UPOV

INTERNATIONALER VERBAND ZUM SCHUTZ VON PFLANZENZÜCHTUNGEN
GENF, SCHWEIZ

UNION INTERNATIONALE POUR LA PROTECTION DES OBTENTIONS VÉGÉTALES
GENÈVE, SUISSE

UNIÓN INTERNACIONAL PARA LA PROTECCIÓN DE LAS OBTENCIONES VEGETALES
GINEBRA, SUIZA

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA, SWITZERLAND

Getting the Most Out of Your New Plant Variety

By UPOV

New varieties of plants (see Box 1) with improved yields, higher quality or better resistance to pests and diseases increase quality and productivity in agriculture, horticulture and forestry, while minimizing the pressure on the environment. The tremendous progress in agricultural productivity in various parts of the world is largely based on improved plant varieties. More so, plant breeding has benefits that extend beyond increasing food production.

The development of new improved varieties with, for example, higher quality, increases the value and marketability of crops. In addition, breeding programs for ornamental plants can be of substantial economic importance for an exporting country. The breeding and exploitation of new varieties is a decisive factor in improving rural income and overall economic development. Furthermore, the development of breeding programs for certain endangered species can remove the threat to their survival out in nature, as in the case of medicinal plants.

While the process of plant breeding requires substantial investments in terms of money and time, once released, a new plant variety can be easily reproduced in a way that would deprive its breeder of the opportunity to be rewarded for his investment. Clearly, few breeders are willing to spend years making substantial economic investment in developing a new variety of plants if there were no means of protecting and rewarding their commitment. Therefore, an effective system for the protection of plant variety is essential to encourage breeders to invest in plant breeding and contribute to the development of agriculture, horticulture and forestry and for the benefit of society as a whole.

1. What is Plant Variety Protection?

Plant variety protection, also called a "plant breeder's right" (PBR), is a form of intellectual property right granted to the breeder of a new plant variety . According to this right, certain acts concerning the exploitation of the protected variety require the prior authorization of the breeder. Plant variety protection is an independent *sui generis* form of protection, tailored to protect new plant varieties and has certain features in common with other intellectual property rights.

2. How Does the PBR System Work?

Any person who creates, or discovers and develops, a plant variety may apply for PBR. Once the PBR has been granted to the breeder [see Box 2], it means in practice that the title holder is the owner of the variety and anyone else who wants to commercialise that protected variety requires the authorisation of the holder of the PBR (i.e. the breeder of the variety). This authorisation is normally in the form of a license agreement between the title holder and those who sell the variety.

3. How can a PBR be acquired for a new plant variety?

To be granted a PBR, it is necessary to file an application for examination by the designated authority. For a variety to be protected, it must be novel, distinct, uniform and stable (see Box 3), and must have a suitable denomination. A PBR will be granted (see Box 6) if the requirements are fulfilled. The breeder is usually able to file an application without the services of an intellectual property agent acting on his behalf, since the procedure is well defined.

Once granted under the 1991 Act of the UPOV Convention, the PBR is valid for a minimum of 25 years in the case of trees and vines and for 20 years in the case of other crops from the date of granting the PBR. The PBR is valid in the territory where it was granted while in the case of intergovernmental organisations which grant PBRs, validity applies in all the member states of that organisation. For example, the Community Plant Variety Office (CPVO) grants PBR, which are valid in all member states of the European Union.

4 - What is UPOV

The International Union for the Protection of New Varieties of Plants, known as "UPOV," (see Box 4] is an intergovernmental organisation based in Geneva, Switzerland. The acronym UPOV is derived from the French name of the organisation namely, Union Internationale pour la Protection des Obtentions Végétales".

5 - Does it make any difference if the country where I reside is a member of UPOV?

Residents of a country that is a member of UPOV can apply for PBR in that country and any other member country of the Union. The application will be filed and examined (see Box 6) in the same way as national applications.

6.– What are the benefits of the UPOV System for SMEs.

a) Lowering "barriers to entry" into the breeding sector

PBR, as mentioned above, has specific features tailored to provide a favourable balance between scope and exceptions in the promotion of plant breeding. The "breeder's exception" (see Box 5) plays a key role for SMEs, by allowing all breeders to use protected varieties for further breeding, thus reducing the "barriers to entry" for those SMEs wishing to enter the plant breeding business. SMEs can benefit by sharing the developments made by the whole breeding sector.

b) A simple and harmonised application system

UPOV has developed model application forms for PBR, denominations, technical questionnaires, that UPOV members have incorporated into their own application forms. This means that the information requested in PBR applications is the same or very similar in all UPOV member states. Furthermore, this application system is simple and does not require the service of special IP agents. For SMEs, this translates into lower costs and simplified filing procedures in foreign countries.

c) Harmonised system of variety examination

In the pursuit of internationally harmonised PBR, UPOV has developed general principles for distinctness, uniformity and stability (DUS) examination. (link: document TG/1/3). In addition, for many species or other plant groupings, UPOV has developed specific guidelines (the UPOV Test Guidelines) for the examination of DUS, which are followed by the authorities (see Box 6). It has achieved a high degree of harmonisation in the variety examination of PBR applications, making possible several ways of cooperation:

- Purchase of DUS test reports: Once a UPOV member has examined a variety, it is possible for the results to be used by the authority of another member.

- Testing on behalf of another authority: by means of bilateral agreements, a UPOV member can request another member to run the DUS testing on its behalf. This type of agreement is of particular importance for testing crops for which there may not be technical expertise locally or where only few applications are filed and a testing system has not been developed.

- Mutual recognition of DUS test reports: this is another form of bilateral agreement which allows two UPOV members, who have the technical capability to carry out DUS testing for a given species, to mutually accept the technical report made by the other member, thus avoiding unnecessary duplication of tests.

- Centralized testing: In some cases, the designated authority may not run itself the DUS testing. It can designate specific testing centers for this purpose to test the varieties under the supervision of and following the Test Guidelines developed by the Authority based on UPOV Test Guidelines. There could be more than one center for a given species in the same UPOV member state. It is also possible that a central testing centre could be agreed upon between several UPOV members.

- Involvement of Breeders: As mentioned above, the breeder can be involved in different forms of cooperation within DUS testing, ranging from a total breeder testing system to various degrees of cooperation with the designated authority. As in other forms of cooperation, it maximizes the use of all available information, minimizes the time spent on DUS examination and can provide access to a breeder's specialist resources.

All these means of cooperation in testing procedures result in a significant saving of time and costs for the breeders and ensure harmonised testing criteria.

7 - How can SMEs use PBRs

a) Return on Investment

PBR enables breeding companies to achieve a return on their investment in breeding programs. The PBR system provides a legal framework that allows breeders to recover their investments and thereby allows them to continue their breeding activity. SMEs can take advantage of their empirical knowledge and create and protect their new plant varieties (see Box 1). Furthermore, the breeder's exemption under the UPOV Convention allows the breeder of a variety to enjoy the PBR of his variety whilst allowing other breeders to use the material of the protected variety for further breeding. Companies or individual breeders can use the protected varieties of other breeders freely and incorporate them into their breeding programs. They can also exploit the resulting new varieties freely. This is a unique feature of PBR under the UPOV Convention and it reduces barriers for entering into the business and stimulating the development of the local breeding industry. It recognizes that real progress in breeding for the benefit of society – the goal of intellectual property rights in this field–relies on access to the latest improvements and new variation.

Public agricultural research centres may use PBR as a tool to promote and finance their activities.

b) Licensing:

Investment

SMEs breeding companies can develop a licensing strategy to reinforce their presence in the local market and expand their activity abroad by entering into a partnership with foreign companies.

PBR can provide the basis for the transfer of technology necessary to compete in the market. Universities and National Agricultural Research Institutes may take advantage of PBR and play a key role in the process. They may have the knowledge and expertise for research but perhaps neither the infrastructure nor the experience required for successful marketing. In this situation, seed producers and consumers, for example in the milling industry and/or farmers/growers associations, can assist in the financing of a breeding program and then be in charge of the multiplication and marketing of the resulting varieties. Ownership could be shared in different ways according to the funding by the different parties of the breeding activity. PBR sets up the legal framework enhancing the relationship between researchers, PBR holders, licensees and users, hence creating a favorable environment for the development and transfer of technology (i.e. the varieties) in agriculture.

Facilitating access to foreign markets

A basic principle of the UPOV Convention is that the nationals and residents of any member of the Union receive the same treatment as accorded to the nationals of all other members of the Union. Breeders can protect their varieties in other countries and therefore broadens their market. The high degree of harmonisation in the examination of PBR applications between UPOV members facilitates the filing of applications in foreign countries. It is not necessary to

set up one's own office – a local representative, in most cases somebody who is licensed to commercialize the protected variety, can provide the service.

Development of SMEs in the plant/seed propagation sector

Seed multipliers benefit from increased demand for the seed of new varieties. Due to the natural extensive coverage of agricultural activity, breeders in many cases let seed multiplier companies handle the seed multiplication and distribution of their protected varieties. Very often the seed producer is a cooperative of farmers or a family-owned company working in the region where they have settled. These SME seed multipliers can obtain a license from the holder of the PBR for producing and marketing the new protected varieties bred by others.

Varieties can be protected independently, whether they will be locally marketed or not. The multiplication of varieties for foreign markets is another activity that is enhanced by PBR. Foreign breeders can protect their varieties and issue licences for multiplying them and exporting the propagating material to foreign markets. Thus, local seed producers can take advantage of this business opportunity.

Contracts with processors and distributors

Processors and distributors of vegetal farm products, based on new varieties, can benefit from improved quality in terms of, for example, better physical properties and improved content and composition of desired ingredients.

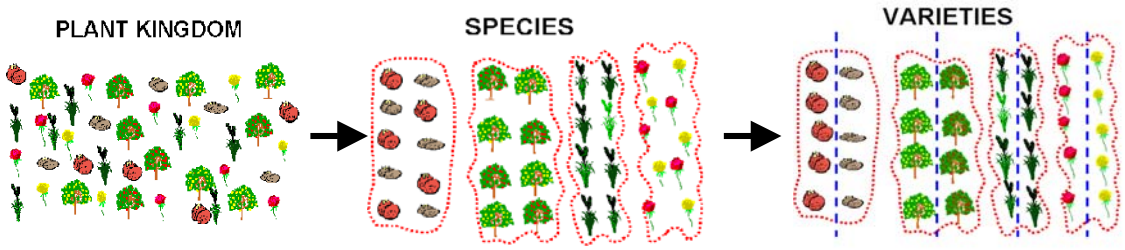
Farmers/growers have access to varieties that are more suitable to specific agro-climatic conditions and allow them to respond better to market requirements.

Developing the agricultural sector

A reliable legal framework is a very effective tool to attract the best foreign varieties and rapidly enhance productivity, competitiveness and income in national agriculture/horticulture. On some markets, there may be a demand for specific agricultural products, such as ornamentals and exotic fruits. Sometimes an entirely new branch within agriculture/horticulture may be created. In such cases, the cultivation of foreign varieties is necessary to meet the demand of these markets. Agricultural/horticultural trade companies or growers' associations can obtain licenses to exploit protected foreign varieties and make commercial agreements with overseas traders to export their production. PBR again provides an opportunity for the acquisition of technology for the development of new agricultural and horticultural activities, benefiting the rural sector and diversifying the production. Furthermore, it encourages the development of the necessary services (packaging, transport, etc.) which bring economic benefits.

Box 1 "Definition of Variety"

The species is considered as the lowest rank of botanical classification of the plant kingdom. Nevertheless, plants within a species can be very different. Farmers and growers need plants which are adapted to the environment in which they are grown and which are suited to the cultivation practices employed. Therefore, farmers and growers use a more precisely defined group of plants, selected from within a species, called a "plant variety". The UPOV Convention's definition of a plant variety starts by stating that it is "a plant grouping within a single botanical taxon of the lowest known rank, ..."



This confirms that a plant variety results from the lowest sub-division of the plant kingdom. The UPOV Convention (Article 1(vi)) defines as a variety:

> "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;"

This full definition clarifies that a variety must be defined by its characteristics, different from any other variety and remain unchanged during the process of propagation. If a plant grouping does not meet these criteria, it is not considered to be a variety within the UPOV system. However, the definition also makes clear that this is irrespective of whether the conditions for the grant of a breeder's right are fully met. Thus, the definition applies also to plant groupings that may not qualify for protection.

Box 2 "Definition of Breeders"

The UPOV Convention stipulates that the breeder is the one who is entitled to apply for protection of a variety. The definition of variety is explained in Box 1

The 1991 Act of the UPOV Convention (Article 1(iv)) defines a breeder as:

"- the person who bred, or discovered and developed, a variety,

- the person who is the employer of the aforementioned person or who has commissioned the latter's work, where the laws of the relevant Contracting Party so provide, or

- the successor in title of the first or second aforementioned person, as the case may be;"

This simple definition contains some important information concerning the UPOV system. The breeder, a natural or legal person, might be a plantsman, a farmer, a company or a scientist. Thus, for example; farmers are potential breeders. It also clarifies that the breeder is considered to be the one who bred the variety, i.e. created a plant variety by means of plant breeding techniques. The plant breeding techniques can range from classic "crossing and selection", through modern procedures, such as genetic engineering. As explained in the second and third indents, the employer of the breeder and the successor in title of the breeder may also be entitled to protection. The phrase "the person who bred, *or discovered and developed*, …" also clarifies that a mere discovery or find would not entitle the person to protection. Development is necessary.

Box 3 "Requirements for the Grant of the Plant Breeder's Right"

A variety *shall* be granted protection if it is: new, distinct, uniform and stable. The grant of protection *shall not be subject to any further conditions*, provided the variety is designated by a suitable denomination and the applicant complies with all the formalities and pays the required fees. The words in italics clarify that no other criteria or conditions can be used in determining whether to grant protection to a variety.

Novelty: To be eligible for protection, a variety must not have been sold, or otherwise disposed of, in the territory of the member of the Union concerned for more than one year prior to the application for a breeder's right, or more than four years (six years for trees or vines) in a territory other than that of this member of the Union. In the case of new members of the Union, or members extending the plant genera or species for which protection is offered, these novelty periods may be extended for varieties which have been created only recently before the time that protection becomes available.

Distinctness: A variety is 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 filing of the application. A variety whose existence is a matter of common knowledge (a "variety of common knowledge") must fall within the definition of a variety set out in Article 1(vi) of the 1991 Act of the UPOV Convention, but this does not necessarily require fulfilment of the Distinctness, Uniformity and Stability (DUS) criteria required for grant of a breeder's right under the UPOV Convention. Thus, a variety of common knowledge does not have to be a protected variety and includes ecotypes or landraces which fall within the definition of variety. Furthermore, if protection was wrongly granted to a variety that was not distinct, the breeder's right shall be declared null and void, i.e. considered that the right was never granted.

Uniformity: A variety is deemed to be uniform if, subject to the variation that may be expected from the particular features of its propagation, it is sufficiently uniform in its relevant characteristics. The uniformity requirement within the Convention has been established to ensure that the variety can be defined as far as is necessary for the purpose of protection. Thus, the criterion for uniformity does not seek absolute uniformity and takes into account the nature of the variety itself. Furthermore, it relates only to the characteristics relevant for the protection of the variety.

Stability: A variety is deemed to be stable if its relevant characteristics remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle. As with the uniformity requirement, the criterion for stability has been established to ensure that the identity of the variety, as the subject matter of protection, is kept throughout the period of protection. Thus, the criterion for stability relates only to the relevant characteristics of a variety.

The distinctness, uniformity and stability (DUS) criteria are often grouped together and referred to as the "technical criteria." They are most easily understood by considering the criteria together with the way in which they are examined. Guidance on this is provided by document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants", which is available on the UPOV web-site at http://www.upov.int/en/publications/tg-rom/tg001/tg_1_3.pdf.

Denomination: Each member of the Union must register the denomination of a new plant variety at the same time as it issues the title of protection for the new variety. Anyone who, within the territory of one of the members of the Union, offers material of the protected variety for sale or markets propagating material of the variety is obliged to use the denomination, even after the expiration of the breeder's right of that variety. The denomination is chosen by the breeder of the new variety but it must conform with all the criteria set out in Article 20 of the 1991 Act. In summary:

- it must be different from all other denominations used by other members of the Union for the same, or a closely related, species;
- it must not be liable to mislead or cause confusion concerning the characteristics, value or identity of the variety or identity of the breeder; in particular,
- it must enable the variety to be identified;
- no rights in the denomination shall hamper its free use as the variety denomination (even after expiry of the breeder's right);
- prior rights of third persons must not be affected and such rights can require a change of the variety denomination;
- it may not consist solely of figures, unless this is an established practice.

The breeder must submit the same denomination to all members of the Union and, unless this is considered to be unsuitable within a particular territory, this same denomination will be registered by all the members of the Union. A trademark, trade name or other similar indication may be associated with the denomination for the purposes of marketing or selling, but the denomination must be easily recognizable.

Box 4 "UPOV"

UPOV Mission Statement: To provide and promote an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants for the benefit of society.

The UPOV system of plant variety protection came into being with the adoption of the International Convention for the Protection of New Varieties of Plants at a Diplomatic Conference in Paris, on December 2, 1961. This was the point at which there was recognition of the intellectual property rights of plant breeders in their varieties on an international basis. The UPOV Convention was revised in 1972 and 1978; the most recent Act of the Convention dates from 1991. The UPOV Convention provides a *sui generis* form of intellectual property protection which has been specifically adapted for the protection of plant varieties taking into account the particular features of plant breeding and the circumstances under which plant varieties are used. The Convention has been developed with the aim of encouraging breeders to develop new varieties of plants. Innovations in other areas of technology concerning plants are covered by other forms of intellectual property rights including, in particular, patents.

For further information visit the UPOV Website at www.upov.int

Box 5 "Exceptions to PBR"

The breeder's right does not extend to

(i) acts done privately and for non-commercial purposes,

This exception means that, for example, subsistence farming is excluded from the scope of the breeder's right.

(ii) acts done for experimental purposes and

(iii) acts done for the purpose of breeding other varieties and for the purpose of exploiting these new varieties provided the new variety is not a variety essentially derived from another protected variety (the initial variety).

This latter exception, for the purpose of breeding other varieties, is a fundamental aspect of the UPOV system of plant variety protection and is known as the "breeder's exemption." It recognizes that real progress in breeding - which, for the benefit of society, must be the goal of intellectual property rights in this field - relies on access to the latest improvements and new variations. Access is needed to all breeding materials in the form of modern varieties, as well as landraces and wild species, to achieve the greatest progress and is only possible if protected varieties are available for breeding. The breeder's exemption optimizes variety improvement by ensuring that germplasm sources remain accessible to all the community of breeders. However, it also helps to ensure that the genetic basis for plant improvement is broadened and is actively conserved, thereby ensuring an overall approach to plant breeding which is sustainable and productive in the long term. In short, it is an essential aspect of an effective system of plant variety protection system which has the aim of encouraging the development of new varieties of plants, for the benefit of society.

In addition, as an optional exception, each member of the Union 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 other variety covered by the protection". This provision recognizes that, for some crops, there has been a common practice of farmers saving their own seed, i.e. seed is produced on a farm for the purpose of re-sowing on the same farm and not for the purpose of selling the seed. The provision allows each member of the Union to take account of this practice when providing variety protection. However, the purpose of plant variety protection is to encourage the development of new varieties of plants, for the benefit of society. Therefore, the Convention requires this optional exemption to be regulated "within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder, ... ". Should this exemption be introduced in a way that failed to provide an incentive for breeders to develop new varieties, then society would fail to benefit from the system.

Box 6 "Examination of the application for PBR"

According to Article 12 of the UPOV Convention, protection can only be granted in respect of a new plant variety after examination of whether the variety complies with the conditions for protection laid down in the UPOV Convention (Articles 5 to 9 and 20) and, in particular, that the variety is distinct (D) from any other variety whose existence is a matter of common knowledge at the time of the filing of the application, and that it is sufficiently uniform (U) and stable (S), or "DUS" in short. The DUS examination generates a description of the variety, using its relevant characteristics (e.g. plant height, leaf shape, time of flowering), by which it can be defined as a variety in terms of Article 1(vi) of the UPOV Convention (see Box1).

Article 12 states that "… In the course of the examination, the authority may grow the variety or carry out other necessary tests, cause the growing of the variety or the carrying out of other necessary tests, …" This establishes that the authority may conduct growing trials, or other tests, itself ("Official Testing") or, alternatively, the authority may arrange for other parties to conduct the growing trials or other tests e.g. an independent institute or the breeders themselves. Cooperation with breeders has the advantage that it maximizes the use of all available information, minimizes the time for DUS examination and can provide access to breeders' specialist resources. Nevertheless, the involvement of the breeder is always under the control of the authority and will always result in a decision being taken by the authority.

Article 12 also provides that "… In the course of the examination, the authority may … take into account the results of growing tests or other trials which have already been carried out. …" This establishes the opportunity for the authority to take into account the results from previous tests or trials conducted by, for example, other authorities. This can take the form of: the purchase of DUS test reports; bilateral arrangements; or centralized DUS testing. Such cooperation between authorities is important for minimizing the time for DUS examination, minimizing the cost of DUS examination and optimizing examination of distinctness in the growing trials (See UPOV document C/37/5. The latest version of this document can be found at: http://www.upov.int/en/documents/index_c.htm).

UPOV has developed a document known as the "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (document TG/1/3 - Available on the UPOV Website at http://www.upov.int/en/publications/tg-rom/tg001/tg_1_3.pdf), which sets out the principles which are used in the examination of DUS. The identification of those principles ensures that examination of new plant varieties is conducted in a harmonized way throughout the members of the Union. This harmonization is important because it facilitates cooperation in DUS testing and also helps to provide effective protection through the development of harmonized, internationally recognized descriptions of protected varieties. In addition, UPOV has developed "Guidelines for the Conduct of Tests for Distinctness, Uniformity and Stability," or "Test Guidelines" (available at http://www.upov.int/en/publications/tg-rom/index.htm), for many individual species or other variety groupings. The purpose of these Test Guidelines is to elaborate certain of the principles contained in the General Introduction into detailed practical guidance for the harmonized examination of DUS and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions