Disclaimer: unless otherwise agreed by the Council of UPOV, only documents that have been adopted by the Council of UPOV and that have not been superseded can represent UPOV policies or guidance.

This document has been scanned from a paper copy and may have some discrepancies from the original document.

———

Avertissement: sauf si le Conseil de l'UPOV en décide autrement, seuls les documents adoptés par le Conseil de l'UPOV n'ayant pas été remplacés peuvent représenter les principes ou les orientations de l'UPOV.

Ce document a été numérisé à partir d'une copie papier et peut contenir des différences avec le document original.

———

Allgemeiner Haftungsausschluß: Sofern nicht anders vom Rat der UPOV vereinbart, geben nur Dokumente, die vom Rat der UPOV angenommen und nicht ersetzt wurden, Grundsätze oder eine Anleitung der UPOV wieder.

Dieses Dokument wurde von einer Papierkopie gescannt und könnte Abweichungen vom Originaldokument aufweisen.

———

Descargo de responsabilidad: salvo que el Consejo de la UPOV decida de otro modo, solo se considerarán documentos de políticas u orientaciones de la UPOV los que hayan sido aprobados por el Consejo de la UPOV y no hayan sido reemplazados.

Este documento ha sido escaneado a partir de una copia en papel y puede que existan divergencias en relación con el documento original.

UPOV

CAJ/XXI/3
ORIGINAL: English
DATE: September 28, 1987

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

ADMINISTRATIVE AND LEGAL COMMITTEE

Twenty-first Session
Geneva, October 8 and 9, 1987

DISCUSSION PAPER ON IMPORTANT CHARACTERISTICS AND MINIMUM DISTANCES

prepared by experts from the Netherlands

The Office of the Union has received, from the Rijksinstituut Voor Het Rassenonderzoek Van Cultuurgewassen in the Netherlands, the discussion paper reproduced in the annex to this document. This discussion paper is relevant to the topics for discussion at the joint meeting of the Technical Committee and the Administrative and Legal Committee on October 8, 1987. Due to shortness of time, this discussion paper is available in English only for the joint meeting.

[Annex follows]

ANNEX

"IMPORTANT CHARACTERISTICS" AND "MINIMUM DISTANCES"

Introduction

The present paper results from the merging of our ideas on "important characteristics" and "minimum distances" with the concepts and philosophies about these subjects as outlined in UPOV-document CAJ/XVIII/3.

"Important characteristics"

It has often been mentioned that "important" should be understood in the way of "economically important." This approach, however, has some considerable drawbacks. At first, there is a legal objection in that Plant Breeders' Rights are granted to a creation and, just as with books, whether you like the creation or not, that cannot be the argument for granting or refusing rights.

From the practical point of view, this approach must be considered less suitable. Besides a general criterion for "economically," it requires (in most situations) a considerable extension of the examination (more and larger trial fields, more testing years) to be established with amounts of material which the applicant is normally not able to deliver together with the application.

Another approach is: "for what purpose are the characteristics important?" From UPOV-document CAJ/XVIII/3, it can be deduced (at least we did) that there are two purposes, namely: 1) to establish distinctness for granting Plant Breeders' Rights and 2) to establish a description enabling the identification of the variety. Of these two, the second one is the more important since without being able to identify the variety, the granting of Plant Breeders' Rights is meaningless. That means that characteristics which can be used for distinctness must also be able to be used for identification purposes. The other way round, however, is not necessarily valid.

A purpose which has been missing in the discussion on the subject so far, is the establishing of homogeneity. Many (if not most) characteristics used for distinctness can also be used for homogeneity assessment. There are, however, some exceptions.

A second point in this respect--and within the scope of the present paper a more important one--is how to deal with varieties which show e.g. two states of expression for a certain characteristic. Such a variety is, strictly speaking, insufficiently homogeneous. Nevertheless, there are many cases known in which such a situation exists, especially for characteristics with a low degree of "importance."

Such characteristics may be valuable for identification of the variety, but are not suitable as the one and only distinguishing characteristic since Plant Breeders' Rights can be given then to quite a range of technical mixtures by using populations which are uniform (though with opposite expression) for the characteristic concerned. One could deal with them in the following way:

1. To accept such varieties provided they are distinguishable from already existing ones by one or more other characteristics than the one for which the variety concerned is heterogeneous.

2. If a second variety (a "new" one) shows up which is only distinguishable from the other one by a characteristic for which the existing one is heterogeneous in the sense as mentioned above, that new variety should only be accepted if it is uniform and distinct from the existing variety for the characteristic concerned.

For example, one could agree upon the following table:

Variety A contains:		Variety B is distinct if:		
% of plants		red blue	red blue	other %
red	blue	100 0	0 100	
0	100	yes	no	no
1	99	yes	no	no
"	"	yes	no	no
"	"	yes	no	no
"	"	yes	no	no
24	76	yes	no	no
25	75	yes	yes	no
26	74	yes	yes	no
"	"	yes	yes	no
"	"	yes	yes	no
"	"	yes	yes	no
74	26	yes	yes	no
75	25	yes	yes	no
76	24	no	yes	no
"	"	no	yes	no
"	"	no	yes	no
"	"	no	yes	no
99	1	no	yes	no
100	0	no	yes	no

Table 1.
Decision diagram for characteristics
with two states of expression.

As mentioned before, there can be some characteristics that might be very helpful for identification. If one could agree upon the use of characteristics for that purpose, varieties should be stable for such characteristics and those characteristics should be included in the variety description.

Concluding from the foregoing, there are principally three types of characteristics:

1) Characteristics which can always be used for establishing distinctness and granting Plant Breeders' Rights. Such characteristics should also be used for homogeneity and stability assessment and be included in the description of the variety.

2) Characteristics which can under certain conditions be used for establishing distinctness and granting Plant Breeders' Rights. Such characteristics are not necessarily to be used for establishing homogeneity. They are, however, very useful for identification of the variety and should therefore be mentioned in the variety description (and as a consequence be used for establishing stability).

0625

3) Characteristics which can be used to identify varieties but are not (by themselves (see "synthesis")) suitable for distinctness purposes. Such characteristics are also not valid for assessment of homogeneity. However, they are suitable for establishing stability. Since they can be used for identification, they should be used in the variety description.

"Minimum distances"

UPOV document CAJ/XVIII/3 reports the classification of characteristics into three categories:

- Functional characteristics (important from the point of view of the final use of the variety),

- Non-functional characteristics, albeit in correlation with a functional one, and

- Non-functional characteristics (unimportant from the point of view of the final use of the variety).

As a matter of fact, we do not see a principle difference between the first two categories. In both cases, the conditions which must be fulfilled in order to use characteristics in DUS-testing and their relationship to the final use of the variety is given. Therefore, a classification into two categories is preferable.

In the discussion on preventing a protected variety from plagiarism or slavish imitation by enlarging the minimum distances required for distinctness, one could suggest to assign a weight of 1 to functional characteristics and a weight of 0.5 to non-functional characteristics, making the latter category half as "important" as functional ones.

Although we welcome the idea of differentiation between functional and non-functional characteristics, we think that a general rise of the level of clearness for distinctness to the level of clearness required from the point of view of the final use is neither in the breeders' nor in the growers' interest.

The problem of a variety being bypassed by "some lousy hairs more (or less)" is important in many crops, especially the vegetatively propagated ornamentals. In many other species, however, large numbers of characteristics have to be classified as non-functional as any relationship with the final use of the variety is not (known to be) present.

When applying the philosophy outlined above, we will be forced to require larger variety differences than we are accepting today. In many species, however, both breeders and variety experts are quite willing to accept smaller differences on individual characteristics, provided that there are more characteristics that show differences of a magnitude just falling short of the present UPOV criterion.

With this in mind, we wonder whether an allocation of the terms "functional" and "non-functional" to the purpose of distinctness of varieties rather than to the final use of varieties would not be more appropriate.

Other reasons for doing so are the facts that "final use" is very difficult to define precisely and that, within a species, a certain characteristic might be linked with the final use of one part of that species, whereas it is

irrelevant for the final use of other varieties within that same species. Moreover, in some species there are characteristics which are unimportant for the final use of the variety (sec), although they determine the economical "to be or not to be" of that variety.

As a consequence, every species should be dealt with on its own merits, which means that some characteristics which are non-functional from the point of view of final use, could be handled as functional ones for distinctness purposes. This determination of characteristics should be discussed in close cooperation between testing authorities and breeders when establishing or revising UPOV-Guidelines.

Synthesis

Now we have re-defined a "functional characteristic" as a characteristic that is determinant for distinctness by itself and a "non-functional characteristic" as a characteristic that leads to distinctness either in cooperation with another non-functional characteristic or when varieties are farther apart for that characteristic than under present UPOV-criteria.

In order to avoid confusion we will mention the first category "determinant characteristics" and the latter category "semi-determinant characteristics."

The integration of this idea of categories of characteristics with the earlier idea of types of characteristics is given in the following table which could act as a starting point for further discussion, both within UPOV and with the breeders.

TYPE OF CHARACTERISTIC	CATEGORY OF CHARACTERISTIC	
	DETERMINANT	SEMI-DETERMINANT
1	1	0.5
2	1	0.5
3	0	0

Table 2.
Weighing factors for characteristics
in DUS-testing

Apart from this, a discussion should start on the use of several characteristics simultaneously to discriminate between varieties. As stipulated above, both breeders and variety experts are quite willing to accept smaller differences on individual characteristics, provided that there are more characteristics that show differences of a magnitude just falling short of the present UPOV criterion. On this way, the evidence of "originality" might be granted although there is not a single characteristic at the present distinctness criterion by which the varieties could be distinguished. One could even think about setting (pre) requirements on the identifiability of such varieties although there are then some legal implications to be taken into consideration.

Multivariate approaches as mentioned above are quite common in the area of numerical taxonomy, and many techniques can be applied. It should be asked

0627

to the Technical Working Party on Automation and Computer Programs to study this subject.

Whatever system will be applied on whatever crop, the basic idea has to be that the way in which distinctness and homogeneity are judged should be in agreement with both the breeding practice and one's general sense of justice.

[End of Annex and of document]