

# Plant variety protection under the UPOV 1991 Act

## Provisions, Loopholes and Possible Remedies

By Edgar Krieger

### ABSTRACT

*The UPOV 1991 Act is widely considered a key milestone in establishing a sui generis system of Plant Variety Protection across the world. In 2021, thirty years after its adoption, 60 countries have joined the 1991 version of the UPOV Convention by depositing their instruments of accession that fulfil the minimum of the 1991 Act's requirements. While progressive for its time, the UPOV 1991 framework may no longer accommodate the present-day developments of the global horticulture. Following the massive globalization of horticultural value chain, the UPOV system may benefit from a critical evaluation from the contemporary breeders' perspective that CIOPORA represents. This article will highlight the main provisions of the UPOV 1991 Act and pinpoint the loopholes that may have detrimental effects on protection of breeders' rights, hence jeopardizing the incentives for innovation.*

On 19 March 1991, then 20 UPOV members adopted the third version of the International Convention for the Protection of New Varieties of Plants, the UPOV 1991 Act. For thirty years now, breeders - the ultimate users of the UPOV sui generis system of Plant Variety Protection (PVP) - have been testing the UPOV legal framework with sometimes sobering results. For once, in comparison to other systems of Intellectual Property rights, PVP still lacks clarity and well-established enforcement mechanisms that long exist in other IP protection frameworks. While discourse surrounding UPOV often drifts towards political debate, for CIOPORA, the International Community of Breeders of Asexually Reproduced Horticultural Plants representing breeders' interests in the area of IP protection since the foundation of UPOV in 1961, the focus has been and remains on the system's factual legal effectiveness in protecting incentivizing innovation. Thirty years after the adoption of the UPOV 1991 Act, let's examine what protection is offered by the system and whether it lives up to its promise.

### PROTECTION FOR ALL GENERA AND SPECIES

Under the 1978 Act of UPOV, countries were required to provide protection to a minimum of 24 genera and species. The 1991 Act raised the bar to all genera and species within a period of five years for the existing UPOV members and within ten years for new members. While positive in its core, a PBR system cannot be considered "effective" in the meaning of Article 27 (3) (b) of the TRIPS Agreement as long as it does not provide protection to all genera and species.

### WHAT IS PROTECTED?

The UPOV system was mainly created to accommodate the seed world. In a nutshell, the system of Plant Breeders Rights (PBR) is meant to protect the seed, but not the grain<sup>1</sup>. A tricky situation, as grain can be used both as seed and for processing in the food chain and animal feed. So, when is grain "food" and when is it "seed"?

Grain is definitely "seed" if it has been conditioned for "sowing" for propagation purposes, for instance, when pesticides and fertilizer have been applied. Pure, unconditioned grain is considered harvested material by most. Apples are harvested material, too, as they are meant for consumption and are not capable of producing apple trees of the same variety. However, most cut flowers, i.e. those with meristematic cells, are capable of producing entire plants true-to-type.

Although propagating material and harvested material are key terms of the UPOV system, they are not defined in the UPOV Acts. Consequently, definitions of propagating material vary greatly across UPOV members' laws.<sup>2</sup> For a while now, CIOPORA has been pleading for harmonization of the definitions worldwide.

Propagating material should include any reproductive or vegetative material of a plant from which, whether alone or in combination with other parts or products of that or another plant, another plant with the same characteristics can be produced. Additionally, it should be clarified that propagating material that has been harvested in a technical sense, is considered propagating material only. *Only material of a variety which is not capable by any means of producing another plant with the same characteristics should be deemed harvested material in the legal sense.* If not feasible from the socio-economic standpoint,



a distinction should be made between agriculture and horticulture, so that the definition of the vegetative propagating material in horticulture could be broadened.

### PROTECTION OF HARVESTED MATERIAL

After a long debate<sup>4</sup>, the obligatory protection of harvested material has been included into the 1991 Act at the price of two conditions: (1) if the harvested material was obtained through the unauthorized use of propagating material of the protected variety, and (2) if the breeder hasn't had reasonable opportunity to exercise his right in relation to the said propagating material.

The conditions were attached as UPOV members were not prepared to allow breeders to freely exercise their Intellectual Property rights over the grain instead of seed<sup>5</sup>. The result: a too narrow concept, particularly for asexually reproduced ornamentals and fruits. First, unauthorized acts can only occur in a territory where a breeder's right has been granted and is in force<sup>6</sup>. The burden of proof for the unauthorized use of propagating material lies with breeder, who can only exercise his right over harvested material if he had no reasonable opportunity to exercise the right in relation to the propagating material.

Due to globalization, ornamental and fruit varieties are increasingly grown in territories with no or low-level IP protection with harvest being exported to high-consumption countries. For instance, the export value of ornamentals from Ethiopia to the Netherlands has increased by the whopping 27,000%, whereas the export value of fruits from Argentina to the USA increased by 6,350% between 1995 and 2018<sup>7</sup>. Hence, it is high time for the UPOV mem-

bers to re-consider these restrictions and provide breeders with the same freedoms as holders of Patents or Trademarks. As one of the world's most influential IP scholars Prof Dr Joseph Straus points out: "With the exception of the necessity to access protected/patented material no legal/economic justification exists to treat innovations/inventions and innovators/inventors of ornamentals and fruit trees any different than those in other areas of technology!"<sup>8</sup> If necessary, also here a distinction could be made between agricultural and horticultural crops.

### Essentially Derived Varieties (EDV)

The basic purpose of the EDV principle in the 1991 Act of UPOV was to provide effective protection to a breeder who developed an original genotype from crossing and selection, by bringing mutants, GMO, and varieties developed by recurrent backcrossing into the scope of protection. Nowadays, New Breeding Technologies (NBT), such as CRISPR, enable multiple modifications of an Initial Variety in one act of derivation in a short period of time, and thus have the potential to undermine the protection of the Initial Variety, unless a sufficiently broad interpretation of the EDV principle is agreed upon among UPOV members. While the current UPOV Explanatory Notes (EXN) on EDV contains a very narrow interpretation, thanks to joint efforts of global breeder associations, the EXN is under review now. There is hope that the next EXN will reanimate the spirit of EDV principle by affirming that mono-parental varieties and varieties resulting from recurrent backcrossing are typically EDVs.

<sup>1</sup> Barry Greengrass, "The 1991 Act of the UPOV Convention" in UPOV Publication No. 747(E), Seminar on the Nature of and Rationale for the Protection of Plant Varieties under the UPOV Convention, Pretoria, South Africa (UPOV 1996) 55.

<sup>2</sup> The two main concepts are "intended for propagation" and "capable of producing entire plants true to type".

<sup>3</sup> Case C-176/18 Club de Variedades Vegetales Protegidas v Adolfo Juan Martínez Sanchís [2019] ECLI:EU:C:2019:1131, Opinion of AG Øe.

<sup>4</sup> The proposal to make the protection of harvested material optional was rejected by four votes for, 13 votes against and one abstention.

<sup>5</sup> Greengrass (n 1) 55.

<sup>6</sup> UPOV Explanatory Notes On Acts In Respect Of Harvested Material 2013, para 4. This narrow interpretation of "unauthorized use" was recently confirmed by the Court of Justice of the European Union: Case C-176/18 Club de Variedades Vegetales Protegidas v Adolfo Juan Martínez Sanchís [2019] ECLI:EU:C:2019:1131.

<sup>7</sup> The Observatory of Economic Complexity. OEC. <https://oec.world> accessed in February 2021; Food and Agriculture Organization of the United Nations. FAOSTAT Statistical Database. <http://www.fao.org/faostat/en/#data/QC> accessed February 2021.

<sup>8</sup> Prof. Dr. Joseph Straus, 'Patents for Plant-Related Inventions. The Current Legal Situation and Possible Solutions' (Venlo, the Netherlands, 2012).

## DISTINCTNESS AND PREVENTION OF PLAGIARISM

Time and time again, the EDV principle is mentioned as a prevention tool against plagiarism. While preventing plagiarism is a noble goal, the EDV principle is not the right instrument to achieve it. Mutants, particularly those resulting from NBT, are not plagiaristic but innovative. So are the varieties resulting from genetic engineering or recurrent backcrossing and stacking<sup>9</sup>.

The main plagiarism prevention tool, included in the UPOV 1991 Act, is the provision about “varieties, which are not clearly distinguishable from the protected variety”, Article 14 (5) (a) (ii). Surprisingly, according to the records of the Diplomatic Conference 1991, this concept was not at all discussed and was only mentioned twice - both times by the first CIOPORA Secretary General René Royon<sup>10</sup>.

The “not clearly distinguishable” varieties are slightly different from the pre-existing reference variety but are not different enough to be considered “clearly distinguishable”. According to the law, for such varieties, no PBR protection shall be granted. Additionally, such varieties fall directly into the scope of protection of the protected variety, irrespective of whether they are derived from the protected variety or not. Unfortunately, this principle of “not clearly distinguishable” varieties is not commonly applied in UPOV’s practice as DUS characteristics are not meant to be important in the sense of value but are used solely for making a botanical distinction<sup>11</sup>. Due to a very small minimum distance requirement, based on a purely botanical approach, even varieties with minor and trivial botanical differences from the reference variety often pass the distinctness test, with the unfortunate result that the scope of PBR protection covers only the protected variety itself and not the plagiaristic varieties. This is a unique situation in IP laws. Other IP systems include a tool to prevent plagiarism: the inventive step/non-obviousness-test and doctrine of equivalents test in Patent law, as well as the confusing similarity test in Trademark law.

## A REMEDY FOR WEAKNESSES

The UPOV 1991 Act brought some remarkable improvements for breeders, at least on paper. However, in practice, the improvements often do not suffice, either because of not going far enough, like in the case of the limited protection of harvested material, or due to a too narrow interpretation, like in the case of EDV and Minimum Distance. A revision of the UPOV 1991 Act would provide an opportunity to remedy the existing weaknesses and to give breeders what they deserve – effective protection for their innovations.

### About CIOPORA:

CIOPORA is the International Association of Breeders of Asexually Reproduced Horticultural Plants. Breeders of such varieties account for two-thirds of all Plant Variety Right (PVR) titles in the world. For 60 years, CIOPORA has been representing these breeders in all matters of Intellectual Property (IP) protection, aiming to foster an environment where innovation can flourish. The main priority of CIOPORA is the constant development and enhancement of systems of Intellectual Property protection for plant innovations. CIOPORA enjoys the observer status at the Administrative Council of CPVO and the International Union for the Protection of New Varieties of Plants (UPOV). CIOPORA unites breeders of all asexually reproduced horticultural plants with a broad portfolio of species and varieties on the market.

CIOPORA is a member-based, non-profit organization with currently 130 members from over 26 countries on five continents.

**CIOPORA: Uniting Breeders,  
Protecting Innovation.**  
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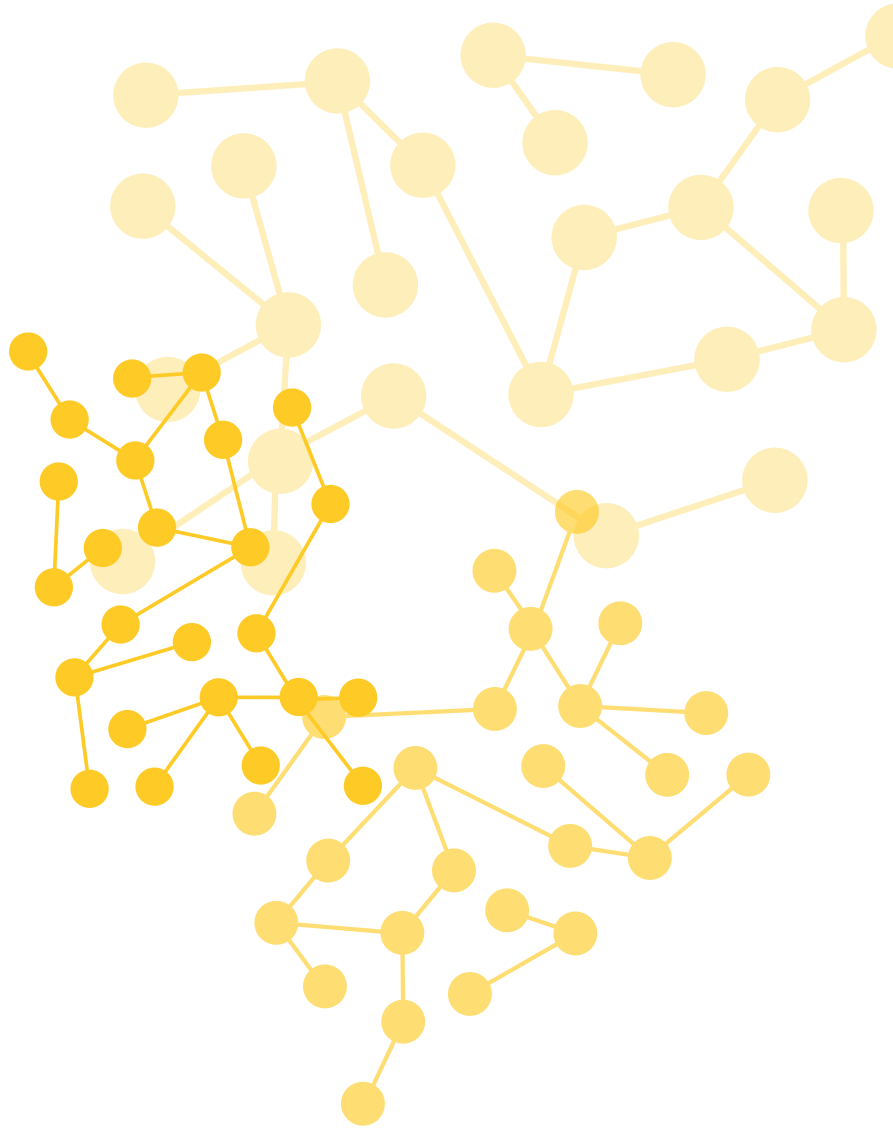
<sup>9</sup> By way of stacking two or more traits of interest are combined into a single plant.

<sup>10</sup> UPOV, ‘Records Of The Diplomatic Conference For The Revision Of The

International Convention For The Protection Of New Varieties Of Plants’, Diplomatic Conference for the Revision of the International Convention for the Protection of

New Varieties of Plants (UPOV 1991) 340, 1060.1 and 1060.2.

<sup>11</sup> Greengrass (n 1) 56.



### **Edgar Krieger**

CIOPORA Secretary General Dr Edgar Krieger has extensive experience in the field of Intellectual Property protection for plant innovations and has held the position of CIOPORA Secretary General since 2004. Prior to CIOPORA, Dr Krieger worked as a lawyer at an international law firm specializing in IP protection, particularly Plant Breeder's Rights, advising agricultural breeders in hundreds of court cases up to the

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