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

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| Technical Working Party for Vegetables  Fifty-Third Session Seoul, Republic of Korea, May 20 to 24, 2019 | TWV/53/5  Original: English  Date: April 9, 2019 |

Partial revision of the Test Guidelines for MELON

Document prepared by experts from France

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 Melon (document TG/104/5 Rev.).

The Technical Working Party for Vegetables (TWV), at its fifty-second session, held in Beijing, China, from September 17 to 21, 2018, agreed that the Test Guidelines for Melon (document TG/104/5 Rev.) be partially revised for Characteric 75 “Resistance to *Melon necrotic spot virus* (MNSV), E8 strain” (see document TWV/52/20 “Report”, Annex V).

The following changes are proposed to Characteristic 75 “Resistance to *Melon necrotic spot virus* (MNSV), E8 strain”:

1. Introduction of reference to the pathotype 0 for MNSV;
2. Revision of the explanation Ad. 75 in Chapter 8.2 “Explanations for individual characteristics”.

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

## Proposal to introduce a reference to the pathotype 0 for MNSV

*Current wording*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
| 75.  (+) | VG | **Resistance to *Melon necrotic spot virus* (MNSV) E8 strain** | **Résistance au virus de la criblure du melon (MNSV) Souche E8** | **Resistenz gegen Netzmelonen-nekrosefleckenvirus (MNSV) Pathotyp E8** | **Resistencia al virus del cribado del melón (MNSV) Raza E8** |  |  |
| **QL** |  | absent | absente | fehlend | ausente | Védrantais | 1 |
|  |  | present | présente | vorhanden | presente | Cyro, Primal, Virgos, Yellow Fun | 9 |

*Proposed new wording*

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
|  |  | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
| 75.  (+) | VG | **Resistance to *Melon necrotic spot virus*  ~~E8 strain~~**  **Pathotype 0 (MNSV: 0)** | **Résistance au virus de la criblure du melon ~~Souche E8~~**  **Pathotype 0 (MNSV: 0)** | **Resistenz gegen Netzmelonen-nekrosefleckenvirus (MNSV)  ~~Pathotyp E8~~**  **Pathotyp 0 (MNSV: 0)** | **Resistencia al virus del cribado del melón (MNSV)  ~~Raza E8~~**  **Pathotipo 0 (MNSV: 0)** |  |  |
| **QL** |  | absent | absente | fehlend | ausente | Védrantais | 1 |
|  |  | present | présente | vorhanden | presente | Cyro, Primal, Virgos, Yellow Fun | 9 |

## Proposal to revise the explanation Ad. 75 in Chapter 8.2 “Explanations for individual characteristics”

*Current wording*

Ad. 75: Resistance to *Melon necrotic spot virus* (MNSV), E8 strain

|  |  |  |
| --- | --- | --- |
| 1. | Pathogen | *Melon necrotic spot virus* (MNSV) |
| 2. | Quarantine status | - |
| 3. | Host species | *Cucumis melo* |
| 4. | Source of inoculum | GEVES (FR) |
| 5. | Isolate | E8strain |
| 6. | Establishment isolate identity | Védrantais (susceptible) PMR5, VA 435, Virgos (resistant) |
| 7. | Establishment pathogenicity | on susceptible plant |
| 8. | Multiplication inoculum |  |
| 8.1 | Multiplication medium | living plant |
| 8.2 | Multiplication variety | pre-multiplication of the virus on non-wilting variety (Védrantais) prior to testing |
| 8.3 | Plant stage at inoculation | 10.3 |
| 8.4 | Inoculation medium | - |
| 8.5 | Inoculation method | 10.4 |
| 8.6 | Harvest of inoculum | 10.1 |
| 8.7 | Check of harvested inoculum | symptomatic leaves |
| 8.8 | Shelflife/viability inoculum | on susceptible variety |
| 9. | Format of the test |  |
| 9.1 | Number of plants per genotype | at least 30 |
| 9.2 | Number of replicates | e.g. 3 |
| 9.3 | Control varieties | Védrantais (susceptible) Cyro, Primal, Virgos, Yellow Fun (resistant) |
| 9.4 | Test design | - |
| 9.5 | Test facility | growth chamber |
| 9.6 | Temperature | 25°C during day and 18°C during night or 22°C constant |
| 9.7 | Light | 12 h per day |
| 9.8 | Season | all seasons |
| 9.9 | Special measures | - |
| 10. | Inoculation |  |
| 10.1 | Preparation inoculum | fresh leaves homogenized in PBS and carborundum |
| 10.2 | Quantification inoculum | - |
| 10.3 | Plant stage at inoculation | cotyledon expanded or 1st emergent leaf |
| 10.4 | Inoculation method | mechanical inoculation by rubbing of cotyledons with inoculum |
| 10.5 | First observation | - |
| 10.6 | Second observation | - |
| 10.7 | Final observations | 8-15 days after inoculation |
| 11. | Observations |  |
| 11.1 | Method | Visual |
| 11.2 | Observation scale |  |
|  | [1] absent | necrotic lesions on the inoculated organs, possible systemic reaction (depends on condition, and varieties), possible death of plant |
|  | [9] present | no lesions |
| 11.3 | Validation of test | on standards |
| 11.4 | Off-types | - |
| 12. | Interpretation of data in terms of UPOV characteristic states | QL |
| 13. | Critical control points | - |

*Proposed new wording*

Ad. 75: Resistance to *Melon necrotic spot virus* (MNSV), ~~E8 strain~~ Pathotype 0 (MNSV: 0)

|  |  |  |
| --- | --- | --- |
| 1. | Pathogen | *Melon necrotic spot virus* pathotype 0 (MNSV: 0) |
| 2. | Quarantine status | - |
| 3. | Host species | *Cucumis melo* |
| 4. | Source of inoculum | GEVES[[1]](#footnote-2) (FR) |
| 5. | Isolate | Strain E8 |
| 6. | Establishment isolate identity | Védrantais (susceptible) PMR5, VA 435, Virgos (resistant) |
| 7. | Establishment pathogenicity | on susceptible plant |
| 8. | Multiplication inoculum |  |
| 8.1 | Multiplication medium | living plant |
| 8.2 | Multiplication variety | pre-multiplication of the virus on non-wilting variety (Védrantais) prior to testing |
| 8.3 | Plant stage at inoculation | 10.3 |
| 8.4 | Inoculation medium | - |
| 8.5 | Inoculation method | 10.4 |
| 8.6 | Harvest of inoculum | 10.1 |
| 8.7 | Check of harvested inoculum | symptomatic leaves |
| 8.8 | Shelflife/viability inoculum | on susceptible variety |
| 9. | Format of the test |  |
| 9.1 | Number of plants per genotype | at least 30 |
| 9.2 | Number of replicates | e.g. 3 |
| 9.3 | Control varieties | Védrantais (susceptible) Cyro, Primal, Virgos, Yellow Fun, (resistant) |
| 9.4 | Test design | add non inoculated plants |
| 9.5 | Test facility | growth chamber |
| 9.6 | Temperature | 25°C during day and 18°C during night or 22°C constant |
| 9.7 | Light | 12 h per day |
| 9.8 | Season | all seasons |
| 9.9 | Special measures | - |
| 10. | Inoculation |  |
| 10.1 | Preparation inoculum | fresh leaves homogenized in PBS and carborundum |
| 10.2 | Quantification inoculum | - |
| 10.3 | Plant stage at inoculation | cotyledon expanded or 1st emergent leaf |
| 10.4 | Inoculation method | mechanical inoculation by rubbing of cotyledons with inoculum |
| 10.5 | First observation | - |
| 10.6 | Second observation | - |
| 10.7 | Final observations | 8-15 days after inoculation |
| 11. | Observations |  |
| 11.1 | Method | Visual |
| 11.2 | Observation scale |  |
|  | [1] absent | necrotic lesions on the inoculated organs, possible systemic reaction (depends on condition, and varieties), possible death of plant |
|  | [9] present | no lesions |
| 11.3 | Validation of test | on standards |
| 11.4 | Off-types | - |
| 12. | Interpretation of data in terms of UPOV characteristic states | QL |
| 13. | Critical control points | To check the pathogene identity, Virgos is resistant to MNSV pathotype 0 and susceptible to MNSV pathotype 1. |

[End of document]

1. matref@geves.fr [↑](#footnote-ref-2)