UPOV

"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."

TECHNICAL WORKING PARTY for ORNAMENTAL PLANTS and FOREST TREES

Thirty-ninth Session
Fortaleza, Brazil

PREPARATORY WORKSHOP

August 27, 2006

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PROGRAM

1. **Introduction to the International Union for the Protection of New Varieties of Plants (UPOV)**

2. **Introduction to the UPOV Technical Working Parties:**
   The DUS Examination

3. **Guidance for DUS Examination:**
   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
   - *types of expression (QL, QN, PQ)*
   - *example varieties*
   - *asterisked, TQ, grouping*

5. **The UPOV Website**

6. **Agenda for the TWP Meeting**

7. **Feedback from Participants**

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INTRODUCTION TO UPOV

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DESIGN BY AXECOM.COM

WHAT IS UPOV?

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

established

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

Union internationale pour la **p**rotection des **o**btentions **v**égétales

UPOV

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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"

UPOV

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

THE UNION

- Members of the Union
  - States or Intergovernmental Organizations
- Permanent Organs of the Union
  - The Council - consisting of the representatives of the members of the Union
  - The Office of the Union - carries out all the duties and tasks entrusted to it by the Council

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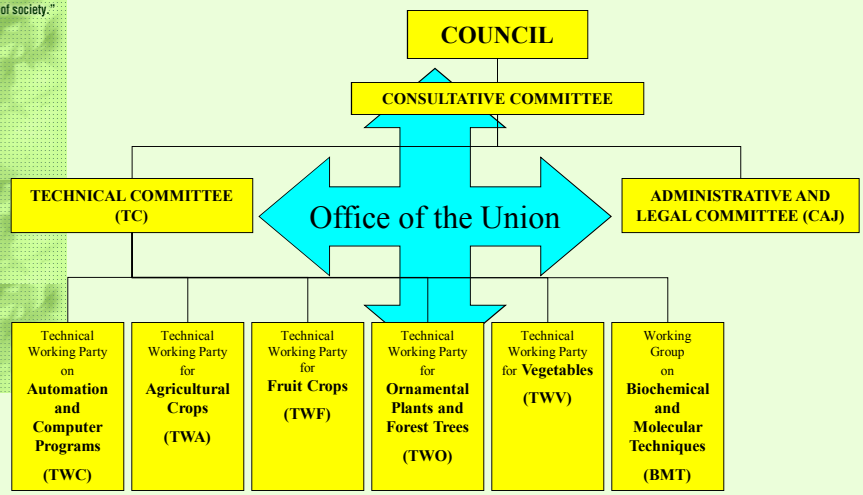
UPOV Structure



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PLANT VARIETY PROTECTION SITUATION

- 61 members of the Union
- 17 States have initiated the procedure for becoming members of the Union
- 1 intergovernmental organization has initiated the procedure for becoming members of the Union:
  - OAPI (16 countries)
- 47 States have contacted the Office of the Union for assistance in the development of legislation on plant variety protection

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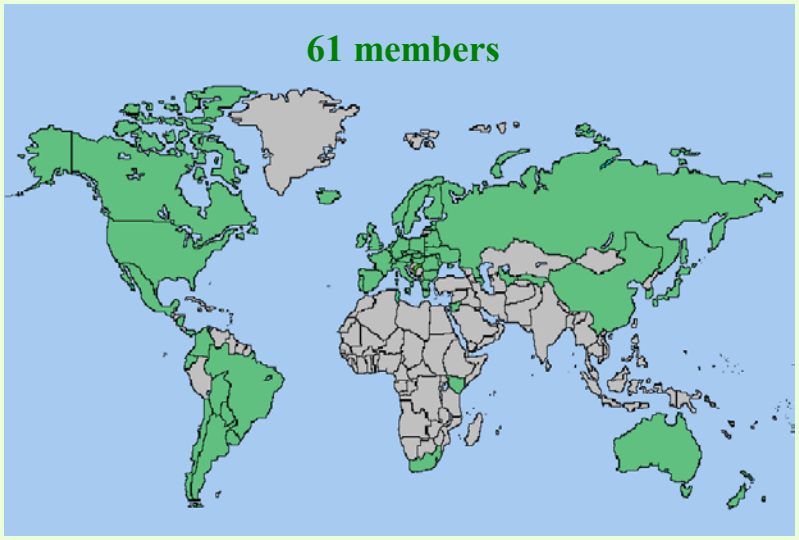
UPOV Membership/Territories covered



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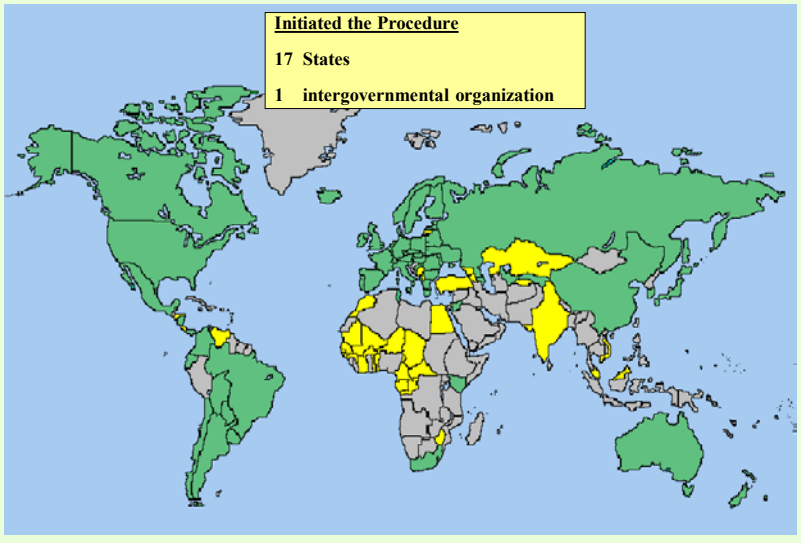
Members of UPOV (green) and initiating States and organizations (yellow)



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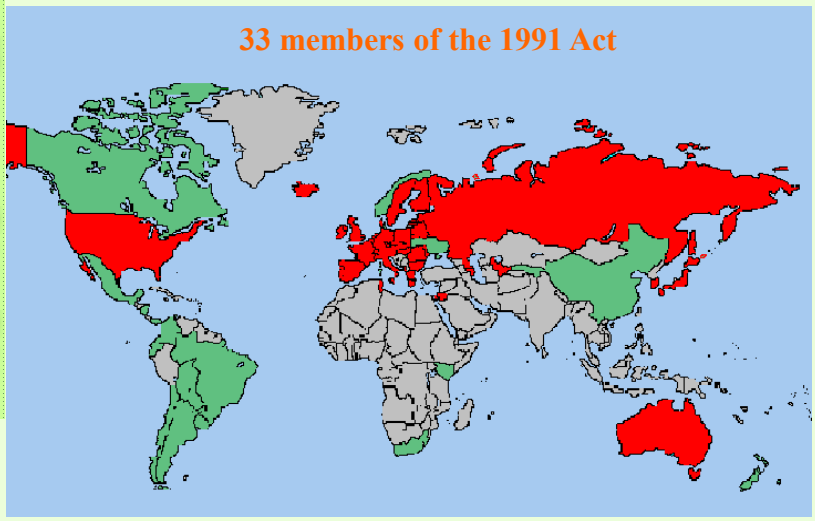
UPOV Membership/Territories covered



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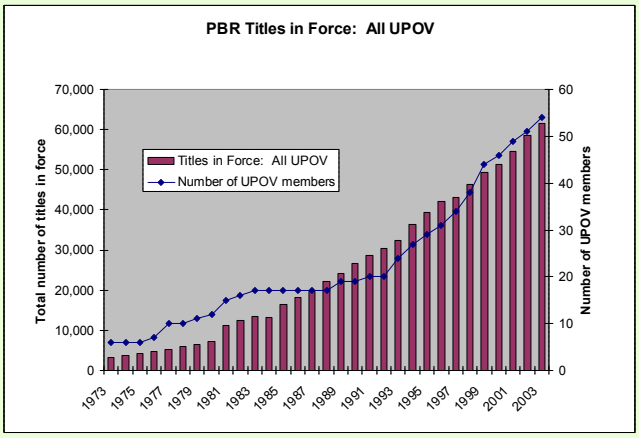
Development of Plant Variety Protection



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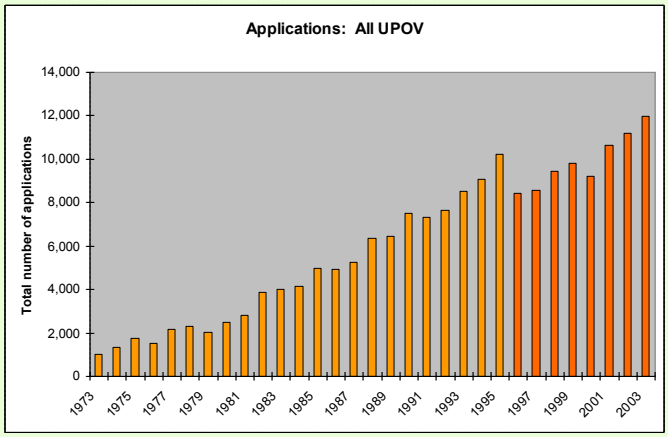
Development of Plant Variety Protection



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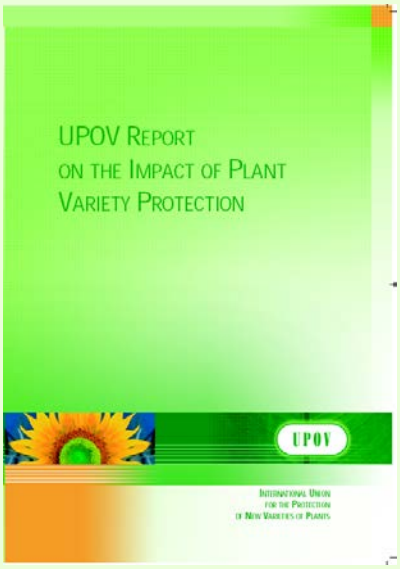

Executive summary available at: www.upov.int "News & Events"

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SECTION II. DEVELOPMENT OF THE UPOV SYSTEM OF PLANT VARIETY PROTECTION

UPOV MEMBERSHIP
EXPANDING THE PROTECTION ACROSS PLANT GENERA AND SPECIES
IMPLEMENTATION OF PLANT VARIETY PROTECTION
EXPANSION OF UPOV: A BENEFIT FOR NEW AND OLD UPOV MEMBERS
Older UPOV Members: the European Community Countries
Older UPOV Members: Other Countries
Newer UPOV Members

SECTION III. REPORTS ON STUDIES CONDUCTED IN INDIVIDUAL COUNTRIES

ARGENTINA

1. GENERAL VIEW OF AGRICULTURE IN THE COUNTRY
2. SHORT DESCRIPTION OF THE SEED INDUSTRY
3. PLANT VARIETY PROTECTION SYSTEM
4. IMPACT OF PLANT VARIETY PROTECTION
   (a) Overall Trends of Varieties Available in the Country
      (i) *Number of Varieties*
      (ii) *Improvement of Varieties*
   (b) Foreign Investment / International Dimension
      (i) *Introduction of Foreign Varieties*
      (ii) *Development of Foreign Markets*
   (c) Domestic breeding
      (i) *Number of Varieties*
      (ii) *Number of Breeders / Investment in Breeding*
      (iii) *Structure of the Breeding Industry*
   (d) Summary

CHINA

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Kamil Idris (Secretary-General of UPOV)

"...some very clear messages have emerged from this study, perhaps the most important being that the introduction of the **UPOV system of plant variety protection and membership of the International Union for the Protection of New Varieties of Plants (UPOV) can open a door to economic development, particularly in the rural sector**..."

"... an important conclusion is that the **UPOV system** of plant variety protection **provides an effective incentive for plant breeding in many different situations and in various sectors, and results in the development of new, improved varieties of benefit for farmers, growers and**

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Ing. Enriqueta Molina Macías
(Director, National Service for Inspection and Seed Certification (SNICS), Mexico and President of the UPOV Council)

"It is perhaps worthwhile at the same time as reviewing those benefits to reflect on the importance of the plant genetic resources which form the raw material for the breeders' work. ...**Under the UPOV system, a breeding cycle of progression can continue to maximize the benefits of plant variety protection and plant breeding for the future**."

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Expansion of UPOV

Figure 1. Members of UPOV (shown in green): **1990**

Figure 2. Members of UPOV (shown in dark green) and initiating States and organizations (shown in light green): September **200**

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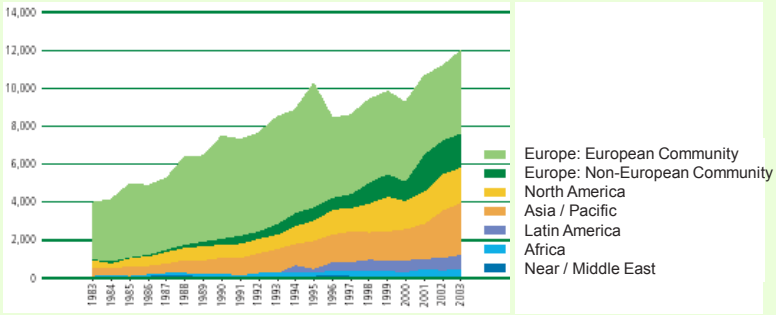
Expansion of UPOV

Figure 5. Applications: All UPOV and CPVO: by region



Extending coverage to plant genera and species:

1975: 500 plant genera and species (approx.)
1985: 900
1995: 1,300
2005: 2,300

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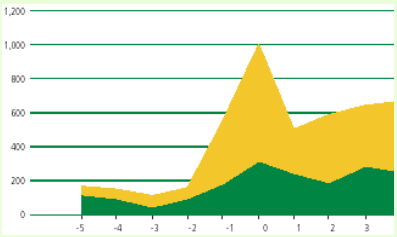
Newer UPOV Members

Figure 11. **Latin America Countries** acceding to UPOV between 1994 and 2000



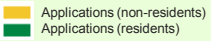
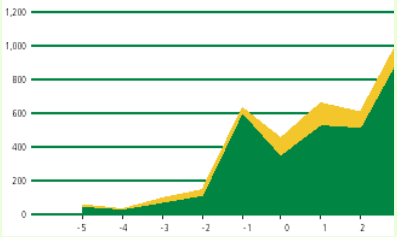


Figure 12. **Countries in transition to a market economy** acceding to UPOV between 1993 and 2000



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SECTION III.

Reports on Studies Conducted in Individual Countries:

Argentina

China

Kenya

Poland

Republic of Korea

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SECTION III.

Reports on Studies Conducted in Individual Countries:

Chairman
Evans O. Sikinyi (Kenya)

Country Study Representatives
Argentina: Marcelo Labarta
China: Lin Xiangming and Lü Bo (Ministry of Agriculture); Zhou Jianren (State Forestry Administration)
Kenya: Evans O. Sikinyi
Poland: Edward S. Gacek and Julia Borys
Republic of Korea: Choi Keun-Jin

Advisors / Consultants
Chris M.M. van Winden and Arnold J.P. van Wijk (Netherlands)

Coordinator
Makoto Tabata (UPOV)

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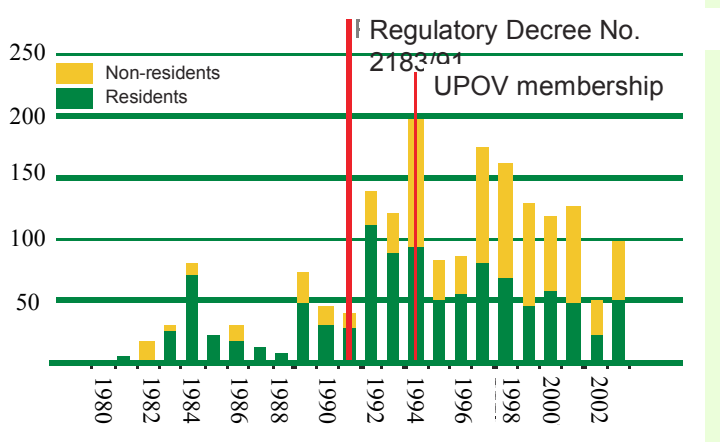
Argentina

Figure 13. Argentina: Number of Titles Granted



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China

Figure 27. China: Royalties Collected in Henan Province **(Maize)**

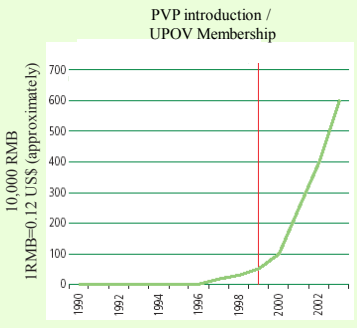
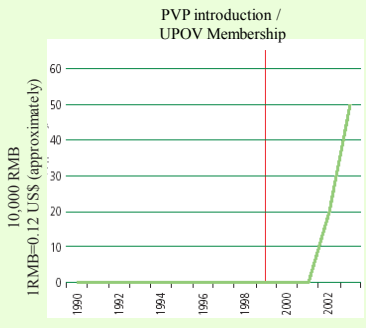


Figure 28. China: Royalties Collected in Henan Province **(Wheat)**



Royalties Collected

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China

Figure 29. China: Number of Breeders in Henan Province **(Maize)**

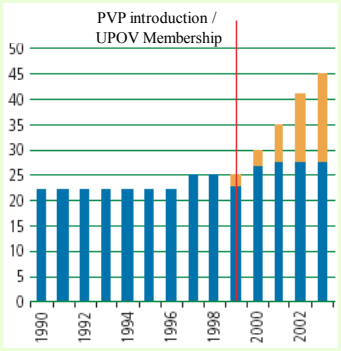
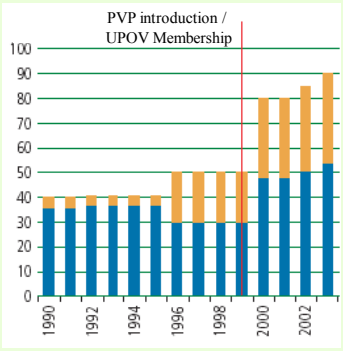


Figure 30. China: Number of Breeders in Henan Province **(Wheat)**



Number of other breeders
Number of breeders at the Provincial Research Institute

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Republic of Korea

Figure 48. Republic of Korea: Number of Applications

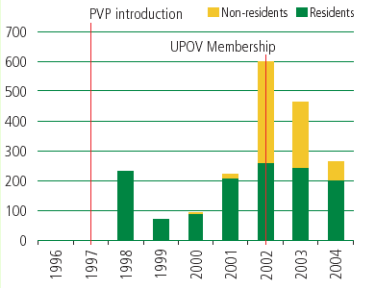
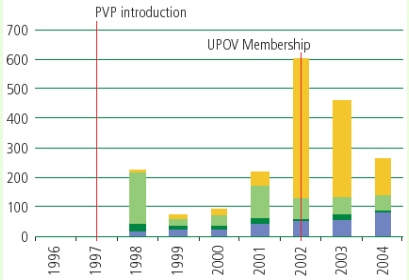


Figure 49. Republic of Korea: Number of Applications by Categories of Crop



Ornamentals
Agricultural
Fruits
Vegetables

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Republic of Korea

Box 27

Root yield and red ginseng proportion of new, protected ginseng varieties

Varieties	Root yield (ton/ha)	Red ginseng percentage (%)
Chunpoong	6.39	38.00
Yunpoong	7.35	20.60
Geumpoong	6.15	35.40
Gopoong	5.73	24.70
Sunpoong	5.70	23.90
Average of conventional varieties	5.46	15.00

High-quality variety "Chunpoong"

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Republic of Korea

Box 29

Korean rose variety "Red Angel", granted protection in 2003, was bred using the protected variety "Little Marble", developed in the Netherlands

Little Marble (Red variety)
Developed in the Netherlands

Red Angel (Dark red variety)
Developed at the Kyunggi Provincial Rural Development Administration
Crossing of: Princess×Little Marble

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Republic of Korea

Figure 52. Republic of Korea: Number of Rose Breeders

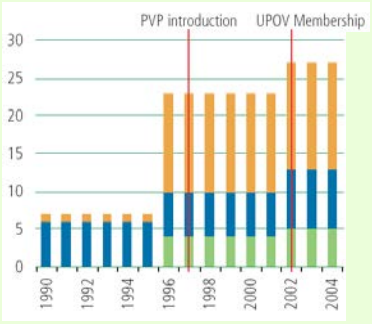
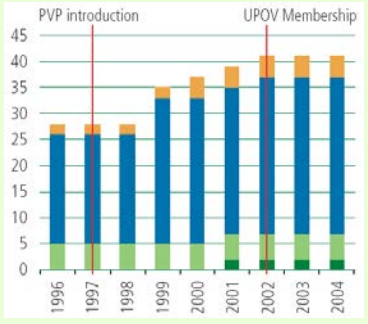


Figure 53. Republic of Korea: Number of Rice Breeders



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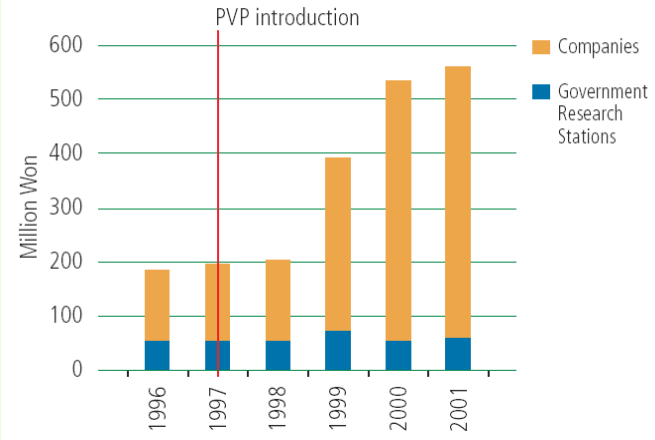
Republic of Korea

Figure 55. Republic of Korea: Breeding Investment- Chinese Cabbage



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UPOV in the Americas

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Americas

Members of the Union

Argentina
Bolivia
Brazil
Canada
Chile
Colombia
Ecuador
Mexico
Nicaragua
Panama
Paraguay
Trinidad and Tobago
United States of America
Uruguay

Initiated the Procedure

Costa Rica
Honduras
Venezuela

Contacted the Office

Barbados
Cuba
Dominica
Dominican Republic
El Salvador
Guatemala
Guyana
Jamaica
Peru
Suriname

UPOV

Mettre en place et promouvoir un système efficace de protection des variétés végétales afin d'encourager l'obtention de variétés dans l'intérêt de tous

The 1991 Act of the UPOV Convention in the Americas

Members of the Union

1991 Act:
United States of America

1978 Act
Argentina
Bolivia
Brazil
Canada
Chile
Colombia
Ecuador
Mexico
Nicaragua
Panama
Paraguay
Trinidad and Tobago
Uruguay

UPOV

Mettre en place et promouvoir un système efficace de protection des variétés végétales afin d'encourager l'obtention de variétés dans l'intérêt de tous

The 1991 Act of the UPOV Convention in Latin-America

	BO	CO	EC	NI	AR	BR	CL	MX	PA	PY	TT	UY
Definitions	X	X	X	X	X		X		X		X	X
Provisional protection	X	X	X	X		X	X	X				X
Extension of the PBR to the harvested product	X	X	X									
All genera and species	X	X	X	X	X		X	X	X	X		X
Limited farmers privilege	X	X	X	X								
Duration: 20-25 years	X	X	X	X					X			
Exhaustion of PBR	X	X	X	X								X
E.D.V.	X	X	X	X		*						

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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	Uruguay	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	Slovakia	USA
2006	China	Kenya	Brazil	Brazil	Mexico	Rep. of Korea

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Introduction to the UPOV Technical Working Parties: The DUS Examination

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UPOV Convention (1991 act):

- Chapter I - Definitions (breeders and varieties)
- Chapter II - General Obligations
  - Genera and species to be protected
  - National treatment
- Chapter III - Conditions for the Grant of the Breeder's Right
- Chapter IV - Application for the Grant of the Breeder's Right (examination)
- Chapters V-VII - The Rights of the Breeder (scope, exceptions, etc.)
- Chapters VIII - X - About the Union and the Convention

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THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

Criteria to be satisfied

- NOVELTY
- DISTINCTNESS
- UNIFORMITY
- STABILITY

} "DUS" (DHS)

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THE CONDITIONS FOR GRANTING A BREEDER'S RIGHT

Other conditions

- VARIETY DENOMINATION
- FORMALITIES
- PAYMENT OF FEES

NO OTHER CONDITIONS!

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Examination of the Application

(Article 12 of the 1991 Act of the UPOV Convention)

Any decision to grant a breeder's right shall require an **examination for compliance with the conditions under Articles 5 to 9***. In the course of the examination, the authority may grow the variety or carry out other necessary tests, cause the growing of the variety or the carrying out of other necessary tests, or take into account the results of growing tests or other trials which have already been carried out. For the purposes of examination, the authority may require the breeder to furnish all the necessary information, documents or material.

***Article 7, 8, 9 = Distinctness, Uniformity, Stability**

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THE DUS EXAMINATION

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

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Nature of the DUS Examination

The "DUS Test" (field trial)

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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

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DISTINCTNESS

Apple: Fruit color

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DISTINCTNESS

Apple: Fruit color

UPOV

"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."

DISTINCTNESS

Apple: Flower bud color

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DISTINCTNESS

Apple: Calyx

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DISTINCTNESS

Maize: Stem base color

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- **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*

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UNIFORMITY

Wheat: (Self-pollinated)

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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)

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Off-types

According to the size of the sample examined, statistical tables give the maximum number of off-types tolerated in that given samples

e.g.: population standard = 1% and acceptance probability = 95%

Sample size	*Number of off-types allowed*
1-5	*0*
6-35	*1*
36-82	*2*
83-137	*3*
138-198	*4*
199-262	*5*

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UNIFORMITY

Ryegrass: Spaced plants (Cross-pollinated)

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Relative Tolerance Limits

Cross-pollinated varieties, including mainly cross-pollinated and synthetic varieties, generally exhibit wider variations within the variety than vegetatively propagated or self-pollinated varieties and inbred lines of hybrid varieties, and 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.

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- **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

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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.

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Selecting 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.

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Selection of Characteristics

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

Etc.

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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
ACCEPATABILITY	Yes	Yes	No	No

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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) & methodolgy *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
	Difficult and expensive

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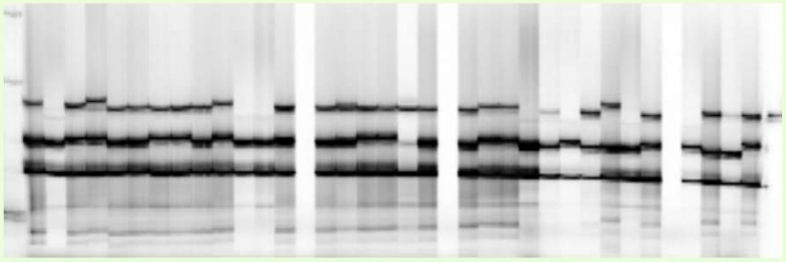
Molecular Techniques?



DESIGN BY AXECOM.COM

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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/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 Management 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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  - 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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INTERNATIONAL UNION

FOR D

Latin	*Engli*
Opuntia, Group 1	Cacti
Opuntia, Group 2	Xoco

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Test Guidelines

- **228 Test Guidelines** adopted
- Further **63 to be discussed** in 2006
  (25 revisions / 38 new Test Guidelines)

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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)

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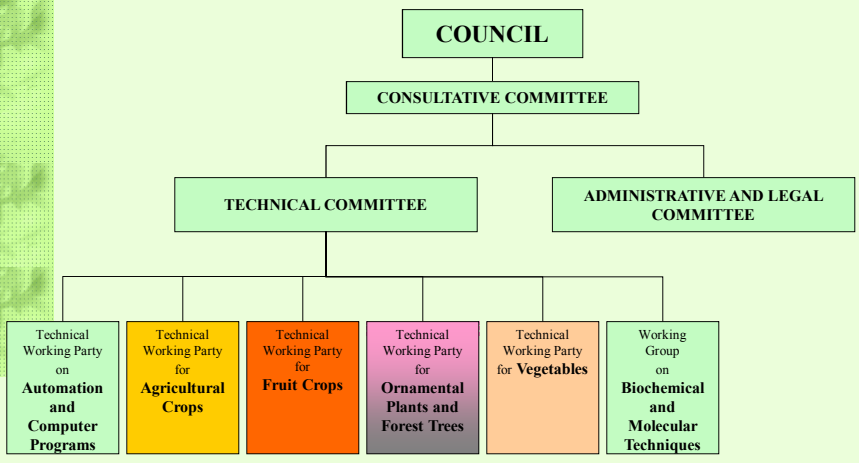
UPOV Structure



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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

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TGP/7
"Development of Test Guidelines"

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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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2. Procedure for the Introduction and Revision of UPOV Test Guidelines

Rationale for the Procedure:

- ♣ Transparency
- ♣ Clear responsibility at each step

Who prepares the draft

- ♣ Leading expert, interested experts to prepare a draft
- ♣ Technical Working Party to establish a final draft
- ♣ Technical Committee to adopt

Participation

- ♣ International non-governmental organizations, invited to sessions of Technical Working Parties and Technical Committee as observers
- ♣ UPOV regional Technical Meetings

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2. Procedure for the Introduction and Revision of UPOV Test Guidelines

Step 1: Proposals for the Commissioning of Work

Step 2: Approval of the Proposal

Step 3: Allocation of Drafting Work

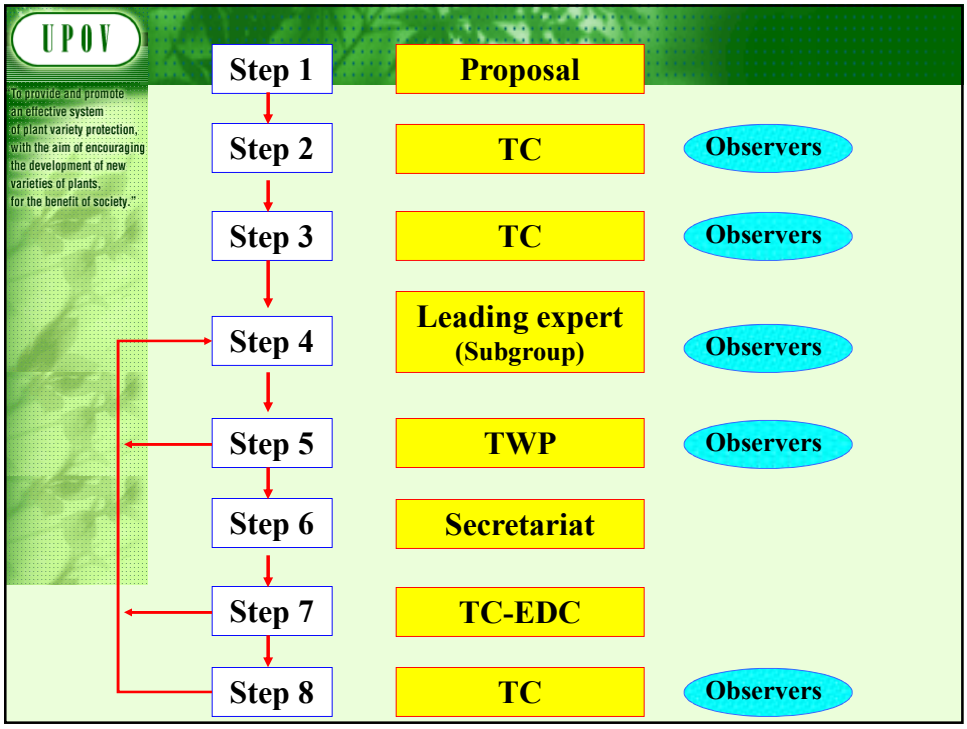
Step 4: Preparation of Draft TGs for the TWPs

Step 5: Consideration of the Draft TGs by the TWPs

Step 6: Submission of Draft TGs by the TWP

Step 7: Consideration of Draft TGs by the Editorial Committee

Step 8: Adoption of Draft TGs, by the Technical Committee


UPOV
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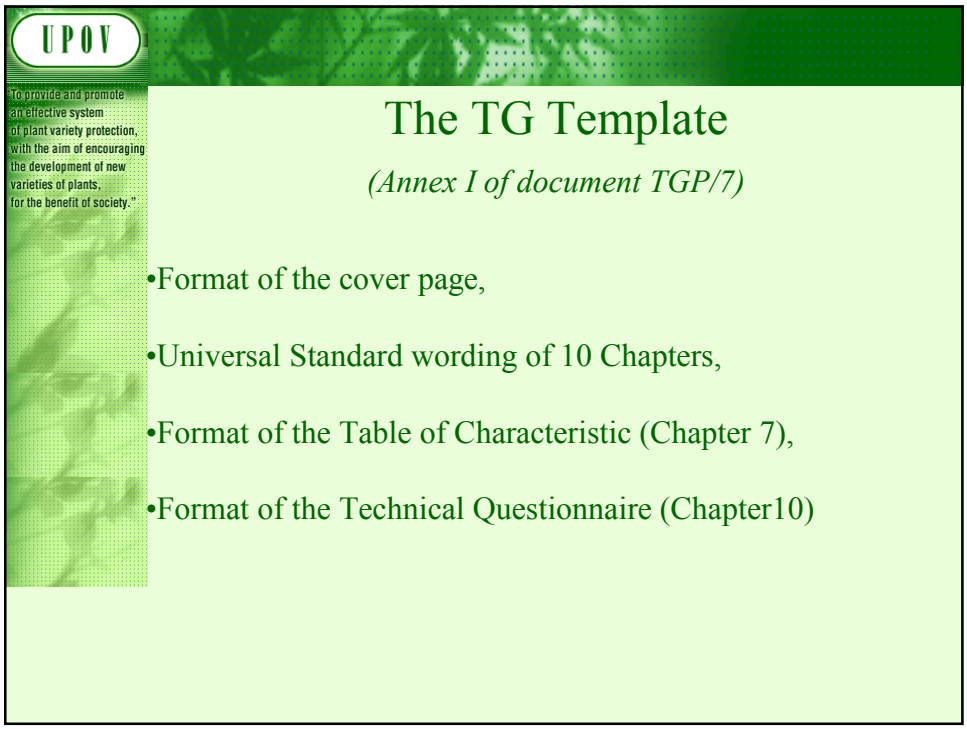
Step 1
Proposal
Step 2
TC
Observers
Step 3
TC
Observers
Step 4
Leading expert (Subgroup)
Observers
Step 5
TWP
Observers
Step 6
Secretariat
Step 7
TC-EDC
Step 8
TC
Observers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The TG Template
(Annex I of document TGP/7)
•Format of the cover page,
•Universal Standard wording of 10 Chapters,
•Format of the Table of Characteristic (Chapter 7),
•Format of the Technical Questionnaire (Chapter10)

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E

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TG/6/5(proj.2)
ORIGINAL: English
DATE: 2004-06-10

NATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS
GENEVA

DRAFT

LUCERNE

UPOV code: MEDIC_SAT

(*Medicago sativa* L. and *Medicago* x *varia* Martyn)

GUIDELINES

FOR THE CONDUCT OF TESTS

FOR DISTINCTNESS, UNIFORMITY AND STABILITY

prepared by experts from France

to be considered by the
Technical Working Party for Agricultural Crops at its thirty-third session,
to be held in Poznan , Poland, from June 28 to July 2, 2004

Alternative Names:*

Botanical name	*English*	*French*	*German*	*Spanish*
Medicago sativa L.	Lucerne, Alfalfa	Luzerne	Blaue Luzerne	Alfalfa, Mielga
Medicago x *varia* Martyn				

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

ASSOCIATED DOCUMENTS

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

Other associated UPOV documents:

* These names were correct at the time of the introduction of these Test Guidelines but may be revised or updated. [Readers are advised to consult the UPOV Code, which can be found on the UPOV Website (www.upov.int), for the latest information.]

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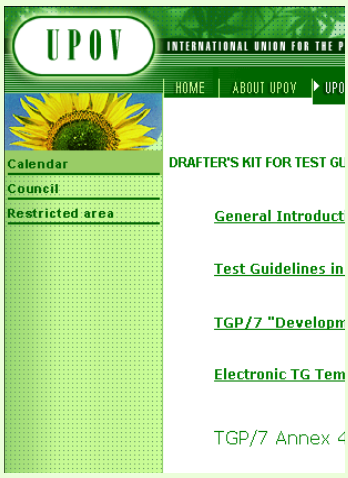

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10 Chapters of UPOV Test Guidelines

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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1. Subject of These Guidelines

These Test Guidelines apply to all varieties of {…}.

(examples)

- These Test Guidelines apply to all varieties of Oryza sativa L.
- These Test Guidelines apply to all varieties of *Cichorium intybus* L. partim of the family *Compositae*, excluding witloof (TG/173/3) and leaf chicory (TG/154/3).

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2. Material Required

2.1 The competent authorities decide on the quantity and quality of the plant material required for testing the variety and when and where it is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must ensure that all customs formalities and phytosanitary requirements are complied with.

2.2 The material is to be supplied in the form of {seed, tree, bulb …}.

2.3 The minimum quantity of plant material, to be supplied by the applicant, should be:

{200 g, 20,... }.

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3. Methods of Examination

3.1 Duration of Tests

3.2 Testing Place

3.3 Conditions for Conducting the Examination

[3.3.x Stage of development for the assessment]

[3.3.x Type of observation – visual or measurement]

3.4 Test Design

3.5 Number of Plants / Parts of Plants to be Examined

3.6 Additional Tests

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4. Assessment of Distinctness, Uniformity and Stability

Assessment of Uniformity in general:

- It is necessary to take into account:
  - **features of propagation of the variety**
- Methods for Examination of Uniformity
  - **the number of "off-types" (mainly for vegetatively propagated varieties, self-pollinated varieties)**
  - **overall range of variation (mainly for cross-pollinated varieties)**

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4. Assessment of Distinctness, Uniformity and Stability

4.2 Uniformity

[4.2.1] It is of particular importance for users of these Test Guidelines to consult the General Introduction prior to making decisions regarding uniformity. However, the following points are provided for elaboration or emphasis in these Test Guidelines:

[4.2.x] Standard wording for **cross-pollinated, hybrid, self-pollinated, vegetatively propagated varieties.**

- [4.2.x] [For the assessment of uniformity, a population standard of { x }% and an acceptance probability of at least **{ y }** % should be applied. In the case of a sample size of **{ a }** plants, **[{ b } off-types are] / [1 off-type is]** allowed.]

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4. Assessment of Distinctness, Uniformity and Stability

Counting the number of Off-types

According to the size of the sample examined, statistical tables give the maximum number of off-types tolerated in that give samples

e.g.: *population standard = 1% and acceptance probability = 95%*

Sample size	***Number of off-types allowed***
1-5	***0***
6-35	***1***
36-82	***2***
83-137	***3***
138-198	***4***
199-262	***5***

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5. Grouping of Varieties and Organization of the Growing Trial

5.1 …..

5.2 Grouping characteristics…. can be used,…... :

- (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:

{…}

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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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Format of the Table of Characteristic (Section 7)

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

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

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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**.

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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)).

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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 assessment.

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Quantitative Characteristics

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

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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.

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Pseudo-Qualitative Characteristics

36. (*)	**VG**	**Fruit: ground color of skin**
PQ	**(e)**	not visible
		whitish yellow
		yellow
		whitish green
		yellow green
		green

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Pseudo-Qualitative Characteristics

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

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7. Table of Characteristics

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Qualitative Characteristics

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

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Qualitative Characteristics

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

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Quantitative Characteristics

weak/strong
short/long
small/large

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

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

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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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Quantitative Characteristics

State	Example 1 **Size relative to:**	Example 2 **Angle:**	Example 3 **Position:**	Example 4 **Length in relation to:**
1	**much smaller**	**very acute**	**at base**	**equal**
3	moderately smaller	moderately acute	one quarter from base	slightly shorter
5	**same size**	**right angle**	**in middle**	**moderately shorter**
7	moderately larger	moderately obtuse	one quarter from apex end	much shorter
9	**much larger**	**very obtuse**	**at apex**	**very much shorter**

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Quantitative Characteristics

Limited range

State	Example 1 **Stem: attitude**
1	erect
3	semi-erect
5	prostrate

Condensed range

Example 1	
1	e.g. absent or very weak *(absent or very weakly expressed)*
2	weak *(weakly expressed)*
3	strong *(strongly expressed)*

Example 2	
1	e.g. absent or weak *(absent or weakly expressed)*
2	moderate (or medium) *(moderately 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)

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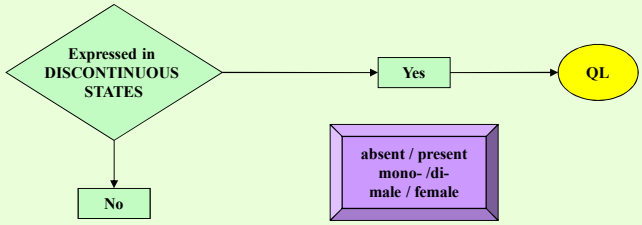
QL, QN or PQ?



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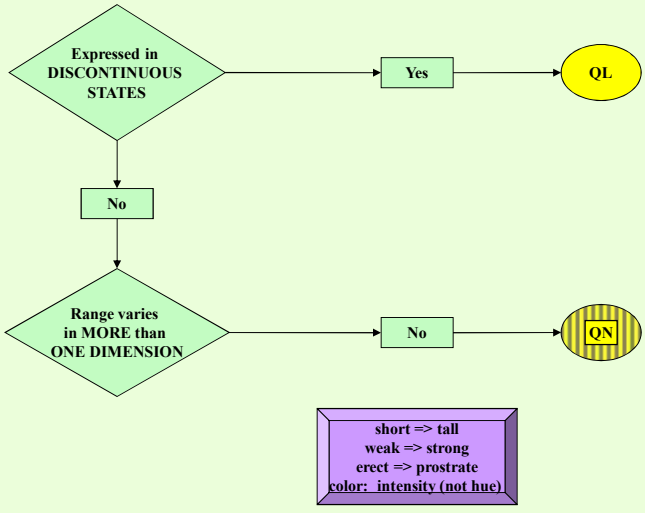
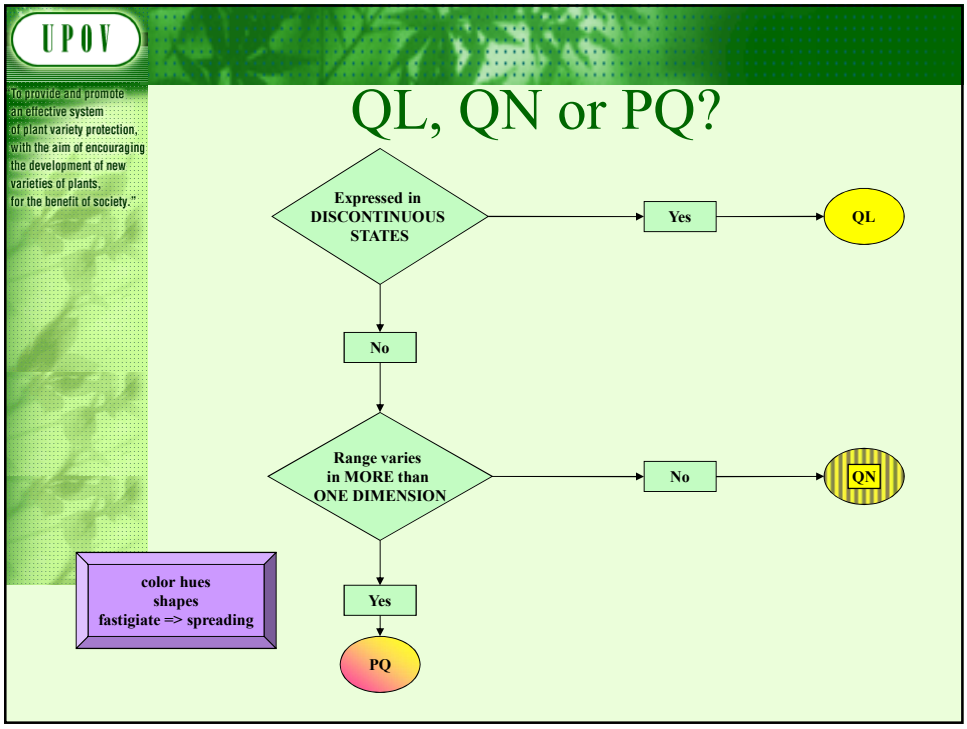
QL, QN or PQ?

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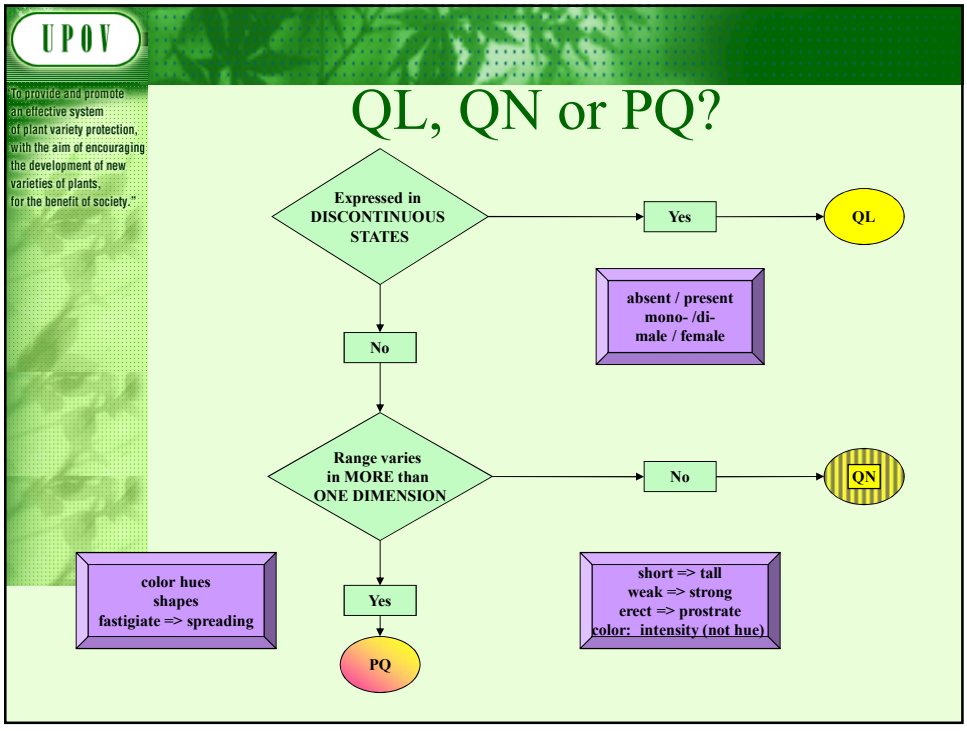
QL, QN or PQ?
Expressed in DISCONTINUOUS STATES
Yes
QL
No
Range varies in MORE than ONE DIMENSION
No
QN
color hues
shapes
fastigiate => spreading
Yes
PQ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QL, QN or PQ?
Expressed in DISCONTINUOUS STATES
Yes
QL
absent / present
mono- /di-
male / female
No
Range varies in MORE than ONE DIMENSION
No
QN
color hues
shapes
fastigiate => spreading
short => tall
weak => strong
erect => prostrate
color: intensity (not hue)
Yes
PQ

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EXERCISE

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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."

Types of Expression

QL: Qualitative

QN: Quantitative

PQ: Pseudo-qualitative

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

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1.	**Leaf sheath: anthocyanin coloration**	
	absent or very weak	1
	weak	3
	medium	5
	strong	7
	very strong	9

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1. Leaf blade: folding

closed	1
open	2

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1. Plant: rhizomes

absent	1
present	9

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1. Plant: growth habit

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

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1. Leaf: length

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

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1. Lemma: hairiness

absent	1
present	9

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1. Tree: distribution of flower buds

predominantly on spurs	1
equally on spurs and on one-year-old shoots	2
predominantly on one-year-old shoots	3

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1.	**Leaf blade: ratio length/width**	
	very small	1
	small	3
	medium	5
	large	7
	very large	9

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1.	**Leaf blade: intensity of green color of upper side**	
	light	3
	medium	5
	dark	7

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1.	**Leaf blade: shape of base**	
	acute	1
	obtuse	2
	truncate	3
	cordate	4

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1.	**Leaf blade: profile in cross section**	
	straight or weakly concave	1
	moderately concave	2
	strongly concave	3

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1.	**Flower: position of stigma relative to anthers**	
	below	1
	same level	2
	above	3

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1.	**Petal: shape (excluding claw)**	
	broad elliptic	1
	circular	2
	oblate	3

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1.	**Petal: color on lower side**	
	white	1
	light pink	2
	dark pink	3

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EXAMPLE VARIETIES

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7. Table of Characteristics/Tableau des caract

	English	français	D
1. (*)	**Seed: color**	**Semence: couleur**	**Sa**
	white	blanche	w
	yellow	jaune	ge
	black	noire	sc
2. (*) (+)	**Seedling: anthocyanin coloration**	**Plantule: pigmentation anthocyanique**	**K A**
	absent	absente	fe
	present	présente	vo

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		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: int del color p del envés**
QN	**(a)**	very light	très claire	sehr hell	muy claro
		light	claire	hell	claro
		medium	moyenne	mittel	medio
		dark	foncée	dunkel	oscuro
		very dark	très foncée	sehr dunkel	muy oscuro

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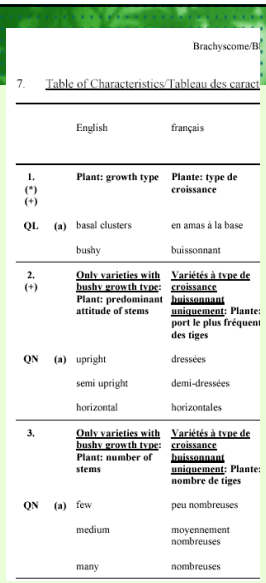

Brachyscome/B

7. Table of Characteristics/Tableau des caract

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

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Example Varieties: the Objective

Clarify states of expression

- **Illustrate characteristics**
- **Determine the state of expression**

→ **Harmonized descriptions**

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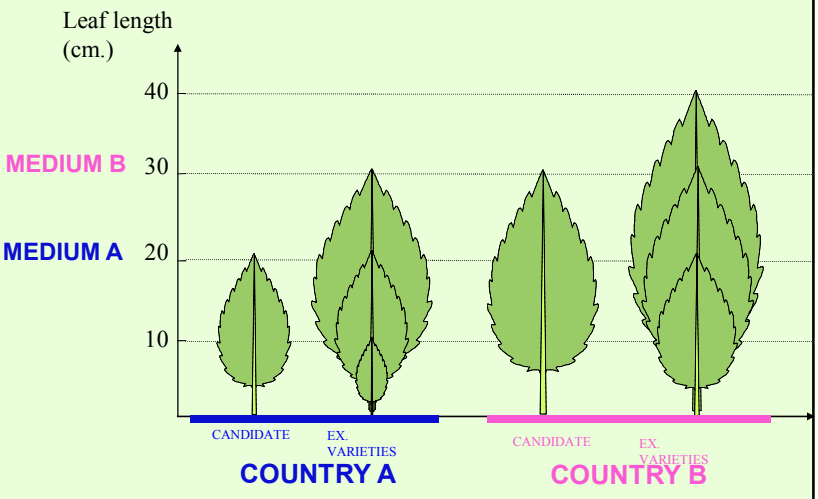
Example Varieties versus Measurements



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Example Varieties –the need

NO NEED

- illustration available (e.g. photo) and
- characteristics NOT used to harmonize descriptions or
- characteristics NOT influenced by the environment

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Example Varieties – the need

NEED

- in characteristics USED TO HARMONIZE descriptions
- and WHICH ARE influenced by the environment

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Example Varieties - availability

widely and freely available

- National Authority
- DUS examiners
- Breeders

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Example Varieties within the collection

must show the range of expression in the collection

QN
- **3 : short**
- **5 : medium**
- **7 : long**

PQ:
- **cover the whole range**

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Example Varieties Fluctuation

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

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Example Varieties number

All desired characteristics covered with the MINIMUM number of example varieties

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Example Varieties - agreement

Proposed by the leading expert of the TG

Accepted if no objections are presented

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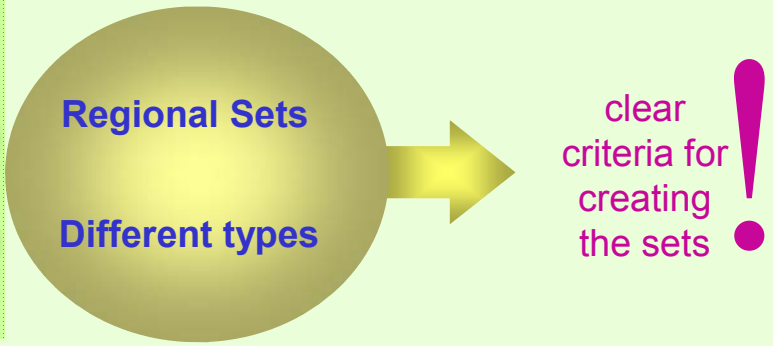
Example Varieties - multiple sets



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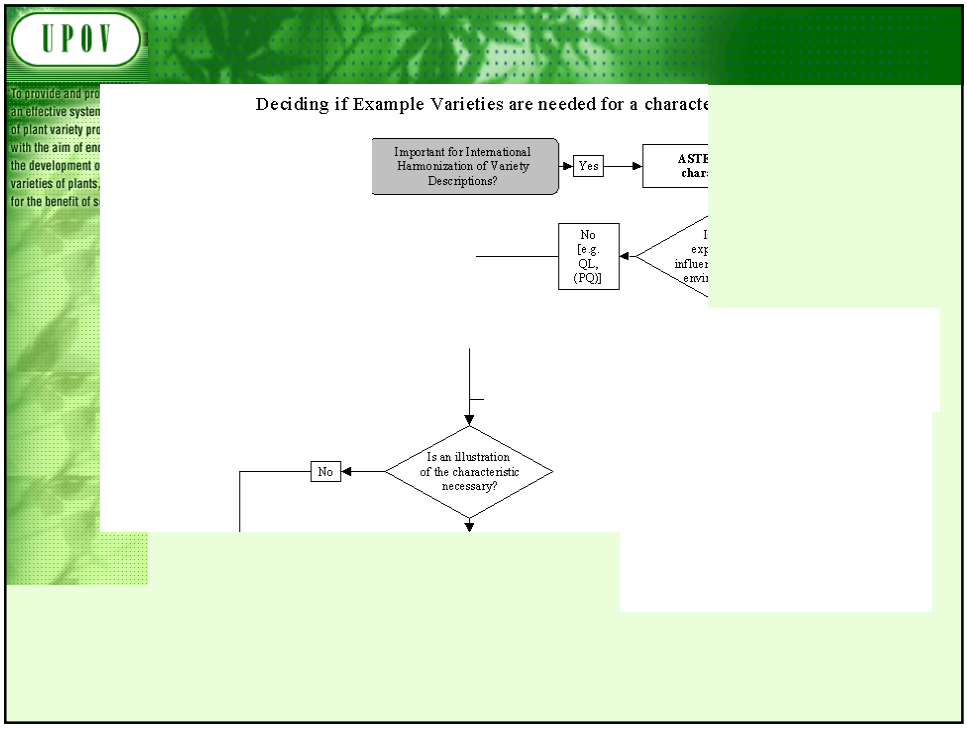
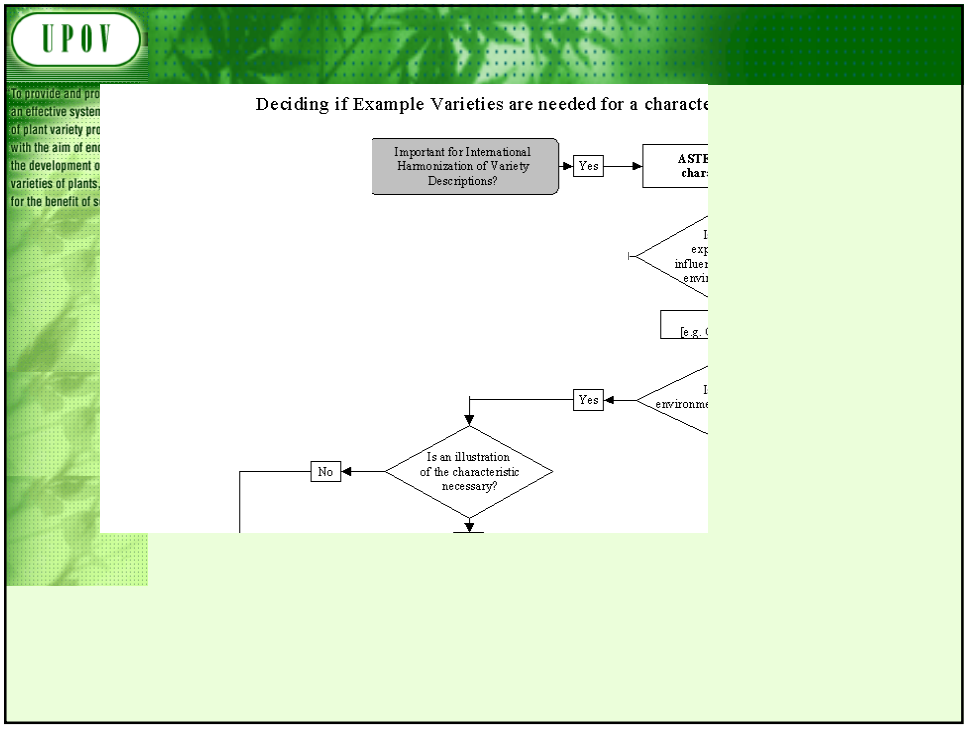
TGP/7: Guidance Notes


UPOV
Deciding if Example Varieties are needed for a characte
Important for International Harmonization of Variety Descriptions?
Yes
No [e.g. QL, (PQ)]
Is an illustration of the characteristic necessary?
No


UPOV
Deciding if Example Varieties are needed for a characte
Important for International Harmonization of Variety Descriptions?
Yes
Yes
Is an illustration of the characteristic necessary?
No

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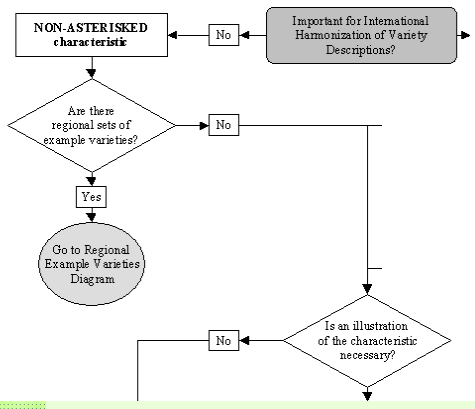
Deciding if Example Varieties are needed for a characte



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Exercise

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
4. (*) (+)		**Plant: height including flowers**	**Plante: hauteur, fleurs comprises**	**Pflanze: Höhe einschließlich Blüten**	**Planta: altura, incluidas las flores**	?	
QN	**(a)**	short	basse	niedrig	corta		3
		medium	moyenne	mittel	media		5
		tall	élevée	hoch	larga		7

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
1. (*) (+)		**Plant: growth type**	**Plante: type de croissance**	**Pflanze: Wuchstyp**	**Planta: tipo de crecimiento**	?	
QL	**(a)**	basal clusters	en amas à la base	basale Büschel	en racimos basales		1
		bushy	buissonnant	buschig	arbustivo		2

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
2. **(+)**		**Only varieties with bushy growth type: Plant: predominant attitude of stems**	**Variétés à type de croissance buissonnant uniquement: Plante: port le plus fréquent des tiges**	**Nur Sorten mit buschigem Wuchstyp: Pflanze: vorwiegende Haltung der Triebe**	**Sólo variedades con tipo de crecimiento arbustivo: Planta: porte predominante de los tallos**	?	
QN	**(a)**	upright	dressées	aufrecht	erecto		1
		semi upright	demi-dressées	halbaufrecht	semierecto		3
		horizontal	horizontales	waagerecht	horizontal		5

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
5. **(*)** **(+)**		**Plant: width including flowers**	**Plante: largeur, fleurs comprises**	**Pflanze: Breite einschließlich Blüten**	**Planta: anchura, incluidas las flores**	?	
QN	**(a)**	narrow	étroite	schmal	estrecha		3
		medium	moyenne	mittel	media		5
		broad	large	breit	ancha		7

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
9. (*) (+)		**Leaf: margins**	**Feuille: bords**	**Blatt: Ränder**	**Hoja: borde del limbo**	?	
QL	**(a) (b)**	entire	entiers	ganzrandig	entero		1
		divided	découpés	eingeschnitten	dividido		2

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
7. (*) (+)		**Leaf: length**	**Feuille: longueur**	**Blatt: Länge**	**Hoja: longitud**	?	
QN	**(a) (b)**	short	courte	kurz	corta		3
		medium	moyenne	mittel	media		5
		long	longue	lang	larga		7
		very long	très longue	sehr lang	muy larga		9

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
20. (+)		**Flower: bud color**	**Fleur: couleur du bouton**	**Blüte: Farbe der Knospe**	**Flor: color del botón floral**	?	
PQ	**(c)**	RHS Colour Chart (indicate reference number)	Code RHS des couleurs (indiquer le numéro de référence)	RHS-Farbkarte: (Nummer angeben)	Carta de colores RHS (indíquese el número de referencia)		

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		English	français	deutsch	español	Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo	Note/ Nota
10. (*) (+)		**Only varieties with entire leaf margins: Leaf: shape**	**Variétés à bords des feuilles entiers uniquement: Feuille: forme**	**Nur Sorten mit ganzrandigen Blättern: Blatt: Form**	**Sólo variedades con borde de limbo entero: Hoja: forma**	?	
PQ	**(a) (b)**	ovate	ovale	eiförmig	oval		1
		linear	linéaire	linear	lineal		2
		oblong	oblongue	länglich	oblonga		3
		elliptic	elliptique	elliptisch	elíptica		4
		circular	circulaire	kreisförmig	circular		5
		oblanceolate	oblancéolée	verkehrt lanzettlich	obolanceolada		6
		obovate	obovale	verkehrt eiförmig	oboval		7
		spatulate	spatulée	spatelförmig	espatulada		8
		obtriangular	obtriangulaire	verkehrt dreieckig	obtriangular		9

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FUNCTIONAL CATEGORIES OF CHARACTERISTICS

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Standard Test Guidelines Characteristic

Function	Criteria
1.Characteristics that are accepted by UPOV for examination of DUS and from which members of the Union can select those suitable for their particular circumstances.	1. Must satisfy the criteria for use of any characteristic for DUS as set out in Chapter 4, section 4.2. 2. Must have been used to develop a variety description by at least one member of the Union. 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.

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Asterisked Characteristic

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

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Grouping Characteristic

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

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Relationship between functions

(a)**GROUPING CHARACTERISTICS** selected from the Table of Characteristics should, in general, **receive an asterisk** in the Table of Characteristics and be **included in the Technical Questionnaire**.

(b)**TQ CHARACTERISTICS** selected from the Table of Characteristics should, in general, **receive an asterisk** in the Table of Characteristics and be **used as grouping characteristics**. TQ characteristics are **not restricted to** those characteristics used as **grouping characteristics**;

(c)**ASTERISKED CHARACTERISTICS** are **not restricted to** those characteristics selected as **grouping or TQ characteristics**.

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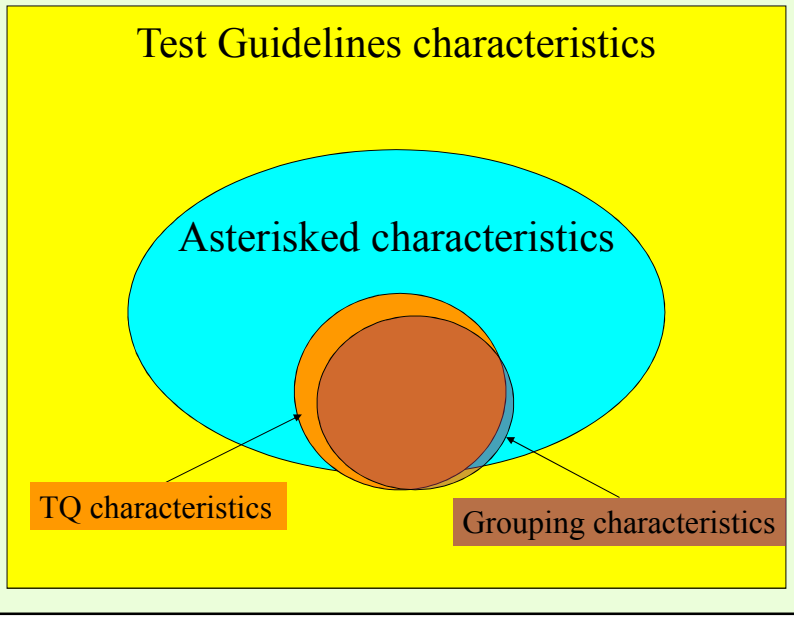

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WHAT IS WRONG?

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

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1.	**Cotyledon: surface**	
	smooth	1
	slightly wrinkled	2
	wrinkled	3

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1.	**Leaf blade: symmetry between the sides**	
	symmetric	1
	intermediate	2
	asymmetric	3

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1.	**Fruit bunch: uniformity**	
	low	3
	medium	5
	high	7

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1.	**Plant: natural height <u>at inflorescence emergence</u>**	
	very short	1
	short	2
	medium	3
	tall	4
	very tall	5

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1.	**Plant: growth habit (at beginning of flowering)**	
	erect	3
	semi-erect	5
	prostrate	7

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1.	**Petiole: anthocyanin pigmentation**	
	absent	1
	present	2

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1.	**Leaf: shape of base**	
	acute	1
	obtuse	2
	cordate	3
	asymmetric	4

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1.	**Fruit: covering of calyx**	
	uncovered	3
	partially covered	5
	covered	7

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1.	**Fruit: ratio length/diameter**	
	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

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1.	**Fruit: grooves**	
	absent or very weak	1
	present	9

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1.	**Tree: distribution of flower buds**	
	predominantly on spurs	1
	predominantly on one-year old shoots	2
	equally on spurs and on one-year old shoots	3

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1.	**Leaf blade: folding**	
	absent (flat or slightly concave)	1
	concave	2
	asymetrically folded	3
	twisted	4

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1.	**Corolla: length**	
QN	short	3
	medium	5
	long	7
2.	**Only varieties with long corolla:** **Corolla: curvature**	
QN	curved upwards	3
	straight	5
	curved downards	7

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UPOV Website

http://www.upov.int

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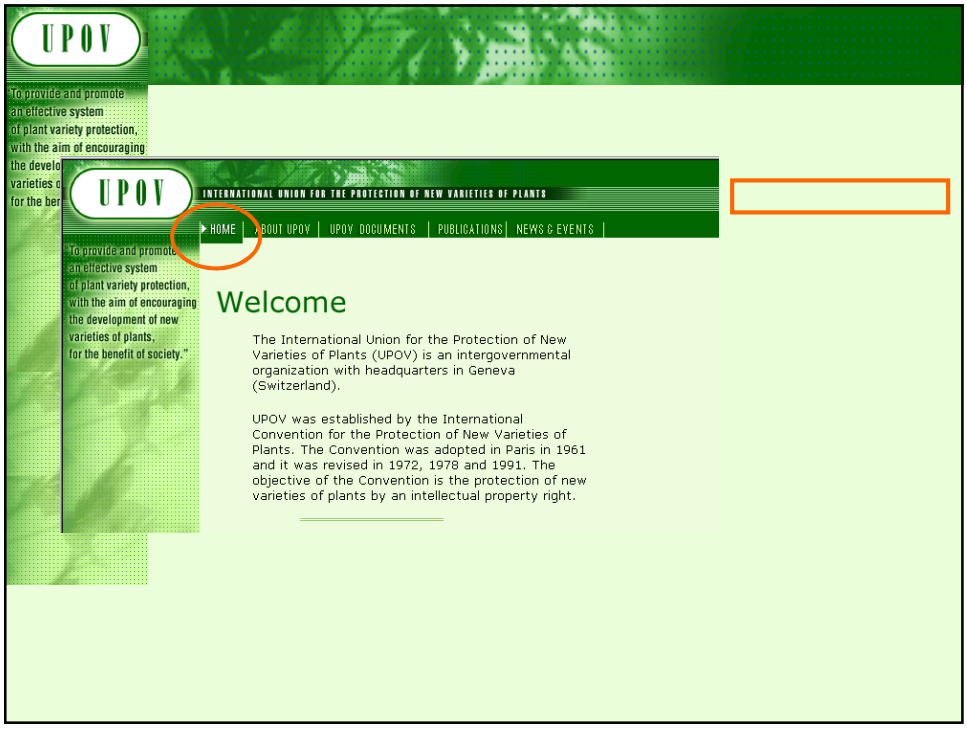
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Welcome
The International Union for the Protection of New Varieties of Plants (UPOV) is an intergovernmental organization with headquarters in Geneva (Switzerland).
UPOV was established by the International Convention for the Protection of New Varieties 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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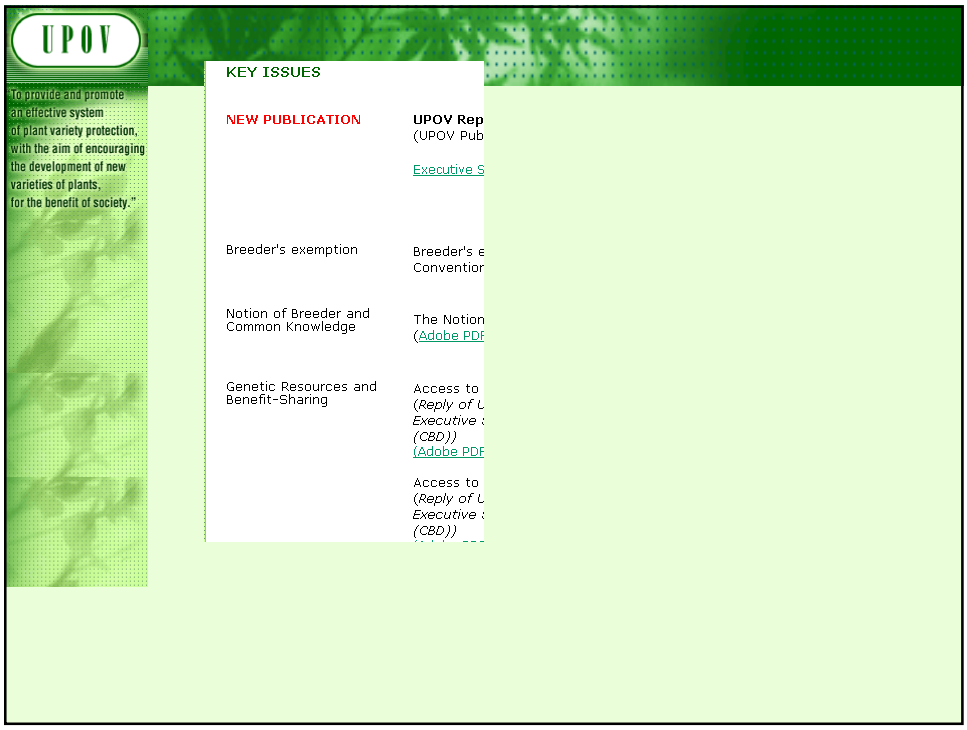
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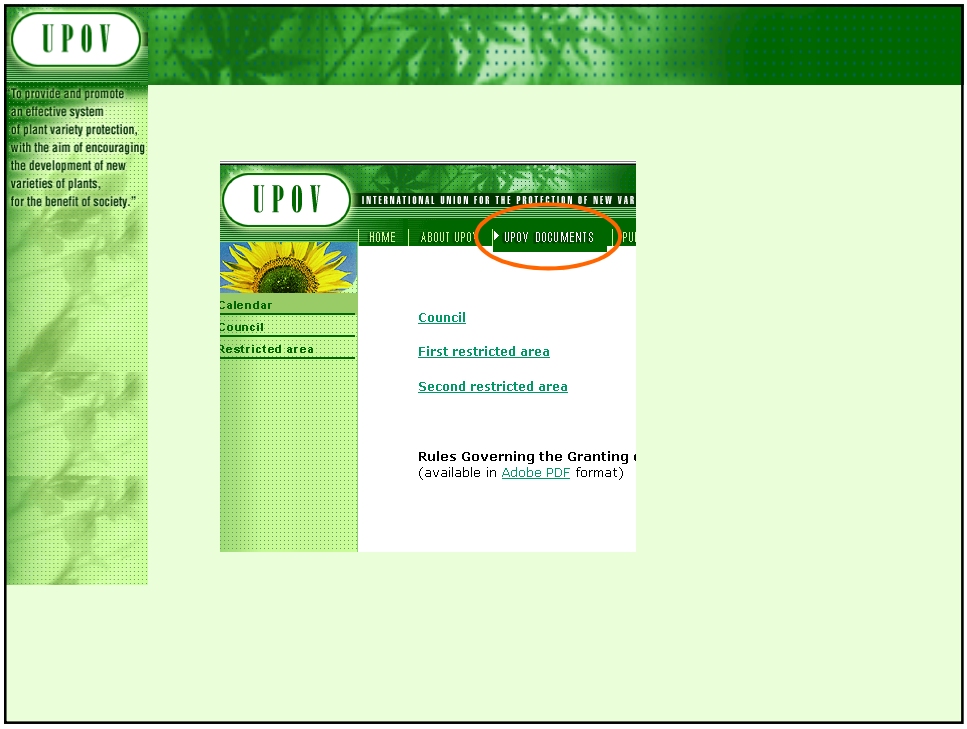
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Practical Technical
LIST OF UPOV PUBLICATIONS*
The following UPOV publications are available on request:
Abbreviations:
A = Arabic, C = Chinese, D = Dutch, E = English, F = French, FEG = French/English/German,
G = German, I = Italian, J = Japanese, P = Portuguese, R = Russian, S = Spanish
221
(A) International Convention for the Protectio
(C) Plants,
(D) text of 1991 only
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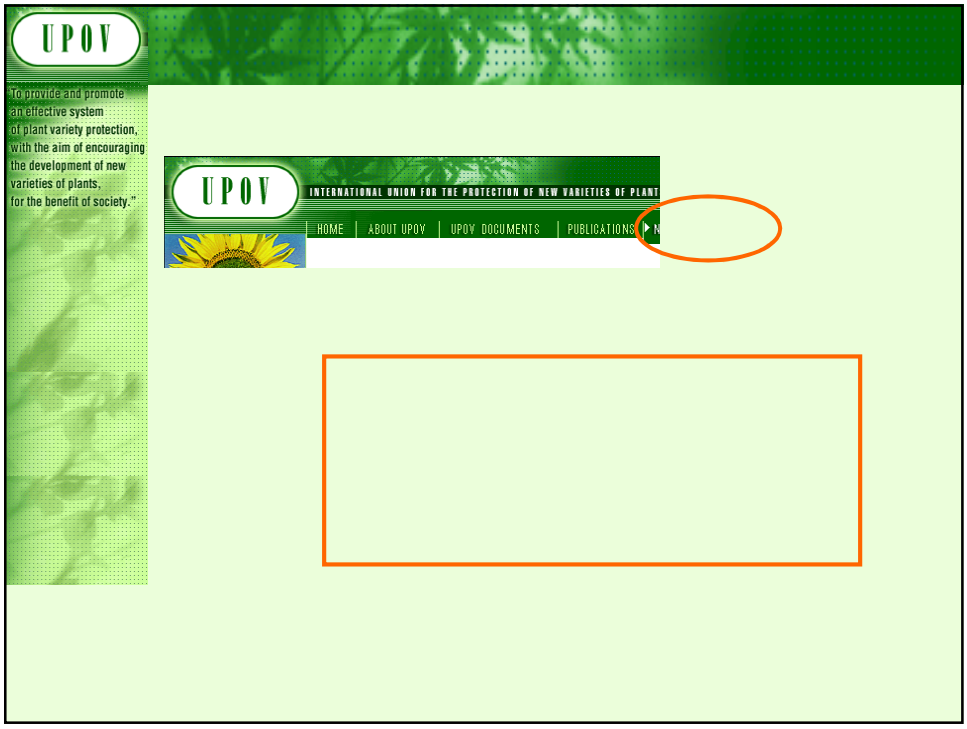
(F)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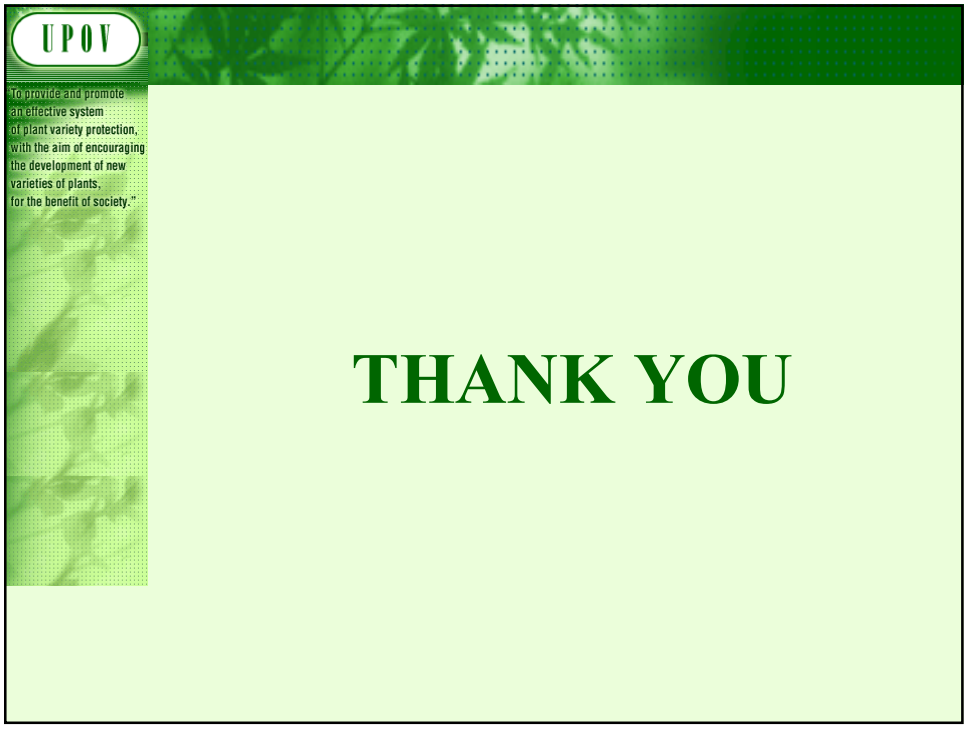
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THANK YOU

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AGENDA for the TWO MEETING

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TWO/39/1 Rev.
ORIGINAL: English
DATE: August 16, 2006

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

GENEVA

TECHNICAL WORKING PARTY FOR ORNAMENTAL PLANTS AND FOREST TREES

Thirty-Ninth Session
Fortaleza, Ceará State, Brazil, August 28 to September 1, 2006

REVISED DRAFT AGENDA

1. Opening of the session
2. Adoption of the agenda
3. Short reports on developments in plant variety protection
   (a) Reports from members and observers (oral reports by the participants).
   (b) Reports on developments within UPOV (oral report by the Office of the Union)
4. Molecular techniques
   (a) Developments in UPOV concerning the use of molecular techniques (document TWO/39/2)
   (b) *Ad hoc* Crop Subgroups (oral report)

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5. TGP documents (documents TWO/39/3 and TC/42/5 Annex II)

(a) TGP documents to which the Technical Committee has given highest priority:

TGP/4 Constitution and Management of Variety Collections (document TGP/4/1 Draft 7)

TGP/9 Examining Distinctness (document TGP/9/1 Draft 7)

TGP/10 Examining Uniformity (document TGP/10/1 Draft 4)

(b) Other TGP documents:

TGP/8 Trial Design and Techniques Used in the Examination of Distinctness, Uniformity and Stability (document TGP/8/1 Draft 4)

TGP/12 Special Characteristics: Section 1: Development of Characteristics based on a Response to an External Factor (document TGP/12 Section 1 Draft 3)

TGP/13 Guidance for New Types and Species (document TGP/13/1 Draft 6)

TGP/14 Section 2: Glossary of Technical, Botanical and Statistical Terms Used in UPOV Documents: Botanical Terms:

- Plant shapes (including hair types) (document TGP/14.2.1(&.2) Draft 5)
- Color characteristics (document TGP/14.2.3.1 Draft 2)
- Color names (document TGP/14.2.3.2 Draft 4)

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6. UPOV Information Databases (document TWO/39/4)

7. Variety denominations (document TWO/39/5)

8. Project to consider the publication of variety descriptions (document TWO/39/6)

9. Criteria for determining off-type plants (document TWO/39/9)

10. Drafters' Kit for Test Guidelines (document TWO/39/7)

11. Information on probability levels used in COY and population standards used in the assessment of uniformity by off-types (document TWO/39/10)

12. Additional characteristics (document TWO/39/8)

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13. Discussion on draft Test Guidelines:

- Angelonia* (document TG/ANGLN(proj.2))
- Anubias (document TG/ANUBI(proj.1))
- Azalea (pot)* (Revision) (document TG/140/4(proj.2))
- Buddleja (document TG/BUDDL(proj.2))
- Canna (document TG/CANNA(proj.2))
- Clematis* (Revision) (document TG/215/2(proj.1))
- Diascia* (document TG/DIASC(proj.2))
- Elatior Begonia* (Revision) (document TG/18/5(proj.2))
- Eucalyptus (part of genus only) (document TG/EUCAL(proj.3))
- Gypsophila (document TG/GYPSO(proj.2))
- Hawthorn (*Crataegus* L.)* (document TG/HAWTH(proj.3))
- Hevea (Rubber) (document TG/HEVEA(proj.2 Rev.))
- Kalanchoe (Revision) (document TG/78/4(proj.1))
- Lily (Revision) (document TG/59/7(proj.1))
- Mokara (document TG/MOKARA(proj.1))
- *Nerium oleander* L. (document TG/NERIUM(proj.1))
- Nemesia (document TG/NEMES(proj.1))
- Osteospermum (Revision) (document TG/176/4(proj.1))
- Poinsettia (Revision) (document TG/24/6(proj.1))
- Portulaca (document TG/PORTU(proj.1))
- Sutera and Jamesbrittania* (document TG/SUTERA(proj.2))
- Tagetes* (document TG/TAGETE(proj.5))
- Tea (*Camellia sinensis* (L.) O. Kuntze) (document TG/TEA(proj.3))

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14. Recommendations on draft Test Guidelines

15. Date and place of the next session

16. Future program

17. Adoption of report (if time permits)

18. Closing of the session