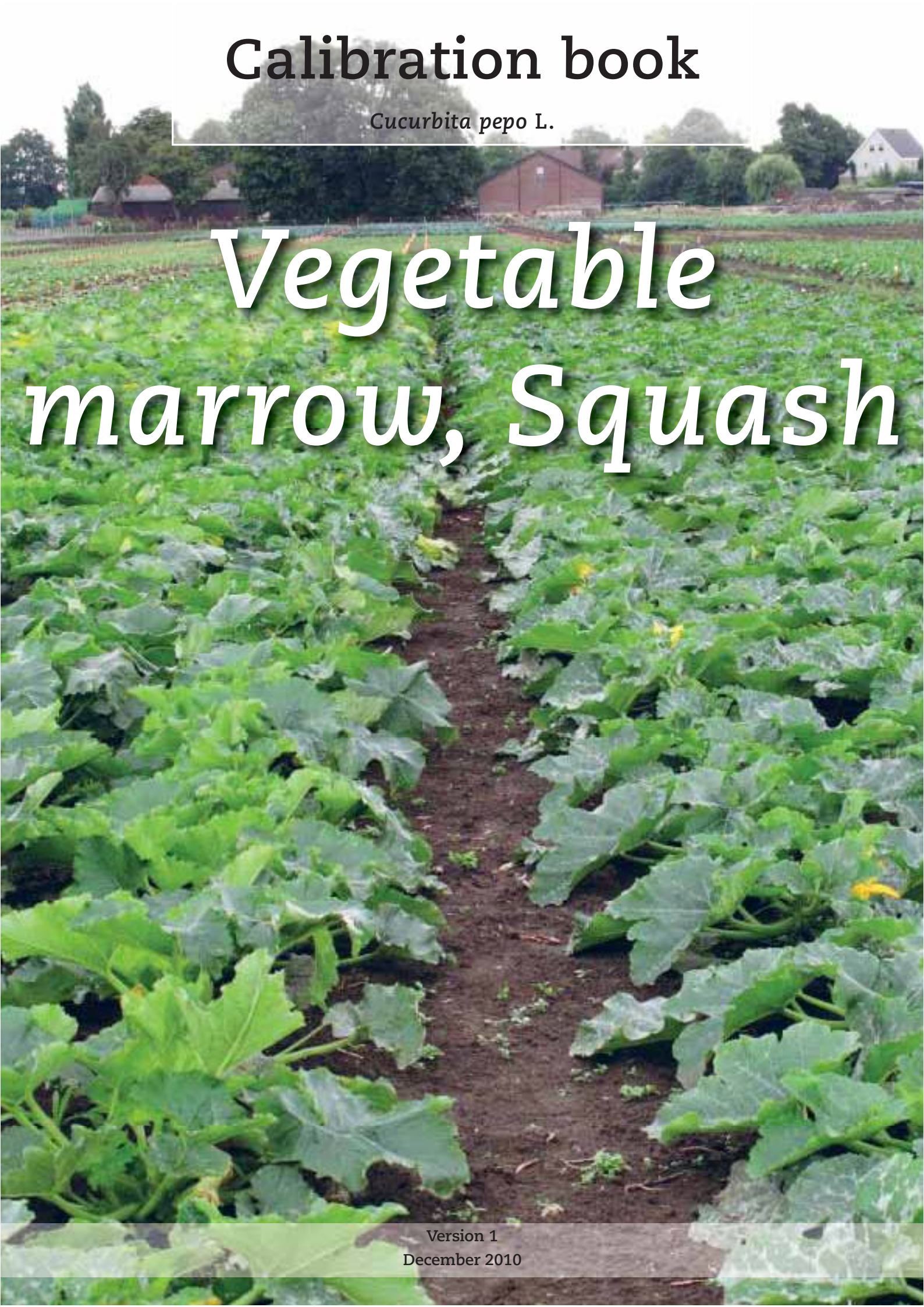
Calibration book

Cucurbita pepo L.



Vegetable marrow, Squash

Version 1
December 2010

Naktuinbouw calibration book

Cucurbita pepo L.

vegetable marrow, squash

Version 1

Introduction

In front of you, you find the Naktuinbouw calibration book for squash. 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/119/1 which in turn is based on UPOV Guideline TG/119/4. 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

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0 Type

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.

Stage of observation: At harvest maturity.

Method of observation: Visual observation. The type of fruit in *Cucurbita pepo* is an important grouping characteristic but complicated to define as in fact it is a combination of a number of characteristic. Use key below and example varieties mentioned to decide on the type.

Notes and states of expression:
1: Pumpkin
2: Miniature Pumpkin
3: Scallop
4: Acorn
5: Neck
6: Zucchini
7: Rounded Zucchini
8: Delicata
9: Spagetti Squash
10. Rondini
11: Ölkürbis
12: Other

0 Type

Fruit: type	Fruit: general shape (ch. 30)	Plant: growth habit (ch. 4)	Fruit: size	Fruit: grooves (ch. 46)	Fruit: ribs (ch. 48)	Fruit: warts on skin (ch. 62)	Ripe fruit: main color of skin (ch. 69)	Ripe fruit: lignified rind (ch. 75)	Ripe fruit: color of flesh (ch. 74)	Ripe fruit: structure of flesh (ch. 76)	Example varieties	
Pumpkin	from flattened globular to elliptical globular			present	absent	absent		absent	orange		Halloween, Little Boo, Small Sugar	1
Miniature Pumpkin	transverse elliptical	trailing	very small	present	absent	absent		absent	orange		Jack Be Little	2
Scallop	flattened disc shaped with equatorial margin	bush or semi-trailing		absent	absent			present	cream		Patty Pan, Scallopini	3
Acorn	top shaped with furrows	bush						absent	orange		Table Queen	4
Neck	bottle-shaped with pointed blossom end	bush				present	orange	present			Early Prolific Straightneck, Yellow Summer Crookneck	5
Zucchini	from pear-shaped to elliptical to cylindrical to club-shaped							present	cream		Ambassador, Beiruti, Clarita, Elite, Ibis, Romano	6
Rounded Zucchini	globular	bush				absent		present	cream		De Nice à fruit rond, Redondo	7
Delicata	elliptical	trailing		present	absent	absent					Delicata	8
Spaghetti Squash	elliptical	trailing				absent		absent	dark yellow to orange	fibrous	Pasta, Vegetable Spaghetti	9
Rondini	globular	trailing	very small		absent	absent		present	yellow		Little Gem	10
Ölkürbis	globular	trailing			present	absent					Markant	11
Other												12

1 Seedling: shape of cotyledon

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.

Stage of observation: At harvested seeds.

Method of observation: Visual observation. Use example varieties to calibrate.

Notes and states of expression:
1: narrow elliptic
2: elliptic
3: broad elliptic
4: circular
5: obovate

1 Seedling: shape of cotyledons

1 narrow elliptic

2 elliptic

3 broad elliptic

4 circular

5. obovate

2 Seedling: intensity of green colour of cotyledons

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.

Stage of observation: At full development of the cotyledons, just before the development of the first leaf. This is approximately a week after sowing.

Method of observation: Visual observation. Calibrate using example varieties.

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

2 Seedling: intensity of green colour of cotyledons

1: very light

3: light

5: medium

7: dark

9: very dark

3 Seedling: cross section of cotyledons

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.

Stage of observation: At full development of the cotyledons, just before the development of the first leaf. This is approximately a week after sowing.

Method of observation: Visual observation. Describe the general shape of the cross section of the cotyledons, seen from the upper side.

Notes and states of expression:
1: concave
2: straight
3: convex

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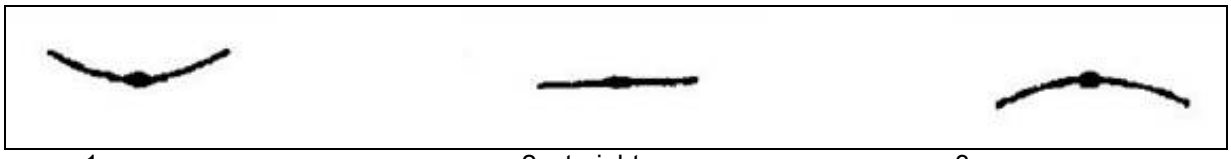


1: concave 2: straight 3: convex

4 Plant: growth habit

Grouping characteristic: yes.

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.

Stage of observation: On fully developed plants when the fruits are fully developed.

Method of observation: A bush variety has a short stem with very short internodes. In the beginning the stem grows erect. The plant habit is compact and the fruits develop near the basis of the plant. A trailing type starts to develop long internodes from the beginning. The stem becomes very long and the fruits develop along the length of the stem. A semi-trailing variety is an in between type. The internodes are much longer than from a bush type but the length of the stem is much shorter than from a trailing type. Fruits develop near the basis of the plant and later along the length of the stem.

Notes, states of expression and example varieties:

1: bush	Greyzini
2: semi-trailing	Cinderella, Everest, Twickers
3: trailing	Becky, Long Green Trailing

4 Plant: growth habit

1: bush

2: semi-trailing

3: trailing

5 Plant: branching

Grouping characteristic: yes.

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.

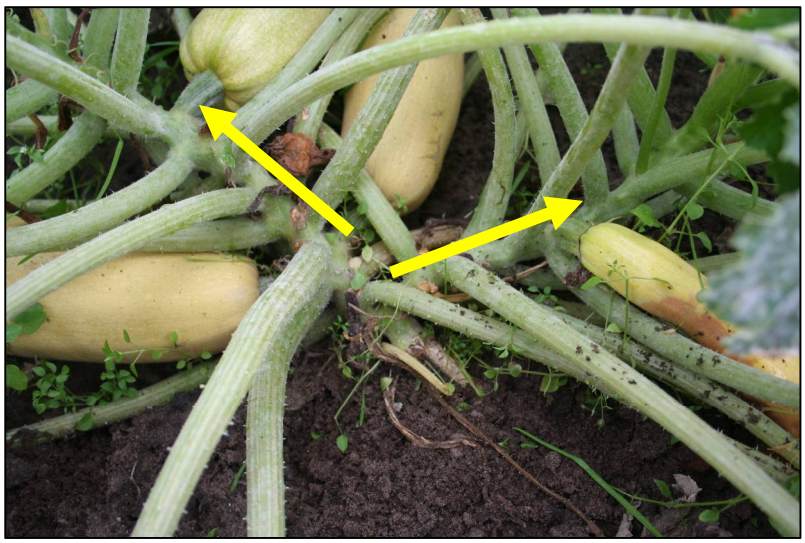
Stage of observation: On fully developed plants when the fruits are fully developed.

Method of observation: A variety is branched when the main stem shows side stems of the first and following degrees. Sometimes these side stems can be very weakly developed, but they can be observed because they show small young leaves at the basis of the plant. The branching in this case is very weak.

Notes, states of expression and example varieties:

1: absent	Goldi
9: present	Patty Green Tint

1: absent



9: present

6 Plant: degree of branching

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.

Stage of observation: On fully developed plants when the fruits are fully developed. Observe as late as possible.

Method of observation: Observe the degree of branching (i.e. the number of side stems of the first and following degrees) .Usually semi trailing varieties and trailing varieties are stronger and earlier branching than bush varieties.

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

7 strong

7 Bush varieties only: Plant: attitude of petiole (excluding lower external leaves)

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.

Stage of observation: On fully developed plants when the first fruits are fully developed, not later.

Method of observation: Visual observation.

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

7 Bush varieties only: Plant: attitude of petiole (excluding lower external leaves)

3: semi-erect

4: semi-erect to horizontal

8 Stem: colour

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.

Stage of observation: On fully developed plants when the first fruits are fully developed.

Method of observation: Visual observation.

Notes and states of expression:
1: completely green
2: partly green and partly yellow

1 completely green

9 Stem: intensity of green 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.

Stage of observation: On fully developed plants when the first fruits are fully developed, not later.

Method of observation: Visual observation. Observe the general intensity of the green colour of the stem. Calibrate using example varieties.

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

9 Stem: intensity of green colour

5: medium

7: dark

10 Stem: mottling

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.

Stage of observation: On fully developed plants when the first fruits are fully developed.

Method of observation: Visual observation. The stem is marbled when it shows a pattern of small lighter green elongated dots or stripes.

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

11 Stem: tendrils

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.

Stage of observation: On fully developed plants when the first fruits are fully developed.

Method of observation: Visual observation. The tendrils are rudimentary when they are very short and in this way are not able to attach to something for support.

Notes and states of expression:
1: absent to rudimentary
2: well developed

11 Stem: tendrils

1: absent to rudimentary

2 well developed

12 Leaf blade: size

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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation. Observe the general size of fully developed leaves positioned in the middle of the plant. Calibrate using example varieties.

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

3: small 5: medium 7: large 9: very large

13 Leaf blade: incisions

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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation. Observe the general depth of incisions of fully developed leaves positioned in the middle of the plant. Be aware that these are not the dentated incisions of the margin but the incisions between veins forming lobes. Calibrate using the explanatory drawings and example varieties.

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


1: absent of very shallow

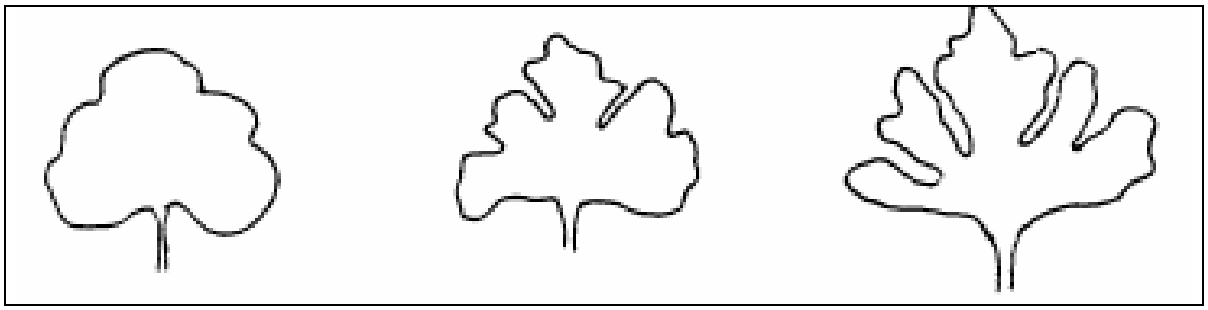

3: shallow

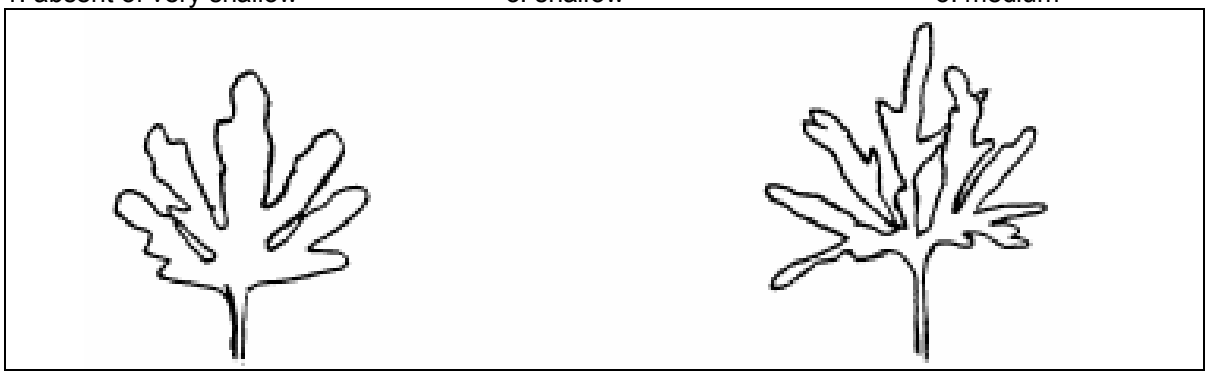
13 Leaf blade: incisions


5: medium


7: deep

CPVO- explanation:


1: absent of very shallow 3: shallow 5: medium


7: deep 9: very deep

14 Leaf blade: intensity of green colour of upper surface

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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation. Observe the general intensity of green colour of the upper side of fully developed leaves positioned in the middle of the plant. Calibrate using example varieties.

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

3: light 5: medium 7: dark

These images serve only to illustrate the variation present in the crop and should not be used as an absolute reference.

15 Leaf blade: silvery patches

Grouping characteristic: yes.

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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation.

Notes, states of expression and example varieties:

1: absent	Black Forest, Scallopini
9: present	Civac

15 Leaf blade: silvery patches

1: absent

9: present

16 Leaf blade: relative area covered by silvery patches

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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation.

Observe the relative upper surface of the leaves that is covered with silvery patches. Do not take the intensity of those patches or their individual size into account. Calibrate using example varieties.

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

16 Leaf blade: relative area covered by silvery patches

1: very small

3: small

5: medium

7: large

17 Petiole: 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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation. Observe the length of the petiole from the stem to the leaf blade. Calibrate using example varieties.

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

18 Petiole: number of prickles

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.

Stage of observation: On fully developed leaves when the first fruit is fully developed, or later, excluding the lower external leaves.

Method of observation: Visual observation.

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

3: few 5: medium

19 Female flower: ring at inner side of corolla

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.

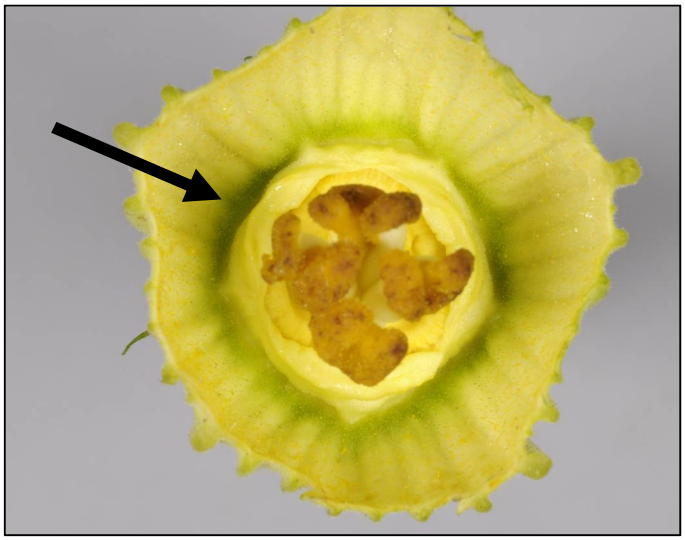
Stage of observation: Should be made preferably in the early morning when fresh flowers have just fully opened.

Method of observation: Visual observation. Observe in the female flower if there is a coloured ring around the pistil. A female flower can be easily recognized by the ovary under the corolla.

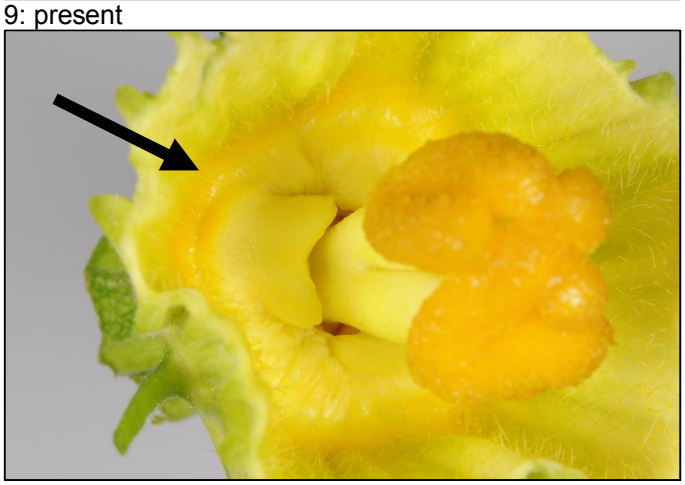
Notes and states of expression:
1: absent
9: present

19 Female flower: ring at inner side of corolla

1: absent



9: present



9: present

20 Female flower: colour of ring at inner side of corolla

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.

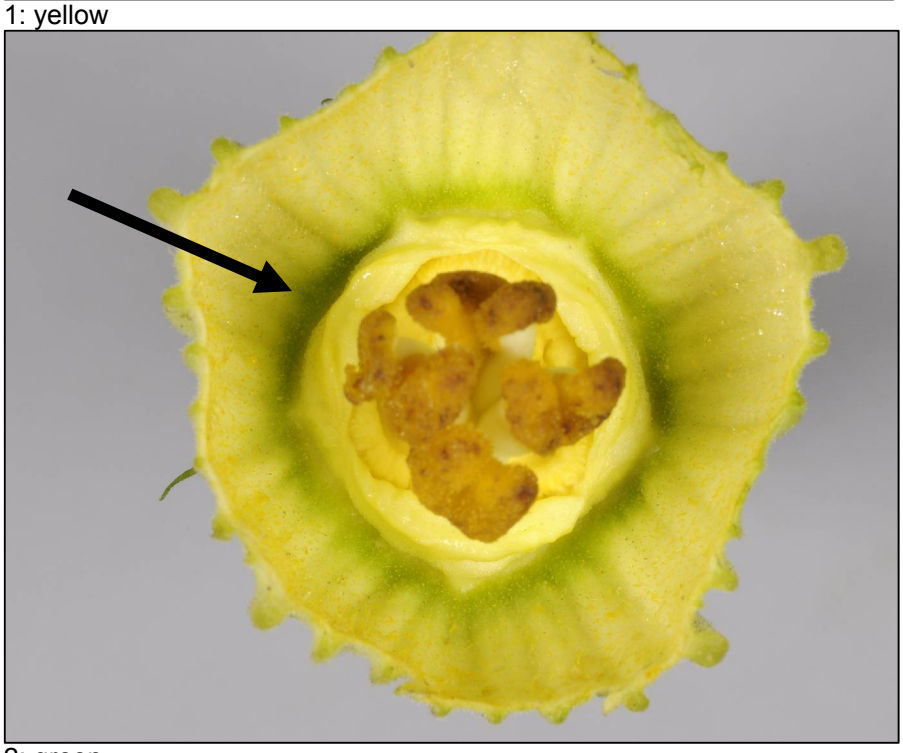
Stage of observation: Should be made preferably in the early morning when fresh flowers have just fully opened.

Method of observation: Visual observation. Observe in the female flower the coloured ring around the pistil. A female flower can be easily recognized by the ovary under the corolla.

Notes and states of expression:
1: yellow
2: green
3: yellow and green

20 Female flower: colour of ring at inner side of corolla

1: yellow



2: green

21 Only varieties with green ring at inner side of corolla: Female flower: intensity of colour of green ring at inner side of corolla

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.

Stage of observation: Should be made preferably in the early morning when fresh flowers have just fully opened.

Method of observation: Visual observation. Observe in the female flower the intensity of the green colour of the ring around the pistil. A female flower can be easily recognized by the ovary under the corolla. Calibrate using example varieties.

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

22 Male flower: ring at inner side of corolla

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.

Stage of observation: Should be made preferably in the early morning when fresh flowers have just fully opened.

Method of observation: Visual observation. Observe in the male flower if there is a coloured ring around the stamen. A male flower can be easily recognized by the absence of the ovary under the corolla (ref. to characteristic 19).

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

Male flowers

22 Male flower: ring at inner side of corolla

1: absent

9: present

23 Male flower: colour of ring at inner side of corolla

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.

Stage of observation: Should be made preferably in the early morning when fresh flowers have just fully opened.

Method of observation: Visual observation. Observe in the male flower the coloured ring around the stamen. A male flower can be easily recognized by the absence of the ovary under the corolla (ref. to characteristic 19).

Notes and states of expression:
1: yellow
2: green
3: yellow and green

23 Male flower: colour of ring at inner side of corolla

1: yellow

2: green

3: yellow and green

24 Only varieties with green ring at inner side of corolla: Male flower: intensity of green colour of ring at inner side of corolla

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.

Stage of observation: Should be made preferably in the early morning when fresh flowers have just fully opened..

Method of observation: Visual observation. Observe in the male flower the intensity of the green colour of the ring around the stamen. A male flower can be easily recognized by the absence of the ovary under the corolla (ref. to characteristic 19). Calibrate using example varieties.

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

25 Only Zucchini type varieties: Young fruit: ratio length/maximum diameter

Grouping characteristic: no.

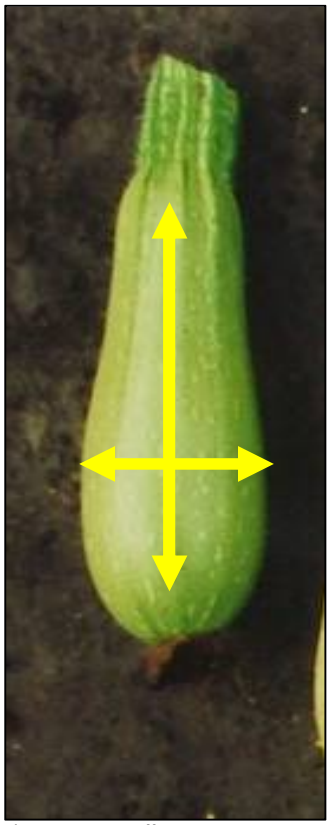
Type of characteristic: **QN** – Quantitative characteristic.

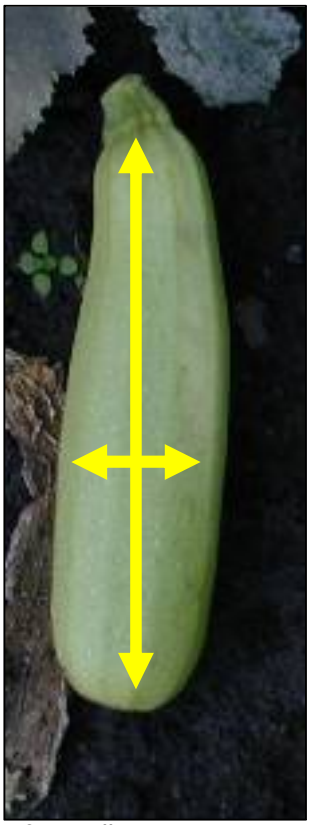
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

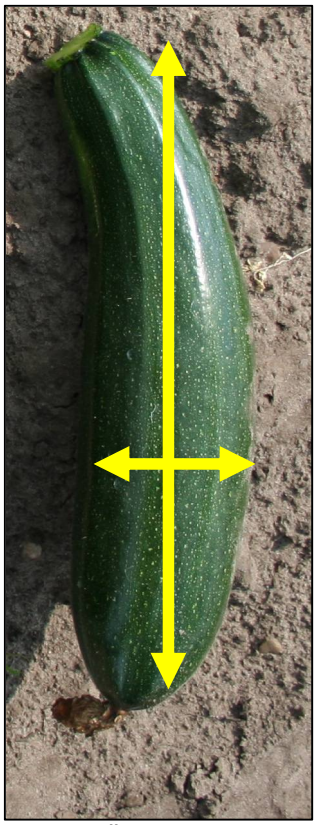
Stage of observation: On well set fruits three to five days after opening of the flower. The seeds should be very immature.

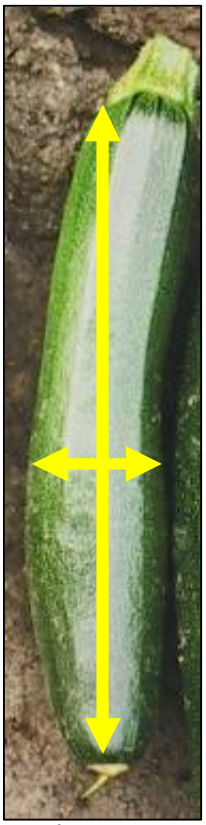
Method of observation: Visual observation. Observe the ratio between the length of the young fruit from base to top and the diameter of the broadest part. Calibrate using example varieties.

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


1: very small


3: small


5: medium


7: large

26 <u>Only Zucchini and Rounded Zucchini type varieties:</u> Young fruit: general shape

Grouping characteristic: no.

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

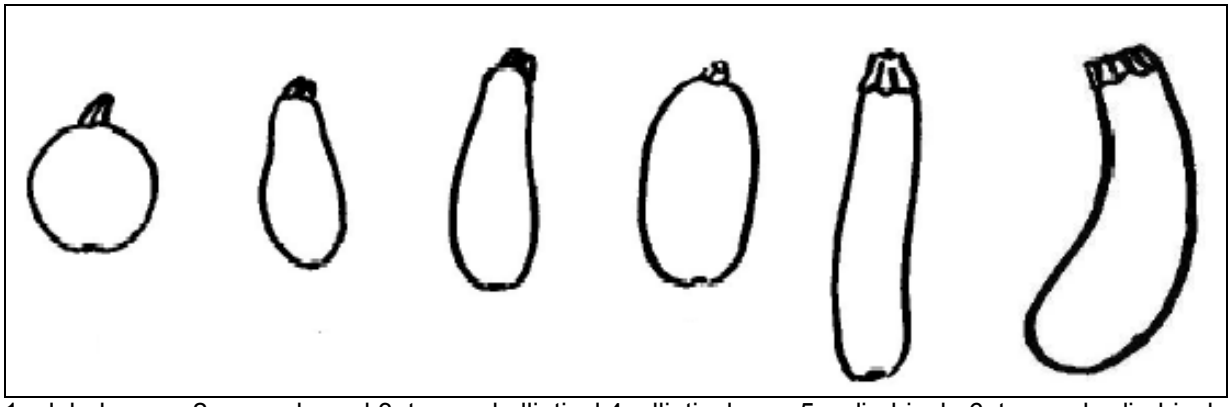
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: On well set fruits three to five days after opening of the flower. The seeds should be very immature.

Method of observation: Visual observation. Describe the general shape of the Young fruit. Calibrate with the explanatory drawings and example varieties.

Notes and states of expression:
1: globular
2: pear shaped
3: tapered elliptical
4: elliptical
5: cylindrical
6: tapered cylindrical

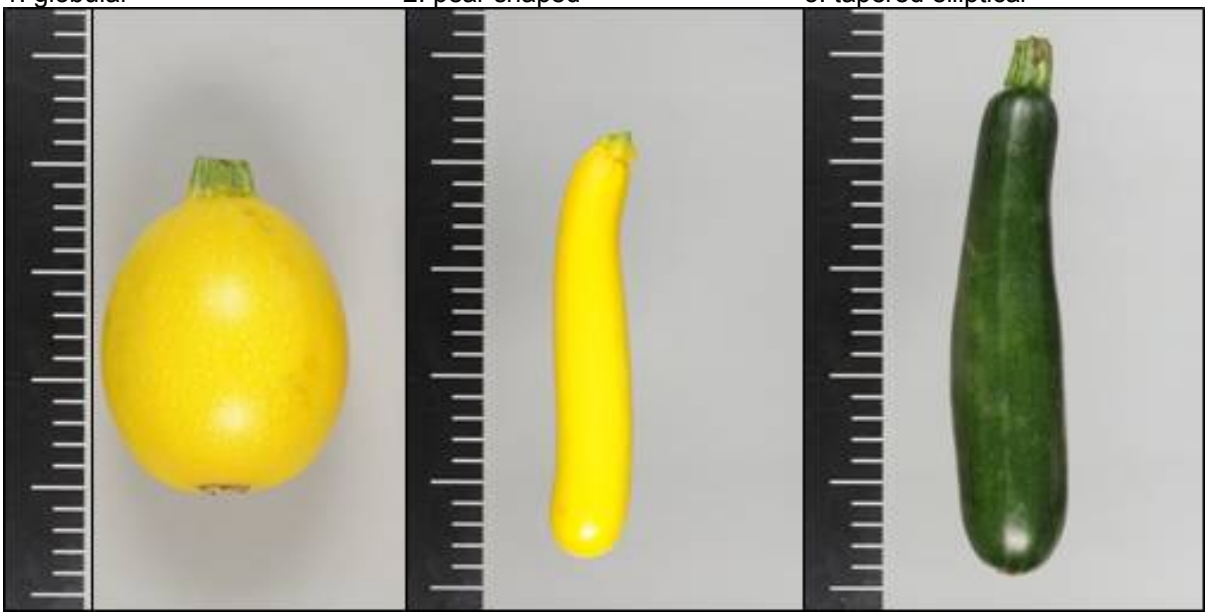
CPVO explanation:



1: globular 2: pear shaped 3: tapered elliptical 4: elliptical 5: cylindrical 6: tapered cylindrical

26 Only Zucchini and Rounded Zucchini type varieties: Young fruit: general shape

1: globular 2: pear shaped 3: tapered elliptical



4 elliptical 5 cylindrical 6 tapered cylindrical

27 Young fruit: main colour of skin (excluding colour of ribs or grooves)

Grouping characteristic: no.

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.

Stage of observation: On well set fruits three to five days after opening of the flower. The seeds should be very immature.

Method of observation: Visual observation. Observe the colours of the skin of the young fruit. Be aware that only two colours are scored (partly one and partly the other) if these two principal colours show a clear separating border. It does not concern two hues or two intensities of one colour. Calibrate using example varieties.

Notes and states of expression:
1: white
2: cream
3: yellow
4: green
5: partly white and partly yellow
6: partly white and partly green
7 : partly yellow and partly green

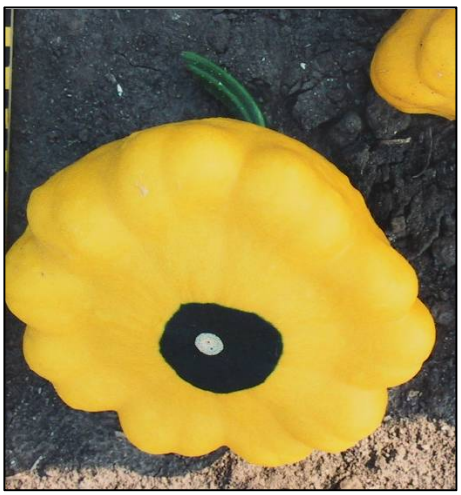
27 Young fruit: main colour of skin (excluding colour of ribs or grooves)

1: white

2: cream

3: yellow

4: green



7: yellow and green

28 Only varieties with yellow colour of skin: Young fruit: intensity of yellow colour of skin (excluding colour of ribs or grooves)

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.

Stage of observation: On well set fruits three to five days after opening of the flower. The seeds should be very immature.

Method of observation: Visual observation.
Calibrate using example varieties.

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

29 Only varieties with green colour of skin: Young fruit: intensity of green colour of skin (excluding colour of ribs or grooves)

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.

Stage of observation: On well set fruits three to five days after opening of the flower. The seeds should be very immature.

Method of observation: Visual observation.
Calibrate using example varieties.

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

3 light 7 dark 7 very dark

30 Fruit: general shape

Grouping characteristic: yes.

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

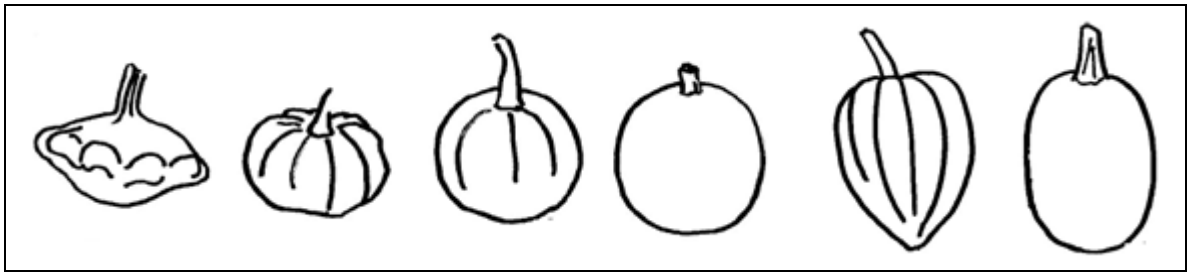
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: When the fruit is fully developed or later.

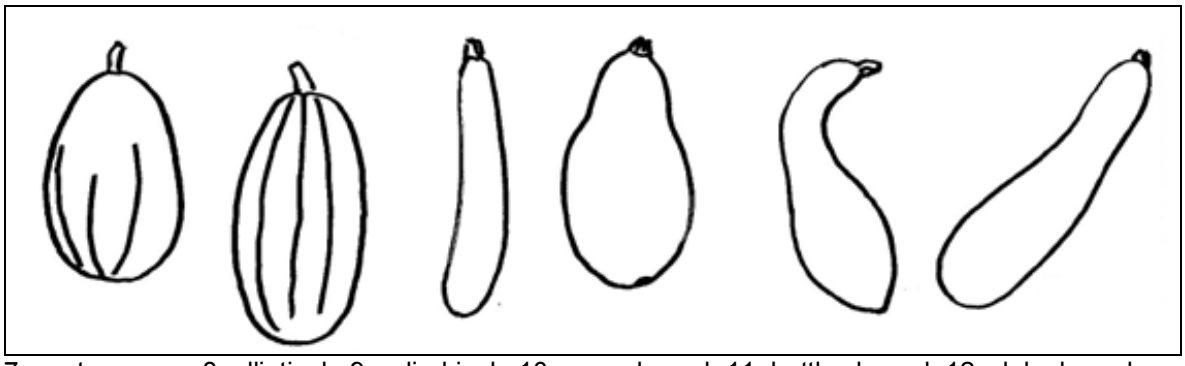
Method of observation: Visual observation. Describe the general shape of the fruit. Calibrate with the explanatory drawings and example varieties.

Notes and states of expression:
1: disc shaped
2: transverse elliptical
3: transverse broad elliptical
4: globular
5: top shaped
6: broad elliptical
7: ovate
8: elliptical
9: cylindrical
10: pear shaped
11: bottle shaped
12: club shaped

CPVO explanation:



1: disc shaped 2: transverse elliptical 3: transverse broad elliptical 4: globular 5: top shaped 6: broad elliptical



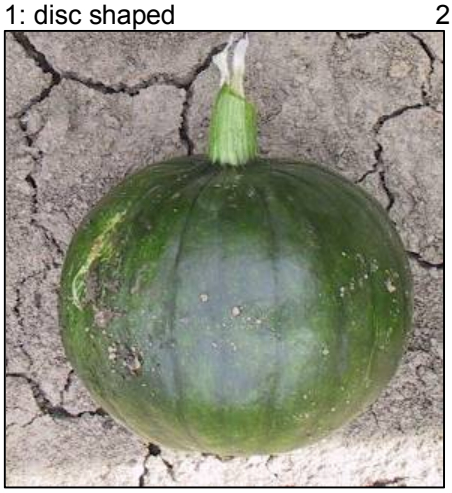
7: ovate 8: elliptical 9: cylindrical 10: pear shaped 11: bottle shaped 12: club shaped

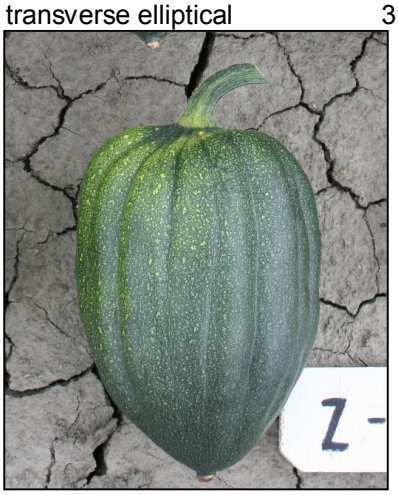
30 Fruit: general shape


1: disc shaped

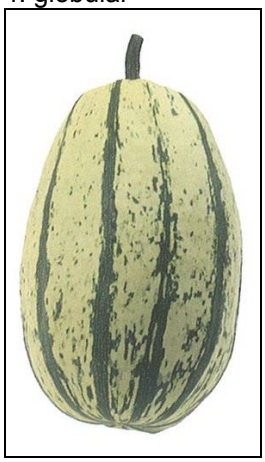

2: transverse elliptical


3: transverse broad elliptical


4: globular

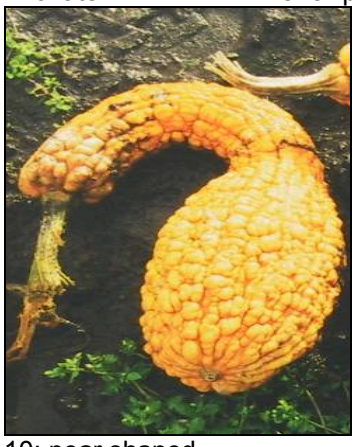

5: top shaped


6: broad elliptical


7: ovate


8: elliptical


9: cylindrical


10: pear shaped


11: bottle shaped


12: club shaped

31.1 <u>Only Scallop type varieties:</u> Fruit: length

Grouping characteristic: no.

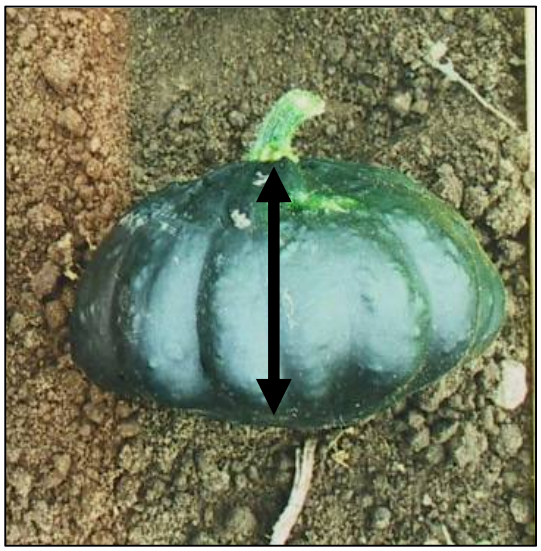
Type of characteristic: **QN** – Quantitative characteristic.

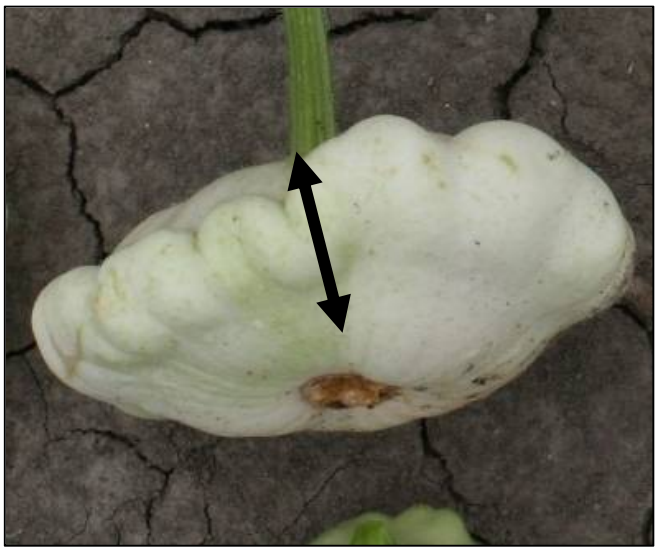
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the fruit from base to top. Calibrate using example varieties within the scallop fruit type.

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





31.2 Only Acorn type varieties: Fruit: length

Grouping characteristic: no.

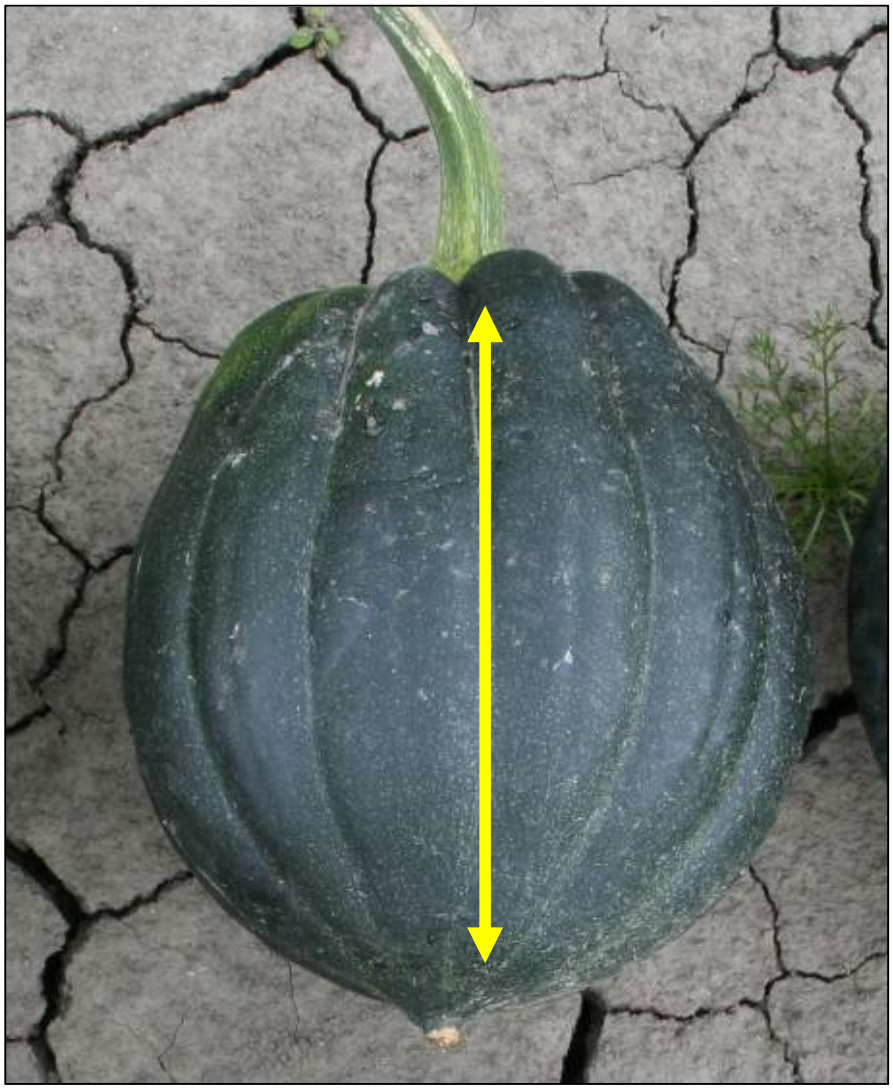
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the fruit from base to top. Calibrate using example varieties within the Acorn fruit type.

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



31.3 Only Neck type varieties: Fruit: 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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the fruit from base to top. Calibrate using example varieties within the Neck fruit type.

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

31.4 Only Zucchini type varieties:
Fruit: length

Grouping characteristic: no.

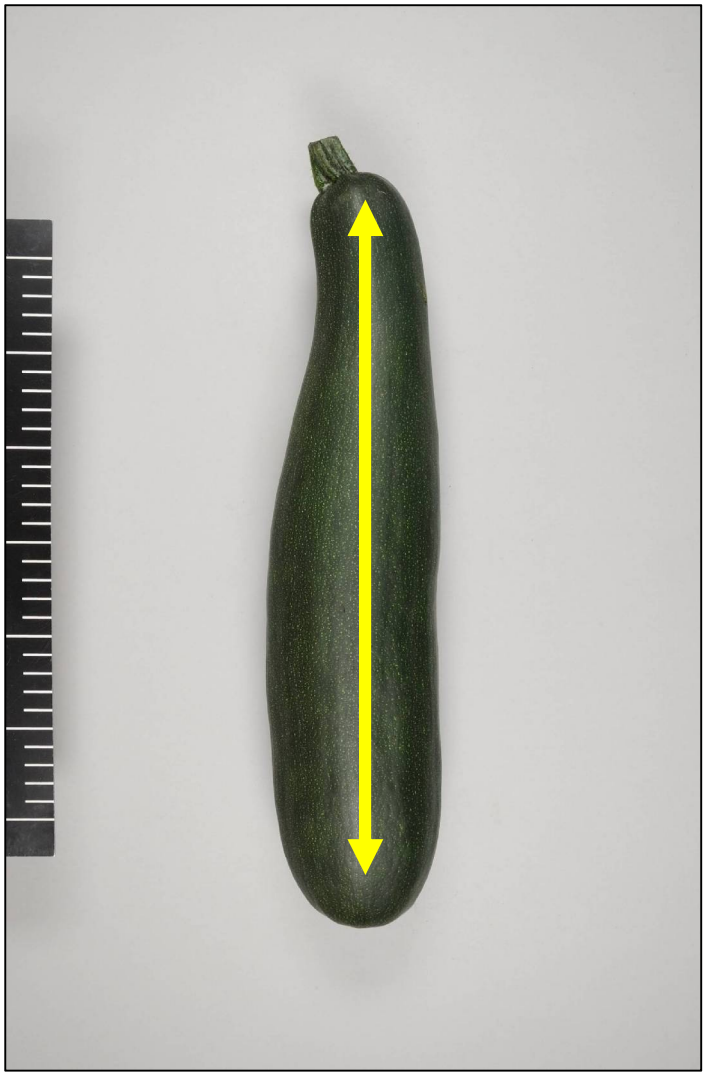
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the fruit from base to top. Calibrate using example varieties within the Zucchini fruit type, rounded Zucchini type excluded.

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



32.1 Only Scallop type varieties:
Fruit: maximum diameter

Grouping characteristic: no.

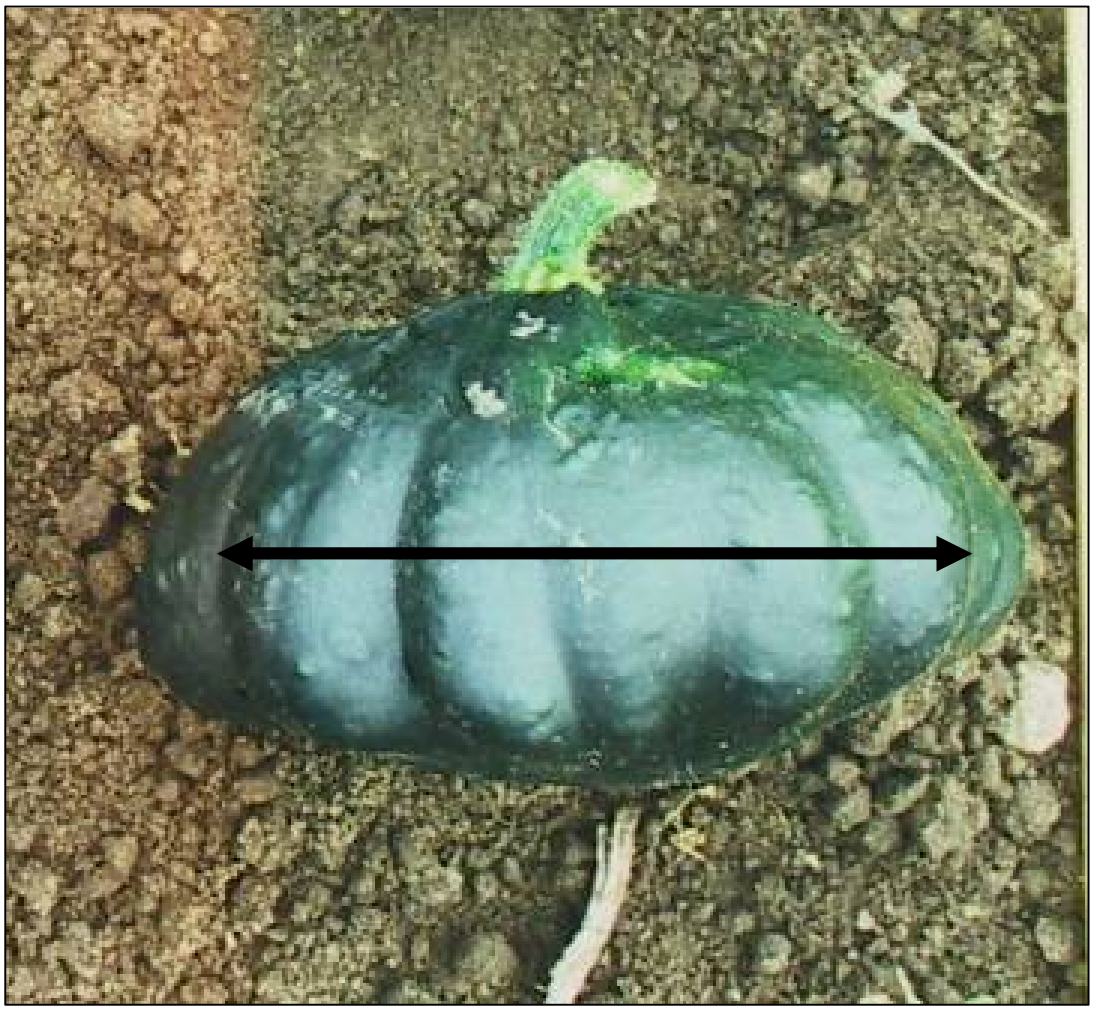
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the diameter of the broadest part. Calibrate using example varieties within the Scallop fruit type.

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



32.2 Only Acorn type varieties: Fruit: maximum 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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the diameter of the broadest part. Calibrate using example varieties within the Acorn fruit type.

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

32.3 Only Zucchini type varieties: Fruit: maximum 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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the diameter of the broadest part. Calibrate using example varieties within the Zucchini fruit type, rounded Zucchini excluded.

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

33.1 Only Scallop type varieties: Fruit: ratio length/ maximum 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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the ratio between the length of the fruit from base to top and the diameter of the broadest part. Calibrate using example varieties within the Scallop fruit type.

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


3: small


5 medium


7 large

33.2 Only Acorn type varieties: Fruit: ratio length/ maximum diameter

Grouping characteristic: no.

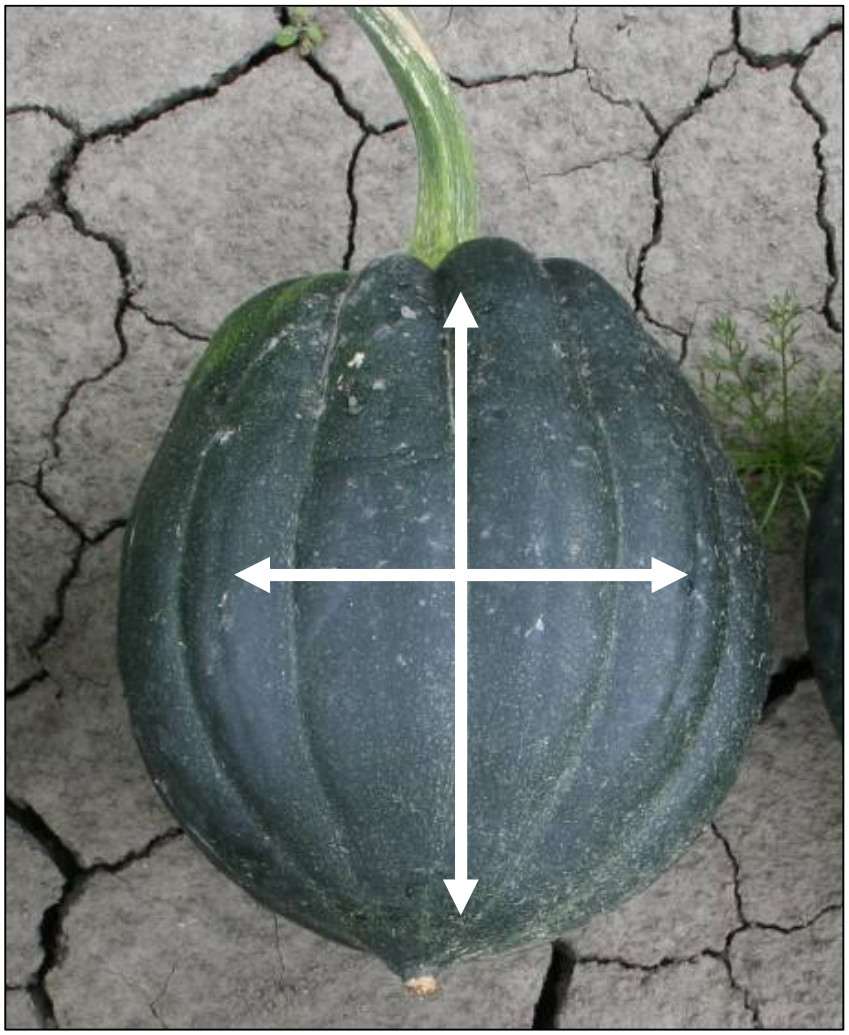
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the ratio between the length of the fruit from base to top and the diameter of the broadest part. Calibrate using example varieties of the Acorn fruit type.

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



33.3 Only Zucchini type varieties: Fruit: ratio length/ maximum diameter

Grouping characteristic: no.

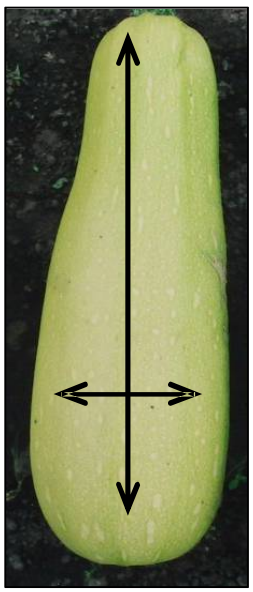
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the ratio between the length of the fruit from base to top and the diameter of the broadest part. Calibrate using example varieties of the Zucchini type, excluding rounded Zucchini type.

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



3: small

5: medium

7: large

34.1 Only Pumpkin type varieties: Fruit: size

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general size of fully developed fruits. Calibrate using example varieties of the Pumpkin fruit type.

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

34.2 Only Rondini type varieties: Fruit: size

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general size of fully developed fruits. Calibrate using example varieties of the Rondini fruit type.

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

35 Only Miniature Pumpkin type varieties: Fruit: peduncle end

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general shape of the base of fully developed fruits, i.e at the side of the peduncle attachment. Calibrate using example varieties of the Miniature Pumpkin fruit type.

Notes and states of expression:
1: straight
2: concave

36 <u>Only Scallop type varieties:</u> Fruit: protrusion of equatorial margin

Grouping characteristic: no.

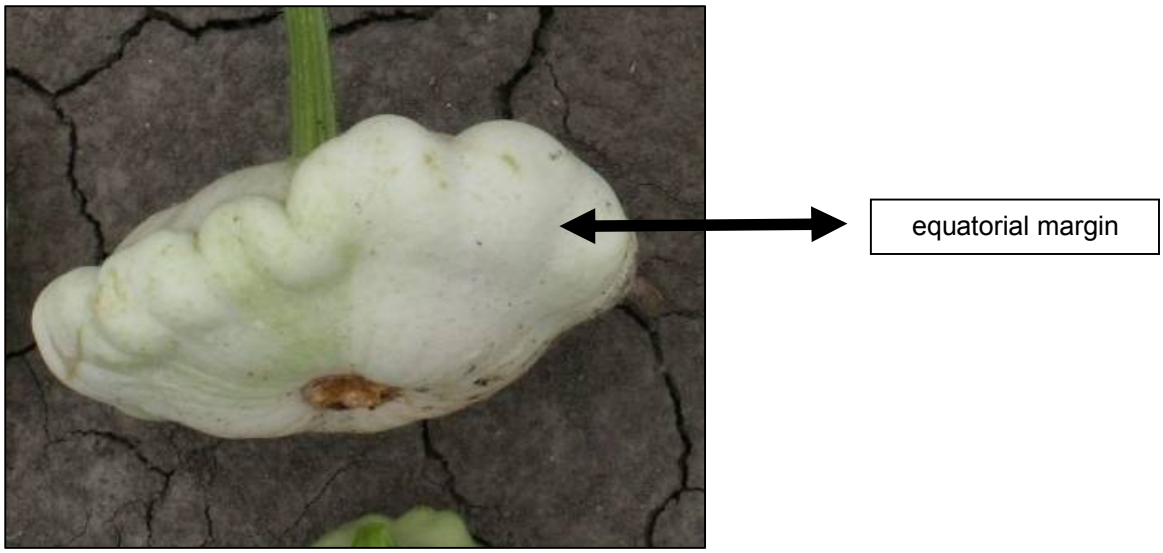
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the protrusion of the equatorial margin of fully developed fruits. Calibrate using example varieties of the Scallop fruit type.

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



36 Only Scallop type varieties: Fruit: protrusion of equatorial margin

3: weak

5: medium

7: strong

37 Only Scallop type varieties: Fruit: position of equatorial margin

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the position of the protrusion of the equatorial margin of fully developed fruits. Calibrate using example varieties of the Scallop fruit type.

Notes and states of expression:
1: at the middle
2: towards stem end

38 Only Scallop type varieties: Fruit: peduncle end

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general shape of the base of fully developed fruits i.e. at the side of the peduncle attachment. Calibrate using example varieties of the Scallop fruit type.

Notes and states of expression:
1: straight
2 : convex

39 Only Scallop type varieties: Fruit: blossom end

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general shape of the top of fully developed fruits i.e at the side of the flower scar. Calibrate using example varieties of the Scallop fruit type.

Notes and states of expression:
1: flat
2: indented

40 Only Acorn type varieties: Fruit: position of maximum 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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the position of the maximum diameter of fully developed fruits. Calibrate using example varieties of the Acorn fruit type.

Notes and states of expression:
1: at the middle
2: towards stem end

41 Only Acorn type varieties: Fruit: peduncle end

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general shape of the base of fully developed fruits i.e at the side of the peduncle attachment. Calibrate using example varieties of the Acorn fruit type.

Notes and states of expression:
1: concave
2: straight
3: convex

42 Only Neck type varieties: Fruit: length of neck

Grouping characteristic: no.

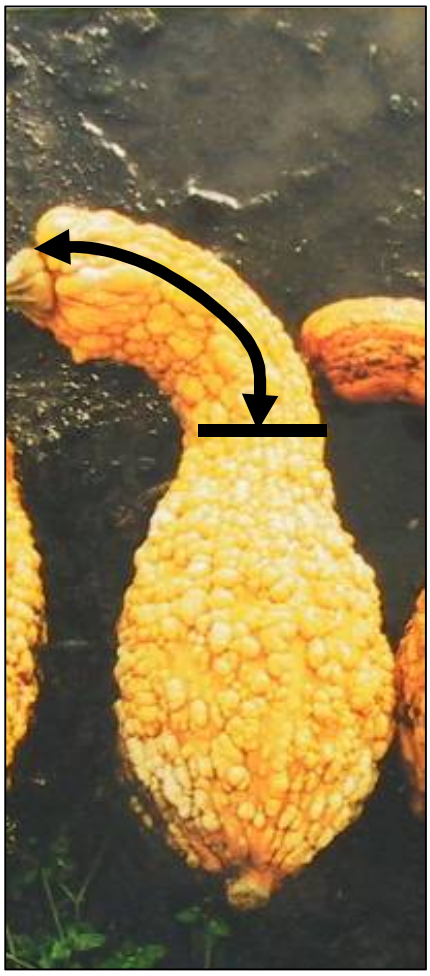
Type of characteristic: **QN** – Quantitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the neck of fully developed fruits, this is from peduncle end to the position where the neck diameter becomes larger. Calibrate using example varieties of the Neck fruit type.

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



43 Only Neck type varieties: Fruit: diameter of neck in relation to maximum diameter

Grouping characteristic: no.

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

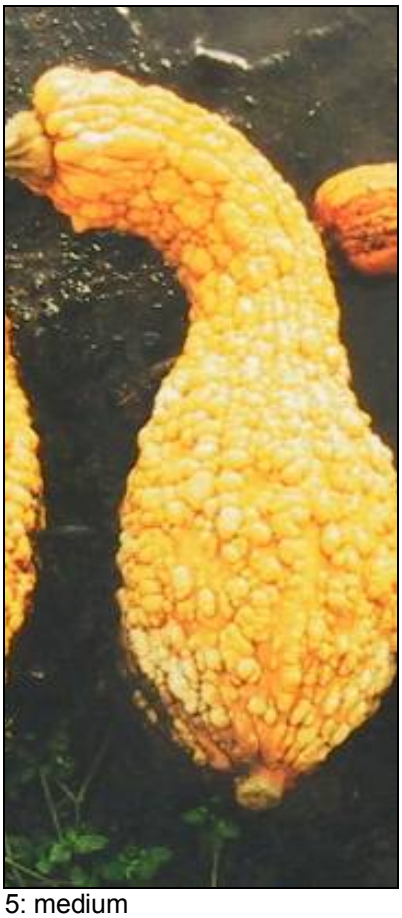
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the ratio of the diameter of the neck and the maximum diameter of the fruit. Calibrate using example varieties of the Neck fruit type

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


3: small


5: medium

3: small 5: medium

44 Only Neck type varieties: Fruit: curving of neck

Grouping characteristic: no.

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

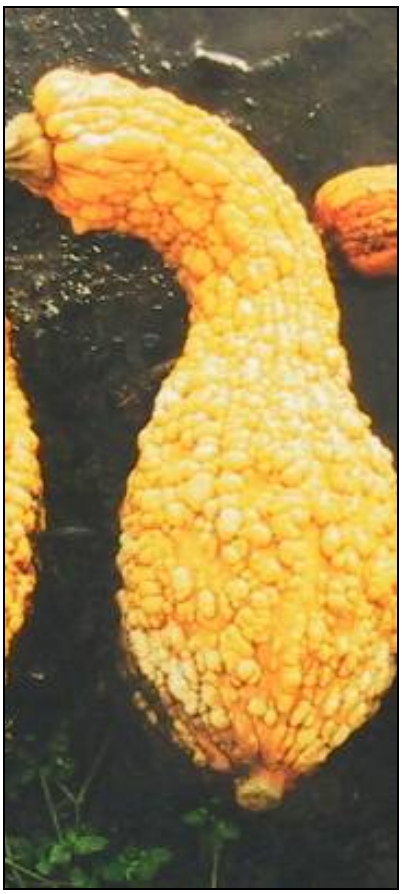
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe whether the neck of the fruit is curved.

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


1: absent


9: present

45 Only Neck and Zucchini type varieties: Fruit: blossom end

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the general shape of the top of fully developed fruits i.e at the side of the flower scar. Calibrate using example varieties of the Neck and Zucchini fruit type.

Notes and states of expression:
1: rounded
9: pointed

46 Fruit: grooves

Grouping characteristic: no.

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

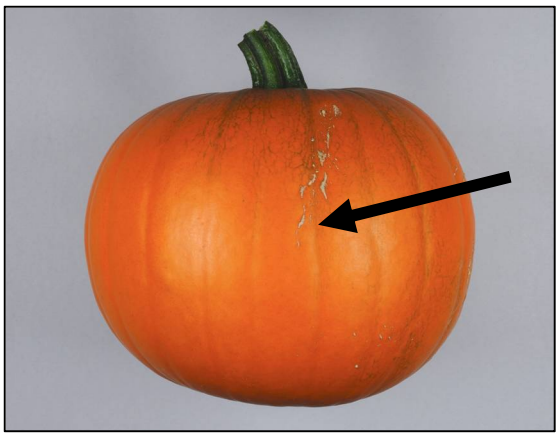
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe whether the fruit is grooved. Note that grooves lie deep in the surface of the fruit, contrary to ribs, and run at regular intervals from peduncle end to blossom end.

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

1: absent



9: present

47 Fruit: depth of grooves

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the depth of the grooves. Note that grooves lie deep in the surface of the fruit, contrary to ribs, and run at regular intervals from peduncle end to blossom end.

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


1: very shallow


3: shallow

48 Fruit: ribs

Grouping characteristic: no.

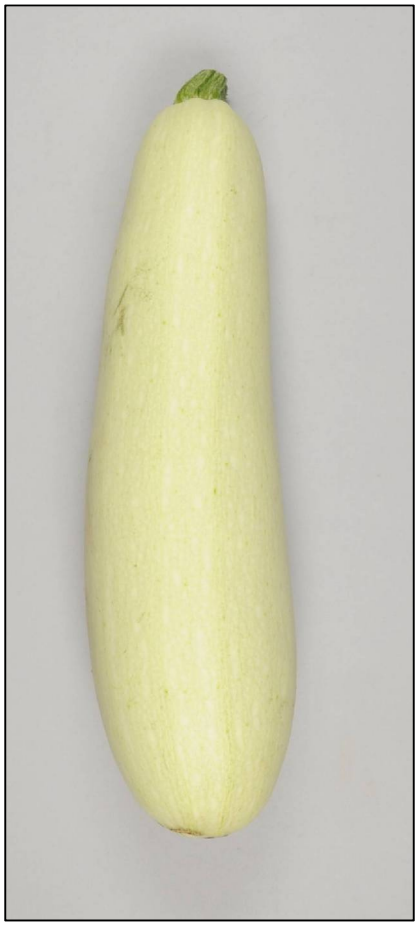
Type of characteristic: **QL** – Qualitative characteristic.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe whether the fruit is ribbed. Note that ribs lie above the surface of the fruit, contrary to grooves, and run at regular intervals from peduncle end to blossom end.

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



1: absent

9: present

49 Fruit: protrusion of ribs

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe how strong the ribs are protruding. Note that ribs lie above the surface of the fruit, contrary to grooves, and run at regular intervals from peduncle end to blossom end.

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

49 Fruit: protrusion of ribs

3: weak

5: medium

7: strong

50 Fruit: main colour of skin (excluding colour of dots, patches, stripes and bands)

Grouping characteristic: no.

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.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Observe which colours the skin of the fruit has. Be aware that this considers in the case of two colours, two principal colours with a clear separating border. It does not concern two hues or two intensities of one colour. Calibrate using example varieties.i.e. Zucchini types with creamy, whitish or light yellow fruits at ripe stage (e.g. Clarita) are light green at this - fully developed - stage.

Notes, states of expression and example varieties:

1: white	Pattison blanc panache de vert
2: cream	Early White Bush Scallop, Little Boo
3: yellow	Autumn Gold
4: green	Ambassador, Baby Bear
5: white and cream	
6: white and green	
7: yellow and green	Sunburst, Zephyr

50 Fruit: main colour of skin (excluding colour of dots, patches, stripes and bands)

1: white

2: cream

3: yellow

4: green (light green and dark green)

7: yellow and green

51 Only varieties with yellow colour of skin: Fruit: intensity of yellow colour of skin (excluding colour of dots, patches, stripes and bands)

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.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Calibrate using example varieties.

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

52 Only varieties with green colour of skin: Fruit: intensity of green colour of skin (excluding colour of dots, patches, stripes and bands)

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.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Calibrate using example varieties.

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

53 Varieties with two main colours only: Fruit: distribution of green 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.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Observe to which extent from the blossom end the green colour reaches, with a clear separating border. Calibrate using example varieties.

Notes and states of expression:
1: green ring around blossom end
2: from blossom end one third green
3: from blossom end one half green

54 Fruit: stripes in grooves

Grouping characteristic: no.

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

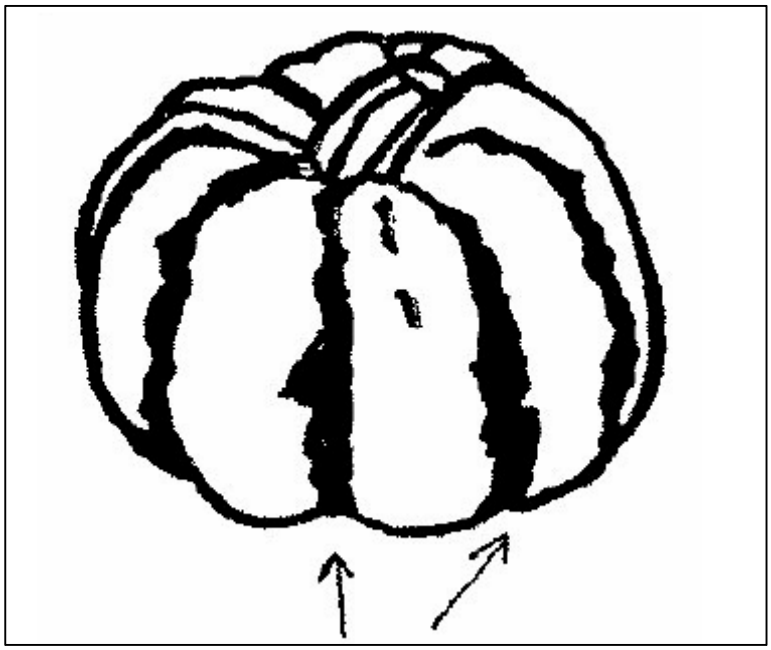
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Only in case grooves are present, observe whether the grooves have a different colour than the main colour of the fruit. Calibrate using explanatory drawings and example varieties.

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

CPVO explanation:



grooves

54 Fruit: stripes in grooves

1: absent

9: present

55 Fruit: colour of stripes in grooves

Grouping characteristic: no.

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.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Only in case grooves are present, observe the colour in the grooves. Calibrate using explanatory drawings and example varieties.

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Notes and states of expression:

1: dark green
2: yellow

55 Fruit: colour of stripes in grooves

1: dark green

2: yellow

56 Fruit: colour of ribs compared to main colour of skin (as for 50)

Grouping characteristic: no.

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

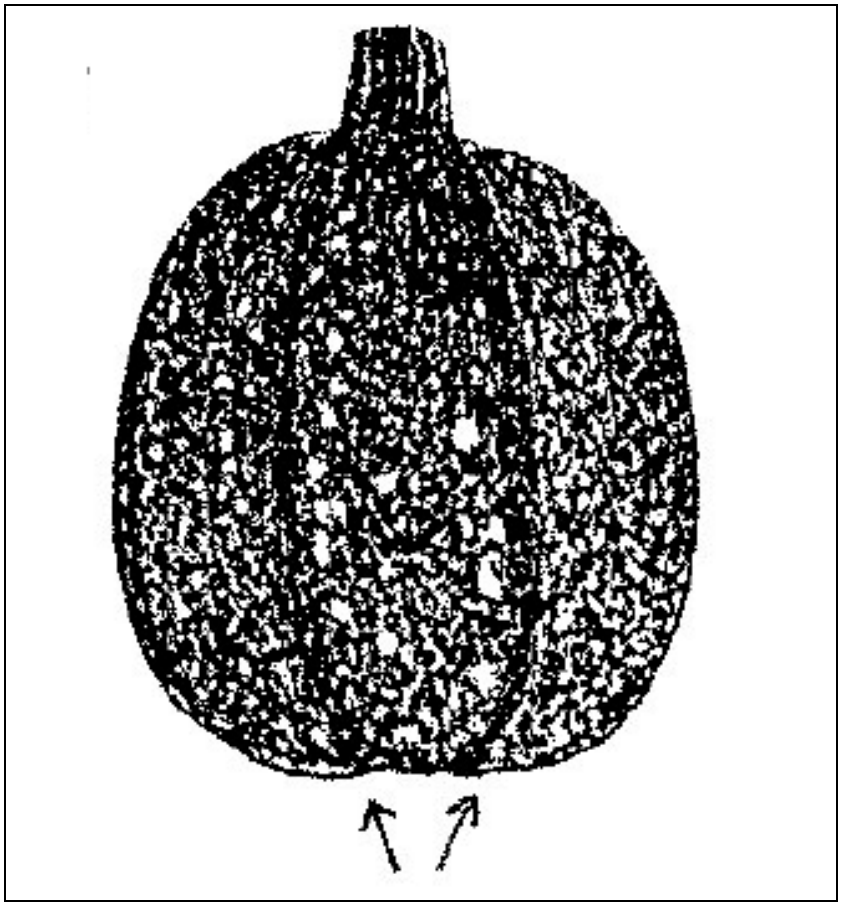
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Only in case ribs are present, observe whether the ribs have a darker intensity than the main colour of the fruit. Note that often this darker colour is caused by a less dense pattern of dots. Calibrate using explanatory drawings and example varieties.

Notes and states of expression:
1: same
2: darker

CPVO explanation:



ribs

56 Fruit: colour of ribs compared to main colour of skin (as for 50)

1: same

2: darker

57 Fruit: dots

Grouping characteristic: no.

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

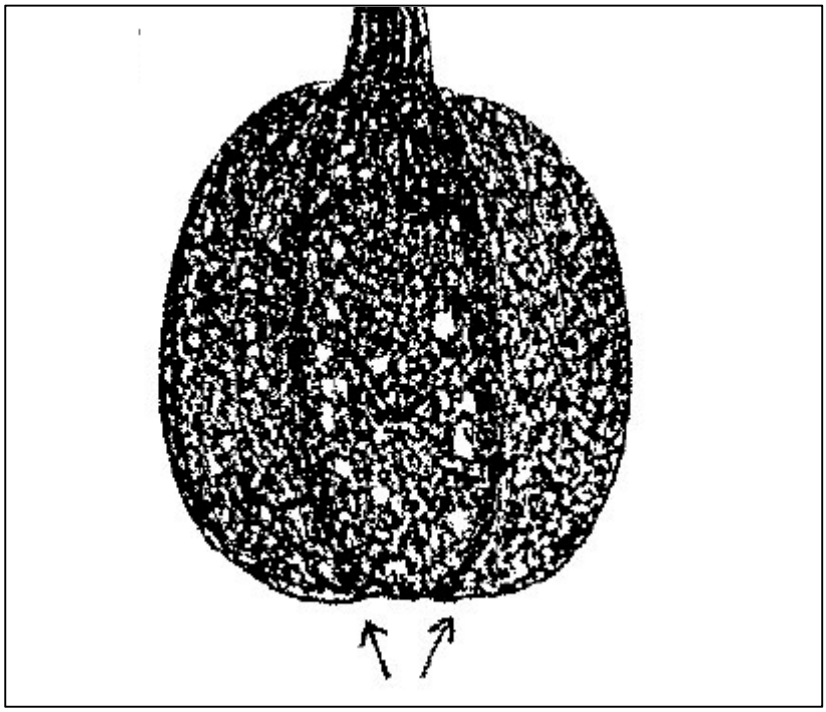
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Observe whether the fruit skin shows dots. These dots seem to lie below the level of the main colour. Calibrate using explanatory drawings and example varieties.

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

CPVO explanation:



9 present

57 Fruit: dots

1: absent

9: present

58 Fruit: size of main dots

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.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Observe the size of the main dots. These are the most frequent dots and usually the smallest. Calibrate using explanatory drawings and example varieties.

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

59 Fruit: secondary green colour between ribs (excluding dots)

Grouping characteristic: no.

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

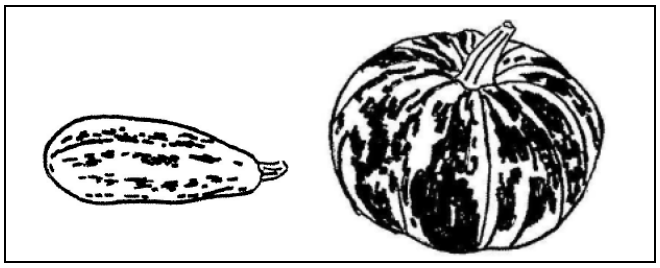
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

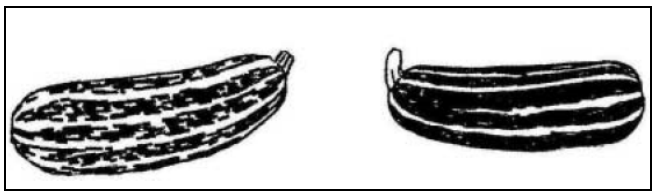
Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Observe whether the secondary green colour between the ribs is absent or present. This secondary colour is always darker than the main green colour of the fruit and comes in the form of patches, stripes and bands. This characteristic is sometimes not easy to observe: especially with dark green fruits of the Zucchini type like Elite, it is easier to observe when the fruits start to change to ripe colour. When the intensity of the main green colour is medium or lighter however, the secondary green colour can be clearly observed. This is also the case for varieties like Greyzini. Calibrate using explanatory drawings and example varieties.

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

CPVO explanation:





Greyzini

Elite

Ambassador

59 Fruit: secondary green colour between ribs (excluding dots)

1: absent

9: present

9: present

60 Fruit: intensity of secondary green colour between ribs

Grouping characteristic: no.

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

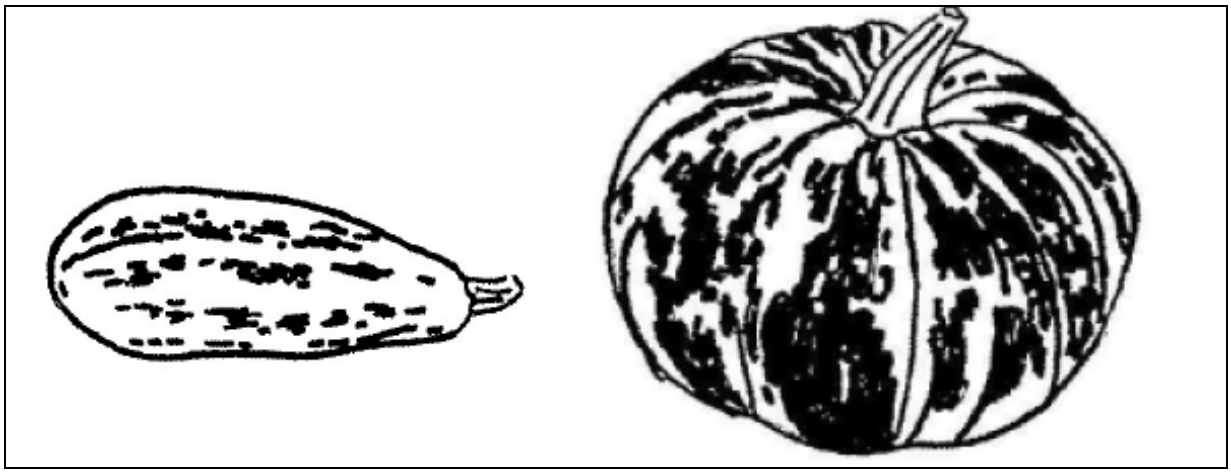
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

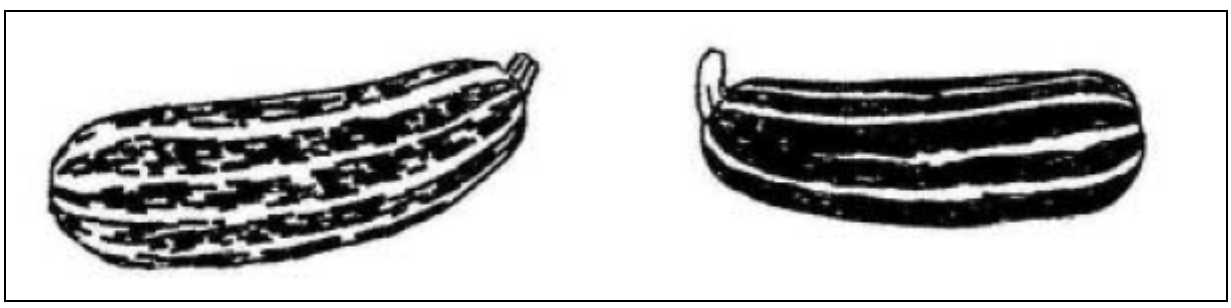
Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

Method of observation: Visual observation. Observe the intensity secondary green colour between the ribs. This colour is always darker than the main green colour of the fruit and comes in the form of patches, stripes and bands. The range of the intensities is the same as from the main green colour. This characteristic is sometimes not easy to observe: especially with dark green fruits of the Zucchini type like Elite, it is easier to observe when the fruits start to change to ripe colour. When the intensity of the main green colour is medium or lighter however, the secondary green colour can be clearly observed. This is also the case for varieties like Greyzini. Calibrate using explanatory drawings and example varieties.

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

CPVO explanation:





61 Fruit: distribution of secondary green colour between ribs

Grouping characteristic: no.

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

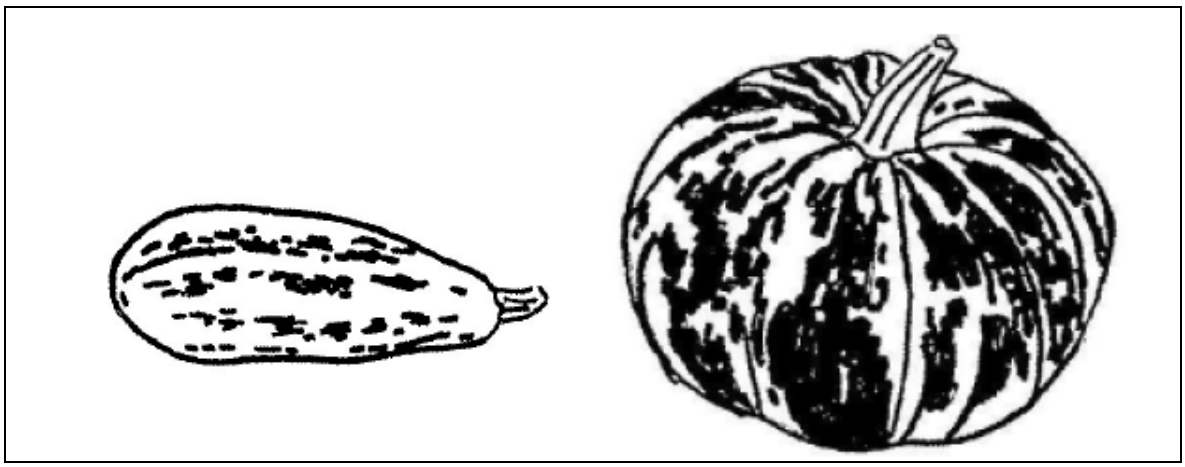
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: Observe when the fruit is fully developed, before the change of colour due to ripening.

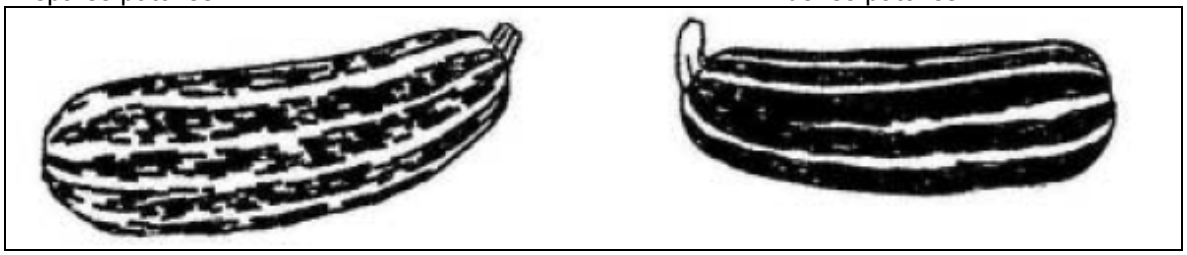
Method of observation: Visual observation. Observe the distribution of the secondary green colour between the ribs. This colour is always darker than the main green colour of the fruit and comes in the form of patches, stripes and bands. The range of the intensities is the same as from the main green colour. This characteristic is sometimes not easy to observe: especially with dark green fruits of the Zucchini type like Elite, it is easier to observe when the fruits start to change to ripe colour. When the intensity of the main green colour is medium or lighter however, the secondary green colour can be clearly observed. This is also. the case for varieties like Greyzini. Calibrate using explanatory drawings and example varieties.

Notes and states of expression:
1: sparse patches
2: dense patches
3: one coloured stripes
4: two coloured stripes
5: one coloured bands covering the whole surface
6 two coloured bands covering the whole surface

CPVO explanation:



1: sparse patches 2: dense patches



stripes bands

62 Fruit: warts on skin

Grouping characteristic: no.

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

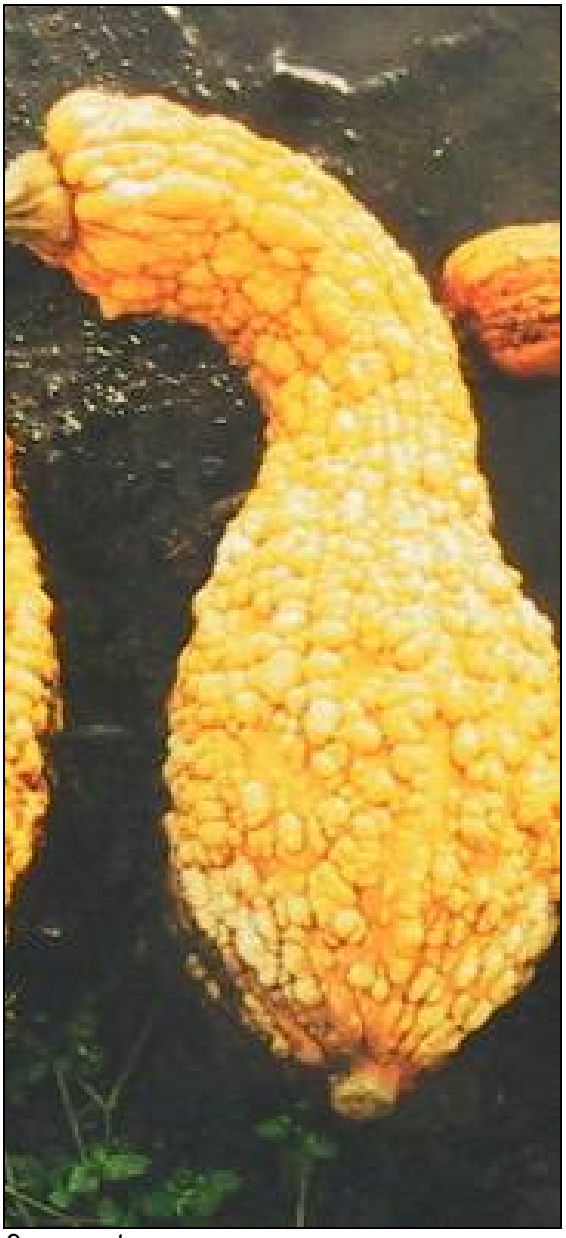
Type of observation: **VG** – Single visual assessment of a group of plants or parts of plants; in practice a single assessment of an average single plant or part of plant.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe whether the skin shows warts.

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


1: absent


9: present

63 Fruit: number of warts on skin

Grouping characteristic: no.

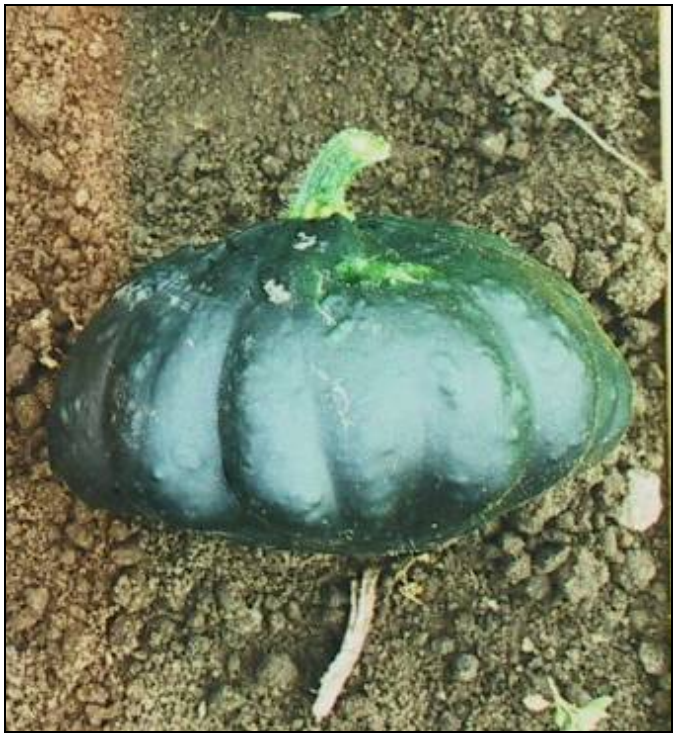
Type of characteristic: **QN** – Quantitative characteristic.

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.

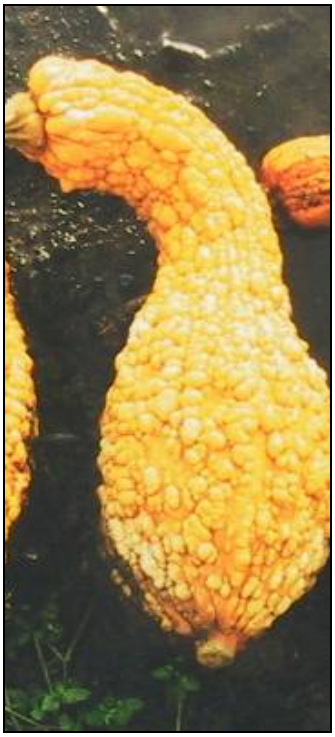
Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the number of warts on the skin. Calibrate using example varieties.

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



1: very few



9: very many

64 Fruit: size of flower scar

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the size of the flower scar. Be aware that this is a general characteristic in which all fruit types are to be taken into consideration.

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

1: small 5: medium 7: large

65 Fruit: length of peduncle

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.

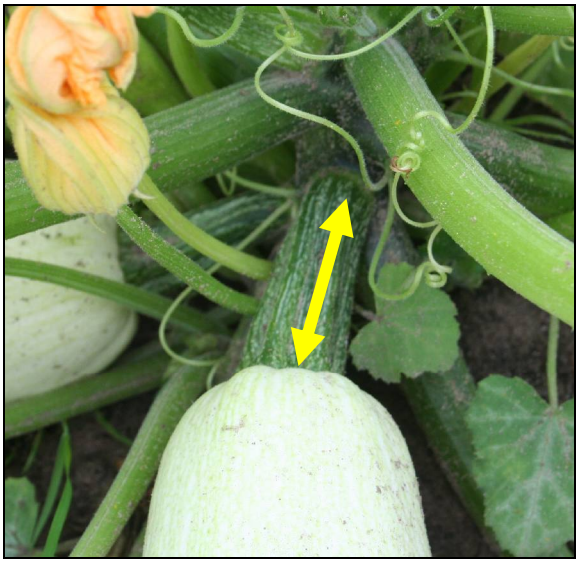
Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the peduncle. Take into consideration that when observing harvested fruits, it might not be possible to assess on these the whole length of the peduncle from attachment to the stem to attachment to the fruit. Be aware that this is a characteristic in which all fruit types are to be taken into consideration.
Calibrate using example varieties.

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

65 Fruit: length of peduncle

3: short



5: medium

7: long

3: short 7: long m

66 Fruit: colour of peduncle

Grouping characteristic: no.

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the length of the peduncle. Take into consideration not to observe this on harvested fruits, as it might not be possible to assess this on the whole length of the peduncle from attachment to the stem to attachment to the fruit.

Notes and states of expression:
1: yellow
2: green
3: yellow and green

67 Fruit: intensity of green colour of peduncle

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. Observe the intensity of the green colour of the peduncle or the part of the peduncle which is green.
Calibrate using example varieties.

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

67 Fruit: intensity of green colour of peduncle

5: medium

7: dark

68 Fruit: mottling of peduncle

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.

Stage of observation: When the fruit is fully developed or later.

Method of observation: Visual observation. The peduncle is marbled when it shows a pattern of small lighter green elongated dots or stripes.

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


1: absent


2: present

69 Ripe fruit: main colour of skin (excluding colour of mottles, patches, stripes and bands)

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour. Be aware that in some climate regions the season is rather short for ripening of the fruits. Especially dark green Zucchini fruit types might not ripen. Sometimes one can help the ripening process by damaging a small part of the skin. Ethylene production caused by stress will then after some time help to show the ripe colour of the fruit.

Method of observation: Visual observation.

Notes, states of expression and example varieties:

1: white	Pâtisson blanc panaché de vert
2: whitish	White Bush Scallop
3: cream	Bianchini, Opal
4: yellow	Gold Rush
5: orange	Autumn Gold

70 Ripe fruit: intensity of main colour of skin (only yellow and orange)

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour. Be aware that in some climate regions the season is rather short for ripening of the fruits. Especially dark green Zucchini fruit types might not ripen. Sometimes one can help the ripening process by damaging a small part of the skin. Ethylene production caused by stress will then after some time help to show the ripe colour of the fruit.

Method of observation: Visual observation.
Calibrate using example varieties.

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

71 Ripe fruit: secondary colour of skin (excluding colour of mottles, patches, stripes and bands)

Grouping characteristic: no.

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour. Be aware that in some climate regions the season is rather short for ripening of the fruits. Especially dark green Zucchini fruit types might not ripen. Sometimes one can help the ripening process by damaging a small part of the skin. Ethylene production caused by stress will then after some time help to show the ripe colour of the fruit.

Method of observation: Visual observation. This does not concern the secondary green colour (see explanation at Characteristic 59)

Notes and states of expression:
1: whitish
2: cram
3: yellow
4: orange
5: green

72 Ripe fruit: green hue (only white and cream)

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour. Be aware that in some climate regions the season is rather short for ripening of the fruits. Especially dark green Zucchini fruit types might not ripen. Sometimes one can help the ripening process by damaging a small part of the skin. Ethylene production caused by stress will then after some time help to show the ripe colour of the fruit.

Method of observation: Visual observation. Observe whether a green hue develops on varieties with a white or cream skin colour at ripe stage. The green hue often shows a dotted pattern like for characteristic 57.

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


1: absent


2: present

73 Ripe fruit: prominence of green hue (only white and cream)

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour. Be aware that in some climate regions the season is rather short for ripening of the fruits. Especially dark green Zucchini fruit types might not ripen. Sometimes one can help the ripening process by damaging a small part of the skin. Ethylene production caused by stress will then after some time help to show the ripe colour of the fruit.

Method of observation: Visual observation. Observe the prominence of the green hue that develops on varieties with a white or cream skin colour at ripe stage, especially when directly exposed to daylight. The green hue often shows a dotted pattern like for characteristic 57. Calibrate using example varieties.

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

73 Ripe fruit: prominence of green hue (only white and cream)

3: weak

7: strong

These images serve only to illustrate the variation present in the crop and should not be used as an absolute reference.

74 Ripe fruit: colour of flesh

Grouping characteristic: no.

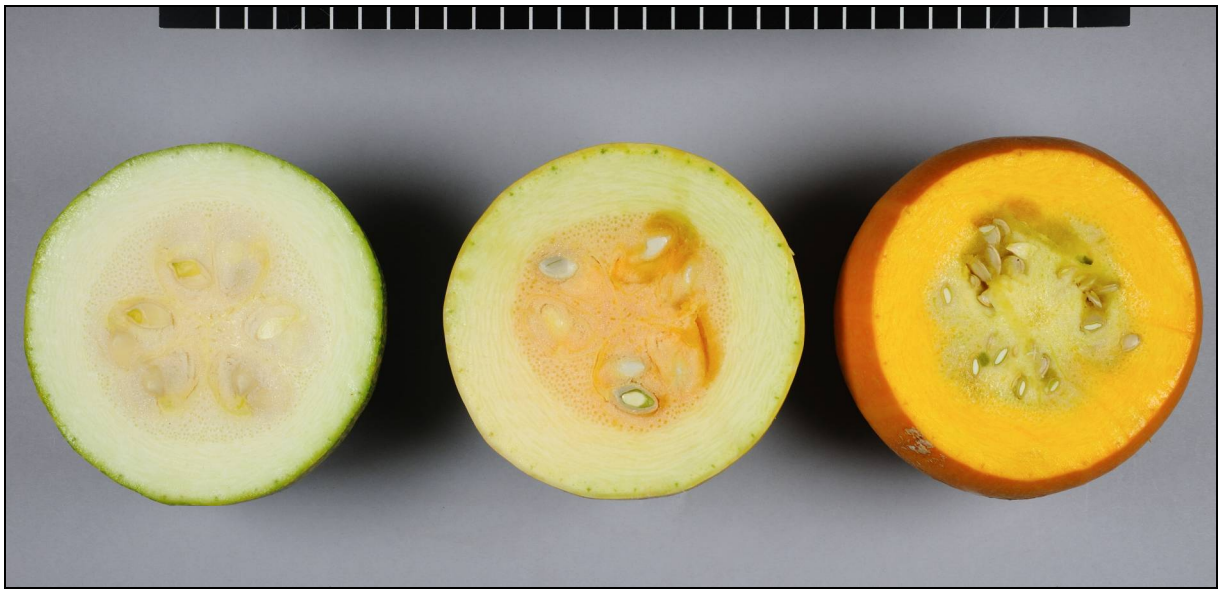
Type of characteristic: **PQ** – Pseudo-qualitative characteristic.

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.

Stage of observation: On physiologically ripe fruits, when the fruit begins to change colour.

Method of observation: Visual observation. Cut the fruits to observe the colour of the flesh. Colour of the flesh might vary a little, due to the different ripening stage. Near the seeds, the colour might be different. Do not take this part of the flesh into account for observation.

Notes and states of expression:
1: cream
2: yellow
3: orange



1: cream 2: yellow 3: orange

75 Ripe fruit: lignified rind

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour.

Method of observation: Visual observation.
Cut the fruits to observe the rind. The rind is lignified when it is tough to cut it, because ligneous tissue has developed. (note: Zucchini types have a lignified rind). It can be from thin to thick. A non lignified rind is almost as soft as the flesh. Calibrate using example varieties.

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

76 Ripe fruit: structure of flesh

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.

Stage of observation: On physiologically ripe fruits, when the fruit has changed colour.

Method of observation: Visual observation.
Cut the fruits to observe the structure of the flesh. S*paghetti* flesh will break into strands.

Notes and states of expression:
1: not fibrous
2: fibrous


1: not fibrous


2: fibrous

77 Seed: size

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.

Stage of observation: On physiologically ripe fruits, when the fruit begins to change colour or later.

Method of observation: Visual observation. Calibrate using example varieties.

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

1 very small 3 small 5 medium 7 large 9 very large

78 Seed: shape

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.

Stage of observation: On physiologically ripe fruits, when the fruit begins to change colour or later.

Method of observation: Visual observation.
Calibrate using example varieties.

Notes and states of expression:
3: narrow elliptic
5: elliptic
7: broad elliptic

3: narrow elliptic 5: elliptic 7: broad elliptic

79 Seed: hull

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.

Stage of observation: On physiologically ripe fruits, when the fruit begins to change colour or later.

Method of observation: Visual observation.
Observe whether the hull, the outer lignified skin of the seed, is present. When the hull is rudimentary, it will be like a thin soft membrane in the colour of the hull. When it is absent the green endosperm will show through a very thin membrane. Calibrate using example varieties

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

1: absent 2: present

80 Seed: appearance of hull

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.

Stage of observation: On physiologically ripe fruits, when the fruit begins to change colour or later.
Method of observation: Visual observation.
Observe whether the hull, the outer lignified skin of the seed, is present. When the hull is rudimentary, it will be like a thin soft membrane in the colour of the hull. When it is absent the green endosperm will show through a very thin membrane.
Calibrate using example varieties.

Notes and states of expression:
1: rudimentary
2: fully developed

81 Seed: colour of hull

Grouping characteristic: no.

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.

Stage of observation: On physiologically ripe fruits, when the fruit begins to change colour or later.

Method of observation: Visual observation.
Observe the colour of the dry hull. So seed must be harvested and dried. This characteristic is not applicable for hull less seed. Calibrate using example varieties.

Notes and states of expression:
1: whitish
2: cream

1: whitish 2: cream

Notes

Notes

Notes

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