

Technical questionnaire

spinach

Version 19

Mandatory fields or sections are marked with an asterisk (*)

01 . Botanical taxon: name of the genus, species or sub-species to which the variety belongs:

Spinacia oleracea L.

02 . Application code:

For office use only

03 . Breeder's reference

Breeder's Ref.

04 . Information on the breeding scheme and propagation of the variety

04 . 01 . Type of material *

hybrid

cross-pollinated variety

self-pollinated variety

parental line

04 . 01.01 . Parental line use

(this question could be confidential)

In many cases there is a link in morphological expression of characteristics between the parental line and its hybrids. Therefore, it is recommended to provide information about the identity of hybrid varieties where the parental line is used. This makes the organisation of the technical examination more efficient and lowers the risk of an additional year at the costs of the applicant. This information will only be shared with the examination office in charge of the technical examination.

In accordance with Article 88(3) of Regulation 2100/1994 the Office will treat the information under this section as confidential on request of the applicant.

Please indicate for the production of which hybrid variety(ies) the parental line is used

04 . 02 . Method of propagation of the variety *

seed propagated

vegetatively propagated

Please specify

04 . 03. . Should the following question on genetic origin and breeding method be treated as confidential? *

Yes

No

04 . 04 . Confidentiality justification **(this question could be confidential)*

Please explain why the information is to be considered as confidential and how its disclosure would harm your commercial interests (included but not limited to business relations, manufacturing secrets, expertise, commercial strategies, intellectual property) under Article 4(2) of Regulation 1049/2001. Since the general rule is transparency, it is in your best interest to provide strong reasons to support your request for confidentiality. If a public access request is received, the Office will evaluate your justifications and decide whether to disclose or not the information.

Please provide detailed explanations *

04 . 05 . Information on the breeding method and the genetic origin of the application*(this question could be confidential)*

breeding method

parentage with any other varieties

05 . Characteristics

(the number in brackets refers to the corresponding characteristic in the UPOV Technical Guidelines, please mark the state of expression which best corresponds).

05 . 01 . Seeds: spines (submitted seeds) *

1 - absent

Butterflay, Marimba

9 - present

Breedblad, Scherpzaad

05 . 02 . Seedling: length of cotyledon (1) *

1 - very short

2 - very short to short

3 - short

Nores

4 - short to medium

5 - medium

6 - medium to long

7 - long

Breedblad Scherpzaad, Resistoflay

8 - long to very long

9 - very long

05 . 03 . Leaf: anthocyanin coloration of petioles and veins (2) (G) *

1 - absent	Resistoflay, Nores
9 - present	Red Cardinal, Reddy

05 . 04 . Leaf blade: intensity of green colour (3) (G) *

1 - very light	
2 - very light to light	
3 - light	Monet, Viroflay, Winterreuzen
4 - light to medium	
5 - medium	Butterflay, Monnopa
6 - medium to dark	
7 - dark	Imola, Lavewa, Nores
8 - dark to very dark	
9 - very dark	Lorelay, Mystic

05 . 05 . Leaf blade: blistering (4) (G) *

1 - absent or very weak	Matador
2 - very weak to weak	
3 - weak	Polka, Tarpy
4 - weak to medium	
5 - medium	Butterflay, Koala, Mystic
6 - medium to strong	
7 - strong	Giraffe, Rhythm
8 - strong to very strong	
9 - very strong	Menorca, Revolver

05 . 06 . Petiole: length (7) *

1 - very short	
2 - very short to short	
3 - short	Imola, Mystic
4 - short to medium	
5 - medium	Butterflay, Giraffe
6 - medium to long	
7 - long	Grappa, Resistoflay
8 - long to very long	
9 - very long	

05 . 07 . Leaf blade: shape (excluding basal lobes) (9) *

1 - triangular	Grappa, Maracas
2 - medium ovate	Lavewa, Resistoflay
3 - broad ovate	Butterflay
4 - medium elliptic	
5 - broad elliptic	Nores
6 - circular	Giraffe

05 . 08 . Leaf blade: shape of apex (11) *

1 - acute	Grappa, Rhythm
2 - obtuse	Resistoflay
3 - rounded	Imola, Nores

05 . 09 . Proportion of monoecious plants (13) (G) *

1 - absent or very low	MedaniaPlease indicate percentage
2 - very low to low	Please indicate percentage
3 - low	MatadorPlease indicate percentage
4 - low to medium	Please indicate percentage
5 - medium	FigoPlease indicate percentage
6 - medium to high	Please indicate percentage
7 - high	Giraffe, LazioPlease indicate percentage
8 - high to very high	Please indicate percentage
9 - very high	MonnopaPlease indicate percentage

05 . 10 . Proportion of female plants (14) (G) *

1 - absent or very low	MonnopaPlease indicate percentage
2 - very low to low	Please indicate percentage
3 - low	GiraffePlease indicate percentage
4 - low to medium	Please indicate percentage
5 - medium	Figo, MedaniaPlease indicate percentage
6 - medium to high	Please indicate percentage
7 - high	ParrotPlease indicate percentage
8 - high to very high	Please indicate percentage
9 - very high	Please indicate percentage

05 . 11 . Proportion of male plants (15) (G) *

1 - absent or very low	Monnopa, ParrotPlease indicate percentage
2 - very low to low	Please indicate percentage
3 - low	Please indicate percentage
4 - low to medium	Please indicate percentage
5 - medium	MedaniaPlease indicate percentage
6 - medium to high	Please indicate percentage
7 - high	Please indicate percentage
8 - high to very high	Please indicate percentage
9 - very high	Please indicate percentage

05 . 12 . Time of start of bolting (for spring sown crops, 15% of plants) (16) (G) *

1 - very early	Figo, Maracas Please indicate comparable variety(ies) of your choice
2 - very early to early	Please indicate comparable variety(ies) of your choice
3 - early	Bandola, Viroflay Please indicate comparable variety(ies) of your choice
4 - early to medium	Please indicate comparable variety(ies) of your choice
5 - medium	Matador, Monnopa Please indicate comparable variety(ies) of your choice
6 - medium to late	Please indicate comparable variety(ies) of your choice
7 - late	Grappa, Mediana, Revolver Please indicate comparable variety(ies) of your choice
8 - late to very late	Please indicate comparable variety(ies) of your choice
9 - very late	Chica, Lavewa Please indicate comparable variety(ies) of your choice

05 . 13 . Plant: shape of pseudo fruits (17) *

1 - only plants with round pseudo fruits	Hudson, Resistoflay
2 - plants with round pseudo fruits and plants with spined pseudo fruits	Baboon, Quinto Please indicate the percentage of round / spined pseudo fruits
3 - only plants with spined pseudo fruits	Anlani, Breedblad, Scherpzaad

05 . 14 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 1 (18.1) *

1 - absent	Viroflay, Winterreuzen
9 - present	Califlay, Resistoflay
not tested	

05 . 15 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 2 (18.2) *

1 - absent	Califlay
9 - present	Resistoflay
not tested	

05 . 16 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 3 (18.3) *

1 - absent	Resistoflay
9 - present	Califlay
not tested	

05 . 17 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 4 (18.4) *

1 - absent	Califlay, Yakalo
9 - present	
not tested	

05 . 18 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 5 (18.5) *

1 - absent	
9 - present	Califlay, Campania
not tested	

05 . 19 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 6 (18.6) *

1 - absent	Califlay, Campania
9 - present	Boeing
not tested	

05 . 20 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 7 (18.7) *

1 - absent	Califlay
9 - present	Campania
not tested	

05 . 21 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 8 (18.8) *

1 - absent	Boeing, Campania
9 - present	Lazio
not tested	

05 . 22 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 10 (18.9) *

1 - absent	Boeing, Campania
9 - present	Lazio
not tested	

05 . 23 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 11
(18.10) *

1 - absent	Lazio
9 - present	Boeing, Campania, Lion, Whale
not tested	

05 . 24 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 12
(18.11) (G) *

1 - absent	Boeing, Campania
9 - present	NIL 9

05 . 25 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 13
(18.12) (G) *

1 - absent	Campania
9 - present	Boeing

05 . 26 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 14
(18.13) *

1 - absent	Campania, NIL 9
9 - present	Califlay
not tested	

05 . 27 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 15
(18.14) *

1 - absent	Caladonia, NIL 9
9 - present	NIL 4
not tested	

05 . 28 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 16
(18.15) (G) *

1 - absent	Meerkat
9 - present	Caladonia

05 . 29 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 17
(18.16) *

1 - absent	NIL 9
9 - present	Hydrus
not tested	

05 . 30 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 18
(18.17) *

1 - absent	Caladonia, Meerkat
9 - present	Hydrus
not tested	

05 . 31 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 19 (18.18) *

1 - absent	Hydrus, Meerkat
9 - present	Caladonia
not tested	

05 . 32 . Resistance to *Peronospora effusa* (ex *Peronospora farinosa* f. sp. *spinaciae*) Pe (ex Pfs) - Race Pe (ex Pfs): 20 *

1 - absent	NIL 4, Yakalo
9 - present	Caladonia, Hydrus
not tested	

05 . 33 . Resistance to *Cucumber mosaic virus* (CMV) (19) *

1 - absent	Polka
9 - present	Symphony
not tested	

06 . Similar varieties and differences from these varieties

Please note that information on similar varieties may help to identify comparable varieties and can avoid an additional period of testing.

06 . 01 . Are there any similar varieties known? *

Yes

No

06 . 02 . Similar varieties and differences from these varieties: *

Denomination(s) of variety(ies) similar to your candidate variety	Characteristic(s) in which your candidate variety differs from the similar variety(ies)	Describe the expression of the characteristic(s) for the similar variety(ies)	Describe the expression of the characteristic(s) for your candidate variety

07 . Additional information which may help to distinguish the variety ***07 . 01 . In addition to the information provided in sections 5 and 6, are there any additional characteristics which may help to distinguish the variety? ***

Yes, specify

No

07 . 02 . Are there any special conditions for growing the variety or conducting the examination? *

Yes, specify

No

07 . 03 . Other information *

07 . 03.01 . Variety use *

only in glasshouse

only in the open

in the open and in glasshouse

07 . 03.02 . Other information *

Yes, specify

No

07 . 04 . Photo

It is highly recommended to provide pictures (up to five). Otherwise, the organisation of the technical examination will be rendered less efficient, with the risk of an additional year of technical examination at the costs of the applicant. Full guidance on the picture quality can be found here

07 . 04.01 . Details of the photo(s)

Place and conditions under which the material shown in the photo was grown (e.g. plants grown in the greenhouse vs. grown in the open field)

Date of the photo(s) (month and year)

07 . 04.02 . Attached photo(s)

08 . GMO-information *

08 . 01 . GMO-information required *

The variety represents a Genetically Modified Organism within the meaning of Article 2(2) of Council Directive EC/2001/18 of 12/03/2001.

Yes

If yes, please attach in point 08.02 a copy of the written attestation of the responsible authorities stating that a technical examination of the variety under Articles 55 and 56 of the Basic Regulation does not pose risks to the environment according to the norms of the above-mentioned Directive.

No

08 . 02 . In case of GMO, joint attestation of the responsible authorities stating that a technical examination of the variety under Articles 55 and 56 of the Basic Regulation does not pose risks to the environment according to the norms of the above-mentioned Directive.

09 . Information on plant material to be examined

The expression of a characteristic or several characteristics of a variety may be affected by factors, such as pests and disease, chemical treatment (e.g. growth retardants or pesticides), effects of tissue culture, different rootstocks, scions taken from different growth phases of a tree, etc. Consequently the plant material to be examined should not have undergone any treatment which would affect the expression of the characteristics of the variety, unless the competent authorities allow or request such treatment. If the plant material has undergone such treatment, full details of the treatment must be given. In this respect, please indicate below, to the best of your knowledge, if the plant material to be examined has been subjected to:

09 . 01 . Micro-organisms (e.g. virus, bacteria, phytoplasma) *

Yes, specify

No

09 . 02 . Chemical treatment (e.g. growth retardant or pesticide) *

Yes, specify

No

09 . 03 . Other factors *

Yes, specify

No

DECLARATIONS *

I/we hereby declare that to the best of my/our knowledge the information given in this form is complete and correct.

Place

Date

Name

Signature