Calibration book

Allium porrum L.

Leek

Version 1
December 2010

Naktuinbouw calibration book

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leek

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Introduction

In front of you, you find the Naktuinbouw calibration book for leek. This book may be used as guidance for the completion of application forms, the describing of varieties or the understanding of variety descriptions. This book can not replace the skill needed to make a variety description, but may serve as support.

Sources used
The basis for this book is the CPVO protocol CPVO-TP/085/2 which in turn is based on UPOV Guideline TG/85/7. Please also use these sources for reference when using this calibration book. The application of this calibration book is based on the general UPOV principles on the definitions and use of characteristics of variety descriptions (UPOV TG/1/3).

Application methodology
The UPOV system is based on the expression of characteristics that are related to the expression values of example varieties. In the calibration book you find two types of characteristics; visually assessed characteristics and measured characteristics.
The value of the visually assessed characteristics can be compared with the visual value of the expression of example varieties. In the calibration book you may find drawings or pictures to assist in the decision on the applicable expression. For measured characteristics this is more complicated as in many cases the value of the measurements is depending on the (climatical) conditions of the trials. The use of example varieties in these cases is indispensable. The same applies for those visually assessed characteristics that are prone to influence by climate (e.g. anthocyanin coloration). In this calibration book these example varieties are only included for the characteristics that appear in the Technical Questionnaire. Others are not included as many prefer their own set of example varieties, but may be found in the relevant CPVO protocol.

Website
The CPVO and UPOV documents mentioned above can be found on the Naktuinbouw website (*http://www.naktuinbouw.nl/onderwerp/kalibratieboeken*). On this website you can also find announcements of possible modifications of the published calibration books.

Helpdesk
For possible remarks, suggestions and questions on the calibration books and the website, you may contact Naktuinbouw at our email address: kalibratieboek@naktuinbouw.nl

Contents

1 Plant: height

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

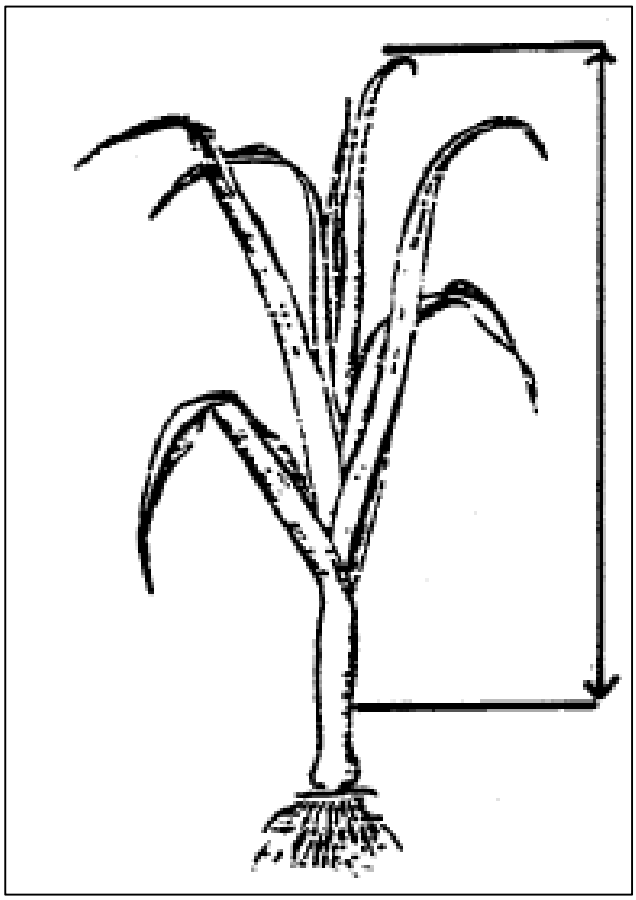
Type of observation: MS/VG – Choice between
- Calculated average of the measurement of 60 plants or parts of plants and
- Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made when the outer (oldest) leaf blades start to senesce.

Method of observation: Observe when the plants are still in the soil, measure or observe the height from the soil to the highest point of the plants without straightening the leaves.

Notes and states of expression:
1: very short
2: very short to short
3: short
4: short to medium
5: medium
6: medium to tall
7: tall
8: tall to very tall
9: very tall

CPVO explanation:



<<soil level

2 Foliage: attitude

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

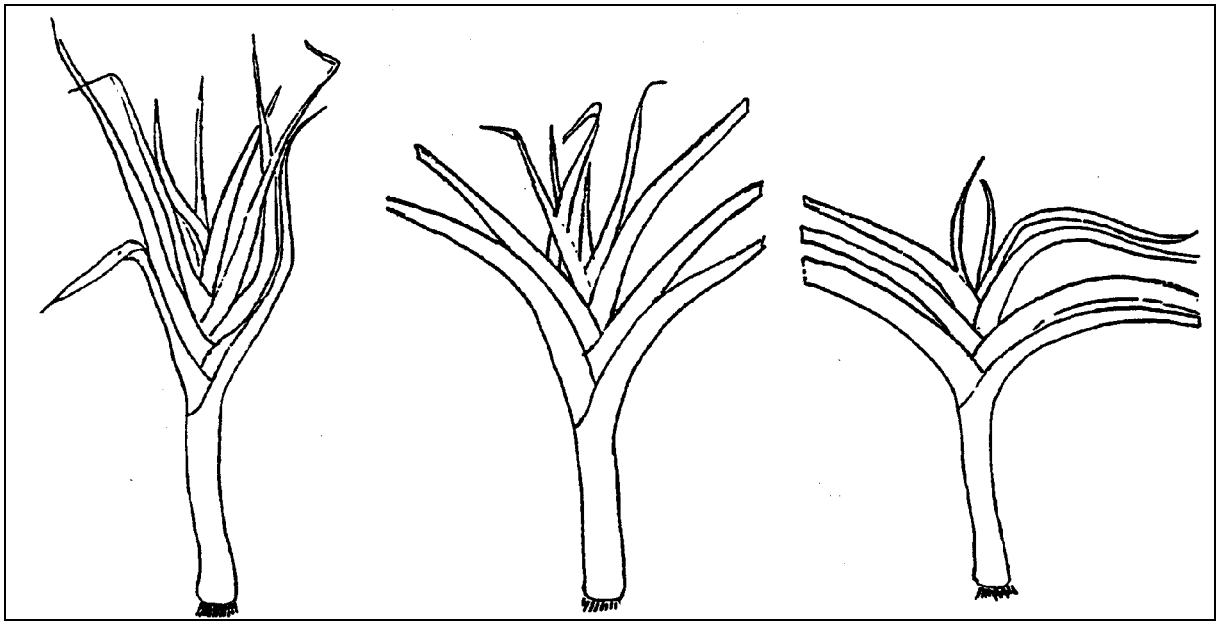
Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made when the outer (oldest) leaf blades start to senesce.

Method of observation: Observe when the plants are still in the soil, observe the angle between the shaft and the older, non senescing leaves (see CPVO explanation).

Notes and states of expression:
1: erect
2: erect to semi-erect
3: semi-erect
4: semi-erect to horizontal
5: horizontal

CPVO explanation:



1: erect 3: semi-erect 5: horizontal

2 Foliage: attitude

1: erect

3: semi-erect

5: horizontal

3 Leaf blade: bending

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

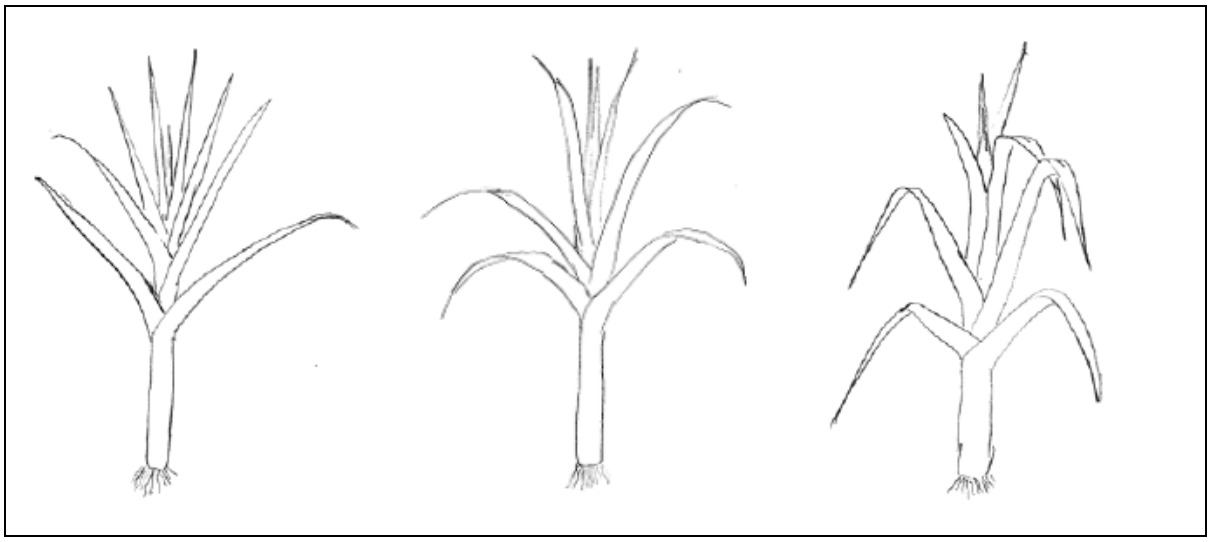
Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations on the leaf blade should be made on the fully developed leaf.

Method of observation: Observe when the plants are still in the soil, observe the bending of the lower, non senescing leaves (see CPVO explanation).

Notes and states of expression:
1: very weak
2: very weak to weak
3: weak
4: weak to medium
5: medium
6: medium to strong
7: strong
8: strong to very strong
9: very strong

CPVO explanation:



3: weak 5: medium 7: strong

3 Leaf blade: bending

3: weak

5: medium

7: strong

4 Leaf blade: length

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

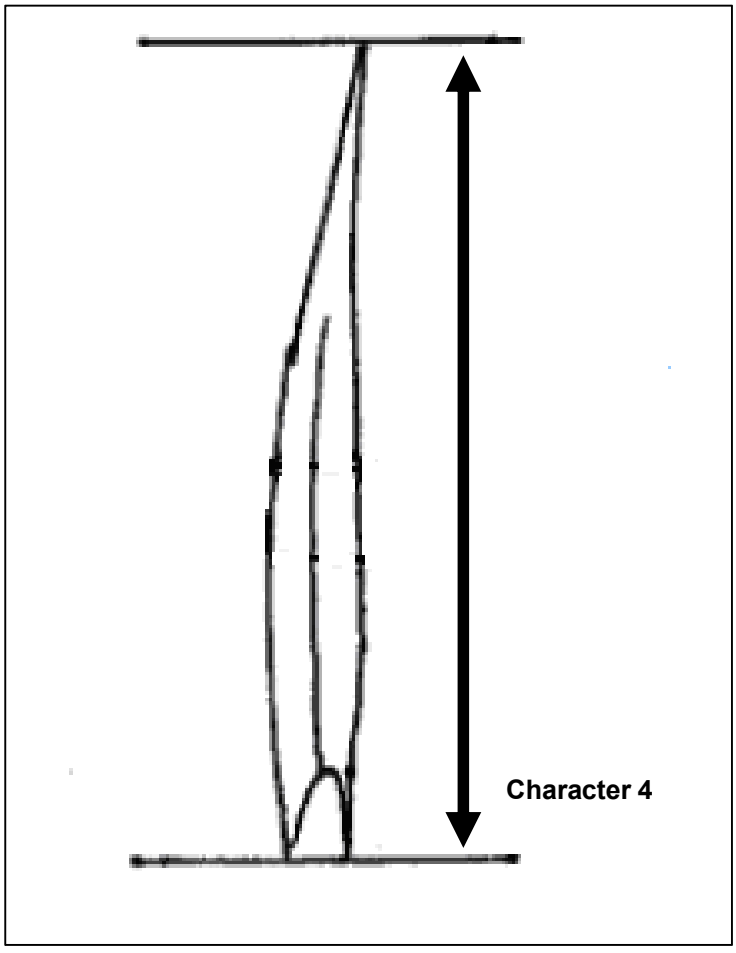
Type of observation: MS/VG – Choice between
- Calculated average of the measurement of 60 plants or parts of plants and
- Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations on the leaf blade should be made on the fully developed leaf.

Method of observation: Leaf blade length should be observed on the longest leaf blade.

Notes and states of expression:
1: very short
2: very short to short
3: short
4: short to medium
5: medium
6: medium to long
7: long
8: long to very long
9: very long

CPVO explanation:



5 Leaf blade: width

Grouping characteristic: yes.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: MS/VG – Choice between
- Calculated average of the measurement of 60 plants or parts of plants and
- Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

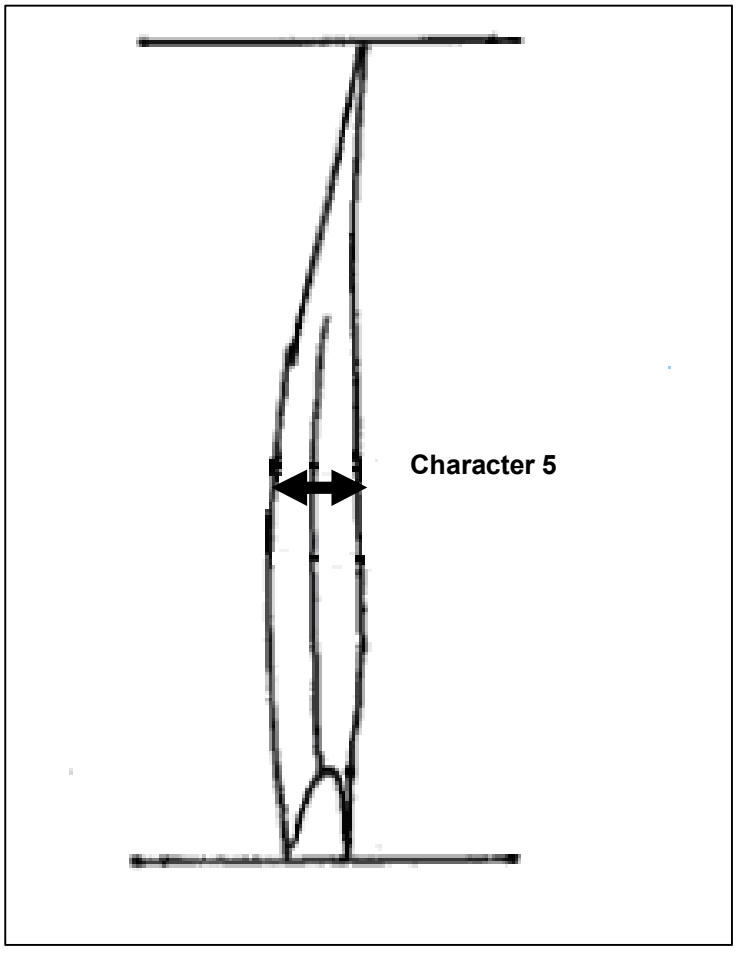
Time of observation: Observations on the leaf blade should be made on the fully developed leaf.

Method of observation: Leaf width should be observed on the longest leaf blade.

Notes, states of expression and example varieties:

1: very narrow	
2: very narrow to narrow	
3: narrow	Lampton, Rustic
4: narrow to medium	
5: medium	De Liége
6: medium to broad	
7: broad	Jaune gros du Poitou, Rese, Striker
8: broad to very broad	
9: very broad	

CPVO explanation:



6 Leaf blade: colour

Grouping characteristic: yes.

Type of characteristic: **PQ** – Pseudo-qualitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations on the leaf blade should be made on the fully developed leaf.

Method of observation: Leaf colour should be observed in relation to the colours of example varieties. Observe on a clouded day as bright sunlight may make the observation unreliable.

Notes, states of expression and example varieties:

1: yellow green	Jaune gros du Poitou
2: green	Premier
3: grey green	Zwitserse Reuzen
4: blue green	Blauwgroene Winter, Libertas, Olaf, Porridor

6 Leaf blade: colour

2: green

3: grey green Pasteur

4: blue green Flextan

7 Leaf blade: intensity of colour

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations on the leaf blade should be made on the fully developed leaf.

Method of observation: Intensity of leaf colour should be observed in relation to the colours of example varieties. Observe on a clouded day as bright sunlight may make the observation unreliable.

Notes and states of expression:
1: very light
2: very light to light
3: light
4: light to medium
5: medium
6: medium to dark
7: dark
8: dark to very dark
9: very dark

8 Leaf blade: anthocyanin coloration

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations on the leaf blade should be made on the fully developed leaf, preferably after night frost.

Method of observation: anthocyanin coloration should be observed in relation to the colours of example varieties. Observe on a clouded day as bright sunlight may make the observation unreliable. Observe that anthocyanin coloration is very environment dependent. Stress and cold weather will influence the anthocyanin expression. Always calibrate using example varieties in the same trial.

Notes and states of expression:
1: absent to very weak
2: very weak to weak
3: weak
4: weak to medium
5: medium
6: medium to strong
7: strong
8: strong to very strong
9: very strong

8 Leaf blade: anthocyanin coloration

1: absent of very weak

7: strong

9 Leaf blade: waxiness

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations on the leaf blade should be made on the fully developed leaf.

Method of observation: waxiness should be observed in relation to example varieties. Observe on a clouded day as bright sunlight may make the observation unreliable.

Notes and states of expression:
1: absent to very weak
2: very weak to weak
3: weak
4: weak to medium
5: medium
6: medium to strong
7: strong
8: strong to very strong
9: very strong

10 Plant: length

Grouping characteristic: yes.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: MS/VG – Choice between
- Calculated average of the measurement of 60 plants or parts of plants and
- Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

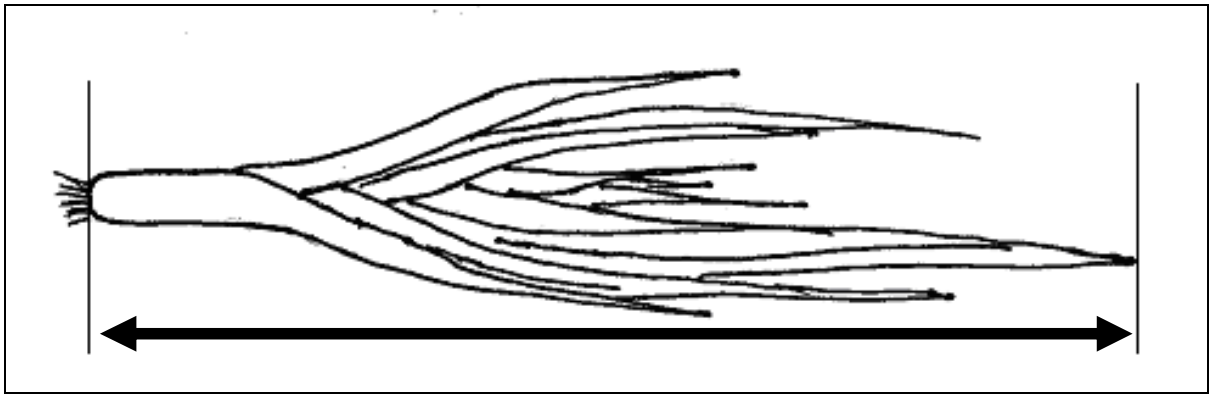
Time of observation: Observations should be made at harvest maturity.

Method of observation: Plant length is the total length of the harvested, straightened plant. Calibrate using example varieties in the same trial.

Notes, states of expression and example varieties:

1: very short	
2: very short to short	
3: short	De Carentan 2
4: short to medium	
5: medium	Bleu de Solaise, Jaune gros du Poitou
6: medium to long	
7: long	Kingston, Rese, Titan
8: long to very long	
9: very long	Bulgaarse Reuzen

CPVO explanation:



11 Shaft: length

Grouping characteristic: yes.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: MS/VG – Choice between
- Calculated average of the measurement of 60 plants or parts of plants and
- Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

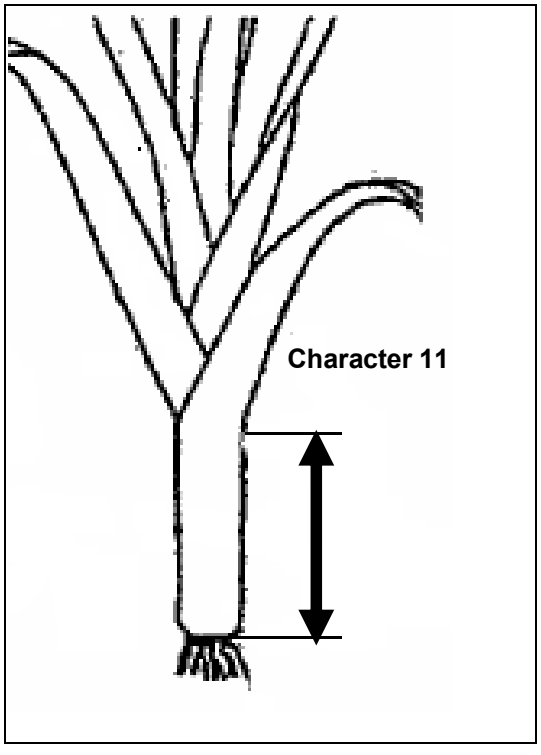
Time of observation: Observations should be made at harvest maturity.

Method of observation: Shaft length is the length from base to the point where the oldest leaf bends away from the plant.. Calibrate using example varieties in the same trial.

Notes, states of expression and example varieties:

1: very short	
2: very short to short	
3: short	Artemis, Bleu de Solaise, D'Hiver de Saint Victor
4: short to medium	
5: medium	Gros long d'été 2
6: medium to long	
7: long	Lampton, Maxim
8: long to very long	
9: very long	Kingston, Kong Richard

CPVO explanation:



11 Shaft: length

3: short Artemis

5: medium

7: long Lampton

9: very long Kingston

12 Shaft: diameter

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

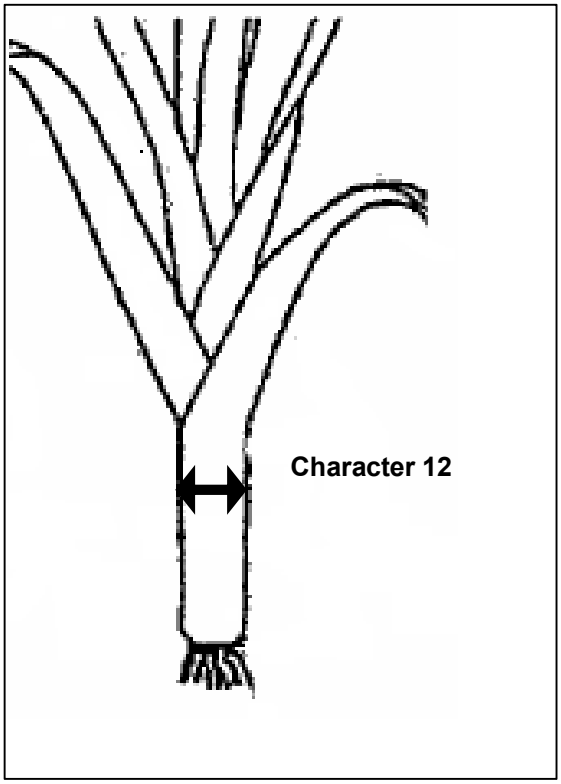
Type of observation: MS/VG – Choice between
- Calculated average of the measurement of 60 plants or parts of plants and
- Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made at harvest maturity.

Method of observation: Shaft diameter is strongly influenced by the growing conditions. Make sure to calibrate the observations using example varieties in the same trial. The diameter of the shaft should be observed at the middle of the length of the shaft.

Notes and states of expression:
1: very small
2: very small to small
3: small
4: small to medium
5: medium
6: medium to large
7: large
8: large to very large
9: very large

CPVO explanation:



12 Shaft: diameter


3: small


5: medium


7: large

13 Shaft: ratio length/diameter

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made at harvest maturity.

Method of observation: Shaft diameter is strongly influenced by the growing conditions. Make sure to calibrate the observations using example varieties in the same trial.

Notes and states of expression:
1: very small
2: very small to small
3: small
4: small to medium
5: medium
6: medium to large
7: large
8: large to very large
9: very large

CPVO explanation:

3: small 5: medium 7: large

14 Shaft: bulb formation

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made at harvest maturity.

Method of observation: Make sure to calibrate the observations using example varieties in the same trial.

Notes, states of expression and example varieties:

1: absent to very weak	Jolant, Roxton, Striker
2: very weak to weak	
3: weak	Hafnia, Lampton, Linx, Titan
4: weak to medium	
5: medium	Bleu de Solaise, Premier
6: medium to strong	
7: strong	Artemis, Jaune gros du Poitou
8: strong to very strong	
9: very strong	Carentan 2

14 Shaft: bulb formation

1: absent of very weak

3: weak Lampton

5: medium Fahrenheit

7: strong

15 Shaft: narrowing towards base

Grouping characteristic: no.

Type of characteristic: **QL** – Qualitative characteristic.

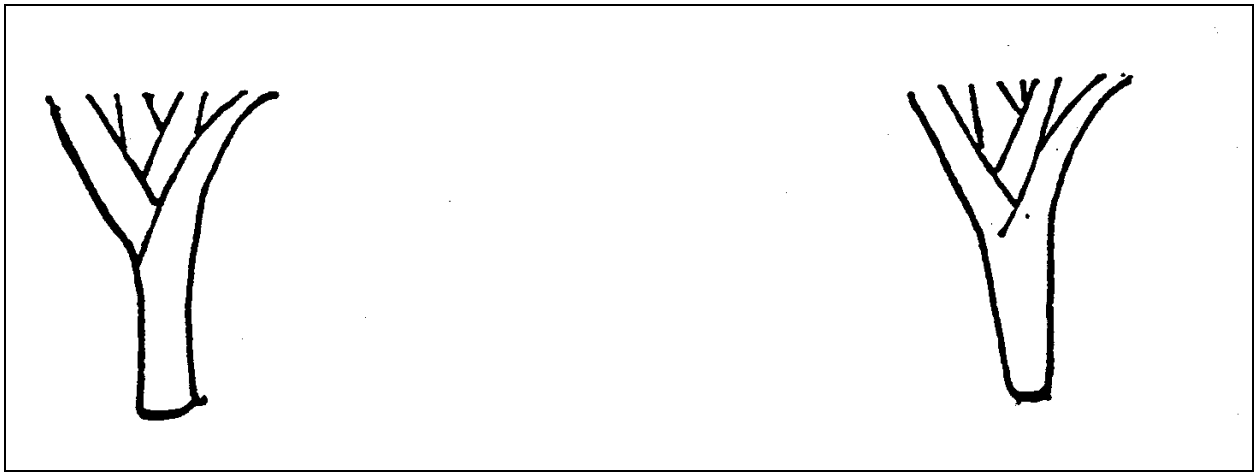
Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made at harvest maturity.

Method of observation: Make sure to calibrate the observations using example varieties in the same trial.

Notes and states of expression:
1: absent
2: present

CPVO explanation:



1: absent 9: present

15 Shaft: narrowing towards base

1: absent

9: present

16 Only for vegetatively propagated varieties: Spathe: length

Grouping characteristic: no.

Type of characteristic: **QN** – Quantitative characteristic.

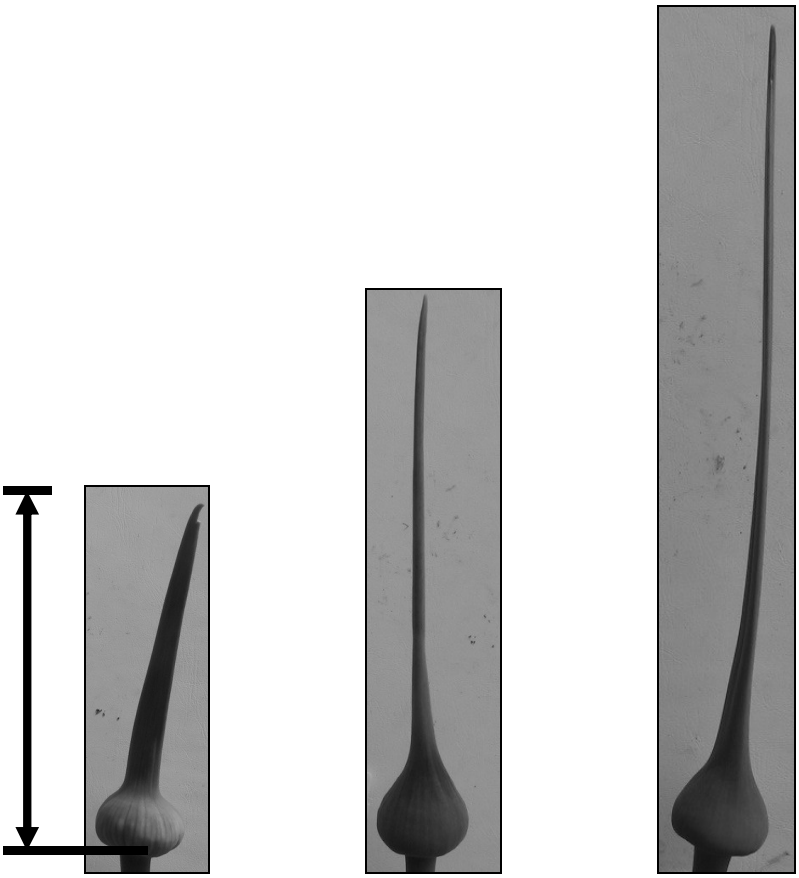
Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made before full blooming. To be observed on the green, fully developed spathe, before it starts to open and desiccate.

Method of observation: Make sure to calibrate the observations using example varieties in the same trial. See explanation.

Notes and states of expression:
1: very short
2: very short to short
3: short
4: short to medium
5: medium
6: medium to long
7: long
8: long to very long
9: very long

CPVO explanation:



3: short 5: medium 7: long

17 Only for vegetatively propagated varieties: Flower: male sterility

Grouping characteristic: no.

Type of characteristic: **QL** – Qualitative characteristic.

Type of observation: VG – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Time of observation: Observations should be made on vegetatively propagated varieties only at harvest maturity.

Method of observation: Rub black paper gently against a fully opened flower will show on the black paper and shows absence of male sterility. If the flowers are sterile, no pollen will be seen on the paper. In addition, in the case of male sterile varieties, the anthers are empty and desiccate very quickly.

Notes and states of expression:
1: absent
2: present

1: absent (anthers with pollen)

Notes

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