

**TECHNICAL WORKING PARTY  
FOR ORNAMENTAL PLANTS AND FOREST TREES**

**Forty-first Session  
Wageningen, Netherlands, June 9 to 13, 2008**

**PREPARATORY WORKSHOP**

June 8, 2008

**PROGRAM**

- 1./2. Introduction to UPOV and the Technical Working Parties
3. National arrangements and cooperation with breeders in preparing test guidelines
4. Overview of the General Introduction (document TG/1/3 and TGP documents)
5. 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
6. The UPOV website
7. Agenda for the TWP meeting

**UPOV**

**1. INTRODUCTION TO UPOV**

**UPOV**

**UPOV**

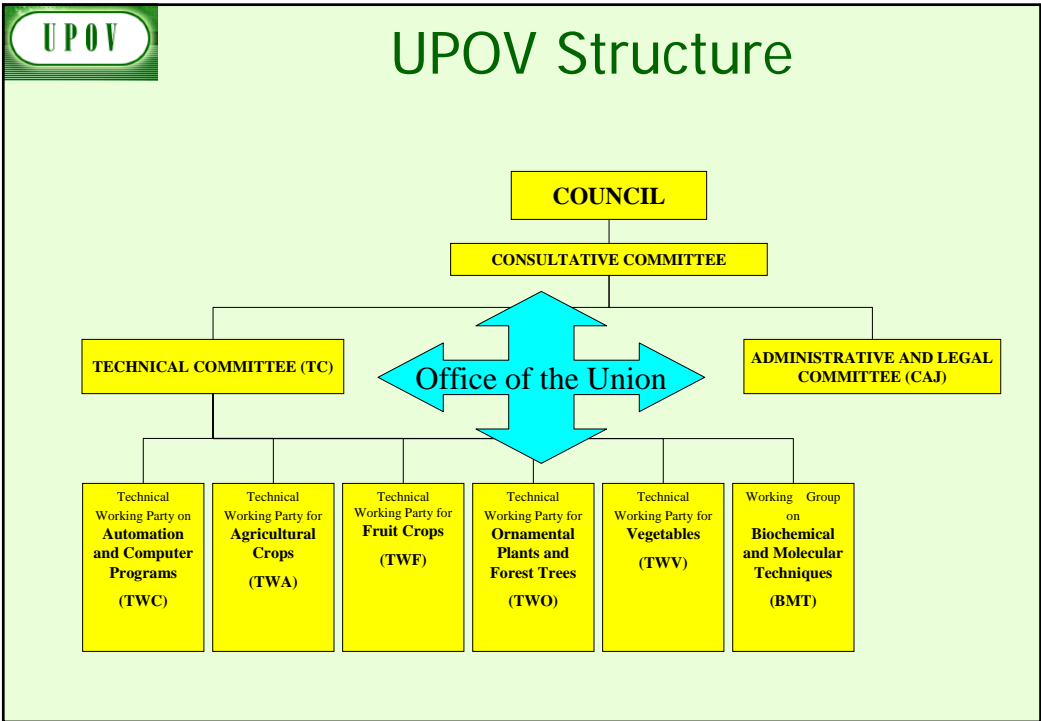
**The International **C**onvention for the  
Protection of New Varieties of Plants**  
established in 1961

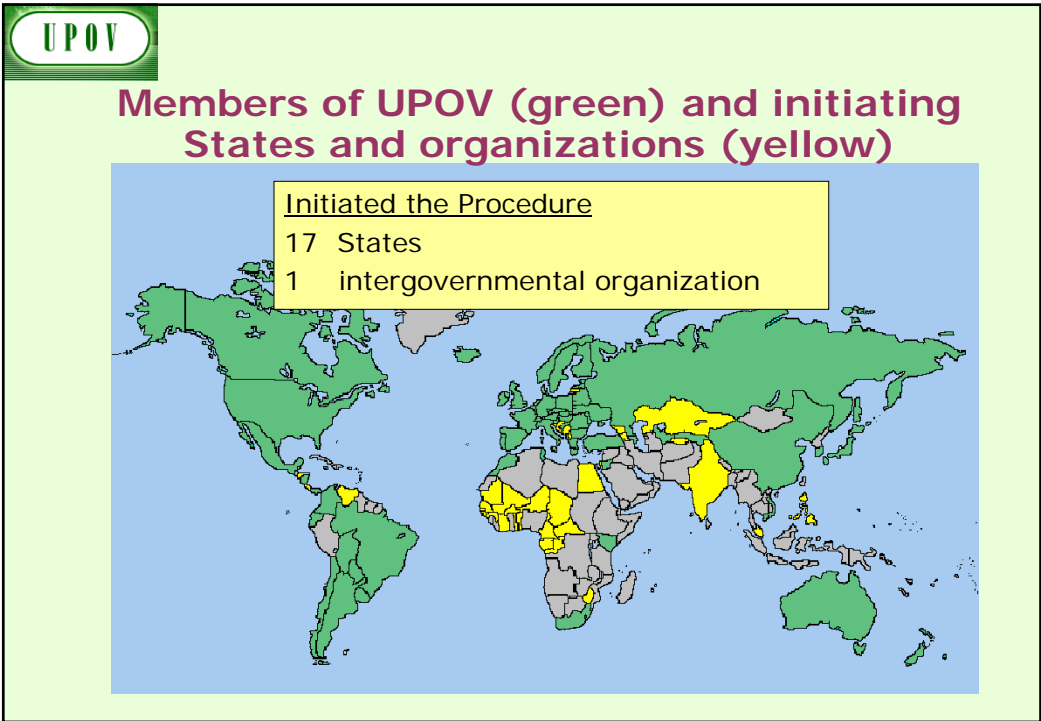
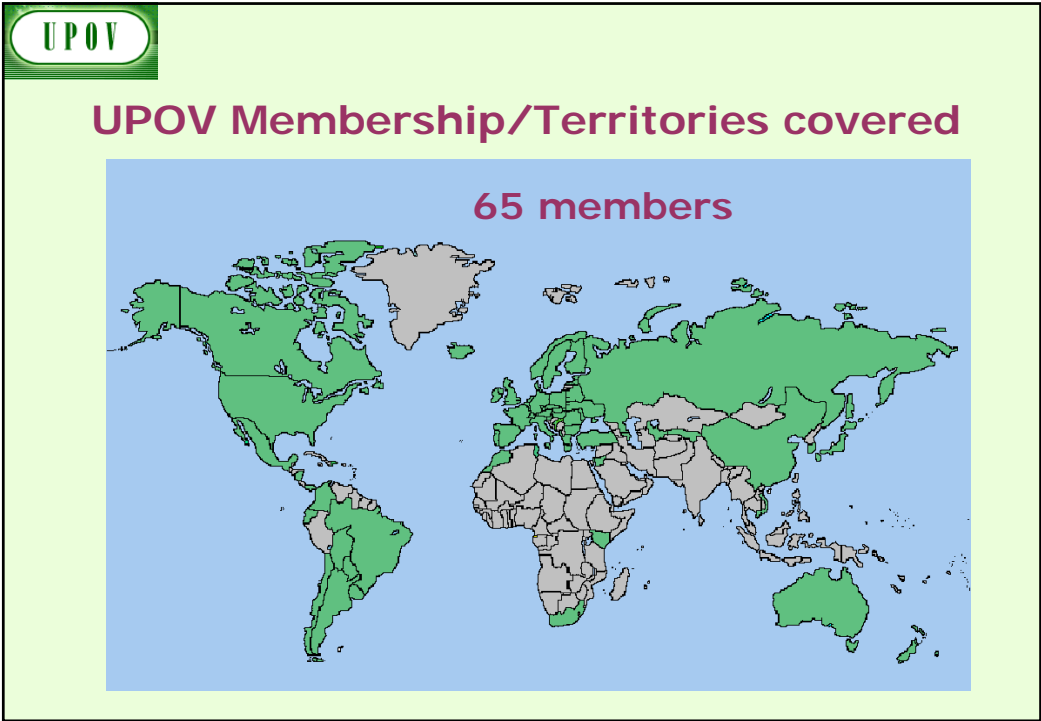
**The International **U**nion for the Protection  
of New Varieties of Plants**

**U**nion internationale pour la  
**p**rotection des **o**btentions **v**égétales

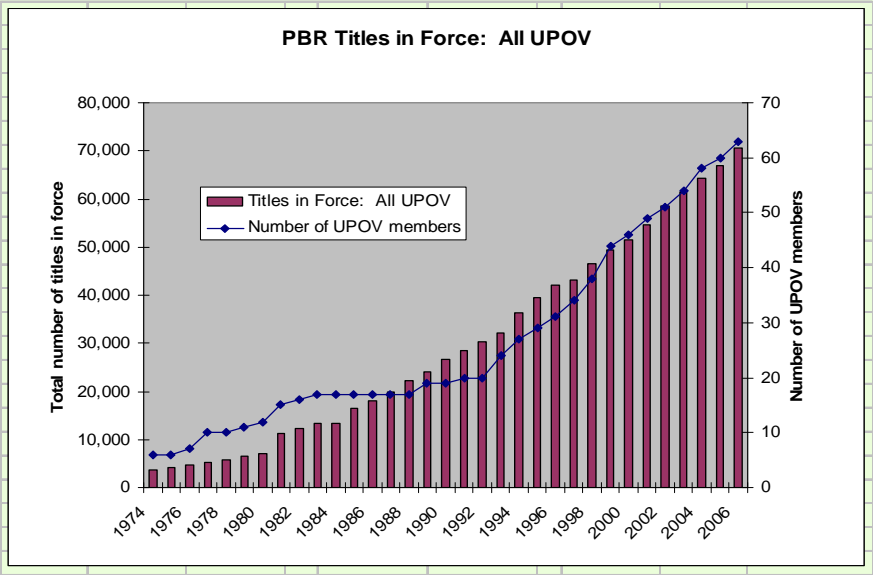
**UPOV**

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



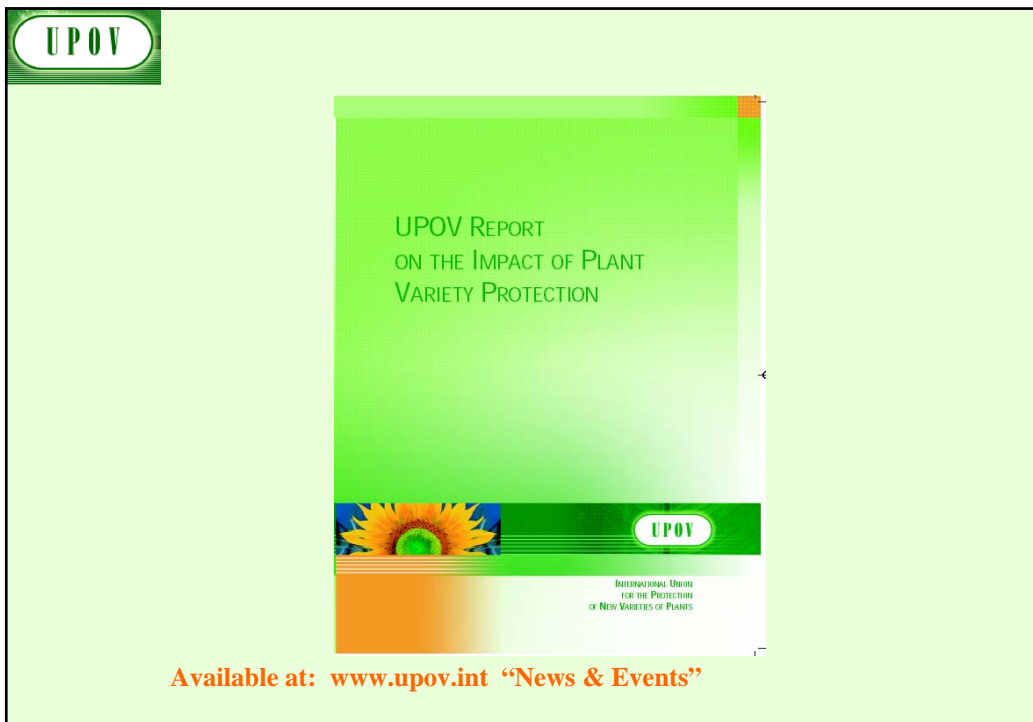


### Development of Plant Variety Protection



### 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*”



UPOV

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

## THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

*Criteria to be satisfied*

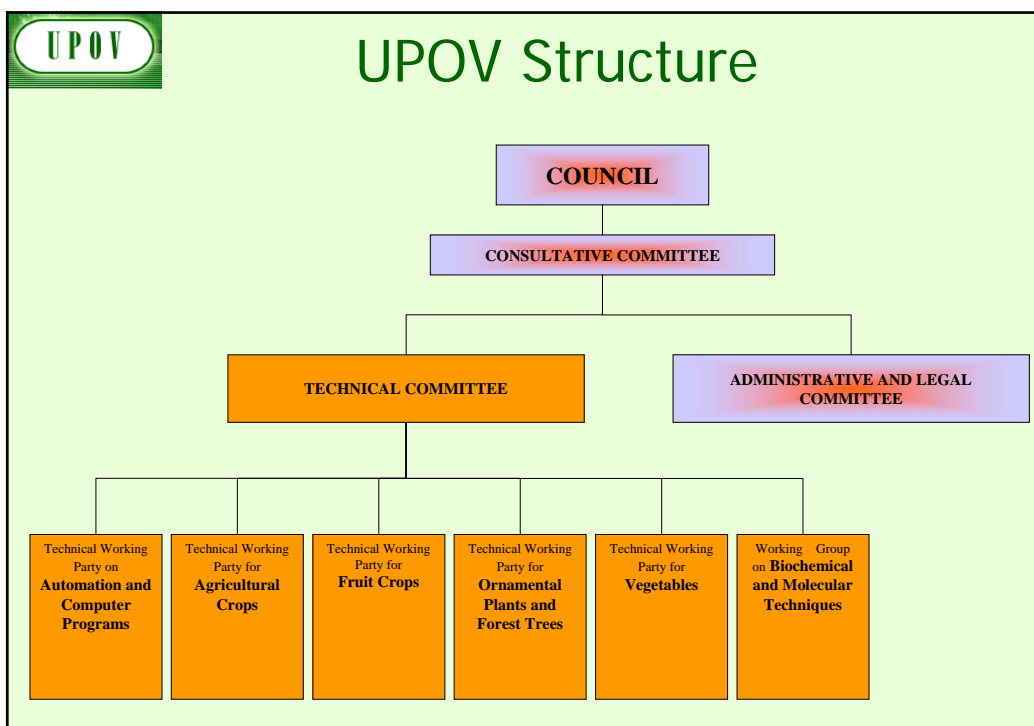
- NOVELTY
  - **D**ISTINCTNESS
  - **U**NIFORMITY
  - **S**TABILITY
- 
- "DUS"**

## THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

*Other conditions*

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

**NO OTHER CONDITIONS!**



**UPOV**

## 3. NATIONAL ARRANGEMENTS AND COOPERATION WITH BREEDERS IN PREPARING TEST GUIDELINES



## 4. 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:

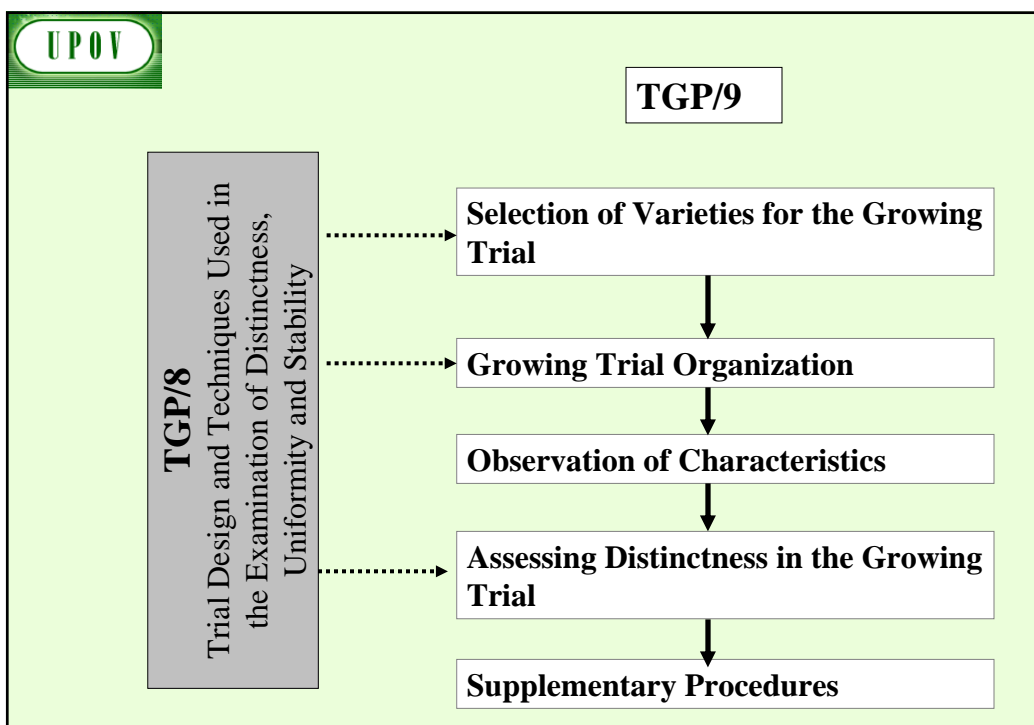
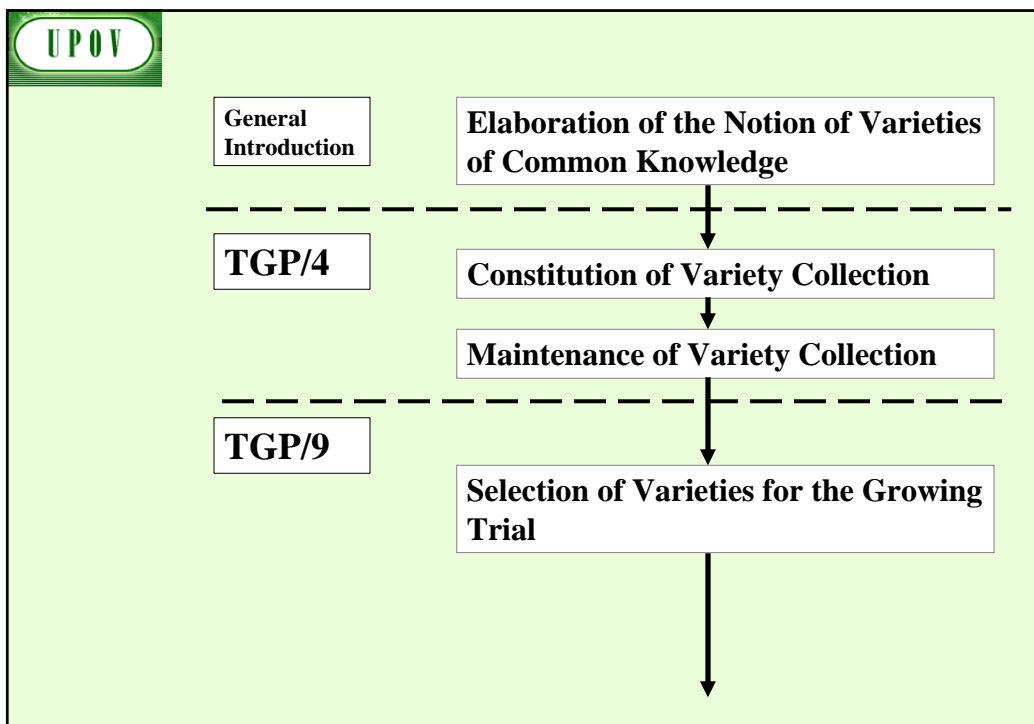
- The “General Introduction” (TG/1/3)
  - General technical principles
  - Organization of DUS Testing
  - Associated “TGP” Documents (e.g. statistical methods)

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**

**PROGRAM**

1. Introduction to UPOV
2. Introduction to the UPOV 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 (V/M; G/S)
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  - (e) Example varieties
  - (f) The process for developing UPOV Test Guidelines
5. The UPOV website
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**5. 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**



E



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

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS  
GENEVA

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

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

Alternative Names:<sup>\*</sup>

<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	Xocooostles	Xocooostles	Xocooostles	Xocooostles

#### ASSOCIATED DOCUMENTS

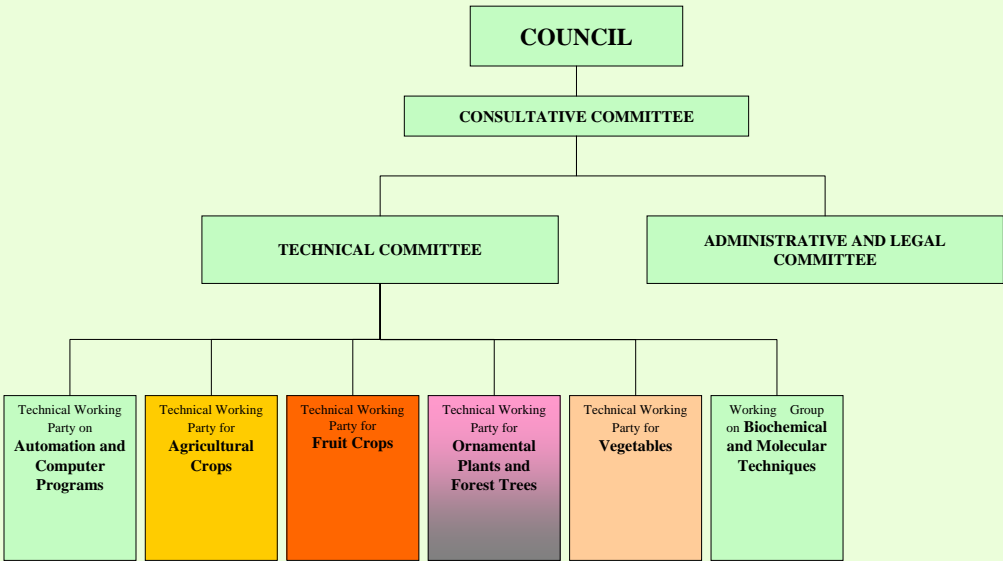
These guidelines should be read in conjunction with document TG/1/3, “General Introduction to the Examination of Distinctness, Uniformity and Stability and the Development of Harmonized Descriptions of New Varieties of Plants” (hereinafter referred to as the “General Introduction”) and its associated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

<sup>\*</sup> 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.uipo.int](http://www.uipo.int)), for the latest information.]

# Test Guidelines

- **249 Test Guidelines** adopted
- Further **62 to be discussed** in 2008  
(19 revisions / 43 new Test Guidelines)

# UPOV Structure



# 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

# 1. Introduction

Purpose of document TGP/7:


- to provide guidance on the development of **UPOV TEST GUIDELINES**
- to provide guidance on the development of **INDIVIDUAL AUTHORITIES' TEST GUIDELINES**, in the absence of UPOV Test Guidelines


## The TG Template

*(Annex I of document TGP/7)*

- Format of the cover page,
- Universal Standard wording of 10 Chapters,
- Format of the Table of Characteristic (Chapter 7),
- Format of the Technical Questionnaire (Chapter10)







E  
 TG/2003  
 ORIGINAL: 2003  
 DATE: 2003

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

**DRAFT**

Please select: "View" then "Comments" from the Word menu to see all notes

(MAIN COMMON NAME)  
 (types of) botanical name  
 (UPOV Code)  
 (GN1) - Botanical name

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

*prepared by [an expert] / [experts] from  
[drafting country(ies)] / organization(s)]*


*to be considered by the  
Technical Working Party for [year] at its [year] session  
to be held in [year] from [year]*

Alternative Names:

Botanical name	English	French	German	Spanish


The purpose of these guidelines ("Test Guidelines") is to elaborate the principles contained in the General Introduction (document TG/1/3), and its associated TG documents, into detailed practical guidance for the harmonised examination of distinctness, uniformity and stability (DUS) and, in particular, to identify appropriate characteristics for the examination of DUS and production of harmonised variety descriptions.

These names were completed 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](http://www.upov.int)), for the latest information.



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

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**Calendar**

**Council**

**Restricted area**

## 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](#)

## 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

## Format of the Table of Characteristic

Char. No. (*) (+) (QL/QN/PQ)		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
{GN 18} Order of characteristics in the Table of Characteristics		{GN 24} Heading of a characteristic	{GN 24} Heading of a characteristic	{GN 24} Heading of a characteristic	{GN 24} Heading of a characteristic		
{GN 19} Asterisked characteristics	{GN 22} Recommendations for conducting the examination	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 12} Example varieties	{GN 26} Notes
{GN 20} Explanation of the characteristic	{GN 23} Growth stage	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 12} Example varieties	{GN 26} Notes
{GN 21} Type of expression of the characteristic	{Other}	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 25} States of expression of a characteristic	{GN 12} Example varieties	{GN 26} Notes

## 5. 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	Straw strength	
(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			
<b>ACCEPTABILITY</b>	<b>Yes</b>	<b>Yes</b>			

UPOV		Selection of Characteristics			
Criteria	Fruit: color	Leaf: shape	Yield	Straw strength	
(a) results from a given genotype or combination of genotypes	Yes	Yes	Yes	Yes	
(b) sufficiently consistent and repeatable in a particular environment	Yes	Yes	(No)	(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	Yes	
<b>ACCEPTABILITY</b>	<b>Yes</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	

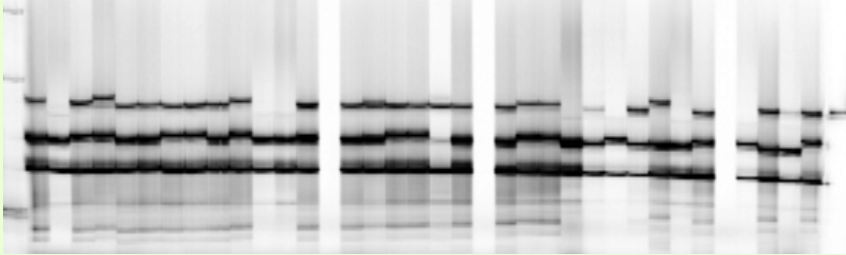
Criteria	Disease Resistance
(a) results from a given genotype or combination of genotypes	*Knowledge of nature of genetic control of resistance is important
(b) sufficiently consistent and repeatable in a particular environment	*Standardize conditions (greenhouse / laboratory) & methodology *Standardize 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>	

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## Special Characteristics: Disease Resistance



# Molecular Techniques?



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

### Qualitative Characteristics

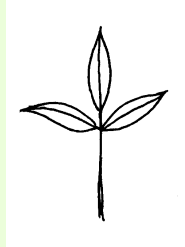
“Qualitative characteristics” are those that are **expressed in discontinuous states** (e.g. sex of plant: dioecious female (1), dioecious male (2), monoecious unisexual (3), monoecious hermaphrodite (4)).

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**.

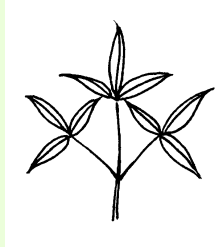
### Clematis: Leaf: type



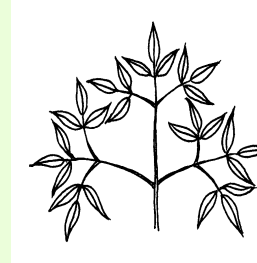
1  
simple



2  
ternate



3  
biternate



4  
triternate

### Qualitative Characteristics

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)).

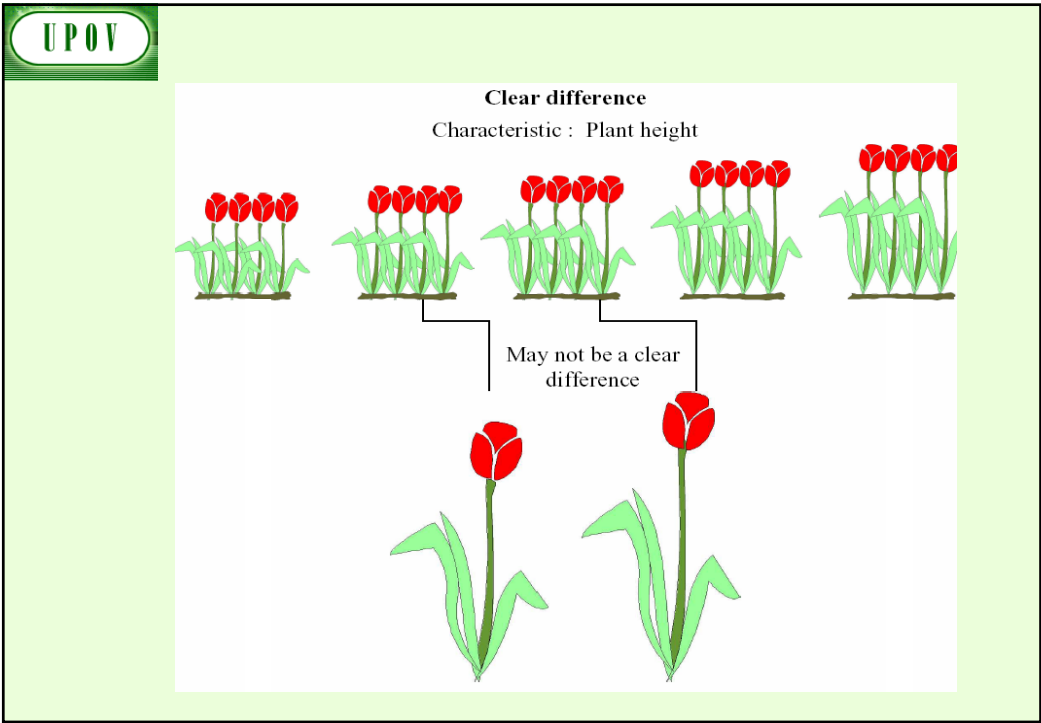
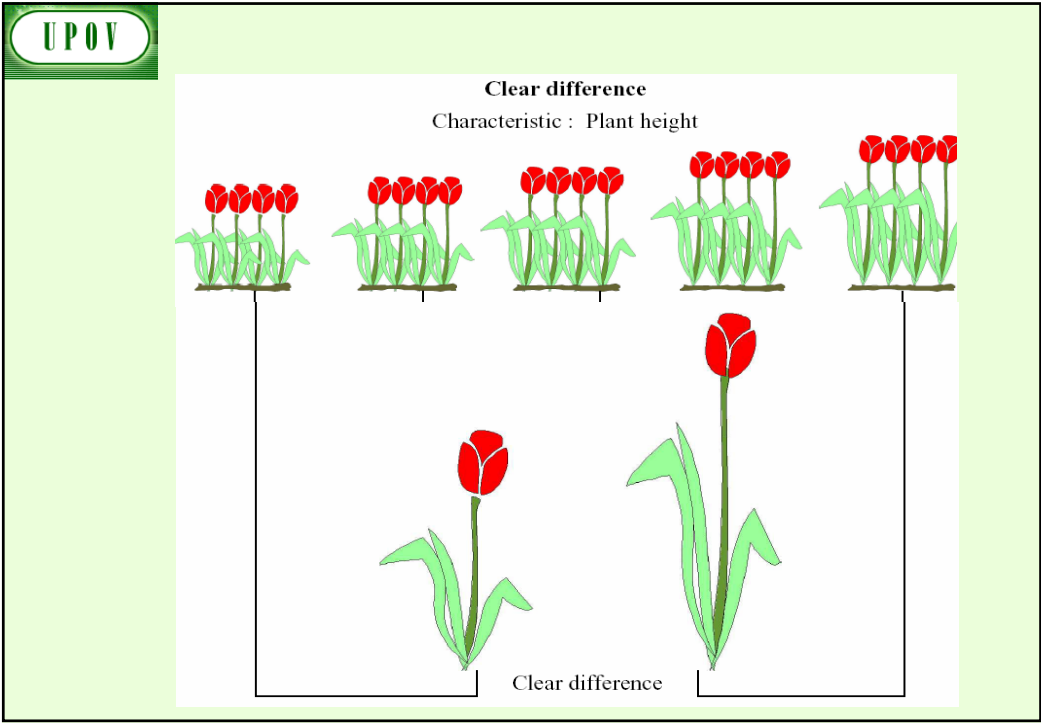


### Quantitative Characteristics

“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 assessment.

### Quantitative Characteristics

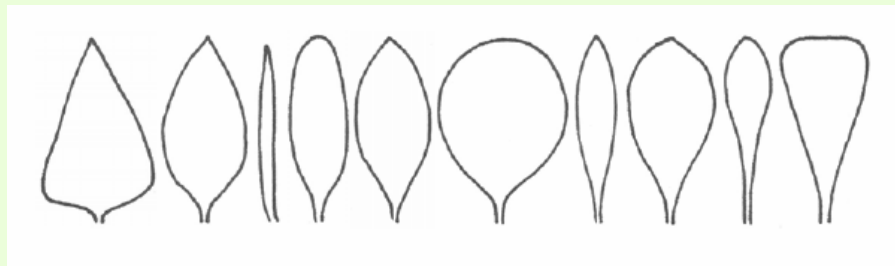
Quantitative characteristics are considered for distinctness according to the method of observation and the features of propagation of the variety concerned.

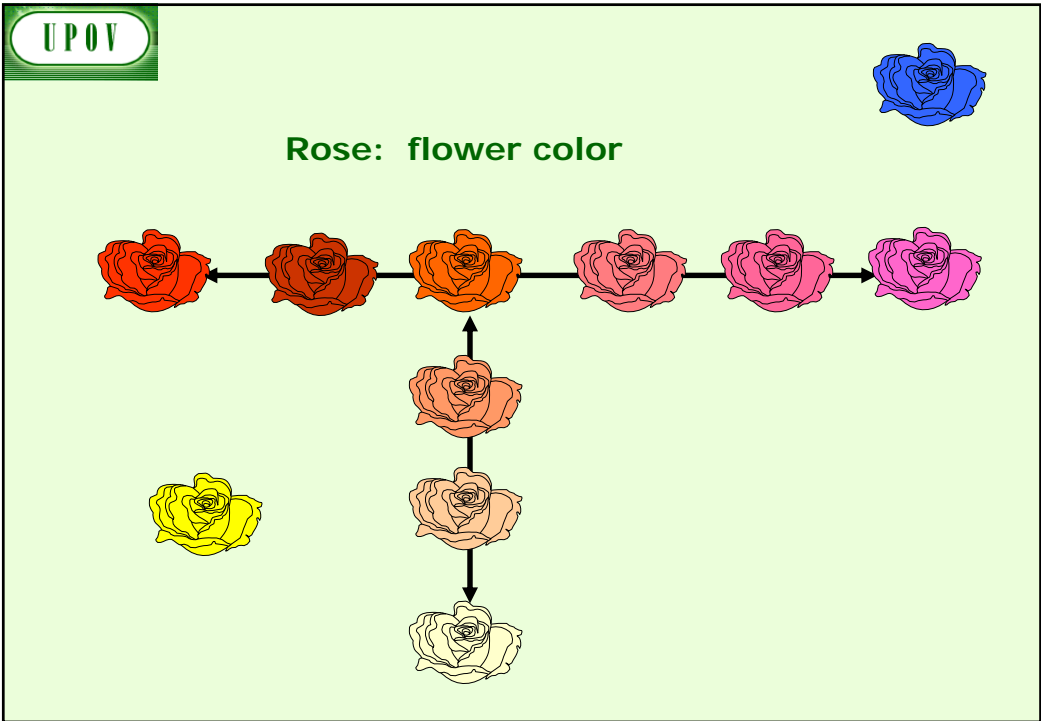
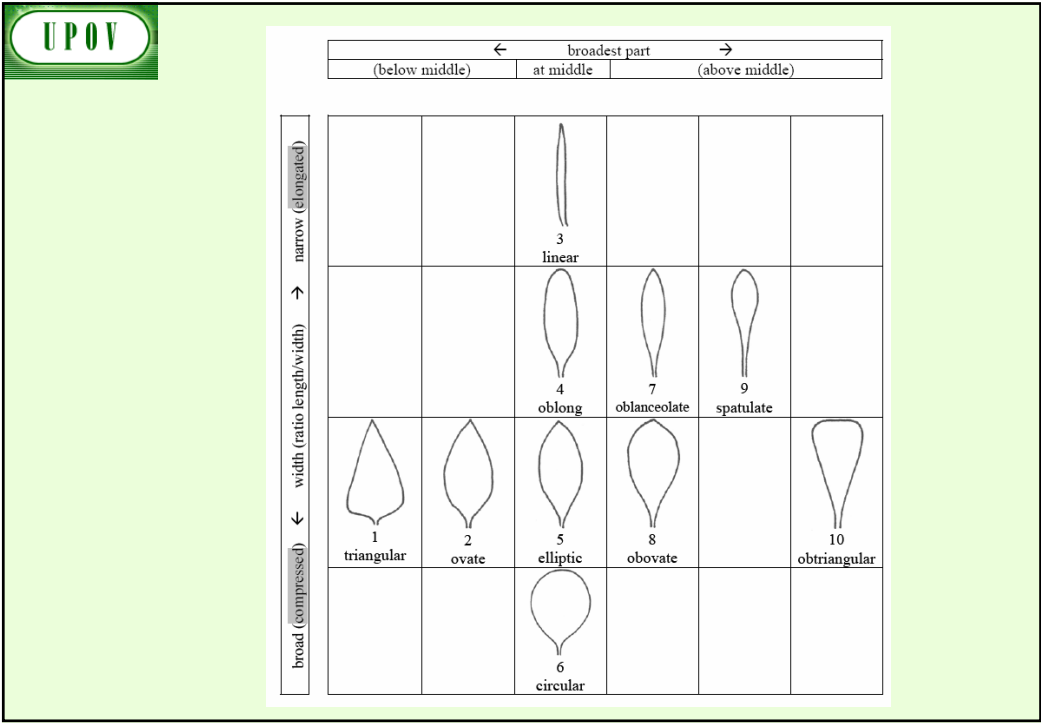


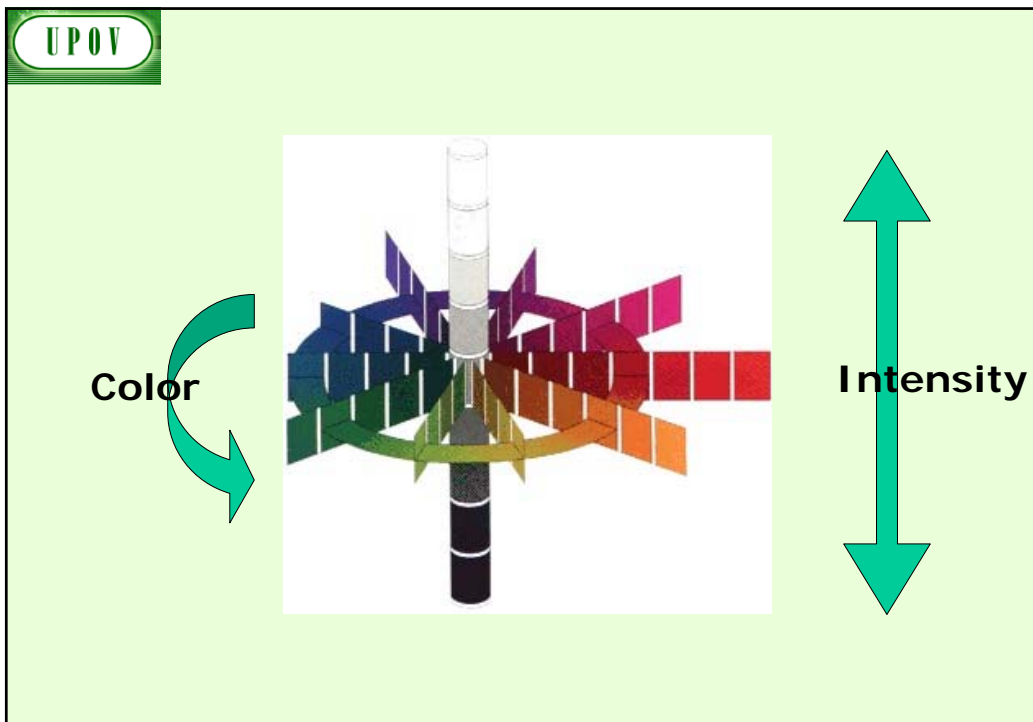
### Pseudo-Qualitative Characteristics

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



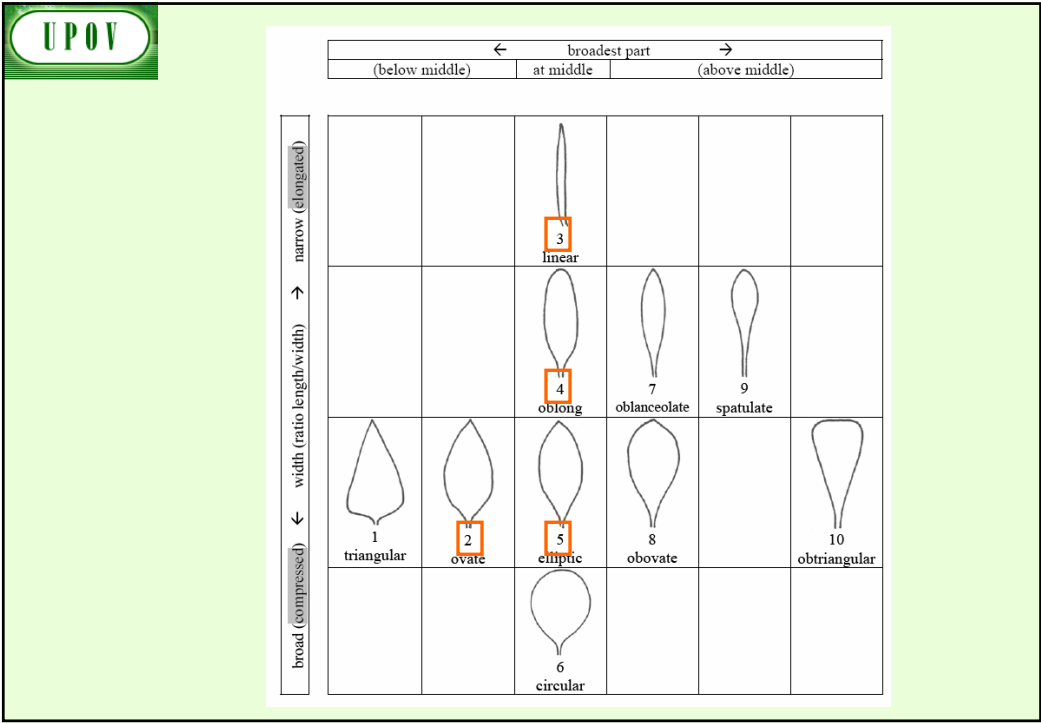




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Pseudo-Qualitative Characteristics

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.






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STATES / NOTES for QL, QN ,PQ

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### Qualitative Characteristics (typical example)

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

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### Qualitative Characteristics (special cases)

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

Quantitative Characteristics

weak/strong  
short/long  
small/large

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

Note	State
1	very small (or: absent or very small)
2	very small to small
<b>3</b>	<b>small</b>
4	small to medium
<b>5</b>	<b>medium</b>
6	medium to large
<b>7</b>	<b>large</b>
8	large to very large
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 <b>Size relative to:</b>	Example 2 <b>Angle:</b>	Example 3 <b>Position:</b>	Example 4 <b>Length in relation to:</b>
<b>1</b>	<b>much smaller</b>	<b>very acute</b>	<b>at base</b>	<b>equal</b>
3	moderately smaller	moderately acute	one quarter from base	slightly shorter
<b>5</b>	<b>same size</b>	<b>right angle</b>	<b>in middle</b>	<b>moderately shorter</b>
7	moderately larger	moderately obtuse	one quarter from apex end	much shorter
<b>9</b>	<b>much larger</b>	<b>very obtuse</b>	<b>at apex</b>	<b>very much shorter</b>

## Quantitative Characteristics

### Limited range

State	Example 1 <b>Stem: attitude</b>
1	erect
3	semi-erect
5	prostrate

### Condensed range

<b>Example 1</b>	
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>

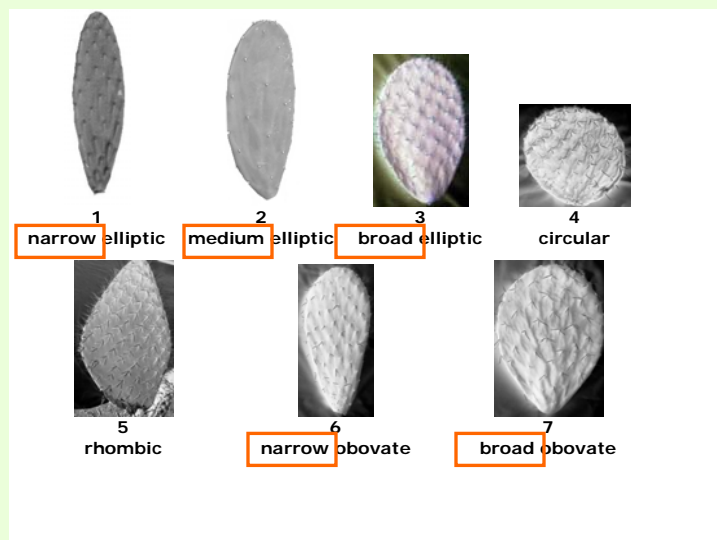
<b>Example 2</b>	
1	e.g. absent or weak <i>(absent or weakly expressed)</i>
2	moderate (or medium) <i>(moderately expressed)</i>
3	strong <i>(strongly expressed)</i>

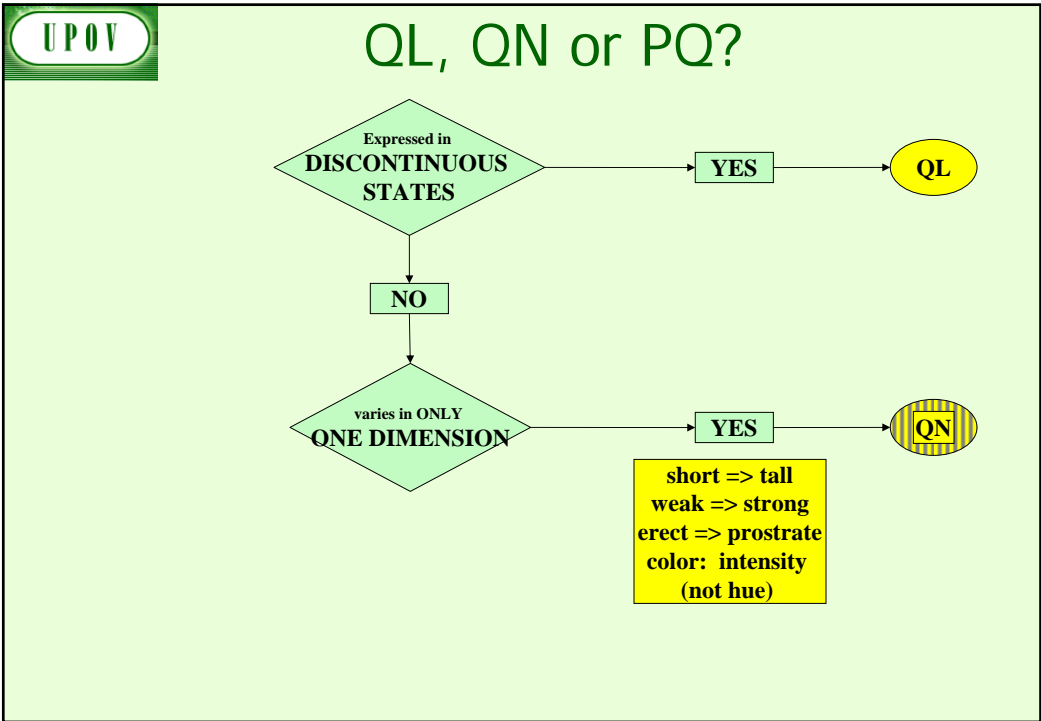
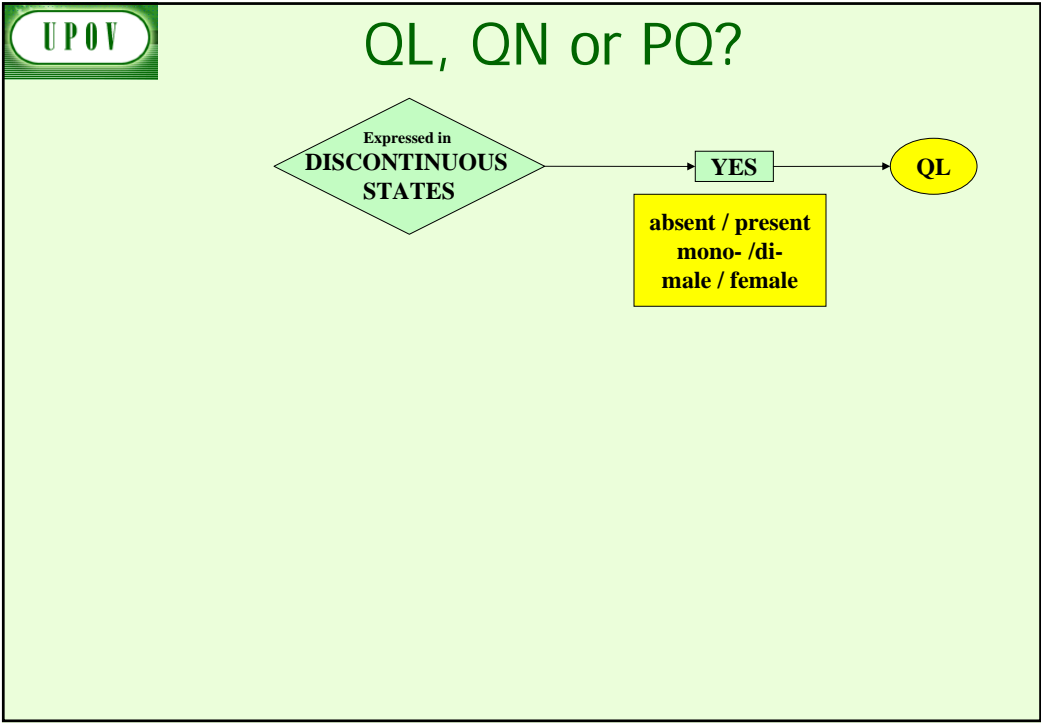
## Pseudo-qualitative Characteristics

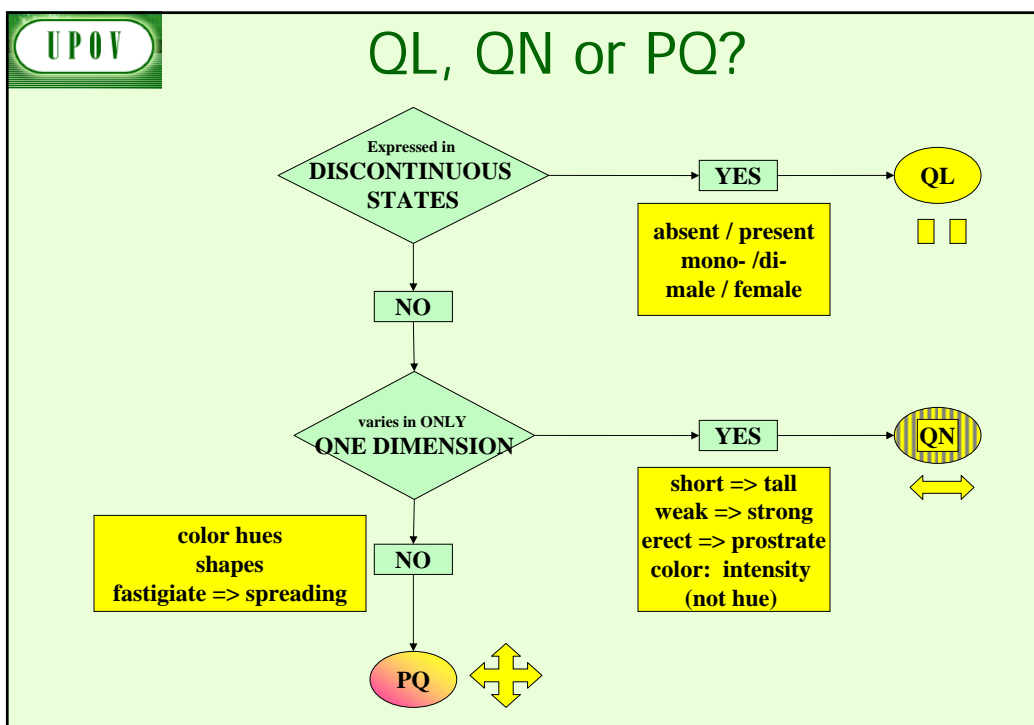
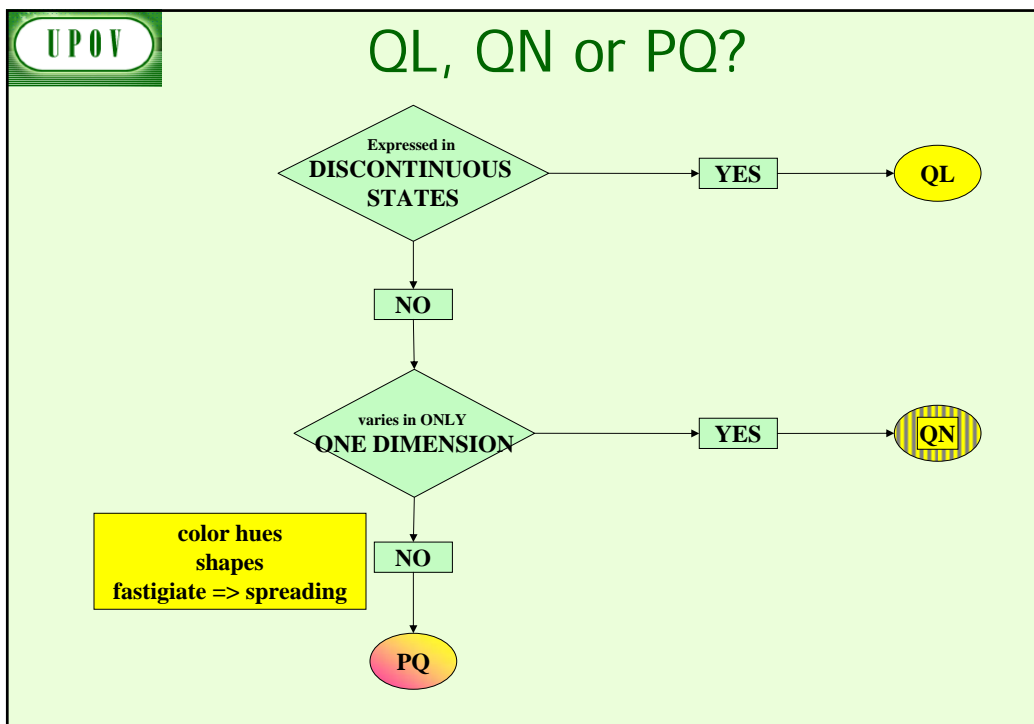
(typical examples)

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	purpum	púrpura	6

## Opuntia: Shape of Cladode







## EXERCISE

### **Types of Expression**

**QL: Qualitative**

**QN: Quantitative**

**PQ: Pseudo-qualitative**

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

<b>UPOV</b>		
<b>2.</b>	<b>Leaf sheath: anthocyanin coloration</b>	
	absent or very weak	1
	weak	3
	medium	5
	strong	7
	very strong	9

UPOV	
<b>3.</b>	<b>Plant: rhizomes</b>
absent	1
present	9
<hr/>	

UPOV	
<b>4.</b>	<b>Plant: growth habit</b>
erect	1
semi erect	3
medium	5
semi prostrate	7
prostrate	9
<hr/>	

---

**5. Leaf blade: ratio length/width**

very small	1
small	3
medium	5
large	7
very large	9

---

---

**6. Petal: color**

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

---



---

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

light	3
medium	5
dark	7

---

---

**8. Leaf blade: shape of base**

acute	1
obtuse	2
truncate	3
cordate	4

---

**9. Petal: color**

RHS Colour Chart  
(indicate reference  
number)

---

**10. Leaf blade: profile in  
cross section**

- |                               |   |
|-------------------------------|---|
| straight or weakly<br>concave | 1 |
| moderately concave            | 2 |
| strongly concave              | 3 |
-

---

**11. Flower: position of stigma relative to anthers**

- |            |   |
|------------|---|
| below      | 1 |
| same level | 2 |
| above      | 3 |
- 

---

**12. Petal: shape (excluding claw)**

- |                |   |
|----------------|---|
| broad elliptic | 1 |
| circular       | 2 |
| oblate         | 3 |
-

## 5. TEST GUIDELINES (document TGP/7)

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

#### 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**.

**UPOV** 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 ...

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

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

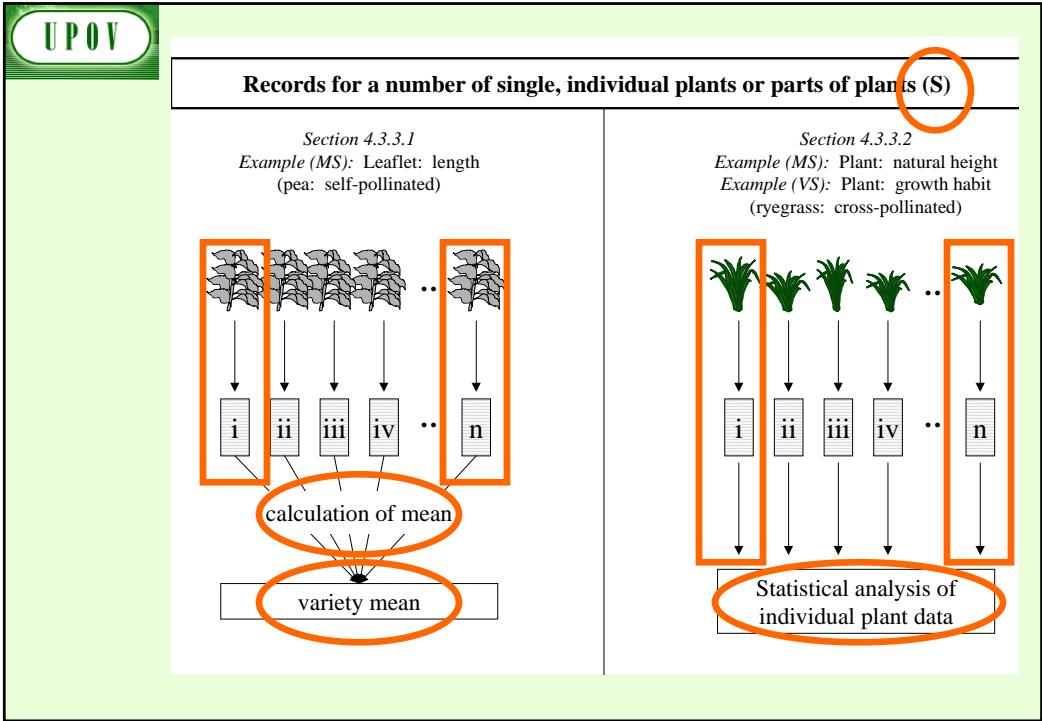
Section 4.3.2.3 Example (VG): Lowest leaf: hairiness of leaf sheaths (barley: self-pollinated)

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

Section 4.3.2.4 Example: (statistical analysis)

The diagram illustrates four examples of single records for a group of plants (G):

- Example 1 (VG):** Flower: type (tulip: vegetatively propagated). A person is shown examining a row of tulips. A bracket below the plants is labeled "single variety record".
- Example 2 (VG):** Lowest leaf: hairiness of leaf sheaths (barley: self-pollinated). A person is shown examining a row of barley plants. A bracket below the plants is labeled "single variety record".
- Example 3 (MG):** Plant: height (wheat: self-pollinated). A person is shown measuring the height of a row of wheat plants. A bracket below the plants is labeled "single variety record".
- Example 4 (Statistical analysis):** A group of plants is shown, divided into three groups labeled "record 1", "record 2", and "record n". A bracket below these groups is labeled "variety mean / statistical analysis of individual group data".



**UPOV**

## 5. TEST GUIDELINES (document TGP/7)

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



## Standard Test Guidelines Characteristic

Function	Criteria
1.Characteristics that are <b>accepted by UPOV for examination of DUS</b> 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 <b>Chapter 4, section 4.2.</b> 2.Must have been <b>used</b> to develop a variety description <b>by at least one member of the Union.</b> 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.



## Asterisked Characteristic

Function	Criteria
1.Characteristics that are important <b>for the international harmonization of variety descriptions.</b>	1.Must be a characteristic included in the Test Guidelines. 2. <b>Should always be examined</b> for DUS and included in the variety description <b>by all members of the Union</b> <b>EXCEPT</b> 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.

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## Grouping Characteristic

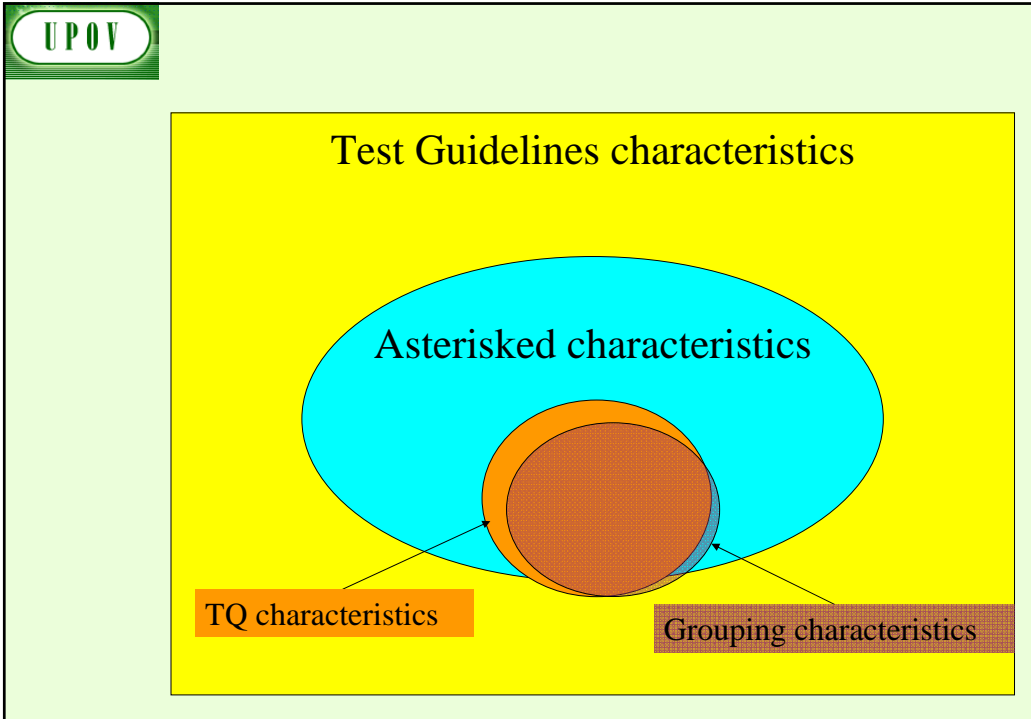
Function	Criteria
<p>characteristics in which the <b>documented states of expression</b>, even where recorded <b>at different locations</b>, can be used either individually or in combination with other such characteristics:</p> <p><b>(a) to select varieties of common knowledge that can be excluded from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

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## 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**.





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**Exercise:**

**is there a problem?**

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<b>1.</b>		<b>Branch: length</b>	
		short (<15cm)	1
<b>QN</b>		medium (16-45cm)	2
		long (>45cm)	3

**UPOV**

<b>2.</b>		<b>Flower: petaloid stamens</b>	
<b>QN</b>		absent	1
		few (>0 - 20% )	2
		medium (>20-95%)	3
		many (>95%)	4

**UPOV**

<b>3.</b> <b>(+)</b>		<b>One-year-old shoot: position of vegetative bud in relation to shoot</b>	
<b>PQ</b>		adpressed	1
		slightly held out	2
		markedly held out	3

1 adpressed      2 slightly held out      3 markedly held out

**UPOV**

<b>4.</b>	<b>Leaf blade: texture</b>	
<b>PQ</b>	soft	1
	coriaceous	2

<b>5.</b>		<b>Fruit: conspicuousness of lenticels</b>	
<b>QL</b>		inconspicuous	1
		conspicuous	2

<b>6.</b>	<b>Scape: shape of top</b>		
<b>QL</b>	acute		1
	obtuse		2

UPOV			
<b>7.</b>	<b>Leaf: shape</b>		
(*)			
QL	elliptic	Esmamerica	1
	ovate	Barfast	2

UPOV			
<b>8.</b>	<b>Leaf blade: undulation of margin</b>		
QN	absent or very weak		1
	medium		2
	strong		3

UPOV			
9.	VG	Stem: position of long side branches	
(*)			
PQ		mainly lower third	1
		mainly middle third	2
		along whole stem	3

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**5. TEST GUIDELINES  
(document TGP/7)**

**(e) Example varieties**

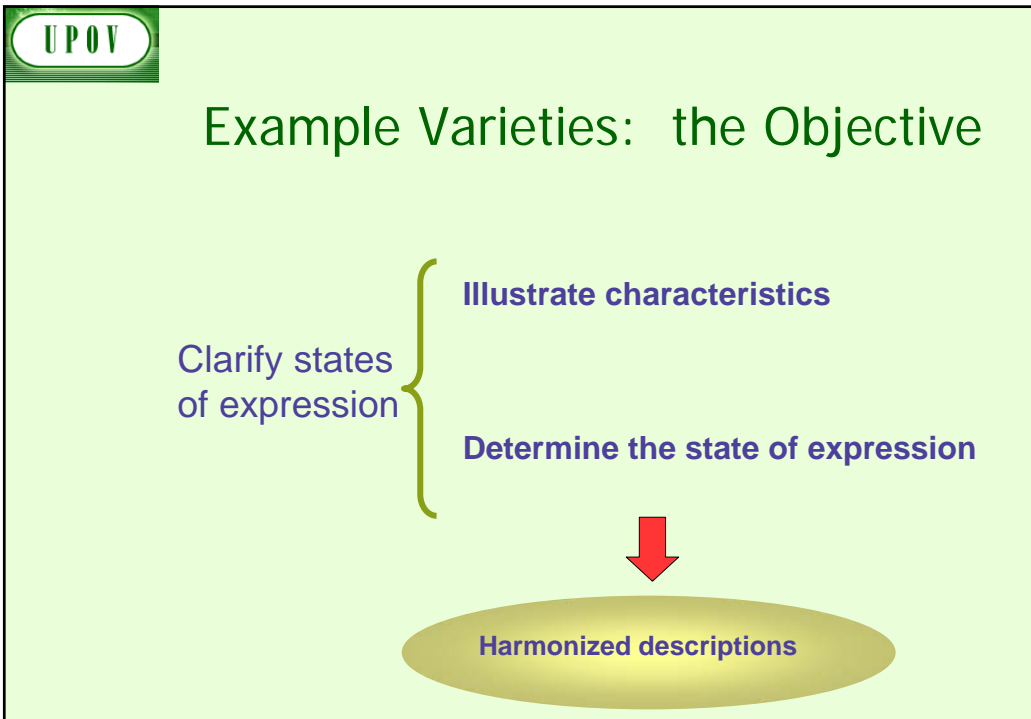
UPOV		TG/13/9 Lettuce/Laitue/Salat/Lechuga, 2004-03-31 - 7 -				
7. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres						
	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
<b>1. (*)</b>	<b>Seed: color</b>	<b>Semence: couleur</b>	<b>Samen: Farbe</b>	<b>Semilla: color</b>		
	white	blanche	weiß	blanco	Verpia	1
	yellow	jaune	gelb	amarillo	Durango	2
	black	noire	schwarz	negro	Kagrner Sommer	3
<b>2. (*) (+)</b>	<b>Seedling: anthocyanin coloration</b>	<b>Plantule: pigmentation anthocyanique</b>	<b>Keimpflanze: Anthocyanfärbung</b>	<b>Plántula: pigmentación antociánica</b>		
	absent	absente	fehlend	ausente	Verpia	1
	present	présente	vorhanden	presente	Pirat	9
<b>3.</b>	<b>Seedling: size of cotyledon (fully developed)</b>	<b>Plantule: taille du cotylédon (à complet développement)</b>	<b>Keimpflanze: Größe des Keimblatts (voll entwickelt)</b>	<b>Plántula: tamaño del cotiledón (plenamente desarrollado)</b>		
	small	petit	klein	pequeño	Romance	3
	medium	moyen	mittel	medio	Expresse	5
	large	grand	groß	grande	Verpia	7

UPOV		TG/219/1 Perilla/Pérille/Perilla/Perilla, 2004-03-31 - 10 -				
	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
<b>14. VG</b>	<b>Leaf blade: intensity of purplish color of lower side</b>	<b>Limbe: intensité de la couleur pourpre de la face inférieure</b>	<b>Blattspreite: Intensität der Purpurfarbe der Unterseite</b>	<b>Limbo: intensidad del color púrpuro del envés</b>		
<b>QN (a)</b>	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
<b>15. VG</b>	<b>Leaf blade: profile</b>	<b>Limbe: profil</b>	<b>Blattspreite: Profil</b>	<b>Limbo: perfil</b>		
<b>QN (a)</b>	concave	concave	konkav	cóncavo	Perro	3
	plane	plan	flach	plano	Pergro, Saeyeupsil	5
	convex	convexe	konvex	convexo		7

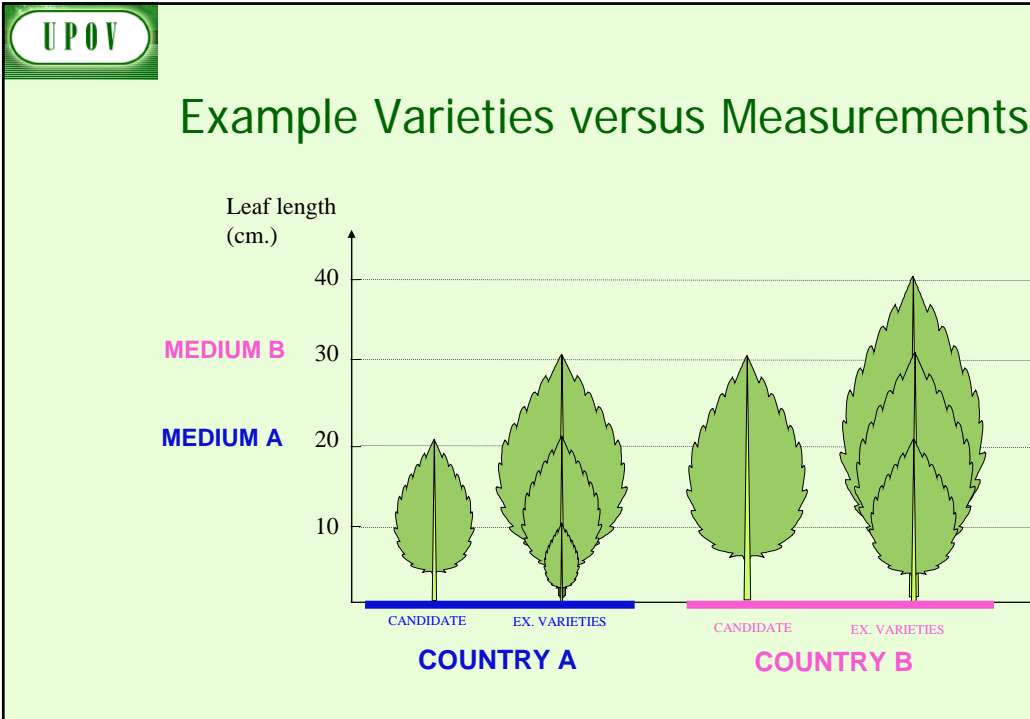
TG/223/1  
Brachyscome/Blaues Gänseblümchen, 2005-04-06  
- 7 -

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

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





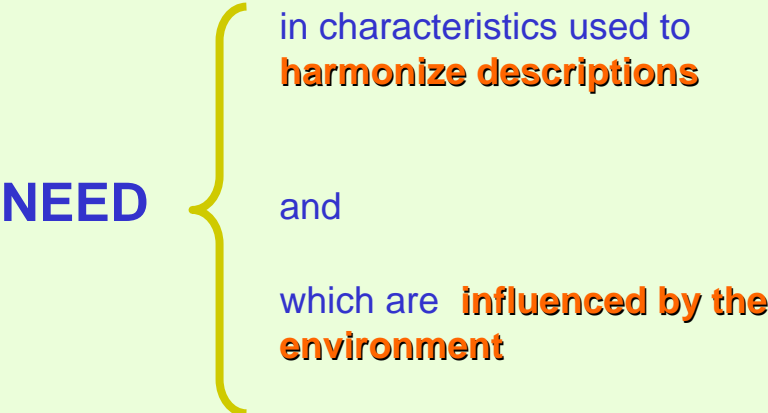


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## Example Varieties –the need

**NO NEED** { **illustration** provided (e.g. photo); if necessary **and** characteristics **not** used to **harmonize descriptions** **or** characteristics **not influenced by the environment**

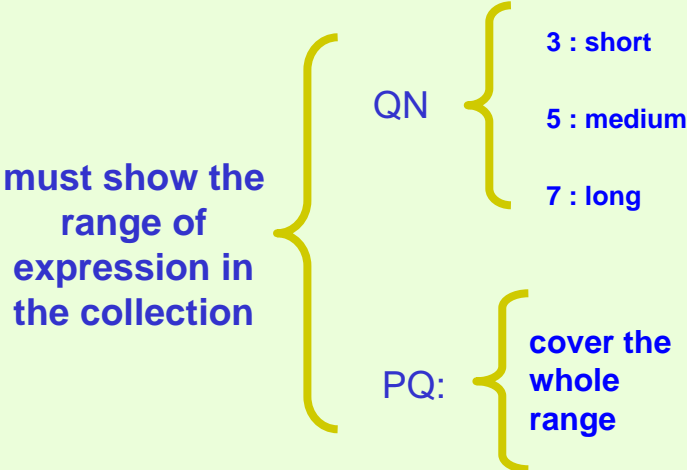
# Example Varieties – the need



# Example Varieties - availability



# 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)

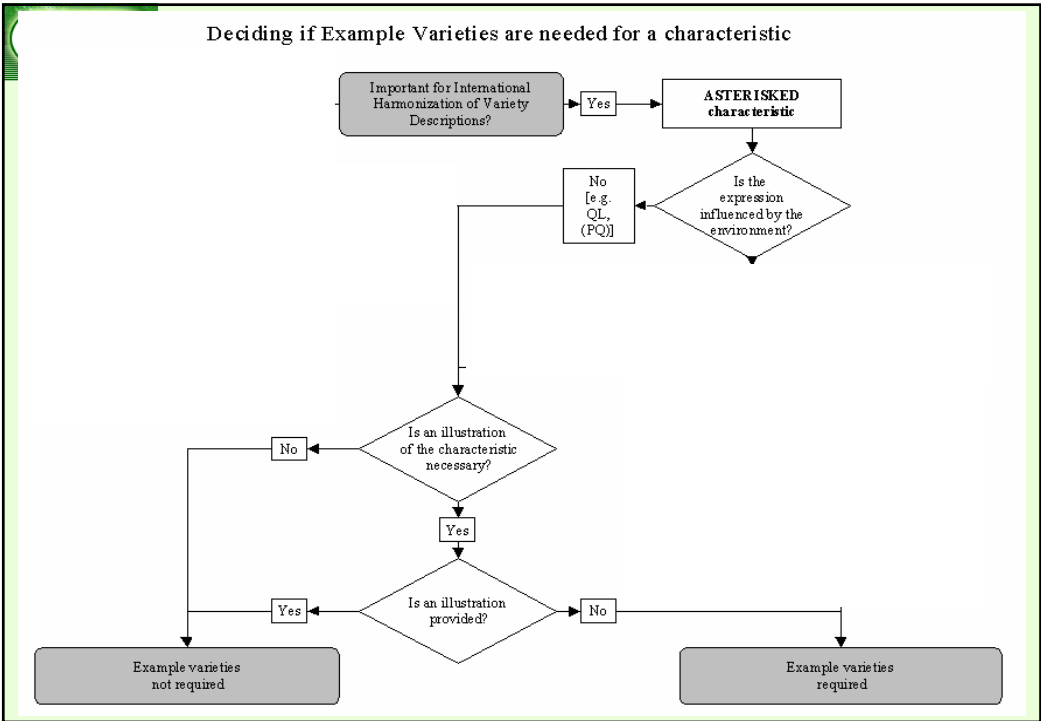
Accepted if **no objections** are presented

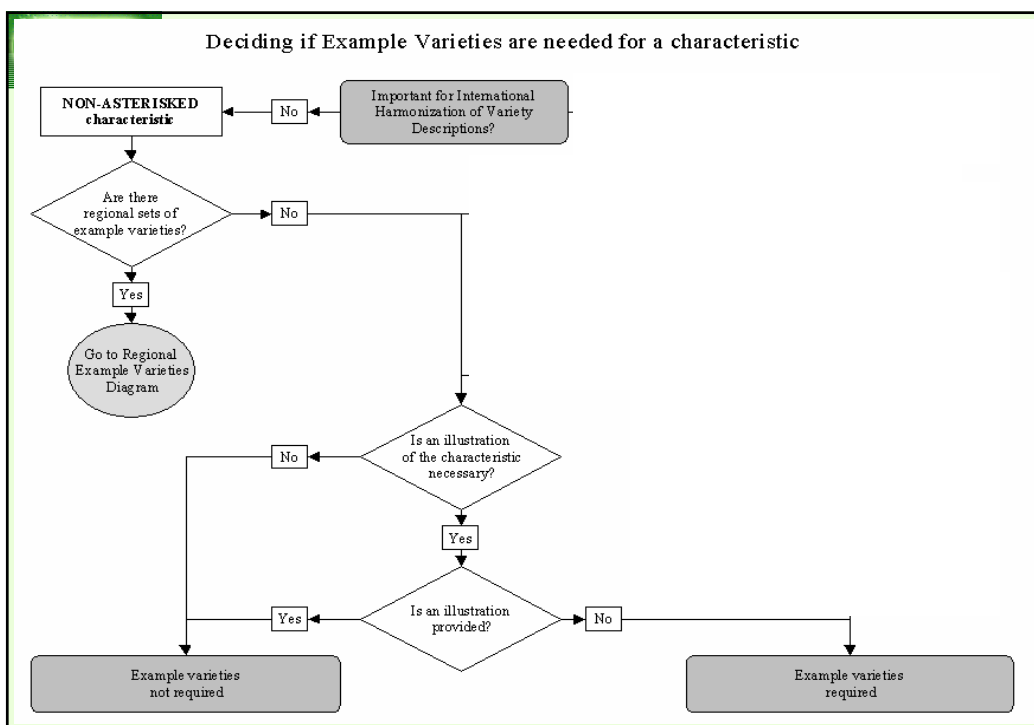
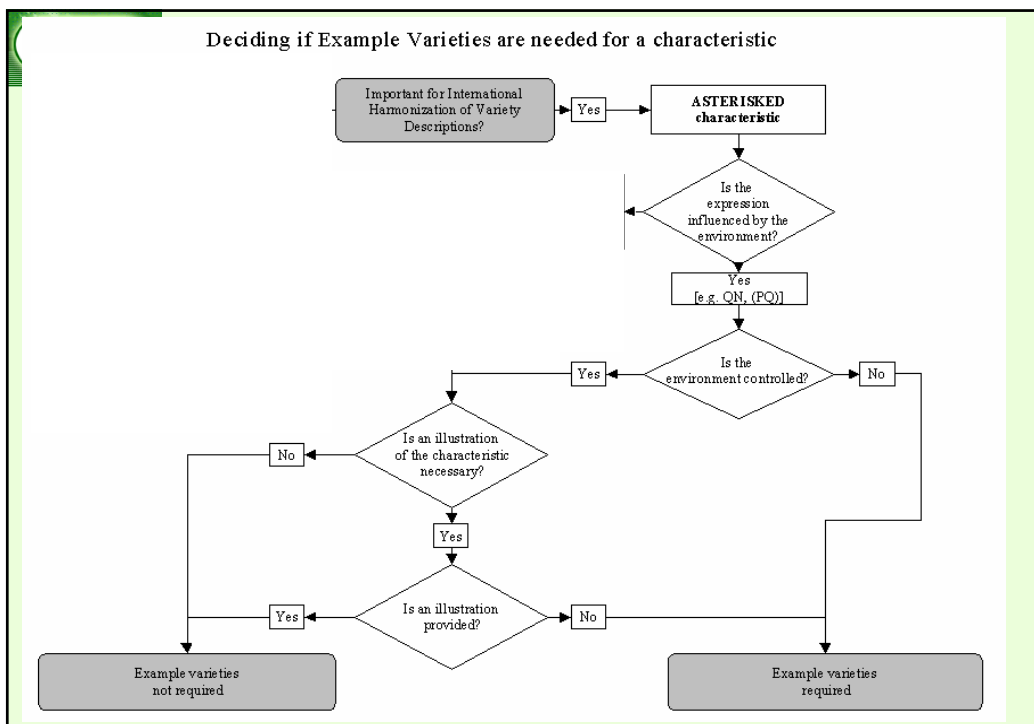
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## Example Varieties - multiple sets

Regional Sets  
Different types

clear criteria for creating the sets !





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# Exercise

**UPOV**

	English	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>4.</b>	<b>Plant: height</b>	?	
<b>(*)</b>	<b>including flowers</b>		
<b>(+)</b>			
<b>QN</b>	<b>(a)</b> short		
	medium		5
	tall		7

UPOV			
	English	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>1.</b>	<b>Plant: growth type</b>	<b>?</b>	
(*)			
(+)			
<b>QL</b>	<b>(a)</b> basal clusters		1
	bushy		2

UPOV			
	English	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>2.</b>	<b><u>Only varieties with</u></b>	<b>?</b>	
(+)	<b><u>bushy growth type:</u></b>		
	<b>Plant: predominant</b>		
	<b>attitude of stems</b>		
<b>QN</b>	<b>(a)</b> upright		1
	semi upright		3
	horizontal		5



English		Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>5.</b> (*) (+)	<b>Plant: width including flowers</b>	<b>?</b>	
<b>QN</b>	(a) narrow		3
	medium		5
	broad		7

English		Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>9.</b> (*) (+)	<b>Leaf: margins</b>	<b>?</b>	
<b>QL</b>	(a) entire		1
	(b) divided		2

English		Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>7.</b> (* (+)	<b>Leaf: length</b>	?	
<b>QN</b>	(a) short		3
	(b) medium		5
	long		7
	very long		9

English		Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>20.</b> (+)	<b>Flower: bud color</b>	?	
<b>PQ</b>	(c) RHS Colour Chart (indicate reference number)		

UPOV		English	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
<b>10.</b> (*) (+)		<b><u>Only varieties with entire leaf margins:</u></b> <b>Leaf: shape</b>	<b>?</b>	
<b>PQ</b>	(a)	ovate		1
	(b)	linear		2
		oblong		3
		elliptic		4
		circular		5
		oblanceolate		6
		obovate		7
		spatulate		8
		obtriangular		9

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## 5. TEST GUIDELINES (document TGP/7)

### (f) The process for developing UPOV Test Guidelines

## Test Guidelines

- **249 Test Guidelines** adopted

but...

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

## 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**

**UPOV** **EXAMPLE (New Test Guidelines)**

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

Technical Working Party: **TWX**

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

**UPOV**

**6. THE UPOV WEBSITE**

**UPOV**

# UPOV Website

<http://www.upov.int>

(e-mail: [upov.mail@upov.int](mailto:upov.mail@upov.int))

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

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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

DESIGN BY AXECOM.COM

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**Mission Statement**

**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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Left sidebar menu items: Mission Statement, Introduction, UPOV Convention, Membership, UPOV Bodies, Legal Resources, Key Issues, Contact Us, **Links**

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**Mission Statement**

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Left sidebar menu items: Mission Statement, Introduction, UPOV Convention, Membership, UPOV Bodies, **Legal Resources**, **Key Issues**, Contact Us, Links, Training courses



**UPOV**

**KEY ISSUES**

**NEW PUBLICATION**      **UPOV Report on the Impact of Plant Variety Protection**  
(UPOV Publication 353(E))

[Executive Summary](#)

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      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](#))


Access to Genetic Resources and Benefit-Sharing  
(*Reply of UPOV to the Notification of June 26, 2003, from the Executive Secretary of the Convention on Biological Diversity (CBD)*)  
([Adobe PDF](#))  
(Adopted by the Council of UPOV, October 23, 2003)

Position of the International Union for the Protection of New Varieties of Plants (UPOV) concerning Decision VI/5 of the Conference of the Parties to the Convention on Biological Diversity (CBD) (April 11, 2003)  
([Adobe PDF](#))

UPOV and IPGRI to Intensify Cooperation: Meeting on May 13 and

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

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Calendar

Council

Restricted area

[Council](#)

[First restricted area](#)

[Second restricted area](#)

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

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INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

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**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 Protection of New Varieties of Plants,  
 (C) Plants,  
 (D) text of 1991 only  
 (E)  
 (F)  
 (G)  
 (I)  
 (P)  
 (R)  
 (S)

**Sidebar:**  
 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  
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[Executive Summary](#)

→ **UPOV DISTANCE LEARNING COURSE DL-205**  
 "Introduction to the UPOV System of Plant Variety Protection Under the UPOV Convention"

Dates of next session: September/October 2006

For details on the course content, categories of inscription and fees ([pdf](#))

The screenshot shows the UPOV website interface. At the top left is the UPOV logo. To its right is the text 'INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS'. Below this is a navigation menu with links for HOME, ABOUT UPOV, UPOV DOCUMENTS, PUBLICATIONS, and NEWS & EVENTS. On the left side, there is a vertical menu with links for Calendar, Council, and Restricted area. The main content area features a list of links under the heading 'DRAFTER'S KIT FOR TEST GUIDELINES', which is circled in orange. The links include: [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](#)

and [Additional Characteristics](#).

The slide features the UPOV logo in the top left corner. The main content is a large, bold, green text block centered on the slide that reads: **7. AGENDA for the TWO Session**.



**THANK YOU**