

**Technical Committee**

**TC/59/19**

**Fifty-Ninth Session  
Geneva, October 23 and 24, 2023**

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**PARTIAL REVISION OF THE TEST GUIDELINES FOR MAIZE**

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1. The purpose of this document is to present a proposal for a partial revision of the Test Guidelines for Maize (document TG/2/7) for inclusion of characteristics from the Table of Characteristics in the Technical Questionnaire.

2. The Technical Working Party for Vegetables (TWV), at its fifty-seventh session<sup>1</sup>, and the Technical Working Party for Agricultural Crops, at its fifty-second session<sup>2</sup>, considered document TWV/57/4-TWA/52/4 “Partial revision of the Test Guidelines for Maize” and agreed to propose the inclusion of the following characteristics in the TQ (characteristics for inclusion indicated in highlight and underline) (see document TWV/57/26 “Report”, paragraph 69):

| <b>Char. No.</b> | <b>(*)</b> | <b>(S)</b> | <b>Characteristic Name</b>   |
|------------------|------------|------------|--|
| 8                | (*)        |            | Tassel: time of anthesis   |
| 9                | (*)        | (S)        | Tassel: anthocyanin coloration at base of glume  |
| 10               |            | (S)        | <u>Tassel: anthocyanin coloration of glumes excluding base</u>   |
| 11               |            | (S)        | <u>Tassel: anthocyanin coloration of anthers</u>   |
| 14               | (*)        |            | <u>Tassel: number of primary lateral branches</u>  |
| 15               |            |            | <u>Ear: time of silk emergence</u>   |
| 16               | (*)        | (S)        | Ear: anthocyanin coloration of silks   |
| 24.1             | (*)        |            | <u>Only inbred lines and varieties with ear type of grain: sweet or pop: Plant: length</u>                                 |
| 24.2             | (*)        |            | <u>Only hybrids and open-pollinated varieties, excluding varieties with ear type of grain: sweet or pop: Plant: length</u> |
| 28               | (*)        |            | <u>Ear: length</u>   |
| 29               |            |            | <u>Ear: diameter (in middle)</u>   |
| 30               |            |            | <u>Ear: shape</u>  |
| 31               |            |            | <u>Ear: number of rows of grain</u>  |
| 32               |            | (S)        | <u>Only varieties with ear type of grain: sweet or waxy: Ear: number of colors of grains</u>                               |
| 33               | (*)        |            | <u>Only varieties with ear type of grain: sweet: Grain: intensity of yellow color</u>                                      |
| 35               |            |            | <u>Only varieties with ear type of grain: sweet: Grain: width</u>  |
| 36               | (*)        | (S)        | Ear: type of grain   |
| 37               | (*)        |            | <u>Only varieties with ear type of grain: sweet: Ear: shrinkage of top of grain</u>  |
| 38               | (*)        | (S)        | <u>Ear: color of top of grain</u>  |
| 39               | (*)        | (S)        | <u>Excluding varieties with ear type of grain: sweet: Ear: color of dorsal side of grain</u>                               |
| 41               | (*)        | (S)        | Ear: anthocyanin coloration of glumes of cob   |

<sup>1</sup> held in Antalya, Türkiye, from Mai 1 to 5, 2023

<sup>2</sup> held via electronic means, from May 22 to 26, 2023

3. The proposed additions to TQ 5 are presented in highlight and underline (in English only).

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| 5. Characteristics of the variety to be indicated (the number in brackets refers to the corresponding characteristic in Test Guidelines; please mark the note which best corresponds). |                      |                   |
| Characteristics  | Example Varieties    | Note              |
| <b>5.1 Tassel: time of anthesis (8)</b>  |                      |                   |
| very early   |                      | 1 [ ]             |
| very early to early  | KW1069, Spirit (SC)  | 2 [ ]             |
| early  | Champ (SC), F257     | 3 [ ]             |
| early to medium  | Centurion (SC), F259 | 4 [ ]             |
| medium   | F522, Zenith (SC)    | 5 [ ]             |
| medium to late   | A632                 | 6 [ ]             |
| late   | B73                  | 7 [ ]             |
| late to very late  | AM1513               | 8 [ ]             |
| very late  |                      | 9 [ ]             |
| <b>5.2 Tassel: anthocyanin coloration at base of glume (9)</b>   |                      |                   |
| absent or very weak  | Royalty (SC), W117   | 1 [ ]             |
| <u>very weak to weak</u>   |                      | <u>2 [ ]</u>      |
| weak   | Boston (SC), F66     | 3 [ ]             |
| <u>weak to medium</u>  |                      | <u>4 [ ]</u>      |
| medium   | F107                 | 5 [ ]             |
| <u>medium to strong</u>  |                      | <u>6 [ ]</u>      |
| strong   | EP1                  | 7 [ ]             |
| <u>strong to very strong</u>   |                      | <u>8 [ ]</u>      |
| very strong  |                      | 9 [ ]             |

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| Characteristics           | Example Varieties  | Note            |                   |
| <b>5.3</b><br><b>(10)</b> | <b>Tassel: anthocyanin coloration of glumes excluding base</b> |                 |                   |
| absent or very weak       | Empire (SC), F259  | 1               | [ ]               |
| very weak to weak         |  | 2               | [ ]               |
| weak                      | F2, Royalty (SC)   | 3               | [ ]               |
| weak to medium            |  | 4               | [ ]               |
| medium                    | Centurion (SC), WD36   | 5               | [ ]               |
| medium to strong          |  | 6               | [ ]               |
| strong                    | W79A   | 7               | [ ]               |
| strong to very strong     |  | 8               | [ ]               |
| very strong               |  | 9               | [ ]               |
| <b>5.4</b><br><b>(11)</b> | <b>Tassel: anthocyanin coloration of anthers</b>               |                 |                   |
| absent or very weak       | A654, Empire (SC)  | 1               | [ ]               |
| very weak to weak         |  | 2               | [ ]               |
| weak                      | F2, Royalty (SC)   | 3               | [ ]               |
| weak to medium            |  | 4               | [ ]               |
| medium                    | Centurion (SC), W182E  | 5               | [ ]               |
| medium to strong          |  | 6               | [ ]               |
| strong                    |  | 7               | [ ]               |
| strong to very strong     |  | 8               | [ ]               |
| very strong               |  | 9               | [ ]               |
| <b>5.5</b><br><b>(14)</b> | <b>Tassel: number of primary lateral branches</b>              |                 |                   |
| absent or very few        | F7   | 1               | [ ]               |
| very few to few           |  | 2               | [ ]               |
| few                       | F252, Mv. Aranyos (SC)   | 3               | [ ]               |
| few to medium             |  | 4               | [ ]               |
| medium                    | F244, Kokanee (SC)   | 5               | [ ]               |
| medium to many            |  | 6               | [ ]               |
| many                      | A188, Zenith (SC)  | 7               | [ ]               |
| many to very many         |  | 8               | [ ]               |
| very many                 | Suregold (SC)  | 9               | [ ]               |

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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| Characteristics   | Example Varieties          | Note        |
|---|----------------------------|-------------|
| <b>5.6</b><br><b>(15)</b><br><b><u>Ear: time of silk emergence</u></b>          |                            |             |
| <u>very early</u>   | <u>Mv. Aranyos (SC)</u>    | <u>1[ ]</u> |
| <u>very early to early</u>  | <u>KW1069, Spirit (SC)</u> | <u>2[ ]</u> |
| <u>early</u>  | <u>Champ (SC), F257</u>    | <u>3[ ]</u> |
| <u>early to medium</u>  | <u>F259, Royalty (SC)</u>  | <u>4[ ]</u> |
| <u>medium</u>   | <u>Bonus (SC), F522</u>    | <u>5[ ]</u> |
| <u>medium to late</u>   | <u>A632</u>                | <u>6[ ]</u> |
| <u>late</u>   | <u>B73</u>                 | <u>7[ ]</u> |
| <u>late to very late</u>  | <u>AM1513</u>              | <u>8[ ]</u> |
| <u>very late</u>  |                            | <u>9[ ]</u> |
| <b>5.7</b><br><b>(16)</b><br><b><u>Ear: anthocyanin coloration of silks</u></b> |                            |             |
| absent or very weak   | Bonus (SC), F7, F195       | 1[ ]        |
| <u>very weak to weak</u>  |                            | <u>2[ ]</u> |
| weak  | El Toro (SC), F257         | 3[ ]        |
| <u>weak to medium</u>   |                            | <u>4[ ]</u> |
| medium  | F244, Gyöngymazsola (SC)   | 5[ ]        |
| <u>medium to strong</u>   |                            | <u>6[ ]</u> |
| strong  | W401                       | 7[ ]        |
| <u>strong to very strong</u>  |                            | <u>8[ ]</u> |
| very strong   |                            | 9[ ]        |

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| Characteristics  | Example Varieties   | Note   |  |
| <b>5.8 i (24.1) <u>Only inbred lines:</u> Plant: length</b><br><br>very short<br><u>very short to short</u><br><br>short<br><u>short to medium</u><br><br>medium<br><u>medium to long</u><br><br>long<br><u>long to very long</u><br><br>very long   | F7<br><br><br>Spirit (SC), W117<br><br><br>F244, Puma (SC)<br><br><br>Royalty (SC), WD36<br><br><br>Enterprise (SC) | 1[ ]<br>2[ ]<br>3[ ]<br>4[ ]<br>5[ ]<br>6[ ]<br>7[ ]<br>8[ ]<br>9[ ] |  |
| <b>5.4 8 ii (24.2) <u>Only hybrids and open-pollinated varieties, excluding varieties with ear type of grain: sweet or pop:</u> Plant: length</b><br><br>very short<br><u>very short to short</u><br><br>short<br><u>short to medium</u><br><br>medium<br><u>medium to long</u><br><br>long<br><u>long to very long</u><br><br>very long | PR39D23, Spirit (SC)<br><br><br>PR37Y12, Puma (SC)<br><br><br>DKC5166, Royalty (SC)<br><br><br>Enterprise (SC)      | 1[ ]<br>2[ ]<br>3[ ]<br>4[ ]<br>5[ ]<br>6[ ]<br>7[ ]<br>8[ ]<br>9[ ] |  |

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| Characteristics            | Example Varieties                | Note            |                   |
| <b>5.9</b><br><b>(28)</b>  | <b>Ear: length</b>               |                 |                   |
| <u>very short</u>          |                                  |                 | 1[ ]              |
| <u>very short to short</u> |                                  |                 | 2[ ]              |
| <u>short</u>               | F2                               |                 | 3[ ]              |
| <u>short to medium</u>     |                                  |                 | 4[ ]              |
| <u>medium</u>              | A654, Spirit (SC)                |                 | 5[ ]              |
| <u>medium to long</u>      |                                  |                 | 6[ ]              |
| <u>long</u>                | Empire (SC), MO17                |                 | 7[ ]              |
| <u>long to very long</u>   |                                  |                 | 8[ ]              |
| <u>very long</u>           |                                  |                 | 9[ ]              |
| <b>5.10</b><br><b>(29)</b> | <b>Ear: diameter (in middle)</b> |                 |                   |
| <u>very small</u>          |                                  |                 | 1[ ]              |
| <u>very small to small</u> |                                  |                 | 2[ ]              |
| <u>small</u>               | F7                               |                 | 3[ ]              |
| <u>small to medium</u>     |                                  |                 | 4[ ]              |
| <u>medium</u>              | W117                             |                 | 5[ ]              |
| <u>medium to large</u>     |                                  |                 | 6[ ]              |
| <u>large</u>               | Centurion (SC), F481             |                 | 7[ ]              |
| <u>large to very large</u> |                                  |                 | 8[ ]              |
| <u>very large</u>          | Empire (SC)                      |                 | 9[ ]              |
| <b>5.11</b><br><b>(30)</b> | <b>Ear: shape</b>                |                 |                   |
| <u>conical</u>             | F16, Wombat (SC)                 |                 | 1[ ]              |
| <u>conico-cylindrical</u>  | Centurion (SC), F816             |                 | 2[ ]              |
| <u>cylindrical</u>         | F66, GH2547 (SC)                 |                 | 3[ ]              |

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| Characteristics            | Example Varieties   | Note            |                   |
| <b>5.12</b><br><b>(31)</b> | <b><u>Ear: number of rows of grain</u></b>  |                 |                   |
| <u>very few</u>            |   |                 | <u>1[ ]</u>       |
| <u>very few to few</u>     |   |                 | <u>2[ ]</u>       |
| <u>few</u>                 | <u>F257</u>   |                 | <u>3[ ]</u>       |
| <u>few to medium</u>       |   |                 | <u>4[ ]</u>       |
| <u>medium</u>              | <u>Dessert 73 (SC), F16</u>   |                 | <u>5[ ]</u>       |
| <u>medium to many</u>      |   |                 | <u>6[ ]</u>       |
| <u>many</u>                | <u>B73, Bonus (SC)</u>  |                 | <u>7[ ]</u>       |
| <u>many to very many</u>   |   |                 | <u>8[ ]</u>       |
| <u>very many</u>           |   |                 | <u>9[ ]</u>       |
| <b>5.13</b><br><b>(32)</b> | <b><u>Only varieties with ear type of grain: sweet or waxy: Ear: number of colors of grains</u></b> |                 |                   |
| <u>one</u>                 | <u>Jubilee (SC)</u>   |                 | <u>1[ ]</u>       |
| <u>two</u>                 | <u>Eolrukchal-ilho,<br/>Serendipity (SC)</u>  |                 | <u>2[ ]</u>       |
| <b>5.14</b><br><b>(33)</b> | <b><u>Only varieties with ear type of grain: sweet: Grain: intensity of yellow color</u></b>        |                 |                   |
| <u>very light</u>          |   |                 | <u>1[ ]</u>       |
| <u>very light to light</u> |   |                 | <u>2[ ]</u>       |
| <u>light</u>               | <u>Gyöngymazsola (SC)</u>   |                 | <u>3[ ]</u>       |
| <u>light to medium</u>     |   |                 | <u>4[ ]</u>       |
| <u>medium</u>              | <u>Royalty (SC)</u>   |                 | <u>5[ ]</u>       |
| <u>medium to dark</u>      |   |                 | <u>6[ ]</u>       |
| <u>dark</u>                | <u>Kokanee (SC)</u>   |                 | <u>7[ ]</u>       |
| <u>dark to very dark</u>   |   |                 | <u>8[ ]</u>       |
| <u>very dark</u>           |   |                 | <u>9[ ]</u>       |

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| Characteristics              | Example Varieties   | Note              |  |
| <b>5.15<br/>(35)</b>         | <b>Only varieties with ear type of grain: sweet: Grain: width</b>                   |                   |  |
| <u>very narrow</u>           |   | 1 [ ]             |  |
| <u>very narrow to narrow</u> |   | 2 [ ]             |  |
| <u>narrow</u>                | <u>Bonus (SC)</u>   | 3 [ ]             |  |
| <u>narrow to medium</u>      |   | 4 [ ]             |  |
| <u>medium</u>                | <u>Jubilee (SC)</u>   | 5 [ ]             |  |
| <u>medium to broad</u>       |   | 6 [ ]             |  |
| <u>broad</u>                 | <u>Mv. Aranyos (SC)</u>   | 7 [ ]             |  |
| <u>broad to very broad</u>   |   | 8 [ ]             |  |
| <u>very broad</u>            |   | 9 [ ]             |  |
| <b>5.16<br/>(36)</b>         | <b>Ear: type of grain</b>   |                   |  |
| flint                        | F2  | 1 [ ]             |  |
| flint-like                   | F252  | 2 [ ]             |  |
| intermediate                 | F107  | 3 [ ]             |  |
| dent-like                    | A654  | 4 [ ]             |  |
| dent                         | W182E   | 5 [ ]             |  |
| sweet                        | Jubilee (SC)  | 6 [ ]             |  |
| pop                          | Iowa Pop (PC)   | 7 [ ]             |  |
| waxy                         |   | 8 [ ]             |  |
| flour                        |   | 9 [ ]             |  |
| <b>5.17<br/>(37)</b>         | <b>Only varieties with ear type of grain: sweet: Ear: shrinkage of top of grain</b> |                   |  |
| <u>weak</u>                  | <u>Zarja (SC)</u>   | 1 [ ]             |  |
| <u>weak to medium</u>        |   | 2 [ ]             |  |
| <u>medium</u>                | <u>Merkur (SC)</u>  | 3 [ ]             |  |
| <u>medium to strong</u>      |   | 4 [ ]             |  |
| <u>strong</u>                | <u>Dessert 73 (SC)</u>  | 5 [ ]             |  |

|                         |                 |                   |
|-------------------------|-----------------|-------------------|
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| Characteristics  | Example Varieties                                | Note          |
|--|--|---------------|
| <b>5.18</b><br><b>(38)</b> <b><u>Ear: color of top of grain</u></b>  |  |               |
| <u>white</u>   | <u>A188, Pure white (SC),<br/>Snowbelle (SC)</u> | <u>1 [ ]</u>  |
| <u>yellowish white</u>   |  | <u>2 [ ]</u>  |
| <u>yellow</u>  | <u>F259</u>                                      | <u>3 [ ]</u>  |
| <u>yellow orange</u>   | <u>F2, Gyöngymazsola (SC)</u>                    | <u>4 [ ]</u>  |
| <u>orange</u>  | <u>F257, GH 2547 (SC)</u>                        | <u>5 [ ]</u>  |
| <u>red orange</u>  | <u>Dynasty (SC)</u>                              | <u>6 [ ]</u>  |
| <u>red</u>   |  | <u>7 [ ]</u>  |
| <u>purple</u>  |  | <u>8 [ ]</u>  |
| <u>brownish</u>  | <u>Zenith (SC)</u>                               | <u>9 [ ]</u>  |
| <u>blue black</u>  | <u>Miheukchal</u>                                | <u>10 [ ]</u> |
| <b>5.19</b><br><b>(39)</b> <b><u>Excluding varieties with ear type of grain: sweet: Ear: color of dorsal side of grain</u></b> |  |               |
| white  | F481   | 1 [ ]         |
| yellowish white  | A188   | 2 [ ]         |
| yellow   |  | 3 [ ]         |
| yellow orange  | F66  | 4 [ ]         |
| orange   | EP1  | 5 [ ]         |
| red orange   |  | 6 [ ]         |
| red  |  | 7 [ ]         |
| purple   |  | 8 [ ]         |
| brownish   |  | 9 [ ]         |
| blue black   |  | 10 [ ]        |

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| Characteristics   | Example Varieties | Note            |                   |
| <b>5.20</b><br><b>(41)</b><br><b>Ear: anthocyanin coloration of glumes of cob</b> |                   |                 |                   |
| absent or very weak   | F2, F257          | 1 [ ]           |                   |
| <u>very weak to weak</u>  |                   | 2 [ ]           |                   |
| weak  | F252              | 3 [ ]           |                   |
| <u>weak to medium</u>   |                   | 4 [ ]           |                   |
| medium  | W117              | 5 [ ]           |                   |
| <u>medium to strong</u>   |                   | 6 [ ]           |                   |
| strong  | A632              | 7 [ ]           |                   |
| <u>strong to very strong</u>  |                   | 8 [ ]           |                   |
| very strong   |                   | 9 [ ]           |                   |

[Annex follows]