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**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**  
GENEVA

**ADMINISTRATIVE AND LEGAL COMMITTEE**

**Thirty-Ninth Session**  
**Geneva, March 25, 1999**

THE NOTION OF BREEDER

*Document prepared by the Office of the Union*

Introduction

1. At the thirty-second ordinary session of the Council, held on October 28, 1998, a request was made to put an item on the notion of breeder on the agenda of this session of the Administrative and Legal Committee (see paragraph 16 of document C/32/15).
2. For the purposes of this document, the notion of breeder will be limited to the question
  - (a) whether, in view of the creation (or discovery and development) history of the variety at issue, a breeder's right may be granted and
  - (b) if so, and where relevant, who is entitled to protection.
3. The document does not deal with the case where the variety has been created or discovered and developed by an employee or the case where the right is transferred or inherited.
4. The question analyzed here is on the other hand linked to the exchange of views which took place with the International Plant Genetic Resources Institute (IPGRI) – see annexes I and II to this document.

## The Legal Background

5. The question of the existence of a right to protection and of the identity of the holder of that right should be analyzed in the light of the following provisions:

(a) Article 1(iv) of the 1991 Act of the UPOV Convention and, where relevant, the corresponding national provisions:

“For the purposes of this Act:

[...]

“(iv) “breeder” means

- 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;”

(b) Article 7 of the 1991 Act:

“The variety shall be deemed to be distinct if it is clearly distinguishable from any other variety whose existence is a matter of common knowledge at the time of the filing of the application. [...]”

(c) Article 15(1)(iii) of the 1991 Act:

“The breeder’s right shall not extend to

[...]

“(iii) acts done for the purpose of breeding other varieties, and, except where the provisions of Article 14(5) apply, acts referred to in Article 14(1) to (4) in respect of such other varieties.”

6. In the case of the 1978 Act, the relevant provisions are the following:

(a) Article 1(1):

“The purpose of this Convention is to recognize and to ensure to the breeder of a new plant variety or to his successor in title (both hereinafter referred to as “the breeder”) a right under the conditions hereinafter defined.”

(b) Article 5(3):

“Authorisation by the breeder shall not be required either for the utilisation of the variety as an initial source of variation for the purpose of creating other varieties or for the marketing of such varieties. [...]”

(c) Article 6(1)(a):

“Whatever may be the origin, artificial or natural, of the initial variation from which it has resulted, the variety must be clearly distinguishable by one or more important characteristics from any other variety whose existence is a matter of common knowledge at the time when protection is applied for. [...]”

7. In some States, the provisions defining the protected genera and species also come into the picture. Some member States of the Cartagena Agreement for instance exclude from protection the wild species which have not been planted or improved by man. The (plant) patent law of the United States does not apply to plants found in an uncultivated state.

8. The question of the identity of the owner of the right to protection is also connected with the property right on plant material. In the “rose mutation” case decided by the Federal Court of Germany in 1975, the issue was who was the owner of the right to the protection of a mutation discovered in the plantation of the initial variety belonging to the breeder of that variety. The Tribunal held:

“The question of who is the variety owner and, as such, the person entitled to variety protection, is dealt with exhaustively by Article 12 of the Plant Variety Protection Law, which states that the owner is the original breeder or discoverer of the variety, or his successor in title. The intellectual property right constituted by plant variety protection does not, therefore, follow real property rights; the latter have not been included into the statutory framework either as an independent or as an additional condition for plant variety protection. Consequently, they have to be disregarded here as well.

“However, one cannot ignore the fact that the discoverer of a new plant variety who is not the owner of the initial plant material can hardly obtain plant variety protection in an honest manner without an agreement with the owner of the initial material, since the obligations imposed upon him in the application and examination proceedings (statement of the essential morphological and physiological characteristics of the variety, submission of the propagating material necessary for testing [...]) presuppose a right of disposal over the plant material on which the new variety is manifested. However, these procedural requirements do not affect the right to protection as such. In cases where the right to protection does not coincide with the ownership of the plant material, it is up to the owner of the new variety to reach a suitable agreement with the owner of the initial material so as to be in a position to comply with the conditions required for the realization of his right.”

### The Various Cases

#### *The various scenarios for the production of a variety*

9. The Committee may wish to examine the various scenarios starting from the one dealt with in the Convention.

10. The examination may initially take the form of a tour de table to determine whether such scenarios have arisen, to take stock of the solutions that have been adopted or contemplated, and to elicit opinions. The scenarios may be described as follows:

Scenario 1: A new variety is produced from a protected variety (or several).

Scenario 2: A new variety is produced from a non-protected variety (or several); the initial variety meets the criteria of distinctness, uniformity and stability according to the standards set for protection.

Scenario 3: A new variety is produced from a landrace; the latter does not meet the criteria of distinctness, uniformity and stability according to the standards set for protection:

- (a) A plant from the landrace is used as a parent in a program of crossings and selection. The new variety is very different from both the landrace and the parent plant.
- (b) The landrace is a mixture of pure lines or clones, and a line or a clone is selected.
  - (i) The line or the clone is well represented in the landrace.
  - (ii) The line or the clone is not well represented and, in the extreme case, a variant is selected.
- (c) The landrace is a relatively uniform population and the following is produced:
  - (i) a population variety which meets the protection standards and which may be either very different from or very similar to the landrace;
  - (ii) a synthetic variety, which is equally either very different from or very similar to the landrace.
- (d) The landrace is relatively uniform and the work was geared towards obtaining uniform material.

Scenario 4: A new variety is produced from highly heterogeneous cultivated material whose identity is more or less well defined and may be variable in time and space. Items (a) to (c) of scenario 3 are to a large degree relevant.

Scenario 5: A new variety of a species that is already in cultivation is produced from a plant found in nature.

- (a) That plant is selected (on the spot or in a screening nursery) and
  - (i) corresponds to a common genotype (which may be either known or unknown);
  - (ii) corresponds to a rare genotype (*idem*).
- (b) That plant is used, together with another plant (found in nature or in cultivation) as a parent in a program of crossings and selection.

Scenario 6: A new variety of a species that has not yet been cultivated (and which may just have been identified) is produced from a plant found in nature. Items (a) and (b) of scenario 5 are to a large degree relevant.

*Variety creation in successive steps*

11. It is conceivable that a variety is produced through a chain of activities implying various persons:

- (a) Farmers cultivate a landrace.
- (b) A genetic resources specialist (or a breeder) takes a sample of the landrace.
- (c) The sample is deposited and maintained in a gene bank; it is characterized and evaluated by gene bank personnel or some other person.
- (d) A plant geneticist selects promising material (on the basis of the aforesaid evaluation or independently).
- (e) A plant geneticist makes the first crosses and produces early generations of breeding material.
- (f) A breeder makes the final selection.

12. The following questions basically arise from the preceding chain:

- (a) At what point does a right to a breeder's right (or a share in the breeder's right) arise?
- (b) If one of the persons involved, in particular the plant geneticist in (e), releases material without imposing any condition, or even expressly renouncing his rights, is the right to protection vested in the next person?
- (c) Can the plant geneticist (or one of his predecessors in the chain) limit or even suppress the right of the breeder to protection by contract or otherwise?

13. Annex III contains, by way of illustration, a "code of conduct" pertaining to genetic resources – more specifically breeding lines – of wheat distributed by the Wheat Genetic Resources Centre located at the Kansas State University.

[Three annexes follow]

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ANNEX I



[Annex II follows]



ANNEX II

LETTER, DATED SEPTEMBER 9, 1998, FROM THE VICE SECRETARY-GENERAL OF UPOV, TO MR. GEOFFREY HAWTIN, DIRECTOR GENERAL OF IPGRI

Dear Director General Hawtin,

Dr. Idris asked me to respond to your letter of April 15, 1998, concerning the CGIAR press release. We have delayed a reply whilst the dust settled concerning the RAFI “allegations that accessions held in trust had been protected by intellectual property rights.” We were aware that, whilst it is easy to make allegations in the media, it is less easy to substantiate allegations. We were also aware that even when allegations are effectively refuted, the media has by then lost interest.

In responding to your letter, it seems necessary to first establish a clear understanding of some general principles that may be involved when examining the RAFI allegations.

When the very first intergovernmental discussions took place in Paris in 1957 concerning the possibility of protecting “des obtentions végétales,” the French Government attached an *aide-mémoire* to the letters of invitation to the conference (see paragraph 3 on page 16 of the records of the Conference, UPOV publication No. 316), which I have translated as follows:

“The following are generally considered as sources for the “obtention” of new varieties of plants

- (a) bulk or pedigree selection within existing variability;
- (b) the discovery of a natural mutation;
- (c) the inducing of an artificial mutation;
- (d) chance cross-pollination;
- (e) deliberate cross-pollination;
- (f) any combination of the above methods.”

The *aide-mémoire* further asked the question whether one should consider as true creation only “obtentions” which result immediately and directly from a process acting on the genetic structure of the plant or whether the concept could be broadened?

In the 1957 conference itself, delegates opted to adopt a broad interpretation of obtention without regard to the method of obtention. What mattered was the result achieved, which should be different from what was previously known. Delegates contrasted the proposed plant variety protection system, in which discoveries should be protectable, with the patent system, which protected inventions but not discoveries. It was necessary to devise a special (*sui generis*) system in order to encourage all forms of plant improvement including discoveries.

A quick perusal of the early chapters of Allard’s classic “Principles of Plant Breeding” establishes that he considered all the methodologies described in the French *aide-mémoire* (and even plant introduction!) to constitute plant breeding.

“Obtenteur” is translated into English as “breeder” and here misunderstandings occur. “Breeding,” in its strict sense, involves the notion of sexual reproduction but it is clear that, in

practice, the notion of plant breeding is much wider. “Obtenteur” might be better translated into English as “plant improver” rather than breeder.

What is clear is that when the UPOV Convention was eventually adopted in 1961, it established a system (see the discussion on Article 4 on page 44 of UPOV Publication No. 316) that was intended to provide protection for the fruits of plant improvement generally, including discoveries. You will find the relevant language in Article 6(1)(a) of the 1978 Act: “Whatever may be the origin, artificial or natural, of the initial variation from which it has resulted, the variety must be clearly distinguishable ... from any other variety whose existence is a matter of common knowledge.”

The 1991 Act uses different language. The applicant must be the person who “bred or discovered and developed” the variety. The net effect is probably the same. The UPOV Convention is designed to encourage all the various forms of plant improvement from which people everywhere have so greatly benefited.

In your letter you state “that if true, the allegations would ... seem to indicate violations of national plant breeders’ rights legislation.” To assess whether in any particular instance an application for plant variety protection has been inappropriately made or protection has been wrongly granted requires, first the establishment of the true facts and then the application of the correct legal principles. It is particularly important to note that the legal principles enable the protection of selections within existing variability as well as within variability that has been created by the applicant.

Plant variety protection is a form of personal property granted in accordance with rules embodied in national laws. The processes involved are governed by the rule of law and are transparent. The rule of law cannot be suspended (as suggested in the CGIAR call for a moratorium) because of unsubstantiated allegations made over the internet by a non-governmental organization.

The proper application of the legal principles to the high publicity cases to which you refer calls for careful consideration. If an applicant seeks to protect an accession held in trust in a CGIAR collection, as such, and if the accession is a homozygous, homogeneous selection in a self-pollinating, vegetatively reproduced, or apomictic crop which has been characterized and described and is the subject of a material transfer agreement (“MTA”), the situation will be relatively clear provided that the facts are available to the PVP Office. In almost all other cases a myriad of factors seem likely to be involved.

In some cases, the relevant applications may have resulted from plant breeding cooperations which have been underway for many years. Material, know-how and results may have been exchanged in both directions. The material in a CGIAR collection may not be homozygous. The origins of the material may have long pre-dated the notion of MTA’s, while IARC policies on the protection of material made available to collaborators have varied substantially over time. The material subject to trust (“the designated germplasm”) is usually the gene bank collection and not the material in active breeding programs which is the material which is most often exchanged in breeding cooperations.

It is not the role of the Office of UPOV to seek to interfere in the application of the Convention by its member States’ laws or to second guess their decision-making. However, on the basis of purely anecdotal information, it does seem that the RAFI allegations were in many cases misconceived, irrelevant or unreasonable or even mischievous. I will take two examples:

### The ICRISAT Chickpeas

The ICRISAT breeder and an Australian public sector institution exchanged material. The Australian institution was told informally in writing that it could protect certain lines if it so wished. The institution applied for protection but was told by the Australian Office that the informal authorization was insufficient. It needed at least the authorization of the Director General of ICRISAT before its application could be entertained. It was at this stage that RAFI publicized the situation. In fact, the system was working perfectly. The application had not been accepted pending the necessary authorizations.

### The ICARDA Lentils

This concerned an on-going collaboration between ICARDA and Australian scientists. The collaboration is referred to in a recent ICARDA report which has passed across my desk. The selections in question were from an ICARDA breeding program and were fully authorized. It was quite proper for the Australian collaborators to seek protection. They withdrew their applications to reduce political noise and to avoid embarrassing ICARDA. Here the net effect of the RAFI allegations may be that useful material will not be made available to agriculture or its introduction may be handicapped because a strong commercial position cannot eventually be offered to a commercial licensee.

In your letter, you state that you do not have the resources to investigate or validate each claim. Have you investigated or examined any claim? If so and if you have relevant facts, we would suggest that you perform a public duty and seek to take advantage of the legal procedures that exist to have relevant applications refused or grants annulled. We would be very interested to see the results of your investigations and would cooperate with you in any appropriate way.

Your letter suggests that from a cursory examination no breeding work or improvement is being claimed. An applicant does not need to demonstrate "breeding work or improvement," as such, to secure protection. He must claim to be the "obtenteur" in the sense that there must at least be a minimum of selection within the source of variability and the resulting variety must be distinct from known varieties. Under the 1991 Act, he must be the "breeder or the discoverer and developer." If selection work is undertaken, presumably the breeder considers that his selection represents an improvement over the source material, as such, so perhaps in practice we are talking of the same thing. It costs money to secure and to maintain protection. Usually applicants will not make this investment unless they consider that they have made an improvement that is worth protecting.

In the simple case postulated above of a person seeking to protect an accession to a gene bank of a self-pollinating or apomictic species as such, the applicant could not normally claim to be the obtenteur or discoverer. In virtually all other cases, a very detailed study of the precise nature and origin of the starting materials and the steps taken to select the final material, to maintain it and to develop commercial seed production would be necessary before making a decision. This is the business of the examiners in national plant variety protection offices.

It may be helpful to you to mention the principles that underly the examination of plant variety protection applications. Most offices conduct a formal legal examination when first

receiving an application to ensure that formalities are complied with and that the applicant is entitled to make the application. Normally the office accepts the information provided by the applicant as *prima facie* valid. The application will be accompanied by some outline descriptive information concerning the variety and its origin. If accepted, the application will be given a date. The “ICRISAT chickpea” application did not succeed in passing this first hurdle.

The office will subsequently examine the application to determine whether the variety is novel, distinct, uniform and stable. Some offices use detailed information provided by the breeder; others conduct field tests against a specific reference collection.

Details of applications and grants are published; the system is transparent. Objectors can object and be heard. This is the primary opportunity for objections to be heard and for any false claim concerning “obtention” or distinctness to be examined. The object of the examination is not to determine absolutely that the variety is distinct from all varieties worldwide. That would be impossible. It is to determine that the chances of the variety not being distinct are so minuscule that in practice breeders and others can rely upon the validity of a grant of protection.

I have described the procedures that exist to ensure that protection is properly granted. I turn now to the remedies that are available if it transpires that protection should not have been granted in the first place which is the subject matter of the last two paragraphs of your letter. Article 21(i) and (iii) of the 1991 Act of the UPOV Convention (reproducing similar provisions in Article 10 of the 1978 Act) provides as follows:

“(1) [*Reasons of nullity*] Each Contracting Party *shall* declare a breeder’s right granted by it null and void when it is established

(i) that the conditions laid down in Articles 6 [novelty] or 7 [distinctness] were not complied with at the time of the grant of the breeder’s right,

...

(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.”

Points to note here are the use of the word “shall,” which establishes that the provision is mandatory for member States, and the notion of “nullity.” The breeder’s right must be annulled from its inception. It must be as if the right had never been granted. The provision must be brought into effect “when it is established” that the conditions of Article 6 (novelty) or Article 7 (distinctness) was not complied with.

The precise way in which the provisions of Article 21 are incorporated into national law and in particular how facts are “established” varies from country to country depending upon the nature of its legal system. Generally speaking, there will be a procedure whereby an objection can be made and the right’s holder will be given the opportunity to respond to the objection, to present evidence and to argue their point of view. If incontrovertible facts exist which are known to the national office (for example on the face of the documents which constitute the records of the office), it may perhaps be able to act on its own initiative. The precise situation will vary from country to country. We understand that those making the allegations in the Australian cases have been invited informally to substantiate their claims

but have not yet done so. In most cases, any information made available would be looked at informally in the first instance and the whole procedure would take place at the level of the national office. In a few cases, an eventual declaration of nullity can only be made by a court.

It is clear is that the mere publishing of allegations in the media does not mean that the national office is obligated to carry out exhaustive detective work at great expense, perhaps over more than one continent, in order to establish the facts. It is primarily for persons making allegations “to put up, or shut up.”

I have in front of me a document downloaded from RAFI’s website entitled “A Partial List of Varieties Under RAFI Investigation.” It was last updated on February 24. I have glanced through the information on offer. Many of the varieties “under investigation” are selections and thus clearly within the “obtention” category. Virtually all are the results of serious plant improvement activity. We have not had access to the list of over 100 grants of protection to which you refer. Can you provide this list?

The varieties in the RAFI list and the activities associated with the development of these varieties have been characterized as examples of “bio-piracy.” An alternative characterization is that the introduction of these varieties constitutes an outstanding example of the dynamic use of genetic resource collection and conservation activities. The fact that the active evaluation and introduction of novel plant species and of selections from collected material should be characterized as immoral should be very worrisome for genetic resource and plant breeding circles. The major problem in practice for many gene banks is that their material is not sufficiently evaluated or used. The RAFI media blitz could have the unlooked for consequence that it will discourage some breeders from working with gene bank material. It may also discourage public sector programs in developed countries from working with CGIAR programs if they are to be inhibited from developing materials that emerge from the joint activity. It will be sad and contrary to the interests of agriculture if plant improvers are to be inhibited from making “selections from pre-existing variation.”

It may be of interest to you to ponder the role that plant variety protection plays in the development of novel species or exotic germplasm. Generally speaking, agricultural distribution companies have little interest in taking the risk and incurring the expense of introducing novel species or exotic material for which no market currently exists. Seed production may be difficult and patient extension work may be necessary before real demand will exist. Here plant variety protection may play an important role. It provides the opportunity to profit once the market is created. If the variety is unprotected, commercial organizations are unlikely to make the special effort that may be called for since their competitors will simply benefit from their efforts. This probably underlies the licensing arrangements between public and private sectors that are mentioned in the RAFI “investigation list.”

I believe that the wild RAFI allegations have misled people and embarrassed good scientists working in good faith in plant improvement. It is unfortunate if the CGIAR press release gave credence to bare allegations particularly if these are not eventually substantiated. Having said this, we do not discount the value of serious and responsible objections to applications for or grants of protection. An important element of the PVP system is the publicizing of information relating to applications and the encouragement of parties with interests which conflict with those of the applicants to come forward with relevant facts.

The UPOV system works. There are currently some forty-five thousand (45,000) grants of protection in force in the world, and since the creation of the UPOV system in the 1960s, more than one hundred thousand grants of protection have been made, many of which have, of course, already expired. I am not personally aware of a grant of protection that has been annulled because a protected variety has been shown not to have been distinct at the time of grant. There can have been few if any such annulments.

These kinds of figures should serve to put the RAFI allegations into the appropriate context. They are also relevant to the questions whether, as you suggest, some special activity is necessary to monitor the administration of plant variety protection laws. The figures quoted suggest that there is no problem but we are receptive to any additional information which you bring forward. I have perused afresh the text of the Agreement between FAO and CGIAR Centres and can see no conflict between the principles of the UPOV Convention and the Agreement.

I suggest that we should set to one side the question of the CGIAR press release. Points have been made on both sides and revealed some important concerns, and highlighted particular issues.

Distinctness examinations is the business of the five Technical Working Parties of UPOV. IPGRI is now routinely invited to attend the meetings of these bodies. I can recall only one instance so far when an IPGRI (or IBPGR) representative has accepted an invitation; this was in relation to the grape vine guideline. The information supplied by breeders in technical questionnaires, the make-up of reference collections, the degree of uniformity and stability of varieties necessary for the grant of protection is the on-going business of these bodies. This is a particularly interesting time to take an interest in UPOV technical activities since the General Introduction to the Test Guidelines, which establishes the general principles of DUS testing, is currently under review.

We would welcome IPGRI following more closely developments in UPOV and particularly the work of the Technical Working Parties. Plant variety protection is now a worldwide phenomenon which, quite apart from its role as a form of intellectual property, will provide impetus in all countries for the characterization and identification of plant material of all species. This is an area of intense mutual interest for UPOV and IPGRI.

[Annex III follows]

ANNEX III

THE WHEAT WORKERS CODE OF ETHICS

The WGRC seed is distributed in accordance with the 'Wheat Workers Code of Ethics for Distribution of Germ Plasm, developed and adopted by the National Wheat Improvement Committee on 5 November, 1994.

Acceptance of seed from the WGRC constitutes agreement.

1. The originating breeder, institution, or company has certain rights to the unreleased material. These rights are not waived with the distribution of seeds or plant material, but remain with the originator.
2. The recipient of unreleased seeds or plant material shall make no secondary distributions of the germ plasm without the permission of the owner/breeder.
3. The owner/breeder in distributing unreleased seeds or other propagating material grants permission for its use in tests under the recipient's control or as a parent for making of crosses from which selections will be made. Uses for which written approval of the owner/breeder is required include:
  - testing in regional or international nurseries;
  - increase and release as a cultivar;
  - reselection from within the stock - use as a parent of a commercial F1 hybrid, synthetic, or multiline cultivar;
  - use as a recurrent parent in backcrossing;
  - mutation breeding
  - selection of somaclonal variants; or
  - use as a recipient parent for asexual gene transfer, including gene transfer using molecular genetic techniques.
4. Plant materials of this nature entered in crop cultivar trial shall not be used for seed increase. Reasonable precautions to ensure retention or recover of plant materials at harvest shall be taken.

[End of document]