratories, Inc*, 132 S Ct 1289 (2012).

*Monsanto Canada Inc v Schmeiser*, 2004 SCC 34, online: <<http://scc-csc.lexum.com/scc-csc/scc-csc/en/2147/1/document.do>>.

*Patent Act*, 35 USC §§ 1-376, online: <<https://www.law.cornell.edu/uscode/text/35>>.

*Plant Breeders' Rights Act*, SC 1990, c 20 (royal assent 19 June 1990), online: Government of Canada <<http://laws-lois.justice.gc.ca/eng/acts/P-14.6/20030702/P1TT3xt3.html>>.

*Plant Breeders' Rights Act*, SC 1990, c 20, as amended by SC 2015, c 2 (royal assent 25 February 2015), online: Government of Canada <<http://laws-lois.justice.gc.ca/PDF/P-14.6.pdf>>.

*Plant Patent Act*, 35 USC §§ 161-164, online: <<https://www.law.cornell.edu/uscode/text/35/part-II/chapter-15>>.

*Plant Variety Protection Act*, 7 USC §§ 2321-2582, online: <<https://www.law.cornell.edu/uscode/text/7/chapter-57>>.

*Seeds Act*, RSC 1927, c 185.

Statistics Canada, "Imports, Exports and Trade Balance of Goods on a Balance-of-Payments Basis, by Country or Country Grouping" (2005), online: Government of Canada <<http://www.statcan.gc.ca/tables-tableaux/sum-som/101/cst01/gblec02a-eng.htm>>.

Stoskopf, Neal C. *Plant Breeding: Theory and Practice* (Boulder, Colo: Westview Press, 1993).

UPOV. Members of the International Union for the Protection of New Varieties of Plants: Status (22 October 2015), online: UPOV <<http://www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf>>.

UPOV. Mission Statement (2001), online: UPOV <<http://www.upov.int/about/en/mission.html>>.