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| International Union for the Protection of New Varieties of Plants |  |

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| Technical Working Party for Vegetables  Fifty-Ninth Session  Virtual meeting, May 5 to 8, 2025  Technical Working Party for Agricultural Crops  Fifty-Fourth Session  Arusha, United Republic of Tanzania, May 19 to 22, 2025 | TWV/59/5-TWA/54/5  Original: English  Date: March 28, 2025 |

Partial revision of the Test Guidelines for Maize

Document prepared by an expert from the Netherlands (Kingdom of)

Disclaimer: this document does not represent UPOV policies or guidance

The purpose of this document is to present a proposal for a partial revision of the Test Guidelines for Maize (document TG/2/7 Rev.).

The Technical Working Party for Vegetables (TWV), at its fifty-eighth session[[1]](#footnote-2), and The Technical Working Party for Agricultural Crops (TWA), at its fifty-third session[[2]](#footnote-3), considered a proposal for a partial revision of the Test Guidelines for Maize (*Zea mays* L.) and agreed to continue discussions on the inclusion of a new characteristic at the fifty-ninth session of the TWV and the fifty-fourth session of the TWA (see documents TWV/58/11 “Report”, Annex II and TWA/53/9 “Report”, paragraph 54).

The following changes are proposed:

1. Revision of characteristics 24.1 and 24.2 “Plant: length” (There is a need to separate inbred lines from hybrids varieties for this characteristic. Plants of inbred lines are always clearly shorter than hybrids ones, therefore two different scales are needed).
2. Revision of characteristics 32: “Only varieties with ear type of grain: sweet, pop or waxy: Ear: number of colors of grains” and 38: “Ear: main color of top of grain"
3. Addition of new characteristic and explanation “Ear: secondary color of grain”
4. Changes to the Technical Questionnaire

The proposed changes are presented below in highlight and underline (insertion) and ~~strikethrough~~ (deletion).

Proposed revision of characteristics 24.1 and 24.2 “Plant: length”

*Current wording*

|  |  | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 24.1  (\*) (+) | MS 75-85 | Only inbred lines and varieties with ear type of grain: sweet or pop: Plant: length | Seulement pour les lignées endogames et les variétés avec type de grain de l’épi: doux ou à éclater: Plante: longueur | Nur Inzuchtlinien und Sorten mit Kolben: Korntyp: Zuckermais oder Popcorn: Pflanze: Länge | Sólo variedades endógamas y variedades con mazorca con tipo de grano: dulce o palomero: Planta: longitud |  |  |
| **QN** |  | very short | très courte | sehr kurz | muy corta | F7 | 1 |
|  |  | short | courte | kurz | corta | Spirit (SC), W117 | 3 |
|  |  | medium | moyenne | mittel | media | F244, Puma (SC) | 5 |
|  |  | long | longue | lang | larga | Royalty (SC), WD36 | 7 |
|  |  | very long | très longue | sehr lang | muy larga | Enterprise (SC) | 9 |
| 24.2 (\*) (+) | MS 75-85 | Only hybrids and open-pollinated varieties, excluding varieties with ear type of grain: sweet or pop: Plant: length | Seulement pour les hybrides et les variétés à fécondation libre, à l’exclusion des variétés avec type de grain de l’épi: doux ou à éclater: Plante: longueur | Nur Hybriden und freiabblühende Sorten, ohne Sorten mit Kolben: Korntyp: Zuckermais oder Popcorn: Pflanze: Länge | Sólo híbridos y variedades de polinización libre, excepto variedades con mazorca con tipo de grano: dulce o palomero: Planta: longitud |  |  |
| **QN** |  | very short | très courte | sehr kurz | muy corta |  | 1 |
|  |  | short | courte | kurz | corta | PR39D23 | 3 |
|  |  | medium | moyenne | mittel | media | PR37Y12 | 5 |
|  |  | long | longue | lang | larga | DKC5166 | 7 |
|  |  | very long | très longue | sehr lang | muy larga |  | 9 |

*Proposed new wording*

|  |  | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
| --- | --- | --- | --- | --- | --- | --- | --- |
| 24.1  ~~(\*)~~ (+) | MS 75-85 | Only inbred lines ~~and varieties with ear type of grain: sweet or pop:~~ Plant: length | Seulement pour les lignées endogames ~~et les variétés avec type de grain de l’épi: doux ou à éclater~~: Plante: longueur | Nur Inzuchtlinien ~~und Sorten mit Kolben: Korntyp: Zuckermais oder Popcorn~~: Pflanze: Länge | Sólo variedades endógamas ~~y variedades con mazorca con tipo de grano: dulce o palomero~~: Planta: longitud |  |  |
| **QN** |  | very short | très courte | sehr kurz | muy corta | F7 | 1 |
|  |  | short | courte | kurz | corta | ~~Spirit (SC),~~ W117 | 3 |
|  |  | medium | moyenne | mittel | media | F244~~, Puma (SC)~~ | 5 |
|  |  | long | longue | lang | larga | ~~Royalty (SC),~~ WD36 | 7 |
|  |  | very long | très longue | sehr lang | muy larga | ~~Enterprise (SC)~~ | 9 |
| 24.2 ~~(\*)~~ (+) | MS 75-85 | Only hybrids and open-pollinated varieties~~, excluding varieties with ear type of grain: sweet or pop~~: Plant: length | Seulement pour les hybrides et les variétés à fécondation libre~~, à l’exclusion des variétés avec type de grain de l’épi: doux ou à éclater~~: Plante: longueur | Nur Hybriden und freiabblühende Sorten~~, ohne Sorten mit Kolben: Korntyp: Zuckermais oder Popcorn~~: Pflanze: Länge | Sólo híbridos y variedades de polinización libre~~, excepto variedades con mazorca con tipo de grano: dulce o palomero~~: Planta: longitud |  |  |
| **QN** |  | very short | très courte | sehr kurz | muy corta |  | 1 |
|  |  | short | courte | kurz | corta | PR39D23, Spirit (SC) | 3 |
|  |  | medium | moyenne | mittel | media | PR37Y12, Puma (SC) | 5 |
|  |  | long | longue | lang | larga | DKC5166,  Royalty (SC) | 7 |
|  |  | very long | très longue | sehr lang | muy larga | Enterprise (SC) | 9 |

Revision of characteristics 32: “Only varieties with ear type of grain: sweet, pop or waxy: Ear: number of colors of grains” and 38: “Ear: main color of top of grain"

*Current wording*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **32.  (\*)** | **75-79**  **(S)**  **VG** | **Only varieties with ear type of grain: sweet or waxy: Ear: number of colors of grains** | **Seulement pour les variétés avec type de grain de l’épi: doux ou cireux: Épi: nombre de couleurs de grains** | **Nur Sorten mit Kolben: Korntyp: Zuckermais oder Wachsmais: Kolben: Anzahl Farben der Körner** | **Sólo variedades con mazorca con tipo de grano: dulce o ceroso: Mazorca: número de colores de los granos** |  |  |
| **QL** |  | one | une | eine | uno | Jubilee (SC) | 1 |
|  | **(e)** | two | deux | zwei | dos | Eolrukchal-ilho, Serendipity (SC) | 2 |
| **38.  (\*)** | **92-93 (S) VG** | **Ear: color of top of grain** | **Épi: couleur du sommet du grain** | **Kolben: Farbe der Kornkrone** | **Mazorca: color del extremo superior del grano** |  |  |
| **PQ** | **(d)** | white | blanc | weiß | blanco | A188,  Pure white (SC), Snowbelle (SC) | 1 |
|  | **(e)** | yellowish white | blanc jaunâtre | gelblich weiß | blanco amarillento |  | 2 |
|  |  | yellow | jaune | gelb | amarillo | F259 | 3 |
|  |  | yellow orange | jaune orangé | gelborange | amarillo anaranjado | F2, Gyöngymazsola (SC) | 4 |
|  |  | orange | orange | orange | naranja | F257, GH 2547 (SC) | 5 |
|  |  | red orange | rouge orangé | rotorange | naranja rojizo | Dynasty (SC) | 6 |
|  |  | red | rouge | rot | rojo |  | 7 |
|  |  | purple | pourpre | purpur | púrpura |  | 8 |
|  |  | brownish | brunâtre | bräunlich | amarronado | Zenith (SC) | 9 |
|  |  | blue black | noir-bleu | blauschwarz | negro azulado | Miheukchal | 10 |

*Proposed new wording*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| **32.  (\*)** | **75-79**  **(S)**  **VG** | **Only varieties with ear type of grain: sweet, pop or waxy: Ear: number of colors of grains** | **Seulement pour les variétés avec type de grain de l’épi: doux, à éclater ou cireux: Épi: nombre de couleurs de grains** | **Nur Sorten mit Kolben: Korntyp: Zuckermais, Popcorn oder Wachsmais: Kolben: Anzahl Farben der Körner** | **Sólo variedades con mazorca con tipo de grano: dulce, palomero o ceroso: Mazorca: número de colores de los granos** |  |  |
| **QL** |  | one | une | eine | uno | Jubilee (SC) | 1 |
|  | **(e)** | two | deux | zwei | dos | Eolrukchal-ilho, Serendipity (SC) | 2 |
| **38.  (\*)** | **92-93 (S) VG** | **Ear: main color of top of grain** | **Épi: couleur principale du sommet du grain** | **Kolben: Hauptfarbe der Kornkrone** | **Mazorca: color principal del extremo superior del grano** |  |  |
| **PQ** | **(d)** | white | blanc | weiß | blanco | A188,  Pure white (SC), Snowbelle (SC), Sugar Purple (SC) | 1 |
|  | **(e)** | yellowish white | blanc jaunâtre | gelblich weiß | blanco amarillento |  | 2 |
|  |  | yellow | jaune | gelb | amarillo | F259, SSActivate (SC) | 3 |
|  |  | yellow orange | jaune orangé | gelborange | amarillo anaranjado | F2, Gyöngymazsola (SC) | 4 |
|  |  | orange | orange | orange | naranja | F257, GH 2547 (SC) | 5 |
|  |  | red orange | rouge orangé | rotorange | naranja rojizo | Dynasty (SC) | 6 |
|  |  | red | rouge | rot | rojo |  | 7 |
|  |  | purple | pourpre | purpur | púrpura | Dynared (SC), Wild Violet (SC) | 8 |
|  |  | brownish | brunâtre | bräunlich | amarronado | Zenith (SC) | 9 |
|  |  | blue black | noir-bleu | blauschwarz | negro azulado | Miheukchal | 10 |

Proposed addition of new characteristic and explanation “Ear: secondary color of grain”

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
| **NEW (after 38.) (\*) (+)** | VG 92-93 | **Only for sweet, pop or waxy varieties with Ear: number of colors of grains: two: Ear: secondary color of top of grain** |  |  |  |  |  |
| **PQ** |  | white |  |  |  | SSActivate (SC), Wild Violet (SC) | 1 |
|  |  | yellowish white |  |  |  |  | 2 |
|  |  | yellow |  |  |  |  | 3 |
|  |  | yellow orange |  |  |  |  | 4 |
|  |  | orange |  |  |  |  | 5 |
|  |  | red orange |  |  |  |  | 6 |
|  |  | red |  |  |  |  | 7 |
|  |  | purple |  |  |  | Sugar Purple (SC) | 8 |
|  |  | brownish |  |  |  |  | 9 |
|  |  | blue black |  |  |  |  | 10 |

Ad. NEW (after 38.): Only for sweet, pop or waxy varieties with Ear: number of colors of grains: two: Ear: secondary color of top of grain

The color with the largest surface area is the main color; the one with the second largest area is the secondary color.

In cases where the areas of the main and secondary color are too similar to reliably decide which color has the largest area, [the darkest color] is considered to be the main color.

Note: caution should be taken if no full isolation of varieties with different colors in the trial is practiced. Cross pollination from other samples can in that case cause small amounts of grain with a different color which do not belong to the variety. Hence the variety is not a variety with two colors (bicolor variety) of itself.

Revision of the Technical Questionnaire

### Section 5 “Characteristics of the variety to be indicated”

The following new characteristic is proposed for inclusion in Section 5 of the Technical Questionnaire:

- NEW (after 38.): Only for sweet, pop or waxy varieties with Ear: number of colors of grains: two:

Ear: secondary color of top of grain

[End of document]

1. held via electronic means, from April 22 to 25, 2024. [↑](#footnote-ref-2)
2. held via electronic means, from May 27 to 30, 2024 [↑](#footnote-ref-3)