The Plant Variety Protection System: General Presentation and Focus on the Essentially Derived Variety Concept

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Abstract

The plant variety system is a very technical field quite close from patent law, but with substantial differences. It is especially known for its exceptions, the breeder's privilege and the farmer's privilege, made with the aim to balance the interests of breeders and farmers. These exceptions were originally conceived to adapt the monopoly granted by this special intellectual property right to the specificity of the "living" on the one hand and of the agricultural sector on the other hand.

The breeder's privilege allows everyone to freely use a protected variety for further breeding. The result of the breeding can be distributed without the original breeder's authorisation.

The farmer's privilege allows farmers to use a part of their harvest obtained with a protected plant to sow their fields the following year without breeder's authorisation.

However, the UPOV Convention evolved with successive revisions. The extent of the plant variety right was originally quite limited. The scope of the plant variety certificate became much broader, and at the same time, its exceptions were weakened.

In this regard, the concept of essentially derived variety was adopted, which framed the extent of the breeder's privilege. This blurry notion is nowadays the cause of many conflicts.

Key Words: Breeder's privilege, Distinctness, Essentially derived variety, Farmer's privilege, Novelty, Patent, Plant variety, Stability, Uniformity, UPOV Convention

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I. Introduction: The Creation of Plant Variety Protection System

With the development of biotechnologies, patent law was criticised and considered as poorly suited to protect inventions relating to plants. Indeed, plants can hardly be considered as lifeless innovations because of their self-reproduction ability. If you have to act in an active way to copy an inert innovation, a living innovation can reproduce itself without any human intervention. For example, in agriculture, bees and insects are able to reproduce plants only by cross-pollination. The reproduced plant would be like a copy, a counterfeit of the original one, but we cannot blame bees for that.

The plant variety rights were developed in the 1960s partly to cope with these patent weaknesses. Several states have created the International Union for the Protection of New Varieties of Plants (UPOV) and have signed the UPOV Convention.² Nowadays, more than 70 states or organisations have ratified the Convention.

Originally, patent law and plant variety protection law were clearly distinct. They used to protect different parts of plants and could not co-exist on the same object. Plant variety system became a good alternative to patent law. This regulation permitted protection of plant varieties as well as the needed freedom for subsistence agriculture and research.

Before the most recent version of the UPOV Convention, the international plant variety protection law was quite limited. The object and criteria of the protection were strictly defined and the plant variety rights were adapted to the specific features of living. Two exceptions were made to take into account the specificity of the living. The first one called the "farmer's privilege" allows farmers to use a part of their harvest obtained with a protected plant to sow their fields the following year without the breeder's authorisation. The original UPOV Convention signed in 1961 provided this right to farmers but it was withdrawn with the 1991 reform. Becoming a 'privilege', it became optional in 1991. Therefore, each member state can now provide or not provide the farmer's privilege in its national regulation.³

Jean-Pierre Clavier, Les catégories de la propriété intellectuelle à l'épreuve des créations génétiques (1998); Frédéric Pollaud-Dulian, La propriété industrielle 879 (2011); Jacques Azéma & Jean-Christophe Galloux, Droit de la propriété industrielle 1028 (7th ed. 2012) (explaining the difficulty for patent law to adapt to plants).

^{2.} International Convention for the Protection of New Varieties of Plants, Dec. 2, 1961 [hereinafter UPOV Convention 1961].

^{3.} See infra pt. III.E.2.

The second one called the "breeder's privilege" allows everyone to freely use a protected variety for further breeding. The result of the breeding can be distributed without the original breeder's authorisation.⁴ This exemption was made to stimulate innovation and biodiversity.

Originally, the plant variety protection law was very different from patent law. It was totally suited to plants and the agri-food sector. The double exemptions permitted maintenance of a high level of biodiversity, which gave free access to resources. It was a way for breeders to earn money from their breeding work while at the same time it allowed farmers to maintain a subsistence agriculture.

The member states could choose between patent and plant variety protection system to protect plant innovations. However, the UPOV Convention was revised several times and it seems to have changed the plant variety protection system very deeply by bringing it closer to patent law.

The concept of essentially derived variety was adopted with the last revision of the UPOV Convention. This new concept deeply changed the philosophy of the plant variety system that was opened before, permitting breeders to use an existing and protected variety to develop a new one.

With the revisions, the plant variety system became much more closed. Despite the particular history and evolution of the plant variety law, it is necessary to make a general presentation of this specific intellectual property right by presenting the regulations (Part II), the system (Part III), and the exceptions (Part IV).

II. Presentation of the Plant Variety Regulations

The plant variety protection system is subjected to three levels of regulations: the international degree, the regional degree (European in our case), and the national degree (French in our case).

The UPOV system of plant variety protection was adopted in Paris on December 2, 1961 along with the International Convention for the Protection of New Varieties of Plants. The UPOV Convention was reformed several times in 1972, 1978, and 1991.⁵

^{4.} See infra pt. III.E.1.

^{5.} We intend to study more specifically the 1978 and the 1991 Acts of the UPOV Convention, but for a formal comparison of the three versions of the Convention, please refer to Annex I.

Some states refused to ratify the new versions of the Convention in 1978 and in 1991, while others ratified the 1978 Act or the 1991 Act.⁶

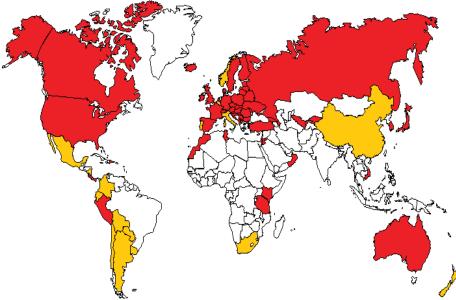


Figure 1: Ratification by Member States

Red: 1991 Act / Orange: 1978 Act / Yellow: 1961/1972 Act (only concerns Belgium). In addition, the African Intellectual Property Organisation and the European Union ratified the 1991 Act.

The European Union ratified the 1991 Act in 2005, but the European regulation about plant variety protection system was adopted originally in 1994,⁷ long before the formal ratification.

Since the beginning, the Community Plant Variety Office (CPVO) have examined about 56,000 applications and have granted more than 43,000 certificates. 24,725 certificates are now in force.⁸

UPOV CONVENTION, MEMBERS OF INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETY OF PLANTS, http://www.upov.int/export/sites/upov/members/en/pdf/pub423.pdf (list of members).

Council Regulation 2100/94 of July 1994, On Community Plant Variety Rights, 1994 O.J. (L 227) 1 (EC).

^{8.} Statistics, CMTY. PLANT VARIETY OFFICE, http://www.cpvo.fr/main/en/home/about-the-cpvo/statistics (last updated Aug. 4, 2016) (last visited Jan. 30, 2017).

Alongside the European plant variety protection system, a French plant variety certificate exists. The two protections cannot be cumulatively recognised on a same plant variety. Breeders have to choose between a national title that protects them only in the French territory and a European certificate that protects them in the entire European territory as a trademark system (except that a French trademark and a European trademark can coexist).

On January 1, 2012, 21,856 national certificate applications were filed. At the same date, 12,559 certificates were registered, and 1,626 certificates are now in force.⁹

There are not many differences with the UPOV and the European system since France ratified the 1991 Act in 2012 and decided to approximate its own system to the European one with a new regulation in 2011.¹⁰

III. Presentation of the Plant Variety Law

Making a general presentation of the plant variety protection system, we must analyse: (A) the object of the plant variety rights; (B) the duration of the plant variety certificate; (C) the conditions to benefit from a plant variety certificate; and (D) the extent of the rights covered by a plant variety certificate.

A. Object of the Plant Variety Law

The object of the plant variety law is not easy to define. Firstly, the concept of plant variety has evolved with the different versions of the UPOV Conventions and it is not so clear. Secondly, partly because living material is not inert, the objects of the plant variety law and patent law can sometimes be confusing.

^{9.} National Office for Plant Breeder's Rights, INOV (May 3, 2013), http://www.geves.fr/index.php?option=com_content&view=article&id=162&Itemid=463&lang=en#regul.

^{10.} Loi 2011-1843 du 8 décembre 2011 relative aux certificats d'obtention végétale [Law 2011-1843 of Dec. 8, 2011 on Plant Variety Protection Certificates].

1. Definition of the Concept of Plant Variety

The plant variety certificate protects a plant variety, which is quite obvious. It does not protect parts of a plant as a patent right does. It also does not protect genomic sequences, but a whole plant variety like a particular variety of maple tree or vine tree or a rose with a particular scent or colour.

The first version of the UPOV Convention defined the plant variety certificate's object as "cultivar, clone, line, stock or hybrid which is capable of cultivation and which satisfies the provisions of subparagraphs (1)(c) and (d) of Article 6."¹¹

The 1978 version defined the plant variety certificate's object as the "reproductive or vegetative propagating material, as such, of the variety" without explaining what a reproductive or vegetative propagating material or a variety was. Article 5 only specified that whole plants could be considered as vegetative propagating material.

French law originally defined plant variety in regards to the conditions of the protection, ¹³ which were distinctness, uniformity, and stability. All these definitions lack legal effects, but in 1991, the UPOV Convention adopted a very concrete definition of the "plant variety" concept, ¹⁴ which was included in the European regulation ¹⁵ and in the French law. ¹⁶ It is more a biological

^{11.} UPOV Convention 1961 art. 5.

^{12.} International Convention for the Protection of New Varieties of Plants art. 5, Nov. 10, 1972 [hereinafter UPOV Convention 1972].

^{13.} CODE DE PROPRIETE INTELLECTUELLE [INTELLECTUAL PROPERTY CODE] art. L. 623-1 (Fr.) (modified with the adoption of the Law 2011-1843).

^{14.} International Convention for the Protection of New Varieties of Plants art. 1, Mar. 19, 1991 [hereinafter UPOV Convention 1991] ("[A] plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a breeder's right are fully met, can be defined by the expression of the characteristics resulting from a given genotype or combination of genotypes, distinguished from any other plant grouping by the expression of at least one of the said characteristics and considered as a unit with regard to its suitability for being propagated unchanged.").

^{15.} Council Regulation 2100/94, art. 5, 1994 O.J. (L 227) 1 (EC) ("For the purpose of this Regulation, 'variety' shall be taken to mean a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a plant variety right are fully met, can be: defined by the expression of the characteristics that results from a given genotype or combination of genotypes, distinguished from any other plant grouping by the expression of at least one of the said characteristics, and considered as a unit with regard to its suitability for being propagated unchanged.").

^{16.} Law 2011-1843 of Dec. 8, 2011 on Plant Variety Protection Certificates ("For the purposes of this chapter, "plant variety" shall mean a single botanical taxon of the lowest known rank which: defined by the expression of the characteristics that results from a given genotype or

definition than a legal one, ¹⁷ which states that a plant variety shall be characterised by its whole genome. ¹⁸

This leads to some questions. "Living" and "plants" are not so easily defined. In the same way, scientists hardly agree about the living status of virus. Therefore, it is hard to know exactly what is or is not a plant. Are algae plants? Are mushrooms plants? The threshold between non-plants and plants is quite blurry.

Apparently, the original drafters of the UPOV Convention decided not to precisely define plant variety because of the absence of a scientific consensus about what really is a plant variety.¹⁹

Besides the equivocal definition of the plant variety concept, there is an issue about the articulation of plant variety law and patent law, which are both applicable to vegetal innovations.

2. Articulation of Plant Variety Law and Patent Law

Since France and the European Union have ratified the UPOV Convention, theoretically, the plant varieties were expressly excluded from the scope of patentability. Indeed, plant variety law is applicable to plant varieties, and patent law is applicable to any vegetal invention that is not a plant variety. This exclusion is not universal as Article 27.3 of the TRIPS agreement²⁰ authorises patentability of plant varieties.

In Europe, Article 53(b) of the European Patent Convention signed in Munich on October 1973 states the exception to patentability: "European patents shall not be granted in respect of . . . (b) plant or animal varieties or essentially biological processes for the production of plants or animals; this provision shall not apply to microbiological processes or the products thereof."²¹

combination of genotypes, distinguished from any other plant grouping by the expression of at least one of the said characteristics, and considered as a unit with regard to its suitability for being propagated unchanged.").

^{17.} UPOV Convention 1991 art 1.

^{18.} POLLAUD-DULIAN, supra note 2, at 885.

^{19.} See Anne-Marie Flury-Jeker, La protection des obtentions végétales sous le régime de la Convention de Paris du 2 mars 1961 et de la loi fédérale du 20 mars 1975, SERIE JURIDIQUE 103 (1987).

^{20 .} Trade-Related Aspects of Intellectual Property Rights, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1C, 1869 U.N.T.S. 401.

^{21.} European Patent Convention art. 53(b), Oct. 5, 1973.

Moreover, Article 4 of Directive No. 98/44/EC on the legal protection of biotechnological inventions states that:

- 1. The following shall not be patentable:
 - (a) plant and animal varieties;
 - (b) essentially biological processes for the production of plants or animals.
- 2. Inventions which concern plants or animals shall be patentable if the technical feasibility of the invention is not confined to a particular plant or animal variety.
- 3. Paragraph 1(b) shall be without prejudice to the patentability of inventions which concern a microbiological or other technical process or a product obtained by means of such a process.²²

However, the European Patent Office stated that the patentability's exceptions may be narrowly construed, ²³ and the reality is that the border between the scope of plant variety law and patent law is very blurry. ²⁴ This is a problem because this legal uncertainty can lead to the possibility of cumulating a patent and a plant variety certification on the same object. A cumulative system might decrease or limit the access to the plant varieties both for farmers and researchers or breeders.

Despite the exclusion of the plant varieties to the scope of patent, some questions remain: if a particular gene permitting a unique potato variety to resist drought is patented, does the patent protection cover the potato variety too? Does not the variety become *de facto* unavailable? The same question might be asked regarding the patent protection of inventive processes, which covers the product obtained by means of such processes. If a microbiological or technical process for production of a plant variety is patented, theoretically,

^{22.} Directive of July 6, 1998 on the Legal Protection of Biotechnological Inventions 98/44, 1998 O.J. (L 213) 13 (EC).

Case T-0320/87, Lubrizol Genetics Inc. v. Hybrid Plants, Enlarged Board of Appeal (Nov. 10, 2010).

^{24.} Case G-0001/08, Tomatoes/States of Israel, Enlarged Board of Appeal (Dec. 9, 2010); Case G-0002/07, Broccoli/Plant Bioscience, Enlarged Board of Appeal (Dec. 9, 2010).

the products obtained by means of such process are covered by the patent. Would it not be a way to cover a plant variety by patent law?

The jurisprudence stated that "[a] claim wherein specific plant varieties are not individually claimed is not excluded from patentability under Article 53(b) EPC even though it may embrace plant varieties."25 Accordingly, the claim in our example that specifically covers a potato variety should be rejected. However, it could be admitted if the claim covers only the gene, regardless of the variety in which it is integrated, even though it is in fact included only in a determined potato variety. In concrete terms, if a farmer wants to sow this particular potato variety, he will not be able to do so without prior authorisation of the patent owner and without paying royalties. This is confirmed by Article 8 of the Directive No. 98/44/EC, which states that "[t]he protection conferred by a patent on a biological material possessing specific characteristics as a result of the invention shall extend to any biological material derived from that biological material through propagation or multiplication in an identical or divergent form and possessing those same characteristics."26 In our example, protecting a variety by patent and plant variety certificate leads to decrease of access to this variety for farmers, researchers, or breeders.

B. Duration of the Plant Variety Law

The duration of the plant variety certificate is quite long, but it matches the particular object, which can live a long time. At first, the minimal plant variety certificate duration was fifteen years for conventional varieties and eighteen years for varieties with a very slow evolution, such as some trees or vines that can live hundreds of years. Then, the 1991 UPOV Act raised the minimal duration of plant variety certificates to twenty years for classical varieties and to twenty-five years for others. The European Union as well as France decided to raise the duration to twenty-five years for classical varieties and to thirty years for trees. This duration is very long. It is longer than patent law, which only lasts twenty years. We can wonder if the extent of duration is relevant, but it fits in the current movement in strengthening the plant variety rights.

^{25.} Case G-0001/98, Transgenic Plant/Novartis II, Enlarged Board of Appeal (Dec. 20, 2010).

^{26.} Directive 98/44, art. 8.

C. Conditions of the Plant Variety Law

To be protected by a plant variety certificate, the plant variety must fulfill four cumulative conditions: it needs to be new, distinctive, uniform, and stable.

1. The Condition of Novelty

Until 1991, novelty was analysed in correlation with the distinctness condition. Then, the UPOV Convention made a clear distinction between the two criteria²⁷ contrary to French law, which mixed them in the same article stating that the variety must be new and itself distinct from known varieties.²⁸

The novelty condition is very broad because it is not regarded with respect to yet registered plant variety certificate, but to any variety known by the public.²⁹ If the plant variety is unknown, it will be considered as new. If its principal characteristics are divulgated, a plant variety certificate will never protect it.

According to Article 6 of the 1991 UPOV Act, a variety will be considered known:

[I]f, at the date of filing of the application for a breeder's right, propagating or harvested material of the variety has not been sold or otherwise disposed of to others, by or with the consent of the breeder, for purposes of exploitation of the variety

(i) in the territory of the Contracting Party in which the application has been filed earlier than one year before that date and

^{27.} UPOV Convention 1991 (The 1978 UPOV Act mentioned the novelty without naming it. This criterion expressly appeared in the 1991 Act.).

^{28.} INTELLECTUAL PROPERTY CODE art. L. 623-1 ("For the purposes of this chapter, "plant variety" shall mean any new plant variety created which: 1°. Is different from any other variety already notoriously known at the date of the filing application; 2°. Is homogenous in its characteristics, that is to say being sufficiently uniform in its relevant characteristics, subject to the variation that may be expected from the particular features of its sexual reproduction or vegetative propagation; 3°. Remains stable, that is to say identical with its original definition at the end of each cycle of multiplication, or in the case of a particular cycle of propagation, at the end of each such cycle.").

^{29.} POLLAUD-DULIAN, supra note 2, at 888.

(ii) in a territory other than that of the Contracting Party in which the application has been filed earlier than four years or, in the case of trees or of vines, earlier than six years before the said date.³⁰

Article 10 of the EU Regulation states that a variety shall be considered as new if:

At the date of application...variety constituents or harvested material of the variety have not been sold or otherwise disposed of to others, by or with the consent of the breeder...for purposes of exploitation of the variety:

- (a) earlier than one year before the above mentioned date, within the territory of the Community;
- (b) earlier than four years or, in the case of trees or of vines, earlier than six years before the said date, outside the territory of the Community.³¹

This condition is very clear and explicit. This precision is a way to circumscribe the scope of the protection granted by the plant variety system and to reduce the risks caused by the specificity of the object and the field.

For example, if a variety of potato is known and has been cultivated for decades by part of a population of a member state of the 1991 UPOV Act who never applied for any intellectual property right, this variety of potato will never be entitled to protection from plant variety certificate on this territory because the variety has already been sold or disposed of in this territory and therefore not considered new anymore.

Indeed, plant variety protection system may be essentially applied in the agricultural sector, which is very sensitive. Because agriculture is vital to feed populations, the monopolies granted by intellectual property can be devastating. This is why it is so important to frame the protections and let an open access to vital goods.

^{30.} UPOV Convention 1991 art. 6.

^{31.} Council Regulation 2100/94, art. 10, 1994 O.J. (L 227) 1 (EC).

On the contrary, if this condition is very clear and framed, it allows people to protect varieties not only those developed or created by breeders but also those simply discovered in the wild. This aspect seems very special in intellectual property right because it does not require any creative or inventive effort.

2. The Conditions of Distinctness, Uniformity, and Stability

To be protected by a plant variety certificate, varieties have to be distinct, uniform, and stable.

Indeed, even if the variety is not divulgated and it is new, it must be totally distinctive from other known varieties. Its characteristics have to be sufficiently different from other varieties. If not, the variety will be considered as already known and it cannot be protected.³²

The distinctness condition is stated and defined as in Article 7 of the 1991 UPOV Act:

The variety shall be deemed to be distinct if it is clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filing of the application. In particular, the filing of an application for the granting of a breeder's right or for the entering of another variety in an official register of varieties, in any country, shall be deemed to render that other variety a matter of common knowledge from the date of the application, provided that the application leads to the granting of a breeder's right or to the entering of the said other variety in the official register of varieties, as the case may be.³³

The EU definition in is slightly different in Article 7, which states that:

1. A variety shall be deemed to be distinct if it is clearly distinguishable by reference to the expression of the characteristics that results from a particular genotype or combination of genotypes, from any other variety whose existence is a matter of common

^{32.} *Id*.

^{33.} UPOV Convention 1991 art. 7.

knowledge on the date of application determined pursuant to Article 51.

- 2. The existence of another variety shall in particular be deemed to be a matter of common knowledge if on the date of application determined pursuant to Article 51:
 - (a) it was the object of a plant variety right or entered in an official register of plant varieties, in the Community or any State, or in any intergovernmental organization with relevant competence;
 - (b) an application for the granting of a plant variety right in its respect or for its entering in such an official register was filed, provided the application has led to the granting or entering in the meantime.

The implementing rules pursuant to Article 114 may specify further cases as examples which shall be deemed to be a matter of common knowledge.³⁴

It is interesting to note the differences between novelty and distinctness conditions. The first one is defined according to the commercialisation of the variety and the second one is defined according to the protection of the existing variety. Thus, a variety shall be new and distinct if it has not been sold and if it is clearly distinguishable from other known varieties.

The uniformity condition is deeply linked to the particularity of living material, which may mutate and evolve spontaneously. To identify a plant variety, all the individuals of this variety must have the same characteristics. It is obvious that all the individuals of a variety cannot present strictly the same characteristics. They are not identical in every aspect. Therefore, there is a margin of appreciation.

Moreover, stability is the same as uniformity, but with a time dimension because the characteristics that make the variety uniform must be transmitted to future generations of this variety. If the characteristics that permit to distinguish this variety from another are not stable, it is not certain that future generations of this new variety can be differentiated in the future. Consequently, without

^{34.} Council Regulation 2100/94, art. 7, 1994 O.J. (L 227) 1 (EC).

stability, the first generation of this plant variety may be new and distinct and the future generations may not be, and the plant variety cannot obtain protection. For example, a new potato's variety with a special colour, which will not keep this characteristic after multiplication, will not be considered as stable.

These last two conditions are the ways to identify the protected variety. Whether the variety degenerates or evolves throughout reproduction, it may not look like the initial variety anymore. Accordingly, the plant variety certificate will not cover the next generations. In a way, it seems inadequate to the living that mutates and evolves by nature to increase biodiversity.

By making the plant varieties uniform and stable, there is a risk that the plant variety protection system provokes a kind of biodiversity erosion.³⁵ This lack of biodiversity is not only a problem for the world in general, but also specifically in agriculture as it puts the harvests at risks due to droughts, diseases, parasites, and bacteria.

For example, in late 1840s in Ireland, farmers began to produce potatoes massively for economic and political reasons. Unfortunately, potatoes are sensitive to a parasite called Phytophthora infestans, or late blight. This parasite killed a huge part of the production and led to starvation, killing around one million people.

These criteria are sometimes hard to assess, and due to their very technical nature, they need to be assessed more scientifically than legally. Being in charge of the criteria appreciation, CPVO is very powerful. The judge's control is limited to examine the proofs and observe procedural rules.³⁶

The CPVO adopted technical protocols for different varieties in order to clarify the ways in assessing the distinctness, uniformity, and stability criteria. These protocols are binding³⁷ contrary to the UPOV guidelines, which are merely non-mandatory recommendations as stated by the General Court reminding that "the protocols and guidelines established by the UPOV form a series of recommendations that are not legally binding and are intended

^{35.} Sandrine Maljean-Dubois, Biodiversité, biotechnologies, biosécurité: Le droit international désarticulé [Biodiversity, Biotechnologu, Biosecurity: Disarticulated International Law], JOURNAL DU DROIT INTERNATIONAL [J. DU DR. INT'L] 947, 959 (2000) (Fr.).

^{36.} Case T-187/06, Schräder v. Cmty. Plan Variety Office, 2008 E.C.R. II-03151; Daniel Gabdin, Protection des obtentions végétales: retour sur la marge d'appréciation de l'OCVV [Protection of Plant Varieties: Return on the Margin of Appreciation of the CPVO], REVUE DE DROIT RURAL [REV. DE DR. RUR.] 39, 39-40 (2016) (Fr.).

^{37.} Council Regulation 2100/94, art. 56.2, 1994 O.J. (L 227) 1 (EC).

simply to harmonise the technical examinations conducted by the competent authorities."³⁸

Accordingly, in case of contradiction or uncertainty in interpreting the CPVO and UPOV recommendations, CPVO rules will prevail over UPOV guidelines.

3. Extent of the Protection Covered by a Plant Variety Certificate

The scope of the protection granted by intellectual property rights is what gives its strength and interest.

The question of the extent of the protection is probably the most sensitive, particularly in the agri-food field, for two reasons. First, because living materials can auto-replicate or multiply themselves spontaneously without any human intervention, it is very specific compared to inert materials. Secondly, food and agriculture are totally linked and intellectual property may be a way to seize vital resources. If appropriated, such resources can end up coming short to people who need them the most. This is why intellectual property rights must be framed; and it is so important to find a middle way between the interests of creators and innovators and the essential needs of people to access traditional and vital resources.

Originally, the plant variety certificate rights were strictly limited, with some exceptions adopted to prevent an excessive appropriation of seeds.

Article 5 of the 1961 UPOV Act stated that the "prior authorisation [of the breeder of a new plant variety] shall be required for the production, for purposes of commercial marketing, of the reproductive or vegetative propagating material, as such, of the new variety, and for the offering for sale or marketing of such material." This article was stated in different wordings in 1978.

These requirements allow the personal use of a variety, and clearly grant the famers the possibility to keep some portion of their harvest to sow again in the following campaign without asking for any authorisation or payment.

The principal evolution of the UPOV Convention after 1991 was the extension of the scope of the protection granted by plant variety certificate to

^{38.} Joined Cases T-91/14 & T-92/14, Schniga Srl v. Cmty. Plan Variety Office, E.C.L.I: EU:T:2015:624, point 79.

the breeders. The 1991 Act widely opened the field of application of the plant variety certificate.³⁹

Indeed, Article 14 (as the European and French law⁴⁰) states that breeders are protected against: "(i) production or reproduction (multiplication), (ii) conditioning for the purpose of propagation, (iii) offering for sale, (iv) selling or other marketing, (v) exporting, (vi) importing, (vii) stocking for any of the purposes mentioned in (i) to (vi), above."⁴¹

Obviously, these legal provisions are much broader than before. The commercial concept is not as important now as it was in the 1978 Act. Furthermore, contrary to the previous versions of the UPOV Convention, issues like whether swap is subject to payment or not, or the use of a part of the harvest for future sowing, may now be forbidden absent the breeder's authorisation.

Moreover, if the offering for sale without the breeder's authorisation became forbidden since the adoption of the first UPOV Act, the 1991 Act extends this ban to importation and exportation. Now, even the stocking is forbidden.

All these evolutions make us wonder about the exhaustion of the plant variety protection rights. The last UPOV Convention Act's entry into force delayed the moment of the exhaustion of the plant variety certificate.

Before, the exhaustion of the plant variety certificate was much more broader because this principle was strictly implemented to all plant varieties. There was only an exception for ornamental plants for which was banned multiplication of ornamental plants normally marketed with the consent of the breeder for purposes other than propagation. The 1991 UPOV Act clearly states that the plant variety certificate protection will exhaust after being "sold or otherwise marketed by the breeder or with his consent in the territory of the Contracting Party concerned," except in two specific cases. The right shall not exhaust:

- if the variety is further multiplied;
- if the disposal "involve[s] an export of variety, which enables the propagation of the variety, into a country which does not protect

^{39.} UPOV Convention 1991 art. 14.

^{40.} Council Regulation 2100/94, art. 13.2; INTELLECTUAL PROPERTY CODE art. L. 623-4.

^{41.} UPOV Convention 1991 art. 14.1(a).

^{42.} UPOV Convention 1991 art. 16.

varieties of the plant genus or species to which the variety belongs, except where the exported materials is for final consumption purposes."43

The exception that was limited to ornamental plants before is now extended to the whole plant variety.

This former distinction between ornamental plants and others was interesting as ornamental plants are not as crucial as feeding varieties.

IV. Exceptions to the Plant Variety Right

Before 1991, the UPOV Convention permitted free access to the protected varieties to breeders and farmers. These two exceptions were the major interest of the plant variety rights, which was limited by the adoption of the 1991 Act which framed (A) the breeder's privilege, and (B) the farmer's privilege.

A. Breeder's Privilege and the Concept of Essentially Derived Variety

The breeder's privilege was framed by the adoption of the concept of essentially derived variety. This notion is hard to comprehend, being quite vague and technical. The implementation of the concept of essentially derived variety is difficult to know especially whether it is necessary or not to request for the authorisation of the initial breeder in order to exploit the derived variety, and whether the breeder of the essentially derived variety can grant a plant variety certificate for his variety. Being so vague, the concept causes many conflicts.

^{43.} Id. (these conditions are taken over in substance in the Council Regulation 2100/94, art. 16).

1. General Presentation of the Breeder's Privilege

With the adoption of the original UPOV Convention, member states realised the importance of free access to the varieties to enable the development of new varieties.

Article 5.3 of the 1978 Act stated that:

Authorisation by the breeder shall not be required either for the utilisation of the variety as an initial source of variation for the purpose of creating other varieties or for the marketing of such varieties. Such authorisation shall be required, however, when the repeated use of the variety is necessary for the commercial production of another variety.⁴⁴

In other words, it was not necessary to obtain the breeder's authorisation to use a variety to develop a new variety, except in order to produce and sell the new variety, it is necessary to repeatedly use the original variety. If the authorisation is not necessary, this limit does not exempt the second breeder to pay in order to use the original variety.

Indeed, for decades, farmers have been selecting plant varieties to adapt them for specific needs. Farmers use varieties to evolve them to match the specificity of their climate, soil, or illness.

Unfortunately, a limit was framed with the 1991 Act introducing the concept of "essentially derived variety" to limit the right of new breeders to improve an already protected variety. This notion is defined as a variety derived from an initial variety and "retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety." In other words, the variety complies with the original variety, "except for the differences which result from the act of derivation." 47

The introduction of this new notion seems to be justified by the fact that the breeders of the derived variety do not bear the cost incurred by the breeder of the original variety. Without recourse to the essentially derived variety notion,

^{44.} International Convention for the Protection of New Varieties of Plants, Oct. 23, 1978. art. 5 3

^{45.} For a legal definition of the concept, see Nicolas Bouche, Variété essentiellement dérivée – Entre ombre et lumière, 1 PROPRIETE INDUSTRIELLE, Jan. 2011, at 11.

^{46.} UPOV Convention 1991 art. 14.5(b)(i).

^{47.} Id. art. 14.5(b)(iii).

commercialising a variety essentially derived from another could be considered as an act of unfair or parasitic competition.

Nevertheless, this limitation of the breeder's privilege diminishes its value, and in the long run, it can limit the evolution of biodiversity. The change in the UPOV Convention can also limit the access to varieties and reduce the possibility for farmers to make varieties evolve to match closely with climate, and geographical and structural constraints.

French senators have recently formulated a political opinion about the implementation of the breeder's privilege. In their view, the modalities of this privilege should be adjusted, i.e., be limited in time. They proposed to limit the possibility of the breeder's privilege for five years from the time varieties are placed on the market. It would be a way for French senators to balance the interests of the original breeder and the interests of research, and to encourage innovation. However, this proposition would not be appropriate to all varieties. Indeed, cereals have a rapid uptake and turnover of new varieties, so five years could be enough for breeders to make a variety profitable. Other kind of varieties, such as potato, need much more time to become profitable. The European Commission should publish soon an interpretative note on this issue.⁴⁸

The ancestral practice of breeding was originally part of a farmer's job. Nowadays, farmers have to obtain the authorisation of each breeder to improve a variety. Nevertheless, it is necessary to know what is an essentially derived variety.

2. Definition of the Concept of Essentially Derived Variety

The legal definition of essentially derived variety is not clear, though not contradictory.

For the record, Article 15.5(b)(iii) of the UPOV Convention states that a variety can be considered as an essentially derived variety when:

(i) it is predominantly derived from the initial variety, or from a variety that is itself predominantly derived

^{48.} Présidence de Mme Colette MELOT, secrétaire, Recherche et propriété intellectuelle - Avis politique sur la protection juridique des variétés végétales, FRENCH COMMISSION DES AFFAIRES EUROPEENNES DU SENAT (Oct. 6, 2016), http://www.senat.fr/compte-renducommissions/20161003/europ.html.

from the initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety,

- (ii) it is clearly distinguishable from the initial variety and,
- (iii) except for the differences which result from the act of derivation, it conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety.⁴⁹

The European Regulation adopted a definition slightly different from the UPOV definition. Article 13 states that a variety is essentially derived when:

- (a) it is predominantly derived from the initial variety, or from a variety that is itself predominantly derived from the initial variety;
- (b) it is distinct in accordance with the provisions of Article 7 from the initial variety; and
- (c) except for the differences which result from the act of derivation, it conforms essentially to the initial variety in the expression of the characteristics that results from the genotype or combination of genotypes of the initial variety.⁵⁰

The European Regulation differs in two ways. First, subsection (a) of the definition does not add the "while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety." Secondly, Article 13.6(c) states that the variety "conforms essentially to the initial variety" when the UPOV Article 14.5(b) uses the words "conforms to the initial variety."

Interestingly, the French regulation regarding the plant variety protection rights seems to be a mix of the two definitions, stating that an essentially derived variety:

^{49.} UPOV Convention 1991 art. 15.5(b)(iii).

^{50.} Council Regulation 2100/94, art.13, 1994 O.J. (L227) 1 (EC).

- 1. Est principalement dérivée de la variété initiale ou d'une variété qui est elle-même principalement dérivée de la variété initiale:
- 2. Se distingue nettement de la variété initiale au sens dudit article L. 623-2;
- 3. Sauf en ce qui concerne les différences résultant de la dérivation, est conforme à la variété initiale dans l'expression des caractères essentiels résultant du génotype ou de la combinaison de génotypes de la variété initiale.⁵¹

This French definition uses the wordings of the European definition for the first part, stating that an essentially derived variety is "predominantly derived from the initial variety, or from a variety that is itself predominantly derived from the initial variety." Conversely, the third part of the definition uses the wordings of the UPOV definition, stating that "except for the differences which result from the act of derivation, it conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety."

These differences are more formal than substantial, and may be explained by editorial reasons. It may be a way for the European Union to simplify the complex UPOV definition. But having dissimilarities between the two definitions causes confusion, and it is hard to understand why the European Union added the word "essentially" to the last part of the definition.

In any case, these three criteria are cumulative:

- The variety must be "predominantly derived" from another variety. It means that the variety shall derive from only one variety and not a combination of varieties. If a variety is created from several varieties (by breeding, varietal selection, etc.), in the final variety, one genotype must distinguish itself from the others. If not, the final variety will not be considered as essentially derived.⁵²
- The variety shall clearly distinguish itself from the initial variety. The texts do not impose the final variety to be distinguishable from all varieties but only to the variety, which it derives from. It is not strictly

^{51.} Law 2011-1843 of Dec. 8, 2011 on Plant Variety Protection Certificates.

^{52.} See Bouche, supra note 46.

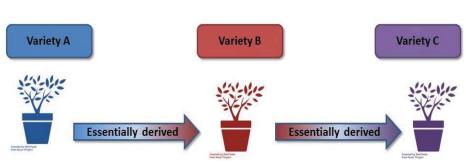
the same distinctiveness as the condition to obtain the protection for a new variety. ⁵³ Theoretically, Variety B could be considered as essentially derived from an initial variety, Variety A, being similar to another variety, Variety C. But if the breeder of Variety B wants to obtain a plant variety certificate for his variety, it shall be distinct from all varieties (A, C, and others).

- The variety shall clearly be distinguishable from the initial variety "except for the differences which result from the act of derivation." This condition is quite logical because if the derived variety is totally different from the initial variety, it is not an essentially derived variety, but merely a derived variety. There must be similarities between the initial and derived varieties to consider the latter as essentially derived from the first one.

3. Implementation of the Concept of Essentially Derived Variety

If a variety is qualified as an essentially derived variety, the breeder of this variety has to request for the authorisation of the initial variety's breeder. There are several hypotheses to consider with three plant varieties:

Figure 2



Icons created by BenPixels from Noun Project

Variety A is the initial variety. B is essentially derived from A, and C is essentially derived from B.

^{53.} *Id*.

- <u>Hypothesis No. 1: The initial variety (Variety A) is protected by a plant variety certificate</u>

It is necessary to obtain the authorisation of the breeder of Variety A to commercialise Variety B, until the end of the plant variety certificate covering Variety A.

For Variety C, it depends on whether Variety C, being essentially derived from Variety B, can also be considered as essentially derived from A. Indeed, Variety C can be considered as essentially derived from Variety B and from Variety A; or only from Variety B, if it is sufficiently distinguishable from Variety A.

Then, if Variety C conforms to Variety A "in the expression of the essential characteristics that result from the genotype or combination of genotypes," it will be necessary to obtain the authorisation of the breeder of Variety A to exploit Variety C. If not, it is not required to obtain the authorisation of the breeder of Variety A nor that of Variety B, for Variety B being an essentially derived variety.

- <u>Hypothesis No. 2: The initial variety (Variety A) is not or no longer</u> protected by a plant variety certificate

It is not required to request the consent of the breeder of Variety A in order to use, multiply or commercialise Variety B. It is not necessary to request for the authorisation from the breeders of Variety A and Variety B to use or commercialise Variety C.

Table 1

Cases	Distinct from A?	Essentially derived from A?	Complying with the plant variety certificate conditions? (novelty, distinctness, uniformity, stability)	Commercial exploitation possible without the authorization of the A Breeder?	Essentially derived variety can be protected by a plant variety certificate?
Variety B is not an essentially derived variety	YES	NO	YES	YES	YES
B is an essentially derived variety	YES	YES	YES	NO (as long as A is protected)	YES
B is not distinct	NO	NO	NO	NO (as long as A is protected)	NO
Varieties C and next are essentially derived from B	YES	YES	YES	NO (as long as A is protected)	YES
Varieties C and next are not essentially derived from B	YES	NO	YES	YES	YES

This chart is adapted from a table presented by the Administrative and Legal Committee of UPOV, on August 1, 2002.⁵⁴

For example, if Variety B is derived, but not essentially derived, from Variety A and complies with the plant variety certificate conditions, the breeder of Variety B can sell his variety without the authorisation of the breeder of Variety A, and protect Variety B by a plant variety certificate.

Furthermore, if Variety B is an essentially derived variety from Variety A, the breeder of Variety B has to ask for prior authorisation from the breeder of Variety A to sell his variety, but can protect it by a plant variety certificate if Variety B is new, distinct, uniform and stable.

^{54.} Int'l Union Protection New Varieties Plants [UPOV], *The Notion of "Essentially Derived Variety" in the Breeding of Ornamental Varieties*, Administrative and Legal Committee, Forty-Sixth Session, CAJ/46/7, Annex (Aug. 1, 2002), http://www.upov.int/edocs/mdocs/upov/en/caj/46/caj 46 7.pdf.

4. Protection of an Essentially Derived Variety

The essentially derived variety can also obtain a plant variety certificate if it complies with the conditions of novelty, distinctness, uniformity and stability with or without the authorisation of the initial breeder, depending on the situation.

In the European Union, essentially derived varieties have two possible protections:

- the new essentially derived variety can be protected by a plant variety certificate if it complies with all the conditions (novelty, distinctness, uniformity, stability);⁵⁵ and
- the essentially derived variety can be registered, with reference made to the initial variety.⁵⁶

5. Disputes about the Concept of Essentially Derived Variety

Generally, disputes arise from the qualification of essentially derived variety between two breeders. One party believes that a variety is essentially derived from his own and that the second breeder should not use nor commercialise this variety without his authorisation.

In that case, who bears the burden of proof? Regulations do not precisely answer this question. It seems that it is up to the breeder of the initial variety to prove that the variety at stake is an essentially derived variety, but the proofs are very hard to find. Indeed, to analyse a variety, it is easier with the access to internal information regarding the breeder of the potential essentially derived variety, and how he obtained the new variety.

The CIOPORA wishes to transfer the burden of proof to the breeder of the supposed essentially derived variety once the initial breeder "submits facts that reasonably indicate that the supposed Essentially derived variety is a mutant, a GMO or an apomict."⁵⁷ The UPOV also made this suggestion in

^{55.} The plant variety Offices cannot raise their own essentially derived variety qualification, because this would be adding a new condition besides those required by the UPOV Convention.

^{56.} Council Regulation 2100/94, art. 87.2, 1994 O.J. (L227) 1 (EC).

^{57.} CIOPORA, ESSENTIALLY DERIVED VARIETIES (EDV): POSITION OF CIOPORA, (2008), http://www.ciopora.org/fileadmin/assets/pageDownloads/CIOPORA_Papers/EDV/Essential ly_Derived_Varieties_Position_of_CIOPORA_01_2008_EN.pdf ("there should be a shift of burden of proof if the plaintiff submits facts that reasonably indicate that the supposed EDV is a mutant, a GMO or an apomict.").

1992, stating in the guidelines that in any case, the contracting parties are free to place the burden of proof on both breeders.⁵⁸

In addition, the concrete comparison between varieties is very complicated not only because it is technical. It is hard to know the threshold between what is essentially derived and what is not. If the definition gives some indications regarding the methods, it is not sufficient to be efficient. This is why some interbranch organisations have decided to adopt methods and thresholds of similarity in the genomic comparisons for some varieties.⁵⁹

B. The Farmer's Privilege

What is now called the farmer's privilege was originally much more than a privilege. It was, as the breeder's privilege, an integral part of the farmers' practices. It was a way for farmers to maintain a certain degree of independence and autonomy using an old practice of keeping part of the harvest for future sowing.

This practice is badly considered by plant variety certificate holders because, by keeping a part of their harvest, farmers do not need to buy new protected plants every year. They only pay at the first year. This means less royalties for breeders, who believes that this does not recover all the costs they incurred on the breeding work.

Originally, in the first version of the UPOV Convention, the farmer's privilege was not a privilege despite its name. It was a natural continuation of Article 5.1 which limited the extent of the plant variety certificate right to the "production for purposes of commercial marketing, the offering for sale and the marketing of the reproductive or vegetative material, as such, of the variety." There was nothing that would prohibit farmers from keeping part of their harvest to use in the following year.

This principle became an optional privilege with the 1991 Act as Member States can now choose between integrating it in their national regulation and excluding it. This paradigm shift illustrates the evolution of the plant variety right.

^{58.} Int'l Union Protection New Varieties Plants [UPOV], Essentially Derived Varieties, Sixth Meeting, IOM/6/2, (Aug. 17, 1992), http://www.upov.int/edocs/mdocs/upov/en/caj_ag_11 6/ iom 6 2.pdf.

^{59.} The International Seed Federation and the CIOPORA published guidelines regarding the analysis of the concept of essentially derived variety, namely about the method of analysis.

Article 15.2 of the 1991 Act states that:

Each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by Article 14(5)(a)(i) or Article 14(5)(a)(ii).

Therefore, this privilege is limited to the use of the crops by the farmer on his exploitation. The swap or sale of the crops produced is not part of the farmer's privilege and is totally forbidden, as it was before.

The wording of this article points out some questions: Can a farmer who is not the formal holdings owner also benefit from this privilege? Similarly, can the farmers' community collectively exploit a land benefit from Article 15's exception?⁶¹

Then, the farmer's privilege shall be implemented "within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder." The privilege is not at all absolute and may be submitted to restrictive conditions, and the contracting parties have to state the conditions limiting it.

Both France and the European Union have stated several conditions to maintain breeders' interests. Article 14 of the Regulation no. 2100/94 limits the application of the farmer's privilege to an exhaustive list of plant varieties, forbidding the saved seeds for other plant varieties.⁶²

There are around twenty varieties concerned by the privilege (nine varieties of folder plants, nine varieties of cereals, one variety of potato, three varieties of oil and fibre plants), which appear to be very few regarding the 25,175 plant variety certificates in force today. Among these 25,175 certificates, 47.91% concerns ornamental varieties, and 52.10% concerns agricultural, fruit and vegetable varieties.

In addition, even if contracting parties have integrated the farmer's

^{60.} UPOV Convention 1991 art. 15.2.

^{61.} For an analysis of the notion of "own holdings," *see* Sylvestre Yamthieu, *Accès aux aliments et droit de la propriété industrielle*, *in* Penser une democratie alimentaire Vol. 2. 233 (2014).

^{62.} Statistics, CMTY. PLANT VARIETY OFFICE, http://www.cpvo.fr/main/en/home/about-the-cpvo/statistics (last updated Aug. 4, 2016) (last visited Jan. 30, 2017).

privilege in their regulation, and even if they have integrated it without restricted condition (which is not often the case), the scope of the privilege is very narrow; the privilege is not mandatory; and for most of the time, it is possible to derogate by contract. In this case, a breeder firm selling crops to a farmer could, in the selling contract, prohibit the farmer from using part of the production again in the following year. The European regulation also limits the quantity of materials kept for authorised varieties, which shall be limited to what is "necessary for the requirements of the holding."

Finally, farmers have to pay "an equitable remuneration" in counterpart of the benefit of the farmer's privilege. Article 14.3 exempts "small farmers" from paying these royalties. The "equitable remuneration" shall be "sensibly lower than the amount charged for the licensed production of propagating material of the same variety in the same area." The "equitable remuneration" should theoretically be agreed between the breeder and the farmer who wants to use the variety. Though, the interesting thing is that most of the time it is provided in inter-professional agreements. These agreements can be applicable not only to those who signed the inter-professional agreement or joined the inter-professional organisation, but also to every person or company practising in this field.

Indeed, European⁶⁸ and French⁶⁹ regulations provide that under certain

^{63.} For an analysis of the notion of "own holdings," see Yamthieu, supra note 59.

^{64.} Council Regulation 2100/94, art. 14.3, 1994 O.J. (L 227) 1 (EC).

^{65.} For an analysis of the notion of "equitable remuneration," see P. METAY, Semences de ferme et droit d'obtention végétale: vers une solution au conflit, 371 REVUE DE DROIT RURAL 11, Mar. 2009. To evaluate the amount of the remuneration, a right to information has been granted to the breeder by Council Regulation 2100/94, art. 14.3. The farmer has to give information to the breeder who make a request, which all relevant information is defined at the Commission Regulation 1768/95 of July 24, 1995, Implementing Rules on the Agricultural Exemption Provided for in Article 14(3) of Council Regulation No. 2100/94 on Community Plant Variety Rights, art. 8, 1995 O.J. (L 173) 14 (EC). On the right to information, see Case C-305/00, Schulin v. Saatgut-Treuhandverwaltungsgesellschaft mbH, 2003 E.C.R. I-03525; Case C-182/01, Saatgut-euhandverwaltungsgesellschaft mbH v. Brangewitz GmbH, 2004 E.C.R. I-9801.

^{66.} Council Regulation 2100/94, art. 14.3. This article gives a definition of this notion stating that the "small farmers" have to be considered as those concerned by the Council Regulation 1765/92 of June 30, 1992, Establishing a Support System for Producers of Certain Arable Crops, 1992 O.J. (L 181) 12 ("who do not grow plants on an area bigger than the area which would be needed to produce 92 tonnes of cereals.").

^{67.} Council Regulation 2100/94, art. 14.3.

^{68.} Regulation 1308/2013 of Dec. 17, 2013, Establishing a Common Organisation of the Markets in Agricultural Products and Repealing Council Regulations (EEC) No. 922/72,

conditions, inter-professional agreements can be extended, for a limited period, to the whole profession, when the inter-profession organisation is sufficiently representative and if national authorities approve the agreement. If so, the agreement becomes binding and has formal legal force.

France has kept its plant variety protection system different from the European one for a long time. Until 2011, the French regulation totally prohibited the practice of saved seeds.⁷⁰ But in 2011, a new legislation was adopted, authorising this practice under the same conditions as the European regulations.

V. Conclusion

The plant variety protection system is not well known because of its technical aspect and very precise object and applications.

The main differences designed at first to overcome the unsuitability of patent law to living materials were reduced by the 1991 reform. This development marked a real change of philosophy. The plant variety protection law used to grant a limited monopoly, but with this reform, the rights became much stronger like the patent right.

The plant variety protection law became a kind of second patent law forgetting the specificity of the agricultural sector. First, because the farmer's privilege was made optional for member states, many states decided not to include this option in national law or to limit its scope.

Secondly, the breeder's privilege was strictly limited by the creation of a new concept: the "essentially derived variety."

These two intellectual property rights lead to the creation of a unique plant protection system as they draw closer to each other. This unique system with

⁽EEC) No. 234/79, (EC) No. 1037/2001 and (EC) No. 1234/2007, art. 164, 2013 O.J. (L 347) 671 (EU).

^{69.} CODE RURAL [RURAL CODE] art. L 631-9, 631-10 (Fr.).

^{70.} Tribunal de grande instance [TGI] [ordinary court of original jurisdiction] Nancy, May 15, 1987, PIBD 1987, III, 378, confirmed then by Cours d'appel [CA] [Court of Appeal] Nancy, Sept. 13, 1988, PIBD 1988, III, 572; TGI Paris, Oct. 26, 1989, PIBD 1990, III, 91. However, these cases were stated before the ratification of the UPOV Convention 1991 (on May 27, 2012) when the saved seeds were authorised by the UPOV Convention. At that time, plant variety rights were ruled by the Loi 70-489 du 11 juin 1970 relative à la protection des obtentions végétales [Law 70-489 of June 11, 1970 Regarding the Plant Variety Protection], https://www.legifrance.gouv.fr/affichTexte.do?cidTexte=JORFTEXT000000693437.

two complementary components, applied to the agricultural sector, locks the access to seeds and food items. This system lacks flexibility and paralyses agricultural practices. Farmers are becoming more and more dependent on seed companies.

It is necessary to protect innovations and help breeders to earn money with their work. But, because the agri-food sector is very sensitive, it is necessary to adapt and pay great attention to farmer's needs as they represent more than one billion people in the world.⁷¹

^{71.} See Sylvestre Yamthieu, The search for a balance between the legitimacy of industrial property rights and the need for food security, 9 Euro. INTELL. Prop. Rev. 38 (2016).

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Annex I

	UPOV 1991	UPOV 1978	UPOV 1961/1972
Conditions	Article 5 (1) [Criteria to be satisfied] The breeder's right shall be granted where the variety is (i) new, (ii) distinct, (iii) uniform and (iv) stable.	Article 5 (1) The breeder shall benefit from the protection provided for in this Convention Successor in title shall benefit from the when the following conditions are satisfied: (a) Nuralever may be the origin, artificial or has resulted, the variety must be clearly (iii) Uniform and that search in the following conditions are satisfied: (a) Whatever may be the origin, artificial or has resulted, the variety must be clearly distinguishable by one or more important characteristics from any other variety whose existence is a matter of common knowledge at matter of common knowledge may be established by reference to various factors and the time when protection is applied for. Common knowledge may be established by reference to various factors and distinguishable by made or in the course of collection. Or precise description in a reference publication. The characteristics that permit of varieties already made or in the course of collection. Or precise description in a reference publication. The characteristics that permit of varieties already made or in the course of collection, or precise description in a distinguished by reference or which the application for precise description or precise description and distinguished by morphological characteristics. In all cases, to have the availety to be defined and distinguished by morphological characteristics. In all cases, the process description and description or precise description and description and description and process description and description and process description and process description and procesults and the process descri	Article 6 (1) The breeder of a new variety or his successor in title shall benefit from the protection provided for in this Convention when the following conditions are satisfied: (a) Whatever may be the origin, artificial or natural, of the initial variation from which it has resulted, the new variety must be clearly distinguishable by one or more important characteristics from any other variety whose existence is a matter of common knowledge at the time when protection is applied for. Common knowledge may be established by reference to varieties such as: cultivation or marketing already in progress, entry in an official register of varieties already made or in the course of being made, inclusion in a reference collection or precise description in a publication. A new variety may be defined and distinguished by morphological or physiological characteristics. In all cases, such characteristics must be capable of precise description and recognition. (b) The fact that a variety has been entered in trials or has been entered
		(i) must not—or, where the law of that	in trials, or has been submitted for

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UPOV 1991	UPOV 1978	UPOV 1961/1972
	State so provides, must not for longer than one year—have been offered for sale or marketed, with the agreement of the breeder, in the territory of that State, and (ii) not have been offered for sale or marketed, with the agreement of the breeder, in the territory of any other State for longer than six years in the case of vines, forest trees, fruit trees and ornamental trees, including, in each case, their rootstocks, or for longer than four years in the case of all other plants. Trials of the variety not involving offering for sale or marketing shall not affect the right to protection. The fact than through offering for sale or marketing shall also not affect the right of the breeder to protection. (c) The variety must be sufficiently homogeneous, having regard to the particular features of its sexual reproduction or vegetative propagation. (d) The variety must be stable in its essential characteristics, that is to say, it	registration or entered in an official register, shall not prejudice the breeder of such variety or his successor in title. At the time of the application for protection in a member State of the Union, the new variety must not have been offered for sale or marketed, with the agreement of the breeder or his successor in title, in the territory of that State, or for longer than four years in the territory of any other State. (c) The new variety must be sufficiently homogeneous, having regard to the particular features of its sexual reproduction or vegetative propagation. (d) The new variety must be stable in its essential characteristics, that is to say, it must remain true to its description after repeated reproduction or propagation or, where the breeder has defined a particular cycle of reproduction or multiplication, at the end of each cycle. (e) The new variety shall be given a denomination in accordance with the provisions of Article 13. (2) Provided that the breeder or his successor in title shall have complied with the formalities provided for by the national

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	UPOV 1991	UPOV 1978	UPOV 1961/1972
		must remain true to its description after repeated remain true to its description after repeated reproduction or propagation or, where the breeder has defined a particular reversely may not be made subject cycle of reproduction or multiplication, at the end of each cycle. (e) The variety shall be given a denomination as provided in Article 13. (2) Provided that the breeder shall have complied with the formalities provided for by the national law of the member State of the Union in which the application for protection was filed, including the payment of fees, the grant of protection may not be made subject to conditions other than those set forth above.	must remain true to its description after repeated reproduction or propagation or, of fees, the grant of protection in respect of a where the breeder has defined a particular new variety may not be made subject to cycle of reproduction or multiplication, at conditions other than those set forth above the end of each cycle. (e) The variety shall be given a denomination as provided in Article 13. 7) Provided that the breeder shall have not be member State of the nion in which the application for protection as filed, including the payment of fees, the ant of protection may not be made subject conditions other than those set forth above.
Definition	Article 1 "variety" means a plant grouping within a single botanical taxon of the lowest known rank, which grouping, irrespective of whether the conditions for the grant of a breeder's right are fully met, can be - defined by the expression of the characteristics resulting from a given genotype or combination of genotypes, - distinguished from any other plant grouping by the expression of at least one of the said characteristics and	No specific definition	Article 2.2 For the purposes of this Convention, the word "variety" applies to any cultivar, clone, line, stock or hybrid which is capable of cultivation and which satisfies the provisions of subparagraphs (1)(c) and (d) of Article 6.

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	UPOV 1991	UPOV 1978	UPOV 1961/1972
	- considered as a unit with regard to its suitability for being propagated unchanged.		
Scope of protection	Article 5 (1) The effect of the right granted to the material conditions and marketing or the propagating for sale. (3) Subject to Articles 15 and 16, the propagating material of the propagating material of the protocted variety shall require the authorization of the protocted variety shall require the authorization of the protoction. (a) Subject to Articles 15 and 16, the perquired for purposes of commercial variety shall require the authorization of the protocted conditioning for the purpose of commercial marketing the breeder: (b) production or reproduction or reproductive or vegetative propagating material as such, of the variety, and for the offering for sale. (ii) offering for sale. (iv) selling or other marketing. (iv) selling or other marketing. (iv) selling or other marketing. (iv) stocking for any of the purposes of commercially as propagating material shall be deemed to include whole plants. The input of protogration when they other than propagation when they of the purposes of or the production of ornamental plants or cut mentioned in (i) to (ii), above. (iv) importing. (iv) Proceeding or other marketing. (iv) stocking for any of the purposes of or the reproductive or vegetative propagating material shall extend to ornamental plants or cut mentioned in (i) to (ii), above. (iv) importing. (iv) importing. (iv) stocking for any of the purposes ofher than propagating material in the production of ornamental plants or cut may be made subject to such conditions and made subject to such conditions as he may specify. (iv) importing. (iv) importing. (iv) importing. (iv) importing. (iv) experience of propagating material in the production of ornamental plants or cut mentioned in (i) to (ii), above. (iv) importing. (iv) importing. (iv) experience of propagating material in the production of ornamental plants or cut mentioned in (ii) to (iii), above. (iv) importing. (iv) experience of propagating material in the production of ornamental plants or cut may make his successor in title shal	Article 14 (1) The effect of the right granted to the material material commercial warers and the propagating of the propagating of the production or reproduction or reproductive or vegetative propagating material shall be propagating material shall be deemed to include whole plants. The breaders right percentage of the purposes of her than propagating material shall be breader shall extend to ornamental plants or parts thereof normally marketed for the purposes (vi) stocking for any of the purposes of her than propagating material in the production of ornamental plants or cut material. (a) Interpretation of the purposes of the than propagating material shall be deemed to reproduction or reproduction or reproductive or vegetative propagating material shall be deemed to include whole plants. The breaders right for conditions and may a material in the production of ornamental plants or cut mentioned in (b) (vii) stocking for any of the purposes of her than propagating material in the production of ornamental plants or cut mentioned in (b) (vii) stocking for any of the purposes of her than propagating when they are used commercially as propagating material in the production of ornamental plants or cut material in the production of ornamental plants or cut may specify. (b) The breeder may make his (2) The authorization subject to conditions and may be made subject to such conditions and may be made subject to such conditions and may be made subject to such conditions as an initial source of variation of the ornamental plants and programmate and may be breeder referred to in items (i) to (vii) of paragraph material in th	Article 5 (1) The effect of the right granted to the breeder of a new plant variety or his successor in title is that his prior authorization shall be required for the production, for purposes of commercial marketing, of the reproductive or vegetative propagating material, as such, of the new variety, and for the offering for sale or marketing of such material. Vegetative propagating material shall be deemed to include whole plants. The breeder's right shall extend to ornamental plants or parts thereof normally marketed for purposes other than propagation when they are used commercially as propagating material in the production of ornamental plants or cut flowers. (2) The authorization given by the breeder or his successor in title may be made subject to such conditions as he may specify.

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UPOV 1991	UPOV 1978	UPOV 1961/1972
including entire plants and parts of plants, marketing of such varieties. Such propagating entire plants and parts of plants, marketing of such varieties. Such propagating material of the protected variety when the repeated use of the variety is anthorization of the precessary for the commercial production of opportunity to exercise his right in realion to paper any provide that, subject the authorization of the precess. In respect of certain botanical section to Articles 15 and 16, the acts referred to in particular to the marketed product. A than that set out in paragraph (2) through the such a right may limit the benefit of the protected variety falling within realizing the protected variety falling within the such a right and to natural benefit of the protected variety falling within the such a right and to natural benefit of the protected variety falling within the such a right and to natural benefit of it to the marketed product. A than that set out in paragraph (1) of this material shall require the authorization of the which grant an identical resonable opportunity to exercise his right registered office in any of those States. (4) Possible additional acts] Each Contracting Party may provide that, subject to Articles 15 and 16, acts other than those referred to in items (1) to (vii) of paragraph (2) through the such a right may limit the benefit of it to the marketed product. A member State of the unauthorized use of the subject and legal persons resident or having their headquarters in any of those States. (4) Possible additional acts] Each Contracting Party may provide that, subject to Articles 15 and 16, acts other than those referred to in items (1) to (vii) of paragraph (2) through the such and legal persons resident or having their headquarters in any of those States. (5) Essentially derived and certain other	marketing of such varieties or for the marketing of such varieties. Such authorisation shall be required, however, when the repeated use of the variety is necessary for the commercial production of another variety. (4) Any member State of the Union may, either under its own law or by means of special agreements under Article 29, grant to breeders, in respect of certain botanical genera or species, a more extensive right than that set out in paragraph (1), extending in particular to the marketed product. A member State of the Union which grants such a right may limit the benefit of it to the nationals of member States of the Union which grant an identical right and to natural and legal persons resident or having their registered office in any of those States.	initial source of variation for the purpose of creating other new varieties or for the marketing of such varieties. Such authorization shall be required, however, when the repeated use of the new variety is necessary for the commercial production of another variety. (4) Any member State of the Union may, either under its own law or by means of special agreements under Article 29, grant to breeders, in respect of certain botanical genera or species, a more extensive right than that set out in paragraph (1) of this Article, extending in particular to the marketed product. A member State of the Union which grants such a right may limit the benefit of it to the nationals of member States of the Union which grant an identical right and to natural and legal persons resident or having their headquarters in any of those States.

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UPOV 1961/1972	
UPOV 1978	
UPOV 1991	(a) The provisions of paragraphs (1) to (4) shall also apply in relation to (i) varieties which are essentially derived from the protected variety, where the protected variety, where the protected variety, where the protected variety, (ii) varieties which are not clearly distinguishable in accordance with Article 7 from the protected variety and (iii) varieties whose production requires the repeated use of the protected variety. (b) For the purposes of subparagraph (a)(i), a variety shall be deemed to be essentially derived from another variety ("the initial variety") when (i) it is predominantly derived from the initial variety, or from a variety that is itself predominantly derived from the initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety, (ii) it is clearly distinguishable from the initial variety and

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	UPOV 1991	UPOV 1978	UPOV 1961/1972
	(iii) except for the differences which result from the act of derivation, it conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety. (c) Essentially derived varieties may be obtained for example by the selection of a natural or induced mutant, or of a soma clonal variant, the selection of a variant individual from plants of the initial variety, backcrossing, or transformation by genetic engineering.		
Exceptions	Article 15 (1) [Compulsory exceptions] The breeder's Authorisation bright shall not extend to (i) acts done privately and for nonvariety as an inicommercial purposes, (ii) acts done for experimental purposes marketing of authorisation s (iii) acts done for the purpose of breeding when the repeother varieties, and, except where the provisions of Article 14(5) apply, acts referred to in Article 14(1) to (4) in respect of such other varieties.	Article 15 (1) [Compulsory exceptions] The breeder's Authorisation by the breeder shall not extend to commercial purposes, (ii) acts done privately and for non-commercial purposes of creating other varieties, and, except where the provisions of Article 14(1) to (4) in respect of such other varieties. (2) [Optional exceptions] The breeder's Authorisation by the breeder shall not be required either for the utilisation by the breeder shall not be required either for the utilisation of the purpose of creating other varieties or for the purpose of preeding of such varieties. Such widespread distribution of new varieties, the authorisation shall be required, however, widespread distribution of new varieties, the provisions of Article 14(5) apply, acts another variety. Article 9 The free exercise of the exclusive right accorded to the breeder or his successor in title receives equitable remuneration.	Article 9 The free exercise of the exclusive right accorded to the breeder or his successor in title may not be restricted otherwise than for reasons of public interest. When any such restriction is made in order to ensure the widespread distribution of new varieties, the member State of the Union concerned shall take all measures necessary to ensure that the breeder or his successor in title receives equitable remuneration.

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UPOV 1961/1972		No concept
UPOV 1978		No concept
UPOV 1991	Article 14, each Contracting Party may, within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, restrict the breeder's right in relation to any variety in order to permit farmers to use for propagating purposes, on their own holdings, the product of the harvest which they have obtained by planting, on their own holdings, the protected variety or a variety covered by Article 14(5)(a)(i) or (ii).	Article 14.5 (a) The provisions of paragraphs (1) to (4) shall also apply in relation to (i) varieties which are essentially derived from the protected variety, where the protected variety, (ii) varieties which are not clearly distinguishable in accordance with Article 7 from the protected variety and (iii) varieties whose production requires the repeated use of the protected variety. (b) For the purposes of subparagraph (a)(i), a variety shall be deemed to be essentially derived from another variety
		Essentially derived variety concept

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UPOV 1961/1972	
UPOV 1978	
UPOV 1991	("the initial variety") when (i) it is predominantly derived from the initial variety, or from a variety that is itself predominantly derived from the initial variety, while retaining the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety. (ii) it is clearly distinguishable from the initial variety and (iii) except for the differences which result from the act of derivation, it conforms to the initial variety in the expression of the essential characteristics that result from the genotype or combination of genotypes of the initial variety. (c) Essentially derived varieties may be obtained for example by the selection of a natural or induced mutant, or of a somaclonal variant, the selection of a variant individual from plants of the initial variety, backcrossing, or transformation by genetic engineering"

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