

**UPOV**

**TECHNICAL WORKING PARTY  
FOR VEGETABLES**  
Forty-Fourth Session  
Veliko Tarnovo, Bulgaria, July 5 to 9, 2010

**PREPARATORY WORKSHOP**

July 4, 2010

**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**

**UPOV**

**PROGRAM**

1. Introduction to UPOV
2. Overview of the General Introduction (document TG/1/3 and TGP documents)
3. Guidance on drafting Test Guidelines (document TGP/7)
  - (a) Selection of characteristics
  - (b) Guidance on drafting characteristics
    - (i) Types of expression (OL, ON, PO), notes and distinctness
    - (ii) Method of observation (V/M: G/S)
    - (iii) Asterisked, grouping and TQ characteristics
    - (iv) Example varieties
  - (c) The process for developing UPOV Test Guidelines
4. UPOV databases
5. The UPOV website
6. Role of the Technical Working Parties
7. Agenda for the TWV Session
8. Feedback

**UPOV**

**UPOV**

**1. INTRODUCTION TO UPOV**

**UPOV**

**2. OVERVIEW OF THE GENERAL  
INTRODUCTION**

**(DOCUMENT TG/1/3 AND TGP  
DOCUMENTS)**

**GUIDANCE FOR  
DUS EXAMINATION**

**UPOV**

## THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

*Criteria to be satisfied*

- NOVELTY
- **DISTINCTNESS**
- **UNIFORMITY**
- **STABILITY**

} **"DUS"**

**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)

**= version 3**

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## THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

*Other conditions*

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

**NO OTHER CONDITIONS!**

**UPOV**

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

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## 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)

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## 3. GUIDANCE ON DRAFTING TEST GUIDELINES

**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**

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**TGP/7**  
**“Development of Test Guidelines”**

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**UPOV** TGP/7  
ORIGINAL: English  
DATE: 2016/01/13

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS  
UNION INTERNATIONALE POUR LA PROTECTION DES NOUVEAUX VARIÉTÉS DE PLANTES

**YAM**  
CROCKFORD  
DROUC, ALA, DROUC, BAY, DROUC, JAP  
DROUC, ALA, DROUC, BAY, DROUC, JAP  
DROUC, ALA, DROUC, BAY, DROUC, JAP  
DROUC, ALA, DROUC, BAY, DROUC, JAP

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

Administrative Tables:

Administrative Table	English	French	German	Spanish
Administrative Tables	General rules Technical working parties Working group on Automation and Computer Programs	General règles Parties de travail techniques Groupe de travail sur les programmes d'automatisation et d'informatique	Allgemeine Regeln Arbeitsgruppen Arbeitsgruppe für Automatisierungstechnik und Computerprogramme	Reglas generales Partidos de trabajo técnicos Grupo de trabajo sobre programas de automatización e informática
Administrative tables for DUS	General rules Technical working parties Working group on Automation and Computer Programs	General règles Parties de travail techniques Groupe de travail sur les programmes d'automatisation et d'informatique	Allgemeine Regeln Arbeitsgruppen Arbeitsgruppe für Automatisierungstechnik und Computerprogramme	Reglas generales Partidos de trabajo técnicos Grupo de trabajo sobre programas de automatización e informática
Administrative tables for TGP	General rules Technical working parties Working group on Automation and Computer Programs	General règles Parties de travail techniques Groupe de travail sur les programmes d'automatisation et d'informatique	Allgemeine Regeln Arbeitsgruppen Arbeitsgruppe für Automatisierungstechnik und Computerprogramme	Reglas generales Partidos de trabajo técnicos Grupo de trabajo sobre programas de automatización e informática

The purpose of these guidelines ("Test Guidelines") is to establish the principles contained in the General Introduction (Document TGP/1/3), and to associated TGP documents, and detailed practical guidelines for the harmonized execution of distinctness, uniformity and stability (DUS) tests, in particular to identify appropriate characteristics for the evaluation of DUS and protection of distinctness, uniformity and stability.

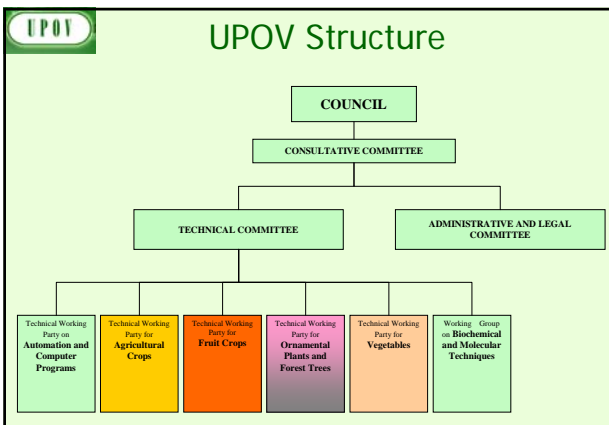
**ADMINISTRATIVE TABLES**

These Test Guidelines should be used in conjunction with the General Introduction and its associated DUS documents.

\* These tables were created at the time of the adoption of these Test Guidelines but may be revised or updated whenever a change is made to the text of the General Introduction or the associated DUS documents.

**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



**UPOV**

**UPOV** TGP/7  
ORIGINAL: English  
DATE: 2016/01/13

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS  
UNION INTERNATIONALE POUR LA PROTECTION DES NOUVEAUX VARIÉTÉS DE PLANTES

**DRAFT**

Please refer to "Main", "Annex" or "Comments" from the TG/7 process to use all links

**YAM**  
CROCKFORD  
DROUC, ALA, DROUC, BAY, DROUC, JAP  
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DROUC, ALA, DROUC, BAY, DROUC, JAP  
DROUC, ALA, DROUC, BAY, DROUC, JAP

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

prepared by the expert group on Yam  
to be introduced by the  
Technical Working Party for Agricultural Crops  
to be used in 2016/2017/2018

Administrative Tables:

Administrative Table	English	French	German	Spanish
Administrative Tables	General rules Technical working parties Working group on Automation and Computer Programs	General règles Parties de travail techniques Groupe de travail sur les programmes d'automatisation et d'informatique	Allgemeine Regeln Arbeitsgruppen Arbeitsgruppe für Automatisierungstechnik und Computerprogramme	Reglas generales Partidos de trabajo técnicos Grupo de trabajo sobre programas de automatización e informática

The purpose of these guidelines ("Test Guidelines") is to validate the principles contained in the General Introduction (Document TGP/1/3), and to associated TGP documents, and detailed practical guidelines for the harmonized execution of distinctness, uniformity and stability (DUS) tests, in particular to identify appropriate characteristics for the evaluation of DUS and protection of distinctness, uniformity and stability.

\* These tables were created at the time of the adoption of these Test Guidelines but may be revised or updated whenever a change is made to the text of the General Introduction or the associated DUS documents.

**UPOV**

## 10 Chapters of UPOV Test Guidelines

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

**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) :

- results from a given genotype** or combination of genotypes;
- is sufficiently **consistent and repeatable** in a **particular environment**;
- exhibits sufficient **variation between varieties** to be able to establish distinctness;
- is capable of **precise definition and recognition**;
- allows **uniformity requirements** to be fulfilled;
- 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.

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## 3. TEST GUIDELINES

**(a) Selection of characteristics**

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## Selection of Characteristics

- Yield ???
- Straw strength ???

Etc.

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## "CHARACTERISTICS"

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

**UPOV**

## Selection of Characteristics

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

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

**UPOV 3. TEST GUIDELINES**


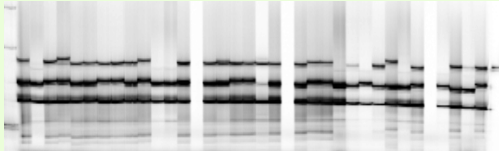
**(b) Guidance on drafting characteristics**

*(i) Types of expression (QL, QN, PQ), notes and distinctness*

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

**UPOV Molecular Techniques?**

**UPOV Types of Expression**

**QL: QUALITATIVE**

**QN: QUANTITATIVE**

**PQ: PSEUDO-QUALITATIVE**

**UPOV**

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

Char. No	English	français	Deutsch	español	Example Varieties Ejemplos/ Beispielsorten/ Variedades ejemplo	Note/ Nota
1. (*) (*)	Plant: growth habit	Plante : port	Pflanze: Wuchsform	Planta: porte		
QN	upright	dressé	aufrecht	erecto	Impatiens	1
	semi-upright	semi dressé	halboaufrecht	semierecto	D0158-1	2
	spreading	étalé	leitwüchsig	aberto	Sonnen 03	3
	semi-trailing	semi-étalé	halbhängend	semiarabesco	Impatiens	4
	trailing	coureux	hängend	rastroso	Organza	5
2. (*)	Plant: height	Plante : hauteur	Pflanze: Höhe	Planta: altura		
QN	short	basse	niedrig	baja	Yatye	3
	medium	moyenne	mittel	media	D0158-1	5
	tall	haute	hoch	alta	Impatiens	7

**UPOV** **NON-Qualitative characteristic**

Anthocyanin coloration: absent / present

	Variety A	Variety B	Variety C
Environment A			
Environment B			

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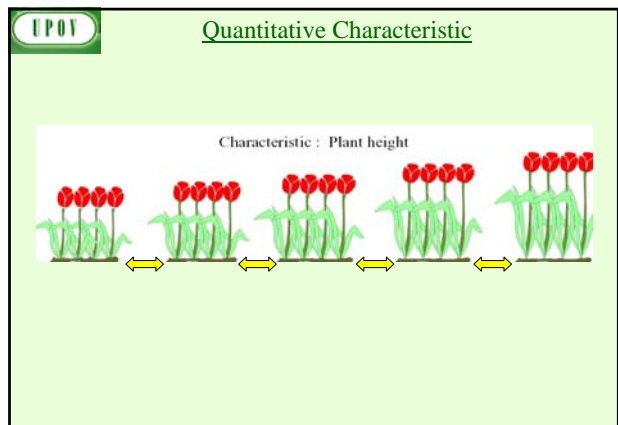
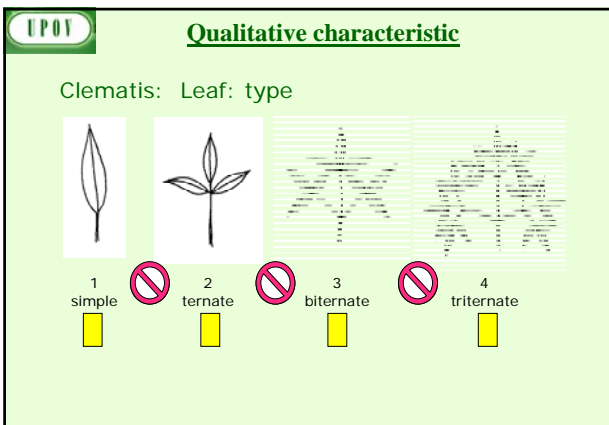
**QUALITATIVE Characteristics**

“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**.

**UPOV** **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.



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**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.

**UPOV**

Rose: flower color

**UPOV**

Example

**UPOV**

STATES / NOTES for QL, QN ,PO

**UPOV**

**UPOV**

**Qualitative Characteristics**  
(typical example)

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

**UPOV**

### Qualitative Characteristics (special cases)

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

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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	much smaller	very acute	at base	equal
3	moderately smaller	moderately acute	one quarter from base	slightly shorter
5	same size	right angle	in middle	moderately shorter
7	moderately larger	moderately obtuse	one quarter from apex end	much shorter
9	much larger	very obtuse	at apex	very much shorter

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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	weak	3	small
4	weak to medium	4	small to medium
5	medium	5	medium
6	medium to strong	6	medium to large
7	strong	7	large
8	strong to very strong	8	large to very large
9	very strong	9	very large

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### Quantitative Characteristics

#### Limited range

State	Example 1
	Stem: attitude
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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### Quantitative Characteristics

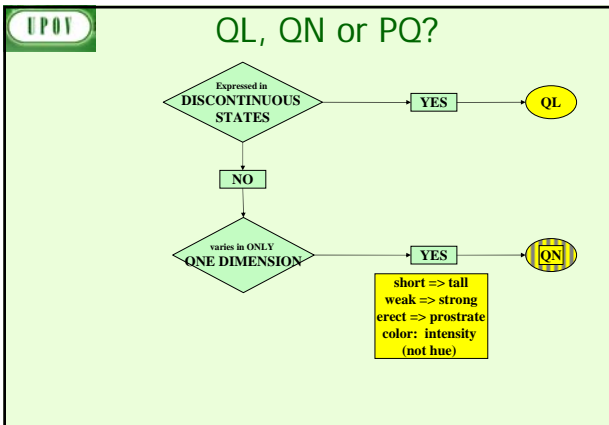
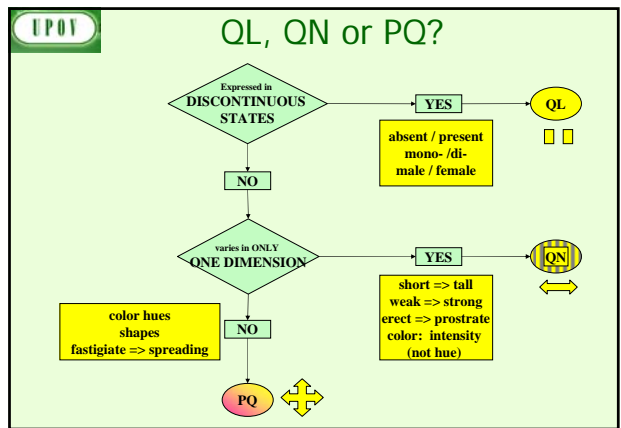
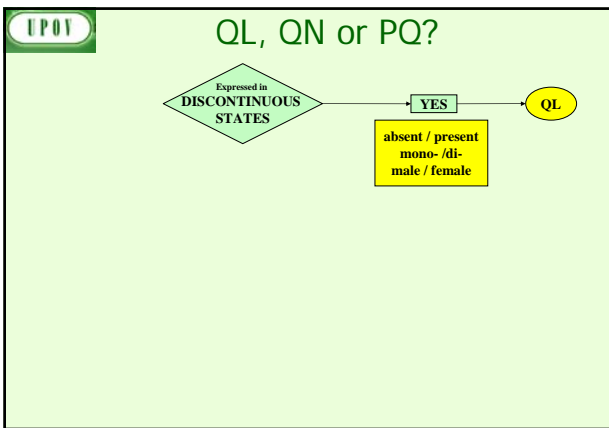
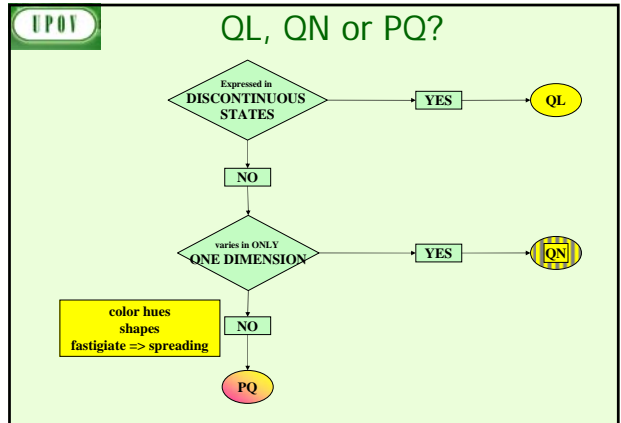
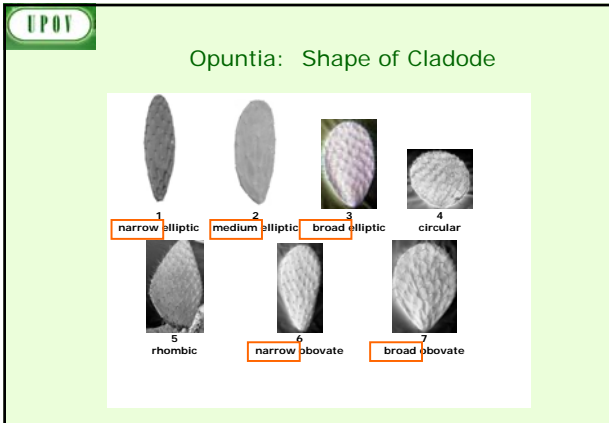
Standard Range Version 1	Standard Range Version 2	Standard Range Version 3	Standard Range Version 4
1 very weak (or: absent or very weak)	1 very weak (or: absent or very weak)	-	-
3 weak	3 weak	3 weak	3 weak
5 medium	5 medium	5 medium	5 medium
7 strong	7 strong	7 strong	7 strong
9 very strong	-	9 very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

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### 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	purpura	púrpura	6





**UPO1**

## EXERCISE

**EPOY**

**What type of Expression?**

**QL: Qualitative**  
**QN: Quantitative**  
**PQ: Pseudo-qualitative**

**EPOY**

**3. Plant: rhizomes**

absent	1
present	9

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**EPOY**

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

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**EPOY**

<b>4. Petal: color</b>	
white	1
yellow	2
orange	3
red	4
pink	5
purple	6

---

**EPOY**

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

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**EPOY**

<b>5. Leaf blade: intensity of green color of upper side</b>	
light	3
medium	5
dark	7

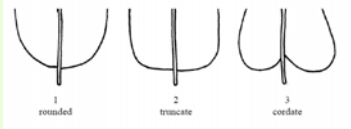
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**UPOV**

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

rounded	1
truncate	2
cordate	3

---



1 rounded      2 truncate      3 cordate

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**NOTES and DISTINCTNESS**  
according to  
**TYPE OF EXPRESSION**  
**(QL, PQ, QN)**

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7. **Petal: color**

RHS Colour Chart  
(indicate reference number)

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**Types of Expression**

**QL: QUALITATIVE**

QN: QUANTITATIVE

PQ: PSEUDO-QUALITATIVE

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

straight or weakly concave	1
moderately concave	2
strongly concave	3

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**QUALITATIVE Characteristics**

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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.**

**UPOV** **Qualitative characteristic**

Clematis: Leaf: type

1 simple  2 ternate  3 biternate  4 triternate

**UPOV** **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.

**UPOV** **Qualitative Characteristics: distinctness**

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

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

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**UPOV** **Types of Expression**

QL: QUALITATIVE

QN: QUANTITATIVE

**PQ: PSEUDO-QUALITATIVE**

**UPOV** **Rose: flower color**

**UPOV**

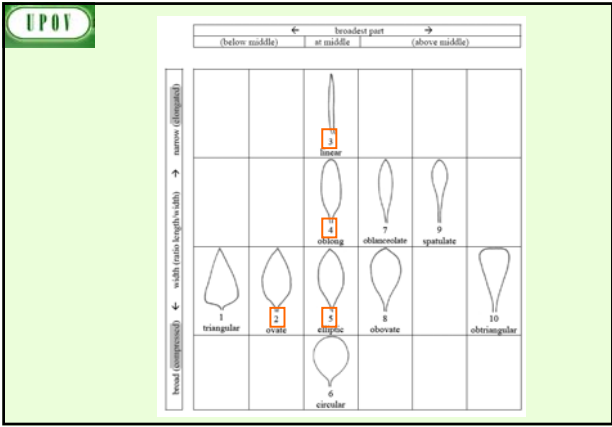
**Pseudo-Qualitative Characteristics: distinctness**

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

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**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



**UPOV**

**Quantitative Characteristics: distinctness**

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

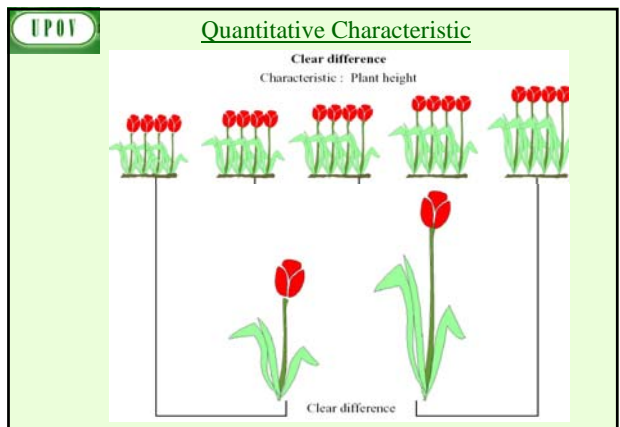
**UPOV**

**Types of Expression**

QL: QUALITATIVE

**QN: QUANTITATIVE**

PQ: PSEUDO-QUALITATIVE



**UPOV** **Quantitative Characteristic**

Clear difference  
Characteristic : Plant height

May not be a clear difference

**UPOV** **Quantitative Characteristics: distinctness**

The General Introduction explains that, in the case of visually observed quantitative characteristics:

“5.2.2.2 **A direct comparison between two similar varieties is always recommended**, since direct pairwise comparisons are the most reliable. In each comparison, **a difference between two varieties is acceptable as soon as it can be assessed visually and could be measured, although such measurement might be impractical or require unreasonable effort.**”

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**NOTES**  
*versus*  
**SIDE-BY-SIDE COMPARISON**  
**(Quantitative characteristics)**

**UPOV** **TGP/9/1 “Examining Distinctness”**

5.2.3.1.2 Where the requirements for distinctness assessment by Notes / single variety records are met it would usually also be possible to make a side-by-side visual comparison. However, **in the case of assessment by Notes / single variety records, such proximity is not required, which is a particular advantage where the growing trial contains a large number of varieties and where there are limited possibilities for ensuring that all similar varieties are grouped together in the growing trial ...**

On the other hand, because the varieties are not the subject of a side-by-side visual comparison, the **difference required between varieties as a basis for distinctness is, with the exception of qualitative characteristics (see below), somewhat greater.**

**UPOV** **TGP/9/1 “Examining Distinctness”**

**5.2 Approaches for assessing distinctness**

5.2.1 Introduction

5.2.1.1 Approaches for assessment of distinctness based on the growing trial can be summarized as follows:

- (a) **Side-by-side visual comparison** in the growing trial (see Section 5.2.2);
- (b) **Assessment by Notes / single variety records (“Notes”)**: the assessment of distinctness is based on the recorded state of expression of the characteristics of the variety (see Section 5.2.3);
- (c) Statistical analysis of growing trial data:

**UPOV**

Variety	A	B						

...and comparison with descriptions in databases

**UPOV** **Quantitative Characteristics: distinctness**

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

Test Guidelines (TGP/7 proposed revised text)

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

**WHY?**

**UPOV** **Quantitative Characteristics: distinctness**

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

Test Guidelines (TGP/7 proposed revised text)

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

**UPOV**

1.....2.....3.....4.....5.....6.....7.....8.....9

4 ↔ 5  
4.5

**UPOV** **Quantitative Characteristics: distinctness**

TG/233/1  
Dacia Danse, 2007-03-28  
- 9 -

	English	français	Deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
6. (*)	(a) Leaf blade length	Limbe: longueur	Blattbreite: Länge	Limbo: longitud		
QN	short	courte	kurz	corto	Codina, Strawberry Sandae	3
	medium	moyenne	mittel	medio	Codause	5
	long	longue	lang	largo	Babbelapax, Babbelaxlat	7

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

**UPOV** **"Two Note" rule...**

1.....2.....3.....4.....5.....6.....7.....8.....9

3.5 - 4.5 ↔ 5.5 - 6.5

**...means at least ONE note difference!**

**UPOV** **Quantitative Characteristics: distinctness**

TG/233/1  
Dacia Danse, 2007-03-28  
- 9 -

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

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

**UPOV** Process levels other than Notes...

**Transformation of Observations and Measurements into Notes for Distinctness and for Variety Descriptions**

Beate Rücker  
Federal Variety Office, Hannover, Germany

Seminar on DUS Testing, Geneva, March 18-20, 2010

**UPOV Documents**

First restricted area

UPOV 1991	Administrative and Legal Committee
UPOV 1992	Administrative and Legal Committee Advisory Group
UPOV 1993	Technical Committee
UPOV 1994	Biological Exchange Committee
UPOV 1995	Technical Working Party for Agricultural Crops
UPOV 1996	Technical Working Party on Substrates and Container Programs
UPOV 1997	Technical Working Party for Fruit Crops
UPOV 1998	Technical Working Party for Ornamental Plants and Forest Trees
UPOV 1999	Technical Working Party for Vegetables
UPOV 2000	Working Group on Botanical and Molecular Techniques, and Other Working in Parallel
UPOV 2001	Ad Hoc Subgroup of Technical and Legal Experts of Botanical and Molecular Techniques
UPOV 2002	Ad Hoc Subgroup on Botanical and Molecular Techniques, and Other Working in Parallel - "Old Subgroups"
UPOV 2003	Ad Hoc Working Group to Study the Impact of Other Breeder Rights
UPOV 2004	Ad Hoc Working Group on the Publication of Variety Descriptions
UPOV 2005	Ad Hoc Working Group on Genetic Characterisation
UPOV 2006	UPOV Geneva, April 18 to 20, 2006

**UPOV** TGP/9/1 "Examining Distinctness"

Method of propagation of the variety	Type of expression of characteristic		
	QL (QUAL itative)	PQ (PSEUDO qualitative)	QN (QUANT itative)
Vegetatively propagated, self-pollinated	Notes (VG)	Notes (VG) Side-by-side (VG)	Notes (VG/MG/MS) Side-by-side (VG) Statistics (MG/MS)
Cross-pollinated	Notes (VG) Statistics (VS*)	Notes (VG) Side-by-side (VG) Statistics (VS*)	Statistics ((MG)/MS/VS) Side-by-side (VG) Notes (VG/MG/MS)
Hybrids	Notes (VG) Statistics (VS*)	Notes (VG) Side-by-side (VG) Statistics (VS*)	**

**UPOV** 3. TEST GUIDELINES

**(b) Guidance on drafting characteristics**

*(ii) Method of observation (V/M; G/S)*

**UPOV** TGP/9/1 "Examining Distinctness"

**V = Visual observation**

Method of propagation of the variety	Type of expression of characteristic		
	QL (QUAL itative)	PQ (PSEUDO qualitative)	QN (QUANT itative)
Vegetatively propagated, self-pollinated	Notes (VG)	Notes (VG) Side-by-side (VG)	Notes (VG/MG/MS) Side-by-side (VG) Statistics (MG/MS)
Cross-pollinated	Notes (VG) Statistics (VS*)	Notes (VG) Side-by-side (VG) Statistics (VS*)	Statistics ((MG)/MS/VS) Side-by-side (VG) Notes (VG/MG/MS)
Hybrids	Notes (VG) Statistics (VS*)	Notes (VG) Side-by-side (VG) Statistics (VS*)	**

**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** TGP/9/1 "Examining Distinctness"

**V = Visual observation or M = Measurement**

Method of propagation of the variety	Type of expression of characteristic		
	QL (QUAL itative)	PQ (PSEUDO qualitative)	QN (QUANT itative)
Vegetatively propagated, self-pollinated	Notes (VG)	Notes (VG) Side-by-side (VG)	Notes (VG/MG/MS) Side-by-side (VG) Statistics (MG/MS)
Cross-pollinated	Notes (VG) Statistics (VS*)	Notes (VG) Side-by-side (VG) Statistics (VS*)	Statistics ((MG)/MS/VS) Side-by-side (VG) Notes (VG/MG/MS)
Hybrids	Notes (VG) Statistics (VS*)	Notes (VG) Side-by-side (VG) Statistics (VS*)	**



**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**

**EXERCISE**

**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 (balky: self-pollinated)  
Section 4.3.2.3 Example (MG): Plant: height (wheat: self-pollinated)  
Section 4.3.2.4 Example: (statistical analysis)

**UPOV** 3. TEST GUIDELINES

(b) Guidance on drafting characteristics

(iii) Asterisked, grouping and TQ characteristics

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

Section 4.3.3.1 Example (MS): Leaflet: length (pea: self-pollinated)  
Section 4.3.3.2 Example (MS): Plant: natural height (ryegrass: cross-pollinated)  
Example (VS): Plant: growth habit (ryegrass: cross-pollinated)

**UPOV** 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.

**UPOV** Asterisked Characteristic

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

Char. No.	English	français	Deutsch	español	Example Varieties Exemples Beispielsorten Variedades ejemplo	Note/ Nota
<b>17</b>	<b>Plant: growth habit</b>	<b>Plante : port</b>	<b>Pflanze: Wuchsform</b>	<b>Planta: porte</b>		
QN	upright	dressé	aufrecht	erecto	Imppink	1
	semi-upright	semi dressé	halbaufrecht	semierecto	D015B-1	2
	spreading	étalé	breitwüchsig	abierto	Summer 03	3
	semi-trailing	semi-étalé	halbhängend	semirastroso	Imppof	4
	trailing	coureux	hängend	rastroso	Organza	5

**UPOV** Apple: Fruit color

**UPOV** Asterisked Characteristic

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

**UPOV** Apple: Fruit color

**UPOV** Grouping Characteristic

5. Grouping of Varieties and Organization of the Growing Trial

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

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

5.3 The following have been agreed as useful grouping characteristics:

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

**UPOV** 10. Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page (s) of (y)	Reference Number:
		Application date: (not to be filled in by the applicant)
TECHNICAL QUESTIONNAIRE to be completed in connection with an application for plant breeders' rights		
1. Subject of the Technical Questionnaire		
1.1 Botanical name	<input type="text" value="Malus domestica Borkh."/>	
1.2 Common name	<input type="text" value="Apple"/>	
2. Applicant		
Name	<input type="text"/>	
Address	<input type="text"/>	
Telephone No.	<input type="text"/>	

UPOV

TECHNICAL QUESTIONNAIRE	Page [x] of [y]	Reference Number:
5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).		
Characteristics	Example Varieties	Note
<b>5.5 Fruit: hue of over color – with bloom removed (37)</b>		
orange red	Cox's Orange Pippin, Egremont Russet	1   ]
pink red	Cripps Pink, Delbarca	2   ]
red	Akane, Galaxy, Red Elstar, Regal Prince	3   ]
purple red	Red Jonaprince, Spartan	4   ]
brown red	Fines, Jobana, Lord Burghley	5   ]
<b>5.6 Fruit: pattern of over color (39)</b>		
only solid flush	Red Jonaprince, Richard Delicious	1   ]
solid flush with weakly defined stripes	Galaxy	2   ]
solid flush with strongly defined stripes	Jonagored	3   ]
weakly defined flush with strongly defined stripes	Oranvenstein	4   ]
only stripes (no flush)	Helios	5   ]
flushed and mottled	Elstar	6   ]
flushed, striped and mottled	Jonagold	7   ]

UPOV

### 3. TEST GUIDELINES

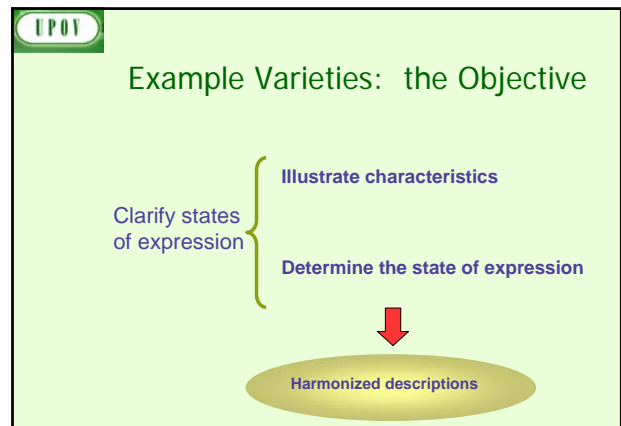
**(b) Guidance on drafting characteristics**

*(iv) Example varieties*

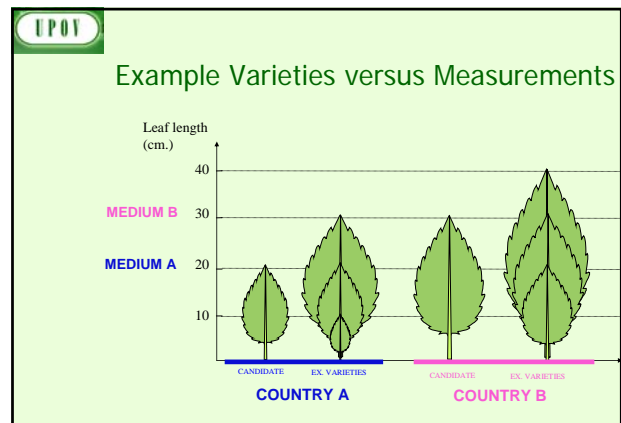
UPOV

### Grouping Characteristic

Function	Criteria
<p>characteristics in which the <b>documented states of expression, even where recorded at different locations</b>, can be used either individually or in combination with other such characteristics:</p> <ol style="list-style-type: none"> <li><b>to select varieties of common knowledge that can be excluded from the growing trial</b> used for examination of distinctness, and/or</li> <li><b>to organize the growing trial so that similar varieties are grouped together</b></li> </ol>	<ol style="list-style-type: none"> <li>(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.</li> <li>Must be useful for functions 1 and 2.</li> <li>Should be an <b>asterisked characteristic</b> and/or included in the <b>Technical Questionnaire</b> or application form.</li> </ol>



- UPOV
- ### Relationship between functions
- 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**.
  - 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**.
  - ASTERISKED CHARACTERISTICS** are **not restricted** to those characteristics selected as **grouping or TQ characteristics**.



**UPOV**

## Example Varieties –the need

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

```

    graph TD
      Q1{Illustration of the characteristic necessary?}
      Q2{Is a diagram or photograph provided?}
      N1[No] --> R1[Example varieties NOT required]
      Y1[Yes] --> Q2
      Y2[Yes] --> R2[Example varieties required]
      N2[No] --> R2
  
```

**UPOV**

## Example Varieties – the need

**NEED** { in characteristics used to harmonize descriptions and which are influenced by the environment }

**UPOV** TG/139 Lettuce/Laitue/Salat Lechnpa, 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
1. Seed: color (*)	Seed: color	Semence: couleur	Samen: Farbe	Semilla: color		
	white	blanche	weiß	blanco	Verpia	1
	yellow	jaune	gelb	amarillo	Dunango	2
	black	noir	schwarz	negro	Kajraner Sommer	3
2. Seedling: anthocyanin coloration (*)	Seedling: anthocyanin coloration	Plantelet: pigmentation anthocy nique	Keimflanze: Anthocyanfärbung	Plántula: pigmentación antocianica		
	absent	absente	fehlt/nd	ausente	Verpia	1
	present	présente	vorhanden	presente	Pirat	9
3. Seedling: size of cotyledons (fully developed) (*)	Seedling: size of cotyledons (fully developed)	Plantelet: taille du cotyledon (à complet développement)	Keimflanze: Größe des Keimblatts (voll entwickelt)	Plántula: tamaño del cotiledón (plena mente desarrollado)		
	small	petit	klein	pequeño	Romance	3
	medium	moyen	mittel	medio	Expressz	5
	large	grand	groß	grande	Verpia	7

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

```

    graph TD
      Q1{Expression influenced by the environment?}
      Q2{Illustration of the characteristic necessary?}
      Q3{Is a diagram or photograph provided?}
      N1[No e.g. QL, (PQ)] --> Q2
      Y1[Yes e.g. QN, (PO)] --> R1[Example varieties required]
      Y2[Yes] --> Q3
      N2[No] --> R2[Example varieties NOT required]
      Y3[Yes] --> R1
      N3[No] --> R1
  
```

**UPOV** TG/219/1 Perilla Perilla Perilla, 2004-03-31 - 10 -

	English	français	deutsch	español	Example Varieties/ Exemples/ Beispielsorten/ Variedades ejemplo	Note/ Nota
14. VG Leaf blade: intensity of purple color of lower side	Leaf blade: intensity of purple 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 del envés		
QN (A)	very light	très claire	sehr hell	muy claro		1
	light	claire	hell	claro	Perlime	3
	medium	moyenne	mittel	medio		5
	dark	foncée	dunkel	oscuro	Petto	7
	very dark	très foncée	sehr dunkel	muy oscuro	Bota, Purple	9
15. VG Leaf blade: profile	Leaf blade: profile	Limbe: profil	Blattspreite: Profil	Limbo: perfil		
QN (A)	concave	concave	konkav	cóncavo	Petto	3
	plane	plan	flach	plano	Pezzo, Sacayupal	5
	convex	convexe	konvex	convexo		7

UPOV

Rechtsvorschriften/Gesetzesbücher, 2001-04-04

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

English	Français	deutsch	español	Example Varieties/Exemples/Varietäten/Variedades	Note
3. 173 173 Plant: growth type Plante: type de croissance					
Q1 (4) basal clusters basale	en amas à la base basimemore	basale/Blaschal	en racimos basales arboresco		1 2
3. 174 174 Only varieties with basal clusters type Plante: professional attitude of stems	variétés à racine de caudex basimemore Plante: attitude des tiges	Nur Sorten mit Blaschalen basimemore Plante: Halbung der Triebe	Nur Varietäten mit Raschel basimemore Plante: para profesionalmente de los tallos		
Q2 (4) upright semi upright horizontal	dressées demi-dressées horizontales	aufrecht halbaufrecht wagrecht	erectos semierectos horizontal		1 3 5
3. 175 175 Only varieties with basal clusters type Plante: number of stems	variétés à racine de caudex basimemore Plante: nombre de tiges	Nur Sorten mit Blaschalen basimemore Plante: Anzahl Triebe	Nur Varietäten mit Raschel basimemore Plante: numero de tallos		
Q3 (4) few medium many	peu nombreuses moyennes nombreuses	wenig mittel viele	pocos medios muchos		3 5 7
4. 176 176 Plant: height including flowers	Plante: hauteur, y compris fleurs	Planze: Höhe, einschließlich Blüten	Plante: altura, incluidas las flores		
Q4 (4) short medium tall	basse moyenne haute	stumpf mittel hoch	corta media larga	Marsh Grass Boudinier Happy Face Pink	3 5 7

UPOV **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

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

**(c) The process for developing UPOV Test Guidelines**

UPOV **EXAMPLE (New Test Guidelines)**

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

Technical Working Party: **TWX**

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

UPOV **Test Guidelines**

- **264 Test Guidelines** adopted

but...


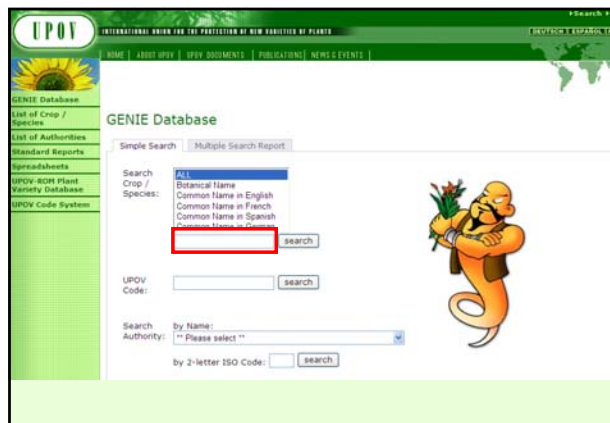
- **>2,750 genera and species** with varieties examined for PBR

UPOV **4. UPOV DATABASES**


**UPOV** **Article 20 of the 1991 Act**  
**(Variety denominations)**

(2) [*Characteristics of the denomination*]

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





**UPOV** **GENIE Database**  
**(Genus / species)**



**UPOV**

**5. THE UPOV WEBSITE**

**UPOV** **GENIE Database** 

Variety denomination related information  
Protection offered by UPOV members

**DUS information**

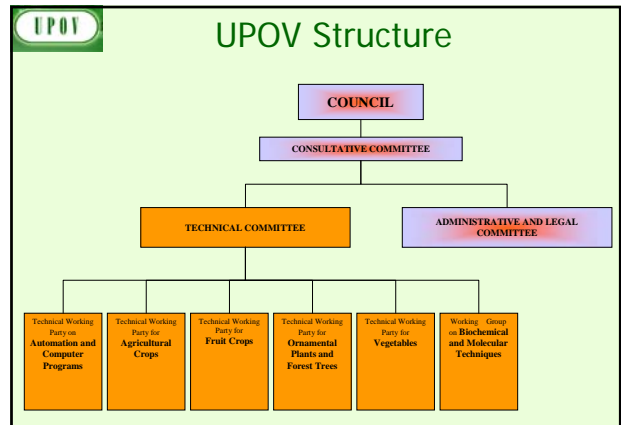
- UPOV Test Guidelines
- practical experience of UPOV (document TC/44/4)
- cooperation in DUS examination (document C/41/5)

**UPOV**

**UPOV Website**  
<http://www.upov.int>

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

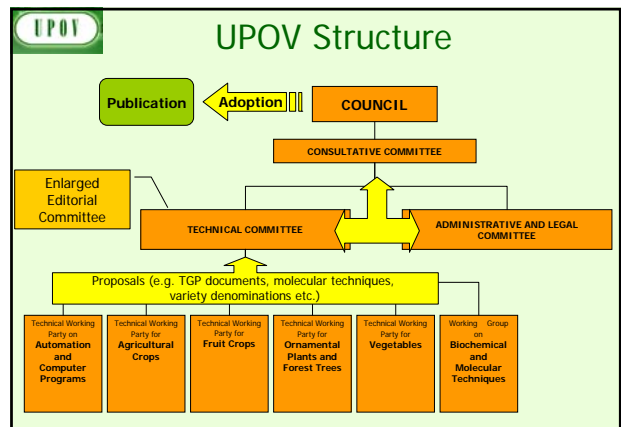
The screenshot shows the UPOV website interface. The top navigation bar includes 'HOME', 'ABOUT UPOV', 'UPOV DOCUMENTS', 'PUBLICATIONS', and 'NEWS/EVENTS'. A left sidebar contains various menu items such as 'UPOV Convention', 'List of UPOV Publications', 'E-zette & Newsletter', 'Laws & Treaties', 'List of Taxa Protected', 'Plant Variety Protection Statistics', 'Impact Study', 'Explanatory Notes', 'General Introduction to DUS', 'TGP Documents', 'Text Guidelines', 'Practical Technical Knowledge', 'Cooperation in Examination', 'Variety Denominations', 'Plant Variety Database', and 'GENE Database'. The main content area features a 'UPOV General Introduction' document cover and a table of 'National TGP Documents'. Yellow arrows point from the sidebar items to their corresponding content on the page.

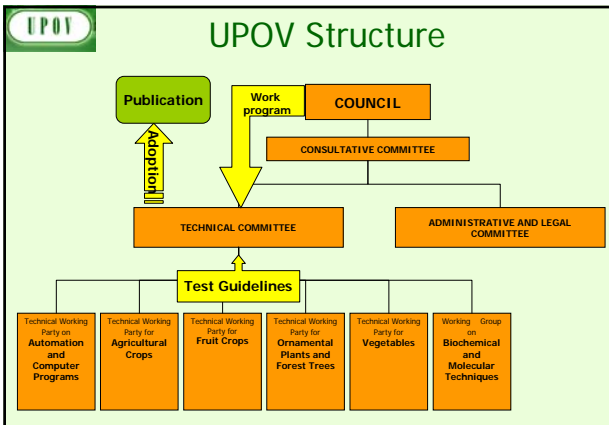


The screenshot displays the 'UPOV Distance Learning Course DL-205' page. The title is 'Introduction to the UPOV System of Plant Variety Protection under the UPOV Convention'. The text describes the course's objective: 'The International Union for the Protection of New Varieties of Plants is pleased to inform you about the next session of the distance learning course "Introduction to the UPOV System of Plant Variety Protection under the UPOV Convention" (DL-205). The objective of the course is to provide a comprehensive introduction to the UPOV system of plant variety protection under the International Convention for the Protection of New Varieties of Plants. The course comprises 11 modules.' A circular diagram shows the course modules: 1. Nature of Plant Breeding and the Need for Plant Breeder's Rights; 2. Subject Matter and Extent of Protection; 3. Conditions of Protection; 4. Applying for a Plant Breeder's Right; 5. Nature of Breeders' Infringement and Liability; 6. Scope of the Plant Breeder's Right; 7. Rights of the Plant Breeder's Right Holder; 8. Exceptions and Derogations to the Plant Breeder's Right; 9. Priority and Extension of the Plant Breeder's Right; 10. Union for the Protection of New Varieties of Plants; 11. Implementation of the Convention and Final Provisions. The page also includes sections for 'Previous Modules', 'UPOV Conventions', 'UPOV Studies', 'Legal Resources', 'Job Opportunities', and 'Training'.

**DEVELOPING GUIDANCE**  
to facilitate  
**HARMONIZATION and COOPERATION**

**6. ROLE OF THE UPOV TECHNICAL WORKING PARTIES (THE DUS EXAMINATION)**





### Example TWP Session

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	
[TECHNICAL WORKSHOP] (optional)	Reports on developments in PVP	TGP document development	TGP document development	Experiences with new types and species Variety denominations	Databases, Electronic application systems Exchangeable software	
COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	
[TECHNICAL WORKSHOP] (optional)	Reports (Continuation) Molecular techniques	TGP document development	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Uniformity method development	Recommendations on Test Guidelines
LUNCH		LUNCH		LUNCH		
PREPARATORY WORKSHOP	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup
COFFEE	COFFEE	COFFEE	TECHNICAL VISIT		COFFEE	
PREPARATORY WORKSHOP	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup
	Continuation	RECEPTION			Continuation	
					END OF SESSION	

### Example TWP Session

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	
[TECHNICAL WORKSHOP] (optional)	Reports on developments in PVP	TOP document development	TOP document development	Experiences with new types and species Variety denominations	Databases, Electronic application systems Exchangeable software	
COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	
[TECHNICAL WORKSHOP] (optional)	Reports (Continuation) Molecular techniques	TOP document development	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Uniformity method development	Recommendations on Test Guidelines
LUNCH		LUNCH		LUNCH		
PREPARATORY WORKSHOP	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup
COFFEE	COFFEE	COFFEE	TECHNICAL VISIT		COFFEE	
PREPARATORY WORKSHOP	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup
	Continuation	RECEPTION			Continuation	
					END OF SESSION	

## AN OPPORTUNITY for TRAINING

## EXCHANGING INFORMATION

### Example TWP Session

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	
[TECHNICAL WORKSHOP] (optional)	Reports on developments in PVP	TGP document development	TGP document development	Experiences with new types and species Variety denominations	Databases, Electronic application systems Exchangeable software	
COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	COFFEE	
[TECHNICAL WORKSHOP] (optional)	Reports (Continuation) Molecular techniques	TGP document development	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Uniformity method development	Recommendations on Test Guidelines
LUNCH		LUNCH		LUNCH		
PREPARATORY WORKSHOP	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup
COFFEE	COFFEE	COFFEE	TECHNICAL VISIT		COFFEE	
PREPARATORY WORKSHOP	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup	Room.1 Test Guidelines subgroup	Room.2 Test Guidelines subgroup
	Continuation	RECEPTION			Continuation	
					END OF SESSION	



**UPOV** **TWP Venues**

	TWA	TWC	TWF	TWO	TWV	BMT
1994	Spain	Israel	New Zealand	Australia	UK	France
1995	Germany	Poland	UK	Netherlands	Netherlands	Netherlands
1996	Greece	Germany	Israel	Israel	Czech Rep.	
1997	Hungary	Hungary	Netherlands	Denmark	Spain	United Kingdom
1998	France	Belgium	Australia	New Zealand	Poland	USA
1999	Canada	Finland	Slovakia	Czech Rep.	Germany	
2000	Sweden	Ukraine	Hungary	Hungary	France	France
2001	Mexico	Czech Rep.	Spain	Japan	Italy	Germany
2002	Brazil	Mexico	Argentina	Ecuador	Japan	
2003	Japan	Denmark	Canada	Canada	Netherlands	Japan
2004	Poland	Japan China (workshop)	Germany	Germany	Rep. of Korea	
2005	New Zealand	Canada	Japan	Rep. of Korea	Kenya	USA
2006	China	Kenya	Brazil	Brazil	Mexico	Rep. of Korea
2007	Hungary	Romania	Rep. of Korea	China	Kenya	
2008	South Africa	Rep. of Korea	Portugal	Netherlands	Poland	Spain
2009	Rep. of Korea	USA	France	European Union	China	
2010	Croatia	European Union	Mexico	Mexico	Bulgaria	Canada
	May 24-28	June 28 - July 2	Sept. 27 - Oct. 1	Sept. 20 - 24	July 5 - 9	May 11 - 13

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**THANK YOU**

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**7. AGENDA  
for the  
TWV Session**

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**8. FEEDBACK**