

## Technical Working Party for Vegetables

TWV/57/6

**Fifty-Seventh Session**  
**Antalya, Türkiye, May 1 to 5, 2023**

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## PARTIAL REVISION OF THE TEST GUIDELINES FOR CARROT

*Document prepared by the Office of the Union*

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1. The purpose of this document is to present a proposal for a partial revision of the Test Guidelines for Carrot (document TG/49/8 Corr.) for inclusion of characteristics from the Table of Characteristics in the Technical Questionnaire.
2. The background to the proposed partial revision of the Test Guidelines for Carrot (*Daucus carota* L.) is presented in document TWP/7/6 "Revision of Test Guidelines".
3. The TWV is invited to consider the inclusion of the following characteristics in the TQ (characteristics for inclusion indicated in highlight and underline):

Char. No.	(*)	Characteristic Name	Comment
3	(*)	Leaf: length (including petiole)	
5	(*)	Leaf: intensity of green color	
6	(*)	<u>Leaf: anthocyanin coloration of petiole</u>	
7	(*)	Root: length	
8	(*)	Root: width	
9	(*)	<u>Root: ratio length/width</u>	
10	(*)	Root: shape in longitudinal section	
12	(*)	Root: shape of shoulder	
13	(*)	Root: tip (when fully developed)	
14	(*)	Root: external color	
15		<u>Excluding varieties with white external root color:</u> Root: intensity of external color	Option "not applicable" added
16		<u>Root: anthocyanin coloration of skin of shoulder</u>	
19	(*)	<u>Root: diameter of core relative to total diameter</u>	
20	(*)	Root: color of core	
22	(*)	<u>Root: color of cortex</u>	
27		<u>Varieties with blunt tip only: Root: time of development of rounded tip</u>	Option "not applicable" added
28		<u>Root: time of coloration of tip in longitudinal section</u>	
29		<u>Plant: tendency to bolting</u>	
31	(*)	Plants: proportion of male sterile plants	
32	(*)	Plant: type of male sterility	

4. The proposed additions to TQ 5 are presented in highlight and underline.

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds).			
Characteristics	Example Varieties	Note	
<b>5.1 Leaf: length (including petiole)</b> <b>(3)</b>			
very short	Mokum, Mignon	1[ ]	
<u>very short to short</u>		<u>2[ ]</u>	
short	Amsterdam 2, Amsterdam 3	3[ ]	
<u>short to medium</u>		<u>4[ ]</u>	
medium	Juwarot, Nantaise améliorée 2	5[ ]	
<u>medium to long</u>		<u>6[ ]</u>	
long	Chantenay, Chantenay à cœur rouge 2	7[ ]	
<u>long to very long</u>		<u>8[ ]</u>	
very long	De Colmar à cœur rouge 2, Rothild	9[ ]	
<b>5.2 Leaf: intensity of green color</b> <b>(5)</b>			
<u>very light</u>		<u>1[ ]</u>	
<u>very light to light</u>		<u>2[ ]</u>	
light	Adelaide, Leonor	3[ ]	
<u>light to medium</u>		<u>4[ ]</u>	
medium	Amsterdam 2, Amsterdam 3	5[ ]	
<u>medium to dark</u>		<u>6[ ]</u>	
dark	Rothild	7[ ]	
<u>dark to very dark</u>		<u>8[ ]</u>	
<u>very dark</u>		<u>9[ ]</u>	
<b>5.3 Leaf: anthocyanin coloration of petiole</b> <b>(6)</b>			
<u>absent</u>	<u>Amsterdam 2</u>	<u>1[ ]</u>	
<u>present</u>	<u>Tarenco</u>	<u>9[ ]</u>	

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note	
<b>5.3 4</b> (7)	<b>Root: length</b>		
very short	Parijse Markt 2, Parijse Markt 3	1[ ]	
<u>very short to short</u>		2[ ]	
short	Chantenay	3[ ]	
<u>short to medium</u>		4[ ]	
medium	Nantaise améliorée 2, Nantaise améliorée 3	5[ ]	
<u>medium to long</u>		6[ ]	
long	Berlikumer 2, Berlikumer 3	7[ ]	
<u>long to very long</u>		8[ ]	
very long	Lange Stompe Winter	9[ ]	
<b>5.4 5</b> (8)	<b>Root: width</b>		
<u>very narrow</u>		1[ ]	
<u>very narrow to narrow</u>		2[ ]	
narrow	Amsterdam 2, Amsterdam 3	3[ ]	
<u>narrow to medium</u>		4[ ]	
medium	Nantaise améliorée 2, Nantaise améliorée 3	5[ ]	
<u>medium to broad</u>		6[ ]	
broad	De Colmar à cœur rouge 2, Parijse Markt 2, Parijse Markt 3	7[ ]	
<u>broad to very broad</u>		8[ ]	
<u>very broad</u>		9[ ]	

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note	
<b>5.6 (9)</b> <b>Root: ratio length/ width</b>			
very small	Parijse Markt 2, Parijse Markt 3, Parmex	1[ ]	
very small to small		2[ ]	
small	Courte améliorée à forcer	3[ ]	
small to medium		4[ ]	
medium	Chantenay	5[ ]	
medium to large		6[ ]	
large	Nantaise améliorée 2, Nantaise améliorée 3	7[ ]	
large to very large		8[ ]	
very large	Amsterdam 2	9[ ]	
<b>5.5 7 (10)</b> <b>Root: shape in longitudinal section</b>			
circular	Parijse Markt 2, Parijse Markt 3	1[ ]	
obovate		2[ ]	
medium obtriangular	Chantenay, De Colmar à cœur rouge 2	3[ ]	
narrow obtriangular	Imperator, De Colmar à cœur rouge 3	4[ ]	
narrow obtriangular to narrow oblong	Maestro	5[ ]	
narrow oblong	Amsterdam 2, Berlikumer 2, Berlikumer 3, Nantaise améliorée 5, Touchon	6[ ]	
<b>5.6 8 (12)</b> <b>Root: shape of shoulder</b>			
flat	De Colmar à cœur rouge 2	1[ ]	
flat to rounded	Parijse Markt 2	2[ ]	
rounded		3[ ]	
rounded to conical		4[ ]	
conical	Touchon	5[ ]	
<b>5.7 9 (13)</b> <b>Root: tip (when fully developed)</b>			
blunt	Berlikumer 3	1[ ]	
slightly pointed	Mello Yello	2[ ]	
strongly pointed	Allred, Orbit	3[ ]	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
<b>5.8 10</b> <b>(14)</b>	<b>Root: external color</b>	
white	White Satin	1[ ]
yellow	Mello Yello	2[ ]
orange	Bingo, Goliath, Karotan, Pinocchio, Tancar	3[ ]
pinkish red	Nutri-red	4[ ]
red	Pulsor	5[ ]
purple	Purple Haze	6[ ]
<b>5.9 11</b> <b>(15)</b>	<b><u>Excluding varieties with white external root color:</u> Root: intensity of external color</b>	
<u>very light</u>		<u>1[ ]</u>
<u>very light to light</u>		<u>2[ ]</u>
light	Bingo, Mello Yello, Tancar	3[ ]
<u>light to medium</u>		<u>4[ ]</u>
medium	Goliath, Nutri-red	5[ ]
<u>medium to dark</u>		<u>6[ ]</u>
dark	Karotan, Pinocchio, Purple Haze	7[ ]
<u>dark to very dark</u>		<u>8[ ]</u>
<u>very dark</u>		<u>9[ ]</u>
<u>not applicable</u>		[ ]
<b>5.12</b> <b>(16)</b>	<b><u>Root: anthocyanin coloration of skin of shoulder</u></b>	
<u>absent</u>	<u>Trevor</u>	<u>1[ ]</u>
<u>present</u>	<u>Touchon</u>	<u>9[ ]</u>

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note
<b>5.13</b> <b>(19)</b> <b><u>Root: diameter of core relative to total diameter</u></b>		
<u>very small</u>	<u>Amsterdam 2, Amsterdam 3,</u> <u>Tourino</u>	1[ ]
<u>very small to small</u>		2[ ]
<u>small</u>	<u>Nantaise améliorée 2, Nantaise</u> <u>améliorée 3</u>	3[ ]
<u>small to medium</u>		4[ ]
<u>medium</u>	<u>Berlikumer 2, Berlikumer 3</u>	5[ ]
<u>medium to large</u>		6[ ]
<u>large</u>	<u>De Colmar à cœur rouge 2</u>	7[ ]
<u>large to very large</u>		8[ ]
<u>very large</u>	<u>Giganta</u>	9[ ]
<b>5.14</b> <b>(20)</b> <b><u>Root: color of core</u></b>		
white	White Satin	1[ ]
yellow	Jaune de Lobberich, Pariser Markt	2[ ]
orange	Nantaise améliorée 2, Nantaise améliorée 3	3[ ]
pinkish red		4[ ]
red	Nutri-red	5[ ]
purple	Afghan purple, Black Deshi	6[ ]
<b>5.15</b> <b>(22)</b> <b><u>Root: color of cortex</u></b>		
<u>white</u>	<u>White Satin</u>	1[ ]
<u>yellow</u>	<u>Mellow Yello</u>	2[ ]
<u>orange</u>	<u>Allred, Carlo</u>	3[ ]
<u>pinkish red</u>		4[ ]
<u>red</u>	<u>Nutri-red</u>	5[ ]
<u>purple</u>	<u>Afghan purple, Black Deshi</u>	6[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
<b>5.16</b> <b>(27)</b>	<b><u>Varieties with blunt tip only: Root: time of development of rounded tip</u></b>	
<u>very early</u>		1[ ]
<u>very early to early</u>		2[ ]
<u>early</u>	<u>Touchon</u>	3[ ]
<u>early to medium</u>		4[ ]
<u>medium</u>	<u>Nantaise améliorée 2,</u> <u>Nantaise améliorée 3, Tiana</u>	5[ ]
<u>medium to late</u>		6[ ]
<u>late</u>	<u>Bureau, Nantaise améliorée 7,</u> <u>Tancar</u>	7[ ]
<u>late to very late</u>		8[ ]
<u>very late</u>		9[ ]
<u>not applicable</u>		[ ]
<b>5.17</b> <b>(28)</b>	<b><u>Root: time of coloration of tip in longitudinal section</u></b>	
<u>very early</u>	<u>Parijse Markt 3</u>	1[ ]
<u>very early to early</u>		2[ ]
<u>early</u>	<u>Amsterdam 2, Amsterdam 3</u>	3[ ]
<u>early to medium</u>		4[ ]
<u>medium</u>	<u>Nantaise améliorée 2, Nantaise</u> <u>améliorée 3</u>	5[ ]
<u>medium to late</u>		6[ ]
<u>late</u>	<u>De Colmar à cœur rouge 2,</u> <u>Touchon</u>	7[ ]
<u>late to very late</u>		8[ ]
<u>very late</u>	<u>Goliath</u>	9[ ]

TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note	
<b>5.18</b> <b>(29)</b>	<b>Plant: tendency to bolting</b>		
very weak			1[ ]
very weak to weak			2[ ]
weak	Molene, Tancar		3[ ]
weak to medium			4[ ]
medium	Nantaise améliorée 2, Nantaise améliorée 3		5[ ]
medium to strong			6[ ]
strong	Muscade, Touchon		7[ ]
strong to very strong			8[ ]
very strong			9[ ]
<b>5.14 19</b> <b>(31)</b>	<b>Plants: proportion of male sterile plants</b>		
absent or very low	Nantaise améliorée 2, Touchon		1[ ]
intermediate			2[ ]
high	Nanco, Tino		3[ ]
<b>5.12 20</b> <b>(32)</b>	<b>Plant: type of male sterility</b>		
brown anther	Nanco		1[ ]
petaloid anther	Tino		2[ ]

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