

**Comité Técnico**

**TC/59/22**

**Quincuagésima novena sesión  
Ginebra, 23 y 24 de octubre de 2023**

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**REVISIÓN PARCIAL DE LAS DIRECTRICES DE EXAMEN DE LA ESPINACA**

*Documento preparado por un experto los Países Bajos*

*Descargo de responsabilidad: el presente documento no constituye un documento de política u orientación de la UPOV*

*Este documento se ha generado mediante traducción automática y no puede garantizarse su exactitud. Por lo tanto, el texto en el idioma original es la única versión auténtica.*

1. El presente documento tiene por finalidad exponer una propuesta de revisión parcial de las directrices de examen de la espinaca (documento TG/55/7 Rev. 7).
2. En su quincuagésima séptima sesión<sup>1</sup>, el Grupo de Trabajo Técnico sobre Hortalizas (TWV), examinó una propuesta de revisión parcial de las directrices de examen de la espinaca (*Spinacea oleracea* L.) conforme a los documentos TG/55/7 Rev. 7 y TWV/57/11 “*Partial revision of the Test Guidelines for Spinach*” y propuso los siguientes cambios (véase el párrafo 73 del documento TWV/57/26 “*Report*”):
  - (a) Revisión del carácter y explicación 17 “Semilla: espinas (semilla cosechada)”
  - (b) Inclusión de caracteres de la tabla de caracteres en el Cuestionario Técnico
3. A continuación, se presenta la nueva redacción propuesta. Los cambios propuestos se indican como texto resaltado y subrayado (inserción) y ~~tachado~~ (eliminación) en el Anexo de este documento (sólo en inglés).

Revisión del carácter 17 “Semilla: espinas (semilla cosechada)”

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
<b>17. VG (+)</b>	<b>Plants: shape of pseudo fruit</b>	<b>Plante : forme du pseudo-fruit</b>	<b>Pflanze : Form der Pseudofrucht</b>	<b>Planta: forma del pseudofruto</b>		
<b>QN</b>	only plants with round pseudo fruits	seulement plantes à pseudo-fruits ronds	nur Pflanzen mit runden Pseudofrüchten	sólo plantas con pseudofrutos redondos	Hudson, Resistoflay	1
	plants with round pseudo fruits and plants with spined pseudo fruits	plantes à pseudo-fruits ronds et plantes à pseudo-fruits épineux	Pflanzen mit runden Pseudofrüchten und Pflanzen mit dornigen Pseudofrüchten	plantas con pseudofrutos redondos y plantas con pseudofrutos espinosos	Baboon, Quinto	2
	only plants with spined pseudo fruits	seulement plantes à pseudo-fruits épineux	nur Pflanzen mit dornigen Pseudofrüchten	sólo plantas con pseudofrutos espinosos	Anlani, Breedblad Scherpzaad	3

<sup>1</sup> celebrada en Antalya (Türkiye) del 1 al 5 de mayo de 2023.

Revisión de la explicación 17 "Semilla: espinas (semilla cosechada)"

Ad. 17: Semilla: espinas (semilla cosechada)

La segregación de variedades con nivel 2 (tanto plantas con pseudofrutos redondos como plantas con pseudofrutos espinosos) es consecuencia de la línea paterna utilizada para la producción de híbridos, que es homogénea pero heterocigótica para la forma del pseudofruto. Esta línea se propaga por cruzamiento y selección para mantenerla heterocigótica para este rasgo. La razón de ello es proteger ciertos rasgos valiosos.



pseudofruto redondo



pseudofruto espinoso

The pseudo fruits to be assessed are developing on the plants grown of the submitted seed. The tissue of these pseudo fruits is the same as and thus part of the F1 plant. The F2 seed, enclosed by this pseudo fruit is not subject to observation.

Observations should be made on the plant when the pseudo fruits are fully developed, on female and monoecious plants. Varieties may consist of only plants with round pseudo fruits (note 1), only plants with spined pseudo fruits (note 3) or of both plants with round pseudo fruits as well as plants with spined pseudo fruits (note 2).

Los pseudofrutos que se van a evaluar se están desarrollando en las plantas cultivadas de la semilla presentada. El tejido de estos pseudofrutos es el mismo que el de la planta F1 y, por tanto, forma parte de ella. La semilla F2, encerrada por estos pseudofrutos no es objeto de observación.

Las observaciones deberán efectuarse en la planta cuando los pseudofrutos estén completamente desarrollados, en plantas femeninas y monoicas. Las variedades pueden consistir solo en plantas con pseudofrutos redondos (nota 1), solo en plantas con pseudofrutos espinosos (nota 3) o tanto en plantas con pseudofrutos redondos como en plantas con pseudofrutos espinosos (nota 2).

Inclusión de caracteres de la tabla de caracteres en el Cuestionario Técnico

4. Se propone incluir los siguientes caracteres en el cuestionario técnico (las propuestas de inclusión se indican como texto resaltado y subrayado):

Char. No.	(*)	Characteristic Name
1		<u>Seedling: length of cotyledon</u>
2	(*)	<u>Leaf: anthocyanin coloration of petioles and veins</u>
3	(*)	Leaf blade: intensity of green color
4	(*)	Leaf blade: blistering
7		<u>Petiole: length</u>
9	(*)	<u>Leaf blade: shape (excluding basal lobes)</u>
11	(*)	Leaf blade: shape of apex
13	(*)	Proportion of monoecious plants
14	(*)	Proportion of female plants
15	(*)	Proportion of male plants
16	(*)	Time of start of bolting (for spring sown crops, 15% of plants)
18.1		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 1
18.2		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 2
18.3		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 3
18.4		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 4
18.5		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 5
18.6		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 6
18.7		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 7
18.8		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 8
18.9		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 10
18.10		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 11
18.11		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 12
18.12		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 13
18.13		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 14
18.14		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 15
18.15		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 16
18.16		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 17
18.17		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 18
18.18		Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 19
19		<u>Resistance to Cucumber mosaic virus (CMV)</u>

5. Los cambios detallados del TQ se indican como texto resaltado y subrayado (inserción) y ~~tachado~~ (eliminación) en el Anexo de este documento (sólo en inglés).

[Sigue el Anexo]

CAMBIOS PROPUESTOS RESALTADOS  
(sólo en inglés)

Proposed revision of Characteristic 17 “Seed: spines (harvested seed)”

	English	français	Deutsch	español	Example Varieties Exemples Beispielssorten Variedades ejemplo	Note/ Nota
17. VG (+)	<b>Seed: spines (harvested seed) Plants: shape of pseudo fruit</b>	<b>Semence : épines (grains récoltés) Plante : forme du pseudo-fruit</b>	<b>Samen: Stacheln (geernteter Samen) Pflanze : Form der Pseudofrucht</b>	<b>Semilla: espinas (semilla cosechada) Planta: forma del pseudofruto</b>		
<b>QL QN</b>	absent only plants with round pseudo fruits	absentes seulement plantes à pseudo-fruit ronds	fehlend nur Pflanzen mit runden Pseudofrüchten	ausentes sólo plantas con pseudofrutos redondos	Hudson, Resistoflay	1
	plants with round pseudo fruits and plants with spined pseudo fruits	plantes à pseudo-fruit ronds et plantes à pseudo-fruit épineux	Pflanzen mit runden Pseudofrüchten und Pflanzen mit dornigen Pseudofrüchten	plantas con pseudofrutos redondos y plantas con pseudofrutos espinosos	Baboon, Quinto	2
	present only plants with spined pseudo fruits	présentes seulement plantes à pseudo-fruit épineux	vorhanden nur Pflanzen mit dornigen Pseudofrüchten	presentes sólo plantas con pseudofrutos espinosos	Anlani, Breedblad Scherpzaad, Marimba	9 3

Proposed revision of explanation Ad. 17 “Seed: spines (harvested seed)”

Ad. 17: ~~Seed: spines (harvested seed)~~ Plants: shape of pseudo fruit

The segregation of varieties with state of expression 2 (both plants with round pseudo fruits as well as plants with spined pseudo fruits) is a consequence of the fatherline used for the production of hybrids which is homogenic but heterozygous for the shape of the pseudo fruit. This line is propagated by crossing and selection to keep it heterozygous for this trait. The reason for this is to protect certain valuable traits.



1  
absent  
round pseudo fruit



9  
present  
spined pseudo fruit

The pseudo fruits to be assessed are developing on the plants grown of the submitted seed. The tissue of these pseudo fruits is the same as and thus part of the F1 plant. The F2 seed, enclosed by this pseudo fruit is not subject to observation.

Observations should be made on the plant when the pseudo fruits are fully developed, on female and monoecious plants. Varieties may consist of only plants with round pseudo fruits (note 1), only plants with spined pseudo fruits (note 3) or of both plants with round pseudo fruits as well as plants with spined pseudo fruits (note 2).

Proposed inclusion of characteristics from the Table of Characteristics in the Technical Questionnaire

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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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</b> <b>(1)</b> <b>Seedling: length of cotyledon</b>		
very short		1[ ]
very short to short		2[ ]
short	Nores	3[ ]
short to medium		4[ ]
medium		5[ ]
medium to long		6[ ]
long	Breedblad Scherpzaad, Resistoflay	7[ ]
long to very long		8[ ]
very long		9[ ]
<b>5.2</b> <b>(2)</b> <b>Leaf: anthocyanin coloration of petioles and veins</b>		
absent	Resistoflay, Nores	1[ ]
present	Red Cardinal, Reddy	2[ ]
<b>5.4.3</b> <b>(3)</b> <b>Leaf blade: intensity of green color</b>		
very light		1[ ]
very light to light		2[ ]
light	Monet, Viroflay, Winterreuzen	3[ ]
light to medium		4[ ]
medium	Butterflay, Monnopa	5[ ]
medium to dark		6[ ]
dark	Imola, Lavewa, Nores	7[ ]
dark to very dark		8[ ]
very dark	Lorelay, Mystic	9[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
Characteristics	Example Varieties	Note	
<b>5.2.4</b> <b>Leaf blade: blistering</b> <b>(4)</b>			
absent or very weak	Matador	1[ ]	
<u>very weak to weak</u>		2[ ]	
weak	Polka, Tarpy	3[ ]	
<u>weak to medium</u>		4[ ]	
medium	Butterfly, Koala, Mystic	5[ ]	
<u>medium to strong</u>		6[ ]	
strong	Giraffe, Rhythm	7[ ]	
<u>strong to very strong</u>		8[ ]	
very strong	Menorca, Revolver	9[ ]	
<b>5.5</b> <b>Petiole: length</b> <b>(7)</b>			
<u>very short</u>		1[ ]	
<u>very short to short</u>		2[ ]	
<u>short</u>	<u>Imola, Mystic</u>	3[ ]	
<u>short to medium</u>		4[ ]	
<u>medium</u>	<u>Butterfly, Giraffe</u>	5[ ]	
<u>medium to long</u>		6[ ]	
<u>long</u>	<u>Grappa, Resistoflay</u>	7[ ]	
<u>long to very long</u>		8[ ]	
<u>very long</u>		9[ ]	
<b>5.6</b> <b>Leaf blade: shape (excluding basal lobes)</b> <b>(9)</b>			
<u>triangular</u>	<u>Grappa, Maracas</u>	1[ ]	
<u>medium ovate</u>	<u>Lavewa, Resistoflay</u>	2[ ]	
<u>broad ovate</u>	<u>Butterfly</u>	3[ ]	
<u>medium elliptic</u>		4[ ]	
<u>broad elliptic</u>	<u>Nores</u>	5[ ]	
<u>circular</u>	<u>Giraffe</u>	6[ ]	
<b>5.3.7</b> <b>Leaf blade: shape of apex</b> <b>(11)</b>			
acute	Grappa, Rhythm	1[ ]	
obtuse	Resistoflay	2[ ]	
rounded	Imola, Nores	3[ ]	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note
<b>5.4 8</b> Proportion of monoecious plants (13)		
absent or very low	Medania	1[ ]
<u>very low to low</u>		<u>2[ ]</u>
low	Matador	3[ ]
<u>low to medium</u>		<u>4[ ]</u>
medium	Figo	5[ ]
<u>medium to high</u>		<u>6[ ]</u>
high	Giraffe, Lazio	7[ ]
<u>high to very high</u>		<u>8[ ]</u>
very high	Monnopa	9[ ]
<b>5.5 9</b> Proportion of female plants (14)		
absent or very low	Monnopa	1[ ]
<u>very low to low</u>		<u>2[ ]</u>
low	Giraffe	3[ ]
<u>low to medium</u>		<u>4[ ]</u>
medium	Figo, Medania	5[ ]
<u>medium to high</u>		<u>6[ ]</u>
high	Parrot	7[ ]
<u>high to very high</u>		<u>8[ ]</u>
very high		9[ ]
<b>5.6 10</b> Proportion of male plants (15)		
absent or very low	Monnopa, Parrot	1[ ]
<u>very low to low</u>		<u>2[ ]</u>
low		3[ ]
<u>low to medium</u>		<u>4[ ]</u>
medium	Medania	5[ ]
<u>medium to high</u>		<u>6[ ]</u>
high		7[ ]
<u>high to very high</u>		<u>8[ ]</u>
very high		9[ ]

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note
<b>5.7 11</b> Time of start of bolting (for spring sown crops, 15% of plants) (16)		
very early	Figo, Maracas	1 [ ]
<u>very early to early</u>		<u>2 [ ]</u>
early	Bandola, Viroflay	3 [ ]
<u>early to medium</u>		<u>4 [ ]</u>
medium	Matador, Monnopa	5 [ ]
<u>medium to late</u>		<u>6 [ ]</u>
late	Grappa, Medania, Revolver	7 [ ]
<u>late to very late</u>		<u>8 [ ]</u>
very late	Chica, Lavewa	9 [ ]
<b>5.8 12</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 1 (18.1)		
absent	Viroflay, Winterreuzen	1 [ ]
present	Califlay, Resistoflay	9 [ ]
not tested		[ ]
<b>5.9 13</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 2 (18.2)		
absent	Califlay	1 [ ]
present	Resistoflay	9 [ ]
not tested		[ ]
<b>5.10 14</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 3 (18.3)		
absent	Resistoflay	1 [ ]
present	Califlay, Clermont	9 [ ]
not tested		[ ]
<b>5.11 15</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 4 (18.4)		
absent	Califlay	1 [ ]
present	Clermont	9 [ ]
not tested		[ ]



TECHNICAL QUESTIONNAIRE		Page {x} of {y}	Reference Number:
Characteristics	Example Varieties	Note	
<b>5.12 16</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 5 (18.5)			
absent	Clermont	1 [ ]	
present	Califlay, Campania	9 [ ]	
not tested		[ ]	
<b>5.13 17</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 6 (18.6)			
absent	Califlay, Campania	1 [ ]	
present	Boeing	9 [ ]	
not tested		[ ]	
<b>5.14 18</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 7 (18.7)			
absent	Califlay	1 [ ]	
present	Campania	9 [ ]	
not tested		[ ]	
<b>5.15 19</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 8 (18.8)			
absent	Boeing, Campania	1 [ ]	
present	Lazio, Lion	9 [ ]	
not tested		[ ]	
<b>5.16 20</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 10 (18.9)			
absent	Boeing, Campania, Lion	1 [ ]	
present	Lazio	9 [ ]	
not tested		[ ]	
<b>5.17 21</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 11 (18.10)			
absent	Lazio	1 [ ]	
present	Boeing, Califlay, Campania, Lion	9 [ ]	
not tested		[ ]	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:	
Characteristics	Example Varieties	Note	
<b>5.18 22</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 12 (18.11)			
absent	Boeing, Campania	1 [ ]	
present	Finch, Pigeon, Red Kitten, Zebu	9 [ ]	
not tested		[ ]	
<b>5.19 23</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 13 (18.12)			
absent	Campania	1 [ ]	
present	Boeing, Lion	9 [ ]	
not tested		[ ]	
<b>5.20 24</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 14 (18.13)			
absent	Campania, Pigeon	1 [ ]	
present	Califlay, Lion	9 [ ]	
not tested		[ ]	
<b>5.21 25</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 15 (18.14)			
absent	Caladonia	1 [ ]	
present	Pigeon	9 [ ]	
not tested		[ ]	
<b>5.22 26</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 16 (18.15)			
absent	Meerkat	1 [ ]	
present	Caladonia	9 [ ]	
not tested		[ ]	
<b>5.23 27</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 17 (18.16)			
absent	Pigeon	1 [ ]	
present	Hydrus	9 [ ]	
not tested		[ ]	
<b>5.24 28</b> Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i> ) Race Pe (ex Pfs): 18 (18.17)			
absent	Meerkat	1 [ ]	
present	Caladonia	9 [ ]	
not tested		[ ]	

TECHNICAL QUESTIONNAIRE	Page {x} of {y}	Reference Number:
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Characteristics	Example Varieties	Note
<b>5.25 27</b> <b>(18.18)</b> <b>Resistance to <i>Peronospora effusa</i> (Pe) (ex <i>Peronospora farinosa</i> f. sp. <i>spinaciae</i>) Race Pe (ex Pfs): 19</b>		
absent	Pigeon	1 [ ]
present	Hydrus	9 [ ]
not tested		[ ]
<b>5.28</b> <b>(19)</b> <b>Resistance to Cucumber mosaic virus (CMV)</b>		
absent	Polka	1 [ ]
present	Symphony	9 [ ]
not tested		[ ]

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