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

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| Technical Working Party for Vegetables  Fifty-Seventh Session Antalya, Türkiye, May 1 to 5, 2023 | TWV/57/14  Original: English  Date: March 27, 2023 |

Partial revision of the Test Guidelines for Watermelon

Document prepared by an expert from the Netherlands

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The purpose of this document is to present a proposal for a partial revision of the Test Guidelines for Watermelon (document TG/142/5 Rev.).

The Technical Working Party for Vegetables (TWV), at its fifty-sixth session[[1]](#footnote-2), be partially revised (see document TWV/56/22 “Report”, Annex II).

The following changes are proposed:

1. Revision of explanation Ad. 1 “Ploidy”
2. Inclusion of characteristics from the Table of Characteristics in the Technical Questionnaire (see documents TWV/56/22 “Report”, paragraphs 102 and 103, and TWP/7/6 “Revision of Test Guidelines”)

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

Proposed revision of explanation Ad. 1 “Ploidy”

*Current wording*

Ad. 1: Ploidy

Ploidy level may be detected by several methods:

a. by counting chromosomes of cells under the microscope;

b. by counting the number chloroplasts of stomatal guard cells using a leaf peel under the microscope;

c. by flow cytometry.

d. Triploid varieties show a whitish seed coat without embryo

*Proposed new wording*

Ad. 1: Ploidy

Ploidy level may be ~~detected~~ assessed by several methods:

a. by counting chromosomes of cells under the microscope;

b. by counting the number chloroplasts of stomatal guard cells using a leaf peel under the microscope;

c. by flow cytometry.

d. Triploid varieties show a whitish seed coat without embryo

Observation should be made on at least 5 plants.

## Proposed inclusion of characteristics from the Table of Characteristics in the Technical Questionnaire

The TWV is invited to consider the inclusion of the following characteristics in the TQ (characteristics for inclusion indicated in highlight and underline):

| TECHNICAL QUESTIONNAIRE | | Page {x} of {y} | Reference Number: | | |
| --- | --- | --- | --- | --- | --- |
|  | |  |  | | |
| 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 |
| **5.1 (1)** | **Ploidy** | | |  |  |
|  | diploid | | | SP 4, Sugar Baby, Yamato 3 | 2[ ] |
|  | triploid | | | Boston, TRIX 313 | 3[ ] |
|  | tetraploid | | |  | 4[ ] |
| **5.2 (8)** | **Leaf blade: degree of lobing** | | |  |  |
|  | absent or very weak | | | Sunshade | 1[ ] |
|  | very weak to weak | | |  | 2[ ] |
|  | weak | | | Estrella, Karistan | 3[ ] |
|  | weak to medium | | |  | 4[ ] |
|  | medium | | | Crimson Sweet, Crisby | 5[ ] |
|  | medium to strong | | |  | 6[ ] |
|  | strong | | | Cadanz | 7[ ] |
|  | strong to very strong | | |  | 8[ ] |
|  | very strong | | | SP 1 | 9[ ] |
| **5.~~2~~ 3 (11)** | **Fruit: weight** | | |  |  |
|  | very low | | | Monaco*,* New Hampshire Midget | 1[ ] |
|  | very low to low | | | Mini*,* Petite Perfection | 2[ ] |
|  | low | | | Angela | 3[ ] |
|  | low to medium | | | Pasion, Sugar Baby | 4[ ] |
|  | medium | | | Boston | 5[ ] |
|  | medium to high | | | Crimson Sweet, Panonnia | 6[ ] |
|  | high | | | Fabiola | 7[ ] |
|  | high to very high | | | Jubilee | 8[ ] |
|  | very high | | | Carolina Cross*,* Cobb’s Gem, Florida Giant | 9[ ] |
|  | Characteristics | | | Example Varieties | Note |
| **5.~~3~~ 4 (12)** | **Fruit: shape in longitudinal section** | | |  |  |
|  | circular | | | Camilla, Kanro | 1[ ] |
|  | broad elliptic | | | Fumin, Gray Belle, Yellow Baby, Zorba | 2[ ] |
|  | medium elliptic | | | Congo, Kurobe, Picnic | 3[ ] |
|  | narrow elliptic | | | All Sweet, Charleston Gray | 4[ ] |
| **5.~~4~~ 5 (16)** | **Fruit: ground color of skin** | | |  |  |
|  | yellow | | | Taiyô | 1[ ] |
|  | very light green | | | Ipanema | 2[ ] |
|  | very light green to light green | | | Napsugar | 3[ ] |
|  | light green | | | Tigre | 4[ ] |
|  | light green to medium green | | | Pepsin | 5[ ] |
|  | medium green | | | Ovation, Talete | 6[ ] |
|  | medium green to dark green | | | Odem, Resistant, Sweet Marvel | 7[ ] |
|  | dark green | | | Sugar Baby | 8[ ] |
|  | dark green to very dark green | | | Augusta, Rocio | 9[ ] |
|  | very dark green | | |  | 10[ ] |
| **5.6 (18)** | **Fruit: pattern of stripes** | | |  |  |
|  | only one colored | | | Congo | 1[ ] |
|  | one colored and veins | | | Trix Palomar | 2[ ] |
|  | one colored, veins and marbled | | | Boston | 3[ ] |
|  | one colored and marbled | | | Jenny | 4[ ] |
|  | two colored, veins and marbled | | | Crisby | 5[ ] |
|  | only veins | | |  | 6[ ] |
|  | Characteristics | | | Example Varieties | Note |
| **5.~~5~~ 7 (19)** | **Fruit: width of stripes** | | |  |  |
|  | very narrow | | | SP 4, Tiny Orchid | 1[ ] |
|  | very narrow to narrow | | |  | 2[ ] |
|  | narrow | | | Boston | 3[ ] |
|  | narrow to medium | | |  | 4[ ] |
|  | medium | | | Crimson Sweet | 5[ ] |
|  | medium to broad | | |  | 6[ ] |
|  | broad | | | Sangria | 7[ ] |
|  | broad to very broad | | |  | 8[ ] |
|  | very broad | | | All Sweet | 9[ ] |
| **5.8 (20)** | **Fruit: main color of stripes** | | |  |  |
|  | yellow | | |  | 1[ ] |
|  | very light green | | |  | 2[ ] |
|  | light green | | |  | 3[ ] |
|  | medium green | | |  | 4[ ] |
|  | dark green | | |  | 5[ ] |
|  | very dark green | | |  | 6[ ] |
| **5.9 (21)** | **Fruit: conspicuousness of stripes** | | |  |  |
|  | inconspicuous or very weakly conspicuous | | | Augusta | 1[ ] |
|  | weak | | | Odem | 2[ ] |
|  | medium | | | Trix Palomar | 3[ ] |
|  | strong | | | Jenny | 4[ ] |
|  | very strong | | | A graine rouge à confire à chair verte | 5[ ] |
| **5.~~6~~ 10 (22)** | **Fruit: margin of stripes** | | |  |  |
|  | diffuse | | | Crimson Glory, Crisby | 1[ ] |
|  | medium | | | Crimson Sweet | 2[ ] |
|  | sharp | | | Jenny, Jubilee | 3[ ] |
|  | Characteristics | | | Example Varieties | Note |
| **5.11 (27)** | **Fruit: thickness of pericarp** | | |  |  |
|  | very thin | | | Bibo, Tiny Orchid, Luciano | 1[ ] |
|  | very thin to thin | | |  | 2[ ] |
|  | thin | | | À graine rouge à confire à chair verte, Beni-kodama, Jenny, Kahô, Kassai | 3[ ] |
|  | thin to medium | | |  | 4[ ] |
|  | medium | | | Panonnia, Sugar Baby, Sugar Belle, Yamato 3 | 5[ ] |
|  | medium to thick | | |  | 6[ ] |
|  | thick | | | Charleston Gray, Crimson Sweet, Kurobe, Triple Sweet, Sunrise | 7[ ] |
|  | thick to very thick | | |  | 8[ ] |
|  | very thick | | | Coles Early, Kholodok | 9[ ] |
| **5.~~7~~ 12 (28)** | **Fruit: main color of flesh** | | |  |  |
|  | white | | | SP 4, SP 1,Yamato Cream 3 | 1[ ] |
|  | yellow | | | Napsugár, Yamato Cream 1 | 2[ ] |
|  | orange | | | Kahô, Tendersweet | 3[ ] |
|  | pink | | | Sadul | 4[ ] |
|  | pinkish red | | | Bingo, Crimson Sweet | 5[ ] |
|  | red | | | Asahi Miyako Hybrid, Sugar Baby, Topgun | 6[ ] |
|  | dark red | | | Dixie Lee | 7[ ] |
| **5.13 (29)** | **Only triploid varieties: Seed coat: size** | | |  |  |
|  | small | | | Petite Perfection | 2[ ] |
|  | medium | | | Boston, Valdoria,  Sweet Sun | 3[ ] |
|  | large | | | Ortal, Tigre, Pasion | 4[ ] |
|  | not applicable | | |  | [ ] |
|  | Characteristics | | | Example Varieties | Note |
| **5.~~8~~ 14 (31)** | **Only diploid and tetraploid varieties: Seed: length** | | |  |  |
|  | very short | | | Kudam | 1[ ] |
|  | very short to short | | |  | 2[ ] |
|  | short | | | Panonnia, Tabata | 3[ ] |
|  | short to medium | | |  | 4[ ] |
|  | medium | | | Sugar Baby | 5[ ] |
|  | medium to long | | |  | 6[ ] |
|  | long | | | Charleston Gray, Kurobe | 7[ ] |
|  | long to very long | | |  | 8[ ] |
|  | very long | | | Malali, Wanli | 9[ ] |
|  | not applicable | | |  | [   ] |
| **5.~~9~~ 15 (33)** | **Only diploid and tetraploid varieties: Seed: ground color of testa** | | |  |  |
|  | white | | | Sanpaku | 1[ ] |
|  | cream | | | Kurobe | 2[ ] |
|  | green | | | A confire allongée à graine verte, Green Citron | 3[ ] |
|  | red | | | A graine rouge à confire à chair verte, Red Citron | 4[ ] |
|  | red brown | | | Kahô | 5[ ] |
|  | brown | | | Otome, Sugar Baby | 6[ ] |
|  | black | | | Yamato Cream | 7[ ] |
|  | not applicable | | |  | [   ] |
|  | Characteristics | | | Example Varieties | Note |
| **5.16 (36)** | **Time of female flowering** | | |  |  |
|  | very early | | |  | 1[ ] |
|  | very early to early | | |  | 2[ ] |
|  | early | | | Tiny Orchid | 3[ ] |
|  | early to medium | | |  | 4[ ] |
|  | medium | | | Sugar Baby, Yamato 3 | 5[ ] |
|  | medium to late | | |  | 6[ ] |
|  | late | | | Kurobe | 7[ ] |
|  | late to very late | | |  | 8[ ] |
|  | very late | | |  | 9[ ] |
| **5.17 (37.1)** | **Resistance to *Fusarium oxysporum* f.sp. *niveum –* Race 0** | | |  |  |
|  | absent | | | Kahô, Sugar Baby | 1[ ] |
|  | present | | | Calhoun Gray, Charleston Gray | 9[ ] |
|  | not tested | | |  | [ ] |
| **5.18 (37.2)** | **Resistance to *Fusarium oxysporum* f.sp. *niveum –* Race 1** | | |  |  |
|  | absent | | | Charleston Gray, Kahô, Sugar Baby | 1[ ] |
|  | present | | | Calhoun Gray | 9[ ] |
|  | not tested | | |  | [ ] |
| **5.19 (37.3)** | **Resistance to *Fusarium oxysporum* f.sp. *niveum –* Race 2** | | |  |  |
|  | absent | | | Calhoun Gray, Kahô | 1[ ] |
|  | present | | | PI 296341-FR | 9[ ] |
|  | not tested | | |  | [ ] |
| **5.20 (38.1)** | **Resistance to *Colletotrichum orbiculare* – Race 1** | | |  |  |
|  | absent | | | Black Diamond, Calhoun Gray, Kahô | 1[ ] |
|  | present | | | Charleston Gray, Congo, Jubilee | 9[ ] |
|  | not tested | | |  | [ ] |

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1. organized by electronic means, from April 18 to 22, 2022 [↑](#footnote-ref-2)