

TECHNICAL WORKING PARTY FOR VEGETABLES

Forty-third Session
Beijing, China 2009

PREPARATORY WORKSHOP

April 19, 2009

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 (F/M; 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

1. INTRODUCTION TO UPOV

UPOV

The International **Convention** for the
Protection of New Varieties of Plants

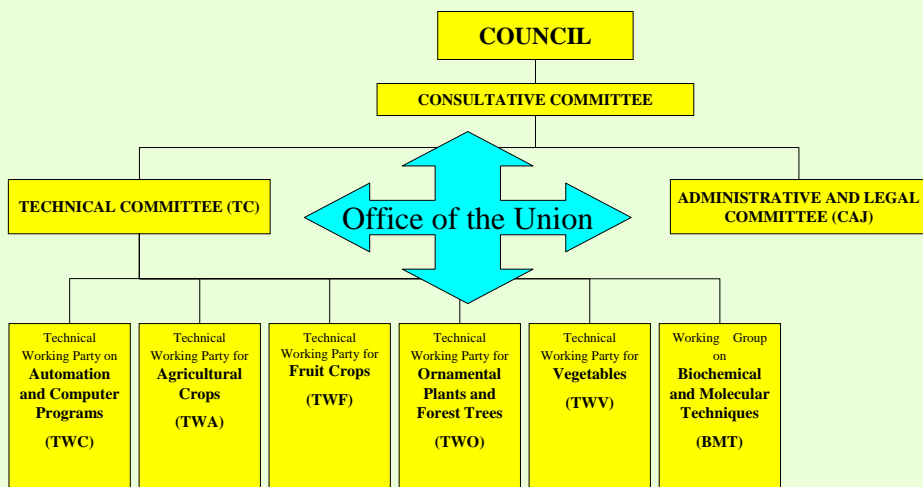
established in 1961

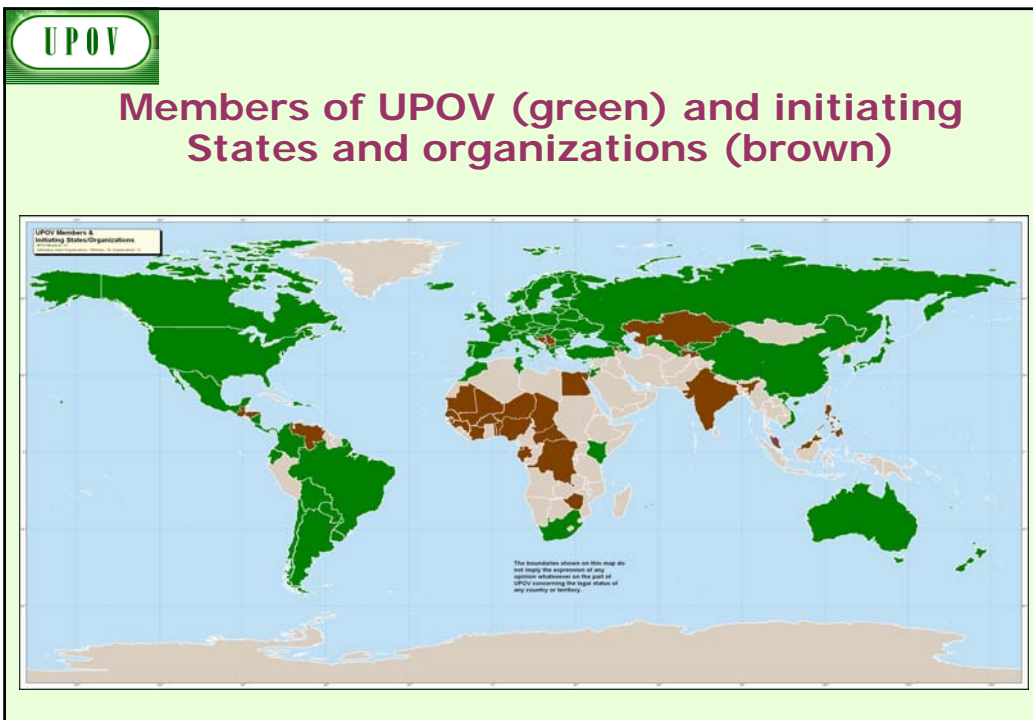
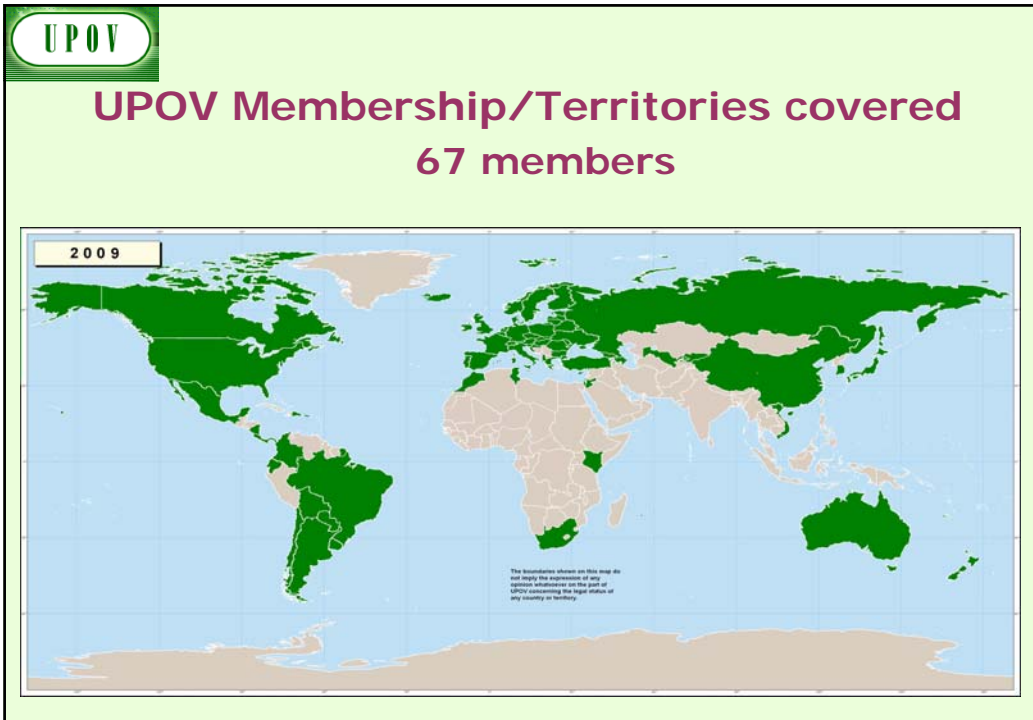
The International **Union** for the Protection
of New Varieties of Plants

Union internationale pour la
protection des **o**btentions **v**égétales

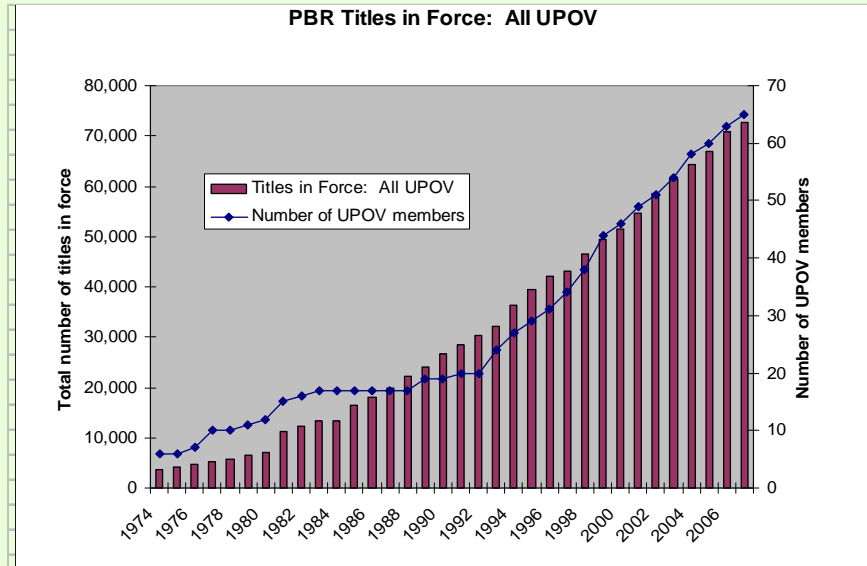
- **Members of the Union**
 - States
 - Intergovernmental Organization(s)
- **Organs established by the Convention**
 - Council
 - Office of the Union
- **Other Bodies**

UPOV Structure



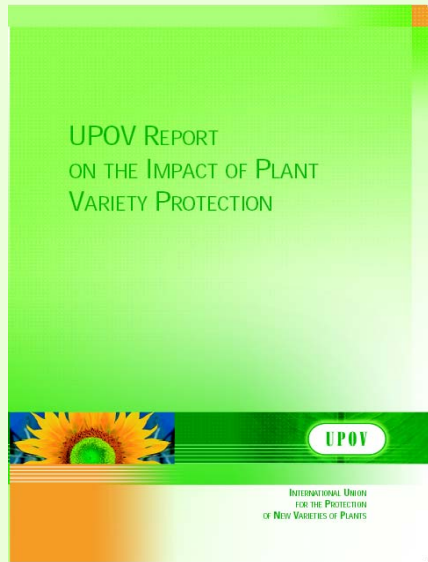


Development of Plant Variety Protection



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*”



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

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

THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

Criteria to be satisfied

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



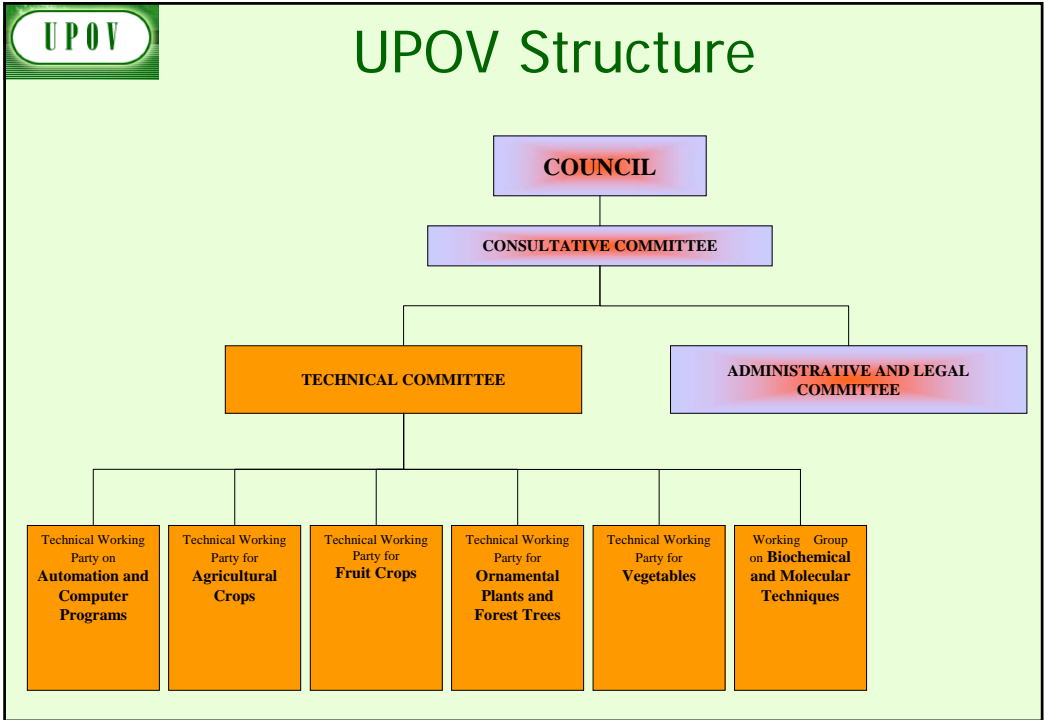
"DUS"

THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

Other conditions

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

NO OTHER CONDITIONS!



UPOV

3. OVERVIEW OF THE GENERAL INTRODUCTION

(DOCUMENT TG/1/3 AND TGP DOCUMENTS)

GUIDANCE FOR DUS EXAMINATION

Guidance for DUS Examination

facilitates:

BEST PRACTICE (based on experience)

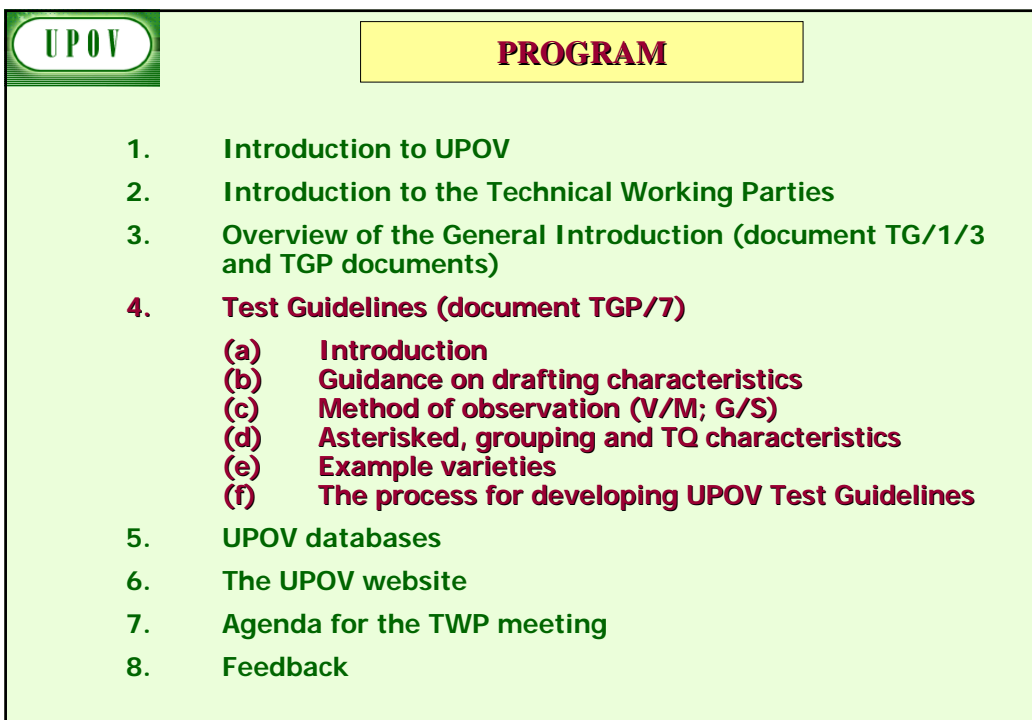
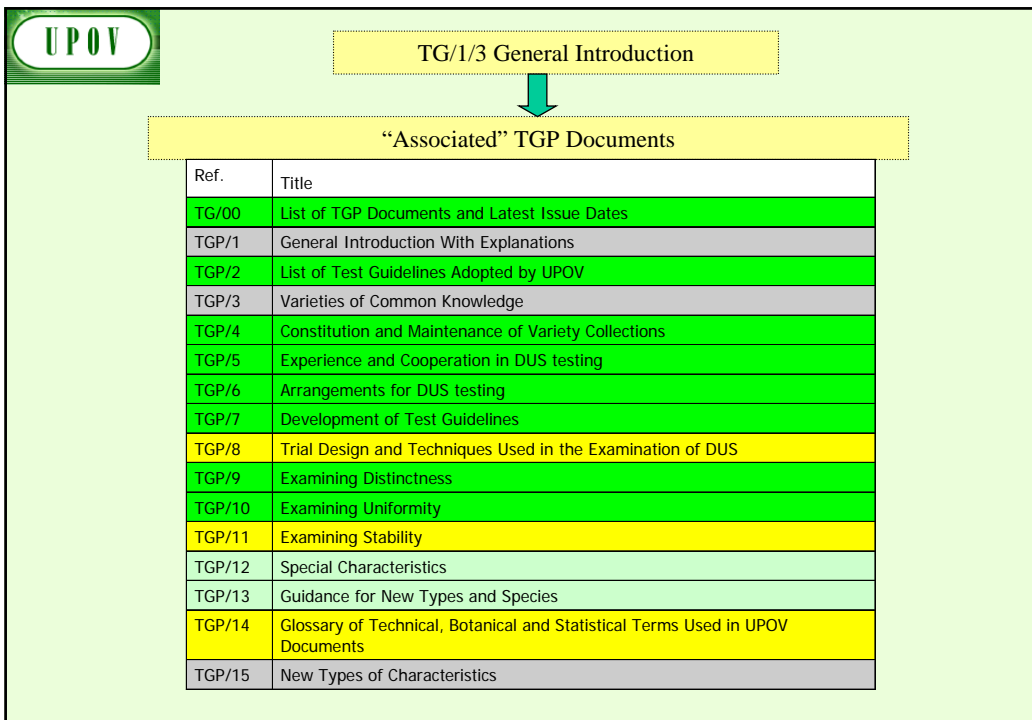
- = > good decisions
- = > good definition of the object of protection
(strong protection)
- = > efficiency in method of examination (learn from the best)

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

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**

UPOV

E

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

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

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

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

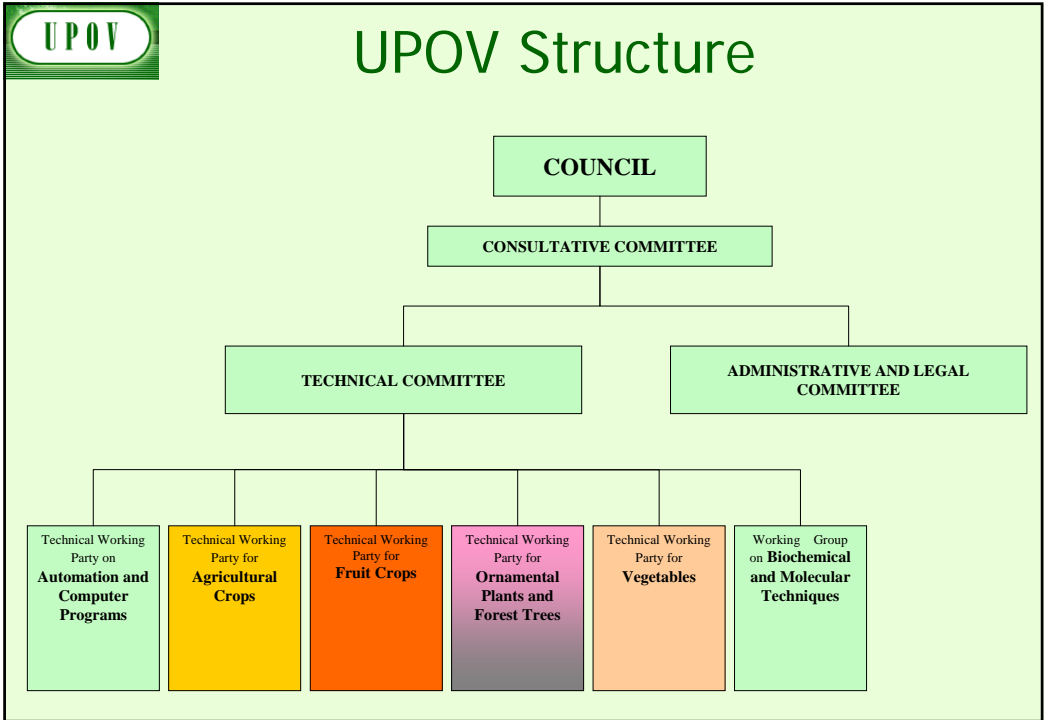
Alternative Names:^{*}

<i>Latin</i>	<i>English</i>	<i>French</i>	<i>German</i>	<i>Spanish</i>
<i>Opuntia</i> , Group 1	Cactus pear, Prickly pear	Figuier de Barbarie	Felgenkaktus	Chumbera, Nopal tunero, Tuna
<i>Opuntia</i> , 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.]



TGP/7

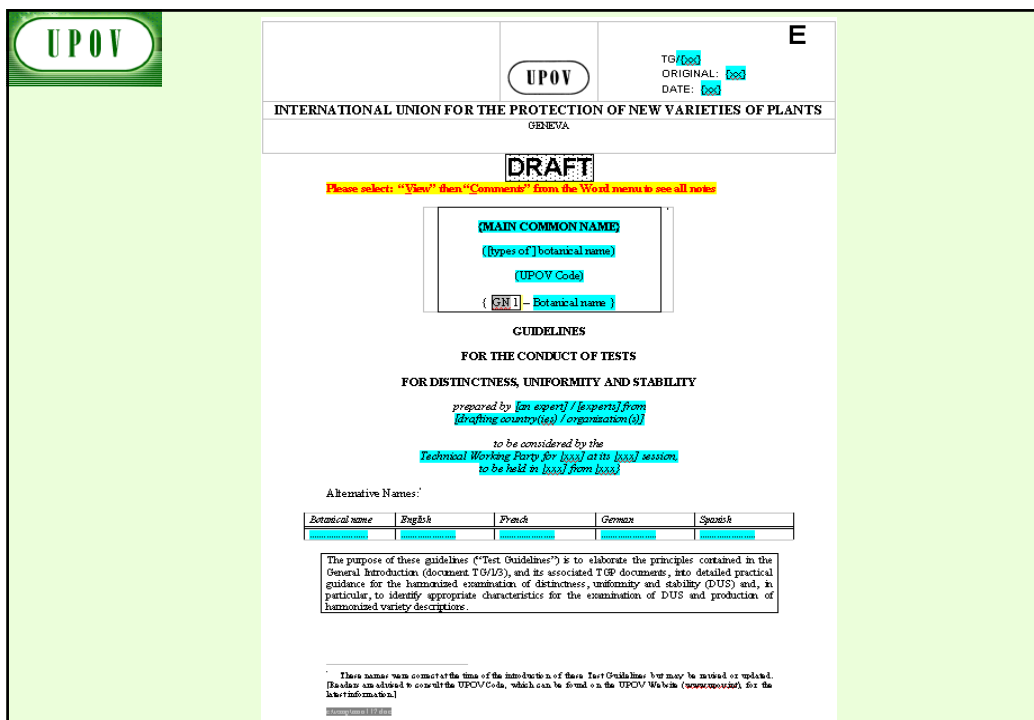
“Development of Test Guidelines”

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



UPOV

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

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

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

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

Etc.

UPOV			
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	

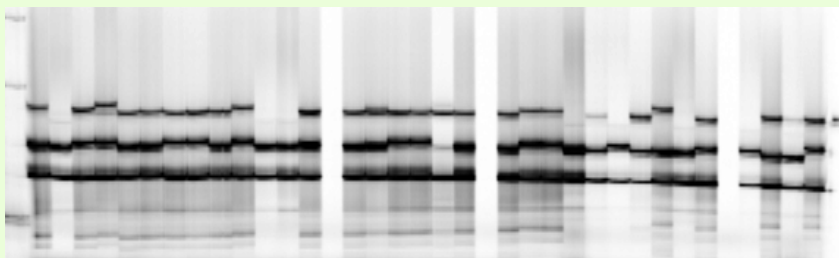
UPOV			
Selection of Characteristics			
Criteria	Fruit: color	Leaf: shape	Yield
(a) results from a given genotype or combination of genotypes	Yes	Yes	Yes
(b) sufficiently consistent and repeatable in a particular environment	Yes	Yes	(No)
(c) exhibits sufficient variation between varieties to be able 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

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
	<i>Difficult and expensive</i>



Molecular Techniques?



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

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

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	Inuppink	1
	semi-upright	semi dressé	halbaufrrecht	semierecto	D0158-1	2
	spreading	étalé	breitwüchsig	abierto	Sunnem 03	3
	semi-trailing	semi-étalé	halbhängend	semirastrero	Inupsaf	4
	trailing	coureux	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	Inuppink	7

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)).

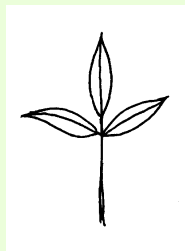
These states are self-explanatory and independently meaningful. All states are necessary to describe the full range of the characteristic, and every form of expression can be described by a single state. The order of states is not important. As a rule, the **characteristics are not influenced by environment**.

Qualitative characteristic

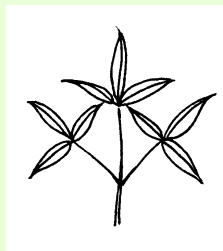
Clematis: Leaf: type



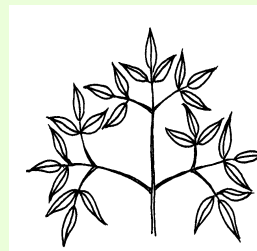
1
simple



2
ternate



3
biternate



4
triternate

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

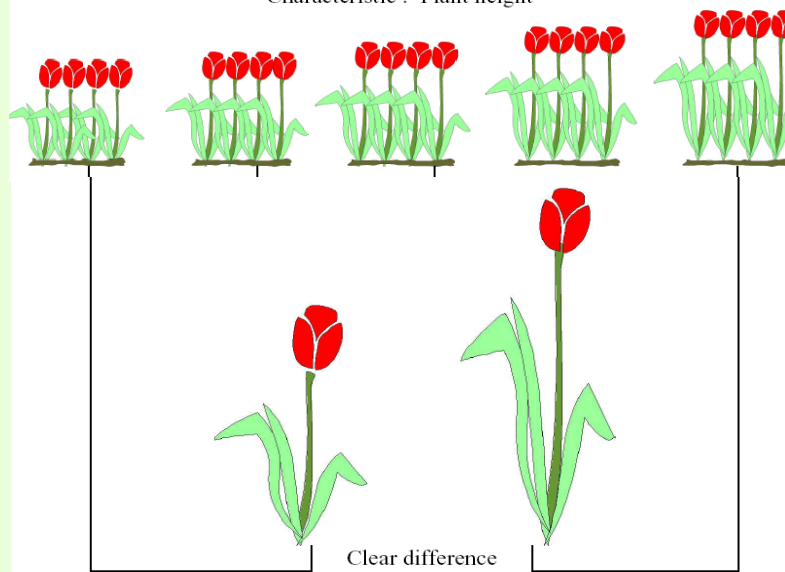
“Quantitative characteristics” are those where the expression covers the full range of variation from one extreme to the other. The **expression can be recorded on a one-dimensional, continuous or discrete, linear scale**. The range of expression is divided into a number of states for the purpose of 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 Characteristics: distinctness

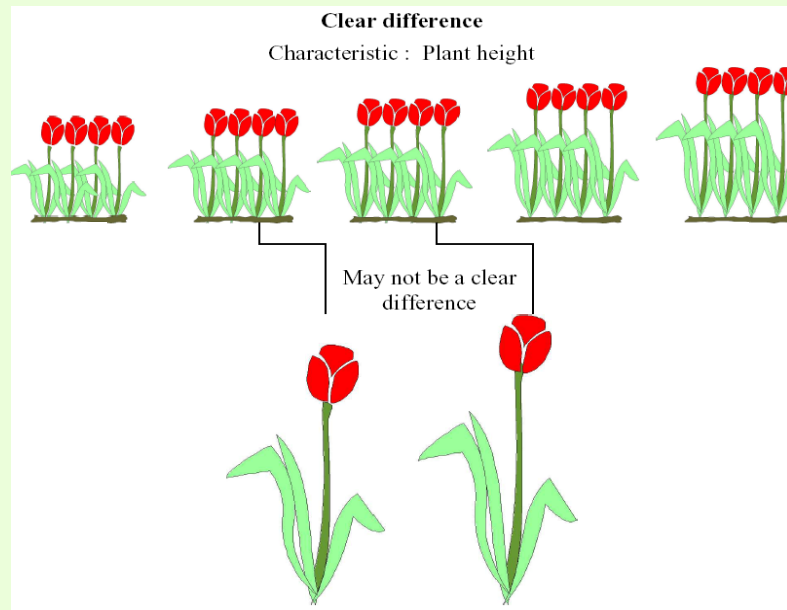
Quantitative characteristics are considered for distinctness according to the method of observation and the features of propagation of the variety concerned...

Quantitative Characteristic

Clear difference
Characteristic : Plant height



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.

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 Characteristics: distinctness

TG/233/1
Diascia/Diascie, 2007-03-28
- 9 -

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
6. (a) Leaf blade: length (*)						
QN	short	courte	kurz	corto	Coditer, Strawberry Sundae	3
	medium	moyenne	mittel	medio	Codusre	5
	long	longue	lang	largo	Balwhislapi, Balwhiswhit	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
Diascia/Diascie, 2007-03-28
- 9 -

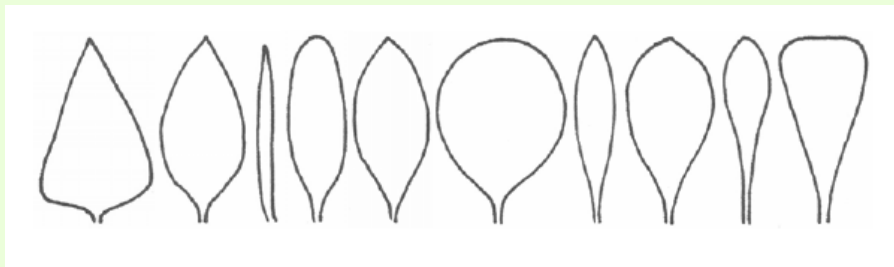
	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
5. Stem: anthocyanin coloration below inflorescence						
QN	absent or weak	absente ou faible	fehlend oder gering	ausente o débil	Heccharm	1
	medium	moyenne	mittel	media	Hecrace	2
	strong	forte	stark	fuerte		3

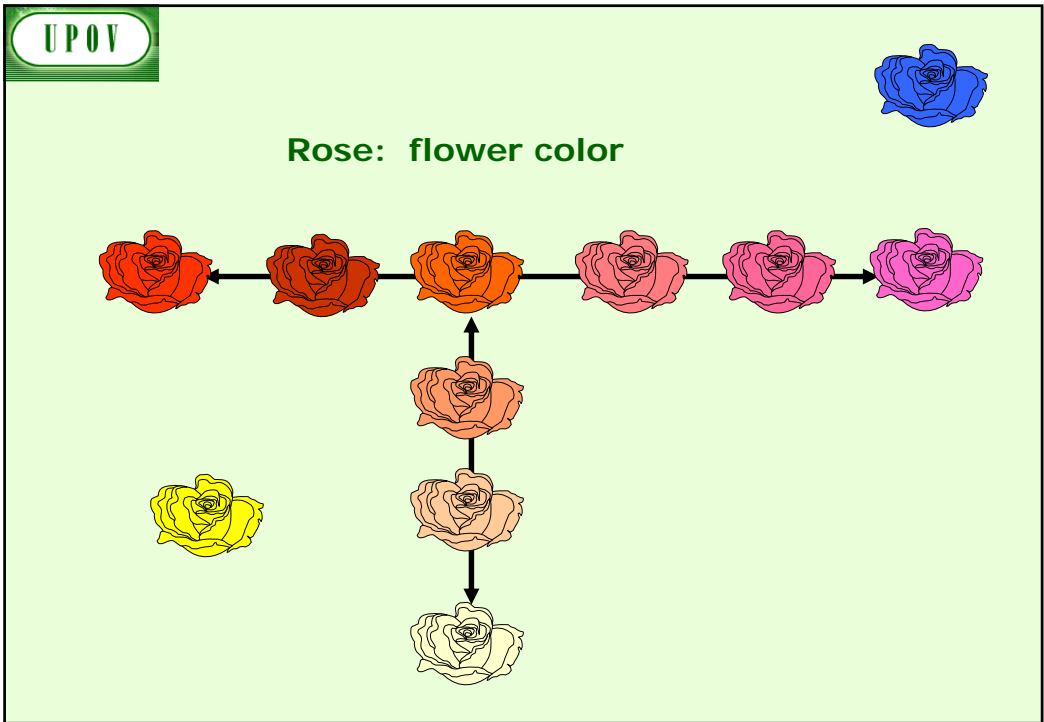
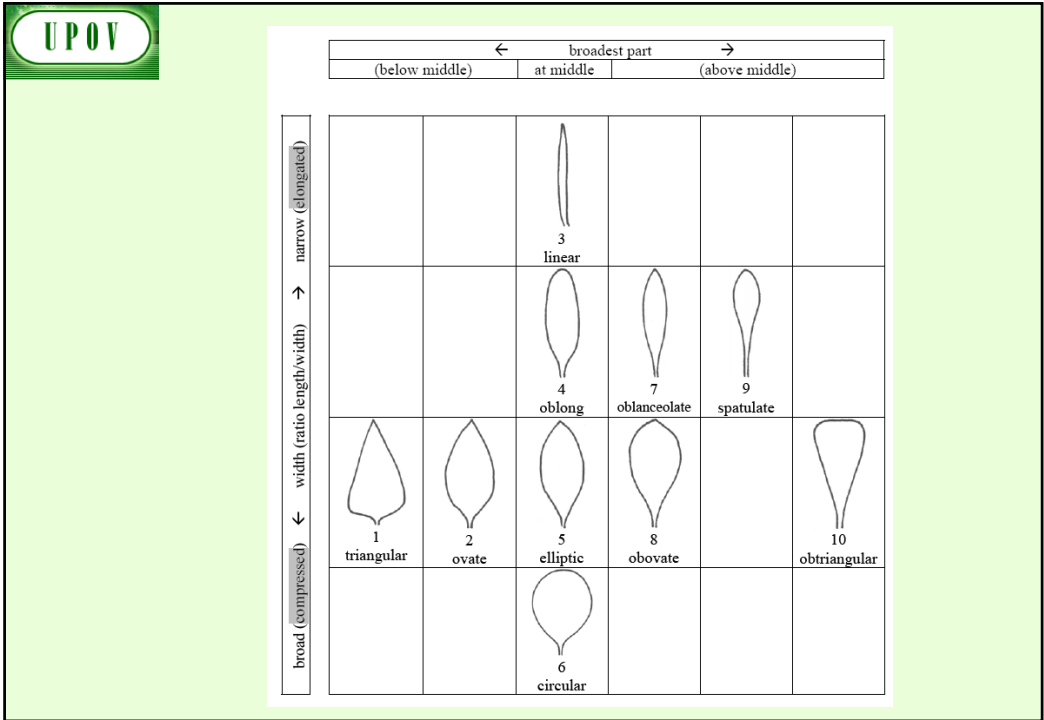
1 to 3 scale: only Notes 1 and 3 represent a clear difference

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.

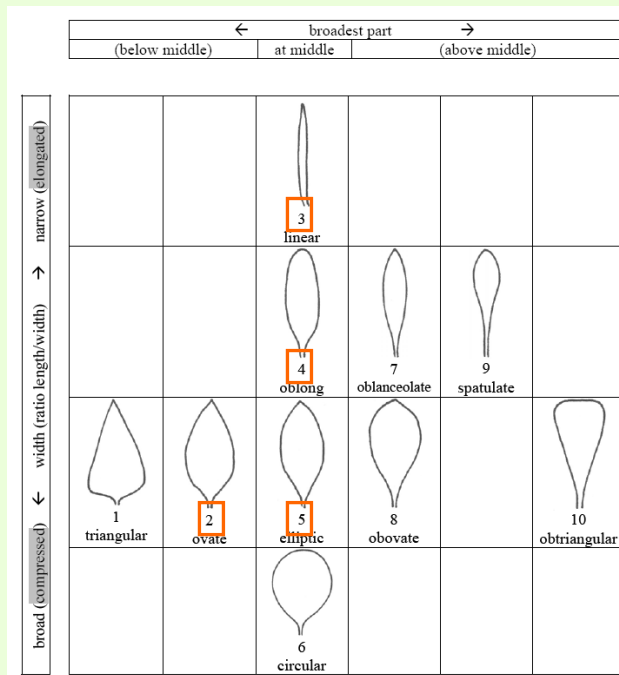
Example





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.



STATES / NOTES for QL, QN ,PQ

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		



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 C						
QL		diploid					2
		tetraploid					4
3. (*)	VG Stem: anthocyanin coloration						
QL		absent				Gumpoong	1
		present				Chunpoong, Gopoong	9



Quantitative Characteristics

weak/strong
short/long
small/large

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



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

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 <i>(absent or very weakly expressed)</i>
2	weak <i>(weakly expressed)</i>
3	strong <i>(strongly expressed)</i>

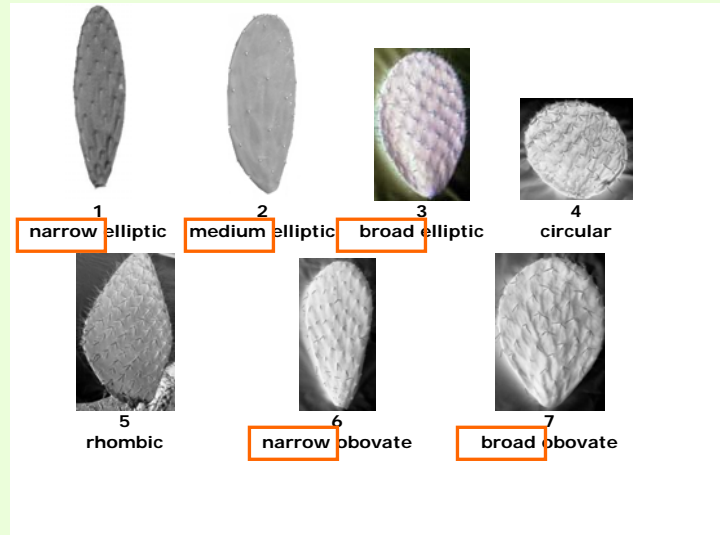
Example 2	
1	e.g. absent or weak <i>(absent or weakly expressed)</i>
2	moderate (or medium) <i>(moderately expressed)</i>
3	strong <i>(strongly expressed)</i>

Pseudo-qualitative Characteristics

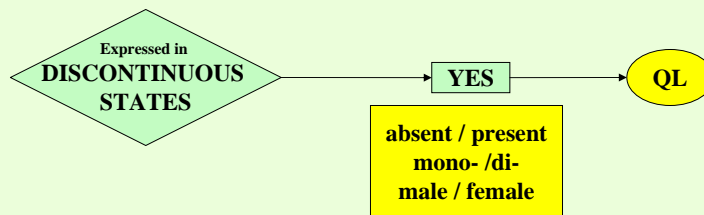
(typical examples)

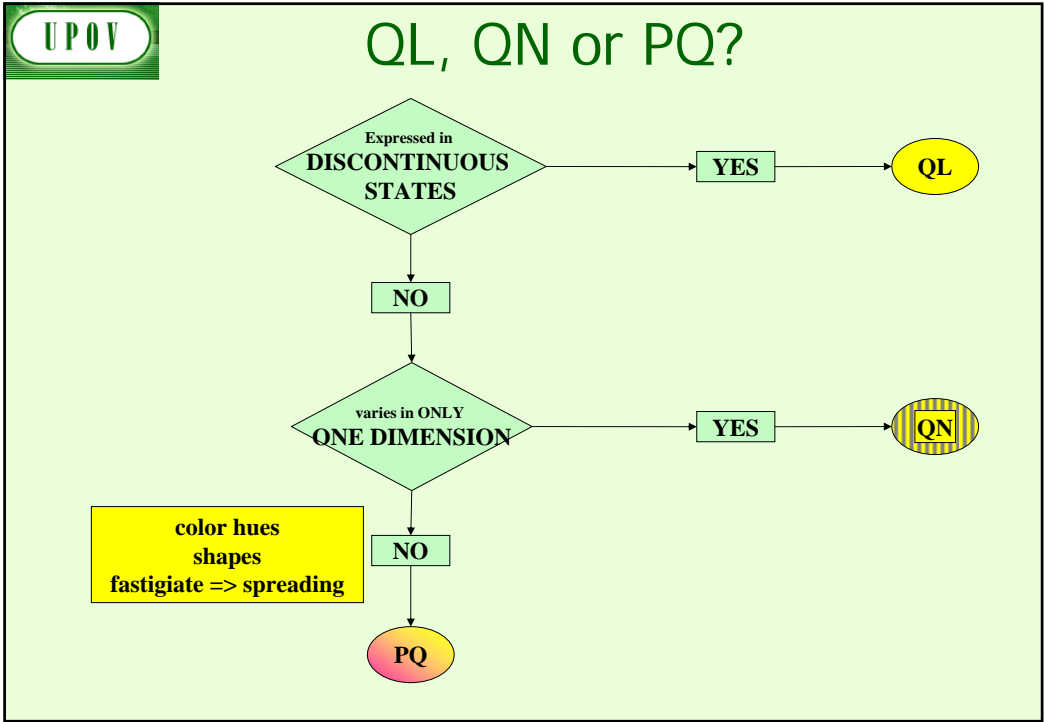
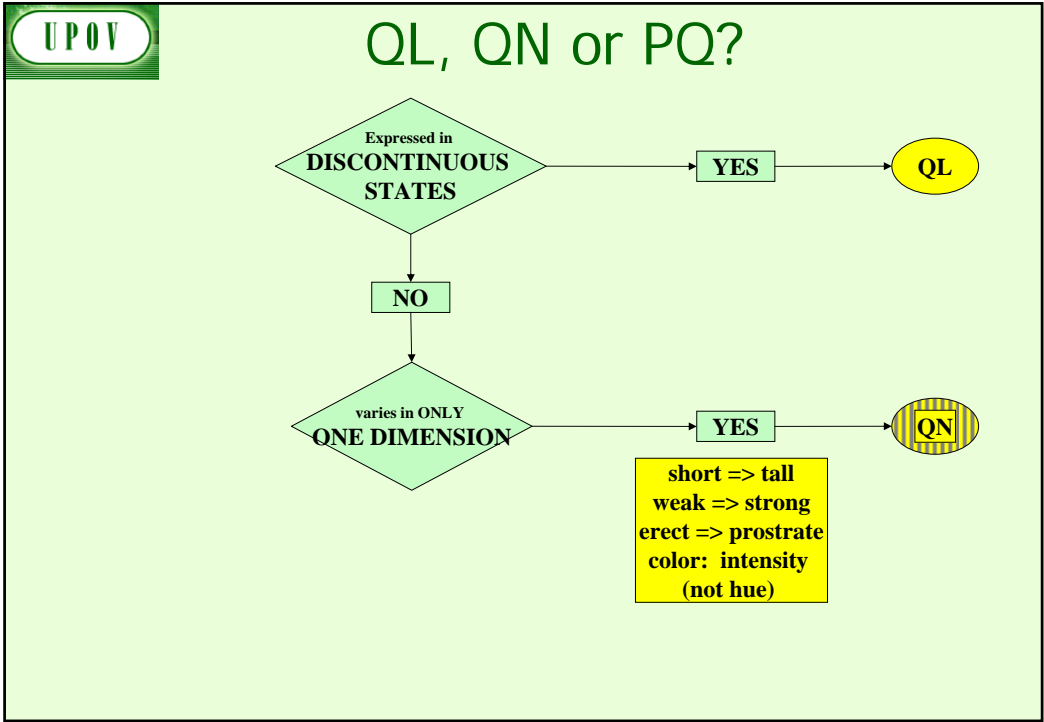
24. Flower: color of the center (+)	Fleur: couleur du centre	Farbe der Mitte	Flor: color del centro	
PQ green	vert	grün	verde	1
yellow	jaune	gelb	amarillo	2
orange	orange	orange	naranja	3
pink	rose	rosa	rosa	4
red	rouge	rot	rojo	5
purple	pourpre	purpurn	púrpura	6

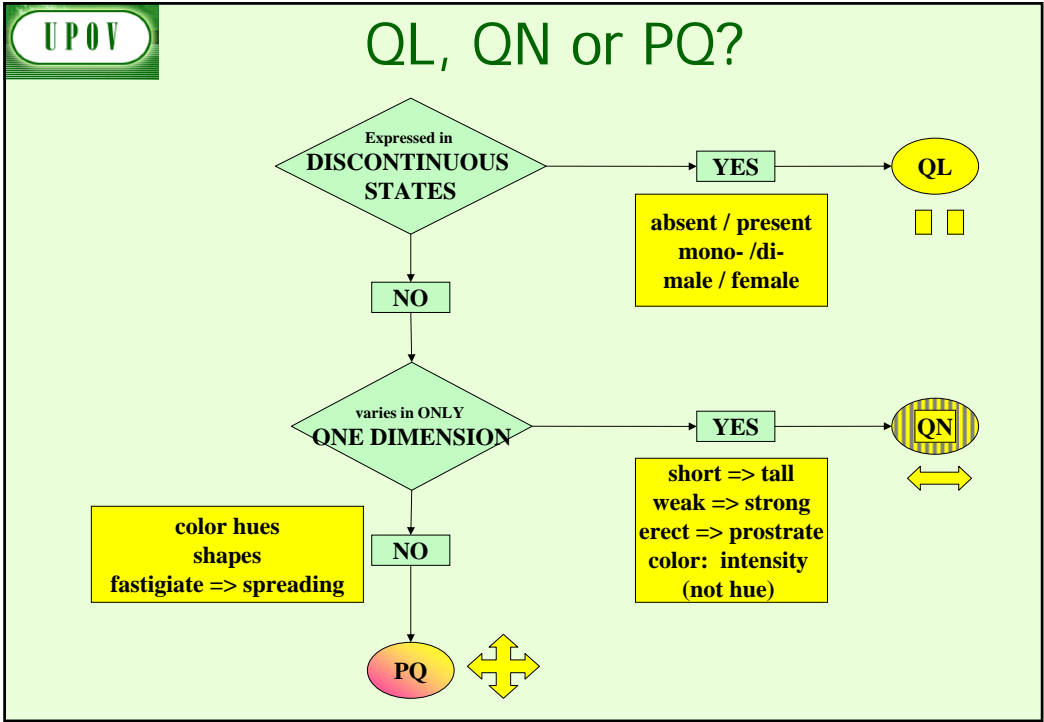
Opuntia: Shape of Cladode



QL, QN or PQ?







UPOV

EXERCISE

(a) What type of Expression?**QL:** Qualitative**QN:** Quantitative**PQ:** Pseudo-qualitative**(b) Which Notes represent a clear difference?**

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

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

4. Petal: color

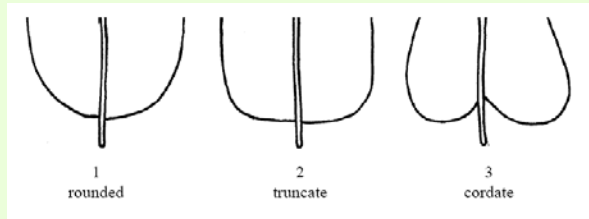
white	1
yellow	2
orange	3
red	4
pink	5
purple	6

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

light	3
medium	5
dark	7

6. Leaf blade: shape of base

rounded	1
truncate	2
cordate	3



7. Petal: color

RHS Colour Chart
(indicate reference
number)

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)**

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**.

(for the purposes of distinctness)

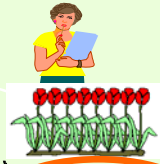
G: **single record** for a variety, or a **GROUP of plants** or parts of plants;

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 ...

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

Section 4.3.2.3
Example (VG): Flower: type
(tulip: vegetatively propagated)



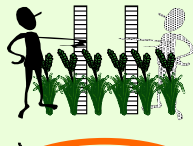
single variety record

Section 4.3.2.3
Example (VG): Lowest leaf: hairiness of leaf sheaths
(barley: self-pollinated)



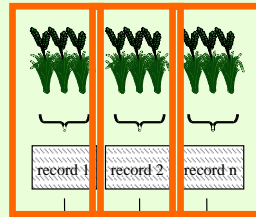
single variety record

Section 4.3.2.3
Example (MG): Plant: height
(wheat: self-pollinated)



single variety record

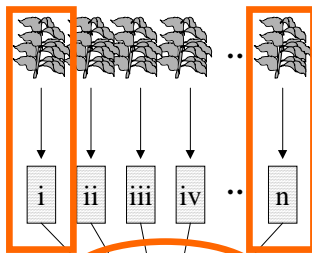
Section 4.3.2.4
Example: (statistical analysis)



variety mean / statistical analysis of individual group data

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

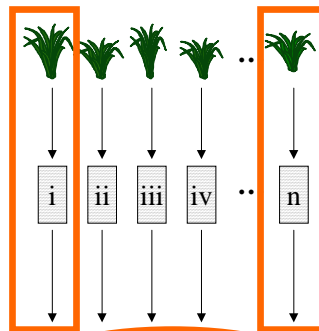
Section 4.3.3.1
Example (MS): Leaflet: length
(pea: self-pollinated)



calculation of mean

variety mean

Section 4.3.3.2
Example (MS): Plant: natural height
Example (VS): Plant: growth habit
(ryegrass: cross-pollinated)



Statistical analysis of individual plant data

EXERCISE**MG ?****MS ?****VG ?****VS ?**

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

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

UPOV			
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

7. Plant: vegetative growth habit (without vernalization)

QN	erect	1
	semi-erect	3
	medium	5
	semi-prostrate	7
	prostrate	9

4. TEST GUIDELINES (document TGP/7)

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

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.	<p>1.Must satisfy the criteria for use of any characteristic for DUS as set out in Chapter 4, section 4.2.</p> <p>2.Must have been used to develop a variety description by at least one member of the Union.</p> <p>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.</p>

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
(*)	Plant: growth habit	Plante : port	Pflanze: Wuchsform	Planta: porte		
QN	upright	dressé	aufrecht	erecto	Inuppink	1
	semi-upright	semi dressé	halbaufrecht	semierecto	D0158-1	2
	spreading	étalé	breitwüchsig	abierto	Sunnem 03	3
	semi-trailing	semi-étalé	halbhängend	semirrastrero	Inupsaf	4
	trailing	coureux	hängend	rastrero	Organza	5

Asterisked Characteristic

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

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

Grouping Characteristic

Function	Criteria
<p>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:</p> <ol style="list-style-type: none"> 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 	<ol style="list-style-type: none"> 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.

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**.

4. TEST GUIDELINES (document TGP/7)

(e) Example varieties

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 (*)	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 (+)	Seedling: anthocyanin coloration	Plantule: pigmentation anthocyanique	Keimpflanze: Anthocyanfärbung	Plántula: pigmentación antocianica		
	absent	absente	fehlend	ausente	Verpia	1
	present	présente	vorhanden	presente	Pirat	9
3. Seedling: size of cotyledon (fully developed)	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

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
14. VG Leaf blade: intensity of purplish color of lower side	Leaf blade: intensity of purplish color of lower side	Limbe: intensité de la couleur pourpre de la face inférieure	Blattspreite: Intensität der Purpurfarbe der Unterseite	Limbo: intensidad del color púrpúreo 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	Leaf blade: profile	Limbe: profil	Blattspreite: Profil	Limbo: perfil		
QN (a)	concave	concave	konkav	cóncavo	Perro	3
	plane	plan	flach	plano	Pergro, Saeyeupsil	5
	convex	convexe	konvex	convexo		7

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

	English	français	deutsch	español	Example Varieties/ Ejemplos/ Beispielsorten/ Variedades ejemplo	Note/ Nota
1. (*) (+)	Plant: growth type	Plante: type de croissance	Pflanze: Wuchstyp	Planta: tipo de crecimiento		
QL (a)	basal clusters	en amas à la base	basale Büschel	en racimos basales		1
	bushy	buissonnant	buschig	arbusivo		2
2. (+)	Only varieties with bushy growth type: Plant: predominant attitude of stems	Variétés à type de croissance buissonnant: Plante: attitude prédominante des tiges	Nur Sorten mit buschigem Wuchstyp: Pflanze: vorwiegende Haltung der Triebe	Sólo variedades con tipo de crecimiento arbusivo: Planta: porte predominante de los tallos		
QN (a)	upright	dressées	aufrecht	erecto		1
	semi upright	demi-dressées	halbaufrecht	semierecto		3
	horizontal	horizontales	waagrecht	horizontal		5
3.	Only varieties with bushy growth type: Plant: number of stems	Variétés à type de croissance buissonnant: Plante: nombre de tiges	Nur Sorten mit buschigem Wuchstyp: Pflanze: Anzahl Triebe	Sólo variedades con tipo de crecimiento arbusivo: 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	Breakoday	5
	tall	elevée	hoch	larga	Happy Face Pink	7

Example Varieties: the Objective

Clarify states of expression

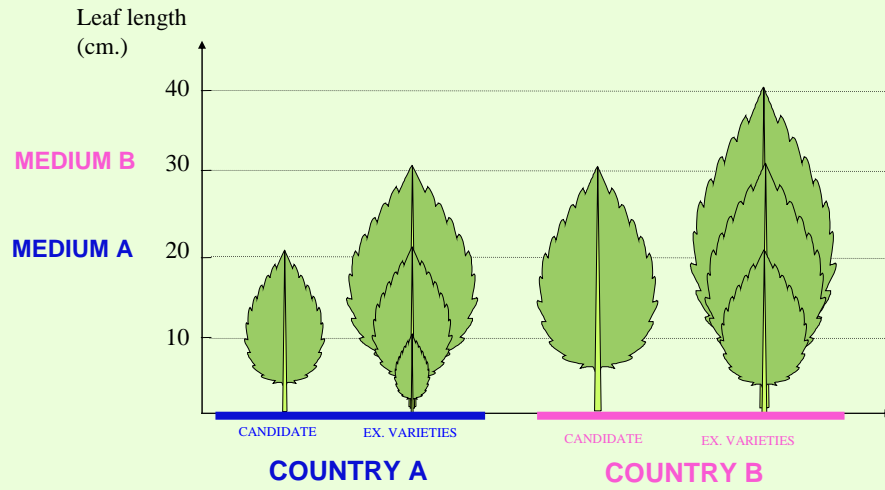
Illustrate characteristics

Determine the state of expression



Harmonized descriptions

Example Varieties versus Measurements



Example Varieties –the need

Example Varieties – the need

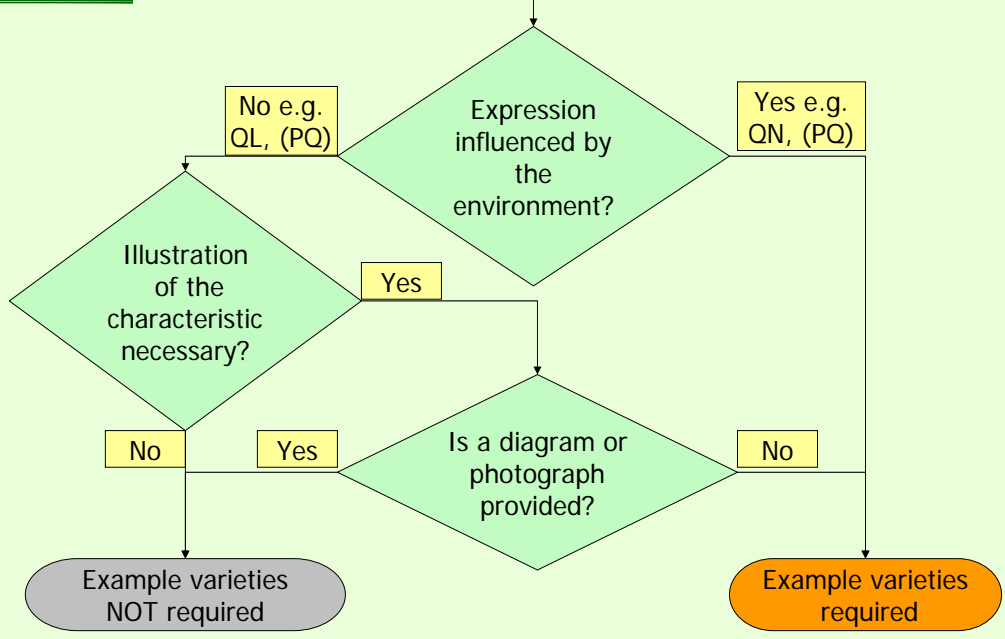
NEED

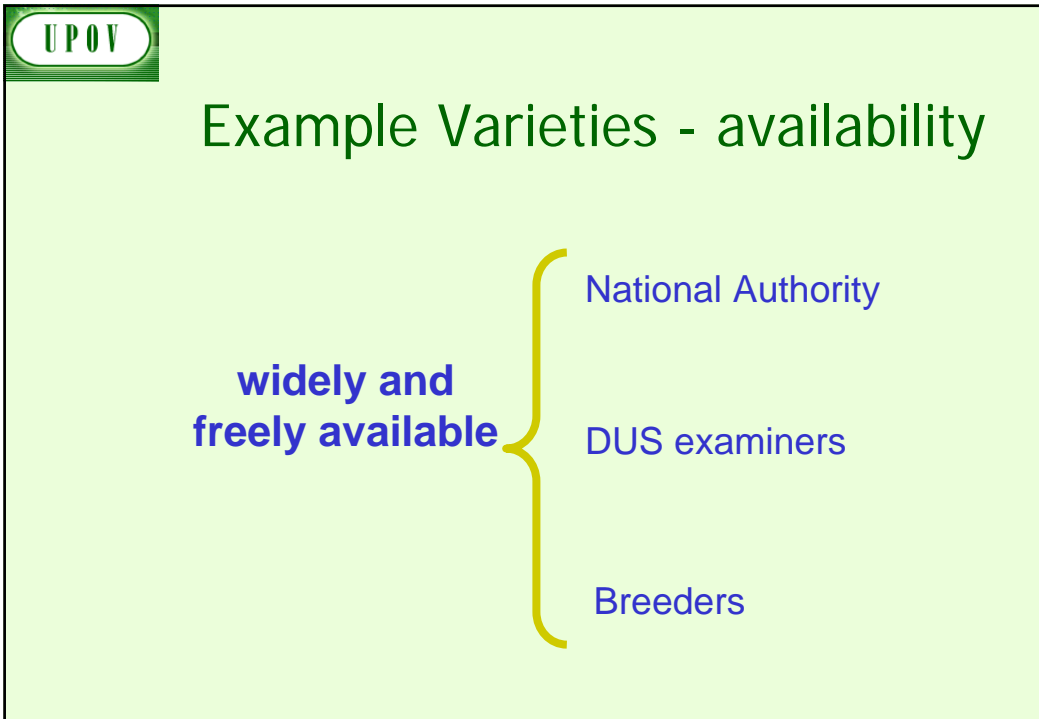
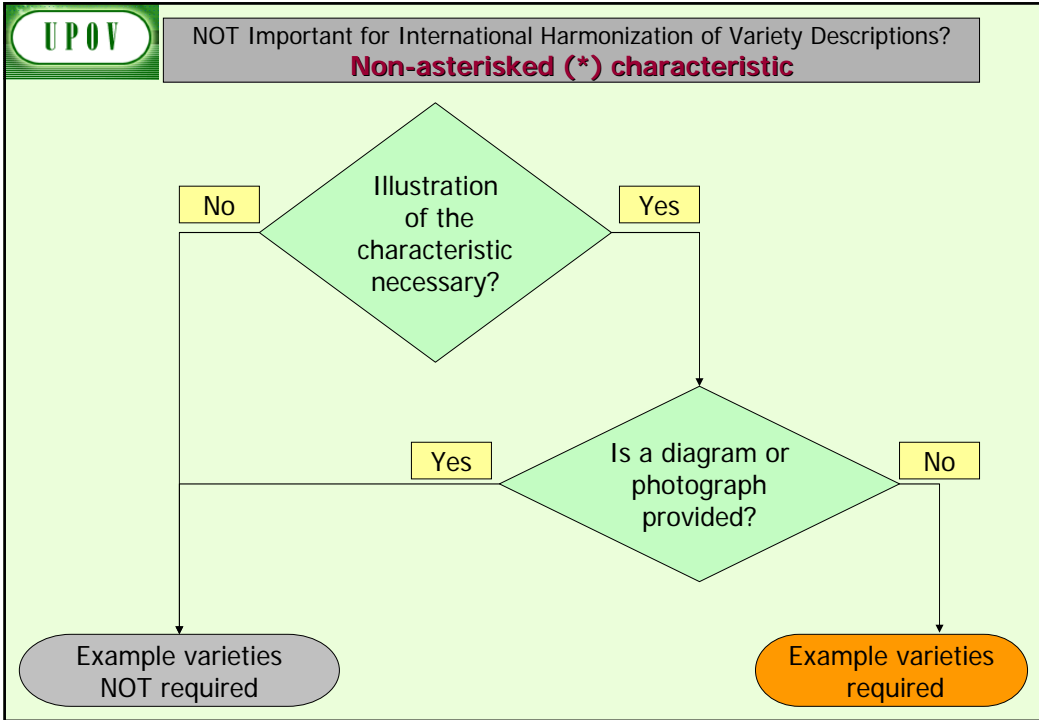
in characteristics used to **harmonize descriptions**

and

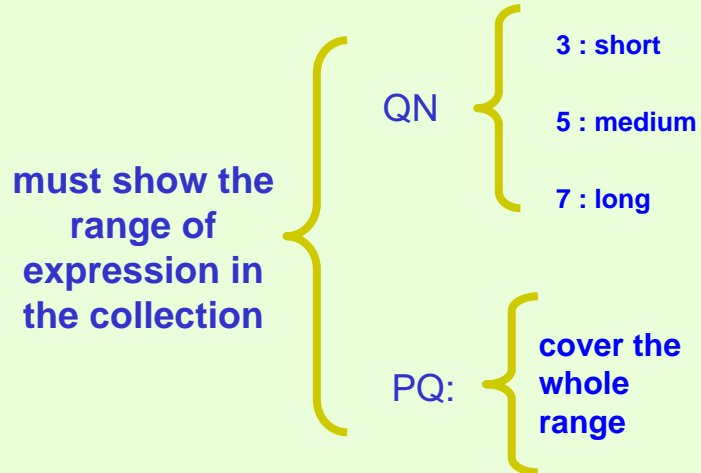
which are **influenced by the environment**

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





Example Varieties within the collection



Example Varieties Fluctuation

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

Example Varieties number

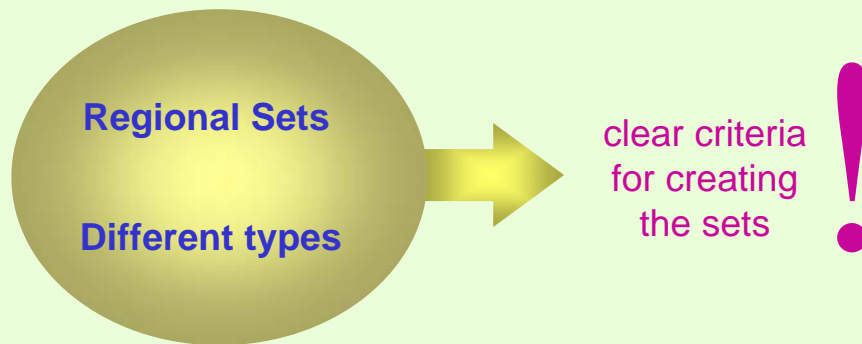
All desired characteristics covered with
the **minimum** number of example
varieties

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



4. TEST GUIDELINES (document TGP/7)

(f) The process for developing UPOV Test Guidelines

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)





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)

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**

EXAMPLE (New Test Guidelines)

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

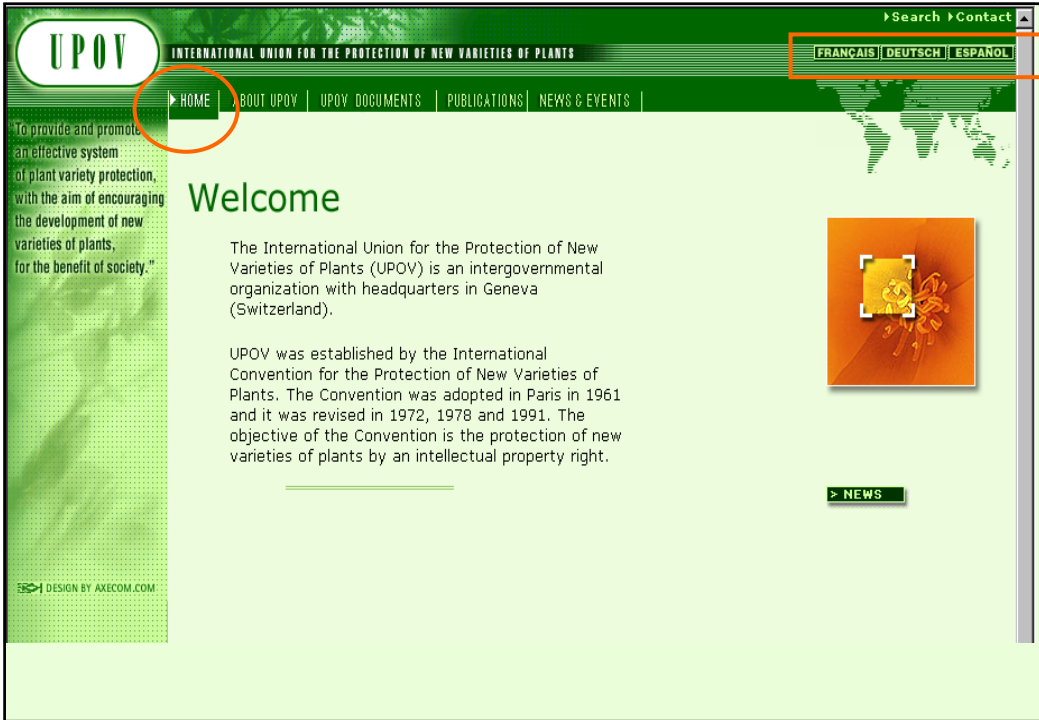
Technical Working Party: **TWX**

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

6. THE UPOV WEBSITE



UPOV Website
<http://www.upov.int>
 (e-mail: upov.mail@upov.int)



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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."

Welcome

The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland).


UPOV was established by the International Convention for the Protection of New Varieties of Plants. The Convention was adopted in Paris in 1961 and it was revised in 1972, 1978 and 1991. The objective of the Convention is the protection of new varieties of plants by an intellectual property right.

[> NEWS](#)

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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.

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Key Issues

Impact Study **UPOV Report on the Impact of Plant Variety Protection**
(UPOV Publication 353(E))
([Adobe PDF](#))

Breeder's exemption Breeder's exemption in the 1978 and the 1991 Act of the UPOV Convention
([Adobe PDF](#))

Notion of Breeder and Common Knowledge The Notion of Breeder and Common Knowledge
([Adobe PDF](#))

Genetic Resources and Benefit-Sharing **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](#))

Letter to the Executive Secretary of the Secretariat of the Convention on Biological Diversity (CBD) containing a decision of the Council of UPOV for consideration by the Conference of Parties of the CBD at its ninth meeting to be held in Bonn, Germany, from May 19 to 30, 2008
([Adobe PDF](#))

Access to Genetic Resources and Benefit-Sharing
([Reply of UPOV to the Notification of April 12, 2005, from the Executive Secretary of the Convention on Biological Diversity \(CBD\)](#))
([Adobe PDF](#))

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[First restricted area](#)

[Second restricted area](#)

Rules Governing the Granting of Observer Status
(available in [Adobe PDF](#) format)

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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) (C) (D) (E) (F) (G) (I) (P) (R) (S)	International Convention for the Protection of New Varieties of Plants, text of 1991 only
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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 registrationn 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](#))

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DRAFTER'S KIT FOR TEST GUIDELINES

[General Introduction to DUS](#)

[Test Guidelines in Word format](#)

[TGP/7 "Development of Test Guidelines"](#)

[Electronic TG Template](#)

TGP/7 Annex 4:

- [User notes](#)
- [Index](#)
- [Collection of Approved Characteristics](#)

[Additional Characteristics](#)

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[Practical Guide for Drafters of Test Guidelines](#)

[Electronic TG Template](#)

[Adopted Test Guidelines in Word Format](#)

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TGP/14

- [SHAPES Extract](#)

Special password: only available to Leading Experts

7. AGENDA for the TWP Session

8. FEEDBACK



THANK YOU