



# Technical Working Party for Agricultural Crops

thirty-sixth session  
Budapest, Hungary

## PREPARATORY WORKSHOP

May 27, 2007



### 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) ~~Aspects, grouping and TGP characteristics~~  
**new Method of observation (V/M; G/S)**
  - (d) Example varieties
  - (e) The process for developing UPOV Test Guidelines
5. The UPOV website
6. Agenda for the TWP meeting
7. Feedback from participants

**UPOV**

**INTRODUCTION TO UPOV**

**UPOV**

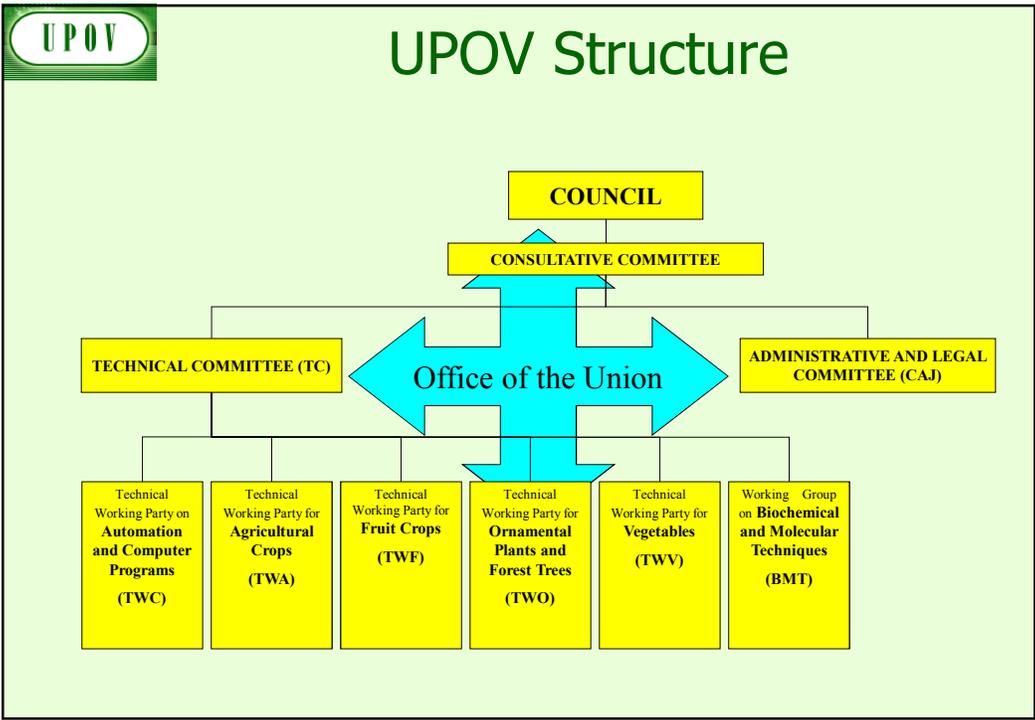
**UPOV**

**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****

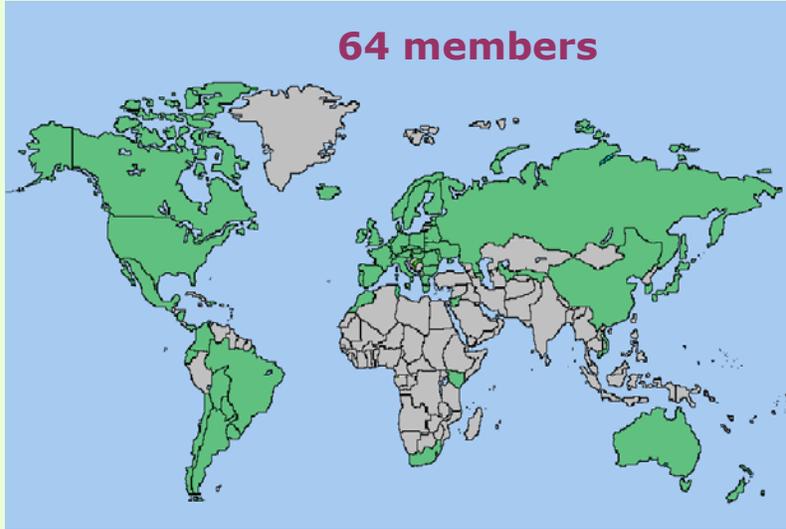
- **Members of the Union**
  - States
  - Intergovernmental Organization(s)
- **Organs established by the Convention**
  - Council
  - Office of the Union
- **Other Bodies**





## UPOV Membership/Territories covered

64 members

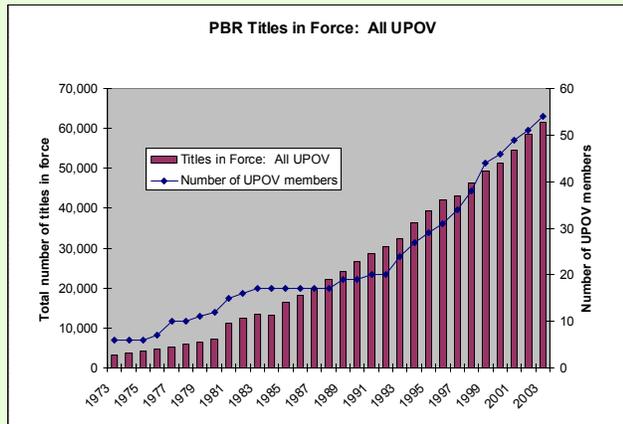


## Members of UPOV (green) and initiating States and organizations (yellow)

Initiated the Procedure  
18 States  
1 intergovernmental organization

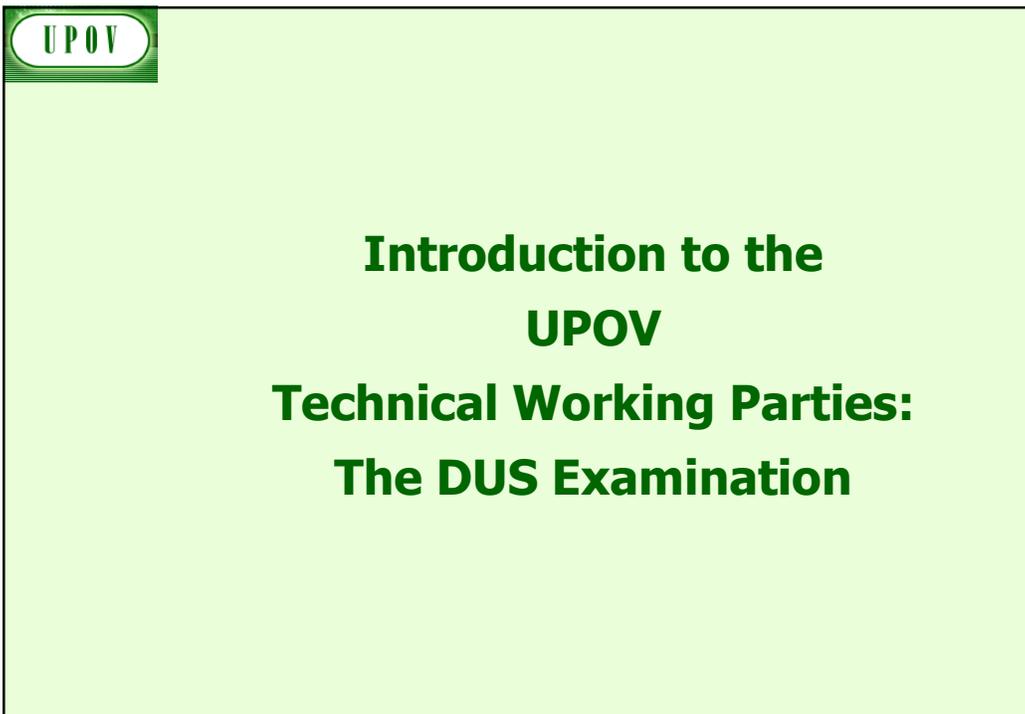
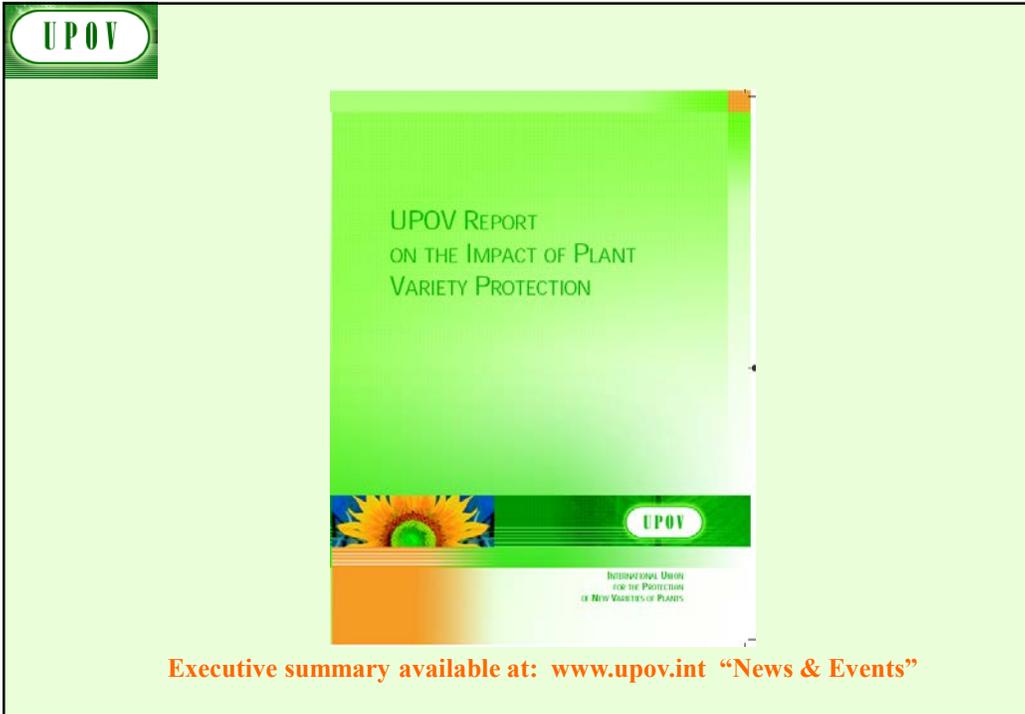


## Development of Plant Variety Protection



## 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*”



## 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!**

## THE DUS EXAMINATION

- The meaning of "DUS"
- Characteristics
- UPOV Guidance for Examination

### Nature of the DUS Examination

The "DUS Test" (field trial)



## DISTINCTNESS

Must be clearly distinguishable from any other variety whose existence is a matter of common knowledge

>>> **CHARACTERISTICS** <<<

which

- *may* have direct *commercial relevance*  
e.g. Flower color (ornamental); Fruit color
- *but commercial relevance* NOT required - often no commercial value  
e.g. Leaf shape

## DISTINCTNESS

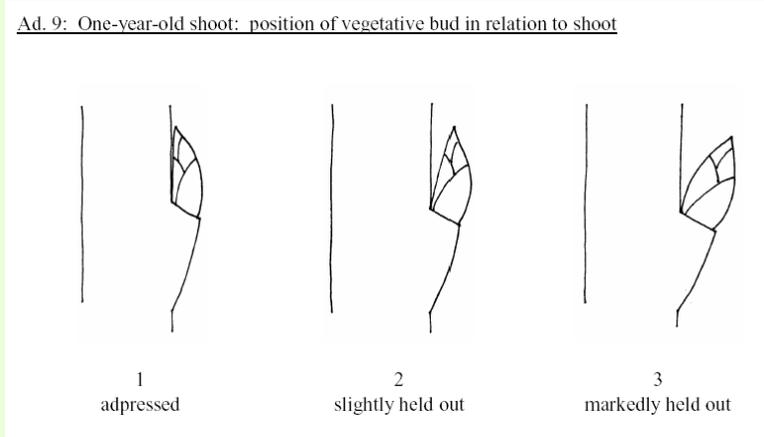
**Apple: Fruit color**



## DISTINCTNESS

### Prunus rootstocks

Ad. 9: One-year-old shoot: position of vegetative bud in relation to shoot



## DISTINCTNESS

### Maize: Stem base color



## DISTINCTNESS

(Must be clearly distinguishable from any other variety whose existence is a matter of common knowledge)

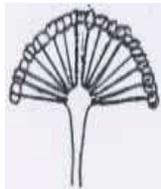
### General Introduction (Chapter 5.3.3)

A variety may be considered to be **clearly distinguishable** if the **difference in characteristics** is:

- (a) **consistent**, and
- (b) **clear**

Clear difference

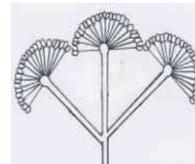
Characteristic: Inflorescence: type



1  
Type 1



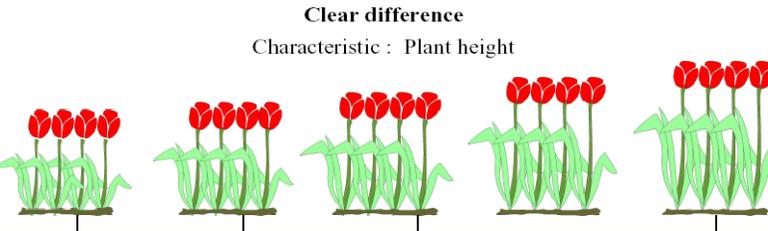
2  
Type 2



3  
Type 3

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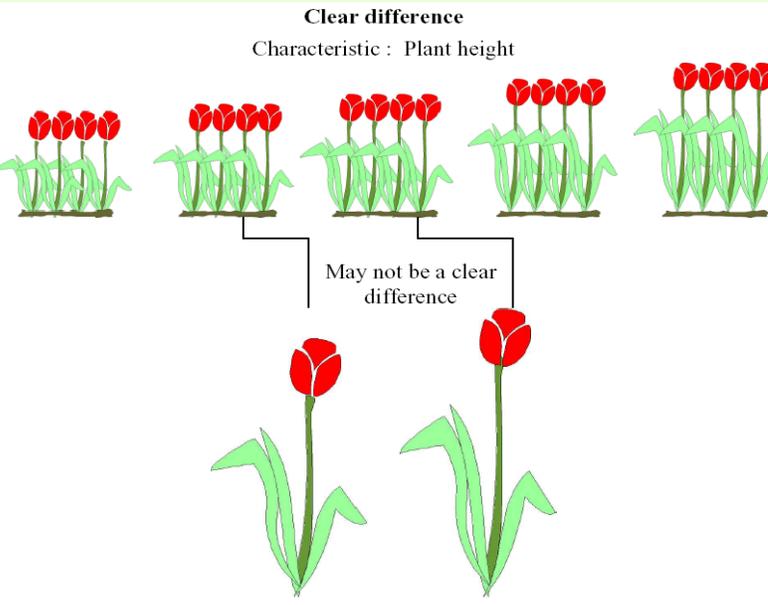
**Clear difference**  
Characteristic : Plant height



The diagram shows five groups of tulips, each with three red flowers. From left to right, the plants are progressively taller, demonstrating a clear difference in plant height.

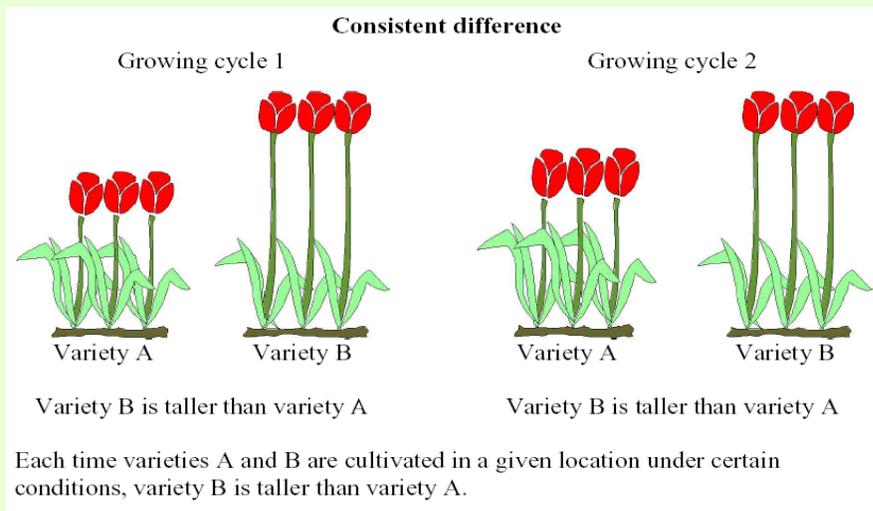
**UPOV**

**Clear difference**  
Characteristic : Plant height



The diagram shows five groups of tulips, each with three red flowers. From left to right, the plants are progressively taller. A bracket connects the second and third groups, with a line pointing to a callout box that says "May not be a clear difference". Below this callout, two individual tulips are shown: one shorter and one taller, illustrating the ambiguity in distinguishing between these two groups.

## DISTINCTNESS



- **DISTINCTNESS**

- **UNIFORMITY**

- Must be *sufficiently* uniform in its relevant characteristics, *subject to the variation that may be expected from the particular features of its propagation*

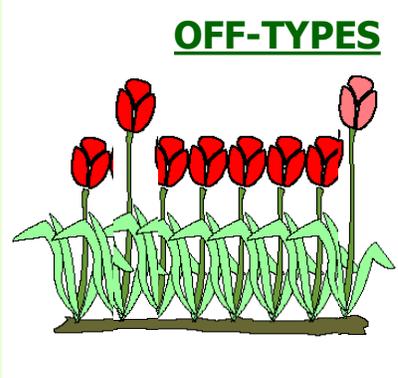
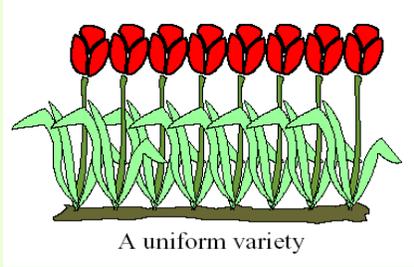
## OFF-TYPES

Where all the **plants** of a variety are **very similar**, and in particular for vegetatively propagated and self-pollinated varieties, it is possible to assess uniformity by the number of **obviously different plants** – **“OFF-TYPES”** – that occur

## UNIFORMITY

**Wheat: (Self-pollinated)**





**OFF-TYPES**

How many off-types should we accept?

The individual Test Guidelines fix for each crop:

- **the population standard** (percentage of off-types to be accepted if all individuals of the variety could be examined)
- **the acceptance probability** (probability of correctly accepting that a variety is uniform)

## UNIFORMITY

**Ryegrass: Spaced plants (Cross-pollinated)**



## Relative Tolerance Limits

Cross-pollinated varieties, ... it is more difficult to determine off-types.

Therefore, **relative tolerance limits**, for the range of variation, are set by comparison with comparable varieties, or types, already known.

The candidate variety should not be significantly less uniform than the comparable varieties.

- **DISTINCTNESS**
- **UNIFORMITY**
- **STABILITY**
  - Relevant characteristics must remain unchanged after repeated propagation or, in the case of a particular cycle of propagation, at the end of each such cycle

### **TESTING STABILITY**

- In practice, it is **not usual to perform tests of stability** that produce results as certain as those of the testing of distinctness and uniformity.
- However, for many types of variety, **when a variety has been shown to be uniform, it can also be considered to be stable.**
- Furthermore, **if the variety is not stable, material produced will not conform to the characteristics of the variety**, and where the breeder is unable to provide material conforming to the characteristics of the variety, the breeder's right may be cancelled.
- Where appropriate, or in cases of doubt, **stability may be tested, either by growing a further generation, or by testing a new seed or plant stock** to ensure that it exhibits the same characteristics as those shown by the previous material supplied.

## CHARACTERISTICS

### "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

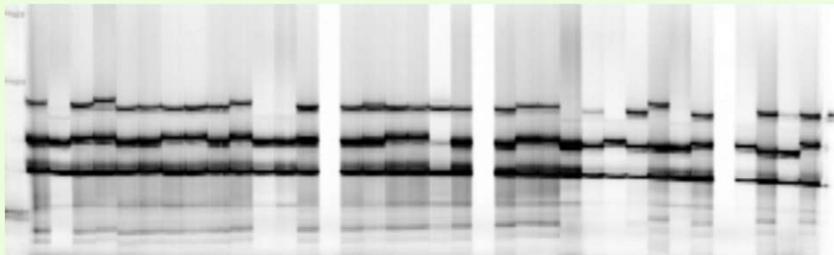
- **Yield ???**
- **Straw strength ???**
- Etc.**

UPOV		Selection of Characteristics			
Criteria	Fruit: color	Ear: glaucosity	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>	Yes	Yes	No	No	

UPOV		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		
	<b>Difficult and expensive</b>		



## Molecular Techniques?



## GUIDANCE FOR EXAMINATION

## Guidance for Examination

**facilitates:**

### **BEST PRACTICE (based on experience)**

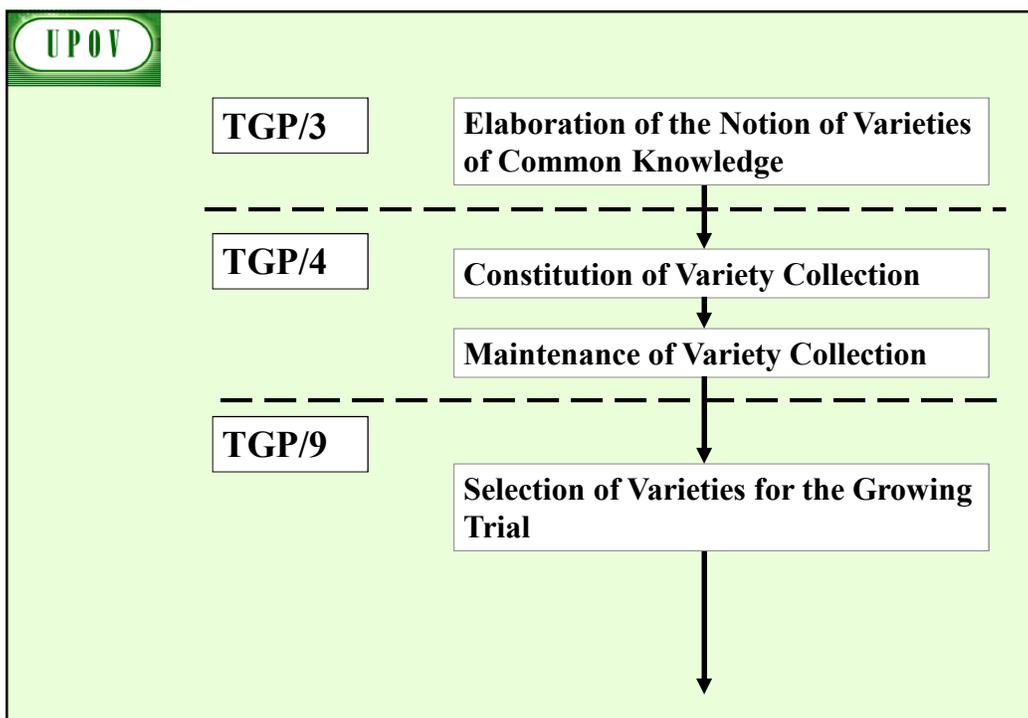
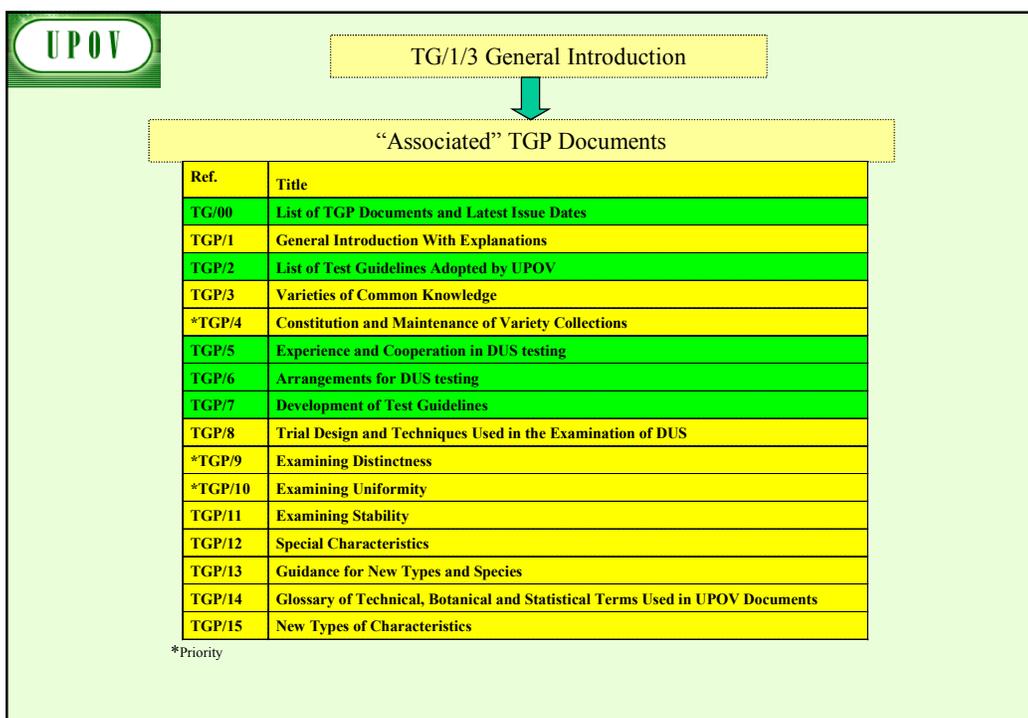
- => good decisions
- => good definition of the object of protection  
(strong protection)
- => efficiency in method of examination (learn from the best)

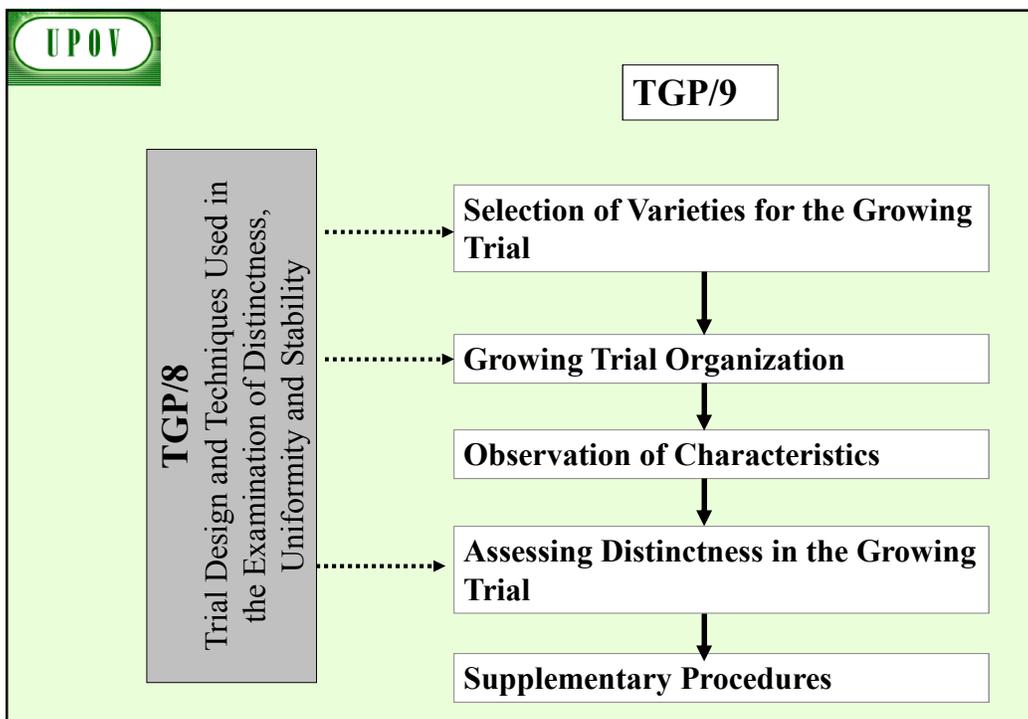
### **HARMONIZATION**

- => 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)

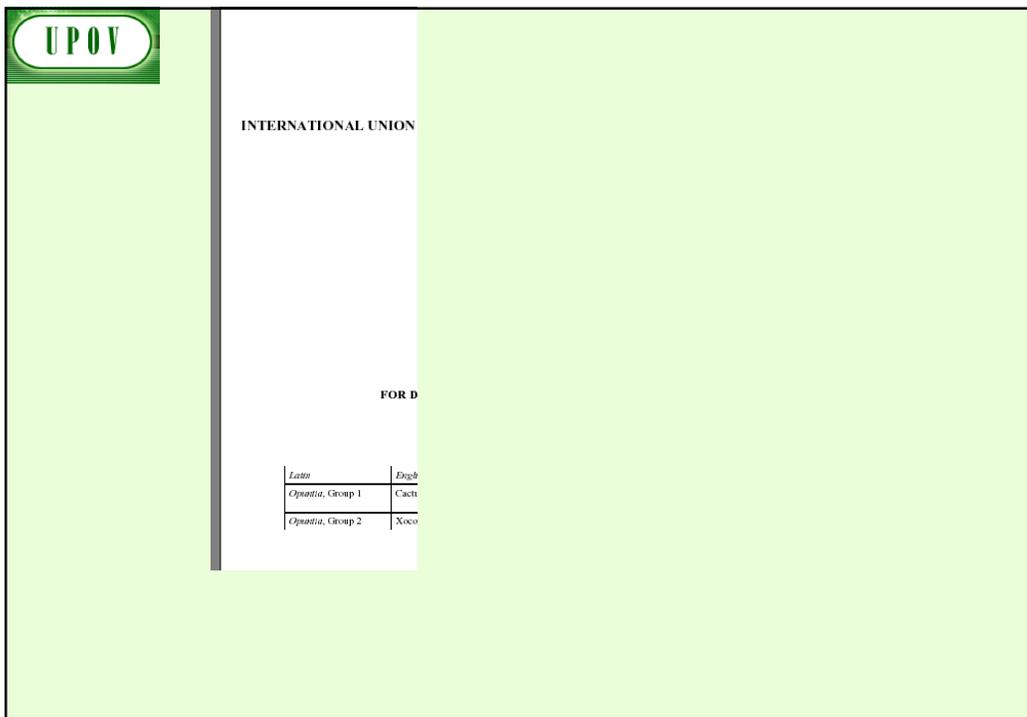
## UPOV provides guidance by:

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





- UPOV**
- 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**



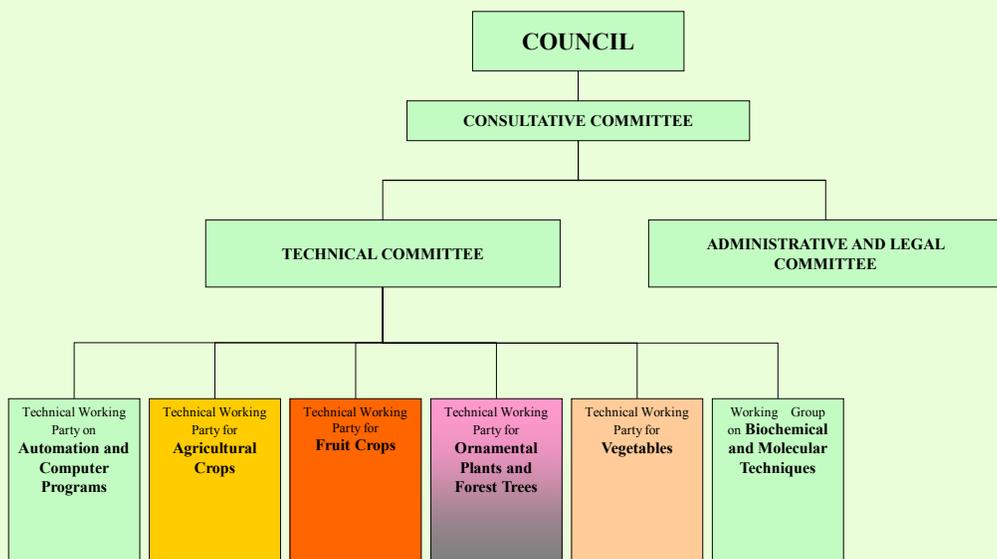
## Test Guidelines

- **237 Test Guidelines** adopted
- Further **74 to be discussed** in 2007  
(23 revisions / 51 new Test Guidelines)

**UPOV Test Guidelines (“Test Guidelines”)**  
are developed for  
**individual species / variety groupings**

- Basis for internationally **harmonized examination of DUS** testing through guidance on the features of DUS Testing e.g.
  - growing cycles of testing (usually one or two)
  - number of plants (6 to 600)
  - material to be tested
  - **characteristics to be examined** (around 30 - 100)
  - **example varieties**
  - uniformity standards
 and facilitating **harmonized variety descriptions** on the basis of selected characteristics
- **Drafted by Members’ Experts (Technical Working Parties)**

**UPOV Structure**



## 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

## TGP/7 “Development of Test Guidelines”

**UPOV**

- 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

**Annex 1: The TG Template**  
Annex 2: Additional Standard Wording for the TG Template  
Annex 3: Guidance Notes for the TG Template  
Annex 4: Collection of Approved Characteristics

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# **1. Introduction**

Purpose of document TGP/7:

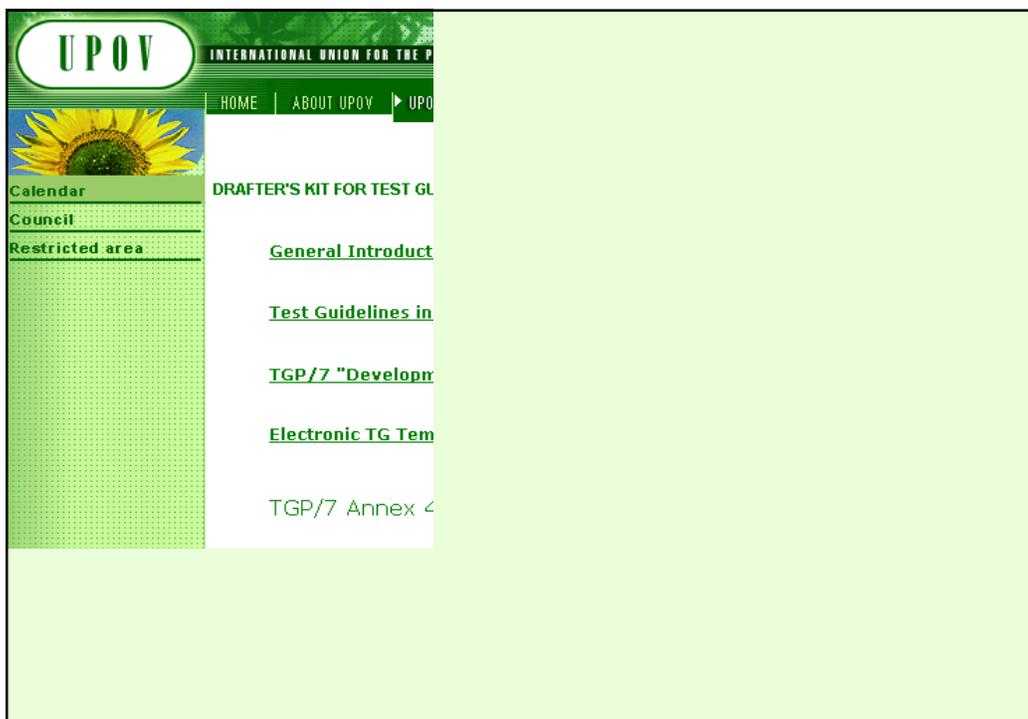
- ♣to provide guidance on the development of UPOV Test Guidelines
  - ♣ Procedure for the introduction and revision
  - ♣Guidance for drafting
    - ♣Standard format (template)
    - ♣Standard wording
- ♣to provide guidance on the development of individual authorities' test guidelines, in the absence 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)

1



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## 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

## 6. Introduction to the Table of Characteristics

### 6.1 Categories of Characteristics

#### 6.1.1 Standard Test Guidelines Characteristics

#### 6.1.2 Asterisked Characteristics (denoted by \*)

### 6.2 States of Expression and Corresponding Notes

### 6.3 Types of Expression

An explanation of the types of expression of characteristics (qualitative, quantitative and pseudo-qualitative) is provided in the General Introduction.

### 6.4 Example Varieties

### 6.5 Legend

(\*) Asterisked characteristic – see Section 6.1.2

(QL) Qualitative characteristic – see Section 6.3

(QN) Quantitative characteristic – see Section 6.3

(PQ) Pseudo-qualitative characteristic – see Section 6.3

## 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 19} Asterisked characteristics}	{GN 22} Recommendations for conducting the examination}	{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 12} Example varieties}	{GN 26} Notes}			
{GN 21} Type of expression of the characteristic}	{Other}	{GN 25} States of expression of a characteristic}	{GN 12} Example varieties}	{GN 26} Notes}			

Order of Characteristics

- (a) Botanical order
- (i) The botanical order is as follows:
- seed (for characteristics examined on seed submitted)
  - seedling
  - plant (e.g. growth habit)
  - root
  - root system or other subterranean organs,
  - stem
  - leaf (blade, petiole, stipule)
  - inflorescence
  - flower (calyx, sepal, corolla, petal, stamen, pistil)
  - fruit
  - seed (for characteristics examined on seed harvested from the growing trial).
- (ii) with the characteristics of the whole organ followed by those of its parts, from large to small, outer/lower parts to inner/higher parts

Order of Characteristics

or (b) Chronological order;

followed by

(c) Characteristic order

- attitude
- height
- length
- width
- size
- shape
- color

other details (such as surface, etc., and individual parts of the organ such as base, apex and margin).

## 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**.

### Qualitative Characteristics

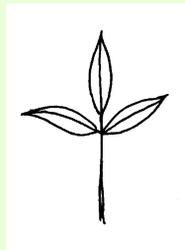
In qualitative characteristics, **the difference between two varieties may be considered clear if one or more characteristics have expressions that fall into two different states in the Test Guidelines.** Varieties should not be considered distinct for a qualitative characteristic if they have the same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

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

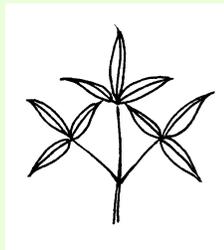
### Clematis: Leaf: type



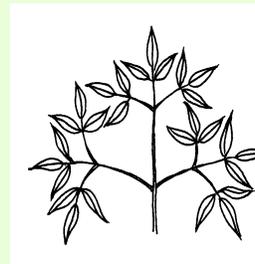
1  
simple



2  
ternate



3  
biternate



4  
triternate

### Quantitative Characteristics

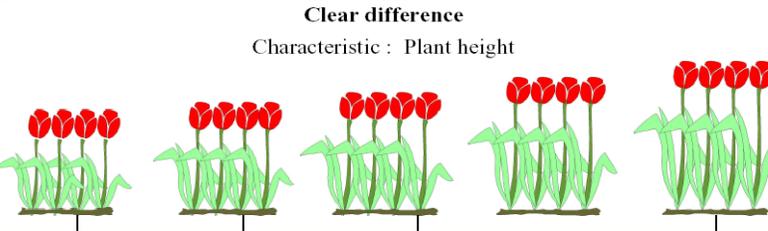
“Quantitative characteristics” are those where the expression covers the full range of variation from one extreme to the other. The **expression can be recorded on a one-dimensional, continuous or discrete, linear scale**. The range of expression is divided into a number of states for the purpose of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

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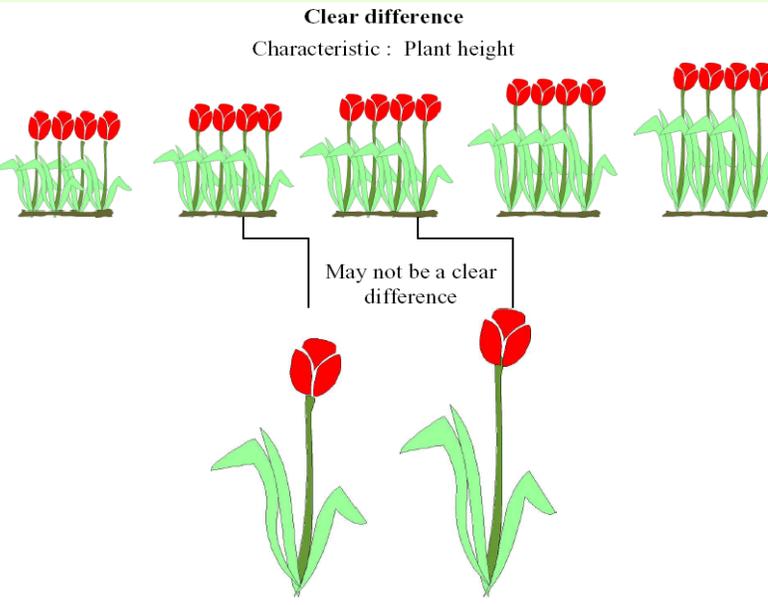
**Clear difference**  
Characteristic : Plant height



The diagram shows five groups of tulips, each with three red flowers and green leaves. From left to right, the plants are progressively taller, demonstrating a clear difference in plant height.

**UPOV**

**Clear difference**  
Characteristic : Plant height

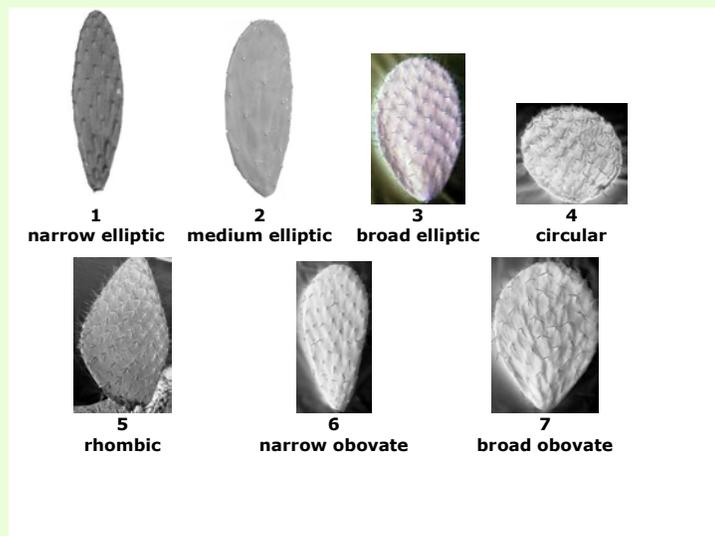


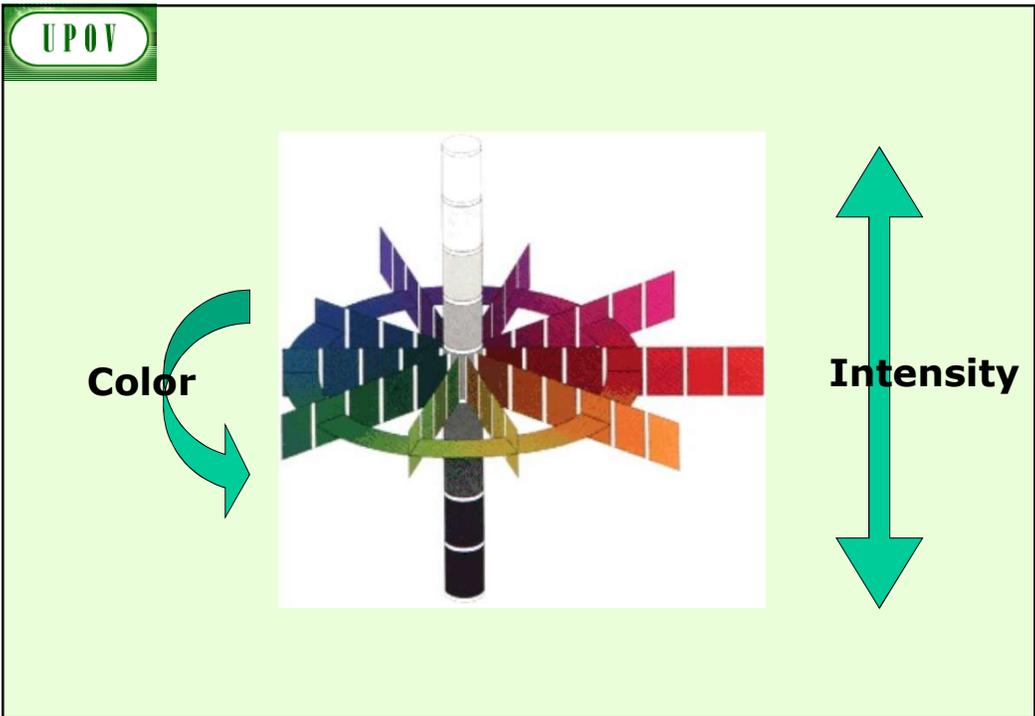
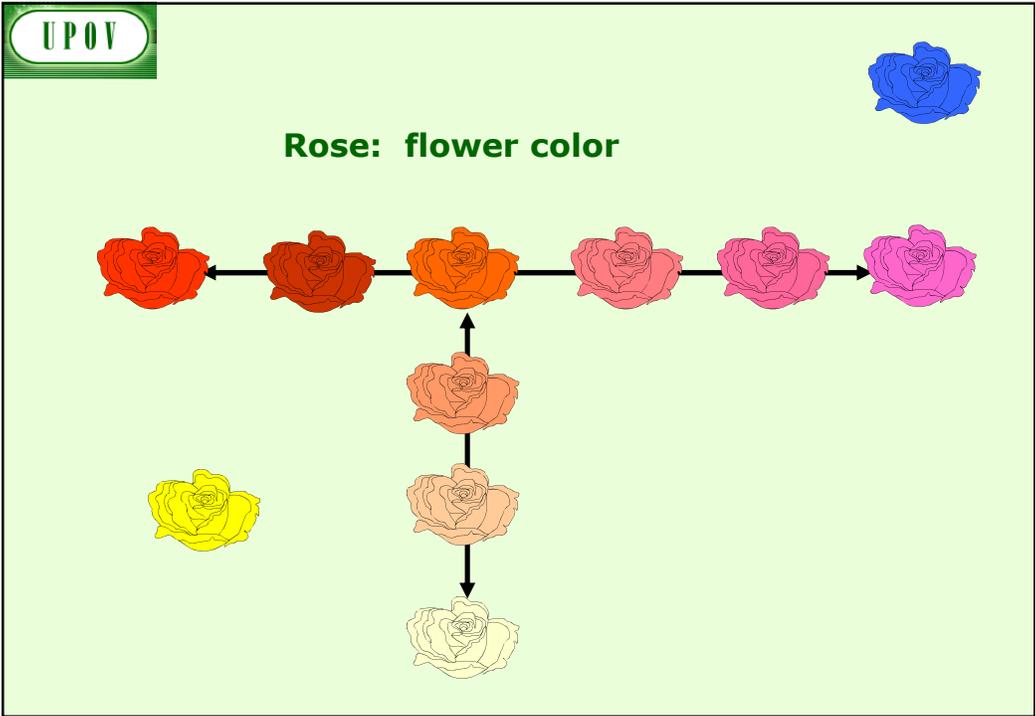
The diagram shows five groups of tulips, each with three red flowers and green leaves. From left to right, the plants are progressively taller. A bracket under the second and third groups is labeled "May not be a clear difference". Below this, two individual tulips are shown, one taller than the other, illustrating a comparison of height.

### 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.

### Opuntia: Shape of Cladode





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.

7. Table of Characteristics

### Qualitative Characteristics

Char No.	Method of Examination	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota	
<b>1. (*)</b>	<b>MS C</b>	<b>Plant: ploidy</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	

### Qualitative Characteristics

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

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
1 very weak (or: absent or very weak)
3 weak
5 medium
7 strong
9 very strong

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

Standard Range Version 3
-
3 weak
5 medium
7 strong
9 very strong

Standard Range Version 4
-
3 weak
5 medium
7 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**

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

## Pseudo-qualitative Characteristics

### *Qualitative characteristic*

Color: green (1), yellow (2), red (3)

### *Pseudo-qualitative characteristic:*

Color: green (1), yellow green (2), green yellow (3), yellow (4), orange (5), red (6)

Shape: round (1), broad elliptic (2), elliptic (3), elliptic to ovate (4), ovate (5)

Not: Shape: round (1), intermediate (2), elliptic (3), intermediate (4), ovate (5)

Color: light green (1), medium green (2), dark green (3), purple green (4)

Not: Color: light green (1), green (2), dark green (3), purple green (4)

## Pseudo-qualitative Characteristics

Shape: broad elliptic (1), medium elliptic (2), narrow elliptic (3), ovate (4)

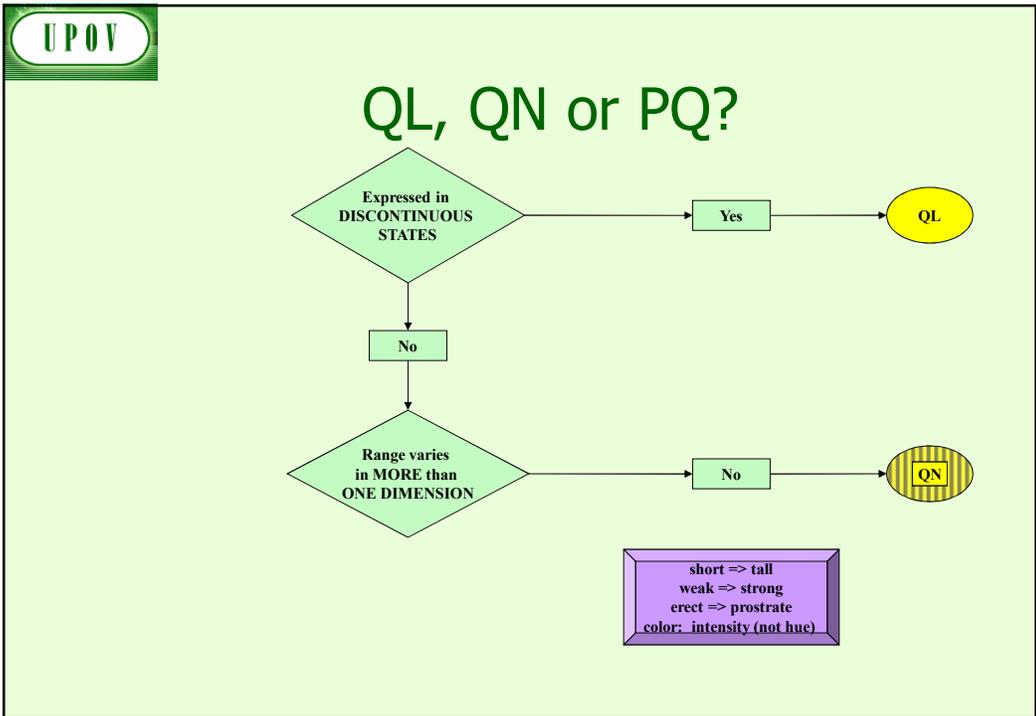
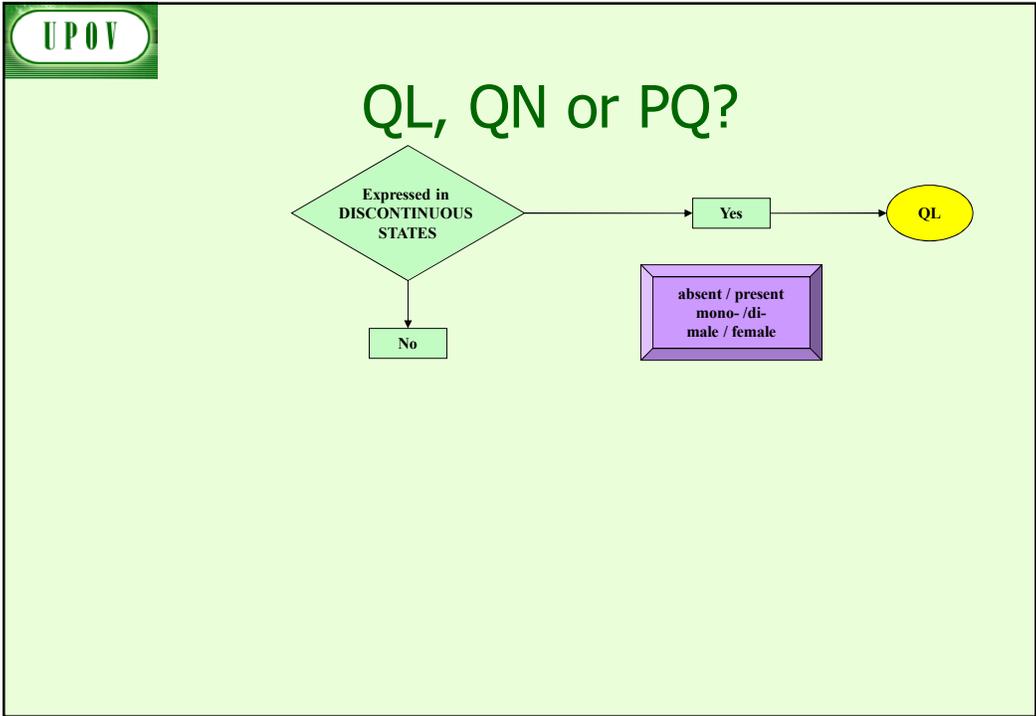
Not: Shape: broad elliptic (1), elliptic (2), narrow elliptic (3), ovate (4)

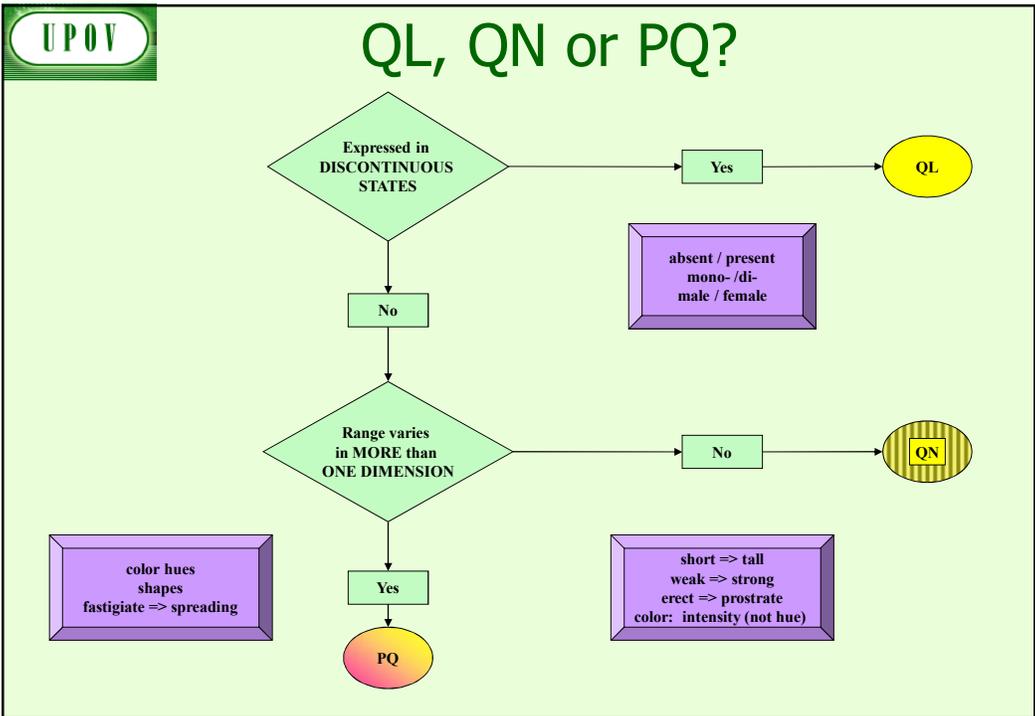
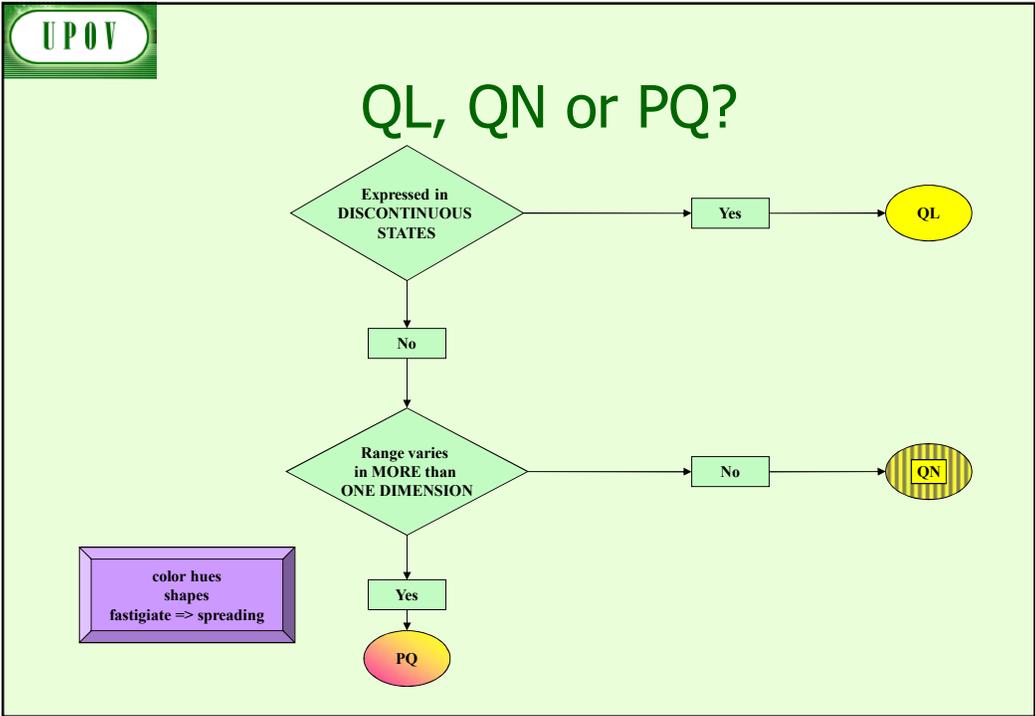
Color of spots: only green (1); green and purple (2); only purple (3)

Type of mottling: only diffuse (1);  
diffuse and in patches (2);  
 diffuse, in patches and linear bands (3);  
diffuse and in linear bands (4).

Width: narrow (3), medium (5), broad (7)

Not: Shape: narrow ovate (1), ovate (2), broad ovate (3)





## 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

**3. Plant: rhizomes**

absent	1
present	9

---

**4. Plant: growth habit**

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

---

**5. Leaf: length**

very short	1
short	3
medium	5
long	7
very long	9

---

---

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

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

---

---

**7. Petal: color on lower side**

white	1
light pink	2
dark pink	3

---

---

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

light	3
medium	5
dark	7

---

---

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

acute	1
obtuse	2
truncate	3
cordate	4

---



---

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

straight or weakly 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

---

## METHOD OF OBSERVATION

### 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**.

## Type of Record

(for the purposes of distinctness)

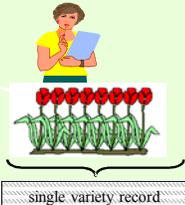
**G:** **single record** for a variety, or a **GROUP of plants** or parts of plants;

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

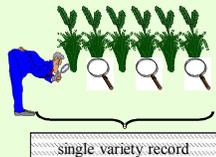
In most cases, "G" provides a single record per variety and it is not possible or necessary to apply statistical methods in a plant-by-plant analysis for the assessment of distinctness.

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

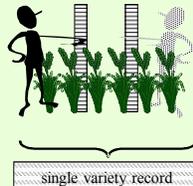
Section 4.3.2.3  
Example (VG): Flower: type  
(tulip: vegetatively propagated)



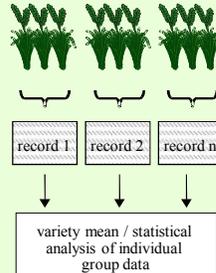
Section 4.3.2.3  
Example (VG): Lowest leaf:  
hairiness of leaf sheaths  
(barley: self-pollinated)

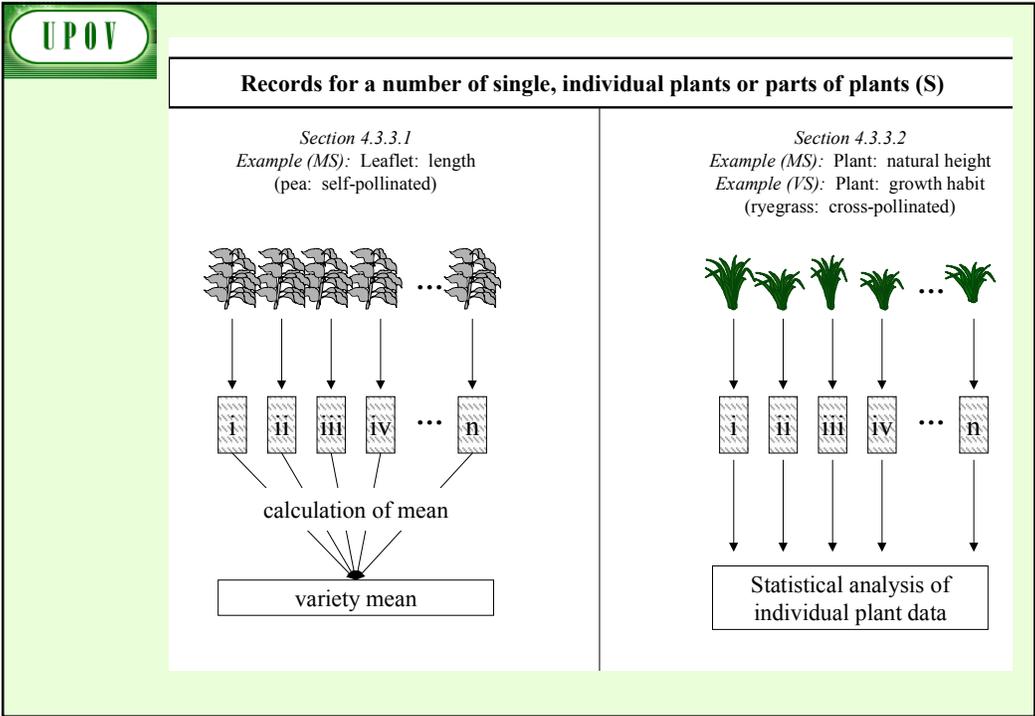


Section 4.3.2.3  
Example (MG): Plant: height  
(wheat: self-pollinated)



Section 4.3.2.4  
Example: (statistical analysis)





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EXAMPLE VARIETIES

Lettuce/La

7. **Table of Characteristics/Tableau des caractéristiques**

	English	français	Deutsch
<b>1. (*)</b>	<b>Seed: color</b>	<b>Semence: couleur</b>	<b>Saatgut: Farbe</b>
	white	blanche	weiß
	yellow	jaune	gelb
	black	noire	schwarz
<b>2. (*) (+)</b>	<b>Seedling: anthocyanin coloration</b>	<b>Plantule: pigmentation anthocyanique</b>	<b>Kiemplanze: Anthocyaninfärbung</b>
	absent	absente	fehlt
	present	présente	vorhanden

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

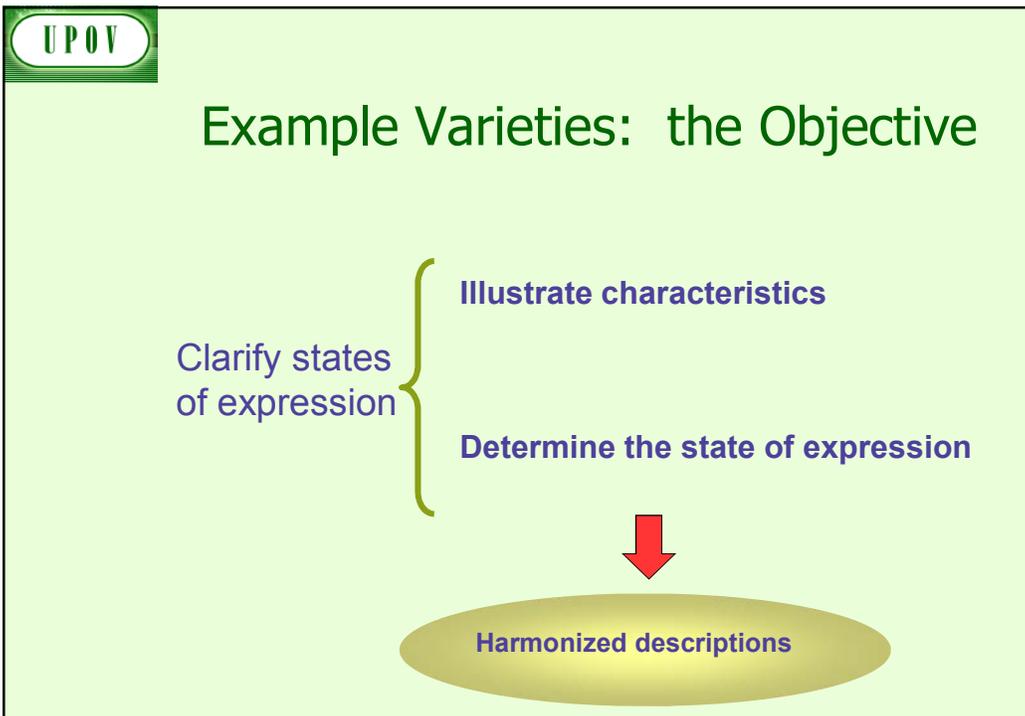
	English	français	deutsch	español
<b>14. VG</b>	<b>Leaf blade: intensity of purplish color of lower side</b>	<b>Limbe: intensité de la couleur pourpre de la face inférieure</b>	<b>Blattspreite: Intensität der Purpurfarbe der Unterseite</b>	<b>Limbo: intensidad del color púrpura de la parte inferior</b>
<b>QN (a)</b>	very light	très claire	sehr hell	muy claro
	light	claire	hell	claro
	medium	moyenne	mittel	medio
	dark	foncée	dunkel	oscuro
	very dark	très foncée	sehr dunkel	muy oscuro

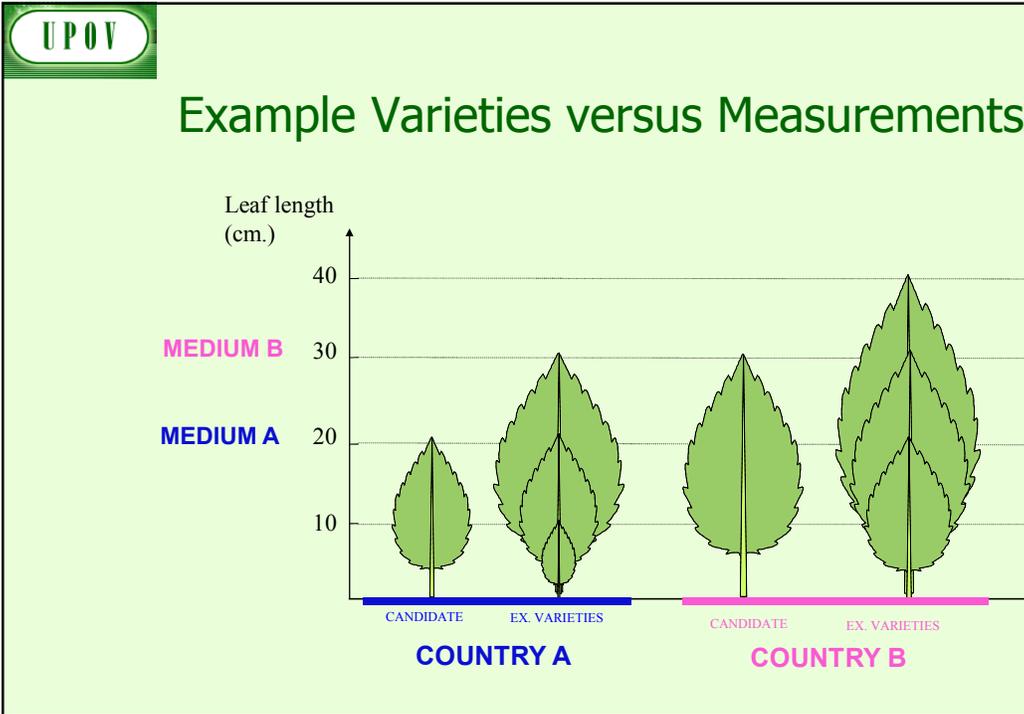
Brachyscome/B

**UPOV**

7. Table of Characteristics/ Tableau des caractéristiques

	English	français
1. (*) (*)	<b>Plant: growth type</b>	<b>Plante: type de croissance</b>
QL (a)	basal clusters bushy	en amas à la base buissonnant
2. (*)	<u>Only varieties with bushy growth type:</u> <b>Plant: predominant attitude of stems</b>	<u>Variétés à type de croissance buissonnant:</u> <b>Plante: attitude prédominante des tiges</b>
QN (a)	upright semi upright horizontal	dressées demi-dressées horizontales
3.	<u>Only varieties with bushy growth type:</u> <b>Plant: number of stems</b>	<u>Variétés à type de croissance buissonnant:</u> <b>Plante: nombre de tiges</b>
QN (a)	few medium many	peu nombreuses moyennement nombreuses nombreuses





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## Example Varieties –the need

**NO NEED**

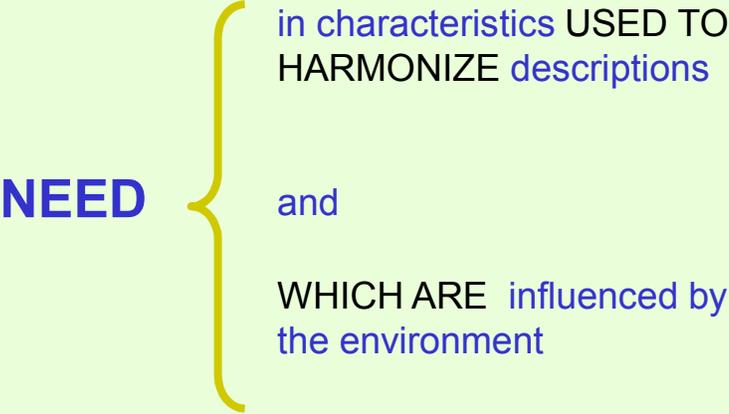
illustration available (e.g. photo) and

characteristics NOT used to harmonize descriptions

or

characteristics NOT influenced by the environment

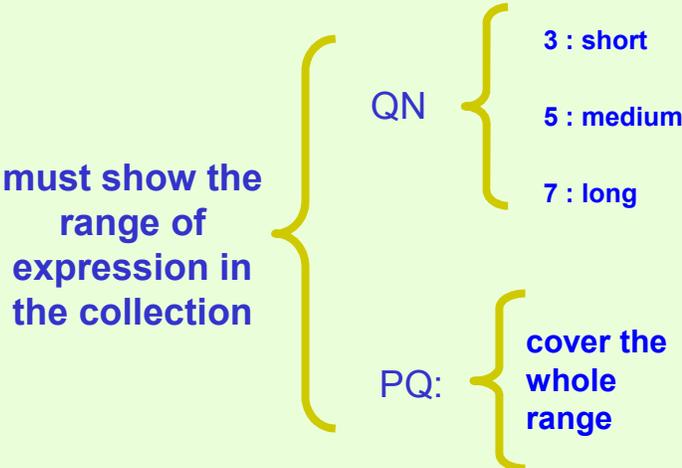
## Example Varieties – the need



## 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

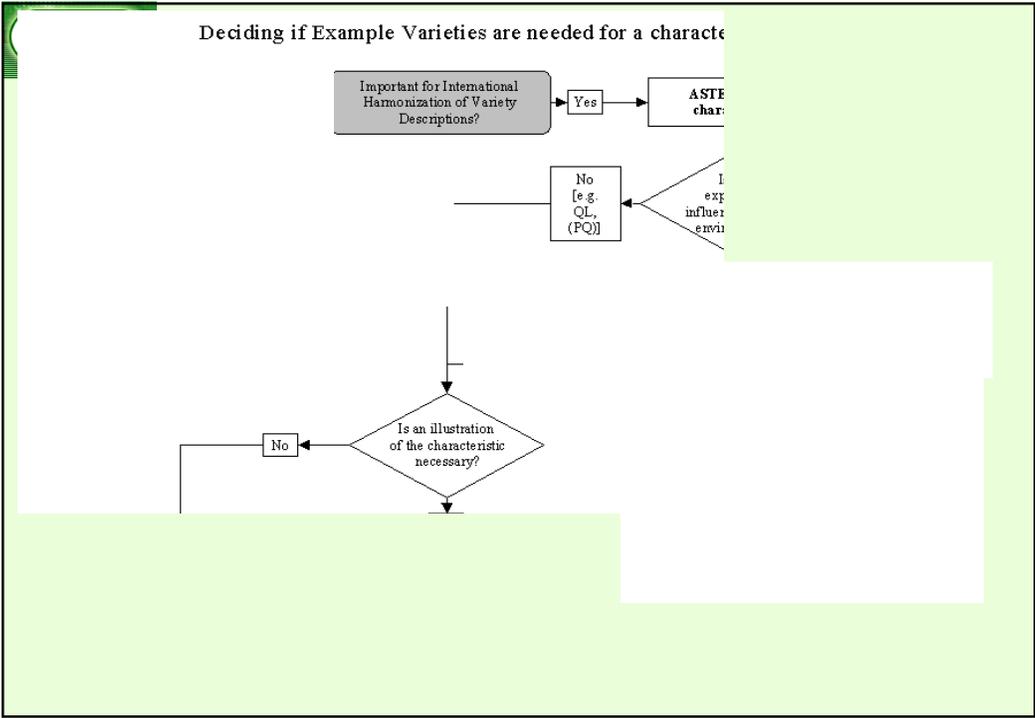
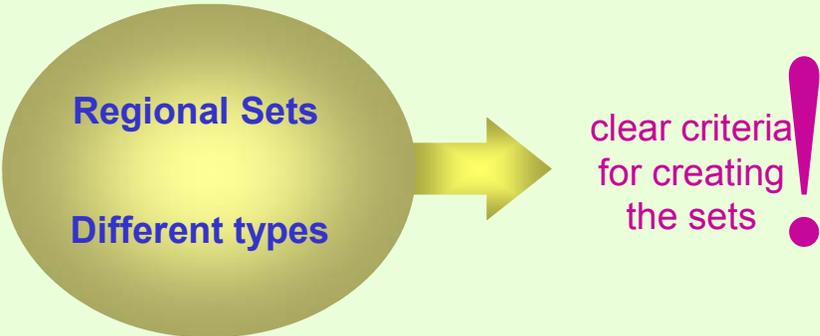
**All desired characteristics covered with the MINIMUM number of example varieties**

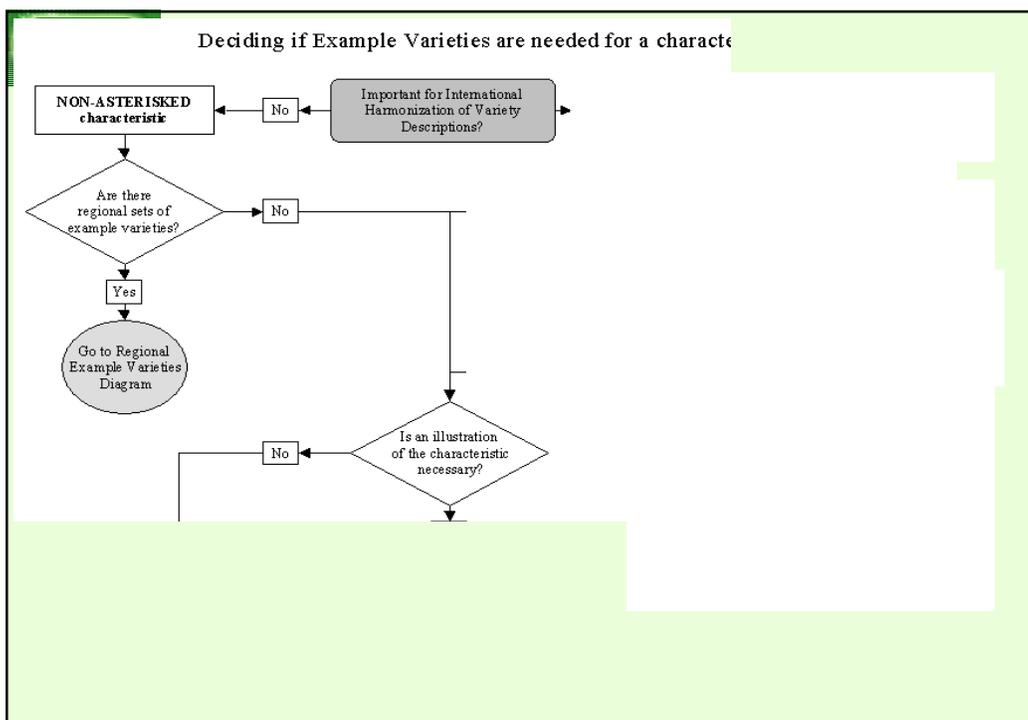
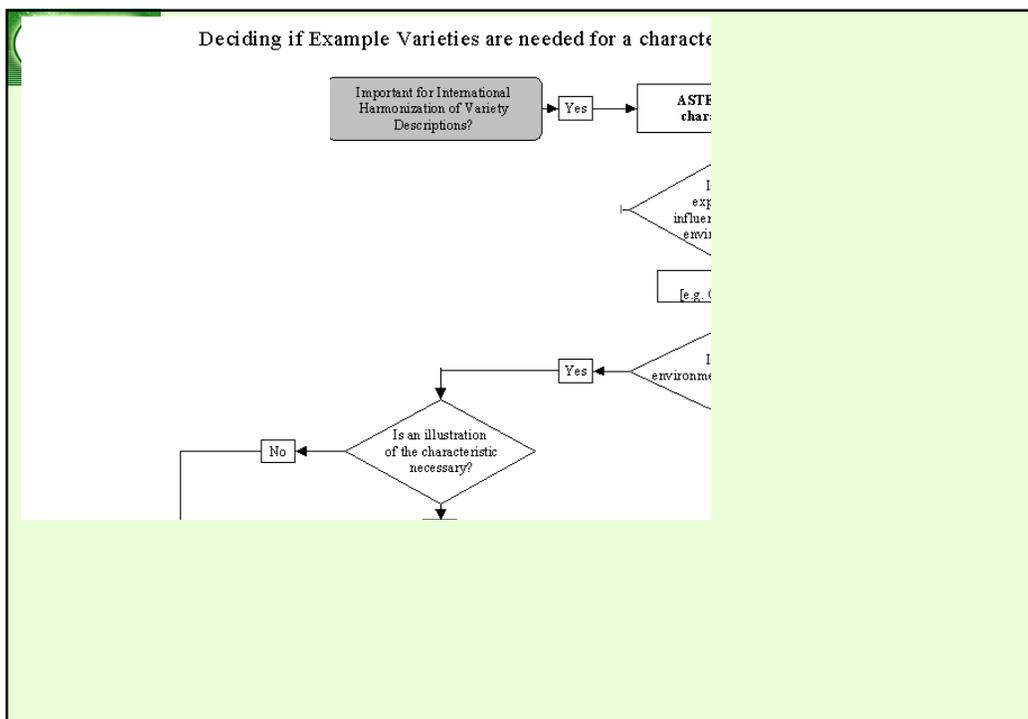
## Example Varieties - agreement

**Proposed by the leading expert of the TG**

**Accepted if no objections are presented**

# Example Varieties - multiple sets





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# Exercise

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

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

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

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

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

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

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

UPOV		English	Example Varieties/ Exemples/ Beispielssorten/ 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

**WHAT IS WRONG?**

<b>1.</b>	<b>Plant: time of flowering</b>	
	early      60 - 70 days	3
	medium    70 - 80 days	5
	late        >80 days	7

<b>2.</b>	<b>Cotyledon: surface</b>	
	smooth	1
	slightly wrinkled	2
	wrinkled	3

<b>3.</b>	<b>Leaf blade: symmetry between the sides</b>	
	symmetric	1
	intermediate	2
	asymmetric	3

<b>4.</b>	<b>Fruit bunch: uniformity</b>	
	low	3
	medium	5
	high	7

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<b>5.</b>	<b>Plant: growth habit (at beginning of flowering)</b>	
	erect	3
	semi-erect	5
	prostrate	7

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<b>6.</b>	<b>Petiole: anthocyanin pigmentation</b>	
	absent	1
	present	2

<b>7.</b>	<b>Leaf: shape of base</b>	
	acute	1
	obtuse	2
	cordate	3
	asymmetric	4

<b>8.</b>	<b>Fruit: covering of calyx</b>	
	uncovered	3
	partially covered	5
	covered	7

<b>9.</b>	<b>Fruit: ratio length/diameter</b>	
	very small	1
	very small to small	2
	small	3
	small to medium	4
	medium	5
	medium to large	6
	large	7
	large to very large	8
	very large	9

<b>10.</b>	<b>Fruit: grooves</b>	
	absent or very weak	1
	present	9

UPOV		
<b>11.</b>	<b>Leaf blade: folding</b>	
	absent (flat or slightly concave)	1
	concave	2
	asymmetrically folded	3
	twisted	4

UPOV		
<b>1.</b>	<b>Corolla: length</b>	
QN	short	3
	medium	5
	long	7
<b>2.</b>	<b><u>Only varieties with long corolla:</u> Corolla: curvature</b>	
QN	curved upwards	3
	straight	5
	curved downwards	7

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**The process for developing  
UPOV Test Guidelines**

**see document TWA/36/7**

**UPOV**

**UPOV Website**  
<http://www.upov.int>  
(e-mail: [upov.mail@upov.int](mailto: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.

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**Mission Statement**

**Introduction**

**UPOV Convention**

**Membership**

**UPOV Bodies**

**Legal Resources**

**Key Issues**

## MISSION STATEMENT

To provide and promote an effective system with the aim of encouraging the developer the benefit of society.

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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**

<b>NEW PUBLICATION</b>	<b>UPOV Rep</b> (UPOV Pub <a href="#">Executive S</a> )
Breeder's exemption	Breeder's e Conventior
Notion of Breeder and Common Knowledge	The Notion ( <a href="#">Adobe PDF</a> )
Genetic Resources and Benefit-Sharing	Access to ( <i>Reply of U Executive :</i> ( <i>CBD</i> )) ( <a href="#">Adobe PDF</a> )
	Access to ( <i>Reply of U Executive :</i> ( <i>CBD</i> ))

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Calendar  
Council  
Restricted area

[Council](#)  
[First restricted area](#)  
[Second restricted area](#)

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

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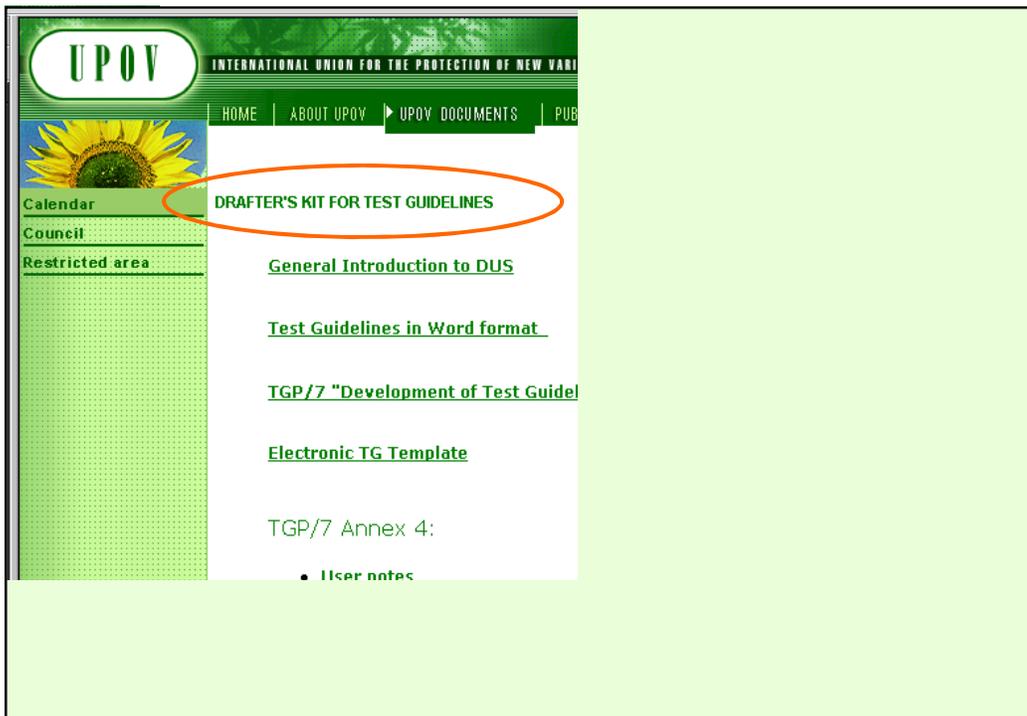
**UPOV Convention**  
**List of Publications**  
**Gazette & Newsletter**  
**Laws & Treaties**  
**List of Taxa Protected**  
**Plant Variety**  
**Protection Statistics**  
**General Introduction to DUS**  
**TGP Documents**  
**Test Guidelines**  
**Practical Technical**

**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, C = German, I = Italian, J = Japanese, P = Portuguese, R = Russian, S = Spanish

<a href="#">221</a>	(A)	International Convention for the Protection
	(C)	Plants,
	(D)	text of 1991 only
	(E)	
	(F)	



**UPOV**

# **AGENDA for the TWA MEETING**

**UPOV**

**UPOV**

TWA/36/1 Rev.  
ORIGINAL: English  
DATE: May 22, 2007

**E**

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS  
GENEVA

TECHNICAL WORKING PARTY FOR AGRICULTURAL CROPS

Thirty-Sixth Session  
Budapest, May 28 to June 1, 2007

<b>UPOV</b>	
5.	<p>TGP documents (document TWA/36/3)</p> <p><i>(a) TGP documents to which the Technical Committee has given highest priority:</i></p> <p>TGP/10      Examining Uniformity (document TGP/10/1 Draft 7)</p> <p><i>(b) Other TGP Documents:</i></p> <p>TGP/8      Trial Designs and Techniques used in the Examination of Distinctness, Uniformity and Stability (document TGP/8/1 Draft 7)</p> <p>TGP/11      Examination of Stability (document TGP/11/1 Draft 2)</p> <p>TGP/12      Special Characteristics (document TGP/12/1 Draft 2)</p> <p>TGP/13      Guidance for New Types and Species (document TGP/13/1 Draft 9)</p> <p>TGP/14      Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents (document TGP/14/1 Draft 3)</p> <p><i>(c) Revision of TGP documents:</i></p> <p>TGP/5:      Experience and Cooperation in DUS Testing</p> <p>                Section 1/2 Draft 2: Model Administrative Agreement for International Cooperation in the Testing of Varieties</p> <p>                Section 2/2 Draft 2: UPOV Model Form for the Application for Plant Breeders' Rights</p> <p>                Section 4/2 Draft 2: UPOV Model Form for the Designation of the Sample of the Variety</p> <p>                Section 5/2 Draft 2: UPOV Request for Examination Results and UPOV Answer to the Request for Examination Results</p> <p>                Section 6/2 Draft 2: UPOV Report on Technical Examination and UPOV Variety Description</p> <p>                Section 7/2 Draft 2: UPOV Interim Report on Technical Examination</p>

<b>UPOV</b>	
6.	UPOV Information Databases (document TWA/36/4)
7.	Variety Denominations (document TWA/36/5)
8.	Project to consider the publication of variety descriptions (document TWA/36/6)
9.	Practical Guide for Drafters of UPOV Test Guidelines (document TWA/36/7)
10.	Combinations of Lines (document TWA/36/8)
11.	Development of regional sets of example varieties for the Test Guidelines for Rice (document TWA/36/9)

## 12. Discussion on draft Test Guidelines

- (a) Amaranth (document TG/AMARAN(proj.7))
- (b) *Agave* spp. (document TG/AGAVE(proj.1))
- (c) Buckwheat (*Fagopyrum esculentum* Moench) (document TG/FAGOP(proj.1))
- (d) Coffee\* (document TG/COFFEE (proj.5))
- (e) Festulolium\* (Festuca / Lolium hybrids) (document TG/FESTL(proj.3))
- (f) Flax, Linseed (Revision) (*Linum usitatissimum* L.) (document TG/57/7(proj.1))
- (g) Foxtail millet (*Setaria italica* (L.) P. Beauv.) (document TG/SETARIA(proj.1))
- (h) Lotus\* (document TG/193/1(proj.4))
- (i) Maize (Revision)\* (document TG/2/7(proj.2))
- (j) Pea (Revision)\* (document TG/7/10(proj.4))
- (k) Pearl Millet\* (document TG/PRL\_MIL(proj.4))
- (l) Sesame\* (document TG/SESAME(proj.3))
- (m) Sweet potato (document *Ipomoea batatas* (L.) Lam.) (TG/SWEETPOT(proj.2))
- (n) Tea\* (document TG/TEA(proj.4))
- (o) *Urochloa* (*Brachiaria*) (document TG/UROCH(proj.1))

## 13. Recommendations on draft Test Guidelines

- 14. Date and place of the next session
- 15. Future program
- 16. Adoption of report (if time permits)
- 17. Closing of the session



**THANK YOU**