

**UPOV**

## Technical Working Party for Agricultural Crops

thirty-sixth session  
Budapest, Hungary

### PREPARATORY WORKSHOP

May 27, 2007

**UPOV**

## UPOV

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

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

**Union internationale pour la protection des obtentions végétales**

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**PROGRAM**

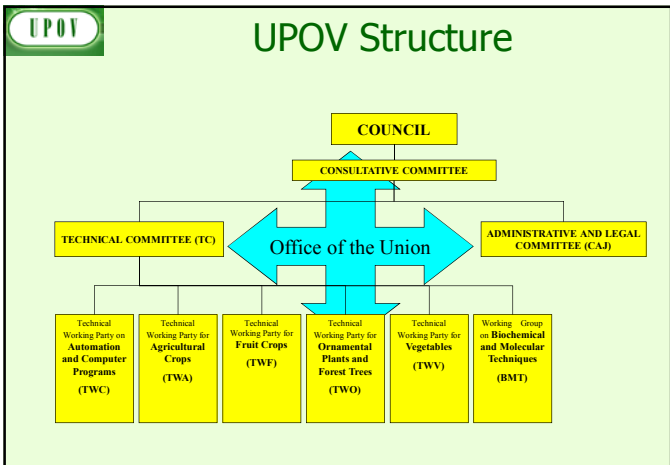
1. Introduction to UPOV
2. Introduction to the UPOV Technical Working Parties
3. Overview of the General Introduction (document TG/1/3 and TGP documents)
4. Test Guidelines (document TGP/7)
  - (a) Introduction
  - (b) Guidance on drafting characteristics
  - (c) ~~Asterisked grouping and TG characteristics~~
  - 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**

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

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## INTRODUCTION TO UPOV



**UPOV**

**UPOV Membership/Territories covered**

**64 members**

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**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*”**

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

**Initiated the Procedure**  
**18 States**  
**1 intergovernmental organization**

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**UPOV REPORT ON THE IMPACT OF PLANT VARIETY PROTECTION**

Executive summary available at: [www.upov.int](http://www.upov.int) “News & Events”

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**Development of Plant Variety Protection**

**PBR Titles in Force: All UPOV**

Year	Total number of titles in force	Number of UPOV members
1973	~5,000	~5
1975	~8,000	~8
1977	~12,000	~12
1979	~18,000	~18
1981	~25,000	~25
1983	~32,000	~32
1985	~40,000	~40
1987	~48,000	~48
1989	~55,000	~55
1991	~62,000	~62
1993	~70,000	~70
1995	~78,000	~78
1997	~85,000	~85
1999	~92,000	~92
2001	~100,000	~100
2003	~108,000	~108

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**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"

## Nature of the DUS Examination

The "DUS Test" (field trial)



## THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

*Other conditions*

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

**NO OTHER CONDITIONS!**

## 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

## THE DUS EXAMINATION

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

## DISTINCTNESS

Apple: Fruit color



## DISTINCTNESS

### Prunus rootstocks

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



Clear difference

Characteristic: Inflorescence: type



1  
Type 1



2  
Type 2



3  
Type 3

## DISTINCTNESS

### Maize: Stem base color



Clear difference

Characteristic: Plant height



## DISTINCTNESS

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

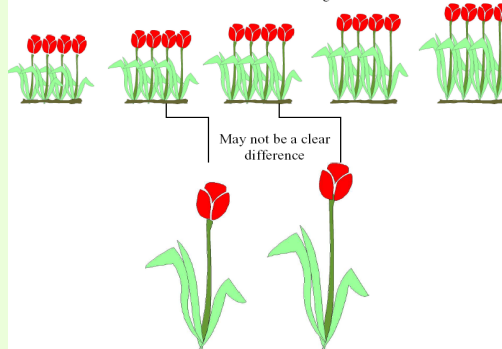
General Introduction (Chapter 5.3.3)

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

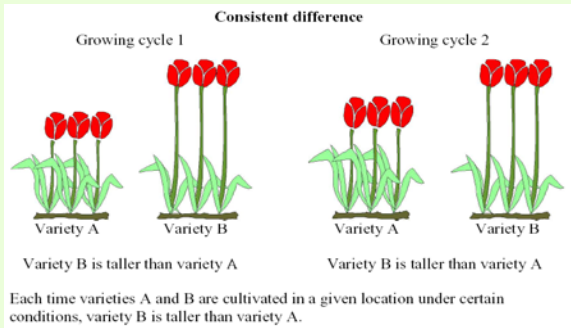
- (a) **consistent**, and
- (b) **clear**

Clear difference

Characteristic: Plant height



### DISTINCTNESS



### UNIFORMITY

Wheat: (Self-pollinated)

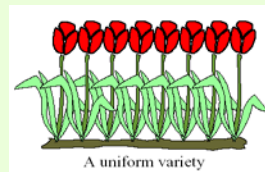


- **DISTINCTNESS**

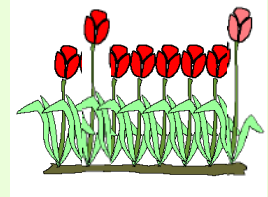
- **UNIFORMITY**

– 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



A uniform variety



### 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

### 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)



## 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.

## 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.

## CHARACTERISTICS

- **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

## "CHARACTERISTICS"

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

**UPOV** **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.


**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>	

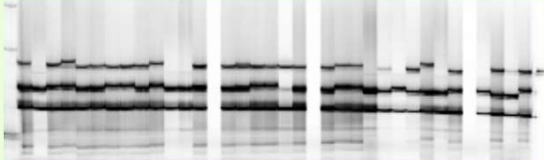
**UPOV** **Selection of Characteristics**

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

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**Molecular Techniques?**



**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

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**GUIDANCE FOR EXAMINATION**



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## Guidance for Examination

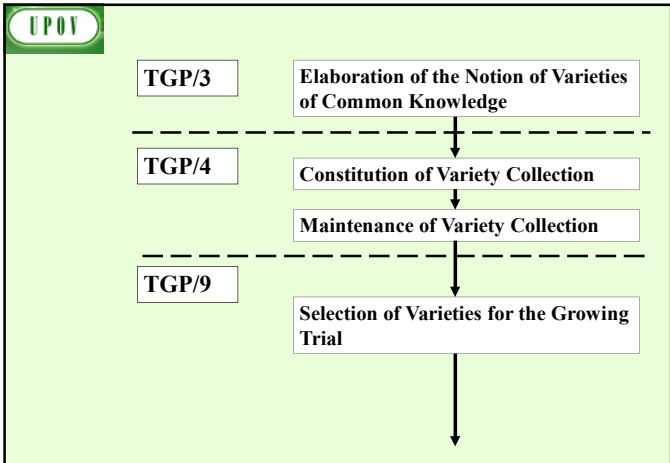
facilitates:

**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**

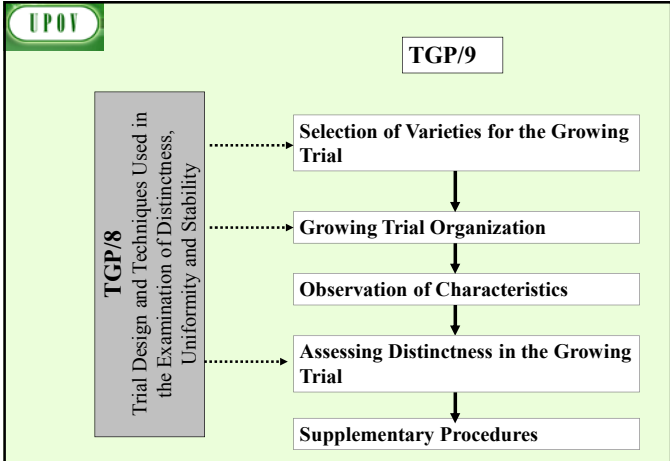
- => efficiency
  - mutual acceptance of DUS reports (minimize cost of examination for individual authorities)
  - mutual recognition of variety descriptions (all parties speak the same "language")
  - simple and cheap system for applicants (minimize cost for breeders)



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## UPOV provides guidance by:

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



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TG/1/3 General Introduction

↓

"Associated" TGP Documents

Ref.	Title
TG/98	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

\*Priority

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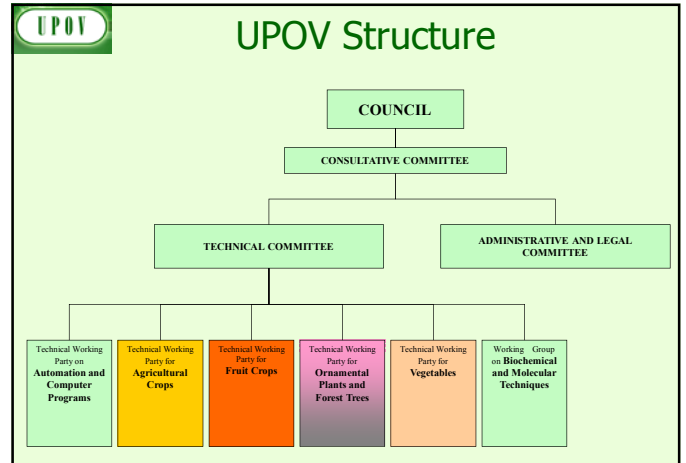
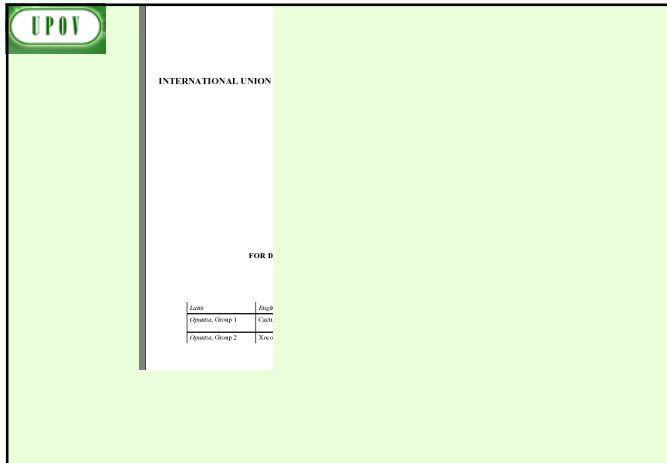
## UPOV provides guidance by:

- 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 provides guidance by:

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

AND

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

## UPOV Test Guidelines ("Test Guidelines") are developed for individual species / variety groupings

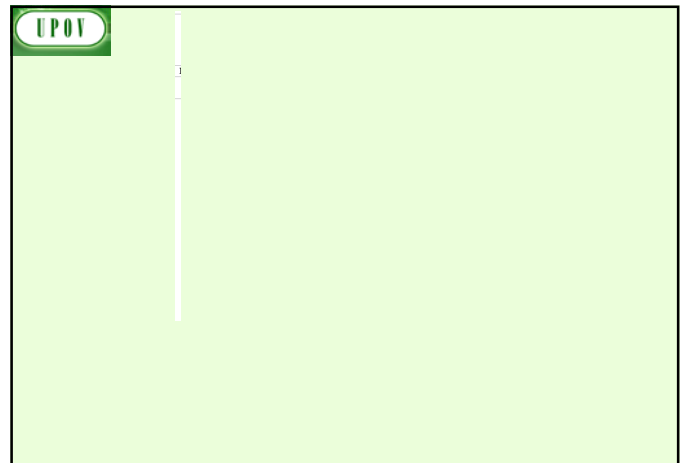
- Basis for internationally **harmonized examination** of DUS testing through guidance on the features of DUS Testing e.g.
  - growing cycles of testing (usually one or two)
  - number of plants (6 to 600)
  - material to be tested
  - **characteristics to be examined** (around 30 - 100)
  - **example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

## TGP/7 "Development of Test Guidelines"

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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

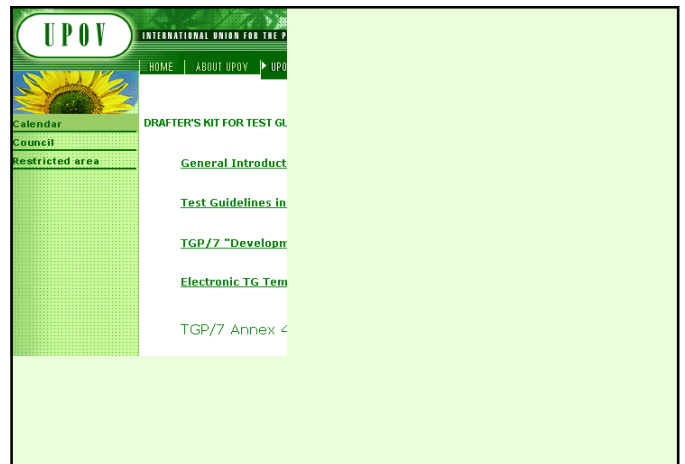


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## 1. Introduction

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



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## 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)

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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

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## 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

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### 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).

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### Format of the Table of Characteristic

Char. No. (*) (+) (QL/QN/PQ)		English	français	deutsch	español	Example Varieties/ Beispielsorten/ Variedades ejemplo	Note/ Nota
GN 18	Order of characteristics in the Table of Characteristics	GN 24	GN 24	GN 24	GN 24		
GN 19	Asterisked characteristics	GN 23	GN 23	GN 23	GN 23	GN 19	GN 24
GN 20	Explanation of the characteristic	GN 25	GN 25	GN 25	GN 25	GN 19	GN 24
GN 21	Type of expression of the characteristic	GN 25	GN 25	GN 25	GN 25	GN 19	GN 24

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

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### 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

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### 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)).

### Quantitative Characteristics

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

#### Clematis: Leaf: type



1  
simple



2  
ternate



3  
biternate



4  
triternate

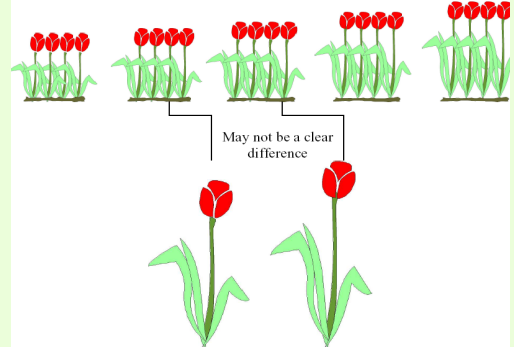
#### Clear difference Characteristic : Plant height



### Quantitative Characteristics

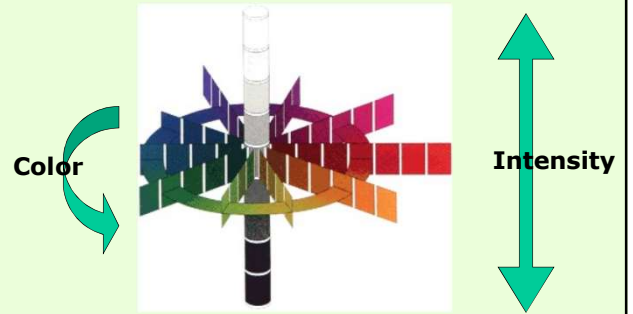
“Quantitative characteristics” are those where the expression covers the full range of variation from one extreme to the other. The **expression can be recorded on a one-dimensional, continuous or discrete, linear scale.** The range of expression is divided into a number of states for the purpose of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

#### Clear difference Characteristic : Plant height

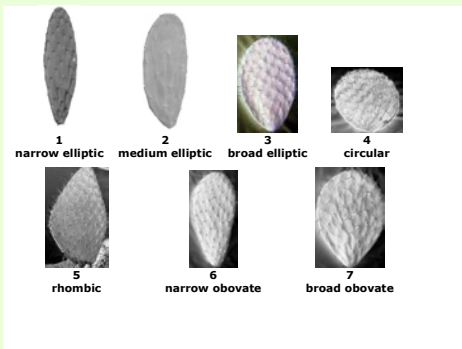


Pseudo-Qualitative Characteristics

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.



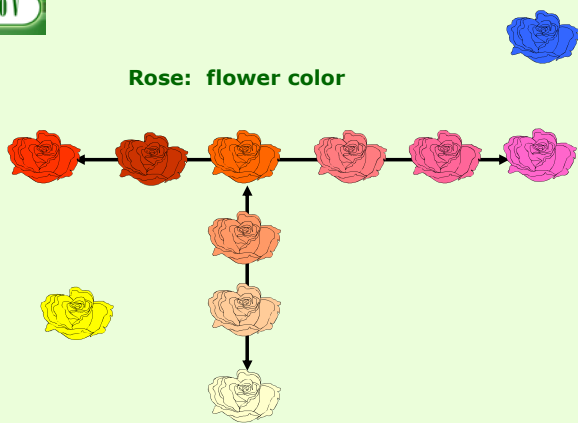
Opuntia: Shape of Cladode



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.

Rose: flower color



7. Table of Characteristics

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### Qualitative Characteristics

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




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### 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	-

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### Qualitative Characteristics

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

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### Quantitative Characteristics

State	Example 1	Example 2	Example 3	Example 4
	<b>Size relative to:</b>	<b>Angle:</b>	<b>Position:</b>	<b>Length in relation to:</b>
1	<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
5	<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
9	<b>much larger</b>	<b>very obtuse</b>	<b>at apex</b>	<b>very much shorter</b>

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### Quantitative Characteristics

weak/strong  
short/long  
small/large

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

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

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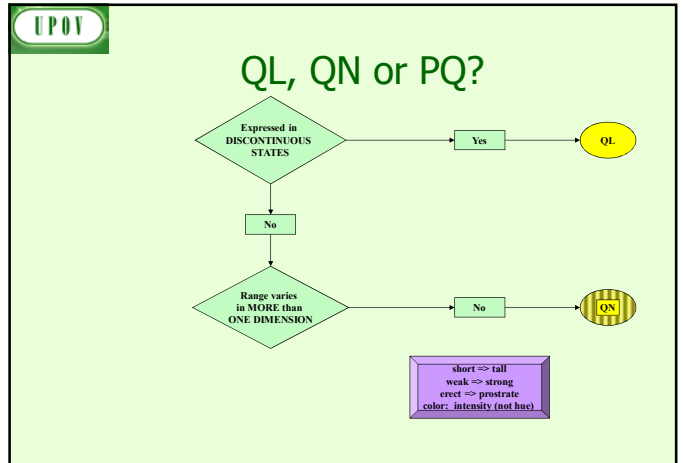
### Pseudo-qualitative Characteristics

*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)



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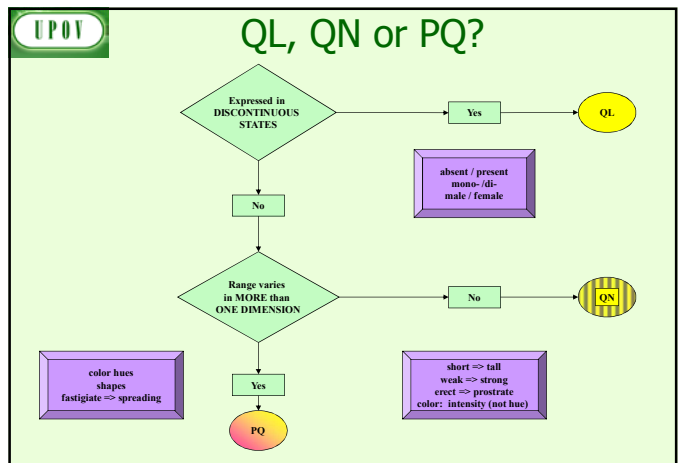
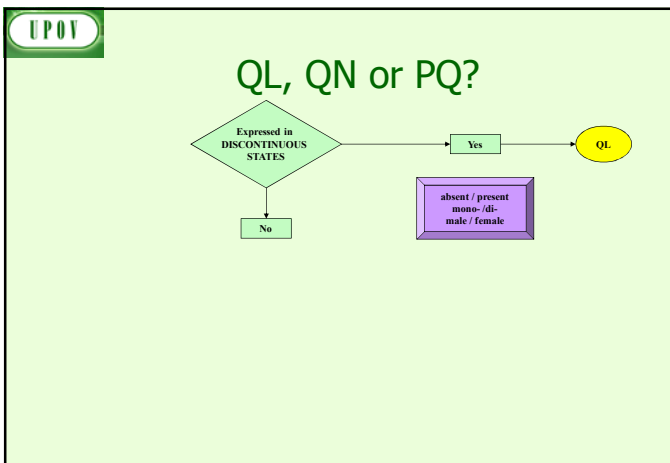
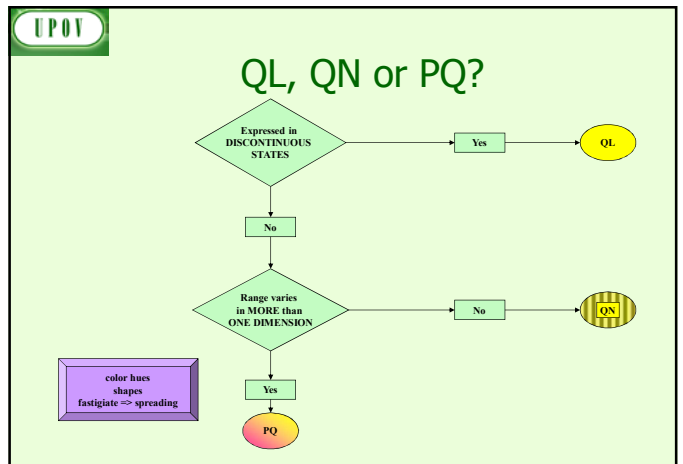
### Pseudo-qualitative Characteristics

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

## 2. Leaf sheath: anthocyanin coloration

absent or very weak	1
weak	3
medium	5
strong	7
very strong	9

---

## Types of Expression

**QL: Qualitative**

**QN: Quantitative**

**PQ: Pseudo-qualitative**

## 3. Plant: rhizomes

absent	1
present	9

---

## 1. Plant: ploidy

	Note/ Nota
diploid	2
tetraploid	4
hexaploid	6
octoploid	8

---

## 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

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

light	3
medium	5
dark	7

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

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

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

acute	1
obtuse	2
truncate	3
cordate	4

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

white	1
light pink	2
dark pink	3

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

straight or weakly concave	1
moderately concave	2
strongly concave	3

**UPOV**

---

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

below	1
same level	2
above	3

---

**UPOV** 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**

---

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

broad elliptic	1
circular	2
oblate	3

---

**UPOV** Type of Record

(for the purposes of distinctness)

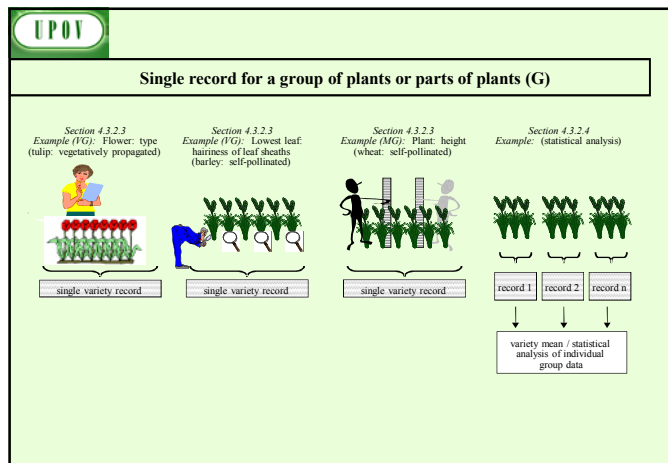
**G:** single record for a variety, or a **GROUP** of plants or parts of plants;

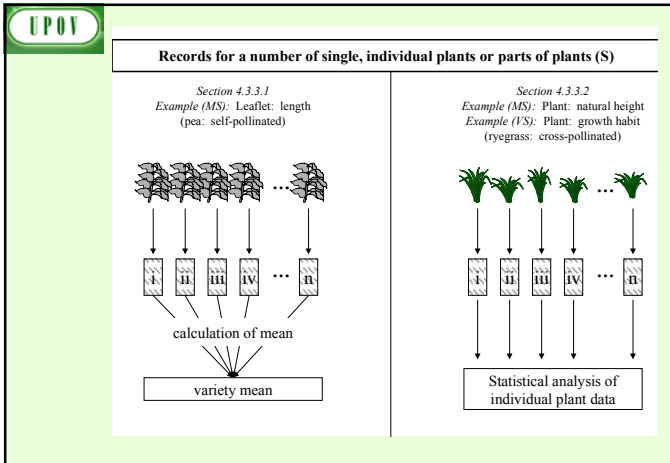
**S:** records for a number of **SINGLE**, individual plants or parts of plants ...

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.

**UPOV**

**METHOD OF OBSERVATION**





**UPOV**

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

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

**UPOV**

EXAMPLE VARIETIES

**UPOV**

Brachycome/Br

7. Table of Characteristics/ Tableau des caract.

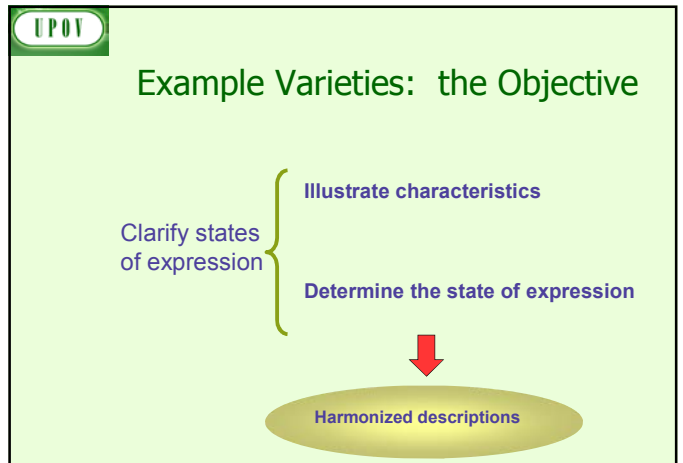
	English	français
1. (*)	Plant growth type	Plante: type de croissance
QN (a)	basal clusters bushy	en amas à la base buissonnant
2. (*)	Only varieties with limbs across the stem: Plants: predominant attitude of stems	Variedades à tipo de crecimiento: buisconantes; Plante: port le plus fréquente des tiges
QN (a)	upright semi upright horizontal	dressées demi-dressées horizontales
3. (*)	Only varieties with limbs across the stem: Plant: number of stems	Variedades à tipo de crecimiento: buisconantes; Plante: número de tiges
QN (a)	few medium many	peu nombreuses moyennement nombreuses nombreuses

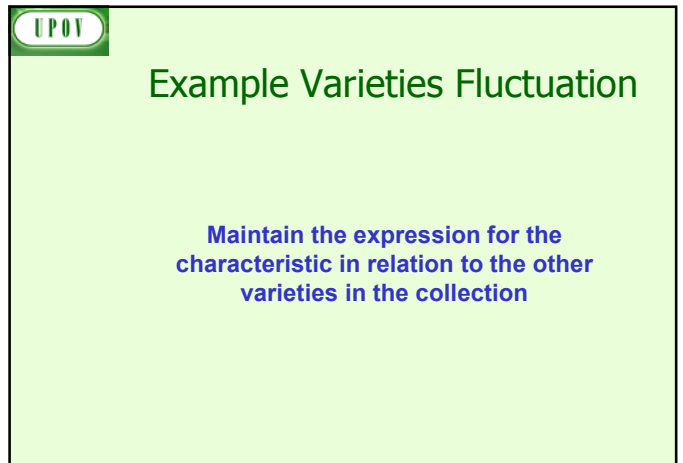
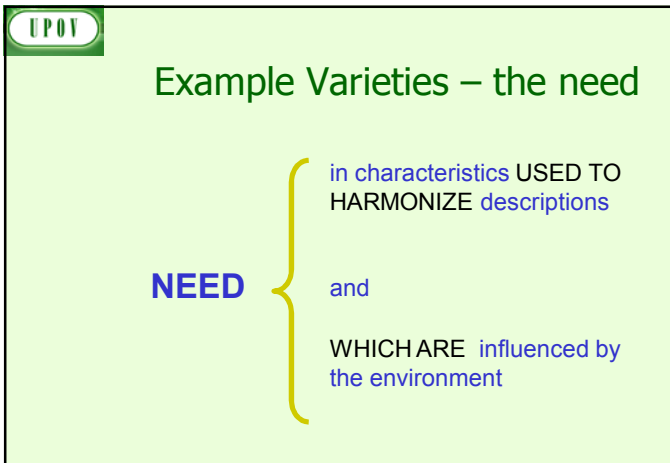
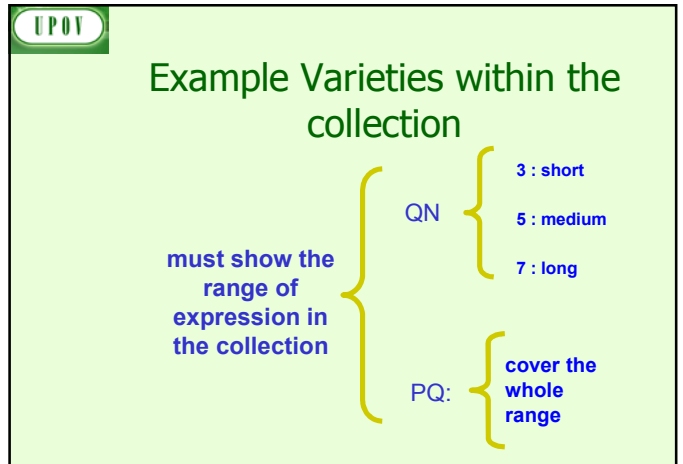
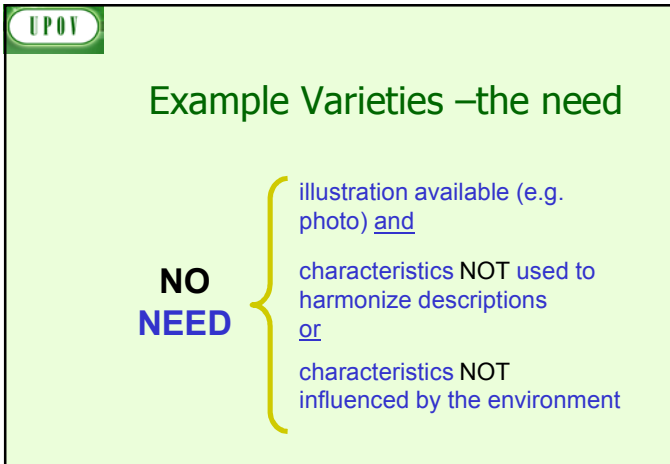
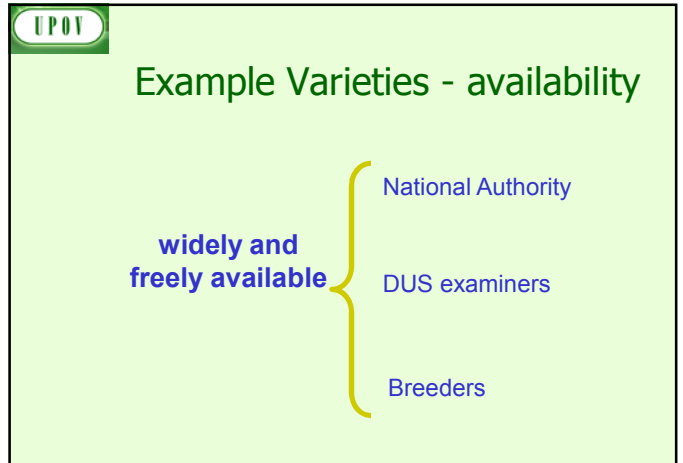
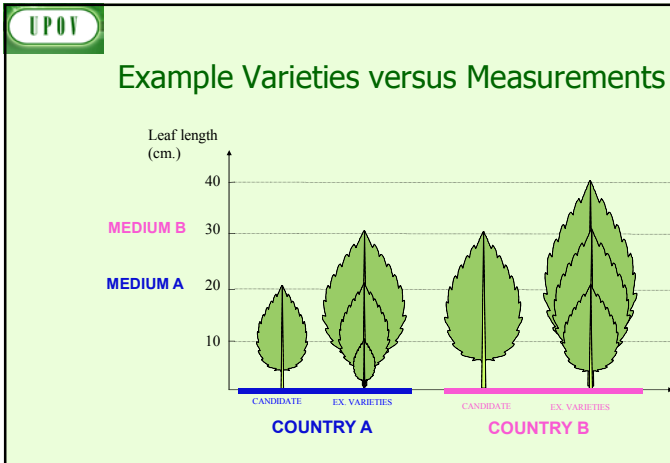
**UPOV**

Lettuce/La

7. Table of Characteristics/ Tableau des caract.

	English	français	Deutsch
1. (*)	Seed: color	Semence: couleur	Sa
	white yellow black	blanche jaune noire	wei gelb sch
2. (*)	Seedling: anthocyanin coloration	Plantule: pigmentation anthocyanique	Kc At
	absent present	absente présente	feh vo

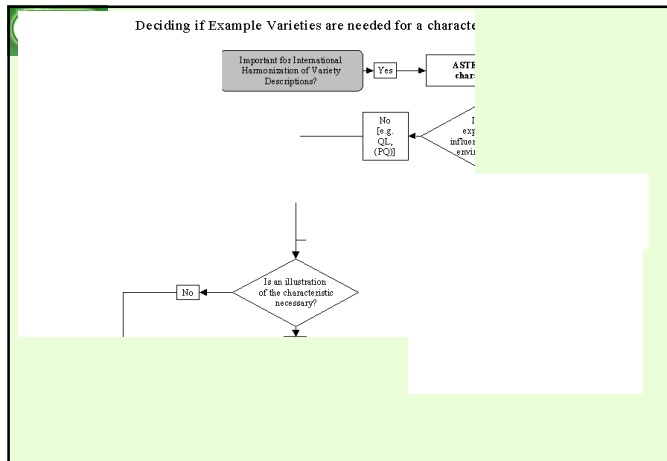






## Example Varieties number

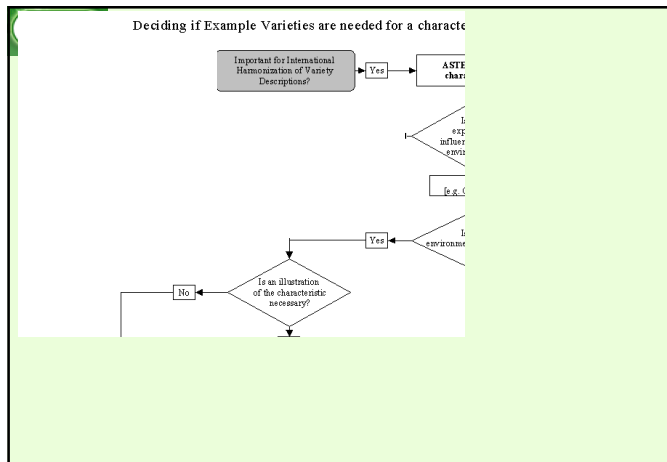
All desired characteristics covered with the **MINIMUM** number of example varieties



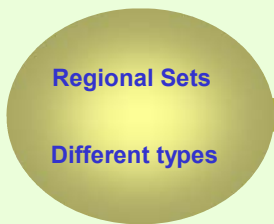
## Example Varieties - agreement

Proposed by the leading expert of the TG

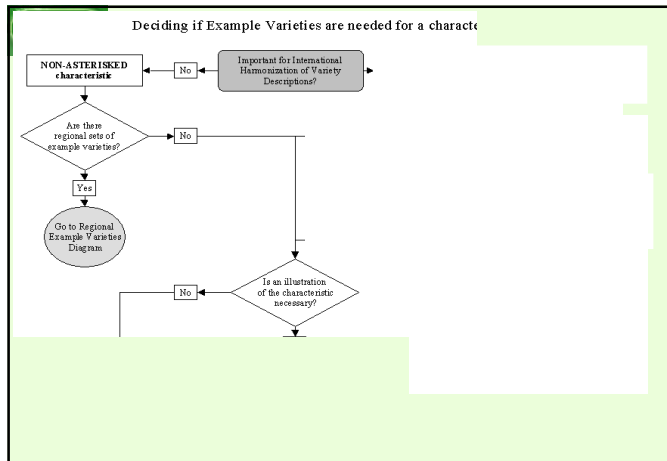
Accepted if no objections are presented



## Example Varieties - multiple sets



clear criteria for creating the sets !



**UPOV**

# Exercise

**UPOV**

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

**UPOV**

English	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
<b>4. (*) (+)</b>	<b>Plant: height including flowers</b>	
<b>QN (a)</b>	short	3
	medium	5
	tall	7

**UPOV**

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

**UPOV**

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

**UPOV**

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

**UPOV**

**WHAT IS WRONG?**

**UPOV**

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

**UPOV**

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

**UPOV**

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

**UPOV**

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

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

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

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

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

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

**The process for developing UPOV Test Guidelines**

see document **TWA/36/7**

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

**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.

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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 Convention
Notion of Breeder and Common Knowledge	The Notion <a href="#">(Adobe PDF)</a>
Genetic Resources and Benefit-Sharing	Access to ( <a href="#">Apply of U Executive : (CBO)</a> ) <a href="#">(Adobe PDF)</a>
	Access to ( <a href="#">Apply of U Executive : (CBO)</a> )

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**Mission Statement**

## MISSION STATEMENT

To provide and promote an effective system with the aim of encouraging the development of new varieties of plants, for the benefit of society.

**Introduction**

**UPOV Convention**

**Membership**

**UPOV Bodies**

**Legal Resources**

**Key Issues**

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**Calendar**

**Council**

**Restricted area**

[First restricted area](#)

[Second restricted area](#)

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

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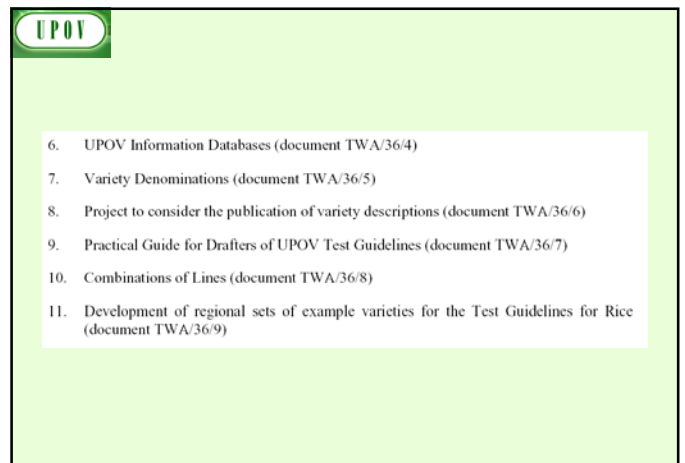
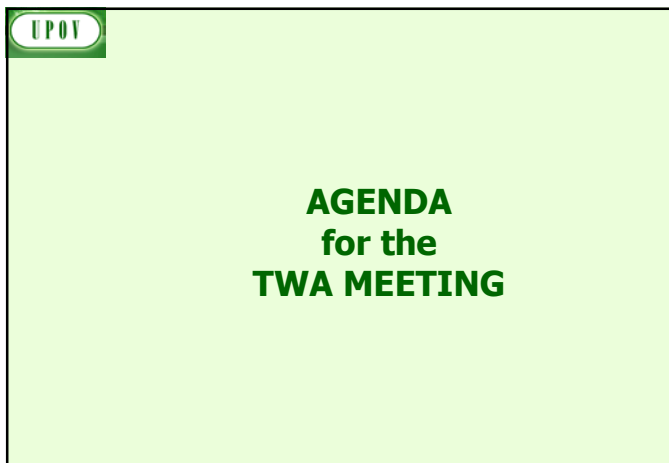
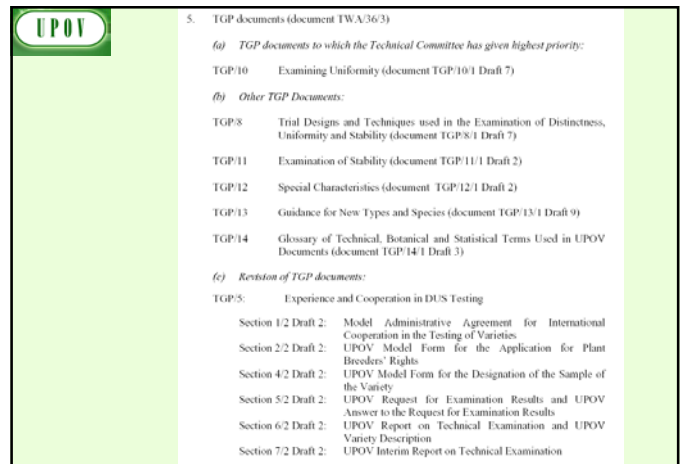
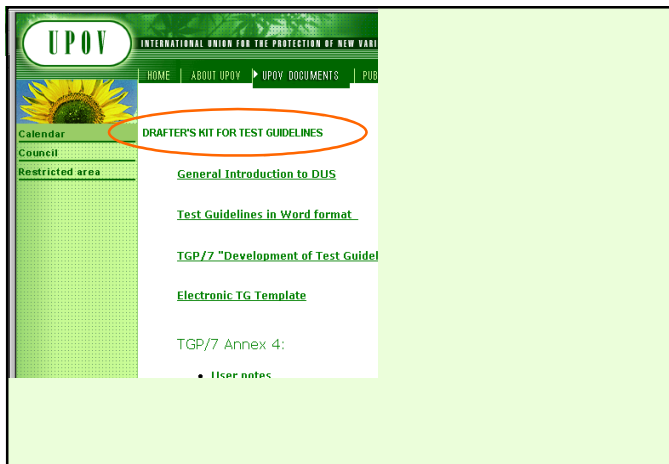
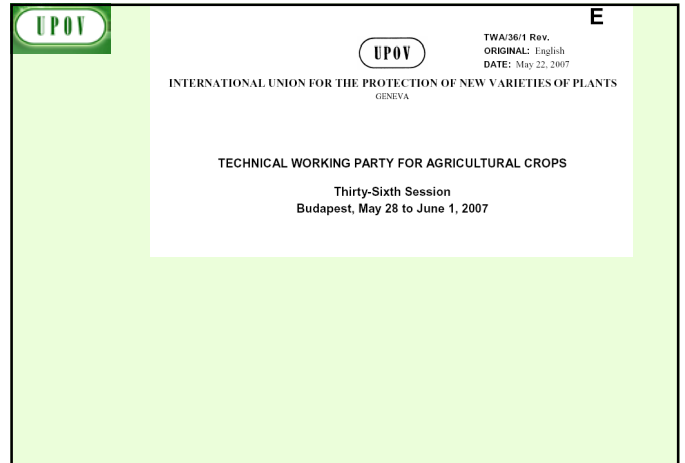
### LIST OF UPOV PUBLICATIONS\*

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

UPOV Convention			
List of Publications			
Gazette & Newsletter			
Laws & Treaties			
List of Taxa Protected			
Plant Variety Protection Statistics			
General Introduction to DUS	221	(A)	International Convention for the Protection of New Varieties of Plants, text of 1991 only
TGP Documents		(C)	
Test Guidelines		(D)	
Practical Technical		(E)	
		(F)	



## 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/PRI\_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**