E

TWV/42/9
ORIGINAL: English
DATE: June 4, 2008

UPOV

**INTERNATIONAL UNION FOR THE PROTECTION OF NEW VARIETIES OF PLANTS**

GENEVA

# TECHNICAL WORKING PARTY FOR VEGETABLES

## Forty-Second Session
## Cracow, Poland, June 23 to 27, 2008

MATTERS TO BE RESOLVED CONCERNING THE TEST GUIDELINES FOR CARROT

*Document prepared by the Office of the Union*

1. At its forty-third session, held in Geneva, from March 26 to 28, 2007, the Technical Committee (TC) adopted the Test Guidelines for Carrot on the basis of document TG/49/8(proj.3) (see http://www.upov.int/export/sites/upov/restrict/en/tc/43/tg_49_8_proj_3.pdf) with the amendments specified in Annex II to document TC/43/13 "Report" and the linguistic changes recommended by the Enlarged Editorial Committee (TC-EDC) (see document TC/43/13 "Report", paragraph 165).

2. The amendments specified in the Annex II to document TC/43/13 "Report" were as follows:

| | |
|---|---|
| Char. 26 | to read "Root: shape coefficient" and to be moved after Char. 10 |
| Ad. 26 | to read:<br>"The density of carrot roots is a constant close to 1 and therefore it is possible to calculate a shape coefficient (cf):<br><br>cf = weight/(length x (3.14 x diameter$^2$/4)<br><br>The more cylindrical the root, the closer this coefficient is to 1 (adjustment of the weight to the volume of a cylinder).<br>The more conical the root, the closer this coefficient is to 0.5 (adjustment of the weight to the volume of a cone)."<br>subject to checking with the Leading Expert |

| | |
|---|---|
| Ad. 31, 32 | to be provided<br><br>*The Leading Expert (France) has since provided the following explanation:*<br><br>*<u>Ad. 31: Plants: proportion of male sterile plants</u>*<br>*<u>Ad. 32: Plant: type of male sterility</u>*<br><br>*Type of male sterility:*<br><br>*Brown anther type: rudimentary brown anthers;*<br>*Petaloid anther type: anthers transformed into petals with different shapes (e.g. bract-like, spoon-like)* |

3. With regard to the explanation for characteristic 26 "Root: shape coefficient", the matter was discussed amongst the subgroup of interested experts at the forty-first session of the Technical Working Party for Vegetables (TWV), held in Nairobi, Kenya, from June 11 to 15, 2007. As a result of those discussions the Leading Expert circulated the following proposal in December 2007 to the subgroup of interested experts:

"<u>Root: shape coefficient</u>

"The density of carrot roots is relatively constant and, therefore, it is possible to use the following formula to provide a shape coefficient:

$$\text{shape coefficient} = \text{weight}/(\text{length} \times (3.14 \times \text{diameter}^2/4)$$

length: as for characteristic 7
diameter: as for characteristic 8

The formula above is the formula for calculating the density of a cylinder: therefore, assuming that the density of carrot roots is constant (i.e. 1), a high shape coefficient (close to 1) indicates roots with a cylindrical shape and a low shape coefficient indicates that the roots are tapered."

4. A number of comments were raised with regard to the proposal, as a result of which it has not been possible to finalize the Test Guidelines for Carrot. In order to resolve the characteristic and explanation, the Leading Expert and Chairman of the TWV have concluded that it is necessary to discuss an appropriate solution at the forty-second session of the TWV.

5. In a recent communication to the Office of the Union, the leading expert reported that the Community Plant Variety Office (CPVO) had adopted a new Protocol for Distinctness, Uniformity and Stability Test for Carrot on March 13, 2008, including Characteristic 11, reading: Root : tendency to conical shape. That characteristic can be observed either visually or by using the formula indicated in paragraph 3 above. Characteristic 11 (and characteristic 10 for reference) of the CPVO Protocol for Carrot can be found in the Annex to this document together with the relevant illustrations.

[Annex follows]

# ANNEX

## Extract from CPVO-TP/049/3 Final dated 13/03/2008

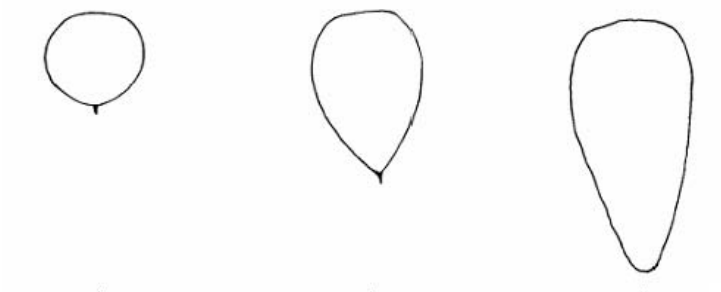
**10.** **Root: shape in longitudinal section**

| | | |
|---|---|---|
| circular | Parijse Markt 2, Parijse Markt 3 | 1 |
| obovate | | 2 |
| obtriangular | Chantenay, De Colmar à cœur rouge 2 | 3 |
| narrow obtriangular | De Colmar à cœur rouge 3, Imperator | 4 |
| narrow obtriangular to narrow oblong | Maestro | 5 |
| narrow oblong | Amsterdam 2, Berlikumer 2, Berlikumer 3, Nantaise améliorée 3, Touchon | 6 |

**11.** **Varieties scoring between 4 and 6 for characteristic 10 only: Root: tendency to conical shape**

| | | |
|---|---|---|
| very weak | | 1 |
| weak | Amsterdam 2 | 3 |
| medium | Nantaise améliorée 2, Nantaise améliorée 3 | 5 |
| strong | Giganta | 7 |
| very strong | | 9 |

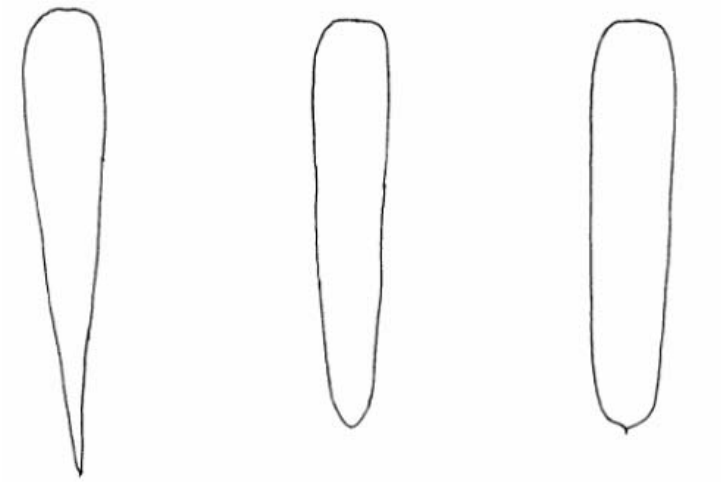
Ad 10: Root: shape in longitudinal section



1
circular

2
obovate

3
obtriangular

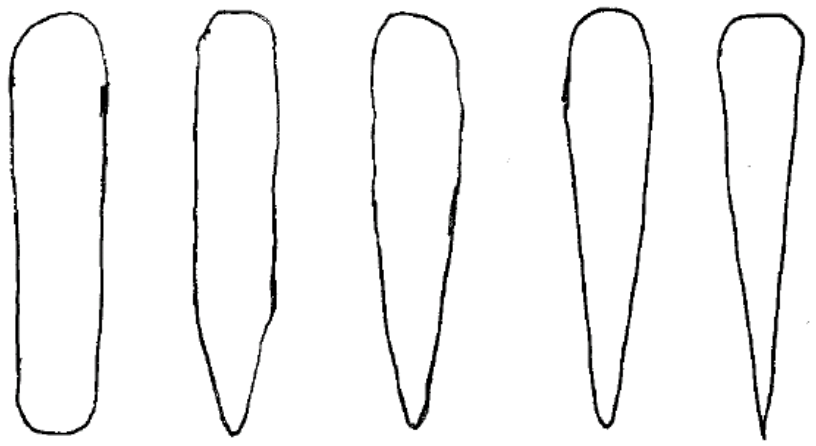


4
narrow obtriangular

5
narrow obtriangular to narrow oblong

6
narrow oblong

Ad. 11: Varieties scoring between 4 and 6 for characteristic 10 only: Root: tendency to conical shape



1
absent to very weak

3
weak

5
medium

7
strong

9
very strong

[End of Annex and of document]