UPOV

TECHNICAL WORKING PARTY FOR FRUIT CROPS

Fortieth Session
Angers, France, September 21 to 25, 2009

PREPARATORY WORKSHOP

September 20, 2009

UPOV

UPOV

The International Convention for the Protection of New Varieties of Plants

established in 1961

The International Union for the Protection of New Varieties of Plants

Union internationale pour la protection des obtentions végétales

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UPOV

PROGRAM

1. Introduction to UPOV
2. Introduction to the Technical Working Parties
3. Overview of the General Introduction (document TG/1/3 and TGP documents)
4. Test Guidelines (document TGP/7)
   - (a) Introduction
   - (b) Guidance on drafting characteristics
   - (c) Method of observation (VCM; G/S)
   - (d) Asterisked, grouping and TQ characteristics
   - (e) Example varieties
   - (f) The process for developing UPOV Test Guidelines
5. UPOV databases
6. The UPOV website
7. Agenda for the TWP meeting
8. Feedback

EXERCISES

UPOV

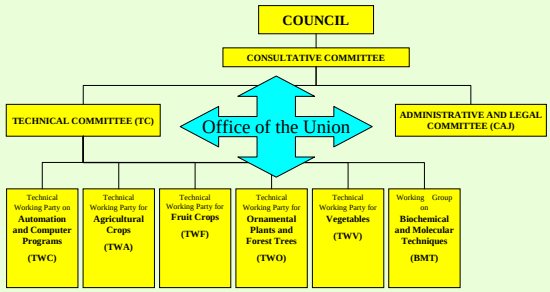
- **Members of the Union**
  - States
  - Intergovernmental Organization(s)
- **Organs established by the Convention**
  - Council
  - Office of the Union
- **Other Bodies**

UPOV

1. INTRODUCTION TO UPOV

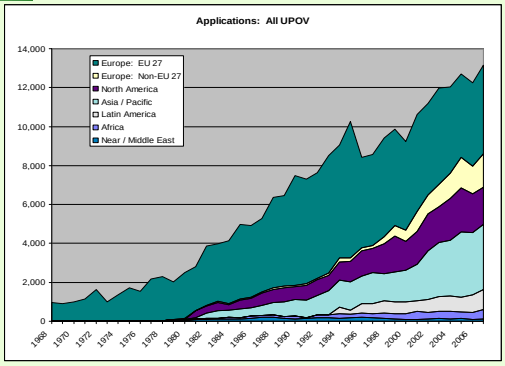
UPOV

UPOV Structure



UPOV Membership / Territories covered
67 members

Development of Plant Variety Protection

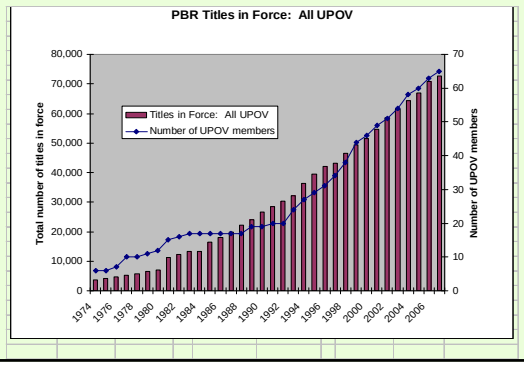


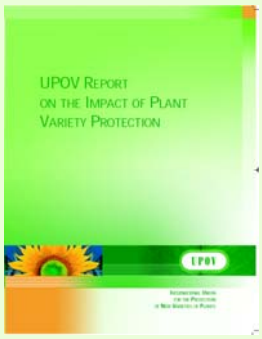
Members of UPOV (green) and initiating States and organizations (brown)

UPOV MISSION STATEMENT

"To provide and promote an *effective system* of plant variety protection, with the aim of encouraging the development of *new varieties of plants*, for the *benefit of society*"

Development of Plant Variety Protection

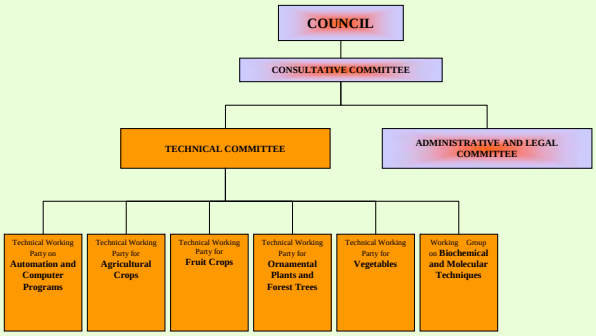




Available at: www.upov.int "News & Events"

2. INTRODUCTION TO THE UPOV TECHNICAL WORKING PARTIES (THE DUS EXAMINATION)

UPOV Structure



THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

Criteria to be satisfied

- NOVELTY
- **D**ISTINCTNESS
- **U**NIFORMITY
- **S**TABILITY

} **"DUS"**

3. OVERVIEW OF THE GENERAL INTRODUCTION

(DOCUMENT TG/1/3 AND TGP DOCUMENTS)

GUIDANCE FOR DUS EXAMINATION

THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

Other conditions

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

NO OTHER CONDITIONS!

Guidance for DUS Examination

facilitates:

BEST PRACTICE (based on experience)

=> good decisions

=> good definition of the object of protection (strong protection)

=> efficiency in method of examination (learn from the best)

HARMONIZATION

=> efficiency

- mutual acceptance of DUS reports (minimize cost of examination for individual authorities)
- mutual recognition of variety descriptions (all parties speak the same "language")
- simple and cheap system for applicants (minimize cost for breeders)

UPOV provides guidance by:

- The "General Introduction" (TG/1/3)
  - General technical principles
  - Organization of DUS Testing
  - Associated "TGP" Documents (e.g. statistical methods)

4. TEST GUIDELINES

(a) Introduction

TG/1/3 General Introduction

"Associated" TGP Documents

Ref.	Title
TG/00	List of TGP Documents and Latest Issue Dates
TGP/1	General Introduction With Explanations
TGP/2	List of Test Guidelines Adopted by UPOV
TGP/3	Varieties of Common Knowledge
TGP/4	Constitution and Maintenance of Variety Collections
TGP/5	Experience and Cooperation in DUS testing
TGP/6	Arrangements for DUS testing
TGP/7	Development of Test Guidelines
TGP/8	Trial Design and Techniques Used in the Examination of DUS
TGP/9	Examining Distinctness
TGP/10	Examining Uniformity
TGP/11	Examining Stability
TGP/12	Special Characteristics
TGP/13	Guidance for New Types and Species
TGP/14	Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents
TGP/15	New Types of Characteristics

UPOV provides guidance by:

- The "General Introduction" (TG/1/3)
  - General technical principles
  - Organization of DUS Testing
  - Associated "TGP" Documents (e.g. statistical methods)

AND

- **"Test Guidelines"**
  - **Species/Crop-specific recommendations developed by crop experts**
  - **TGP/7 "Development of Test Guidelines" adopted**

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4. **Test Guidelines (document TGP/7)**
   - (a) **Introduction**
   - (b) **Guidance on drafting characteristics**
   - (c) **Method of observation (V/M; G/S)**
   - (d) **Asterisked, grouping and TQ characteristics**
   - (e) **Example varieties**
   - (f) **The process for developing UPOV Test Guidelines**
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UPOV

TG/217/1
ORIGINAL: English
DATE: 2004-04-31

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

CACTUS PEAR
and
XOCONOSTLES
(Opuntia, Groups 1 & 2)

GUIDELINES
FOR THE CONDUCT OF TESTS
FOR DISTINCTNESS, UNIFORMITY AND STABILITY

Alternative Names:*

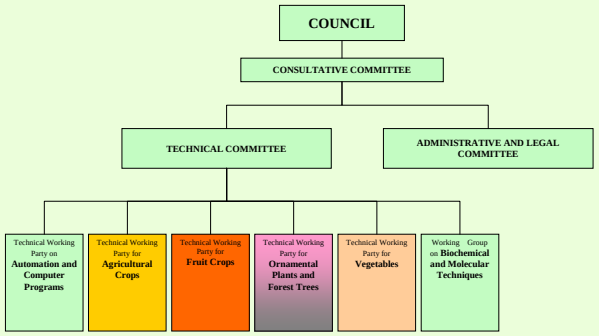
Latin	English	French	German	Spanish
Opuntia, Group 1	Cactus pear, Prickly pear	Figuier de Barbarie	Feigenkaktus	Chumbera, Nopal tuna, Tuna
Opuntia, Group 2	Xoconostles	Xoconostles	Xoconostles	Xoconostles

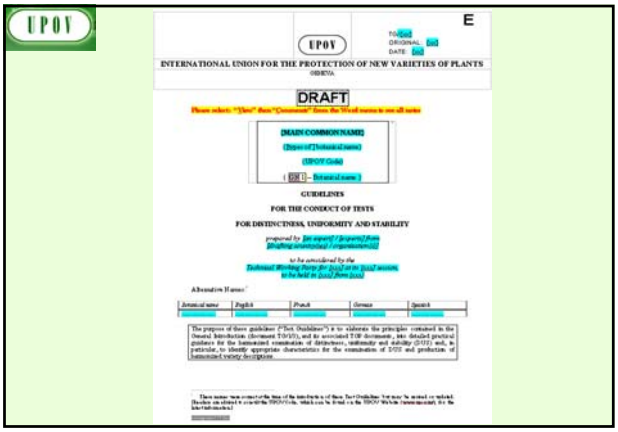
ASSOCIATED DOCUMENTS

These guidelines should be read in conjunction with document TG/1/3, "General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants" (hereinafter referred to as the "General Introduction") and its associated "TGP" documents.

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

UPOV Structure





TGP/7 "Development of Test Guidelines"

10 Chapters of UPOV Test Guidelines

1. Subject of the Test Guidelines
2. Material Required
3. Methods of Examination
4. Assessment of Distinctness, Uniformity and Stability
5. Grouping of Varieties and Organization of the Growing Trial
6. Introduction to the Table of Characteristics
7. **Table of Characteristics**
8. Explanation on the Table of Characteristics
9. Literature
10. Technical Questionnaire

1. Introduction

2. Procedure for the Introduction and Revision of UPOV Test Guidelines

3. Guidance for Drafting Test Guidelines

- The **TG Template**
- **Additional Standard Wording** for the TG Template
- **Guidance Notes** for the TG Template

4. TEST GUIDELINES

(b) Guidance on drafting characteristics

- **selection of characteristics**
- **types of expression (QL, QN, PQ)**
- **states of expression / notes**

"CHARACTERISTICS"

- may have direct commercial relevance
  - Flower color (ornamental)
  - Fruit color
- but **commercial relevance NOT required**
  - Leaf shape

Selection of Characteristics

Criteria	Fruit: color	Leaf: shape	Yield
(a) results from a given genotype or combination of genotypes	Yes	Yes	
(b) sufficiently consistent and repeatable in a particular environment	Yes	Yes	
(c) exhibits sufficient variation between varieties to be able to establish distinctness	Yes	Yes	
(d) is capable of precise definition and recognition	Yes	Yes	
(e) allows uniformity requirements to be fulfilled	Yes	Yes	
(f) allows stability requirements to be fulfilled	Yes	Yes	
Commercial value	Yes	No	
ACCEPTABILITY	Yes	Yes	

Selection of Characteristics

The basic requirements that a characteristic should fulfill before it is used for DUS testing or producing a variety description are that its expression (TG/1/3: Section 4.2.1) :

(a) **results from a given genotype** or combination of genotypes;

(b) is sufficiently **consistent and repeatable** in a **particular environment**;

(c) exhibits sufficient **variation between varieties** to be able to establish distinctness;

(d) is capable of **precise definition and recognition**;

(e) allows **uniformity requirements** to be fulfilled;

(f) allows **stability requirements** to be fulfilled, meaning that it produces consistent and repeatable results after repeated propagation or, where appropriate, at the end of each cycle of propagation.

Selection of Characteristics

Criteria	Fruit: color	Leaf: shape	Yield
(a) results from a given genotype or combination of genotypes	Yes	Yes	Yes
(b) sufficiently consistent and repeatable in a particular environment	Yes	Yes	(No)
(c) exhibits sufficient variation between varieties to be able to establish distinctness	Yes	Yes	???
(d) is capable of precise definition and recognition	Yes	Yes	(No)
(e) allows uniformity requirements to be fulfilled	Yes	Yes	???
(f) allows stability requirements to be fulfilled	Yes	Yes	???
Commercial value	Yes	No	Yes
ACCEPTABILITY	Yes	Yes	No

Selection of Characteristics

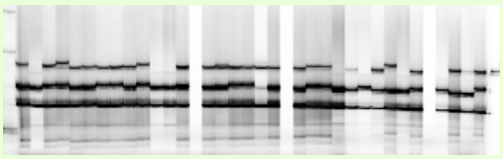
- **Yield ???**
- **Straw strength ???**

Etc.

Special Characteristics: Disease Resistance

Criteria	Disease Resistance
(a) results from a given genotype or combination of genotypes	*Knowledge of nature of genetic control of resistance is important
(b) sufficiently consistent and repeatable in a particular environment	*Standardize conditions (greenhouse / laboratory) & methodology *Standardize inoculum *Ring-test
(c) exhibits sufficient variation between varieties to be able to establish distinctness	*Susceptible / Resistant OR varying degrees of resistance?
(d) is capable of precise definition and recognition	*Define and recognize races and strains
(e) allows uniformity requirements to be fulfilled	see above
(f) allows stability requirements to be fulfilled	see above
	Difficult and expensive

Molecular Techniques?



QUALITATIVE Characteristics

"Qualitative characteristics" are those that are **expressed in discontinuous states** (e.g. sex of plant: dioecious female (1), dioecious male (2), monoecious unisexual (3), monoecious hermaphrodite (4)).

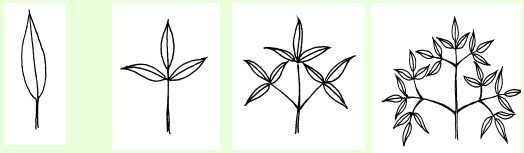
These states are self-explanatory and independently meaningful. All states are necessary to describe the full range of the characteristic, and every form of expression can be described by a single state. The order of states is not important. As a rule, the **characteristics are not influenced by environment**.

TYPE OF EXPRESSION OF CHARACTERISTICS (QL, QN, PQ):

and consequences for consideration of ***distinctness***

Qualitative characteristic

Clematis: Leaf: type



1 simple | 2 ternate | 3 biternate | 4 triternate

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

Char. No.	English	français	Deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
1. (*) (+)	**Plant: growth habit**	**Plante : port**	**Pflanze: Wuchsform**	**Planta: porte**		
QN	upright	dressé	aufrecht	erecto	Inuppuk	1
	semi-upright	semi dressé	halbaufrecht	semierecto	D0158-1	2
	spreading	étalé	breitwüchsig	abierto	Sunnem 03	3
	semi-trailing	semi-étalé	halbhängend	semirrastrero	Imprad	4
	trailing	coureur	hängend	rastrero	Organza	5
2. (+)	**Plant: height**	**Plante : hauteur**	**Pflanze: Höhe**	**Planta: altura**		
QN	short	basse	niedrig	baja	Yateye	3
	medium	moyenne	mittel	media	D0158-1	5
	tall	haute	hoch	alta	Inuppuk	7

Qualitative Characteristics: distinctness

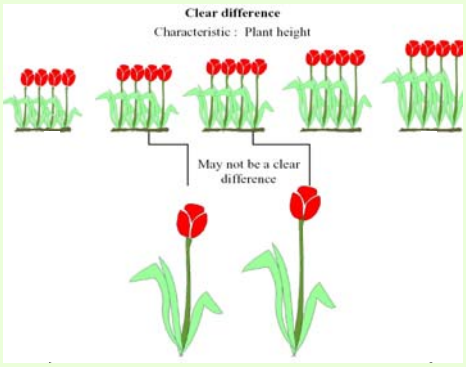
In qualitative characteristics, the difference between two varieties may be considered clear if one or more characteristics have expressions that fall into **two different states in the Test Guidelines**. Varieties should not be considered distinct for a qualitative characteristic if they have the same state of expression.

(e.g. sex of plant: dioecious female (1), dioecious male (2), monoecious unisexual (3), monoecious hermaphrodite (4)).

QUANTITATIVE Characteristics

"Quantitative characteristics" are those where the expression covers the full range of variation from one extreme to the other. The **expression can be recorded on a one-dimensional, continuous or discrete, linear scale**. The range of expression is divided into a number of states for the purpose of description (e.g. length of stem: very short (1), short (3), medium (5), long (7), very long (9)). The division seeks to provide, as far as is practical, an even distribution across the scale. The Test Guidelines do not specify the difference needed for distinctness. The states of expression should, however, be meaningful for DUS

Quantitative Characteristic



Quantitative Characteristics: distinctness

Quantitative characteristics are considered for distinctness according to the method of observation and the features of propagation of the variety concerned...

Quantitative Characteristics: distinctness

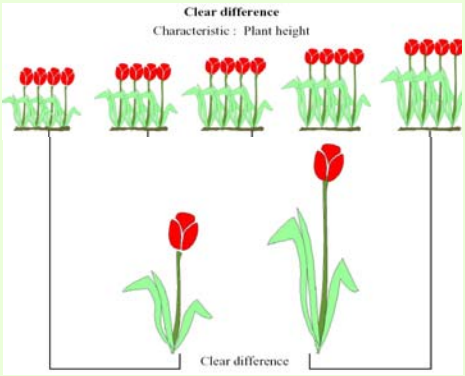
Quantitative characteristics are considered for distinctness according to the method of observation and the features of propagation of the variety concerned.

Test Guidelines (TGP/7 proposed revised text)

Difference of **two Notes to represent a clear difference if** the **comparison** between two varieties is performed **at the level of Notes**:

e.g.

Quantitative Characteristic



Quantitative Characteristics: distinctness

TG/233/1
Dascia/Dascie, 2007-03-28
- 9 -

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
6. (*)	(a) **Leaf blade: length**	**Limbe: longueur**	**Blattspreite: Länge**	**Limbo: longitud**		
QN	short	courte	kurz	corto	Codiæe, Strawberry Sundae	3
	medium	moyenne	mittel	medio	Codasize	5
	long	longue	lang	largo	Balwhislaps, Balwhaswhat	7

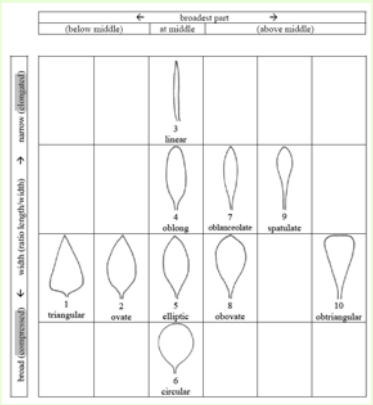
1 to 9 scale: **Notes 1 and 3**, **Notes 2 and 4**, Notes 3 and 5 **etc.** represent a clear difference

Quantitative Characteristics: **distinctness**

TG/233/1
Dianthus/Dianthus, 2007-03-28
- 9 -

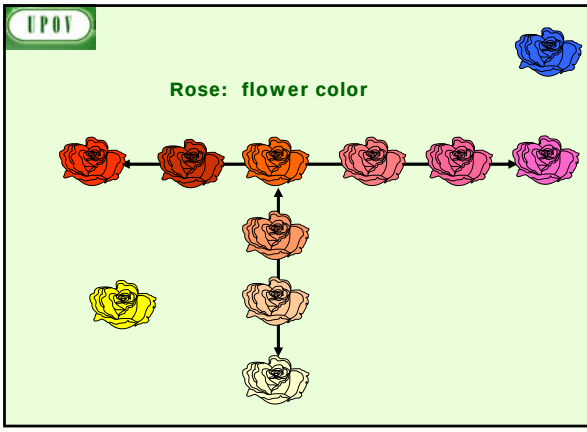
	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
5.	**Stem: anthocyanin coloration below inflorescence**	**Tige: pigmentation anthocyanique sous inflorescence**	**Trieb: Anthocyanfärbung unter dem Blütenstand**	**Tallo: pigmentación antociánica por debajo de la inflorescencia**		
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Heccharm	1
	medium	moyenne	mittel	media	Hecrace	2
	strong	forte	stark	fuerte		3

1 to 3 scale: **only Notes 1 and 3** represent a clear difference



PSEUDO-QUALITATIVE Characteristics

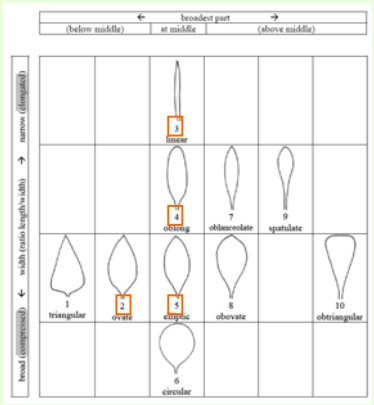
In the case of "pseudo-qualitative characteristics," the **range of expression is at least partly continuous, but varies in more than one dimension** (e.g. shape: ovate (1), elliptic (2), circular (3), obovate (4)) and cannot be adequately described by just defining two ends of a linear range. In a similar way to qualitative (discontinuous) characteristics – hence the term "pseudo-qualitative" – each individual state of expression needs to be identified to adequately describe the range of the characteristic.



Example

Pseudo-Qualitative Characteristics: **distinctness**

A different state in the Test Guidelines may not be sufficient to establish distinctness (see also section 5.5.2.3). However, in certain circumstances, varieties described by the same state of expression may be clearly distinguishable.



Qualitative Characteristics

(special cases)

Char No.	Method of Examination	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*)	MS	**Plant: ploidy**					
QL	C	diploid					2
		tetraploid					4
3. (*)	VG	**Stem: anthocyanin coloration**					
QL		absent				Gumpoong	1
		present				Chunpoong, Gopoong	9

STATES / NOTES for QL, QN ,PQ

Quantitative Characteristics

weak/strong
short/long
small/large

Note	State
1	very weak (or: absent or very weak)
2	very weak to weak
3	**weak**
4	weak to medium
5	**medium**
6	medium to strong
7	**strong**
8	strong to very strong
9	very strong

Note	State
1	very small (or: absent or very small)
2	very small to small
3	**small**
4	small to medium
5	**medium**
6	medium to large
7	**large**
8	large to very large
9	very large

Qualitative Characteristics

(typical example)

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
19. (*) (+)	VG	**Inflorescence: type**				
QL	Type 1					1
	Type 2					2
	Type 3					3
		1 Type 1	2 Type 2	3 Type 3		

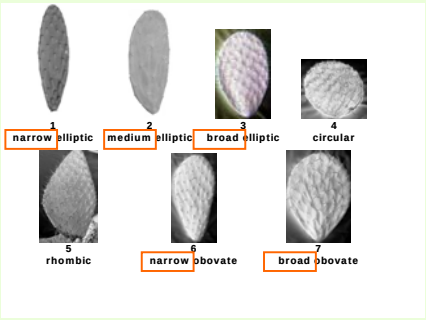
Quantitative Characteristics

Standard Range Version 1	Standard Range Version 2	Standard Range Version 3	Standard Range Version 4
1 very weak (or: absent or very weak)	1 very weak (or: absent or very weak)	-	-
3 weak	3 weak	3 weak	3 weak
5 medium	5 medium	5 medium	5 medium
7 strong	7 strong	7 strong	7 strong
9 very strong	-	9 very strong	-

Quantitative Characteristics

State	Example 1 **Size relative to:**	Example 2 **Angle:**	Example 3 **Position:**	Example 4 **Length in relation to:**
1	**much smaller**	**very acute**	**at base**	**equal**
3	moderately smaller	moderately acute	one quarter from base	slightly shorter
5	**same size**	**right angle**	**in middle**	**moderately shorter**
7	moderately larger	moderately obtuse	one quarter from apex end	much shorter
9	**much larger**	**very obtuse**	**at apex**	**very much shorter**

Opuntia: Shape of Cladode



Quantitative Characteristics

Limited range

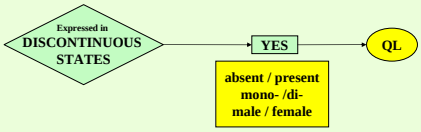
State	Example 1 **Stem: attitude**
1	erect
3	semi-erect
5	prostrate

Condensed range

Example 1	
1	e.g. absent or very weak *(absent or very weakly expressed)*
2	weak *(weakly expressed)*
3	strong *(strongly expressed)*

Example 2	
1	e.g. absent or weak *(absent or weakly expressed)*
2	moderate (or medium) *(moderately expressed)*
3	strong *(strongly expressed)*

QL, QN or PQ?

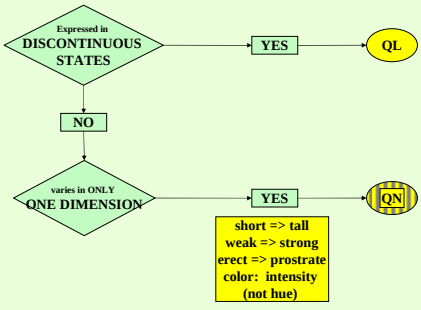


Pseudo-qualitative Characteristics

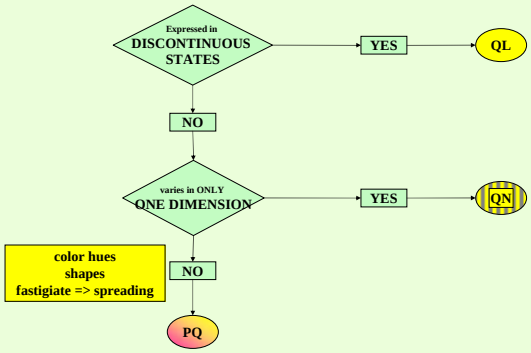
(typical examples)

(+)	24. Flower: color of the center	Fleur: couleur du centre	Farbe der Mitte	Flor: color del centro	
PQ	green	vert	grün	verde	1
	yellow	jaune	gelb	amarillo	2
	orange	orange	orange	naranja	3
	pink	rose	rosa	rosa	4
	red	rouge	rot	rojo	5
	purple	pourpre	purpurn	púrpura	6

QL, QN or PQ?



QL, QN or PQ?

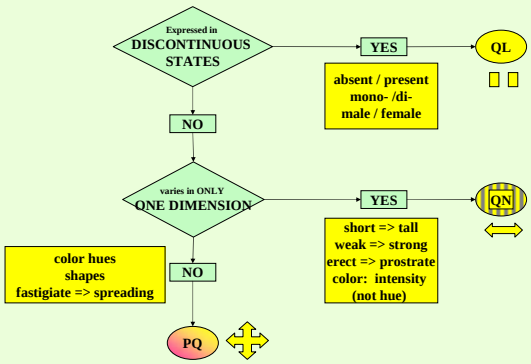


(a) What type of Expression?

QL: Qualitative
QN: Quantitative
PQ: Pseudo-qualitative

(b) Which Notes represent a clear difference?

QL, QN or PQ?



		Note/ Nota
1.	**Plant: ploidy**	
	diploid	2
	tetraploid	4
	hexaploid	6
	octoploid	8

EXERCISE

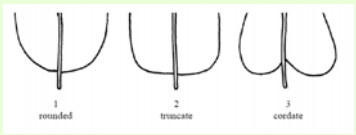
2.	**Leaf sheath: anthocyanin coloration**	
	absent or very weak	1
	weak	3
	medium	5
	strong	7
	very strong	9

3. Plant: rhizomes

absent	1
present	9

6. Leaf blade: shape of base

rounded	1
truncate	2
cordate	3



4. Petal: color

white	1
yellow	2
orange	3
red	4
pink	5
purple	6

7. Petal: color

RHS Colour Chart (indicate reference number)

5. Leaf blade: intensity of green color of upper side

light	3
medium	5
dark	7

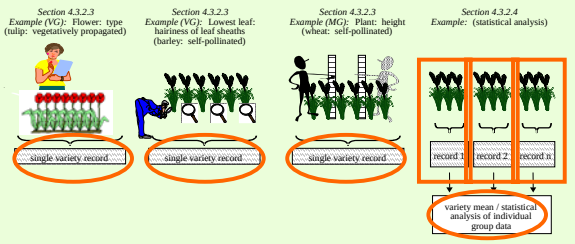
8. Leaf blade: profile in cross section

straight or weakly concave	1
moderately concave	2
strongly concave	3

4. TEST GUIDELINES (document TGP/7)

(c) Method of observation (visual / measurement; single record / several records)

Single record for a group of plants or parts of plants (G)



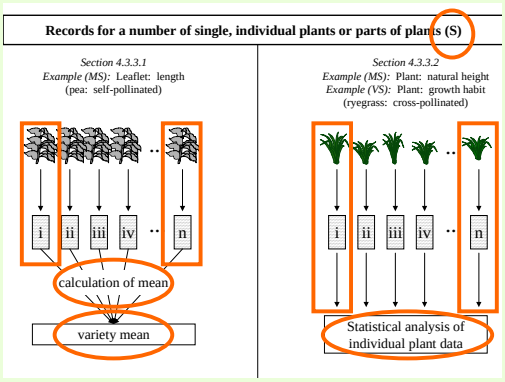
Method of Observation

M: Measurement:
an objective **observation against a calibrated, linear scale** e.g. using a ruler, weighing scales, colorimeter, dates, counts, etc.);

V: Visual observation:
includes observations where the expert uses **reference points** (e.g. diagrams, example varieties, side-by-side comparison) or non-linear charts (e.g. color charts).

"Visual" observation refers to the sensory observations of the expert and, therefore, also **includes smell, taste and touch**.

Records for a number of single, individual plants or parts of plants (S)



Type of Record

(for the purposes of distinctness)

G: **single record** for a variety, or a **GROUP of plants** or parts of plants;

In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

S: **records** for a number of **SINGLE**, individual **plants** or parts of plants …

EXERCISE

MG ?
MS ?
VG ?
VS ?

TGP/9/1
page 22

4.5 Summary

The following table summarizes the common method of observation and type of record for the assessment of distinctness, although there may be exceptions:

Method of propagation of the variety	Type of expression of characteristic		
	QL	PQ	QN
Vegetatively propagated	VG	VG	VG/MG/MS
Self-pollinated	VG	VG	VG/MG/MS
Cross-pollinated	VG/(VS*)	VG/(VS*)	VS/VG/MS/MG
Hybrids	VG/(VS*)	VG/(VS*)	**

* Records of individual plants only necessary if segregation is to be recorded.
** To be considered according to the type of hybrid.

1.		**Plant: height (at time of harvest)**	
QN		very short	1
		short	3
		medium	5
		tall	7
		very tall	9

2.		**Leaf: twisting of tip**	
QN		absent or very weak	1
		weak	3
		medium	5
		strong	7
		very strong	9

3.	**Leaf: undulation of margin of blade**	
QN	absent or very weak	1
	intermediate	2
	strong	3

4.	**Tassel: number of primary lateral branches**	
QN	absent or very few	1
	few	3
	medium	5
	many	7
	very many	9

5.	**Leaf: width of blade**	
QN	very narrow	1
	narrow	3
	medium	5
	wide	7
	very wide	9

6.	**Plant: time of inflorescence emergence (without vernalization)**	
QN	very early	1
	early	3
	medium	5
	late	7
	very late	9

Standard Test Guidelines Characteristic

Function	Criteria
1.Characteristics that are **accepted by UPOV for examination of DUS** and from which members of the Union can select those suitable for their particular circumstances.	1.Must satisfy the criteria for use of any characteristic for DUS as set out in **Chapter 4, section 4.2**. 2.Must have been **used** to develop a variety description **by at least one member of the Union**. 3.Where there is a long list of such characteristics and, where considered appropriate, there may be an indication of the extent of use of each characteristic.

7.	**Plant: vegetative growth habit (without vernalization)**	
QN	erect	1
	semi-erect	3
	medium	5
	semi-prostrate	7
	prostrate	9

Asterisked Characteristic

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

Char. No.	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
(*) TG/	**Plant: growth habit**	**Plante : port**	**Pflanze: Wuchsform**	**Planta: porte**		
QN	upright	dressé	aufrecht	erecto	Imappiak	1
	semi-upright	semi dressé	halbaufrecht	semierecto	D0158-1	2
	spreading	étalé	breitwüchsig	abierto	Summem 03	3
	semi-trailing	semi-étalé	halbhängend	semirrastrero	Impsaf	4
	trailing	coureux	hängend	rastrero	Organza	5

4. TEST GUIDELINES (document TGP/7)

(d) Asterisked, grouping and TQ characteristics (functional categories)

Asterisked Characteristic

Function	Criteria
1.Characteristics that are important **for the international harmonization of variety descriptions**.	1.Must be a characteristic included in the Test Guidelines. 2.**Should always be examined** for DUS and included in the variety description **by all members of the Union** **EXCEPT** when the state of expression of a preceding characteristic or regional environmental conditions render this inappropriate. 3.Must be useful for function 1. 4.Particular care should be taken before selection of disease resistance characteristics.

Grouping Characteristic

5. Grouping of Varieties and Organization of the Growing Trial

5.1 The selection of varieties of common knowledge to be grown in the trial with the candidate varieties and the way in which these varieties are divided into groups to facilitate the assessment of distinctness are aided by the use of grouping characteristics.

5.2 Grouping characteristics are those in which the documented states of expression, even where produced at different locations, can be used, either individually or in combination with other such characteristics: (a) to select varieties of common knowledge that can be excluded from the growing trial used for examination of distinctness; and (b) to organize the growing trial so that similar varieties are grouped together.

5.3 The following have been agreed as useful grouping characteristics:

(a) Plant: growth habit (characteristic 1)
(b) Leaf blade: variegation (characteristic 11)
(c) Upper lobes of corolla: main color (characteristic 24), with the following groups:
Gr. 1: white
Gr. 2: yellow
Gr. 3: orange
Gr. 4: pink
Gr. 5: red
Gr. 6: red purple
Gr. 7: violet
Gr. 8: blue

4. TEST GUIDELINES (document TGP/7)

(e) Example varieties

Grouping Characteristic

Function	Criteria
characteristics in which the **documented states of expression**, even where recorded **at different locations**, can be used either individually or in combination with other such characteristics: **1. to select varieties of common knowledge that can be excluded from the growing trial** used for examination of distinctness, and/or **2. to organize the growing trial so that similar varieties are grouped together**	1.(a) Qualitative characteristics or (b) Quantitative or pseudo-qualitative characteristics which provide useful discrimination between the varieties of common knowledge from documented states of expression recorded at different locations. 2.Must be useful for functions 1 and 2. 3.Should be an **asterisked characteristic** and/or included in the **Technical Questionnaire** or application form.

TG/13/9
Lettuce/Laitue/Salat/Lechuga, 2004-03-31
- 7 -

7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
1. (*)	**Seed: color**	**Semence: couleur**	**Samen: Farbe**	**Semilla: color**		
	white	blanche	weiß	blanco	Verpia	1
	yellow	jaune	gelb	amarillo	Durango	2
	black	noire	schwarz	negro	Kagraner Sommer	3
2. (*) (+)	**Seedling: anthocyanin coloration**	**Plantule: pigmentation anthocyanique**	**Keimpflanze: Anthocyanfärbung**	**Plántula: pigmentación antociánica**		
	absent	absente	fehlend	ausente	Verpia	1
	present	présente	vorhanden	presente	Pirat	9
3.	**Seedling: size of cotyledon (fully developed)**	**Plantule: taille du cotylédon (à complet développement)**	**Keimpflanze: Größe des Keimblatts (voll entwickelt)**	**Plántula: tamaño del cotiledón (plenamente desarrollado)**		
	small	petit	klein	pequeño	Romance	3
	medium	moyen	mittel	medio	Expresse	5
	large	grand	groß	grande	Verpia	7

Relationship between functions

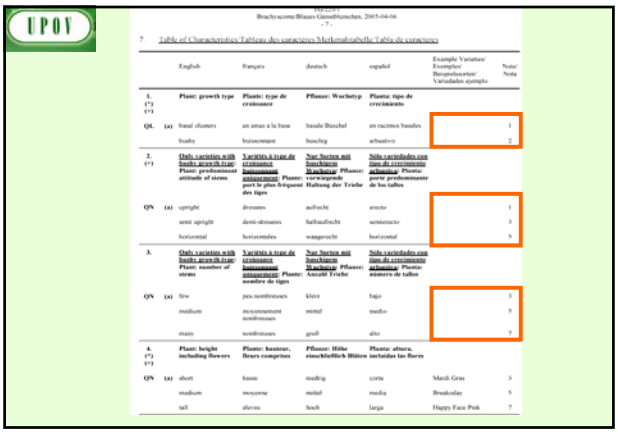
(a) **GROUPING CHARACTERISTICS** selected from the Table of Characteristics should, in general, **receive an asterisk** in the Table of Characteristics and be **included in the Technical Questionnaire**.

(b) **TQ CHARACTERISTICS** selected from the Table of Characteristics should, in general, **receive an asterisk** in the Table of Characteristics and be **used as grouping characteristics**. TQ characteristics are **not restricted to** those characteristics used as **grouping characteristics**;

(c) **ASTERISKED CHARACTERISTICS** are **not restricted to** those characteristics selected as **grouping or TQ characteristics**.

TG/219/1
Perilla/Pérille/Perilla Perilla, 2004-03-31
- 10 -

		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
14.	VG	**Leaf blade: intensity of purplish color of lower side**	**Limbe: intensité de la couleur pourpre de la face inférieure**	**Blattsprite: Intensität der Purpurfarbe der Unterseite**	**Limbo: intensidad del color purpúreo del envés**		
QN	(a)	very light	très claire	sehr hell	muy claro		1
		light	claire	hell	claro	Perlime	3
		medium	moyenne	mittel	medio		5
		dark	foncée	dunkel	oscuro	Perro	7
		very dark	très foncée	sehr dunkel	muy oscuro	Bora, Purple	9
15.	VG	**Leaf blade: profile**	**Limbe: profil**	**Blattsprite: Profil**	**Limbo: perfil**		
QN	(a)	concave	concave	konkav	cóncavo	Perro	3
		plane	plan	flach	plano	Pergro, Saeyenpul	5
		convex	convexe	konvex	convexo		7



Brachyscome/Blaues Gänseblümchen, 2005-04-06

7 Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

		English	Français	deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
1. (*) (+)		**Plant: growth type**	**Plante: type de croissance**	**Pflanze: Wuchstyp**	**Planta: tipo de crecimiento**		
QL	(a)	basal clumps	en amas à la base	basale Busche	en racimos basales		1
		bushy	buissonnant	buschig	arbustivo		2
2. (+)		**Only varieties with bushy growth type: Plant: predominant attitude of stems**	**Variétés à type de croissance buissonnant uniquement: Plante: port le plus fréquent des tiges**	**Nur Sorten mit buschigem Wuchstyp: Pflanze: vorwiegende Haltung der Triebe**	**Sólo variedades con tipo de crecimiento arbustivo: Planta: porte predominante de los tallos**		
QN	(a)	upright	dressées	aufrecht	erecto		1
		semi upright	demi-dressées	halbaufrecht	semierecto		3
		horizontal	horizontales	waagerecht	horizontal		5
3.		**Only varieties with bushy growth type: Plant: number of stems**	**Variétés à type de croissance buissonnant uniquement: Plante: nombre de tiges**	**Nur Sorten mit buschigem Wuchstyp: Pflanze: Anzahl Triebe**	**Sólo variedades con tipo de crecimiento arbustivo: Planta: número de tallos**		
QN	(a)	few	peu nombreuses	klein	bajo		3
		medium	moyennement nombreuses	mittel	medio		5
		many	nombreuses	groß	alto		7
4. (*) (+)		**Plant: height including flowers**	**Plante: hauteur, fleurs comprises**	**Pflanze: Höhe einschließlich Blüten**	**Planta: altura, incluidas las flores**		
QN	(a)	short	basse	niedrig	corta	Mardi Gras	3
		medium	moyenne	mittel	media	Breakaway	5
		tall	élevée	hoch	larga	Happy Face Pink	7

UPOV

Example Varieties –the need

UPOV

Example Varieties: the Objective

Clarify states of expression

- **Illustrate characteristics**
- **Determine the state of expression**

→ **Harmonized descriptions**

UPOV

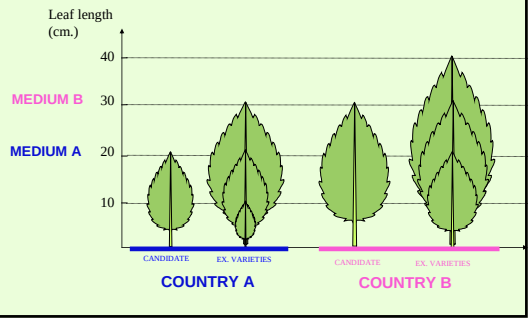
Example Varieties – the need

NEED

- in characteristics used to **harmonize descriptions**
- and
- which are **influenced by the environment**

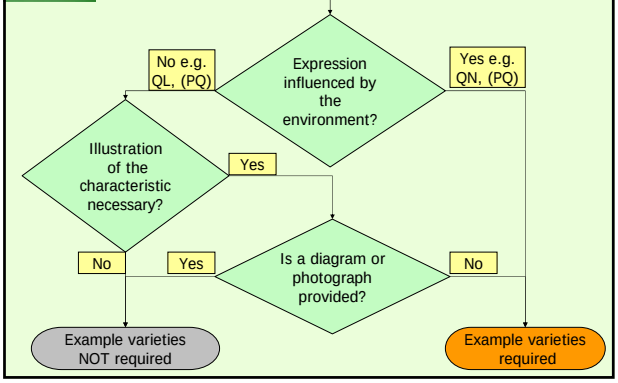
UPOV

Example Varieties versus Measurements

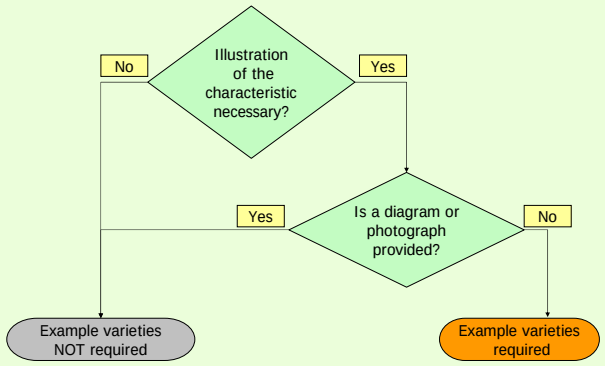


UPOV

Important for International Harmonization of Variety Descriptions?
Asterisked (*) characteristic



NOT Important for International Harmonization of Variety Descriptions?
Non-asterisked (*) characteristic



Example Varieties Fluctuation

Maintain the expression for the characteristic in relation to the other varieties in the collection

Example Varieties - availability

widely and freely available

- National Authority
- DUS examiners
- Breeders

Example Varieties number

All desired characteristics covered with the minimum number of example varieties

Example Varieties within the collection

must show the range of expression in the collection

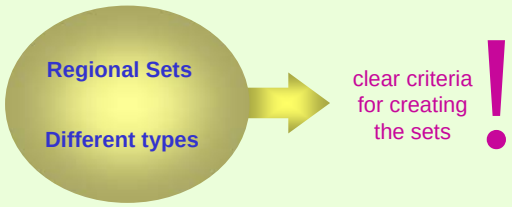
- QN
  - **3 : short**
  - **5 : medium**
  - **7 : long**
- PQ:
  - **cover the whole range**

Example Varieties - agreement

Proposed by the Leading Expert of the TG (in cooperation with interested experts)

Accepted if no objections are presented

Example Varieties - multiple sets



PRIORITY for UPOV Test Guidelines

PRIORITY for species or crops with high:

- **number of authorities receiving PBR applications;**
- **number of PBR applications;**
- **number of foreign applications received by UPOV members;**
- **economic importance;**
- **level of breeding activity**

4. TEST GUIDELINES (document TGP/7)

(f) The process for developing UPOV Test Guidelines

EXAMPLE (New Test Guidelines)

Test Guidelines: ***Plantus magnifica*** **L.**
(Common name: Alpha)

Technical Working Party: **TWX**

TWX (2005):	Alpha (proj.**1**)
TWX (2006):	Alpha (proj.**2**)
TWX (2007):	Alpha (proj.**3**)
Enlarged Editorial Committee (2008):	Alpha (proj.**4**)
Technical Committee (2008):	Alpha (proj.**5**)
Final adopted document (2008):	**TG/500/1**

Test Guidelines

- **257 Test Guidelines** adopted

but...

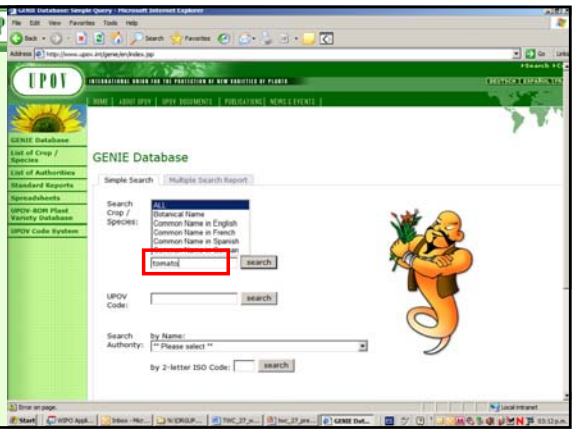
- **>2,500 genera and species** with varieties examined for PBR

5. UPOV DATABASES

Article 20 of the 1991 Act
(Variety denominations)

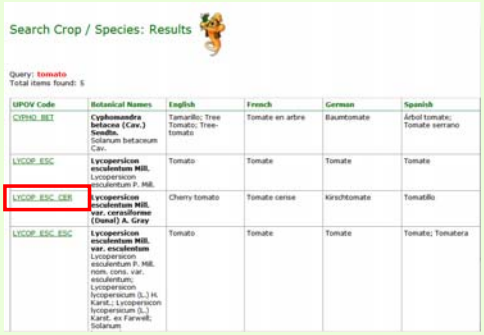
(2) [*Characteristics of the* ***denomination***]

In particular, it **must be different from every denomination** which designates, in the territory of any Contracting Party, **an existing variety** of the same plant species or of a closely related species.



GENIE Database

(Genus / species)



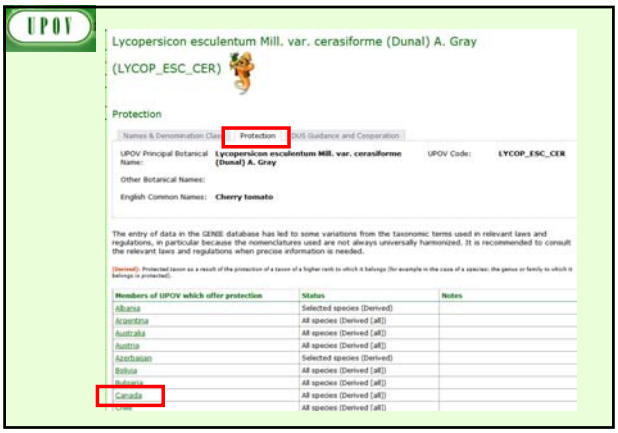
GENIE Database

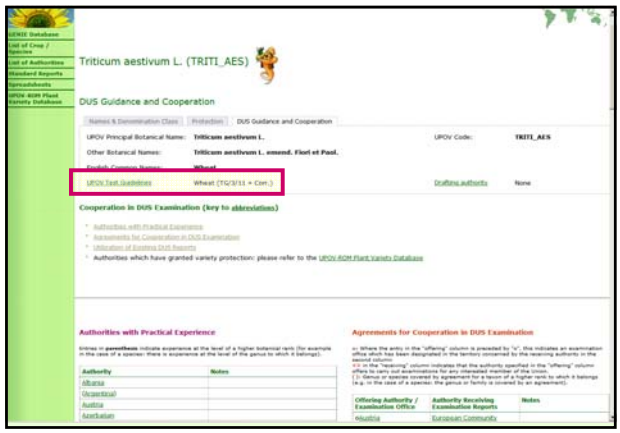
Variety denomination related information

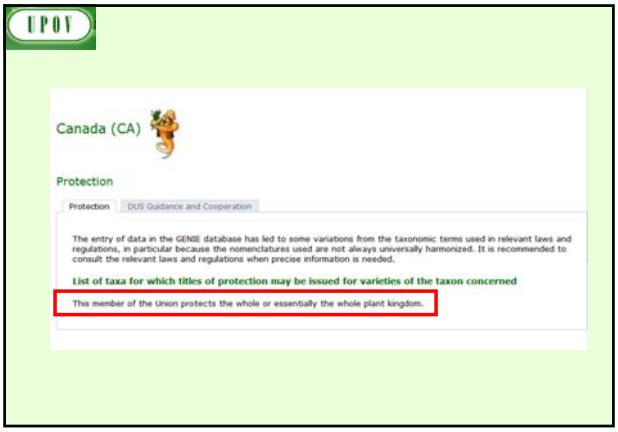
Protection offered by UPOV members

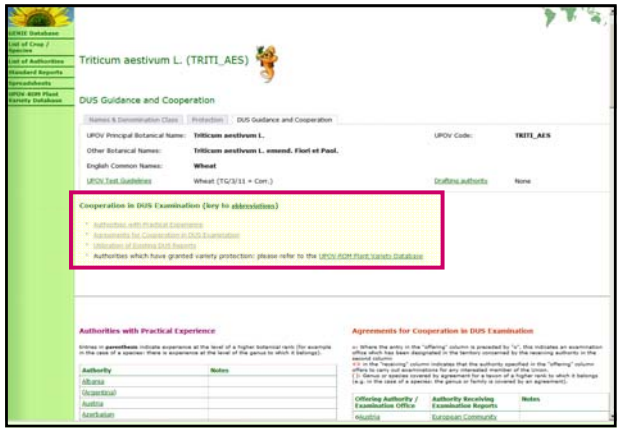
DUS information

- UPOV Test Guidelines
- practical experience of UPOV (document TC/44/4)
- cooperation in DUS examination (document C/41/5)


UPOV
Lycopersicon esculentum Mill. var. cerasiforme (Dunal) A. Gray
(LYCOP_ESC_CER)
Protection
Names & Denomination Class
Protection
DUS Guidance and Cooperation
UPOV Principal Botanical Name: Lycopersicon esculentum Mill. var. cerasiforme (Dunal) A. Gray
UPOV Code: LYCOP_ESC_CER
Other Botanical Names:
English Common Names: Cherry tomato
The entry of data in the GENIE database has led to some variations from the taxonomic terms used in relevant laws and regulations, in particular because the nomenclatures used are not always universally harmonized. It is recommended to consult the relevant laws and regulations when precise information is needed.
Members of UPOV which offer protection
Status
Notes
Albania
Selected species (Derived)
Argentina
All species (Derived [all])
Australia
All species (Derived [all])
Austria
All species (Derived [all])
Azerbaijan
Selected species (Derived)
Bolivia
All species (Derived [all])
Bulgaria
All species (Derived [all])
Canada
All species (Derived [all])


Triticum aestivum L. (TRITI_AES)
DUS Guidance and Cooperation
Names & Denomination Class
Protection
DUS Guidance and Cooperation
UPOV Principal Botanical Name: Triticum aestivum L.
UPOV Code: TRITI_AES
Other Botanical Names: Triticum aestivum L. emend. Fiori et Paol.
English Common Names: Wheat
UPOV Test Guidelines: Wheat (TG/3/11 + Corr.)
Drafting authority: None
Cooperation in DUS Examination (key to abbreviations)
Authorities with Practical Experience
Agreements for Cooperation in DUS Examination
Utilization of Existing DUS Reports
Authorities which have granted variety protection: please refer to the UPOV-ROM Plant Variety Database
Authorities with Practical Experience
Agreements for Cooperation in DUS Examination
Authority
Notes
Albania
(Argentina)
Austria
Azerbaijan
Offering Authority / Examination Office
Authority Receiving Examination Reports
Notes
Austria
European Community


UPOV
Canada (CA)
Protection
Protection
DUS Guidance and Cooperation
The entry of data in the GENIE database has led to some variations from the taxonomic terms used in relevant laws and regulations, in particular because the nomenclatures used are not always universally harmonized. It is recommended to consult the relevant laws and regulations when precise information is needed.
List of taxa for which titles of protection may be issued for varieties of the taxon concerned
This member of the Union protects the whole or essentially the whole plant kingdom.


Triticum aestivum L. (TRITI_AES)
DUS Guidance and Cooperation
Names & Denomination Class
Protection
DUS Guidance and Cooperation
UPOV Principal Botanical Name: Triticum aestivum L.
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Authorities with Practical Experience
Agreements for Cooperation in DUS Examination
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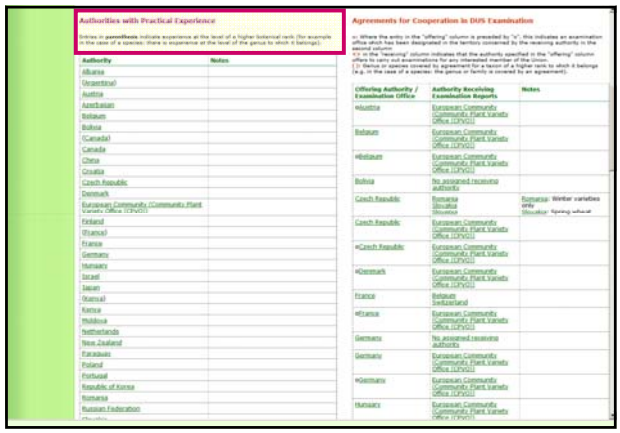
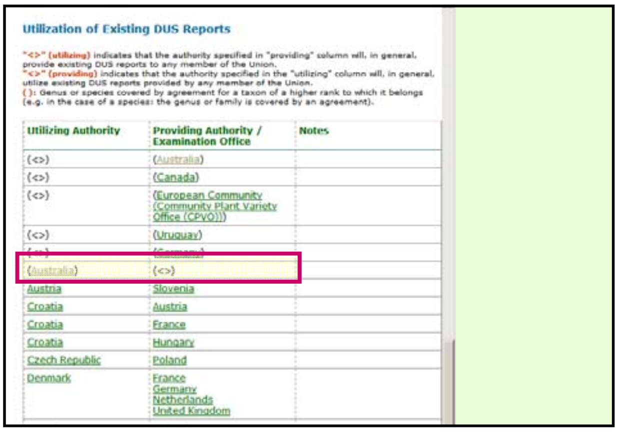
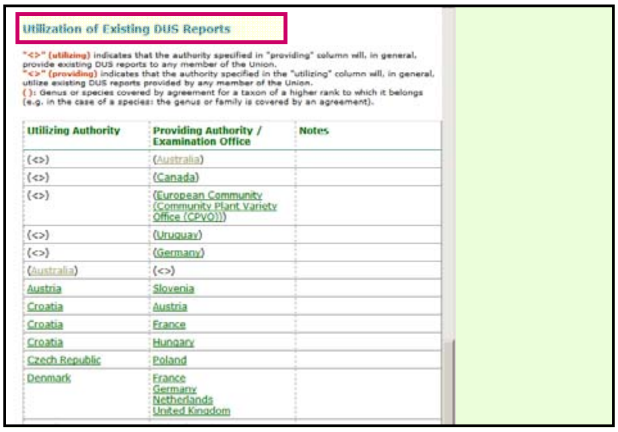
Authorities with Practical Experience
Agreements for Cooperation in DUS Examination
Authority
Notes
Albania
(Argentina)
Austria
Azerbaijan
Offering Authority / Examination Office
Authority Receiving Examination Reports
Notes
Austria
European Community


UPOV
Triticum aestivum L. (TRITI_AES)
Names & Denomination Class
Names & Denomination Class
Protection
DUS Guidance and Cooperation
UPOV Principal Botanical Name: Triticum aestivum L.
Other Botanical Names: Triticum aestivum L. emend. Fiori et Paol.
English Common Names: Wheat
French Common Names: Blé
German Common Names: Weizen
Spanish Common Names: Trigo
UPOV Code: TRITI_AES
UPOV Variety Denomination Class: CLASS 201
List of Varieties (UPOV/INF/12/1 Annex)
Family: Poaceae


Authorities with Practical Experience
Agreements for Cooperation in DUS Examination
Authority
Notes
Albania
(Argentina)
Austria
Azerbaijan
Belgium
Bolivia
(Canada)
Canada
China
Croatia
Czech Republic
Denmark
European Community (Community Plant Variety Office (CPVO))
Finland
(France)
France
Germany
Hungary
Israel
Japan
(Kenya)
Kenya
Moldova
Netherlands
New Zealand
Paraguay
Poland
Portugal
Republic of Korea
Romania
Russian Federation
Offering Authority / Examination Office
Authority Receiving Examination Reports
Notes
Austria
European Community Community Plant Variety Office (CPVO))
Belgium
European Community Community Plant Variety Office (CPVO))
Bolivia
No assigned receiving authority
Czech Republic
Romania (Bivolica)
Romania: Winter varieties only
Slovakia: Spring wheat
Czech Republic
European Community Community Plant Variety Office (CPVO))
Denmark
European Community Community Plant Variety Office (CPVO))
France
Belgium
Switzerland
France
European Community Community Plant Variety Office (CPVO))
Germany
No assigned receiving authority
Germany
European Community Community Plant Variety Office (CPVO))
Germany
European Community Community Plant Variety Office (CPVO))
Hungary
European Community Community Plant Variety Office (CPVO))


Authorities with Practical Experience
Agreements for Cooperation in DUS Examination


Utilization of Existing DUS Reports
"<>" (utilizing) indicates that the authority specified in "providing" column will, in general, provide existing DUS reports to any member of the Union.
"<>" (providing) indicates that the authority specified in the "utilizing" column will, in general, utilize existing DUS reports provided by any member of the Union.
( ): Genus or species covered by agreement for a taxon of a higher rank to which it belongs (e.g. in the case of a species: the genus or family is covered by an agreement).
Utilizing Authority
Providing Authority / Examination Office
Notes
(<>) (Australia)
(<>) (Canada)
(<>) (European Community (Community Plant Variety Office (CPVO)))
(<>) (Uruguay)
(Australia) (<>)
Austria Slovenia
Croatia Austria
Croatia France
Croatia Hungary
Czech Republic Poland
Denmark France Germany Netherlands United Kingdom


Utilization of Existing DUS Reports
"<>" (utilizing) indicates that the authority specified in "providing" column will, in general, provide existing DUS reports to any member of the Union.
"<>" (providing) indicates that the authority specified in the "utilizing" column will, in general, utilize existing DUS reports provided by any member of the Union.
( ): Genus or species covered by agreement for a taxon of a higher rank to which it belongs (e.g. in the case of a species: the genus or family is covered by an agreement).
Utilizing Authority
Providing Authority / Examination Office
Notes
(<>) (Australia)
(<>) (Canada)
(<>) (European Community (Community Plant Variety Office (CPVO)))
(<>) (Uruguay)
(<>) (Germany)
(Australia) (<>)
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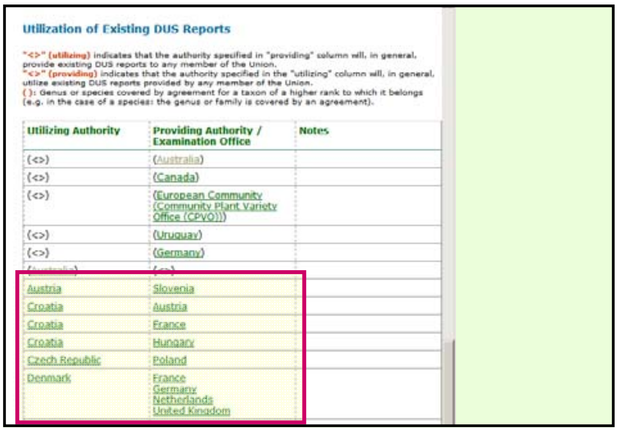
Croatia Austria
Croatia France
Croatia Hungary
Czech Republic Poland
Denmark France Germany Netherlands United Kingdom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Croatia France
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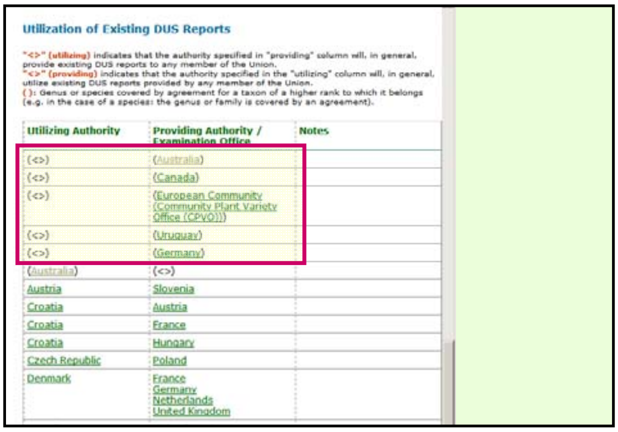
Denmark France Germany Netherlands United Kingdom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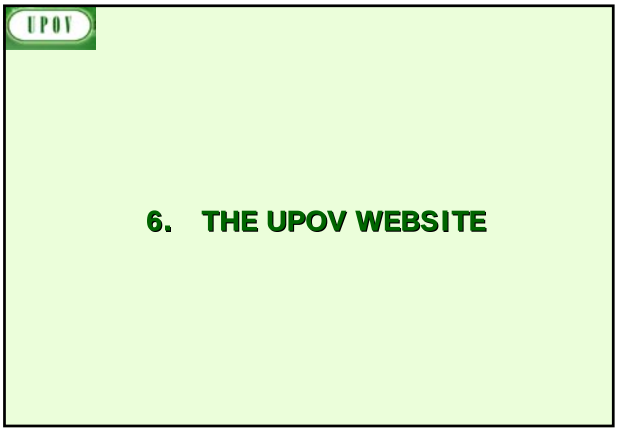
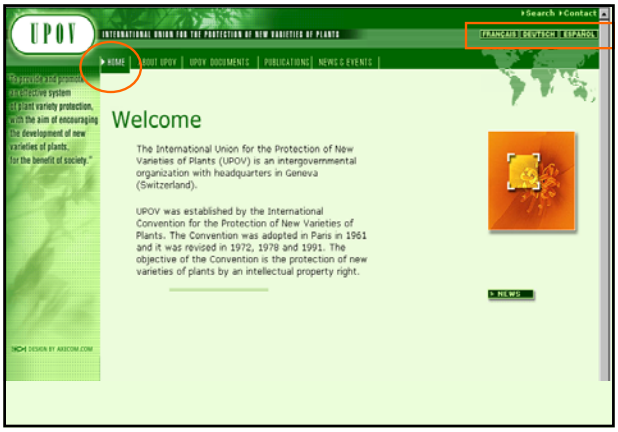
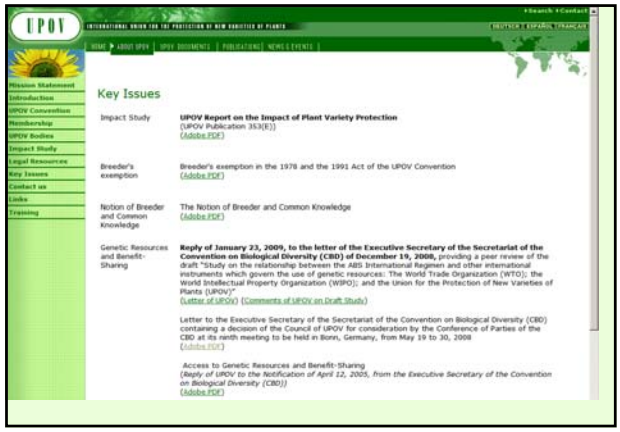

UPOV
6. THE UPOV WEBSITE

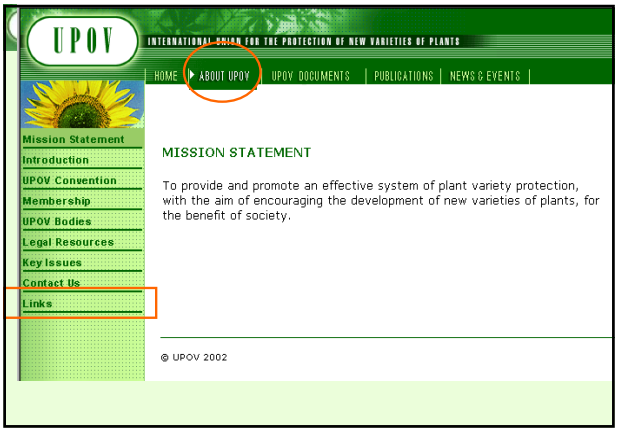
UPOV Website

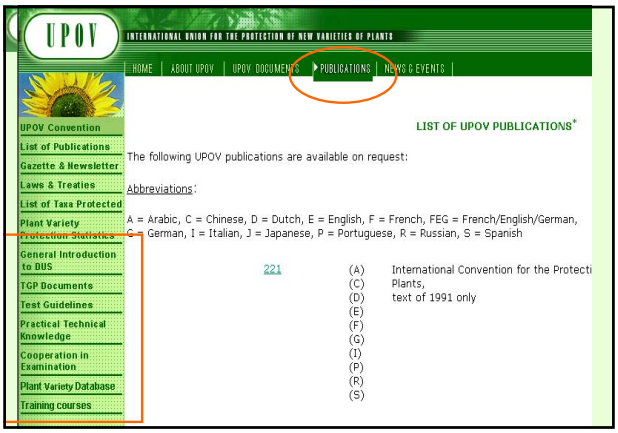
http://www.upov.int

(e-mail: upov.mail@upov.int)








UPOV
INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
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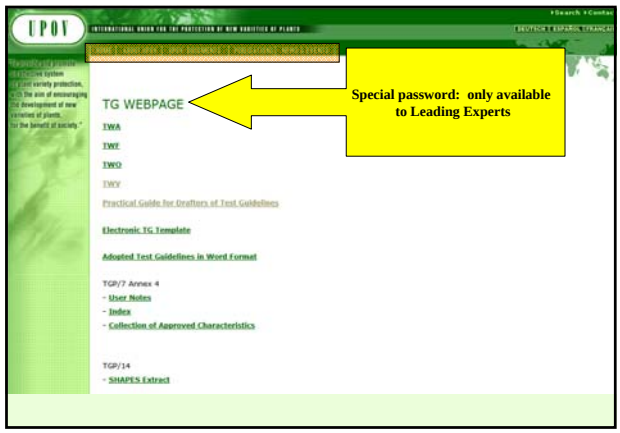
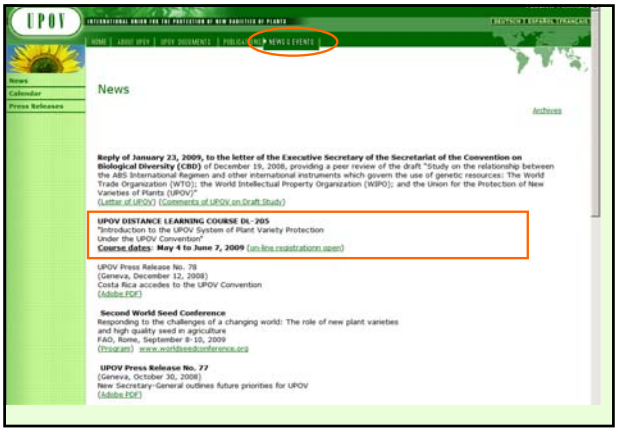
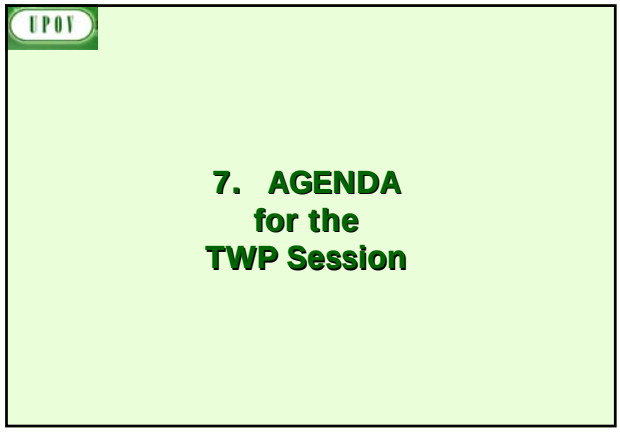
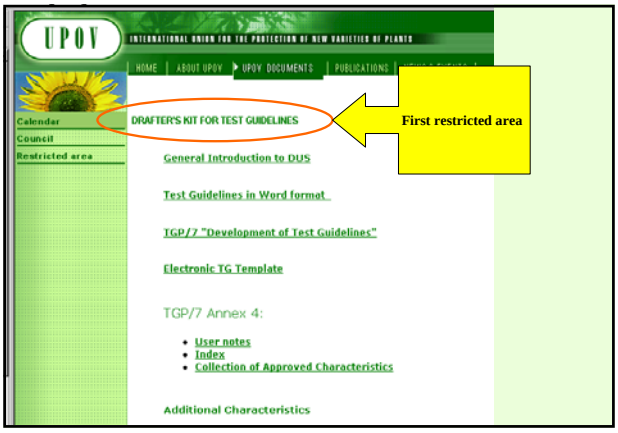
UPOV Convention
List of Publications
Gazette & Newsletter
Laws & Treaties
List of Taxa Protected
Plant Variety Protection Statistics
General Introduction to DUS
TGP Documents
Test Guidelines
Practical Technical Knowledge
Cooperation in Examination
Plant Variety Database
Training courses
LIST OF UPOV PUBLICATIONS*
The following UPOV publications are available on request:
Abbreviations:
A = Arabic, C = Chinese, D = Dutch, E = English, F = French, FEG = French/English/German,
G = German, I = Italian, J = Japanese, P = Portuguese, R = Russian, S = Spanish
221
(A) International Convention for the Protecti
(C) Plants,
(D) text of 1991 only
(E)
(F)
(G)
(I)
(P)
(R)
(S)


UPOV
TG WEBPAGE
Special password: only available to Leading Experts
TWA
TWF
TWO
TWV
Practical Guide for Drafters of Test Guidelines
Electronic TG Template
Adopted Test Guidelines in Word Format
TGP/7 Annex 4
- User Notes
- Index
- Collection of Approved Characteristics
TGP/14
- SHAPES Extract


UPOV
News
Archives
Reply of January 23, 2009, to the letter of the Executive Secretary of the Secretariat of the Convention on Biological Diversity (CBD) of December 19, 2008, providing a peer review of the draft "Study on the relationship between the ABS International Regimen and other international instruments which govern the use of genetic resources: The World Trade Organization (WTO); the World Intellectual Property Organization (WIPO); and the Union for the Protection of New Varieties of Plants (UPOV)"
(Letter of UPOV) (Comments of UPOV on Draft Study)
UPOV DISTANCE LEARNING COURSE DL-205
"Introduction to the UPOV System of Plant Variety Protection Under the UPOV Convention"
Course dates: May 4 to June 7, 2009 (on-line registrations open)
UPOV Press Release No. 78
(Geneva, December 12, 2008)
Costa Rica accedes to the UPOV Convention
(Adobe PDF)
Second World Seed Conference
Responding to the challenges of a changing world: The role of new plant varieties and high quality seed in agriculture
FAO, Rome, September 8-10, 2009
(Program) www.worldseedconference.org
UPOV Press Release No. 77
(Geneva, October 30, 2008)
New Secretary-General outlines future priorities for UPOV
(Adobe PDF)


UPOV
7. AGENDA
for the
TWP Session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DRAFTER'S KIT FOR TEST GUIDELINES
First restricted area
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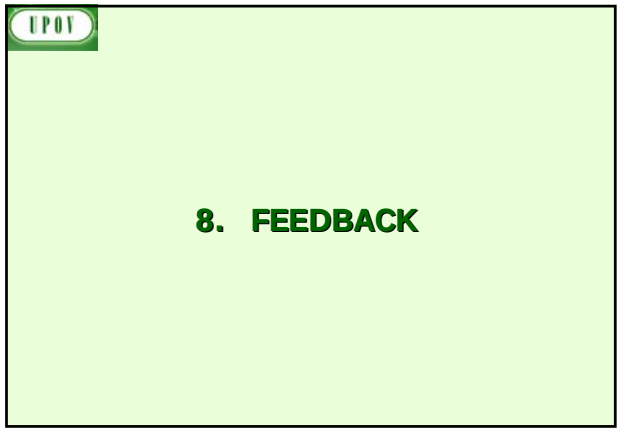
Electronic TG Template
TGP/7 Annex 4:
User notes
Index
Collection of Approved Characteristics
Additional Characteristics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8. FEEDBACK


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THANK YOU