

测试指南研制 Drafting Test Guidelines

Office of the Union

March 24, 2026



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- 性状：DUS测试的依据与性状选择

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- a) UPOV指南研制流程，测试指南模板，补充标准用语及指导注释；
- b) 性状的表达类型(QL, PQ, QN);

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续 2. 测试指南研制（TGP/7, TGP/9及TGP/14）

- c) 观测方法(MS, MG, VS, VG);
- d) 形状与颜色;
- e) 标准品种;

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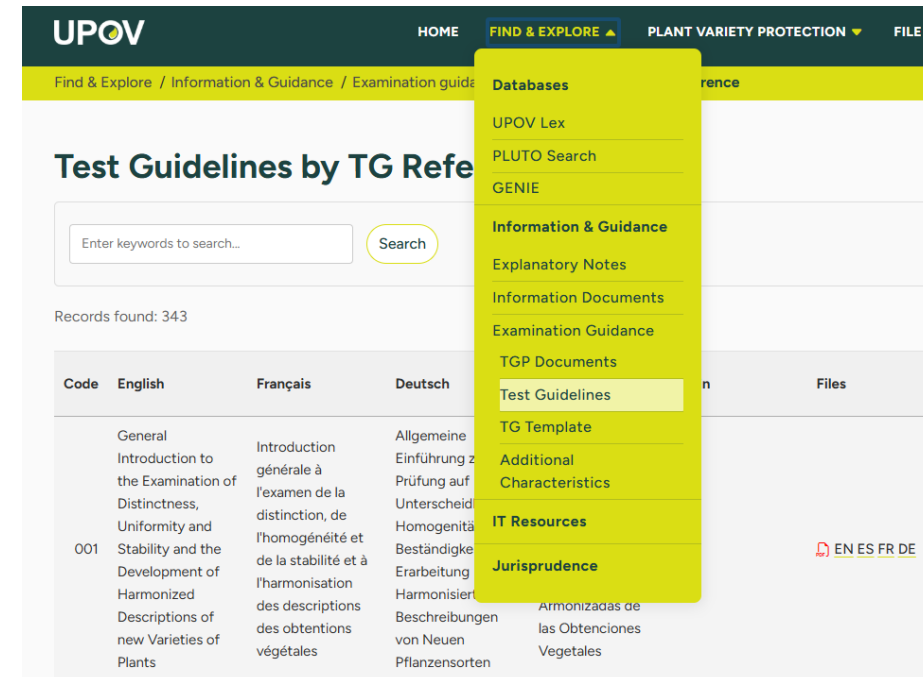
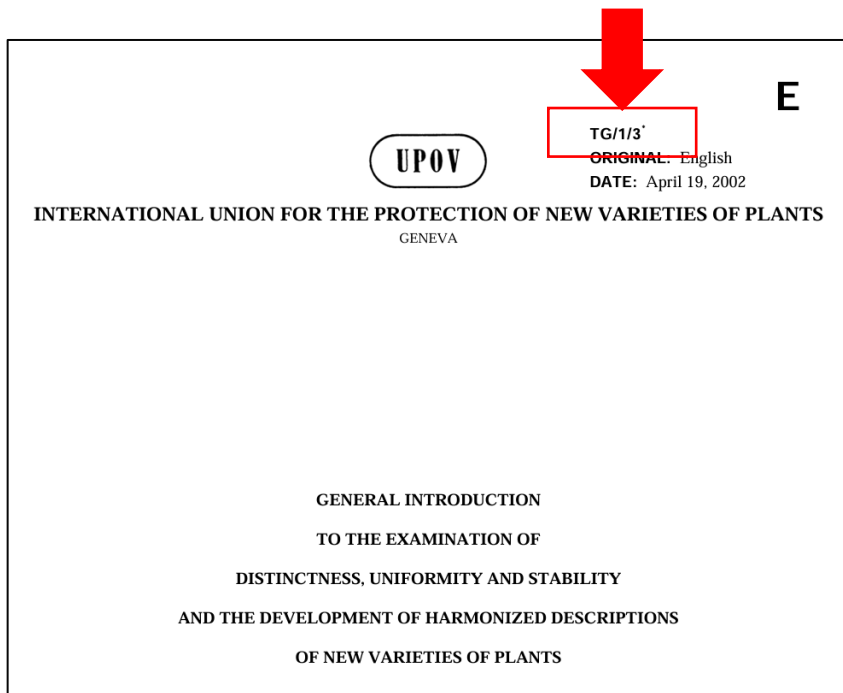
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问答环节

Test Guidelines

测试指南为新植物品种的特异性、一致性和稳定性（DUS）的统一测验提供了详细指导。它们在制定品种测试的国际标准方面发挥着关键作用，并确定了用于检验DUS和编制统一品种描述的特征。



Test Guidelines

协调性 HARMONIZATION

➡ 效率
efficiency

- DUS测试报告互认（各机构审查成本最小化）
Mutual acceptance of DUS reports (minimize cost of examination for individual authorities)
- 品种描述的互认（各方使用相同的“语言”）
Mutual recognition of variety descriptions (all parties speak the same “language”)
- 为申请人提供简单且价格实惠的系统（最小化育种者成本）
Simple and cheap system for applications

Selection of Characteristics 性状选择

在性状用于DUS测试或者形成品种描述之前，其表达必须满足以下基本要求 (TG/1/3: 第 4.2.1节)：

- (a) 是特定的**基因型或者基因型组合**的结果；
- (b) 在**特定环境条件下**是**充分一致**和**可重复**的；
- (c) 在**品种间表现出足够的差异**，能够用于确定特异性；
- (d) 能够**准确描述和识别**；
- (e) 能够**满足一致性**的要求；
- (f) 能够**满足稳定性**的要求，即经重复繁殖或者在每一个繁殖周期结束后，其结果是一致的和可重复的。

Selection of Characteristics 性状选择

请判断以下是否符合用于DUS测试性状的基本要求：

1. 玉米：干旱状态下的叶片卷曲程度
2. 小麦：冬春性
3. 槭树：当年生枝条上的叶片颜色

Selection of Characteristics 性状选择

- may have direct commercial relevance
可能与商业价值直接相关
 - Flower color (ornamental) 花色（观赏植物）
 - Fruit color 果实颜色
 - resistance (fruit, ornamental, vegetable) 抗性（果树、观赏植物、蔬菜）
- but commercial relevance NOT required
但不要求具备商业相关性
 - Leaf shape 叶形

Selection of Characteristics 性状选择

Additional Information and guidance on

Asterisked, grouping and TQ characteristics

关于带星号性状、分组性状及技术问卷性状的补充信息与指引

TGP/7 GN 12 (第7章) – 性状表性状的选择

2. 列入性状表中的性状，必须符合标准测试指南性状的标准，即：

- (a) 该性状必须符合总则中规定的可用于DUS测试的性状标准（第四章4.2节）
[...]
- (b) 该性状必须曾经被至少一个成员用于品种描述 [...]

3. 重要的是，独立性状应予以拆分，以避免混淆。

例如，在豌豆中，种皮的斑纹与花青素着色斑点应分开描述。

Asterisked Characteristic 带星号性状

14. (*)	PQ	VG	(+)	(c)		
	Leaf blade: distribution of secondary color					
	none				Edward Goucher	1
	on margin only				Wevo2	2
	marginal zone				Keylib	3
	central zone					4
	irregular				Francis Mason	5

TGP/7 GN 13 *characteristics that are important for the international harmonization of variety descriptions.*

对国际品种描述的统一起重要作用的性状。

Asterisked Characteristic 带星号性状

Asterisked characteristics (denoted by *) are those included in the Test Guidelines which are important for the international harmonization of variety descriptions and 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.

带星号性状（以 * 标注）系指纳入测试指南、对国际品种描述的统一具有重要意义的性状。联盟所有成员均应对此类性状开展 DUS 测试，并将其纳入品种描述；除非性状表前一个性状的表达状态或区域环境条件导致不宜开展测试。

Asterisked Characteristic 带星号性状

The criteria for selecting a characteristic as an asterisked characteristic are that:

- (a) it must be a characteristic included in the Test Guidelines;
- (b) it 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;
- (c) it must be useful for the international harmonization of variety descriptions;
- (d) particular care should be taken before selection of disease resistance characteristics.

选择一个性状作为带星号性状的标准是：

- (a) 必须是测试指南列入的性状；
- (b) 除非性状表中前一性状的表达状态或者地域环境条件使其不适于DUS测试和品种描述，否则所有联盟成员应总是将其用于测试和品种描述；
- (c) 必须对品种描述的国际统一有用；
- (d) 选择抗病性状时应特别慎重。

Grouping Characteristics 分组性状

TGP/7 GN 13

分组性状

必须是：（a）质量性状或

（b）数量性状或假质量性状：根据这些性状在不同地点记载的表达状态能够有效区分已知品种。

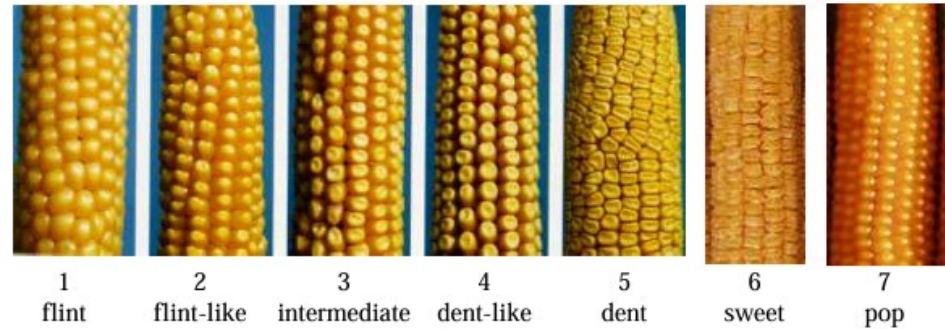
用于：（a）选择可以排除出特异性测试种植试验的已知品种；

（b）设计种植试验，使相似品种同组种植。

应为：（a）带星号性状和/或

（b）包括在技术问卷或申请表中的性状。

Ad. 36: Ear: type of grain



TQ Characteristics 技术问卷性状

TGP/7 GN 13

3.2 *Characteristics to be included in the Technical Questionnaire should comprise: (a) **the grouping characteristics** and*

*(b) **the most discriminating characteristics,***

包含在技术问卷中的性状应当包括：

分组性状，和

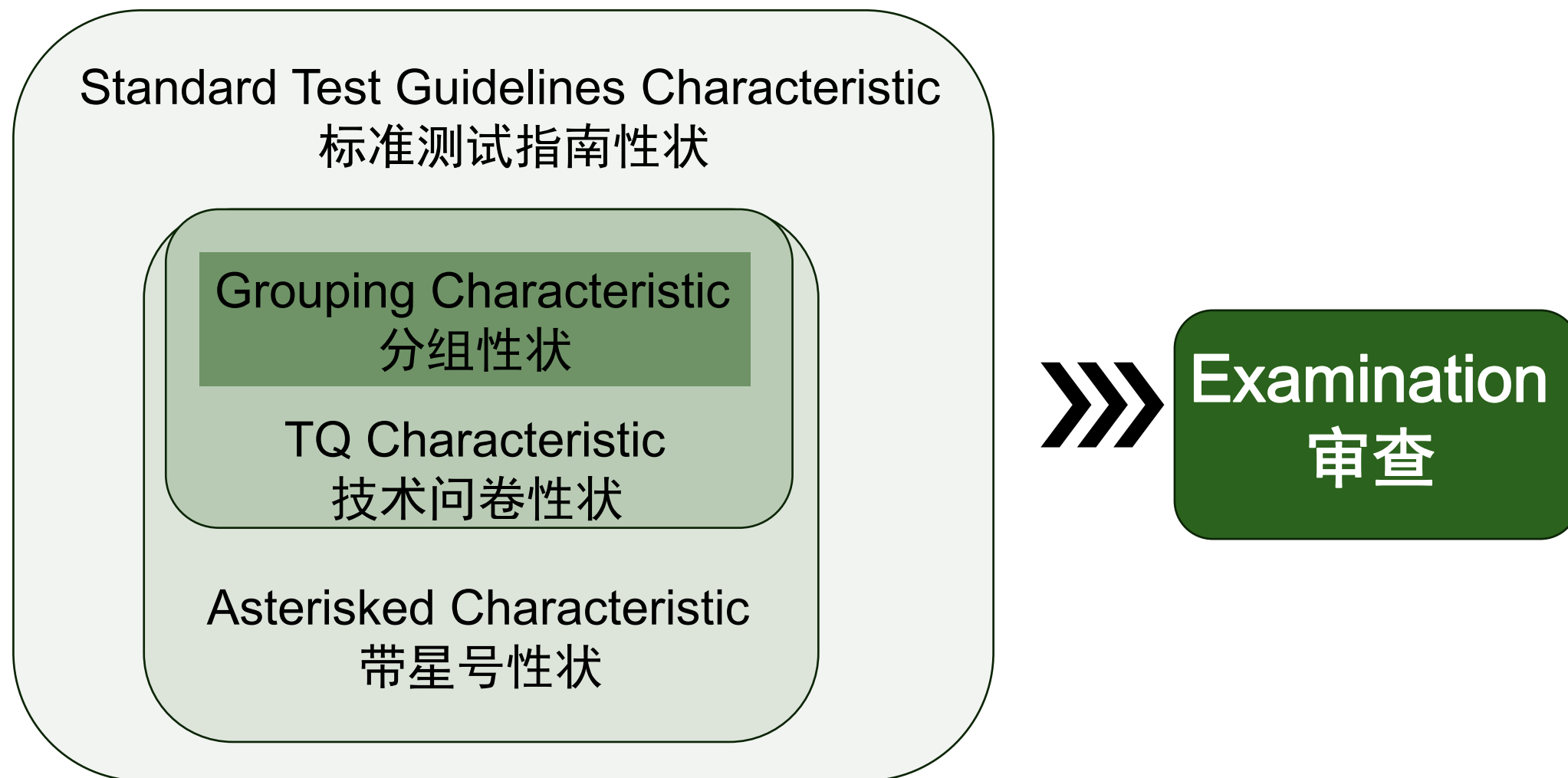
最具鉴别力的性状

unless it is considered unrealistic to expect breeders to describe these characteristics. 除非认为期望育种家描述这些性状是不切实际的。

3.3 *In addition to the characteristics identified in Section 3.2, the Technical Questionnaire may also include **characteristics that are agreed to be important for the management of the trial and the planning of observations.***

除上述鉴定出的性状外，技术问卷也可以包括公认为对于管理试验和计划测试有重要作用的性状。

Relationship关联- TGP/1/3 article 4.8



Generally - depends on function and criteria of characteristics
一般取决于性状的功能性和要求

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问答环节

Priority for UPOV Test Guidelines 优先考虑

为确保国际统一性和资源的有效利用，UPOV技术委员会在进行测试指南研制委托和确定优先顺序时将考虑以下关键因素，包括：

- ✓ **所有UPOV成员植物育种者权利申请总量**。通常情况下，申请量极少的物种优先级不高——除非极有力的证据表明全球范围内正在积极开展育种工作。
- ✓ **收到新品种申请的机构数量**。如果仅有一两个 UPOV 成员参与，则通常对国际测试指南的需求较低。
- ✓ **收到的国际（境外）申请量**。境外申请量较多，表明在UPOV成员间统一测试指南具有重要价值。
- ✓ **作物或物种的经济重要性**。广泛种植或贸易的作物往往会被优先考虑。
- ✓ **育种活动水平**。如果某物种正在进行重大创新或研发，将提高制定统一测试指南的紧迫性。

上述标准有助于确保 UPOV 将工作重点放在影响力最大、最能支撑国际植物新品种保护合作的测试指南上。

New TGs, full and partial revisions 新指南，全面和部分修订

新测试指南 New TGs

申请量和具备实践经验的机构数量

Number of application and authorities having practical experience

全面修订 Full revision

按照TGP/7 测试指南模板更新测试指南

Update to latest version of TG Template in TGP/7

全文修订

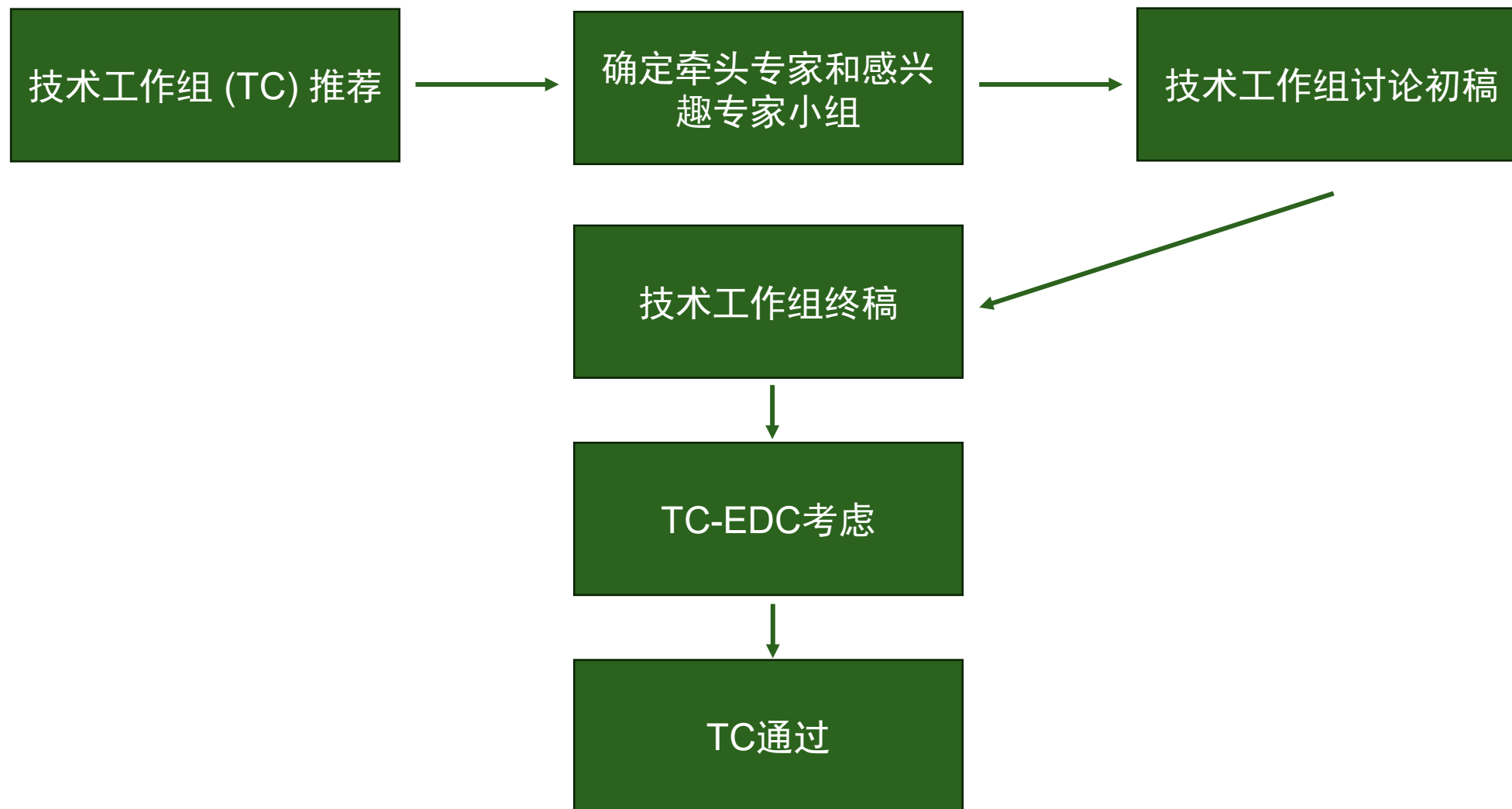
Revision of the complete document

部分修订 Partial revision

更新测试指南中的特定且明确定义的部分

Updating of a specific and clearly defined part of the TG

Drafting Process Overview 研制指南程序一览



Procedure for the introduction of UPOV TGs

制定UPOV测试指南程序

第一步 工作委托的建议

第二步 建议的批准

第三步 起草工作的分工

第四步 研制供技术工作组讨论的测试指南草案

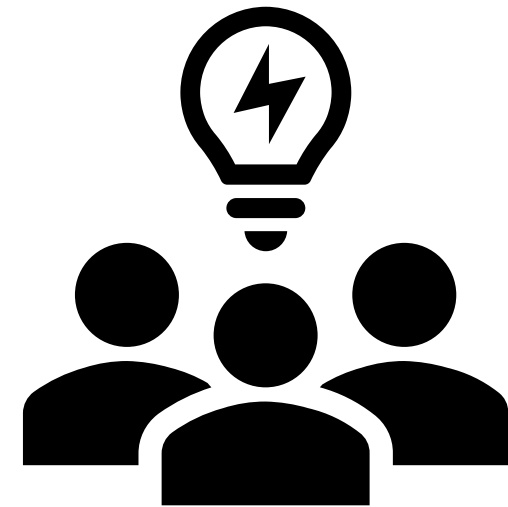
首席专家 Leading Expert

负责草案准备工作 Responsible for draft preparation

感兴趣专家小组 Interested Experts

分享知识和经验 Share your knowledge and experience with the Leading Expert

对草案提出意见建议 Provide comments on the draft



Procedure for the introduction of UPOV TGs

鼓励首席专家和感兴趣专家小组之间进行更多的交流和会议

Additional exchanges and meetings between LE and IEs encouraged

第五步 技术工作组对测试指南草案的审查 TGP/7

内容Action	技术工作组会议前最迟日期 Latest date before the TWP session
首席专家分发测试指南草案供专家小组讨论 Circulation of Subgroup draft by Leading Expert:	14 weeks
征求专家小组意见 Comments to be received from Subgroup:	10 weeks
首席专家将草案提交联盟办公室 Provision of draft to the Office by the Leading Expert:	6 weeks
联盟办公室将草案公布在网站上 Posting of draft on the website by the Office:	4 weeks

Procedure for the introduction of UPOV TGs

第六步 技术工作组提交测试草案

第七步 编辑委员会审查测试指南草案

***Final TWP draft** = complete draft, no information missing

Prior to adoption:

Consideration by **TC-EDC**

- Check for consistency with UPOV guidance
- Linguistic checking

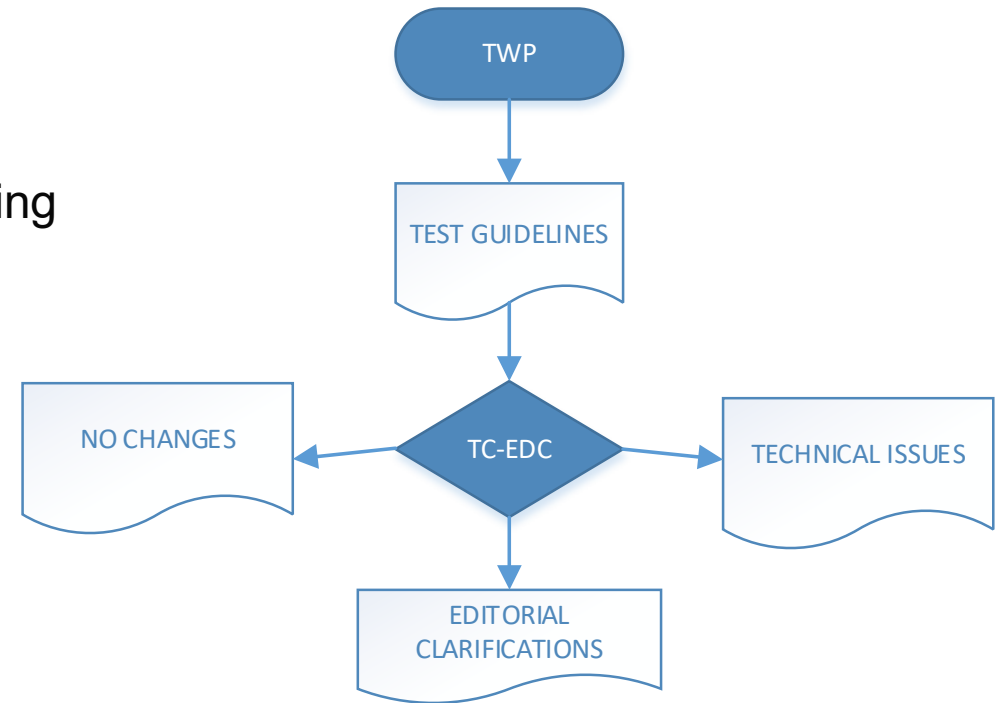
第八步 技术委员会采纳测试指南草案

Adoption

Two possibilities:

At the TC session (October)

By correspondence (March)



Procedure for the revision of UPOV TGs

全面修订 Full revised

程序与制定新测试指南相同

部分修订 Partial revised

不必起草新的测试指南。建议人应起草一份技术工作组文件，只对要进行的修订予以说明。

A new draft of the Test Guidelines should not be prepared. The proposer of the partial revision should prepare a TWP document specifying only the revisions to be made to the adopted Test Guidelines.

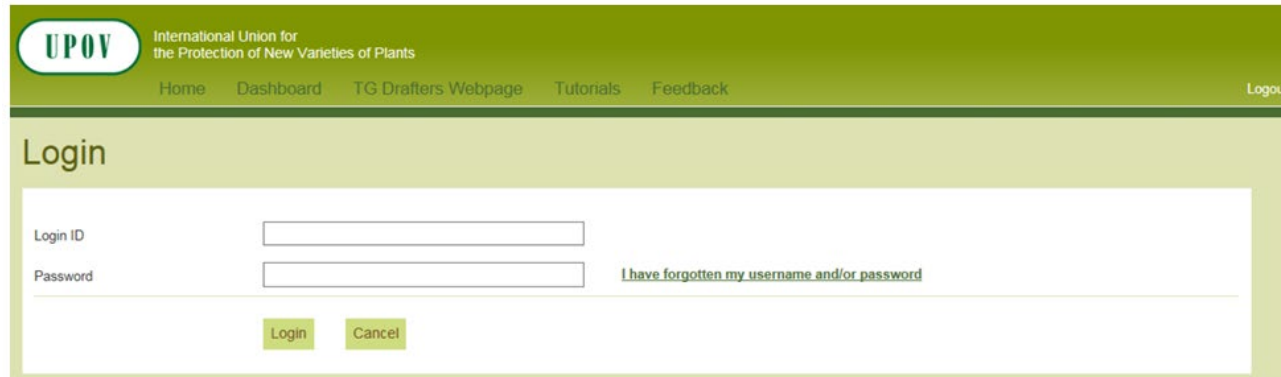
改正 Correction of the Test Guidelines

改正明显的编辑性错误，应向随后召开的技术委员会报告。修改后的测试指南编号后标有“Corr.”

The Office may make amendments to correct clear editorial mistakes in adopted Test Guidelines. The corrected Test Guidelines will be shown with “Corr.” after the TG reference. All such corrections will be reported to the Technical Committee at the first session following such corrections.

The use of Web-based TG Template

登陆界面



The login interface features a green header with the UPOV logo and navigation links: Home, Dashboard, TG Drafters Webpage, Tutorials, Feedback, and Logout. Below the header is a 'Login' section with two input fields for 'Login ID' and 'Password'. A link for 'I have forgotten my username and/or password' is located next to the password field. At the bottom of the login section are 'Login' and 'Cancel' buttons.

首页概览



The TG Dashboard has a green header with the UPOV logo and navigation links: Home, Dashboard, TG Drafters Webpage, Tutorials, Feedback, and Logout. Below the header is a 'TG Dashboard' section with two tabs: 'Active TGs (8)' and 'Archive'. Below the tabs is a table with the following data:

Common Name	UPOV Code(s)	Version	Leading Expert (LE)	Interested Experts (IE)	Status (Period)	All Deadlines	Last Updated	IE Comments	Action
Barley	HORDE_VUL	TG/19/11(proj.1)	Beate Rüdiger (DE)	Details	LE Draft (29 Feb, 2016 -- 01 Apr, 2016)	View	29 Feb, 2016	View	Edit

UPOV

HOME

FIND & EXPLORE ▼

PLANT VARIETY PROTECTION

Find & Explore / Information & Guidance / Examination guidance / TG Template

Test Guidelines drafting tool (UPOV TG Template)

What is the UPOV TG Template?

A Test Guideline is a UPOV document that sets international standards by providing guidance and best practices for conducting plant variety testing for different crops. UPOV has developed an online tool, called the "TG Template", that helps prepare test guidelines.

The UPOV TG template implements the principles set forth in document [TGP/7 Development of Test Guidelines](#).

Frequently asked questions

► What are the benefits of UPOV TG Template?

Go to TG Template

UPOV

The use of Web-based TG Template

截止日期和自动提醒

TG Dashboard

Active TGs (3)

Archive

Common Name	UPOV Code(s)	Version	Leading Expert (LE)	Interested Experts (IE)	Status (Period)	All Deadlines
Bent	AGROS_CAN; AGROS_CAP; AGROS_GIG; AGROS_STO	TG/30/7(proj.2)	Peter Hendriks (NL)	Details	LE Checking (08 Mar, 2025 -- 04 Apr, 2025)	View
Couch Grass, Bermuda Grass	CYNOD	TG/CYNOD(proj.1)	Andrew Hallinan (AU)	Details		

TG Status	Status Start Date	Status End Date
LE Draft	3 Jun, 2024	21 Jan, 2025
IE Comments	22 Jan, 2025	7 Mar, 2025
LE Checking	8 Mar, 2025	4 Apr, 2025

The use of Web-based TG Template

感兴趣的专家意见

- 所有IE评论的编译列表
- 包括LE回复

TG Dashboard

Active TGs (3)		Archive							
Common Name	UPOV Code(s)	Version	Leading Expert (LE)	Interested Experts (IE)	Status (Period)	All Deadlines	Last Updated	IE Comments	Action
Bent	AGROS_CAN; AGROS_CAP; AGROS_GIG; AGROS_STO	TG/30/7(proj.2)	Peter Hendriks (NL)	Details	LE Checking (08 Mar, 2025 -- 04 Apr, 2025)	View	08 Mar, 2025	View	Word Html
Couch Grass, Bermuda Grass	CYNOD	TG/CYNOD(proj.1)	Andrew Hallinan (AU)	Details	LE Checking (08 Mar, 2025 -- 04 Apr, 2025)	View	08 Mar, 2025	View	Word Html

Drafting a Test Guidelines – SW 标准用语

标准用语：在所有TG中不变

Standard Wording: included unchanged in all TGs

例如：

2. 所需材料

2.1 主管机关负责确定品种测试所需植物材料的数量、质量，以及交付时间与地点。

若申请人从测试所在国以外的国家提交材料，必须确保已完成所有海关手续并符合植物检疫要求。

2.2 材料须以 {xx} 形式提供。

2.3 申请人应提供的植物材料最低数量为：

Drafting a Test Guidelines – ASW 补充标准用语

补充标准用语：

由首席专家根据作物实际情况选择适用的标准化选项

Additional Standard Wording:

Standardized options to be selected by the LE, as appropriate for the crop

3. Method of Examination

3.1 *Number of Growing Cycles*

{ **ASW 2** (Chapter 3.1(.1)) – number of growing cycles }

(a) *Single growing cycle*

“The minimum duration of tests should normally be a single growing cycle.”

(b) *Two independent growing cycles*

“The minimum duration of tests should normally be two independent growing cycles.”

Drafting a Test Guidelines – GNs 指导注释

指导注释：

针对测试指南（TG）具体章节的指导，含与其他TGP文件的链接

Guidance Notes:

Guidance for specific sections of the TG including links to other TGP documents

GN 0 (Cover page; Chapter 8) – Use of proprietary text, photographs and illustrations in Test Guidelines

In the case of text, photographs, illustrations or other material that is subject to third party rights, it is the responsibility of the author of the document, including Test Guidelines, to obtain the necessary permission of the third party. Material must not be included in documents where such permission is required but has not been obtained.

Where any text, photographs, illustrations or other material that are subject to third party rights are used in Test Guidelines it should be indicated that the third party has waived their rights for the purposes of DUS testing and development of variety descriptions (e.g. indicating 'Courtesy of [name of copyright owner]' alongside the image protected by copyright).

Drafting a Test Guidelines – Chapter 8 - Explanations

涵盖全部性状的说明 Explanations covering **all** characteristics

涵盖部分性状的说明 Explanations covering **several** characteristics

8. Explanations on the Table of Characteristics

8.1 *Explanations covering several characteristics*

Unless otherwise indicated, all characteristics should be observed at the time of full flowering.

Characteristics containing the following key in the second column of the Table of Characteristics should be examined as indicated below:

- (a) Observations on the leaf should be made on fully expanded leaves from the middle third of the shoot.

单个性状的补充说明 Explanations for **individual** characteristics (+)

附加说明 **Additional** explanations

Drafting a Test Guidelines – Illustrations

照片要求 Photograph:

- 分辨率良好 Good resolution
- 尺寸与背景统一 Same size and same background
- 白色 / 浅色背景 White/light background
- 拍摄视角一致 Same perspective

绘图要求 Drawings:

- 符合 TGP/14 标准
- 具备原创性 Creativity



颜色无需图示 No illustration for color

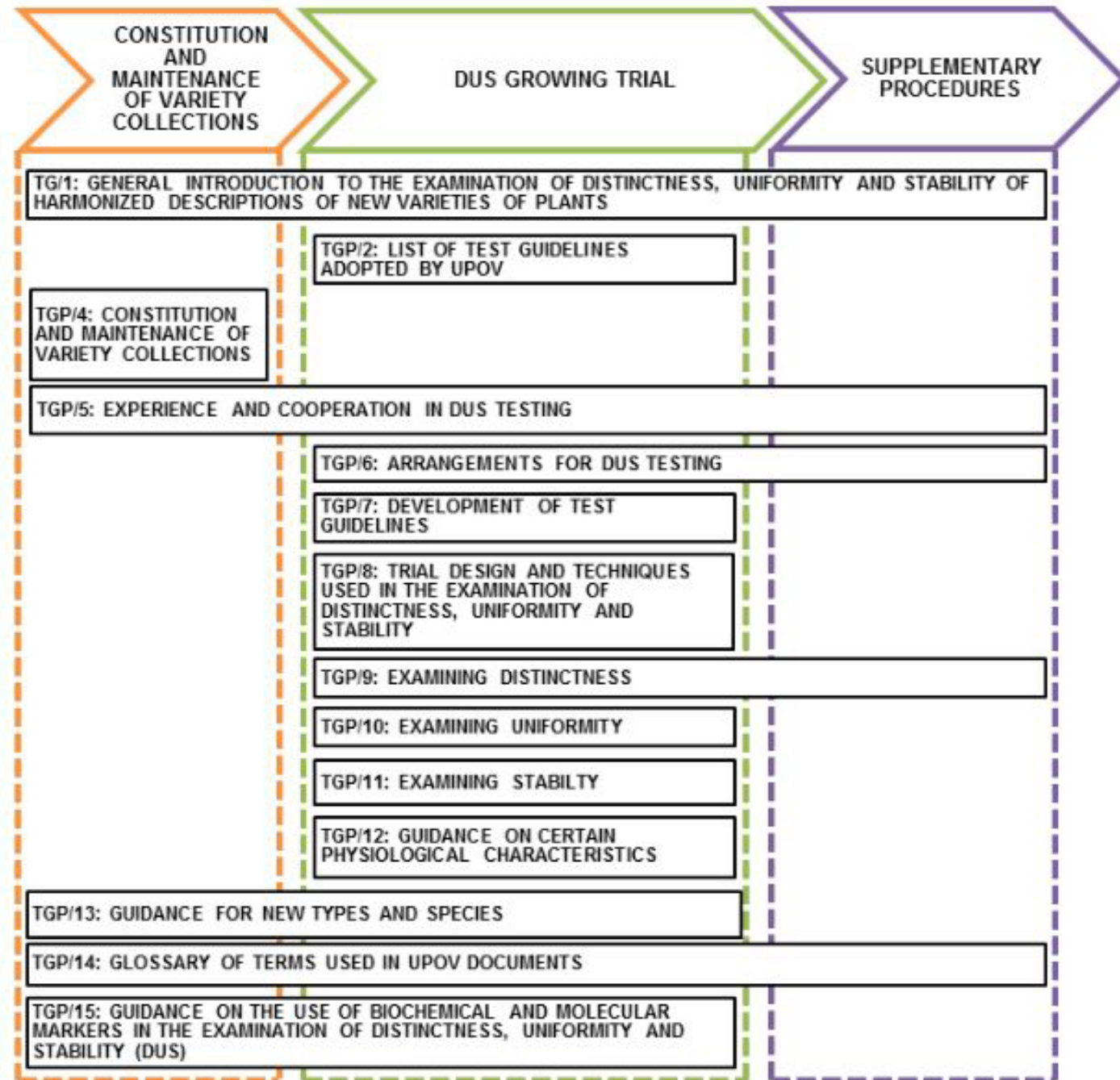


务必注意第三方权利！！！（通用说明第 0 条）
Third part rights!!! (GN 0)

UPOV Guidance

研制测试指南需要参考的TGP文件
(包括但不限于)：

- TGP/1/3 植物新品种特异性、一致性和稳定性审查及统一描述编制通用总则
- TGP/7 测试指南研制
- TGP/14 UPOV文件中使用的术语



Types of Expression (QL, PQ, QN) of characteristics

性状的表达类型

QL=qualitative 质量

QN=quantitative 数量

PQ=pseudo-qualitative 假质量



To be able to use characteristics properly it is important:

- to understand the **different ways** in which characteristics can be **expressed**
- to know how to apply the **different types of expression** in DUS testing

为能够正确运用性状，需把握以下要点：

- 理解性状的不同表达形式
- 掌握各类表达形式在 DUS 测试中的应用方法

Qualitative Characteristic = QL 质量性状

TG/1/3, 第4.4.1节

总则指出“质量性状是指以**不连续的状态表达**的性状（如植株性别：雌雄异株雌性（1），雌雄异株雄性（2），雌雄同株异花（3），雌雄同株同花（4））”。这些表达状态**自身含义明确、独立**。所有表达状态对描述性状的整个范围都是必需的，每个性状表达形式能用单一状态来描述。表达状态的顺序并不重要。一般情况下，质量性状**不受环境影响**。

质量性状（QL）通常通过目测方式进行判定

（照片、绘图、有无 —— 多数情况下无需标准品种，具体说明参阅（TG）第 8 章）

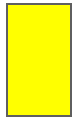
Qualitative Characteristic = QL 质量性状

Clematis: Leaf: type

铁线莲：叶：类型



1
simple



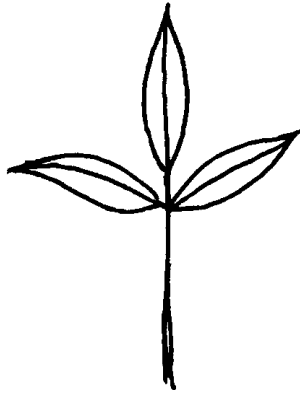
单叶



2
ternate



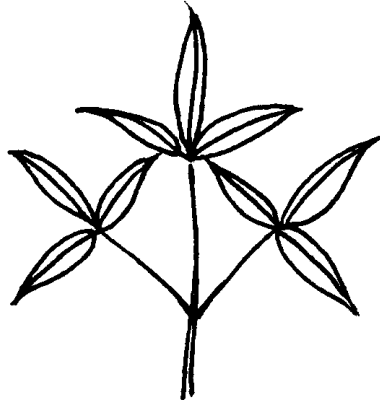
三出复叶



3
biternate



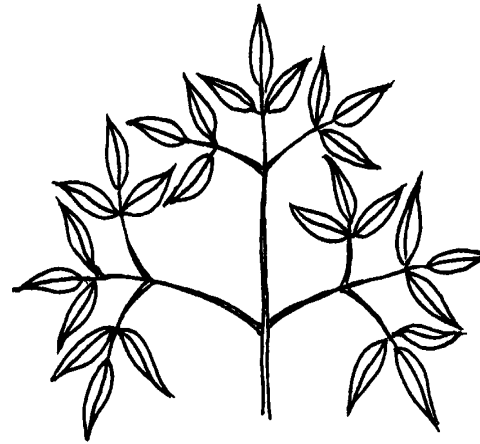
二回三出复叶



4
triternate

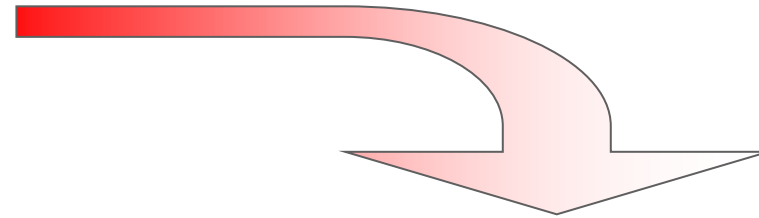


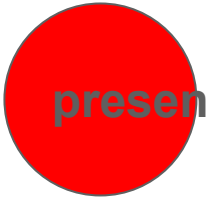
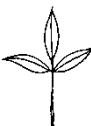
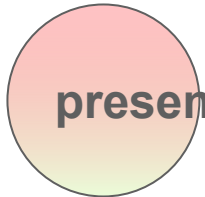
三回三出复叶



Qualitative Characteristic = QL 质量性状

是质量性状QL吗？



	Variety A	Variety B	Variety C
Environment A	 	 	 
Environment B	 	 	 

Quantitative Characteristic = QN 数量性状

TG/1/3, article 4.4.1

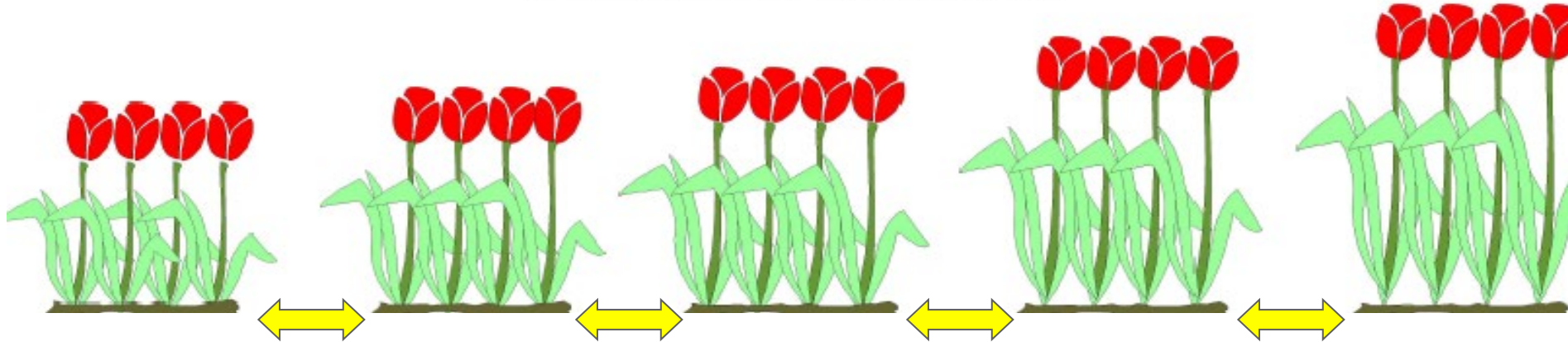
总则指出，“数量性状是指性状表达覆盖了**从一个极端到另一个极端之间的整个变异范围的性状**。数量性状的表达可以在一个一维的、连续或不连续的线性尺度上记录。为了便于描述，数量性状的表达范围分成一系列的状态（茎秆长度：极短（1），极短到短（2），短（3），短到中（4），中（5），中到长（6），长（7），长到极长（8），极长（9））。这种划分应尽可能均匀分布在整个尺度上。**测试指南并不规定特异性所需的差异。**然而，划分的表达状态应对于DUS评价有意义。”

数量性状（QN）可通过目测、测量或计数的方式进行判定
（标准品种、绘图——具体说明参阅（TG）第8章）

Quantitative Characteristic = QN 数量性状

性状：植株高度

Characteristic : Plant height



Quantitative Characteristic = QN 数量性状

从一个极端到另一个极端之间的整个变异范围的性状



QN - Expression covers the full range of variation from one extreme to the other ↔

Tomato TG/44/12
Char. 29. Fruit: ribbing

scale 1-9



1	3	5	7	9
absent or very weak	weak	medium	strong	very strong
2	4	6	8	
very weak to weak	weak to medium	medium to strong	strong to very strong	



IMPORTANT

▼
▼
USE WHOLE SCALE!

▼
Even notes have equal value to odd notes

In the case of quantitative characteristics with 5 or more states, an abbreviated scale may be used to minimize the size of the Table of Characteristics.

对于5个或更多表达状态的数量性状（QN），可使用简化评分等级以缩减性状表的篇幅。

Quantitative Characteristic = QN 数量性状

从一个极端到另一个极端之间的整个变异范围的性状

QN - Expression covers the full range of variation from one extreme to the other ↔

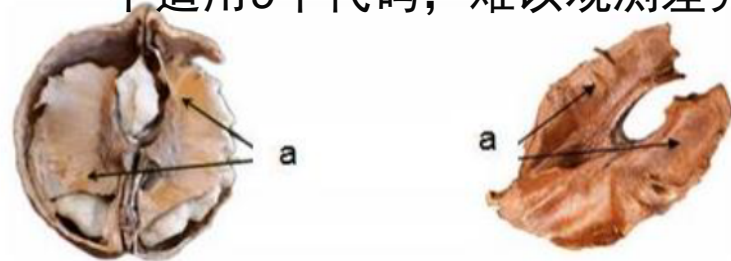
Walnut TG/125/7 Rev.

Char. 23. Nut: thickness of dividing membranes
very thin/1 – thin/2 – medium/3 – thick/4 – very thick/5

Condensed scale 1-5

(difficult to observe 9 note difference)

不适用9个代码，难以观测差异



a = dividing membranes

(other examples: intensity of green colour, tree habit ...)

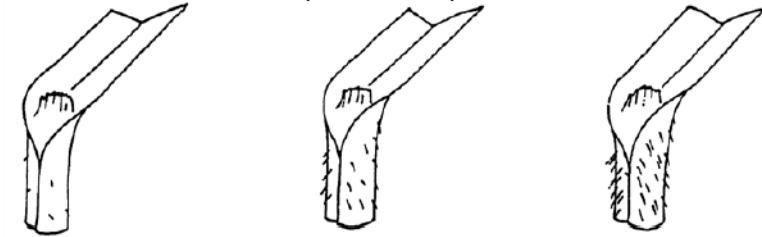
Oats TG/20/11

Char. 3. Lowest leaves: hairiness of sheaths

Condensed scale 1-3

(difficult to observed, count, measure)

难以观测，计数，测量



1

absent or weak

2

medium

3

strong

(other examples: blistering of leaf blade, pubescens of blade, texture of surface ...)

Pseudo-Qualitative Characteristic = PQ 假质量性状

TG/1/3, 第4.4.3节

总则指出，“‘假质量性状’表达的范围**至少是部分连续的，但在一个以上方向上呈现变异**（如形状：卵圆（1），椭圆（2），圆（3），倒卵形（4）），**不能够只是通过定义一个线性范围的两端恰当描述**。和质量性状（非连续的）类似，假质量性状需要确定每一个表达状态从而恰当地描述性状的范围。

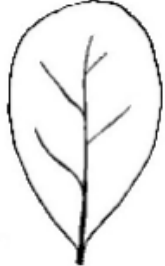
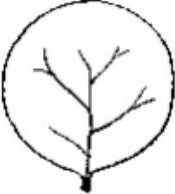
（照片、绘图、标准品种、比色卡 —— 具体说明参阅（TG）第 8 章）

Pseudo-Qualitative Characteristic = PQ 假质量性状

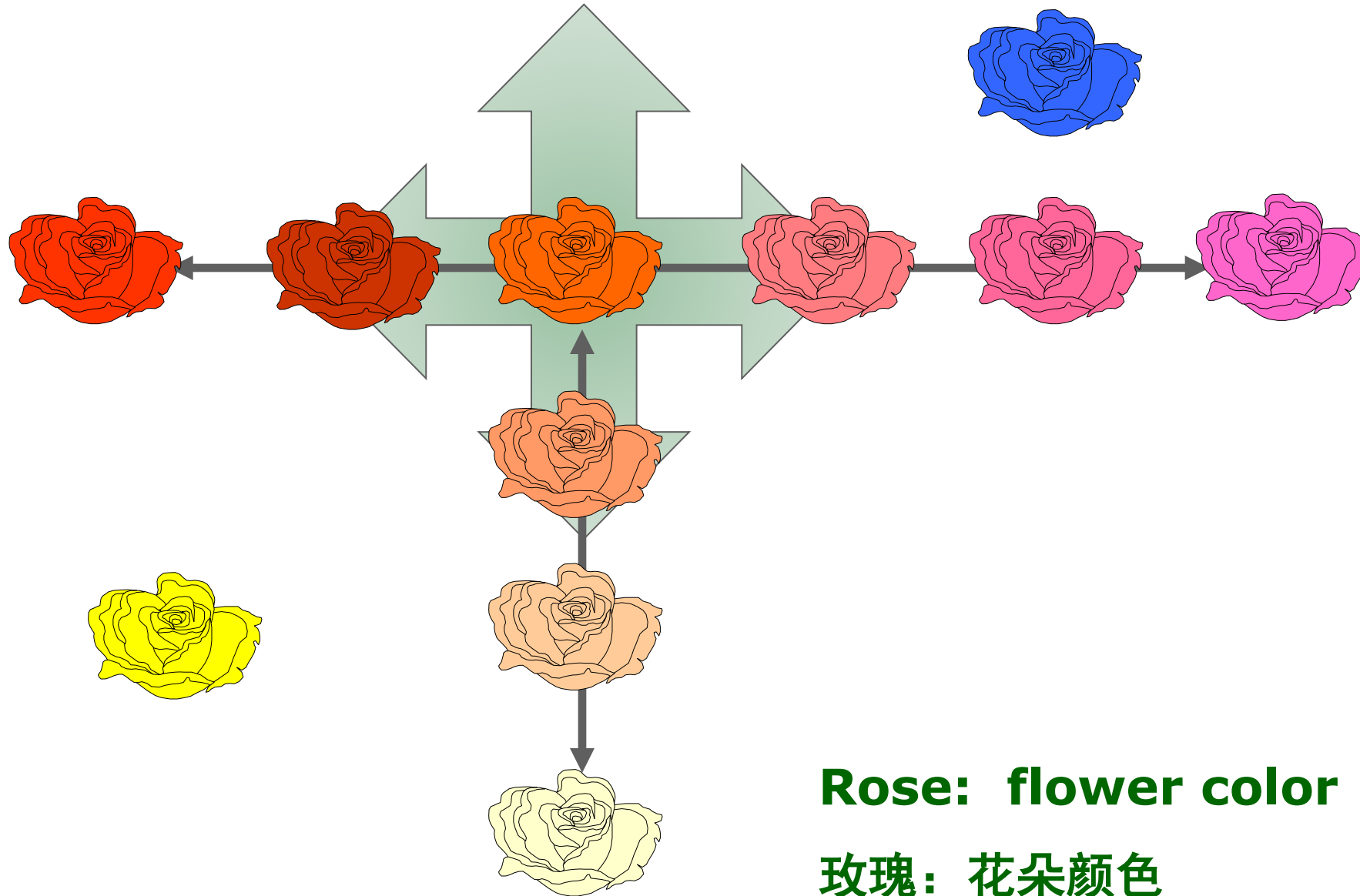
PQ - Partly continuous, but varies in more than one dimension

至少是部分连续的，但在一个以上方向上呈现变异

Brown MustardTG/335/1
Char. 6. Leaf: Shape

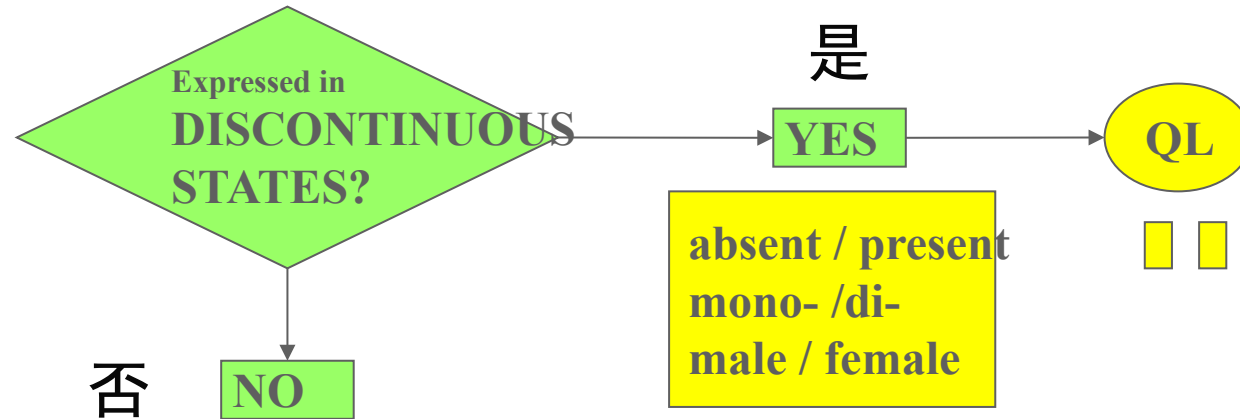
relative width	← broadest part →		
	below middle	at middle	above middle
narrow		 4 oblong	 6 spatulate
medium	 1 ovate	 3 elliptic	 5 obovate
broad		 2 circular	

Pseudo-Qualitative Characteristic = PQ 假质量性状

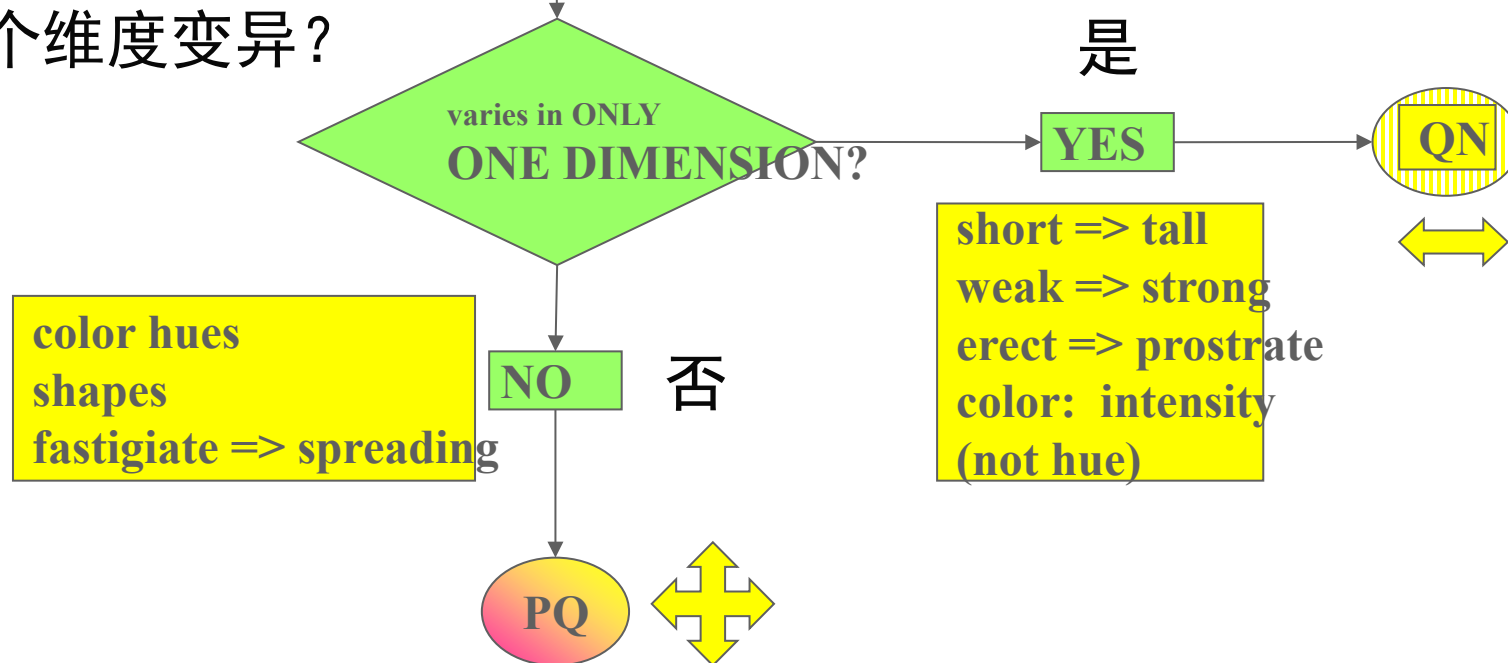


QL, QN or PQ?

是否不连续表达?



仅在一个维度变异?



目录

1. 概述部分（TG/1/3及各类TGP 文件）

- 性状：DUS测试的依据与性状选择

问答环节

2. 测试指南研制（TGP/7, TGP/9及TGP/14）

- a) UPOV指南研制流程，测试指南模板，补充标准用语及指导注释；
- b) 性状的表达类型(QL, PQ, QN);

问答环节

续 2. 测试指南研制（TGP/7, TGP/9及TGP/14）

- c) 观测方法(MS, MG, VS, VG);
- d) 形状与颜色;
- e) 标准品种;

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- c) 观测方式(MS, MG, VS, VG);
- d) 形状与颜色;
- e) 标准品种;

问答环节

Method of Observation 观测方式

V = Visual observation 目测

- 感官观测（亦包含嗅觉、味觉、触觉）
- 基于专家判断
- 专家采用参照标准（如对照品种、图片、绘图、网格、两两对比、色卡等）
- 需由经过专业培训且经验丰富的专家开展
- 总体而言，该方法比仪器测量更快捷、成本更低



M = Measurement 测量

- 基于校准线性标尺开展的客观观测（例如使用直尺、秤、色度计、日期记录、计数等）；
- 可提供更为精确的数据
- 该方法通常耗时较长、成本较高

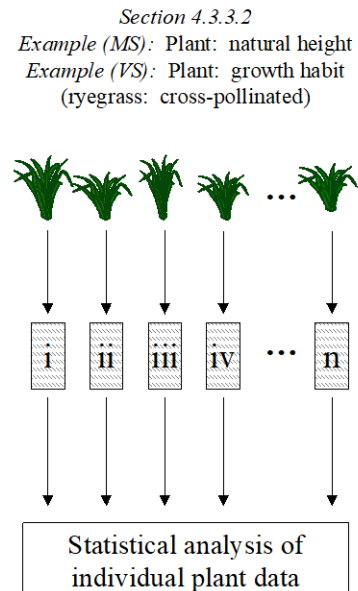
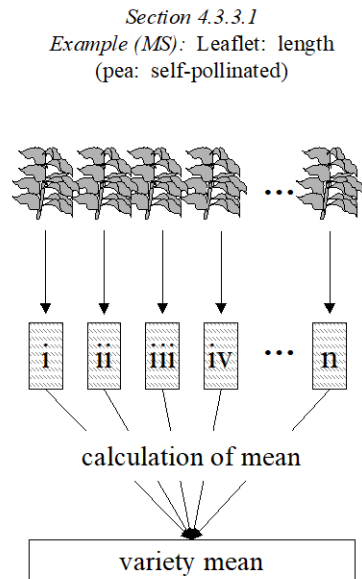


UPOV

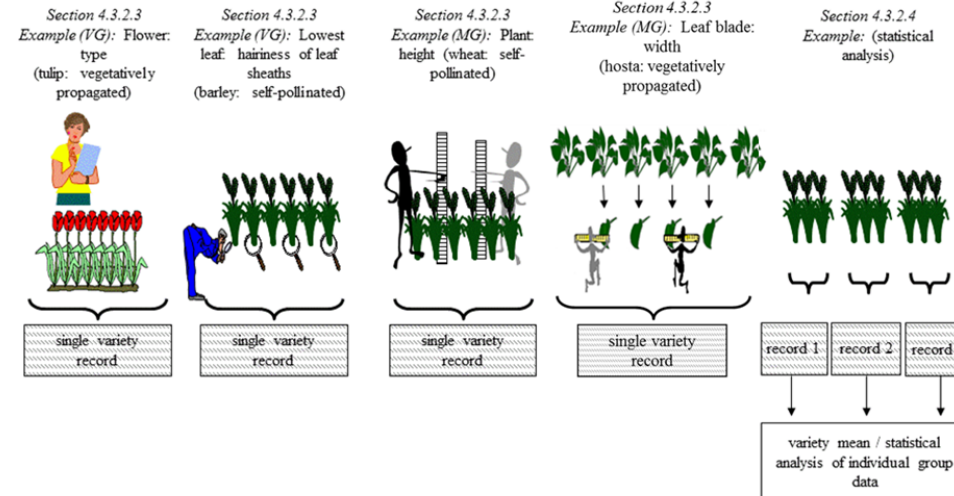
Type of records 记录类型

- **G** = single record for a variety, or a **GROUP** of plants or parts of plants;
一组品种或植株 / 植株部位组的单次记录
- **S** = records for a number of **SINGLE**, individual plants or parts of plants ...
一组单个植株或单个植株部位的逐一记录

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



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



Type of records 记录类型

MG single measurement of a group of plants or parts of plants
对一批植株或植株部位进行测量，获得一个群体记录。

MS measurement of the number of individual plants or parts of plants
对一批植株或植株部位进行逐个测量，获得一组个体记录。

VG visual assessment by a single observation of a group of plants or parts of plants
对一批植株或植株部位进行目测，获得一个群体记录。

VS visual assessment by observation of individual plants or parts of plants
对一批植株或植株部位进行逐个目测，获得一组个体记录。

Type of records 记录类型

Summary of approaches for assessing distinctness based on the growing trail

Method of propagation of the variety	Type of expression of characteristics		
	QL QUALITATIVE	PQ PSEUDO- QUALITATIVE	QN QUANTITATIVE
Vegetatively propagated, Self-pollinated	Notes(VG)	Notes(VG) Side-by-side(VG)	Notes(VG/MG/MS) Side-by-side(VG)
Cross-pollinated	Notes(VG) Statistics(VS*)	Notes(VG) Side-by-side(VG) Statistics(VS*)	Notes(VG/MG/MS) Side-by-side(VG) Statistics(VS*)
Hybrids	Notes(VG) Statistics(VS*)	Notes(VG) Side-by-side(VG) Statistics(VS*)	To be considered according to type of hybrid

TGP/14 Shape 形状

2.1.1 In general, it can be most useful to consider the variation in shape between varieties in the variety collection using the following steps: 一般情况下，最好按以下步骤研究品种库中品种间形状的变化：

Step 1: **Ratio length/width; 长宽比**

Step 2: **Position of broadest part; 最宽处的位置**

Step 3: **Shape of base; 基部的形状**

Step 4: **Shape of apex; 顶部的形状**

Step 5: **Lateral outline. 边缘轮廓**

TGP/14 Shape 形状

Ratio length/width 长宽比

shape	very compressed	moderately compressed	slightly compressed	medium	slightly elongated	moderately elongated	very elongated
ratio length/width	very low	low	low to medium	medium	medium to high	high	very high

Parallel set

oblong



Rounded set

ovate



elliptic

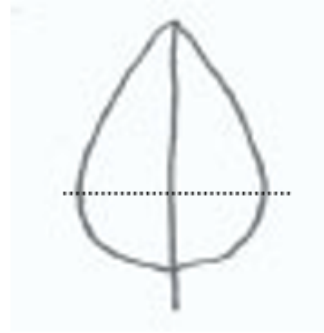


obovate

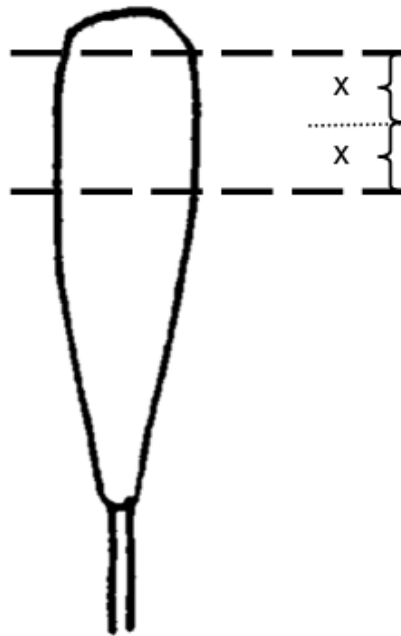


TGP/14 Shape 形状

Position of broadest part 最宽处位置



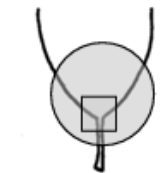
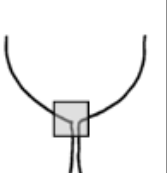
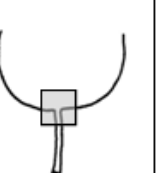
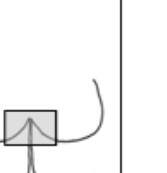
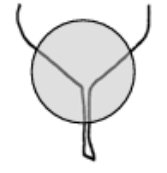
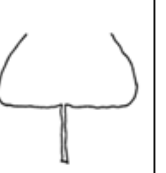
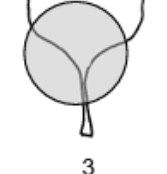
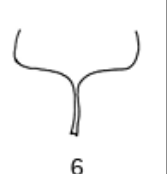
← position of broadest part



← position of broadest part
(mid-point of length of
broadest part)

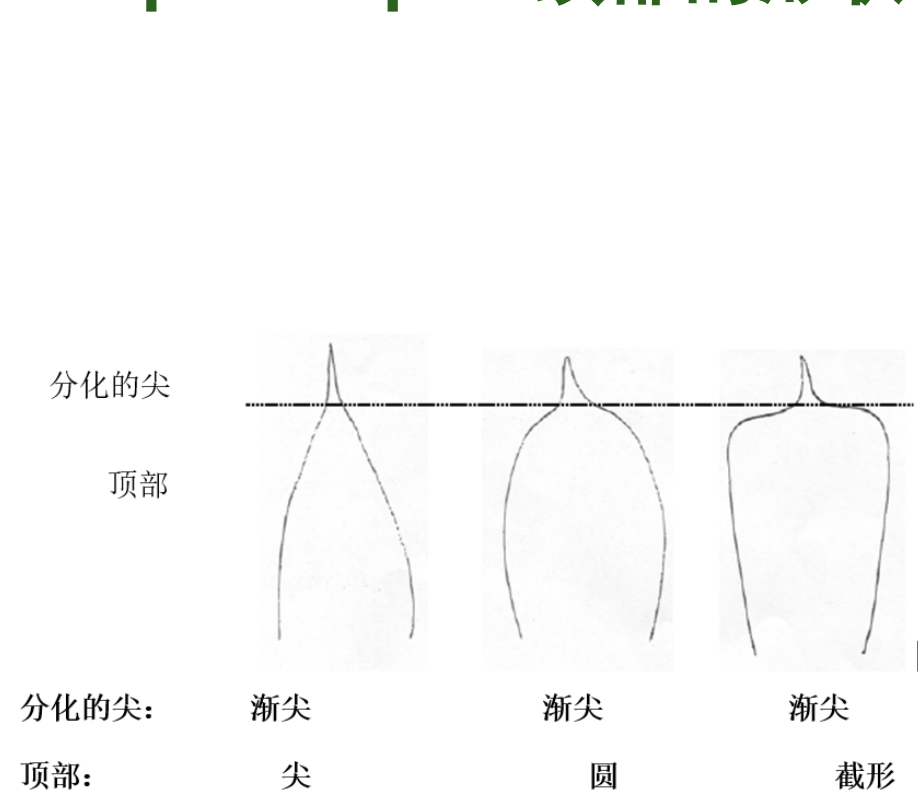
TGP/14 Shape 形状

Shape of base 基部的形状

		← angle at base →					
		acute	obtuse	straight	weakly reflexed	medium reflexed	strongly reflexed
curvature	→ convex	 1 wedge-shaped, convex	 4 broad wedge-shaped, convex	 7 rounded	 9 weakly cordate	 10 medium cordate	 11 strongly cordate
	flat	 2 wedge-shaped, straight	 5 broad wedge-shaped, straight	 8 flat			
	← concave	 3 wedge-shaped concave	 6 broad wedge-shaped, concave				

TGP/14 Shape 形状

Shape of apex 顶部的形状

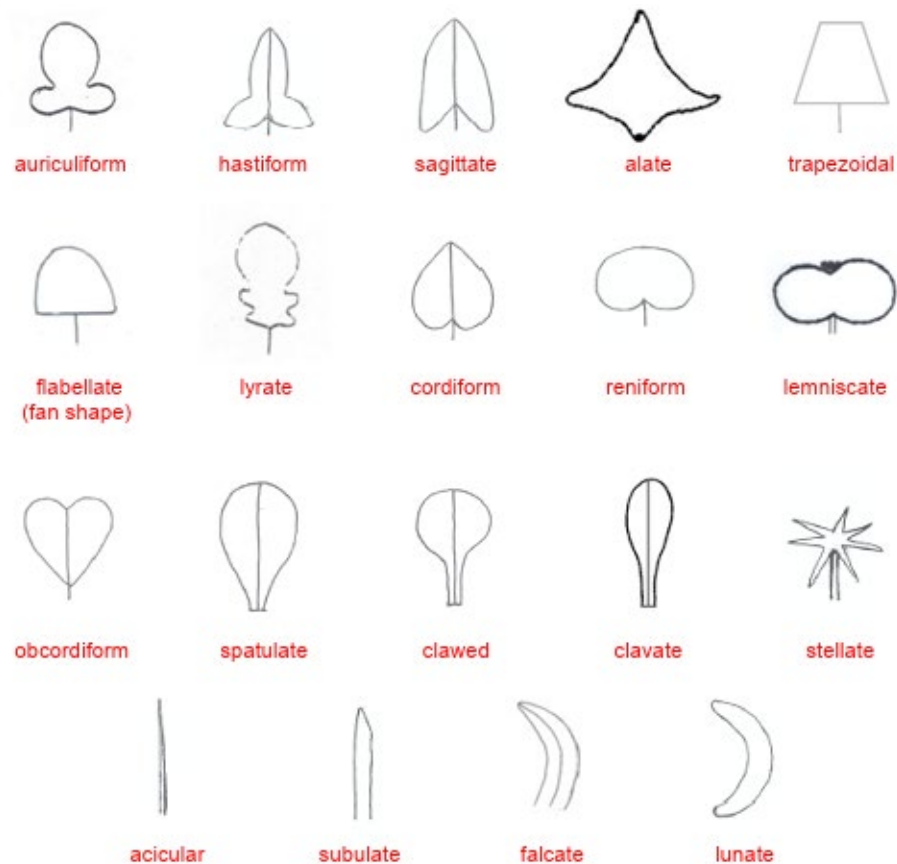


尖长度(length of tip)					
无或极弱 (absent or very weak)		短 (short)	中 (medium)	长 (long)	
尖宽度 (width of tip)	窄 (narrow)	 2 略尖 (mucronate)	 3 窄短尖(narrow short acuminate)	 5 窄长尖(narrow long acuminate)	
	宽 (broad)	见下图 (see below)		 4 宽短尖(broad short acuminate)	 6 宽长尖(broad long acuminate)

TGP/14 Shape 形状

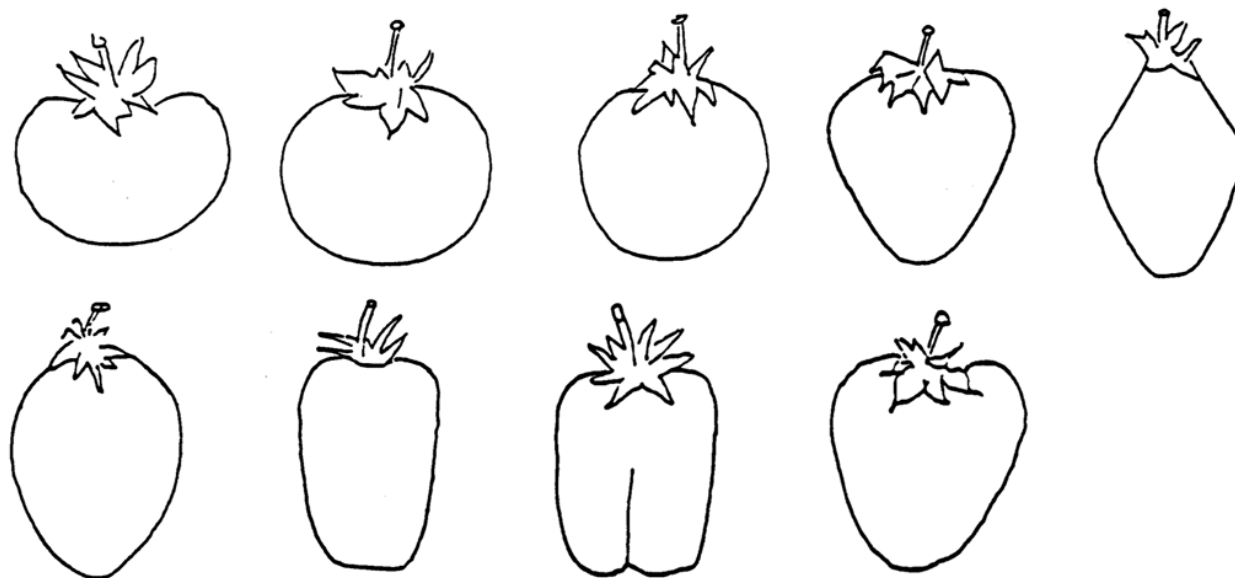
Lateral outline 边缘轮廓

shape	very compressed	moderately compressed	slightly compressed	medium	slightly elongated	moderately elongated	very elongated
ratio length/width	very low	low	low to medium	medium	medium to high	high	very high
Parallel set							
oblong	 12	 11	 10	 9			
Rounded set							
ovate							
elliptic							
obovate							
Angular set							
triangular							
trullate							
rhombic							
obtrullate							
obtriangular							



TGP/14 Shape 形状

Example
示例



can be observed in relation to:

- (a) ratio length/width (QN):
e.g. *very low (1); low (3); medium (5); high (7); very high (9);*
- (b) position of broadest part (QN):
e.g. *at middle (1); moderately towards base (2); strongly towards base (3);*
- (c) shape of base (QN/PQ):
e.g. *pointed (1); rounded (2); depressed (3)*
- (d) shape of apex (QN/PQ):
e.g. *pointed (1); rounded (2); truncate (3); notched (4)*

TGP/14 Shape 形状

Example 示例

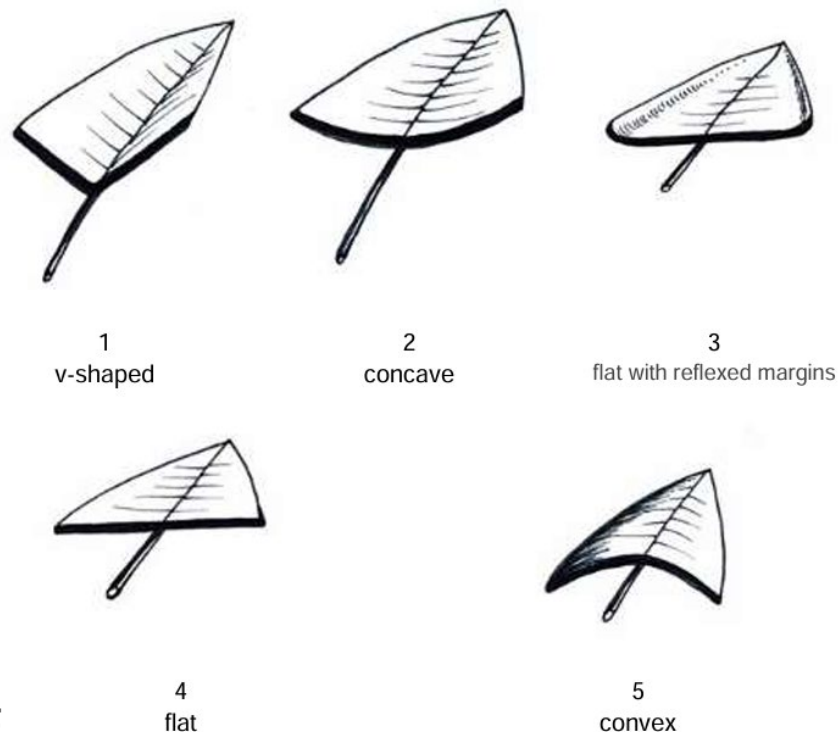
shape of apex	shape of base				
	pointed (1)		rounded (2)		depressed (3)
pointed (1)					
rounded (2)			 (ovate)	position of broadest part	
			 (round)		
		ratio length/width	 (oblate)		
truncate (3)					
notched (4)					

TGP/14 Shape 形状

three-dimensional plant parts

三维植株部位应尽可能对其切面按平面或二维形状进行描述，例如，使用横切面、纵切面和侧视图形等性状。

Ad. 13: Leaf blade: shape in cross-section



TG/14/10 APPLE

plane or two-dimensional shapes (cross-section, lateral view, longitudinal section, etc.)

TGP/14 Color 颜色

The terms used to describe **color** can be a **single color**, a **color range**, the **intensity** of a color and the **RHS Colour Chart** Number. These terms have different levels of precision: 用于描述颜色的术语可以是单色、色系、亮度，以及RHS比色卡值。这些术语的精准度各不相同：

	表达状态	示例
精确度 ↓ 高	单色 (single color)	黄色 (yellow), 橙色 (orange), 红色 (red)
	色系 (color range)	(a) 黄色 (yellow), 黄橙色 (yellow orange), 橙色 (orange), 橙红色 (orange red), 红色 (red) (b) 白色 (white), 泛黄白色 (yellowish white), 黄色 (yellow), 泛黄橙色 (yellowish orange)
	亮度 (intensity)	浅黄 (light yellow), 中等黄 (medium yellow), 深黄 (dark yellow)
	RHS 比色卡值 (RHS Colour Chart No)	RHS 41 B

- Species?
- Level of variation?

TGP/14 Color 颜色

Single color 单色

- Flower: color: white (1); yellow (2); orange (3); red (4)

Color range 色系

- Flower: color: white (1); yellow white (2); yellow (3); yellow orange (4); orange (5); red (6)

❖ Providing illustrations of color in Test Guidelines It is generally not appropriate to use illustrations of color!

通常情况下，测试指南不宜直接采用颜色图示！

TGP/14 Color 颜色

- Intensity 亮度
- Depending on the organ described, the intensity can be presented either in relation to a single color or in combination with different colors. 通过单个颜色中还是通过与多个颜色联合来体现亮度差异视具体器官而定。

7.	40-240 VG	<u>Only varieties with foliage color: green (Char. 6, state 2):</u> Foliage: intensity of color	<u>Variétés avec couleur du feuillage seulement : vert (car. 6, état 2) :</u> Feuillage : intensité de la couleur	<u>Nur Sorten mit Laubfarbe: grün (Merkmal 6, Stufe 2):</u> Laub: Intensität der Farbe	<u>Sólo variedades con color de follaje: verde (car. 6, estado 2):</u> Follaje: intensidad del color		
QN	light medium dark		claire	hell	claro	Paris, Twinkle	3
			moyenne	mittel	medio	Lisa, Rondo	5
			foncée	dunkel	oscuro	Waverex	7

Example: TG/7/10 Rev.3 Pisum sativum L. Characteristic 7

TGP/14 Color 颜色

Allocation of UPOV Color Groups for each RHS Color in RHS Reference order

RHS COLORS (RHS COLOUR CHART, EDITIONS 1986, 1995, 2001 AND 2007)
BY UPOV COLOR GROUPS

RHS比色卡

UPOV Group No.	No. RHS	English	français	deutsch	español
11	001A	yellow	jaune	gelb	amarillo
5	001B	yellow green	vert-jaune	gelbgrün	verde amarillento
5	001C	yellow green	vert-jaune	gelbgrün	verde amarillento
5	001D	yellow green	vert-jaune	gelbgrün	verde amarillento
11	002A	yellow	jaune	gelb	amarillo
11	002B	yellow	jaune	gelb	amarillo
5	002C	yellow green	vert-jaune	gelbgrün	verde amarillento
5	002D	yellow green	vert-jaune	gelbgrün	verde amarillento
11	003A	yellow	jaune	gelb	amarillo
11	003B	yellow	jaune	gelb	amarillo
11	003C	yellow	jaune	gelb	amarillo
5	003D	yellow green	vert-jaune	gelbgrün	verde amarillento
11	004A	yellow	jaune	gelb	amarillo
11	004B	yellow	jaune	gelb	amarillo
5	004C	yellow green	vert-jaune	gelbgrün	verde amarillento
10	004D	light yellow	jaune clair	hellgelb	amarillo claro
11	005A	yellow	jaune	gelb	amarillo
11	005B	yellow	jaune	gelb	amarillo
11	005C	yellow	jaune	gelb	amarillo
10	005D	light yellow	jaune clair	hellgelb	amarillo claro
11	006A	yellow	jaune	gelb	amarillo
11	006B	yellow	jaune	gelb	amarillo
11	006C	yellow	jaune	gelb	amarillo
10	006D	light yellow	jaune clair	hellgelb	amarillo claro
11	007A	yellow	jaune	gelb	amarillo
11	007B	yellow	jaune	gelb	amarillo
11	007C	yellow	jaune	gelb	amarillo
11	007D	yellow	jaune	gelb	amarillo

Any characteristic which combines more than one of those elements is likely to constitute a pseudo-qualitative characteristic.
任何一个性状，当组合了一个以上上述要素时，将很可能构成一个假质量性状。

Examples

- (a) Qualitative characteristics
Seed **color**: white (1); yellow (2); black (3)
- (b) Quantitative characteristics
Leaf: **intensity** of green **color**: light (3); medium (5); dark (7)
- (c) Pseudo-qualitative characteristics
 - (i) **Single colors**
Flower: **color**: white (1); yellow (2); orange (3); red (4)
 - (ii) **Single colors and intensity**
Flower: **color**: white (1); light yellow (2); medium yellow (3); dark yellow (4); orange (5)
 - (iii) **Color range**
Flower: **color**: white (1); yellow white (2); yellow (3); yellow orange (4); orange (5)
Spathe: **color** of apex: whitish (1); yellowish (2); greenish (3)

APPROACHES TO DESCRIBE COLORS AND COLOR PATTERNS

颜色及颜色图案的描述方法

- depends on the number of colors...
取决于颜色数量.....
- the types of color distribution...and
颜色分布类型.....以及
- the number of color patterns possible for the species concerned.
该物种可能出现的颜色图案数量。

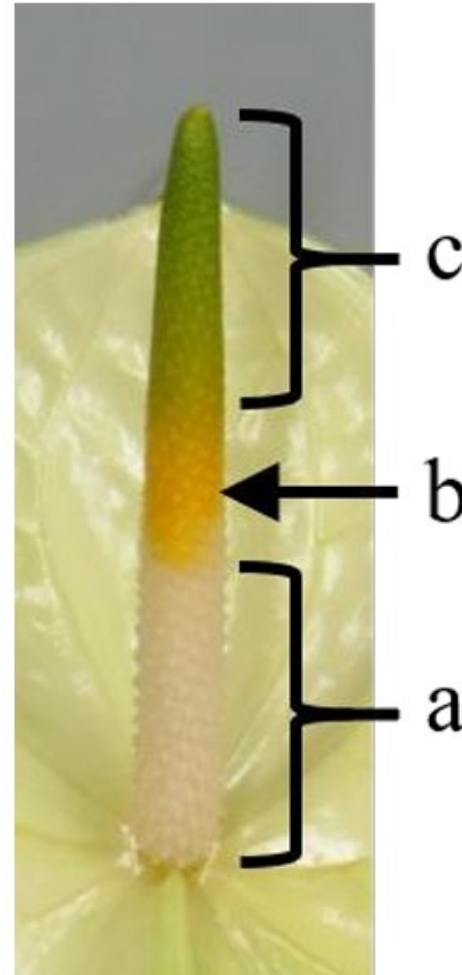
TGP/14 Color 颜色

3.1 Approach according to the size of the surface area

根据表面面积大小的方法

- **Main color (largest surface area)**
主色（覆盖面积最大）
- **Secondary color**
次色

Ad. 39: Spadix: main color of basal part



a = main color of basal part (Char. 39)

b = main color of middle part (Char. 40)

c = main color of distal part (Char. 41)

TG/86/6 *Anthurium* Schott

TGP/14 Color 颜色

3.2 Approach according to tissue layers

根据组织分层的方法

- **ground color (the first color to appear)**
- **底色**
- **over color**
- **盖色**

Example: Phalaenopsis (TG/213/2(proj.7))



Petal: **ground color** – RHS Colour Chart 155A - white
Petal: **over color** – RHS Colour Chart 83A – dark violet

Ad. 29: Fruit: ground color

The ground color is the first color to appear chronologically during the development of the fruit.

Ad. 30: Fruit: hue of over color

Observations should be made after removing the bloom.

Ad. 33: Fruit: pattern of over color



1
only solid flush



2
solid flush with stripes



3
only stripes (no flush)



4
flushed and mottled



5
flushed, striped and mottled



6
marbled

3.3 Approach according to defined parts of an organ

根据指定植株部位的方法

(a) If the different parts of a plant organ can have different colors, the color of these different parts can be described separately. 对于器官不同部位颜色不同的情形，宜对各部位的颜色分别描述。

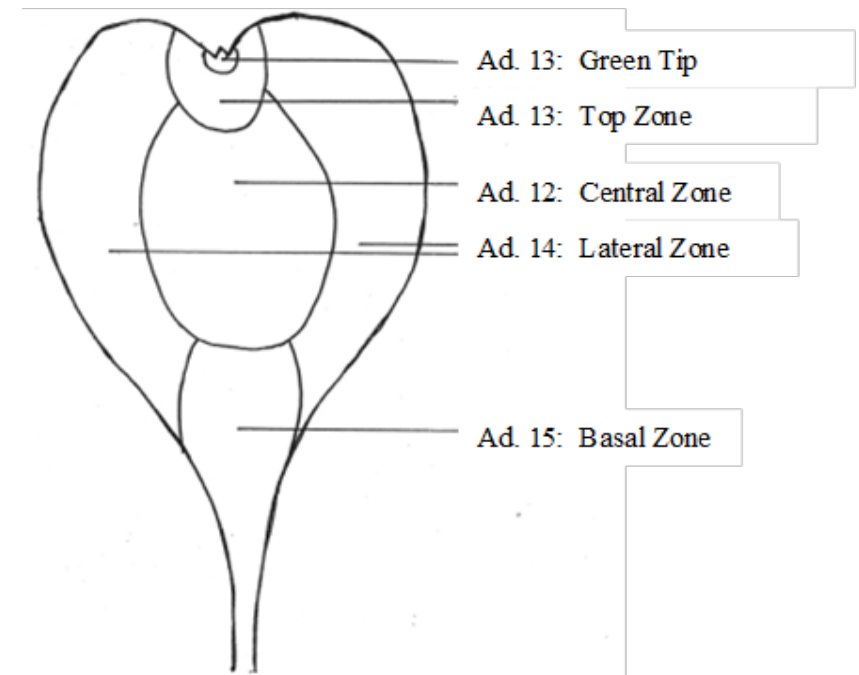
Example 例如:

花瓣Petal：边缘颜色 (color of margin)

花瓣Petal：中部颜色 (color of middle zone)

花瓣Petal：基部颜色 (color of base)

Ad. 12: Outer tepal: main color of **central** zone
Ad. 13: Outer tepal: main color of **top** zone (green tip excluded)
Ad. 14: Outer tepal: main color of **lateral** zone
Ad. 15: Outer tepal: main color of **basal** zone



3.3 Approach according to defined parts of an organ

根据指定植株部位的方法

(b) When an organ has **one color with different intensities**, the parts of the organ which are lighter or darker could be described as follows: 当一个器官上某颜色出现深浅变化，器官不同部位颜色深浅变化应描述如下

Example 例如:

管状小花 Ray floret: 上表面颜色分布 color distribution on upper side:

向基部变浅 lighter towards base (1); 均匀 even (2); 向顶部变浅 lighter towards apex (3)

3.4 Approach according to the RHS Colour Chart number ("Lisbon" approach)根据RHS比色卡值的方法（“Lisbon”法）

All colors of the plant part concerned are assessed using the RHS Colour Charts first.

首先通过RHS比色卡判定待测植株部位的所有颜色，然后排序：

The color should first be described, followed by:

distribution, 分布

pattern, 图案

area, 面积

conspicuousness of the color (if necessary). 颜色明显程度（如必要）

The same sequence should be followed for color two, color three and so on.对于第二种颜色、第三种颜色等也应采用相同的顺序。

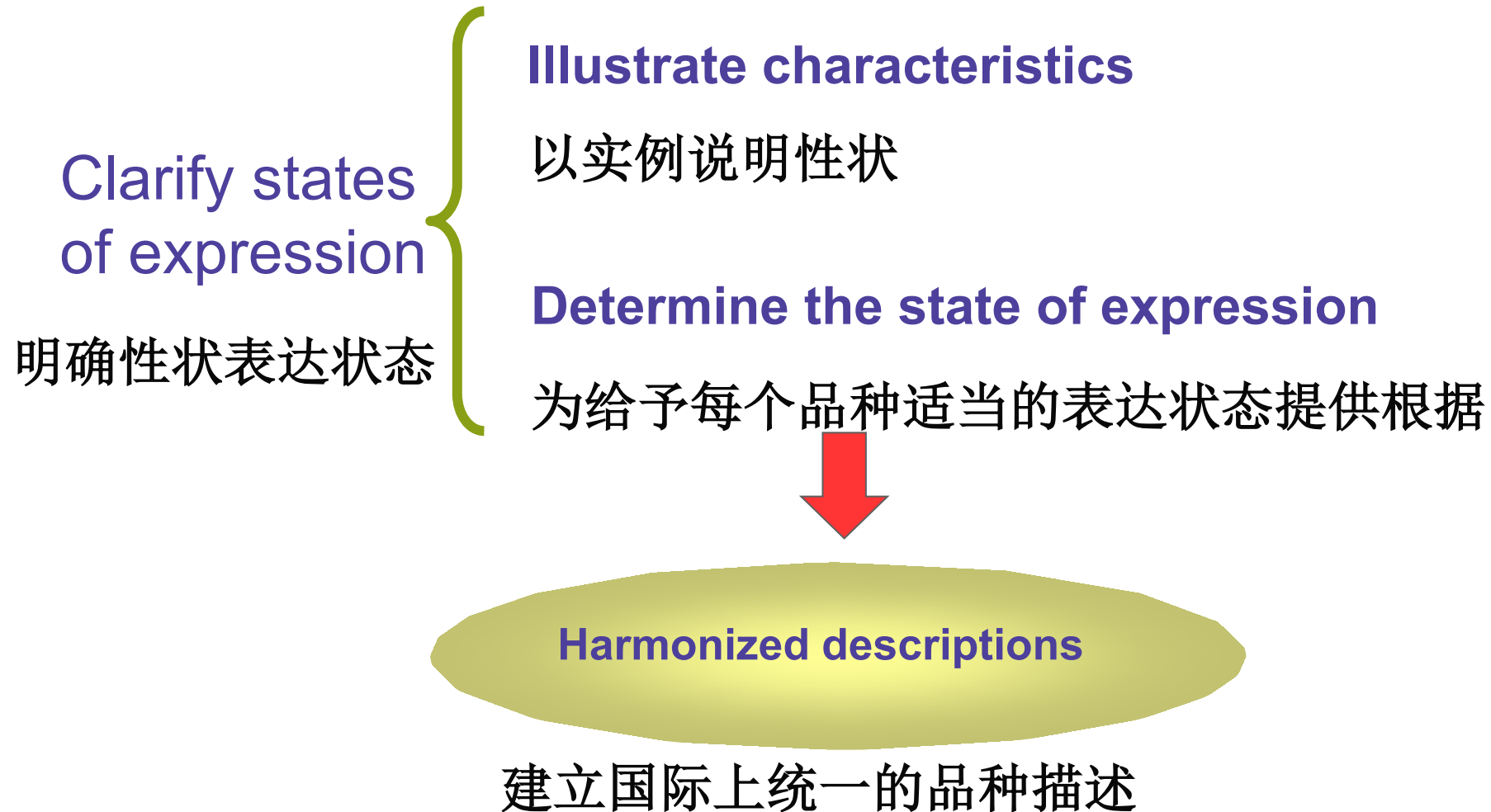
Heuchera and Heucherella (TG/280/1)

- 36.叶片：颜色一 –RHS比色卡 –黄绿色 144C
- 37.叶片：颜色一：分布 –边缘 (7)
- 38.叶片：颜色一：图案 –均匀或近均匀 (5)
- 39.叶片：颜色一：总面积 –极小到小 (2)
- 40.叶片：颜色二 –RHS比色卡 –灰橙色 176B
- 41.叶片：颜色二：分布 –沿叶脉 (2)
- 42.叶片：颜色二：图案 –均匀或近均匀 (5)
- 43.叶片：颜色二：总面积 –小 (3)
- 44.叶片：颜色三 –RHS比色卡 –灰橙色 177D，偏灰
- 45.叶片：颜色三：分布 –中部叶脉间 (6)
- 46.叶片：颜色三：图案 –均匀或近均匀 (5)
- 47.叶片：颜色三：总面积 –大 (7)
- 48.叶片：颜色四 –RHS比色卡 –不适用
- 49.叶片：颜色四：分布 –无 (1)
- 50.叶片：颜色四：图案 –不适用
- 51.叶片：颜色四：总面积 –不适用

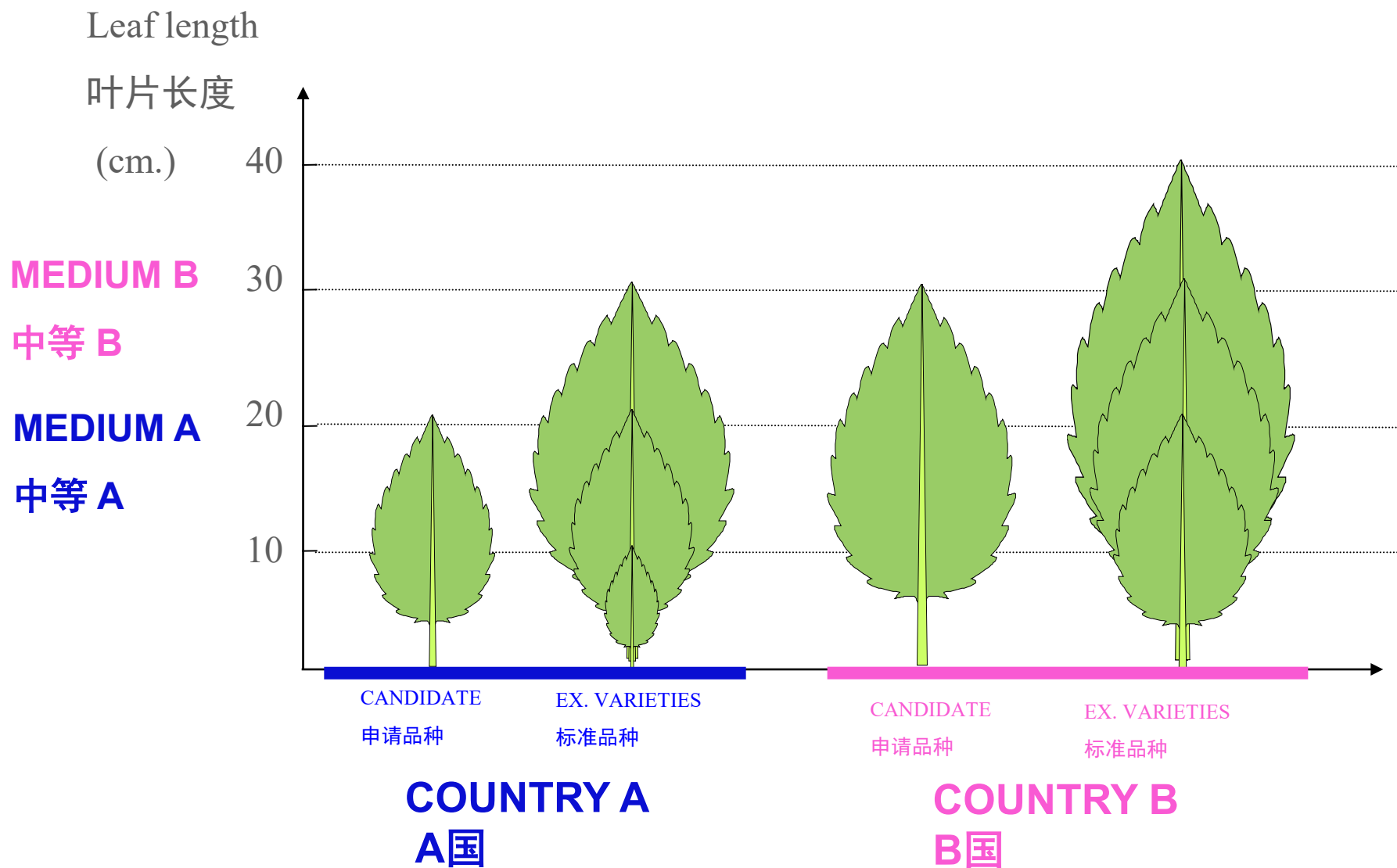


‘Venus’
叶片有多颜色的品种

TGP/7 Example variety 标准品种



TGP/7 Example variety 标准品种



TGP/7 Example variety 标准品种

关于如何决定一个性状是否需要标准品种，可以总结如下：

- （i）如果某一性状对品种描述的国际统一并不重要（非带星号的性状）并且无须用标准品种示例，则不需要提供标准品种。
- （ii）如果对品种描述的国际统一很重要的某一性状（带星号性状），不受年份或环境的影响（如质量性状），并且无须用标准品种示例，则可能不需要提供标准品种。
- （iii）如果某一性状对品种描述的国际统一**很重要**（带星号性状），而且**受环境影响**（大多数数量性状和假质量性状），或需要用标准品种示例，则有必要提供标准品种。
- （iv）如果根据上述（i）、（ii）认为需要标准品种，但是不宜寻求确定一套适合所有UPOV成员的通用标准品种，应考虑确定的地区标准品种。

TGP/7 Example variety 标准品种

TGP/7 GN 28 (Chapter 6.4) – Example varieties

Criteria for Example Varieties

Availability

易获得性

Minimizing the number

数量最小化

Agreement of interested experts

感兴趣专家小组共识

对于数量性状，

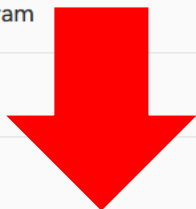
(i) “1-9” 尺度：为至少三种表达状态提供标准品种（例如：（3）、（5）、（7）），尽管在个别情况下，仅为两种表达状态提供标准品种也可以接受；

(ii) “1-5” / “1-4” / “1-3” 尺度：至少为两种表达状态提供标准品种。

UPOV International Certificate on Plant Variety Protection

List of courses and activities of the UPOV PVP Certificate program

DL-305B "DUS Examination"	10
UPOV Train the Trainer / UPOV Executive Program	8
UPOV Workshop for Laws	6
UPOV Chairperson (C, CC, CAJ, TC, TWP)	20
UPOV Test Guidelines leading expert	10
Japan International Cooperation Agency (JICA) "Training Course on the Protection of Plant Breeders' Rights"	20
Korean Seed & Variety Service (KSVS) / Korean International Cooperation Agency (KOICA) "Training Course on Plant Variety Protection"	20
Maastricht University "Plant Variety Protection and Biotechnology"	10



program

of the courses, activities or meetings in the list. The UPOV meeting will entitle you to the same (VA = 10 credits).

ses and activities provided in Category 1 of the

s in Category 2 of the list will only be

NUMBER OF
CREDITS

er course or activity)

DL-205 "Introduction to the UPOV System of Plant Variety Protection under the UPOV Convention"

9



UPOV PVP

Variety Protection

目录

1. 概述部分（TG/1/3及各类TGP 文件）

- 性状：DUS测试的依据与性状选择

问答环节

2. 测试指南研制（TGP/7, TGP/9及TGP/14）

- a) UPOV指南研制流程，测试指南模板，补充标准用语及指导注释；
- b) 性状的表达类型(QL, PQ, QN);

问答环节

续 2. 测试指南研制（TGP/7, TGP/9及TGP/14）

- c) 观测方法(MS, MG, VS, VG);
- d) 形状与颜色;
- e) 标准品种;

问答环节