



TWF/45/30

ORIGINAL: English

DATE: May 21, 2014

INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS

Geneva

TECHNICAL WORKING PARTY FOR FRUIT CROPS

Forty-Fifth Session

Marrakesh, Morocco, from May 26 to 30, 2014

PARTIAL REVISION OF THE TEST GUIDELINES FOR
MANDARINS (CITRUS L.-GROUP 1) (DOCUMENT TG/201/1)

Document prepared by expert from Spain

The proposal for a partial revision of the Test Guidelines for Mandarins (document TG/201/1) is set out in the Annex to this document.

[Annex follows]

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

Characteristic 25

The capability of pollen germination of a great number of varieties of citrus fruits, and in this case the differences observed were as well trustworthy, repetitive, reproducible and with sufficient expression variability. Varieties may show a wide range of differences in the pollen germination percentage, which are not yet well reflected in the present Test Guidelines (document TG/201/1).

The proposal is the following:

Current wording

25.	Anther: viable pollen	Anthère: pollen viable	Anthere: keimfähiger Pollen	Antera: polen viable	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
QL	(b) absent	absent	fehlend	ausente	Owari (SAT)	1
[239]	present	présent	vorhanden	presente		9

Proposed new wording

25.	Anther: viable pollen	Anthère: pollen viable	Anthere: keimfähiger Pollen	Antera: polen viable	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
QN	(b) absent or very low	absent ou très faible	fehlend oder sehr gering	ausente o muy bajo	Owari (SAT)	1
	low	faible	gering	bajo		3
	medium	moyen	mittel	medio	Marisol (CLE)	5
	high	élevé	hoch	alto	Murcott (HMA)	7
[239]	very high	très élevé	sehr hoch	muy alto	Fortune (HMA)	9

Characteristic 99

This characteristic is considered not to satisfy the criteria for inclusion in the Test Guidelines because the open pollination depends of the various conditions of the environment, like presence of other pollinators varieties and presence of insect vectors. In consequence, it is considered to not offer repeatable and consistent results.

The proposal is the following:

To delete Characteristic 99

99.	Fruit: number of seeds (open pollination)	Fruit: nombre de pépins (fécondation libre)	Frucht: Anzahl Samen (frei abblühend)	Fruto: número de semillas (polinización libre)		
QN	(e) absent or very few	absents ou très peu nombreux	fehlend oder sehr gering	ausentes o muy bajo	Clemenules (CLE)	1
(+)	few	peu nombreux	gering	bajo	Ellendale (TNR)	3
	medium	moyen	mittel	medio		5
[326]	many	nombreux	groß	alto	Común (MMN)	7

New Characteristic after 98

Owing to the use of the new improvement methods to obtain new citrus varieties and as consequence of the existing new varieties with a fertility reduced, and the ring test carried out to confirm the methodology to observe the production of seeds by cross pollination in a proper way, it is proposed the incorporation of a new characteristic in the Test Guidelines to evaluate the ovule fertility by cross pollination with another variety or species.

The complete proposal and details are presented on a specific new proposal by the European Union (CPVO), in document TWF/45/31, and will be presented to the TWF at its forty-fifth session.

8. Explanations on the Table of Characteristics

8.2 Explanations for individual characteristics

The proposal is to add the following:

Ad. 25: Anther: percentage of viable pollen

Method: The pollen should be collected when the petals begin to open (but with the anthers closed). The anthers should be introduced into a Petri dish and placed inside a silica gel dryer at room temperature, for 20-48 hours of darkness. When the anthers are open they should be moved to an 8 °C chamber with a 70-80 % Relative Humidity for one hour. Afterwards, the pollen should be brushed onto a microscope slide with 2 ml of Brewbacker medium (Brewbaker and Kwack, 1963). Finally, the microscope slide should be placed in a 24 °C chamber with a 75 % RH for 20 hours.

The percentage of pollen fertilization is calculated as the average of germinated pollen grains observed with a binocular in 15 visual fields from 2 different microscope slides.

(Brewbaker, J.L. and Kwack, B.H. 1963. The essential role of calcium ion in pollen germination and pollen tube growth. *Amer. Jour. Botany*. 50: 859-865.)

Percentage range indication for the states of expression:

Example varieties	Note	Range
Owari (SAT)	1	≤ 7%
	2	> 7 ≤ 14%
	3	> 14 ≤ 21%
	4	> 21 ≤ 28%
Marisol (CLE)	5	> 28 ≤ 35%
	6	> 35 ≤ 45%
Murcott (HMA)	7	> 45 < 55%
	8	> 55 < 65%
Fortune (HMA)	9	≥ 65%

Partial revision of Annex to documents TG/83/4, TG/201/1, TG/202/1, TG/203/1 and TG/204/1

The changes to the Test Guidelines for Mandarin would also be reflected in the overall Table of Characteristics included in the Annex to documents TG/83/4 (Trifoliate Orange (Poncirus) (*Citrus* L. – Group 5)), TG/201/1, TG/202/1 (Oranges (*Citrus* L. - Group 2)), TG/203/1 (Lemons and Limes (*Citrus* L. - Group 3)) and TG/204/1 (Grapefruit and Pummelo (*Citrus* L. - Group 4)) by means of a partial revision to those Test Guidelines.

[End Annex and of document]