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INTRODUCTION TO THE INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

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INTRODUCTION TO THE INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

1. The International Union for the Protection of New Varieties of Plants, known as "UPOV,"[1] is an intergovernmental organization with legal personality and which has its headquarters in Geneva, Switzerland. UPOV was established by the International Convention for the Protection of New Varieties of Plants (hereinafter referred to as "the UPOV Convention"), which was adopted in Paris in 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.

2. The UPOV Convention was revised in Geneva in 1972, 1978 and 1991. On November 10, 2003, there were 54 members of the Union;[2] 26 States are bound by the 1991 Act and 26 States are bound by the 1978 Act and two States are still bound by the 1961 Convention and 1972 Act. Their dates of joining UPOV and the Acts of the Convention by which they are bound are given in Annex I.[3]

3. Plant variety protection, also called a "plant breeder's right," is a form of intellectual property right granted to the breeder of a new plant variety in relation to certain acts concerning the exploitation of the protected variety which require the prior authorization of the breeder. As in the case of patents, trademarks and industrial designs, prior examination and granting by the relevant authority is required to establish the breeder's right.

4. This "Introduction to Plant Variety Protection under the UPOV Convention" contains three parts, the first part consists of a general overview of UPOV and the need for protection of plant varieties; the second part explains the key features of the latest Act of the UPOV Convention and, finally, the last part gives some information on the organizational structure, membership and recent developments concerning UPOV.

I. GENERAL OVERVIEW

5. The UPOV Convention provides a *sui generis* form of intellectual property protection which has been specifically adapted for the process of plant breeding and has been developed with the aim of encouraging breeders to develop new varieties of plants. In order to fully appreciate the need for protection, it is useful to understand something about the nature of plant breeding.

6. In early history, and as part of the process of establishing fixed settlements and becoming a farmer, man selected and kept seed or plants of those species that offered a secure food source. By the end of the eighteenth century, when systematic plant breeding by selection began, the plants grown by farmers were the result of several thousands of years of partly conscious, partly unconscious selection. The art of plant breeding resulted from the

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[1] The acronym UPOV is derived from the French name of the organization, which is "Union Internationale pour la Protection des Obtentions Végétales."

[2] The term "members of the Union" includes member States bound by the 1961, 1978 Acts and Contracting Parties bound by the 1991 Act.

[3] Membership of UPOV can also be found at: http://www.upov.int/en/about/members/index.html

realization by innovative farmers in the eighteenth century that considerable further progress was possible by systematic selection. In the twentieth century, the rediscovery of Mendel's laws of heredity contributed to the establishment of plant breeding on a scientific basis.

7. The essence of plant breeding is the discovery or creation of genetic variation in a plant species and the selection from within that variation of plants with desirable traits that can be inherited in a stable fashion. The plant breeders' final selections of superior plants will form the basis of one or more plant varieties. Plant breeders use all available technology both to create genetic variation and to select from within that variation.

8. Different types of plant variety have been developed, depending upon the physiology of the plants of each species and the ways in which the plants of the species can be reproduced. The simple objective of a breeder is to produce a variety which is an improvement on the plants used as the starting point. However, this is a difficult challenge. Many useful characteristics, such as yield and quality, are controlled by the interaction of very large numbers of genes, about most of which little is known. Very large numbers of plants must be examined by the plant breeder over many different seasons and under different growing conditions. Once a desirable plant has been identified, it is still necessary to fix its genetic structure in order that it can be multiplied into a variety, the individual plants of which perform in the desired way. Thus, the breeding of a plant variety takes place over many years.

9. Large-scale breeding work calls for significant annual investment in land, specialized equipment (including, for example, greenhouses, growth chambers and laboratories), and skilled scientific manpower, which must continue over the many years which it takes to find and develop an improved plant variety. Not all plant breeders are successful and, even where successful, changes in market requirements may eliminate the possibility of a return on investment, so there is also risk involved. However, the benefits arising from the combinations of increased output and improved quality made possible by plant breeding are such that society has good reasons to encourage investment and risk-taking in this field.

10. New varieties of plants which produce improved yields, higher quality or provide better resistance to plant pests and diseases are a key element and a most cost-effective factor in increasing productivity and product quality in agriculture, horticulture and forestry, whilst minimizing the pressure on the natural environment. Many other modern technologies of plant production need to be combined with high-performing varieties in order to deploy their full potential. The tremendous progress in agricultural productivity in various parts of the world is largely based on improved varieties.

11. World population continues to grow, and it is necessary to find ways of increasing output through higher yields and less wastage, thereby minimizing the use of land and other resources, all of which are becoming more scarce. But plant breeding has wider economic and environmental benefits than just increasing food production. The development of new improved varieties with, for example, higher quality increases the value and marketability of crops in the global market of the twenty-first century. 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 species can remove the threat to the survival of the species in the wild.

12. Breeding new varieties of plants requires a substantial investment, in terms of skill, labor, material and economic resources, and may take many years (10 to 15 years in the case of many plant species); however, a new variety, once released, could in many cases be readily reproduced by others so as to deprive its breeder of the opportunity to benefit adequately from the investment made. Sustained breeding efforts are only possible if there is a chance to reward investment. It is, therefore, important to provide an effective system of plant variety protection, with the aim of encouraging the development of new varieties of plants, for the benefit of society.

II. KEY FEATURES OF THE UPOV CONVENTION

13. The members of the Union have undertaken to grant plant breeders' rights in respect of new plant varieties in accordance with the principles established in the UPOV Convention and thus on an internationally harmonized basis.

14. The basic principles of the UPOV Convention, as they were introduced in the 1961 and 1978 Acts, had been seen to work well in practice. These same principles are retained in the 1991 Act. The 1991 revision was, in effect, the fine-tuning of the Convention to equip it for the twenty-first century.

15. If the UPOV Convention was working well, why was it necessary to revise it in 1991? When the Convention was adopted in 1961, it created certain concepts that were new to intellectual property. By 1991, some thirty years of experience had been gained in the application of these concepts, and members of the Union were aware of some improvements that could be made. The discovery of the structure of DNA was announced in 1953. During the period 1961 to 1991, consequential scientific discoveries and technological developments took place, which had profound implications for plant improvement and also for plant variety protection. The changes made in 1991 were to improve the system on the basis of experience or to respond to scientific and technological progress.

16. The UPOV Convention[4] established for members of the Union a legal framework with the following key features:

- common agreement on essential notions: variety and breeder;
- genera and species to be protected;
- rules for national treatment and priority, which establish relations between members of the Union and provide for the legal mechanism for nationals and residents of a member to benefit from protection in the territories of other members;
- the conditions for the grant of protection: novelty, distinctness, uniformity and stability and a suitable variety denomination;
- a minimum scope of protection;
- a minimum duration of protection;
- clear delimitation of the grounds to nullify or cancel the breeder's right.

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[4] Unless otherwise indicated, reference to the UPOV Convention in this paper should be understood as a reference to the latest Act of the Convention (the 1991 Act). The full text of the UPOV Convention can be found at: http://www.upov.int/en/publications/conventions/1991/content.html

Definition of Variety

17. The plant kingdom is vast and has been classified into a ranking system containing many divisions and sub-divisions. The division, which is most familiar to many people, is the "species." The rank of species, by which most plants are known, is probably the most important because it is the basis from which the classification is constructed. It denotes a group of organisms sharing a long number of heritable characteristics, which are reproductively isolated. Thus, plants of different species, such as rose, potato, wheat and apple, cannot inter-breed by natural means.

18. Although the rank of species is an important botanical classification, it is clear that the plants within a species can be very different. Farmers and growers need plants that 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 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 species. However, to understand more completely what a plant variety is, the UPOV Convention (Article 1(vi)) defines it as:

> "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
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> - 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."

19. If a plant variety 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 of a "variety" is wider than "protectable variety."

Definition of Breeder

20. The definition of "breeder" is important because it identifies who is entitled to apply and, if the conditions are fulfilled, obtain a breeder's right. 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."

21. The breeder might be, for example, an amateur gardener, a plantsman, a farmer or a scientist. The plant breeding techniques used can range from traditional crossing and selection through to new techniques, such as genetic engineering. The UPOV Convention makes no restrictions.

22. However, the phrase "the person who bred, *or discovered and developed*, …" clarifies that a mere discovery or find would not entitle the person to protection. Development is necessary.[5] When applicable, the employer of the breeder and the successor in title of the breeder may also be entitled to protection.

Genera and Species to be Protected

23. The UPOV Convention (Article 3) requires the grant of protection for the varieties of all plant genera and species in order to give breeders more encouragement to work with new species with the appropriate legal certainty. On acceding to the 1991 Act, existing members of the Union are given five years to achieve this position while new members of the Union are given ten years. More precisely, new members:

- must protect a minimum of 15 plant genera and species on accession.

- must protect all plant genera and species ten years after accession to the UPOV Convention.

24. The efficiency of a system which offers protection to all plant genera and species is enhanced by the various bilateral, multilateral and regional arrangements for examination, which are encouraged within UPOV.[6]

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[5] The issue of discovery and development in relation to the UPOV Convention is explored further in UPOV document C(Extr.)/19/2 Rev. "The Notion of Breeder and Common Knowledge." This document can be found at http://www.upov.int/en/about/key_issues.html.

[6] See section concerning "Examination of the Application (Article 12)," paragraphs 37 to 40 of this document.

Standard Rules for National Treatment, Filing and Priority

25. Members of the Union are required to offer national treatment "insofar as the grant and protection of breeder's rights are concerned" to the nationals and residents of other members of the Union (Article 4).

26. Breeders can choose with which member of the Union to file their first application and can file subsequent applications with other members of the Union without waiting for the outcome of the first. Protection is independent in each member of the Union (Article 10).

27. The UPOV Convention also provides for a right of priority (Article 11) of one year based upon an earlier application for the same variety in another member of the Union, hence a subsequent application is treated as if it were filed on the date of the earlier application. This can have important implications for the application of the novelty and distinctness conditions for the grant of protection. Thus, the examination for novelty and distinctness of subsequent applications will relate to the filing date of the first application. Other benefits of the right of priority are that in relation to subsequent applications the breeder has at least three months to send the relevant documents and can defer the examination for up to two years after the expiration of the priority period.

Standard Conditions for the Grant of Protection

28. The UPOV Convention provides for standard conditions for the grant of protection and excludes the imposition of any other or additional conditions. If a legal right is to be granted in respect of the unit of plant material that constitutes a variety and if that right is subsequently to be effectively enforced, the identity of the variety must be established. The UPOV Convention accordingly establishes distinctness, uniformity and stability as the criteria identifying the variety to be protected. The two other criteria are that the variety must be "new" in the sense that it must not have been sold or offered for sale prior to certain specified dates and that it must be given a suitable denomination. The grant of protection *shall not be subject to any further conditions*, provided that the applicant complies with all the formalities and pays the required fees (Article 5).

Novelty (Article 6)

29. 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 the member of the Union in which the application has been filed. These periods of grace relating to commercialization recognize the lengthy nature of the breeding process including the necessary evaluation of the variety before making the decision to seek protection.

30. 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 under a special transitional regime, for varieties which have only recently been created at the time that protection becomes available.

Distinctness (Article 7)

31. 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.

32. 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 UPOV Convention, but, as indicated above[7], this does not necessarily require fulfillment of the conditions required for the 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 landraces which fall within the definition of variety. Furthermore, if a variety was wrongly granted protection when in fact it was not distinct, the breeder's right will be declared null and void, i.e. considered never to have existed.[8]

Uniformity (Article 8)

33. 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.

34. The uniformity requirement within the UPOV 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 which are relevant for the protection of the variety.

Stability (Article 9)

35. 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.

36. 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.

Examination of the Application (Article 12)

37. According to Article 12 of the UPOV Convention, protection can only be granted in respect of a new plant variety after examination of the variety has shown that it 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

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[7] See section concerning "Definition of Variety," paragraphs 17 to 19.

[8] See section concerning "Nullity and Cancellation of the Breeder's Right," paragraphs 71 and 72. The matter of common knowledge is considered further in UPOV document C(Extr.)/19/2 Rev. "The Notion of Breeder and Common Knowledge." This document can be found at: http://www.upov.int/en/about/key_issues.html.

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.[9]

38. 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.

39. 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.[10]

40. 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[11]), 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[12]", 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

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9 See section concerning "Definition of variety," paragraphs 17 to 19.

10 See UPOV document C/[37]/5. The latest version of this document can be found at: http://www.upov.int/en/documents/index_c.html

11 Available on the UPOV Website at http://www.upov.int/en/publications/tg-rom/tg001/tg_1_3.pdf

12 The UPOV Test Guidelines are available on the UPOV Website at http://www.upov.int/en/publications/tg-rom/index.html

particular, to identify appropriate characteristics for the examination of DUS and production of harmonized variety descriptions.[13]

Variety Denomination (Article 20)

41. 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.

42. The denomination is chosen by the breeder but it must conform with criteria set out in Article 20 of the UPOV Convention. In summary:

- it must enable the variety to be identified;
- 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;
- no rights in the denomination must 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.

43. 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 must be registered by all the members of the Union.

44. 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.

Minimum Scope of Protection

45. The UPOV Convention (Article 14) specifies the acts in respect of the propagating material (e.g. seed, cuttings, etc.) of a protected variety which require the prior authorization of the breeder. Those acts are the following:

[13] The Test Guidelines are developed by the Technical Committee and its specialist Technical Working Parties, comprised of experts from the members of the Union.

Production or reproduction (multiplication)
Conditioning for the purpose of propagation
Offering for sale
Selling or other marketing
Exporting
Importing
Stocking for any of the above purposes

46. The UPOV Convention details the commercial acts which require the authorization of the breeder in detail. This precise wording is designed to make it easier for breeders to enforce their rights in practice and at an early stage, for example at the dockside, in the case of an import or export, or in a warehouse in the case of stocking.

47. In 1961, when the UPOV Convention was adopted, there was discussion whether the right of the breeder should extend beyond the propagating material (e.g. seeds, cuttings and grafts) to the material that resulted from the planting of the propagating material and the harvesting of the resulting crop (e.g. grain, fruits, flowers). It was recognized that, in some cases, it was difficult for the breeder to be properly rewarded in the absence of such a right. The 1961 Convention expressly provided that members of the Union should be free to grant a more extensive right to breeders in their national laws "extending in particular to the marketed product."

48. A few countries took advantage of this optional provision to extend the breeder's right to the end product in the case of some species. However, the lack of such an extension as part of the mandatory minimum scope of protection created a problem for many breeders. Material of a variety could be taken from country A, where it was protected, to country B, where it was not protected. The material could then be used in country B to produce an end product, for example cut flowers, which were exported back to country A. Since the end product did not fall within the scope of the breeder's right, the breeder could do nothing to stop this practice. The result was that not only was the breeder unrewarded, but growers in country A, and other countries where the variety was protected, faced unfair competition from growers who produced the variety in country B.

49. In the 1991 revision, the members of the Union recognized the need for breeders to be able to take action in the circumstances outlined above but were still not prepared to grant an unconditional right to breeders exercisable in relation to acts concerning the harvested material. Accordingly, the UPOV Convention, in its Article 14(2), now provides the breeder with a right exercisable over the harvested material but only to the extent necessary to address the problems that had arisen in practice. More precisely:

The breeder's right extends to harvested material,

(i) only IF the material is obtained through the unauthorized use of propagating material, and

(ii) only IF the breeder has not had reasonable opportunity to exercise his right in relation to the propagating material.

50. In addition, Article 14(3) of the UPOV Convention contains an optional provision for each member of the Union to extend the scope of the breeder's right to products made directly from harvested material, where this has been obtained through the unauthorized use of harvested material of the protected variety, unless the breeder has had reasonable opportunity to exercise his right in relation to the harvested material.

51. The provisions under Article 14(2) and (3) constitute what has been called a "cascade." The notion of "cascade" implies that the breeder should only exercise his right in relation to the harvested material if he has not been able to exercise his right in relation to the propagating material and that he should only exercise his right in relation to a product made directly from harvested material if he was unable to exercise his right in relation to the harvested material.

Varieties Covered by the Breeder's Right

- The protected variety
- Varieties not clearly distinguishable from the protected variety
- Varieties whose production requires repeated use of the protected variety
- Essentially derived varieties

52. Under the UPOV Convention (Article 14(5)), the breeder's right extends to the protected variety and, by implication, to any variety which cannot be clearly distinguished from the protected variety. It also extends to any variety whose production requires the repeated use of the protected variety (for example a F_1 hybrid variety produced by using the protected variety as a parent). The breeder's right is further extended to varieties that are "essentially derived" from the protected variety, where the protected variety is not itself an essentially derived variety.

53. What is an essentially derived variety and why was the scope of protection extended to essentially derived varieties in the 1991 Act of the UPOV Convention? To explain this, one

must first revisit certain of the basic principles of the 1961 UPOV Convention and the 1978 Act.

54. Previous to the 1991 Act, any variety bred by using a protected variety as an initial source of variation could be protected and freely marketed by its developer provided it was clearly distinguishable from the initial variety. This exception is known as the "breeder's exemption."[14] Without any qualification, this meant that a relatively small change, for example a mutation in an initial variety, could produce a new variety which could then be protected, provided that the new variety was clearly distinguishable from the initial variety and met the other conditions for protection. This situation was a problem for some breeders, particularly the breeders of ornamental plants, but was tolerated by most breeders since the nature of the changes to the initial varieties did not completely undermine the value of protection for the initial variety.

55. The advent of genetic engineering threatened to change the situation. Whilst, using classical breeding techniques, it takes many years to breed new varieties of most species, genetic engineering offered the prospect of modifying varieties of most species in the laboratory in a matter of months by adding one or more genes. Provided the new varieties were clearly distinguishable from the initial variety, they could, under the terms of the 1978 Act, be protected with no recognition of the contribution of the breeder of the initial variety to the end result. The situation was in contrast to the protection offered by the patent system where the gene in question was the object of patent protection. Thus, if the breeder of the initial variety had wished to add the patented gene to his initial variety to produce a new variety, it appeared that the exploitation of the new variety would fall within the claims of the patent.

56. This situation presented a challenge for policy-makers, who knew that the kinds of improvements generated by classical plant breeding were frequently the result of numerous genes interacting in complex ways while the kinds of improvements achieved by genetic engineering were typically based on one or a few genes. To optimize plant improvement and encourage sustainable plant breeding development, it was necessary to tailor the UPOV intellectual property system in a way which encouraged both types of activity.

57. The outcome of the ensuing policy debate was the inclusion, in the 1991 Act, of the concept of the essentially derived variety. Under this concept, if a variety is essentially derived from another variety (the initial variety), it can still be protected if it is novel, distinct, uniform and stable, and has a suitable denomination, but for so long as the initial variety remains protected, the essentially derived variety may not be exploited without the authorization of the owner of the initial variety. In this respect, the balance between the plant variety protection system and the patent system is redressed and a new framework is provided within which all parties concerned with plant breeding are encouraged to cooperate.

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[14] See section concerning "Exceptions to the Breeder's Right," paragraphs 58 to 61.

Exceptions to the Breeder's Right

58. In order to have a full understanding of the scope of protection provided by the breeder's right, it is important to clearly identify the compulsory and optional exceptions to the breeder's right (Article 15).

Compulsory exceptions

59. The breeder's right does not extend to

- acts done privately and for non-commercial purposes.
- acts done for experimental purposes and
- 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).

60. The exception under Article 15(1)(iii), "for the purpose of breeding other varieties", is a fundamental element of the UPOV system of plant variety protection and is known, as explained earlier,[15] 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 variation. 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.

61. The breeder's exemption optimizes variety improvement by ensuring that germplasm sources remain accessible to the whole 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 that has the aim of encouraging the development of new varieties of plants, for the benefit of society.

Optional exception: The farmer's privilege

62. Article 15(2) of the UPOV Convention contains an optional exception that permits members to exclude, subject to certain conditions, farm-saving of seed from the scope of the breeder's right and to adopt solutions which are specifically adapted to their agricultural circumstances (the farmer's privilege).

63. The UPOV Convention provides that 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.

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[15] See section concerning "Varieties Covered by the Breeder's Right," paragraphs 54 to 57.

64. While recognizing that, for some crops, there has been a common practice of farmers saving their own seed, this optional provision allows each member of the Union to take account of this practice and the issues involved on a species-by-species basis, when providing variety protection. However, the purpose of plant variety protection is to encourage the development of new varieties of plants. If the farmer's privilege were introduced in a way that failed to provide an incentive for breeders to develop new varieties, then the system would be fundamentally flawed. Therefore, the UPOV Convention requires that the farmer's privilege be regulated "within reasonable limits and subject to the safeguarding of the legitimate interests of the breeder." For example, certain members apply the farmer's privilege only to certain species or limit its application using criteria such as the size of the farmer's holding or the level of production.

Exhaustion of the Breeder's Right

65. The breeder's right does not extend to acts concerning material of the protected variety, or of other varieties covered by the scope of protection of the protected variety, which have been sold or otherwise marketed by the breeder or with his consent in the territory of the member of the Union concerned, or any material derived from the said material, unless such acts

(i) involve further propagation of the variety in question, or

(ii) involve an export of material of the variety, which enables the propagation of the variety, into a country which does not protect varieties of the plant genus or species to which the variety belongs, except where the exported material is for final consumption purposes (Article 16).

66. The rule of exhaustion which is common to intellectual property law is aimed at ensuring that the holder of a breeder's right can only exercise his right – and receive remuneration – once in each stage of propagation. The exhaustion rule is meant to ensure that the breeder's right to prohibit further or unauthorized propagation of the variety is never exhausted.

Restrictions on the Exercise of the Breeder's Right

67. Except where expressly provided in the UPOV Convention, no member of the Union may restrict the free exercise of a breeder's right for reasons other than of public interest (Article 17).

68. When any such restriction (e.g. compulsory licensing) has the effect of authorizing a third party to perform any act for which the breeder's authorization is required, the member of the Union concerned must take all measures necessary to ensure that the breeder receives equitable remuneration.

Provisional Protection

69. The UPOV Convention provides (Article 13) that in respect of the period between the filing or the publication of the application and the grant of the breeder's right, the breeder shall be entitled at least to equitable remuneration from any person who, during the said period, has carried out acts which, once the right has been granted, require the breeder's authorization as provided in Article 14 of the UPOV Convention.

Minimum Duration of Protection

70. The minimum period of protection (Article 19) is desirable to ensure that the plant variety protection system provides an adequate incentive for the long-term investment that is necessary in plant breeding. This period starts from the date of grant.

Trees and vines	25 years
Other plants	20 years

Nullity and Cancellation of the Breeder's Right

71. In order to create a harmonized legal framework, the UPOV Convention not only provides for limited and well-defined conditions for the granting of protection but also identifies and limits the grounds on which to nullify and cancel the breeder's right.

Nullity (Article 21)

72. A breeder's right must be declared null and void if it is established:

(i) that the variety was not novel or distinct at the time of the grant of the breeder's right,

(ii) that, where the grant of the breeder's right has been essentially based upon information and documents furnished by the breeder, the variety was not uniform or stable at the time of the grant of the breeder's right, or

(iii) that the breeder's right has been granted to a person who is not entitled to it, unless it is transferred to the person who is so entitled.

73. A breeder's right must not be declared null and void for reasons other than those referred to above.

Cancellation (Article 22)

74. A breeder's right may be cancelled if it is established that the variety is no longer uniform or stable.

75. In addition, a member of the Union may cancel a breeder's right granted by it if, after being requested to do so and within a prescribed period,

(i) the breeder does not provide the authority with the information, documents or material deemed necessary for verifying the maintenance of the variety,

(ii) the breeder fails to pay such fees as may be payable to keep his right in force, or

(iii) the breeder does not propose, where the denomination of the variety is cancelled after the grant of the right, another suitable denomination.

76. A breeder's right must not be cancelled for reasons other than those referred to above.

Administrative and Final Provisions

77. The UPOV Convention provides for administrative and final provisions concerning the Union, the implementation of the Convention, membership and depositary functions. Of particular relevance is Article 35 concerning reservations. The UPOV Convention only accepts one reservation, contained in Article 35(2). This provision was tailored to the situation for States, which protected asexually reproduced plant varieties by another form of intellectual property right.

III. ORGANIZATIONAL STRUCTURE, MEMBERSHIP AND RECENT DEVELOPMENTS CONCERNING UPOV

UPOV Activities and Bodies

78. The principal activities of UPOV are concerned with promoting international cooperation, mainly between the members of the Union, and with assisting countries and intergovernmental organizations in the introduction of plant variety protection legislation. These activities require the support of a specialized Secretariat, known as the Office of the Union, which carries out all the duties and tasks entrusted to it by the governing body of the Union, the Council of UPOV.

79. The fact that the UPOV Convention contains the essential provisions that must be included in the variety protection legislation of States and intergovernmental organizations wishing to join the Union leads, in itself, to a degree of harmonization in the laws of the members and certain intergovernmental organizations. This initial degree of harmonization, in addition to providing an obvious benefit to plant breeders, facilitates active cooperation and further harmonization between members of the Union, at the legal, administrative and the technical levels, on the basis of recommendations, model agreements and forms and position papers developed by the Union. To accomplish its legal and technical tasks, UPOV has established, under the auspices of the Council, the following bodies:

(1) Consultative Committee
(2) Administrative and Legal Committee
(3) Technical Committee

The following Technical Working Parties report to the Technical Committee:

Technical Working Party for Agricultural Crops
Technical Working Party on Automation and Computer Programs

Technical Working Party for Fruit Crops
Technical Working Party for Ornamental Plants and Forest Trees
Technical Working Party for Vegetables.

80. Cooperation among the members of the Union, particularly in the form of arrangements for the testing of varieties for distinctness, uniformity and stability, is well established and is clearly beneficial for plant breeders.[16]

81. An indication of the progressive development of plant variety protection in terms of the number of titles of protection granted in members of UPOV is provided in Annex II.

Accession Procedure to the UPOV Convention

82. In order to become a member of the Union, a State or an intergovernmental organization must have enacted and be in a position to implement a law on plant variety protection, which conforms with the provisions established in the UPOV Convention. It must then ask the Council of UPOV to advise it in respect of the conformity of its law with the UPOV Convention (Article 34(3)). If the Council's advice is positive, an instrument of accession to the UPOV Convention may be deposited with the Secretary-General of UPOV. This must be accompanied by the list of plant genera and species to which the provisions of the UPOV Convention will be applied, and the proposed basis for financial participation. It will become a member of the Union one month after the deposit of the instrument of accession.

83. The period since 1961 has seen a steady growth in the number of countries which are members of the Union. After the entry into force of the 1991 Act, on April 24, 1998, the 1978 Act became closed to further accessions. As a consequence, it was no longer possible for a State to become a new member of the Union on the basis of a law that conforms with the 1978 Act. However, there was an exception for States which had already started the accession procedure provided by the UPOV Convention. This exception applies to three States: India, Nicaragua and Zimbabwe. Nicaragua has since acceded to the 1978 Act of the UPOV Convention on September 6, 2001.

84. Under certain conditions (Article 34(1)(b)), intergovernmental organizations may accede to the UPOV Convention. The UPOV Convention (Article 6(3) concerning novelty, Article 16(3) relating to regional exhaustion, Article 26(6)(b) which concerns voting in the Council) already contains several provisions which reflect the interests and particular circumstances of intergovernmental organizations.

85. The European Community has adopted the Council Regulation 2100/94 in line with the 1991 Act of the UPOV Convention that provides a single application for the grant of a breeder's right with effect in all of the States of the European Community.

86. Decision 345, which creates a system of plant variety protection for the countries of the Andean Community (Bolivia, Colombia, Ecuador, Peru, Venezuela), provides for the national implementation of Decision 345 with the incorporation of the essential elements of the 1991 Act

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[16] See section concerning "Examination of the Application (Article 12)," paragraphs 37 to 40.

of the UPOV Convention. Bolivia, Colombia and Ecuador have laws in line with the 1991 Act, but have so far chosen to accede only to the 1978 Act.

87. A regional system of protection has been set up by the African Intellectual Property Organization (OAPI). Once fully operational, it will provide unitary protection (a single application leading to a single title of protection), based on the 1991 Act of the UPOV Convention, in respect of the 16 States being party[17] to the revised Bangui Agreement of February 24, 1999. The Bangui Agreement, as revised, entered into force on February 28, 2002.

88. Annex III lists the States (18) and two intergovernmental organizations which have initiated with the Council of UPOV the procedure for becoming members of the Union and other States who have been in contact with the Office of the Union with a view to developing legislation on plant variety protection (50).

Interface Between Patents and Breeders' Rights

89. The common objective of plant breeders' rights and patents is to provide an incentive for the development of innovative and useful products or processes. These two different forms of intellectual property right have been developed to address different sectors. The patent system covers inventions in all fields of technology, whereas the UPOV system of plant variety protection has been specifically developed to cover plant varieties.

90. In some jurisdictions, the subject matter of protection covered by a patent and by a plant breeder's right might be the same, namely a plant variety. In several jurisdictions, the subject matter of protection is different, and, in general, plant varieties are excluded from patentability. As far as the UPOV Convention is concerned, a member is free to protect plant varieties, in addition to the grant of a breeder's right, by the grant of other titles, particularly patents. This policy matter is left to the sovereign decision of each member.

91. For illustration purposes, Table 1 below gives a simplified comparison between both systems of protection: patent and breeder's right. [18]

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[17] States party to the Bangui Agreement are the following: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon Guinea, Guinea Bissau, Mali, Mauritania, Niger, Senegal, Togo.

[18] More information concerning the interface between patents and plant breeders' rights can be found in the proceedings of the 2002 "WIPO-UPOV Symposium on the "Co-existence of Patents and Plant Breeders' Rights in the Promotion of Biotechnological Developments": http://www.upov.int/en/documents/Symposium2002/index.html.

Table 1

	Patent	**Breeder's right**
I. Object of protection	Invention – determined by the claims of the patent	Plant variety
II. Conditions of protection	(a) novelty (b) industrial applicability (c) unobviousness (inventive step) (d) an enabling disclosure	(a) commercial novelty (b) distinctness (c) uniformity (d) stability (e) a suitable denomination
III. Examination		
1. Documentary examination	Required	Required
2. Plant material examination	Deposit of material may be required only for certain inventions	Required (mainly growing tests)
IV. Scope of Protection		
1. Use of a protected variety for breeding further varieties	May require the authorization of the patentee	Does not require the authorization of the right holder (breeder's exemption)
2. Further propagation by a farmer for subsequent planting on their own farm	May require the authorization of the patentee	May be allowed with reasonable limits subject to safeguarding the legitimate interests of the breeder
V. Term of Protection	20 years from date of application	25 years for trees and vines, 20 years for other species, from date of grant

Plant Variety Protection and the TRIPS Agreement

92. The Agreement on Trade-Related Aspects of Intellectual Property Rights (the TRIPS Agreement) establishes minimum standards for intellectual property protection. *Inter alia*, the TRIPS Agreement requires the members of the World Trade Organization (WTO) to provide protection for plant varieties by patent or by what is called an effective *sui generis* system of protection or by a combination of such systems (Article 27(3)(b)). Under the TRIPS Agreement, all developing countries other than those categorized as least developed countries ("LDCs") had to provide intellectual property rights protection for plant varieties by January 1, 2000. LDCs have until January 1, 2005, to meet the same obligation.

Closing Remarks

93. The UPOV Convention established a "Union," the members of which agreed to make available to breeders of other members of the Union the same access to protection for their varieties as they made available to their own breeders. Any State and certain intergovernmental organizations with appropriate plant variety protection legislation have the opportunity through UPOV membership to share in, and benefit from, the combined experience of the members of the Union and to contribute to the worldwide promotion of plant breeding.

94. Each member of the Union has decided that a system of incentives based upon the principles of the UPOV Convention will enhance plant breeding. States seek, from the

introduction of plant variety protection, to increase national plant breeding activity, to encourage investments from foreign breeders and to secure conditions under which national and foreign breeders can develop, protect, produce and export varieties.

95. More information on plant variety protection under the UPOV Convention can be found at the UPOV Website,[19] including positions on key issues, news and events of relevance to UPOV,[20] as well as national and regional legislation on plant variety protection.[21]

[Annex I follows]

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19 http://www.upov.int

20 http://www.upov.int/en/news/index.html

21 http://www.upov.int/en/publications/npvlaws/index.html

ANNEX I

MEMBERS OF THE UNION

November 2003

State	Date of Signature[22/]	Date of Deposit of Instrument[1/, 23/]	Date Upon Which State Became Bound[1/]
Argentina	- - - -	- - November 25, 1994 -	- - December 25, 1994 -
Australia	- - - -	- - February 1, 1989 December 20, 1999	- - March 1, 1989 January 20, 2000
Austria	- - - -	- - June 14, 1994 -	- - July 14, 1994 -
Belarus	- - - -	- - - December 5, 2002	- - - January 5, 2003
Belgium	December 2, 1961 November 10, 1972 October 23, 1978 March 19, 1991	November 5, 1976 November 5, 1976 - -	December 5, 1976 February 11, 1977 - -
Bolivia	- - - -	- - April 21, 1999 -	- - May 21, 1999 -
Brazil	- - - -	- - April 23, 1999 -	- - May 23, 1999 -
Bulgaria	- - - -	- - - March 24, 1998	- - - April 24, 1998
Canada	- - October 31, 1979 March 9, 1992	- - February 4, 1991 -	- - March 4, 1991 -

22/ *1st line*: International Convention for the Protection of New Varieties of Plants of December 2, 1961
2nd line: Additional Act of November 10, 1972
3rd line: Act of October 23, 1978
4th line: Act of March 19, 1991

23/ of ratification, acceptance, approval or accession.

State	Date of Signature[22/]	Date of Deposit of Instrument[1/, 23/]	Date Upon Which State Became Bound[1/]
Chile	- - - -	- - December 5, 1995 -	- - January 5, 1996 -
China	- - - -	- - March 23, 1999 -	- - April 23, 1999 -
Colombia	- - - -	- - August 13, 1996 -	- - September 13, 1996 -
Croatia	- - - -	- - - August 1, 2001	- - - September 1, 2001
Czech Republic[24/]	- - - -	- - - October 24, 2002	- - January 1, 1993 November 24, 2002
Denmark	November 26, 1962 November 10, 1972 October 23, 1978 March 19, 1991	September 6, 1968 February 8, 1974 October 8, 1981 April 26, 1996	October 6, 1968 February 11, 1977 November 8, 1981 April 24, 1998
Ecuador	- - - -	- - July 8, 1997 -	- - August 8, 1997 -
Estonia	- - - -	- - - August 24, 200	- - - September 24, 2000
Finland	- - - -	- - March 16, 1993 June 20, 2001	- - April 16, 1993 July 20, 2001
France	December 2, 1961 November 10, 1972 October 23, 1978 March 19, 1991	September 3, 1971 January 22, 1975 February 17, 1983 -	October 3, 1971 February 11, 1977 March 17, 1983 -
Germany	December 2, 1961 November 10, 1972 October 23, 1978 March 19, 1991	July 11, 1968 July 23, 1976 March 12, 1986 June 25, 1998	August 10, 1968 February 11, 1977 April 12, 1986 July 25, 1998

24/ Continuation of the accession of Czechoslovakia (instrument deposited on November 4, 1991; State bound on December 4, 1991).

State	Date of Signature[22/]	Date of Deposit of Instrument[1/, 23/]	Date Upon Which State Became Bound[1/]
Hungary	- - - -	- - March 16, 1983 December 1, 2002	- - April 16, 1983 January 1, 2003
Ireland	- - September 27, 1979 February 21, 1992	- - May 19, 1981 -	- - November 8, 1981 -
Israel	- - - October 23, 1991	November 12, 1979 November 12, 1979 April 12, 1984 June 3, 1996	December 12, 1979 December 12, 1979 May 12, 1984 April 24, 1998
Italy	December 2, 1961 November 10, 1972 October 23, 1978 March 19, 1991	June 1, 1977 June 1, 1977 April 28, 1986 -	July 1, 1977 July 1, 1977 May 28, 1986 -
Japan	- - October 17, 1979 -	- - August 3, 1982 November 24, 1998	- - September 3, 1982 December 24, 1998
Kenya	- - - -	- - April 13, 1999 -	- - May 13, 1999 -
Kyrgyzstan	- - - -	- - - May 26, 2000	- - - June 26, 2000
Latvia	- - - -	 - - July 30, 2002	- - - August 30, 2002
Lithuania	- - - -	 - - November 10, 2003	- - - December 10, 2003
Mexico	- - July 25, 1979 -	- - July 9, 1997 -	- - August 9, 1997 -
Netherlands	December 2, 1961 November 10, 1972 October 23, 1978 March 19, 1991	August 8, 1967 January 12, 1977 August 2, 1984 October 14, 1996	August 10, 1968 February 11, 1977 September 2, 1984 April 24, 1998
New Zealand	- - July 25, 1979 December 19, 1991	- - November 3, 1980 -	- - November 8, 1981 -

State	Date of Signature[22/]	Date of Deposit of Instrument[1/, 23/]	Date Upon Which State Became Bound[1/]
Nicaragua	- - -	- - August 6, 2001 -	- - September 6, 2001 -
Norway	- - - -	- - August 13, 1993 -	- - September 13, 1993 -
Panama	- - - -	- - April 23, 1999 -	- - May 23, 1999 -
Paraguay	- - - -	- - January 8, 1997 -	- - February 8, 1997 -
Poland	- - - -	- - October 11, 1989 July 15, 2003	- - November 11, 1989 August 15, 2003
Portugal	- - - -	- - September 14, 1995 -	- - October 14, 1995 -
Republic of Korea	- - - -	- - - December 7, 2001	- - - January 7, 2002
Republic of Moldova	- - - -	- - - September 28, 1998	- - - October 28, 1998
Romania	- - - -	- - - February 16, 2001	- - - March 16, 2001
Russian Federation	- - - -	- - - March 24, 1998	- - - April 24, 1998
Slovakia[3]	- - - -	- - - -	- - January 1, 1993 -

3/ Continuation of the accession of Czechoslovakia (instrument deposited on November 4, 1991; State bound on December 4, 1991).

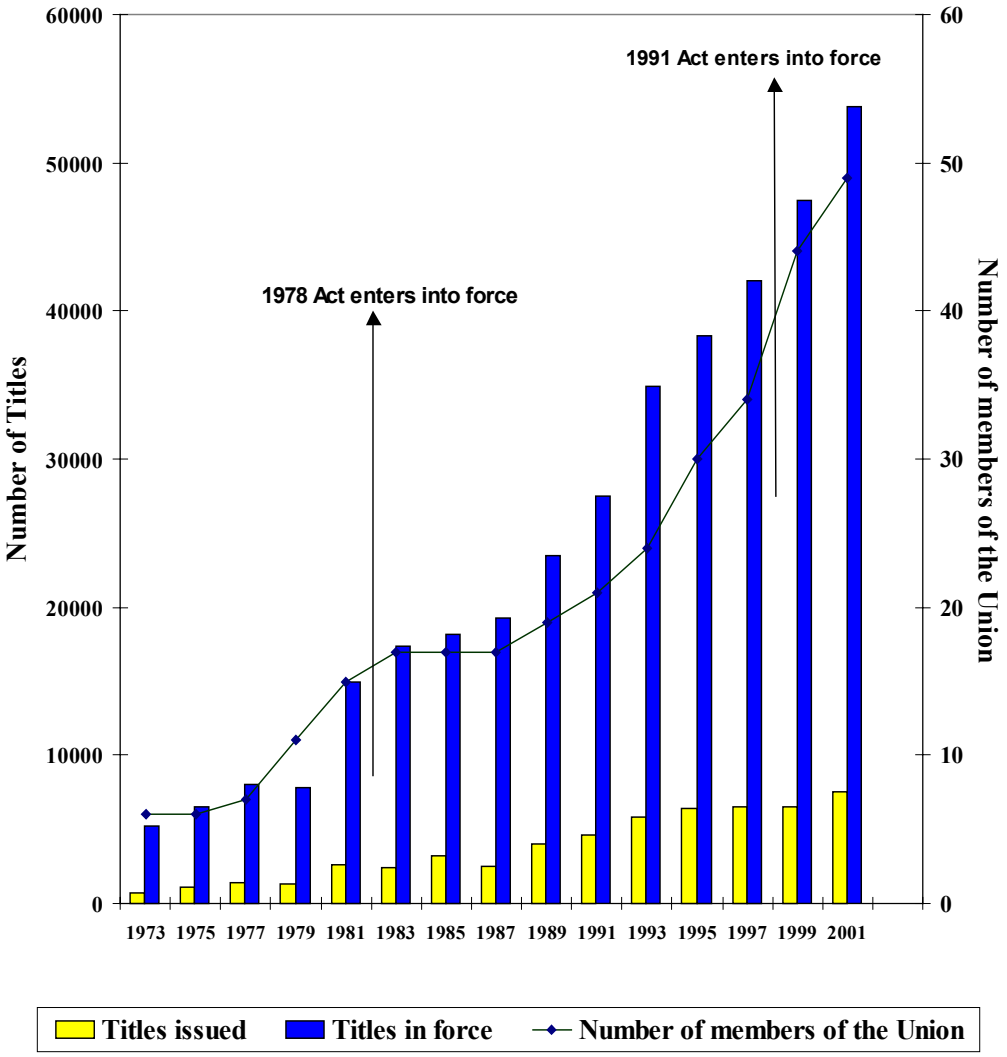
State	Date of Signature[22/]	Date of Deposit of Instrument[1/, 23/]	Date Upon Which State Became Bound[1/]
Slovenia	- - - -	- - - June 29, 1999	- - - July 29, 1999
South Africa	- - October 23, 1978 March 19, 1991	October 7, 1977 October 7, 1977 July 21, 1981 -	November 6, 1977 November 6, 1977 November 8, 1981 -
Spain	- - - March 19, 1991	April 18, 1980 April 18, 1980 - -	May 18, 1980 May 18, 1980 - -
Sweden	- January 11, 1973 December 6, 1978 December 17, 1991	November 17, 1971 January 11, 1973 December 1, 1982 December 18, 1997	December 17, 1971 February 11, 1977 January 1, 1983 April 24, 1998
Switzerland	November 30, 1962 November 10, 1972 October 23, 1978 March 19, 1991	June 10, 1977 June 10, 1977 June 17, 1981 -	July 10, 1977 July 10, 1977 November 8, 1981 -
Trinidad and Tobago	- - - -	- - December 30, 1997 -	- - January 30, 1998 -
Tunisia	- - - -	- - - July 31, 2003	- - - August 31, 2003
Ukraine	- - - -	- - October 3, 1995 -	- - November 3, 1995 -
United Kingdom	November 26, 1962 November 10, 1972 October 23, 1978 March 19, 1991	September 17, 1965 July 1, 1980 August 24, 1983 December 3, 1998	August 10, 1968 July 31, 1980 September 24, 1983 January 3, 1999
United States of America	- - October 23, 1978 October 25, 1991	- - November 12, 1980 January 22, 1999	- - November 8, 1981 February 22, 1999
Uruguay	- - - -	- - October 13, 1994 -	- - November 13, 1994 -

Total: 54 members

[Annex II follows]

ANNEX II

Development of Plant Variety Protection



[Annex III follows]

ANNEX III

States (18) or Organizations (2) Which Have Initiated With the Council of UPOV the Procedure for Becoming Members of the Union

Azerbaijan, Costa Rica, Egypt, Georgia, Honduras, Iceland, India, Jordan, Kazakhstan, Morocco, Serbia and Montenegro, Singapore, Tajikistan, The former Yugoslav Republic of Macedonia, Uzbekistan, Venezuela, Viet Nam, Zimbabwe, as well as the European Community and the African Intellectual Property Organization (Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Equatorial Guinea, Gabon, Guinea, Guinea-Bissau, Mali, Mauritania, Niger, Senegal, Togo (16)).

Other States Which Have Been in Contact With the Office of the Union for Assistance in the Development of Legislation on Plant Variety Protection (50)

Albania, Algeria, Armenia, Bangladesh, Barbados, Burundi, Cambodia, Congo (Democratic Republic of), Cuba, Cyprus, Djibouti, Dominica, Dominican Republic, El Salvador, Fiji, Ghana, Greece, Guatemala, Guyana, Indonesia, Islamic Republic of Iran, Jamaica, Kingdom of Bahrain, Lao People's Democratic Republic, Lebanon, Madagascar, Malawi, Malaysia, Mauritius, Mongolia, Myanmar, Nepal, Oman, Pakistan, Peru, Philippines, Saudi Arabia, Seychelles, Sri Lanka, Sudan, Suriname, Syria, Thailand, Tonga, Turkey, Turkmenistan, Uganda, United Republic of Tanzania, Yemen, Zambia.

[End of Annex III and of document]