

## Technical questionnaire

### Spinach

#### Version 17

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

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

*Spinacia oleracea* L.

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**02 . Application code:**

For office use only

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**03 . Breeder's reference:**

Breeder's Ref.

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

**04 . 01 . Type of material: \***

- 1 - hybrid
- 2 - cross-pollinated variety
- 3 - self-pollinated variety
- 4 - parent line

**04 . 02 . Method of propagation of the variety: \***

- 1 - seed propagated
- 2 - vegetatively propagated

**04 . 03 . Seed propagated varieties: \***

*(this question could be confidential)*

- 1 - cross-pollination
- 2 - hybrid
- 3 - other (please specify)

**04 . 04 . Vegetative propagated varieties \***

- 1 - cuttings
- 2 - in vitro propagation
- 3 - other (state method):

**05 . Characteristics of the variety to be indicated \***

(the number in brackets refers to the corresponding characteristic in the CPVO Technical Protocol; please mark the state of expression which best corresponds)

**05 . 00 . Seeds: spines (submitted seeds) (1) \***

- |             |                       |
|-------------|-----------------------|
| 1 - absent  | Butterflay, Marimba   |
| 9 - present | Breedblad, Scherpzaad |

**05 . 01 . Plant: red coloration of stem, petioles and veins (3) (G) \***

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

**05 . 02 . Leaf blade: intensity of green colour (4) (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 . 03 . Leaf blade: blistering (5) (G) \***

- |                           |                           |
|---------------------------|---------------------------|
| 1 - absent or very weak   | Matador                   |
| 2 - very weak to weak     |                           |
| 3 - weak                  | Polka, Tarp               |
| 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 . 03.01 . Petiole: length (8) \***

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 . 03.02 . Leaf blade: shape (excluding basal lobes) (10) \***

1 - triangular

Grappa, Maracas

2 - medium ovate

Lavewa, Resistoflay

3 - broad ovate

Butterflay

4 - medium elliptic

5 - broad elliptic

Nores

6 - circular

Giraffe

**05 . 04 . Leaf blade: shape of apex (12)**

1 - acute

Grappa, Rhythm

2 - obtuse

Resistoflay

3 - rounded

Imola, Nores

**05 . 05 . Proportion of monoecious plants (14) (G) \***

1 - absent or very low	Please indicate percentage
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2 - very low to low	Please indicate percentage
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3 - low	Please indicate percentage
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4 - low to medium	Please indicate percentage
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5 - medium	Please indicate percentage
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6 - medium to high	Please indicate percentage
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7 - high	Please indicate percentage
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8 - high to very high	Please indicate percentage
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9 - very high	Please indicate percentage
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**05 . 06 . Proportion of female plants (15) (G) \***

1 - absent or very low	Please indicate percentage
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2 - very low to low	Please indicate percentage
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3 - low	Please indicate percentage
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4 - low to medium	Please indicate percentage
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5 - medium	Please indicate percentage
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6 - medium to high	Please indicate percentage
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7 - high	Please indicate percentage
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8 - high to very high	Please indicate percentage
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9 - very high	Please indicate percentage
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**05 . 07 . Proportion of male plants (16) (G) \***

1 - absent or very low	Please indicate percentage
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2 - very low to low	Please indicate percentage
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3 - low	Please indicate percentage
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4 - low to medium	Please indicate percentage
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5 - medium	Please indicate percentage
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6 - medium to high	Please indicate percentage
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7 - high	Please indicate percentage
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8 - high to very high	Please indicate percentage
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9 - very high	Please indicate percentage
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**05 . 08 . Time of start of bolting (for spring sown crops, 15% of plants) (17) (G) \***

1 - very early	Please indicate comparable variety(ies) of your choice
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2 - very early to early	Please indicate comparable variety(ies) of your choice
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3 - early	Please indicate comparable variety(ies) of your choice
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4 - early to medium	Please indicate comparable variety(ies) of your choice
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5 - medium	Please indicate comparable variety(ies) of your choice
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6 - medium to late	Please indicate comparable variety(ies) of your choice
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7 - late	Please indicate comparable variety(ies) of your choice
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8 - late to very late	Please indicate comparable variety(ies) of your choice
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9 - very late	Please indicate comparable variety(ies) of your choice
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**06 . Similar varieties and differences from these varieties**

**06 . 1 . Are there any similar variety(ies) known? \***

1 - yes

2 - no

**06 . 2 . Similar varieties and differences from these varieties: \***

Denomination of similar variety	Characteristic in which the similar variety is different	State of expression of similar variety	State of expression of candidate variety

**07 . Additional information which may help to distinguish the variety \*****07 . 01 . Resistance to pests and diseases \***

**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 . Special conditions for the examination of the variety \***

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 . Resistance to pests and diseases \*****07 . 03.02.01 . Resistance to *Peronospora effusa* (Pe)(ex *Peronospora farinosa* f. sp. *Spinaciae* (Pfs)) (19) \***

**07 . 03.02.01.01 . Race Pe: 1 (19.1) \*** absent present

**07 . 03.02.01.02 . Race Pe: 2 (19.2) \*** absent present

**07 . 03.02.01.03 . Race Pe: 3 (19.3) \*** absent present

**07 . 03.02.01.04 . Race Pe: 4 (19.4) \*** absent present

**07 . 03.02.01.05 . Race Pe: 5 (19.5) \*** absent present

**07 . 03.02.01.06 . Race Pe: 6 (19.6) \*** absent present

**07 . 03.02.01.07 . Race Pe: 7 (19.7) \*** absent present

**07 . 03.02.01.08 . Race Pe: 8 (19.8) \*** absent present

**07 . 03.02.01.09 . Race Pe: 10 (19.10) \*** absent present

**07 . 03.02.01.10 . Race Pe: 11 (19.10) \*** absent present



07 . 03.02.01.11 . Race Pe: 12 (19.11) *	absent	present
07 . 03.02.01.12 . Race Pe: 13 (19.12) *	absent	present
07 . 03.02.01.13 . Race Pe: 14 (19.13) *	absent	present
07 . 03.02.01.14 . Race Pe: 15 (19.14) *	absent	present
07 . 03.02.01.15 . Race Pe: 16 (19.15) *	absent	present
07 . 03.02.01.16 . Race Pe: 17 (19.16) *	absent	present
07 . 03.02.01.17 . Race Pe: 18 (19.17) *	absent	present
07 . 03.02.01.18 . Race Pe: 19 (19.18) *	absent	present

07 . 03.02.02 . Resistance to *Cucumber mosaic virus (CMV)* (20) \*

absent

present

not tested

07 . 03.02.03 . Other resistances to pests and diseases (fill none if you are not concerned) \*

Please indicate \*

07 . 03.03 . Other information \*

Yes, specify

No

07 . 04 . Photo

It is highly recommended to provide pictures. 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.

08 . GMO-information requested

08 . a . The variety represents a genetically modified organism (GMO) within the meaning of Article 2(2) of Council Directive EC/2001/18 of 12/03/2001 which requires authorization for release in the environment: \*

1 - yes

2 - no

08 . b . If yes, has such authorization been obtained? \*

1 - yes

2 - no

08 . c . If yes, please attach a copy of such an authorization \*

**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