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GENEVA

## TECHNICAL WORKING PARTY FOR VEGETABLES

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WORKING PAPER ON TEST GUIDELINES FOR RUNNER BEAN
(REVISION)

*Document prepared by experts from the Netherlands*

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## I. Subject of these Guidelines

These Guidelines apply to all varieties of *Phaseolus coccineus* L.

## II. Material Required

1. The competent authorities decide when, where and in what quantity and quality the seed required for testing the variety is to be delivered. Applicants submitting material from a State other than that in which the testing takes place must make sure that all customs formalities are complied with. As a minimum, for each year of test the following quantity of seed is recommended:

2000 g. or 6000 seeds.

The quality of the seed to be delivered should not be below the standards of seeds for marketing standard seed in the country concerned, especially with regard to germination capacity and moisture content.

2. The seed must not have undergone any treatment unless the competent authorities allow or request such treatment. If it has been treated, full details of the treatment must be given.

## III. Conduct of Tests

1. The minimum duration of tests should be two similar growing periods.

2. The tests should normally be conducted at one place. If any important characteristics of the variety cannot be seen at that place, the variety may be tested at an additional place.

3. The tests should be carried out under conditions ensuring normal growth. The size of the plots should be such that plants or parts of plants may be removed for measuring and counting without prejudice to the observations which must be made up to the end of the growing period. As a minimum, each test should include a total of 60 plants which should be divided between two or more replicates. Separate plots for observation and for measuring can only be used if they have been subject to similar environmental conditions. For uniformity due to partly cross polination relative uniformity or population standard of 2% resulting in max 3 off types per 60 plants allowed.

4. Additional tests for special purposes may be established.

## IV. Methods and Observations

1. All observations determined by measurement or counting should be made on 20 plants or parts of 20 plants.

2. All observations on the pod should be made at fresh harvest maturity. All observations on the seed should be made at the mature dry stage.

3. All observations on the seed should be made on harvested material (and not on seed sent in by the applicant).

## V. Grouping of Varieties

1. The collection to be grown should be divided into groups to facilitate the assessment of distinctness. Characteristics which are suitable for grouping purposes are those which are known from experience not to vary, or to vary only slightly, within a variety and which in their various states are fairly evenly distributed within the collection.

2. It is recommended that the competent authorities use the following characteristics for grouping varieties:

(i) Plant: growth type (characteristic 2)
(ii) Flower: color (characteristic 12)
(iii) Pod: stringiness (characteristic 17)
(iv) Seed: main color (characteristic 28)

## VI. Characteristics and Symbols

1. To assess distinctness, uniformity and stability, the characteristics and their states as given in the Table of Characteristics should be used.

2. Notes (1 to 9), for the purposes of electronic data processing, are given opposite the states of expression for different characteristics.

3. Legend:

(*) Characteristics that should be used every growing period for the examinations of all varieties and should always be included in the description of the variety, except when the state of expression of a preceding characteristic or regional environmental conditions render this impossible.

VII. Table of Characteristics/Tableau des caractères/Merkmalstabelle/Tabla de caracteres

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **1.** | **Plant: anthocyanin coloration of hypocotyledon** | | | | | |
| | absent | | | | Emergo, White Lady | 1 |
| | present | | | | Fergie, Streamline | 9 |
| **2.** | **Plant: growth type** | | | | | |
| | dwarf | | | | Pickwick | 1 |
| | climbing | | | | Enorma | 2 |
| **3.** | **Dwarf Beans only:**<br>**Plant height** | | | | | |
| | short | | | | | 3 |
| | medium | | | | Hammond's Dwarf Scarlet | 5 |
| | tall | | | | | 7 |
| **4.** | **Climbing beans only: Plant starts climbing (80% of plants)** | | | | | |
| | early | | | | Butler | 3 |
| | medium | | | | White Lady, Flame | 5 |
| | late | | | | White Apollo | 7 |
| **5.** | **Climbing beans only:**<br>**Plant: speed of climbing** | | | | | |
| | slow | | | | White Apollo | 3 |
| | medium | | | | Emergo Stringless | 5 |
| | rapid | | | | Butler, Fergie | 7 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **6.** | **Leaf: ground color** | | | | | |
| | yellow green | | | | Sun Bright | 1 |
| | true green | | | | Kelvedon Wonder | 2 |
| **7.** | **Leaf: intensity of green color** | | | | | |
| | light | | | | Red Rum, White Lady | 3 |
| | medium | | | | Galaxy, Kelvedon Stringless | 5 |
| | dark | | | | Emergo Stringless, Pallas | 7 |
| **8.** | **Leaf: rugosity** | | | | | |
| | weak | | | | Desiree, Titan | 3 |
| | medium | | | | Riley | 5 |
| | strong | | | | Enorma | 7 |
| **9.** **(+)** | **Terminal leaflet: size** | | | | | |
| | small | | | | Pallas, Sun Bright | 3 |
| | medium | | | | Red Rum | 5 |
| | large | | | | Emergo | 7 |
| **10.** **(+)** | **Terminal leaflet: shape** | | | | | |
| | triangular | | | | Red Rum | 1 |
| | triangular to circular | | | | Flame | 2 |
| | circular | | | | | 3 |
| | circular to quadrangular | | | | Pallas | 4 |
| | quadrangular | | | | Armstrong, Sun Bright | 5 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **11.**<br>**(+)** | **Terminal leaflet: apex** | | | | | |
| | short acuminate | | | | | 3 |
| | medium acuminate | | | | Armstrong | 5 |
| | long acuminate | | | | Pallas | 7 |
| **12.** | **Flower: color** | | | | | |
| | white | | | | Desiree, Emergo | 1 |
| | pink | | | | Riley | 2 |
| | red | | | | Armstrong, Streamline | 3 |
| | red standard and white wing petals | | | | Painted Lady | 4 |
| **13.** | **Pod: length (including beak)** | | | | | |
| | very short | | | | Sun Bright | 1 |
| | short | | | | Esparot, Painted Lady | 3 |
| | medium | | | | Emergo | 5 |
| | long | | | | Armstrong | 7 |
| | very long | | | | Liberty | 9 |
| **14.** | **Pod: median width** | | | | | |
| | narrow | | | | Sun Bright | 3 |
| | medium | | | | Armstrong, Riley | 5 |
| | broad | | | | Titan | 7 |
| **15.** | **Pod: shape of cross section (through seed)** | | | | | |
| | elliptic to ovate | | | | Desiree, Red Rum | 1 |
| | cordate | | | | | 2 |
| | circular | | | | | 3 |
| | “eight shaped” | | | | | 4 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **16.** | **Pod: intensity of green color** | | | | | |
| | very light | | | | Sun Bright | 1 |
| | light | | | | Emergo | 3 |
| | medium | | | | Armstrong, Esparot | 5 |
| | dark | | | | Pallas | 7 |
| | very dark | | | | | 9 |
| **17.** | **Pod: stringiness** | | | | | |
| | absent | | | | Armstrong,<br>Emergo Stringless | 1 |
| | present | | | | Enorma, Kelvedon Marvel | 9 |
| **18.** | **Pod: degree of curvature** | | | | | |
| | absent or very slight | | | | | 1 |
| | slight | | | | Red Rum | 3 |
| | medium | | | | Painted Lady | 5 |
| | strong | | | | Galaxy | 7 |
| | very strong | | | | | 9 |
| **19.** | **Pod: shape of curvature** | | | | | |
| | concave | | | | | 1 |
| | s-shaped | | | | | 2 |
| | convex | | | | | 3 |
| **20.** | **Pod: shape of distal part (excluding beak)** | | | | | |
| | pointed | | | | | 1 |
| | pointed to truncate | | | | | 2 |
| | truncate | | | | | 3 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **21.** | **Pod: length of beak** | | | | | |
| | short | | | | Armstrong, Desiree | 3 |
| | medium | | | | Titan | 5 |
| | long | | | | Flame, Red Rum | 7 |
| **22.** | **Pod: curvature of beak** | | | | | |
| | absent or very weak | | | | Sun Bright | 1 |
| | weak | | | | Emergo, Red Rum | 3 |
| | medium | | | | Desiree, Galaxy | 5 |
| | strong | | | | Armstrong | 7 |
| | very strong | | | | | 9 |
| **23.** | **Pod: constrictions (at dry stage)** | | | | | |
| | absent or very slight | | | | | 1 |
| | slight | | | | Galaxy, Red Rum | 3 |
| | medium | | | | Armstrong, Emergo | 5 |
| | pronounced | | | | Enorma | 7 |
| | very pronounced | | | | | 9 |
| **24.** | **Seed: weight** | | | | | |
| | very low | | | | Sun Bright | 1 |
| | low | | | | Esparot | 3 |
| | medium | | | | Hammonds Dwarf Scarlet | 5 |
| | high | | | | Streamline Stringless | 7 |
| | very high | | | | Liberty | 9 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **25.**<br>**(+)** | **Seed: shape of median longitudinal section** | | | | | |
| | narrow elliptic | | | | Painted Lady | 1 |
| | elliptic | | | | Emergo, Pallas | 2 |
| | broad elliptic | | | | Galaxy, Prizewinner Stringless | 3 |
| | narrow ovate | | | | | 4 |
| | ovate | | | | | 5 |
| | broad ovate | | | | | 6 |
| | circular | | | | | 7 |
| | narrow kidney shaped | | | | | 8 |
| | kidney shaped | | | | Armstrong, Flame, Red Rum | 9 |
| | broad kidney shaped | | | | Esparot | 10 |
| **26.**<br>**(+)** | **Seed: shape of median cross-section** | | | | | |
| | flat | | | | Desiree | 1 |
| | elliptic | | | | Armstrong, Flame Red, Rum | 2 |
| | circular | | | | | 3 |
| **27.** | **Seed: number of colors** | | | | | |
| | one | | | | Emergo, Riley | 1 |
| | two | | | | Crusader, Enorma | 2 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **28.** | **Seed: main color** | | | | | |
| | white | | | | Desiree, Emergo | 1 |
| | light brown | | | | Melange | 2 |
| | purple | | | | Armstrong, Bonela, Sun Bright | 3 |
| | violet | | | | Painted Lady | 4 |
| | black | | | | Riley | 5 |
| **29.** | **Seed: secondary color** | | | | | |
| | brown | | | | | 1 |
| | black | | | | Armstrong | 2 |
| **30.**<br>**(+)** | **Seed: distribution of predominant secondary color** | | | | | |
| | spotted | | | | Enorma, Prijswinner | 1 |
| | stained | | | | Crusader, Kelvedon Stringless | 2 |
| **31.** | **Seed: veining** | | | | | |
| | weak | | | | Enorma | 3 |
| | medium | | | | Desiree | 5 |
| | strong | | | | | 7 |
| **32.** | **Seed: color of hilar ring** | | | | | |
| | same color as seed | | | | Desiree | 1 |
| | not same as seed | | | | Flame, Red Rum | 2 |

| | English | français | deutsch | español | Example Varieties<br>Exemples<br>Beispielssorten<br>Variedades ejemplo | Note/<br>Nota |
|---|---|---|---|---|---|---|
| **33.** | **Time of flowering (50% of the plants with at least one flower)** | | | | | |
| | early | | | | Hestia, Red Rum | 3 |
| | medium | | | | Armstrong, Flame | 5 |
| | late | | | | Esparot, Sun Bright | 7 |

## VIII. Explanations on the Table of Characteristics

[still to be prepared]

## IX. Literature

[still to be prepared]

## X. Technical Questionnaire

[still to be prepared]

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