

Technical Working Party for Vegetables

TWV/57/13

Fifty-Seventh Session

Antalya, Türkiye, May 1 to 5, 2023

Original: English

Date: March 24, 2023

PARTIAL REVISION OF THE TEST GUIDELINES FOR PEA

Document prepared by an expert from the Netherlands

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 Pea (document TG/7/10 Rev. 2).
- The Technical Working Party for Vegetables (TWV), at its fifty-sixth session¹, agreed that the Test Guidelines for Pea (*Pisum sativum* L.) be partially revised (see document TWV/56/22 “Report”, Annex II).
- The following changes are proposed:
 - Addition of new characteristic “Resistance to *Peronospora viciae* (Pv)” (downy mildew)
 - Addition of new explanation Ad. 61 “Resistance to *Peronospora viciae* (Pv)”
 - Addition of new characteristic “Resistance to *Peronospora viciae* (Pv)” to Chapter TQ 7
- The proposed changes are presented below in highlight and underline (insertion) and ~~striethrough~~ (deletion).

Proposed addition of new characteristic “Resistance to *Peronospora viciae* (Pv)”

| | English | français | deutsch | español | Example Varieties/ Exemples/ Beispielssorten/ Variedades ejemplo | Note/ Nota |
|------------|-----------------------------|----------------------------------|----------------------------------|----------------------------------|---|-----------------|
| 61. | VG | Résistance à | Resistenz gegen | Resistencia a | | |
| (+) | <u>Resistance to</u> | <u>Peronospora viciae</u> | <u>Peronospora viciae</u> | <u>Peronospora viciae</u> | | |
| | <u>(Pv)</u> | <u>(Pv)</u> | <u>(Pv)</u> | <u>(Pv)</u> | | |
| QL | <u>absent</u> | <u>absente</u> | <u>fehlend</u> | <u>ausente</u> | <u>Bingo</u> | <u>1</u> |
| | <u>present</u> | <u>présente</u> | <u>vorhanden</u> | <u>presente</u> | <u>Idalgo</u> | <u>9</u> |

¹ organized by electronic means, from April 18 to 22, 2022

Proposed addition of new explanation "Ad. 61 "Resistance to *Peronospora viciae* (Pv)"Ad. 61: Resistance to *Peronospora viciae* (Pv)

| | | |
|------|--------------------------------|--|
| 1. | Pathogen | <i>Peronospora viciae</i> f.sp. <i>psi</i> |
| 2. | Quarantine status | no |
| 3. | Host species | Pea – <i>Pisum sativum</i> L. |
| 5. | Isolate | Available at Naktuinbouw |
| 6. | Establishment isolate identity | On resistant control variety |
| 7. | Establishment pathogenicity | On susceptible control variety |
| 8. | Multiplication inoculum | |
| 8.1 | Propagation medium | Susceptible variety |
| 8.2 | Propagation variety | Bingo or other susceptible variety |
| 8.3 | Stage plant at inoculation | 2-3 true leaves |
| 8.4 | Inoculation medium | Cold tap water |
| 8.5 | Inoculation method | Spray spore |
| 8.6 | Harvest of inoculum | Sporulating leaves and tendrils in a centrifuge tube. Add 40 ml of tap water and vortex for 1 minute at +/- 2400 RPM. Sieve spore suspension through cheesecloth. |
| 8.7 | Control harvested inoculum | count spores |
| 9. | Trial duration | Day Action 0 sowing 14 inoculate 24 1st assessment 24-28 final assessment |
| 9.1 | Total number of plants | 35 seeds, min. 20 plants |
| 9.2 | Number of repetitions | no repetition |
| 9.3 | Control varieties | Susceptible control: Bingo Resistant control: Idalgo |
| 9.5 | Test facility | Climate chamber |
| 9.6 | Temperature | 13°C D/N |
| 9.7 | Light | 13 hours light 8.000-10.000 Lux |
| 9.8 | Season | year round |
| 10. | Inoculation | |
| 10.1 | Preparation inoculum | See 8.6 |
| 10.2 | Quantification inoculum | Minimum 1×10^5 and maximum 5×10^5 spores/ml |
| 10.3 | Plant stage at inoculation | Cotyledon stage |
| 10.4 | Inoculation method | Spray spore suspension |
| 10.5 | 1st assessment | 10 days after inoculation |
| | 2nd assessment | 14 days after inoculation |
| 10.6 | Final evaluation | 10 to 14 days after inoculation |
| 11. | Observations | |
| 11.1 | Method | Visual |
| 11.2 | Observation scale | Class 1: No symptoms Class 2: Local necrosis Class 3: Limited sporulation with local necrosis Class 4: Strong sporulation on the leaf and/or tendrils Class 5: Strong sporulation on the leaf, tendrils and stem |
| 11.3 | Validation of the test | Validation using the standards. |
| 12 | Interpretation | Class 1 and 2 lead to interpretation [9] present Class 3, 4 and 5 lead to interpretation [1] absent |