



TC/51/25

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# INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

## TECHNICAL COMMITTEE

### Fifty-First Session Geneva, March 23 to 25, 2015

#### REVISION OF DOCUMENT TGP/14: SECTION 2.4: APEX/TIP SHAPE CHARACTERISTICS

*Document prepared by the Office of the Union*

*Disclaimer: this document does not represent UPOV policies or guidance*

1. The purpose of this document is to present a proposal for revision of document TGP/14 "Glossary of terms used in UPOV documents" to provide further guidance in Section 2.4: "Apex/tip shape characteristics".

2. The following abbreviations are used in this document:

CAJ:	Administrative and Legal Committee
TC:	Technical Committee
TC-EDC:	Enlarged Editorial Committee
TWA:	Technical Working Party for Agricultural Crops
TWC:	Technical Working Party on Automation and Computer Programs
TWF:	Technical Working Party for Fruit Crops
TWO:	Technical Working Party for Ornamental Plants and Forest Trees
TWV:	Technical Working Party for Vegetables
TWPs:	Technical Working Parties

3. The structure of this document is as follows:

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#### BACKGROUND

4. The Technical Committee (TC) at its fiftieth session held in Geneva, from April 7 to 9, 2014, requested the Office of the Union to develop an explanation that it may be possible in some cases for an apex characteristic to include a state of expression based on a differentiated tip, for consideration by the TWPs at their sessions in 2014 (see document TC/50/36 "Report on the Conclusions", paragraph 73).

5. Document TGP/14 "Glossary of Terms used in UPOV Documents" currently provides guidance on apex and tip shape characteristics, which is presented in Annex I to this document.

## EXAMPLES FROM DRAFTS AND TEST GUIDELINES

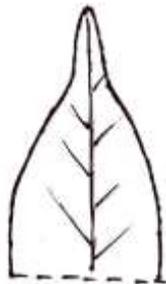
6. Annex II to this document presents some examples from adopted and draft Test Guidelines of shape of apex characteristics that include a state of expression based on a differentiated tip.

## COMMENTS BY THE TECHNICAL WORKING PARTIES IN 2014

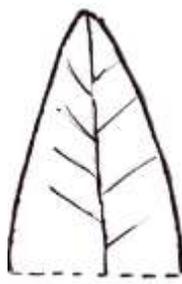
7. At their sessions in 2014, the TWO, TWF, TWC, TWV and TWA considered documents TWO/47/23, TWF/45/23, TWV/48/23, TWC/32/23 and TWA/43/23, respectively, which contained the following proposal to develop an explanation on the inclusion of a state of expression based on a differentiated tip in shape of apex characteristics for inclusion in document TGP/14, Section 2.4: "Apex/tip shape characteristics":

"In some cases it may be possible for a characteristic "shape of apex" (PQ characteristic) to include a state of expression based on a differentiated tip. In such cases it is necessary to provide clarity on the appropriate choice of state of expression, because all varieties with a differentiated tip will also have a general apex shape (excluding the tip) that corresponds to one of the other states of expression. For example, the explanation might clarify that the general apex shape is only considered if there is no differentiated tip e.g.:

"Leaf: shape of apex (PQ Characteristic)



1  
acuminate tip



2  
acute  
(no acuminate tip)



3  
rounded  
(no acuminate tip)"

8. The TWO, TWF, TWV and TWA agreed to propose that document TGP/14, section 2.4 be amended as follows:

"2.4.1 The apex of an organ or plant part is the end furthest from the point of attachment. In some cases, the distal extremity of the apex may be differentiated into a "TIP".

"2.4.2 In considering the approach to describe the apex, the size of the organ and the number of apex shapes should be taken into account. Apex characteristics can be described in simple terms and if a differentiated tip is present it could be further described as a separate characteristic. Generally, it is not necessary to separate the apex shape characteristic.

"2.4.3 In cases where it is appropriate to separate into differentiated tip and apex characteristics, the shape of the apex is taken as the general shape, excluding any differentiated tip. For example: [...]"

9. The TWO, TWF, TWV and TWA agreed that the approach in document TGP/14 for shape of apex and tip characteristics was most suitable for leaves or larger structures and should be used in particular cases only (see document TWO/47/28 "Report", paragraphs 63 to 65, document TWF/44/31 "Report", paragraphs 58 to 60, document TWV/47/34 "Report", paragraphs 70 to 72, and document TWA/43/27 "Report", paragraphs 59 to 61).

10. The TWV agreed that the approach in document TGP/14 for shape of apex and tip characteristics should apply to two-dimensional and three dimensional shapes (e.g. in fruit shape) (see document TWV/48/43 "Report", paragraph 72).

11. The TWC noted document TWC/32/23 and the proposals to develop an explanation on the inclusion of a state of expression based on a differentiated tip in shape of apex characteristics (see document TWC/32/28 "Report", paragraph 70).

COMMENTS BY THE ENLARGED EDITORIAL COMMITTEE AT ITS MEETING IN JANUARY 2015

12. The TC-EDC, at its meeting held in Geneva on January 7 and 8, 2015, considered document TC-EDC/Jan15/24 "Revision of document TGP/14: Section 2.4: Apex/Tip Shape Characteristics" and the comments made by the TWPs at their sessions in 2014 and agreed with the proposed draft guidance, subject to the following amendment in the proposed paragraph 2.4.3 to read as follows:

"In cases where it is appropriate to separate into differentiated tip and apex characteristics, the shape of the apex is taken as the general shape, excluding any differentiated tip (if present) and the separation of tip and apex should be indicated in the explanation of the characteristic. For example: ..."

PROPOSAL

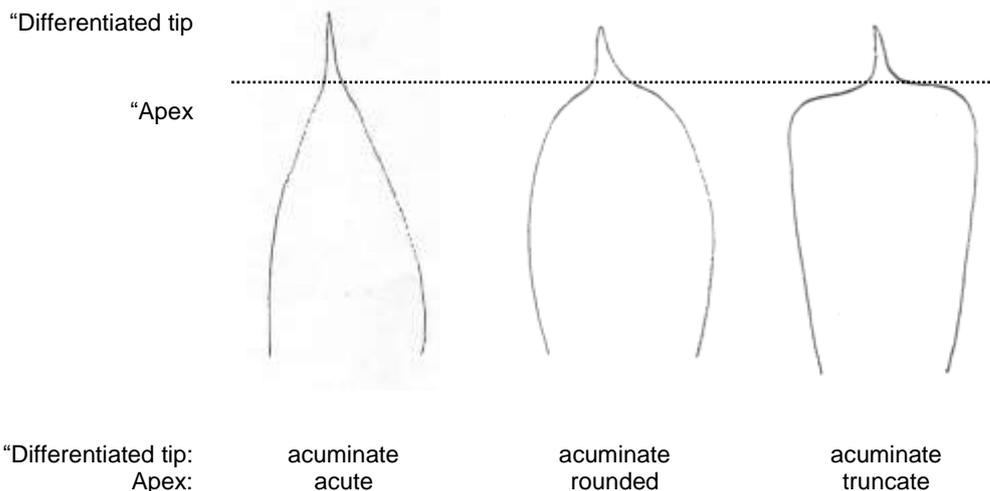
13. On the above basis, it is proposed to revise document TGP/14, Section 2.4 "Apex/tip shape characteristics" to read as follows:

*"2.4 Apex/Tip Shape Characteristics*

"2.4.1 The APEX (apical or distal part) of an organ or plant part is the end furthest from the point of attachment. In some cases, the distal extremity of the apex may be differentiated into a "TIP".

"2.4.2 In some cases, the distal extremity of the apex may be differentiated into a "TIP". In considering the approach to describe the apex, the size of the organ and the number of apex shapes should be taken into account. Apex characteristics can be described in simple terms and if a differentiated tip is present it could be further described as a separate characteristic. Generally, it is not necessary to separate the apex shape characteristic.

"2.4.3 In cases where it is appropriate to separate into differentiated tip and apex characteristics, the shape of the apex is taken as the general shape, excluding any differentiated tip (if present) and the separation of tip and apex should be indicated in the explanation of the characteristic. For example:



~~2.4.3~~ 2.4.4 As explained in Section 2.1, it is only necessary to develop a characteristic for the shape of apex when the variation in shape between varieties in the variety collection has not been accounted for by the ratio length/width or the position of the broadest part concerning the full plant part. [...]"

14. The TC is invited to consider the proposal to revise document TGP/14, Section 2.4 "Apex/tip shape characteristics", as set out in paragraph 13.

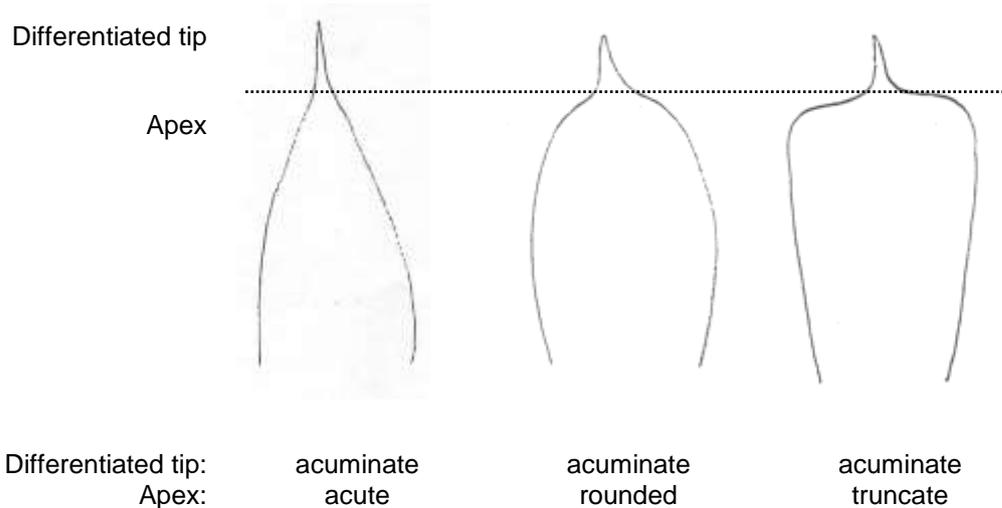
[Annexes follow]

## EXTRACTS FROM DOCUMENT TGP/14: SECTION 2: SUBSECTION 2.4: "APEX/TIP SHAPE CHARACTERISTICS"

## "2.4 Apex/Tip Shape Characteristics

"2.4.1 The APEX (apical or distal part) of an organ or plant part is the end furthest from the point of attachment.

"2.4.2 In some cases, the distal extremity of the apex may be differentiated into a "TIP". In such cases, the shape of the apex is taken as the general shape, excluding any differentiated tip (if present). For example:



"2.4.3 As explained in Section 2.1, it is only necessary to develop a characteristic for the shape of apex when the variation in shape between varieties in the variety collection has not been accounted for by the ratio length/width or the position of the broadest part concerning the full plant part.

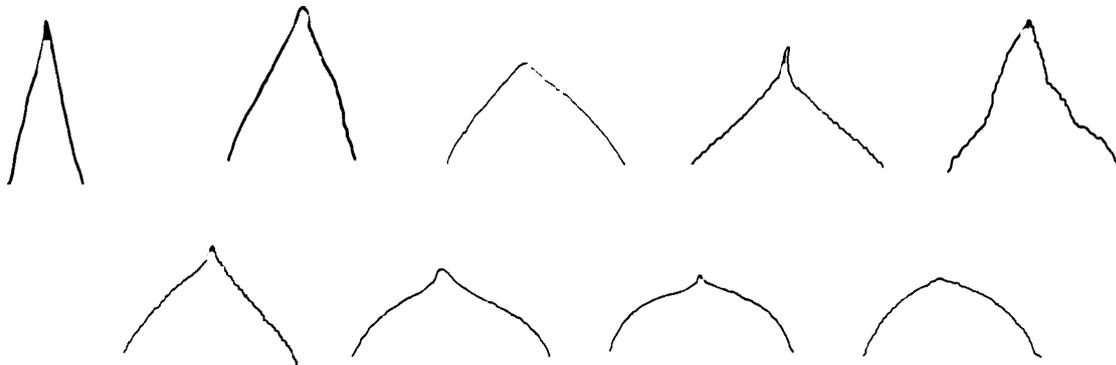
"2.4.4 In the same way as for plane shapes, whilst an apex shape can be considered in terms of a pseudo-qualitative characteristic, it can be useful to develop quantitative or qualitative characteristics related to apex shape, rather than considering shape as a single pseudo-qualitative characteristic. A particular example of this is the consideration of the angle of the apex (e.g. as a quantitative characteristic).

"2.4.5 In cases where the tip is differentiated within the general shape of the apex, characteristics concerning the shape of the tip may be developed independently from those concerning the general shape of the apex. Different combinations between these two categories are possible, for example: a first characteristic for the general shape of the apex (e.g. acute, obtuse, rounded), together with a second characteristic for emargination at apex (absent, present), or apiculate tip (absent, present).

"2.4.6 In the case of tip shapes, it may be more appropriate to have a simple characteristic such as length of tip, rather than using botanical terms. The only difference between mucronate and aristate is the length of the 'tip', the only difference between cuspidate and pungent is the length of the 'tip', and the only difference between emarginate and retuse is the angle and depth of the notch. These pairs can therefore also be quantified where applicable, by stating, for example, 'length of tip' or 'depth of notch', instead of using the specific botanical terms.

“Example

“the variation between the range of apex shapes indicated by the illustrations below



“Possible characteristic(s)

‘Alternative 1

- “(a) angle of apex (excluding tip, if present) (QN):  
e.g. *strongly acute (1)*; *moderately acute (2)*; *right-angle (3)*; *moderately obtuse (4)*;  
*strongly obtuse (5)*
- “(b) length of acuminate tip (QN):  
e.g. *absent or short (1)*; *medium (2)*; *long (3)*

“Alternative 2

“(a) angle of apex (excluding tip, if present) (QN):  
e.g. *strongly acute* (1); *moderately acute* (2); *right-angle* (3); *moderately obtuse* (4);  
*strongly obtuse* (5)

“(b) tip (PQ): *absent or very weak* (1); *mucronate* (2); *narrow short acuminate* (3); *broad short acuminate* (4); *narrow long acuminate* (5); *broad long acuminate* (6)

“with the following illustration:

		← length of tip →			
		absent or very weak	short	medium	long
width of tip ↑ ↓	narrow	[see below]	 2 mucronate	 3 narrow short acuminate	 5 narrow long acuminate
	broad		 4 broad short acuminate	 6 broad long acuminate	

“examples of tip: absent or very weak (1) with different angles of apex (characteristic (a)):

 strongly acute apex	 right-angle apex	 obtuse apex
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[Annex II follows]

EXAMPLES FROM DRAFTS AND TEST GUIDELINES

Document TG/SALVI(proj.2) Salvia

Ad. 12: Leaf blade: shape of apex



1  
acuminate



2  
acute



3  
obtuse



4  
rounded

Document TG/25/9(proj.7) Carnation

Ad. 25: Epicalyx: apex of outer lobes

Ad. 27: Epicalyx: apex of inner lobes



1  
acute



2  
acute to  
acuminate



3  
acuminate

Document TG/CAMPA(proj.4) Campanula

Ad. 10: Leaf blade: shape of apex



1  
acuminate



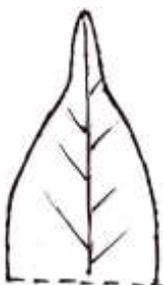
2  
acute



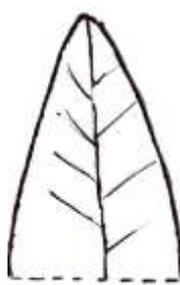
3  
obtuse

Document TG/MANDE(proj.7) Mandevilla

Ad. 16: Leaf blade: shape of apex



1  
acuminate



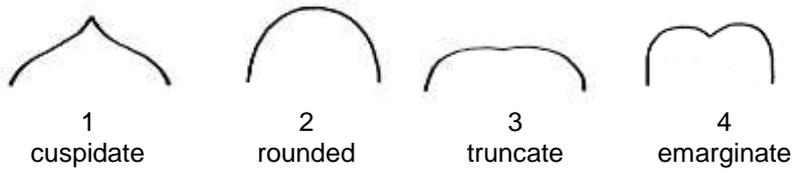
2  
acute



3  
rounded

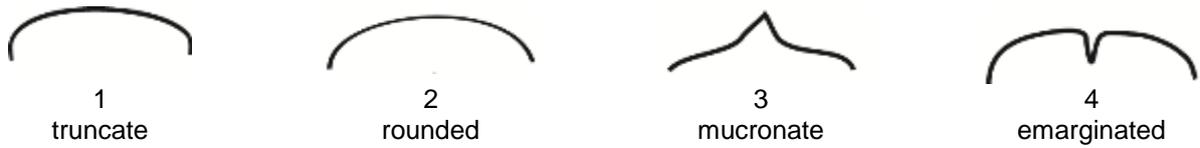
Document TG/212/2(proj.1) Petunia

Ad. 31: Corolla lobe: shape of apex



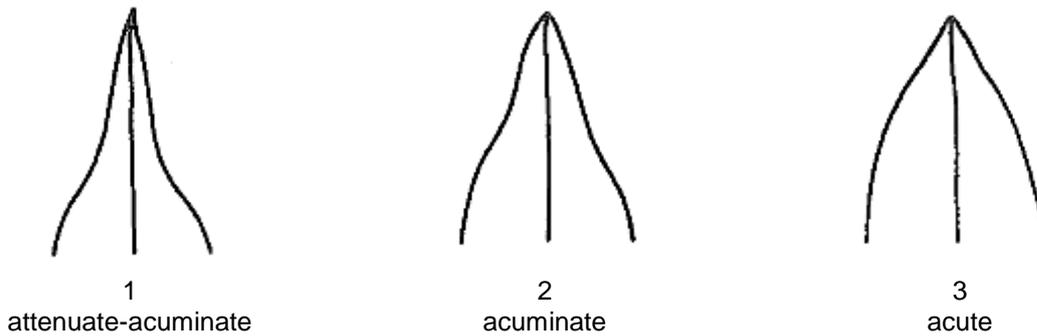
Document TG/ZINNIA(proj.4) Zinnia

Ad. 26: Ray floret: shape of the apex



Document TG/124/4(proj.1) Chestnut

Ad. 23: Leaf: shape of apex



Document TG/VANIL(proj.5) Vanilla

Ad. 9: Leaf: shape of apex

