UPOV
International Union for the Protection of New Varieties of Plants

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Technical Working Party for Vegetables

TWV/59/10

Fifty-Ninth Session
Virtual meeting, May 5 to 8, 2025

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REVISION OF THE DISEASE RESISTANCE CHARACTERISTICS IN THE EU

Document prepared by an expert from the European Union

Disclaimer: this document does not represent UPOV policies or guidance

The annex to this document contains a copy of a presentation “Revision of the disease resistance characteristics in the EU”, to be made by an expert from the European Union, at the fifty-ninth session of the TWV.

[Annex follows]

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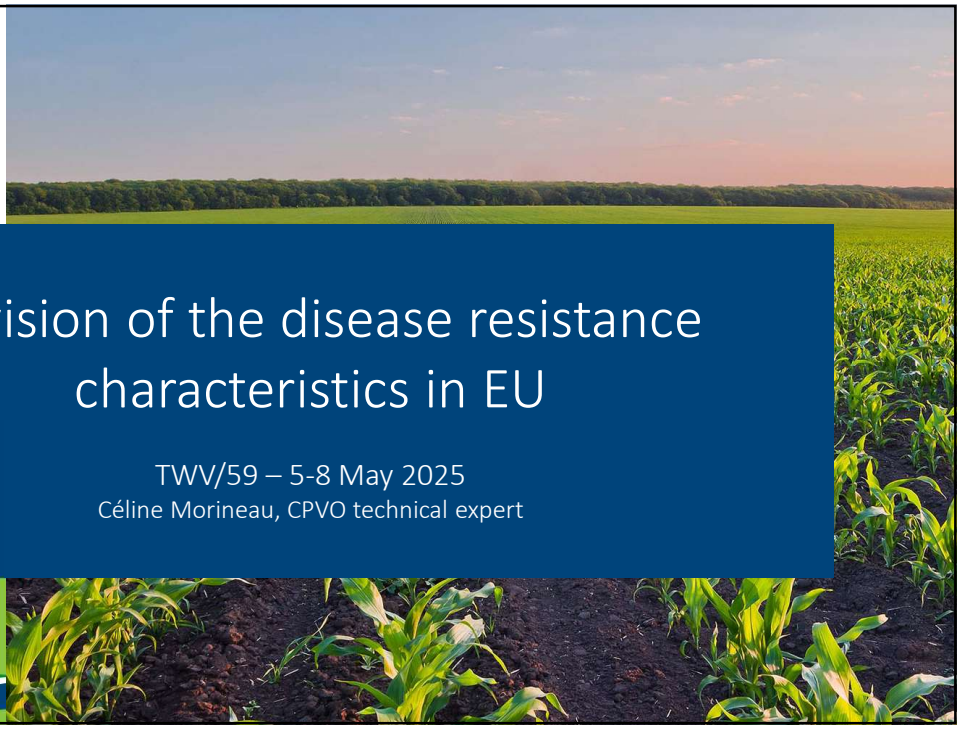

Revision of the disease resistance characteristics in EU

TWV/59 – 5-8 May 2025

Céline Morineau, CPVO technical expert

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Today's situation

- There are numerous revisions concerning disease resistance characteristics.
- Most of these proposed revisions come from the EU, often led by experts from EU member states.

Objectives at UPOV

- To reduce the time spent on discussions among UPOV members during the TWV.
- To present more advanced proposals for revising disease resistance characteristics in the vegetable guidelines at the TWV

Objectives in EU

- To carry out revisions first at the EU level by defining characteristics (e.g., scale, example varieties) and preparing resistance test protocols before submitting proposals to UPOV TWV.
- CPVO, together with EU-EOs and breeders' representatives, will establish a work programme on possible disease resistance characteristics to be discussed throughout the year and define Working groups for that purpose
- To regularly report on the outcome of the EU discussion to UPOV TWV

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Annual Reporting to UPOV TWV

1) CPVO will regularly update UPOV TWV, on behalf of the EU working group, regarding ongoing revisions in the EU that may be relevant for revisions of UPOV TGs.

2) UPOV members will be invited to join the working groups to share their experiences and contribute to the revisions, should they manifest their interest to join the discussion on a disease resistance characteristic for a particular species or for a particular disease resistance characteristic.

3) UPOV members will be consulted on issues of general interest related to disease resistance, as raised by the EU working group.

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Disease resistances in the CPVO Technical protocols and UPOV technical guidelines:

Species Name	common name	reference CPVO TP/ UPOV TG (adoption date)	Nb diseases / Nb char. in the CPVO TP in red: disease or associated isolates/races/ ... not in UPOV TG (yet)
Lactuca sativa L.	lettuce	TP-013/6-Rev.5 (03.01.2025) TG/13/11 Rev. 3 (09.08.2024)	**4 diseases/ 13 char.** *Bremia (Bl: 36-38-39-40EU)*, *LMV*, *Nr*, *Fol (race 4)*
Solanum lycopersicum L.	tomato	TP/044/5 (April 2025) TG/44/12 (09.08.2024)	**16 diseases / 25 char.** Mi, Va and Vd, Fol, For, Pf, ToMV, Pi, Pl, Ss, Pst, Rs, TYLCV, TSWV, Lt, Pn, ToTv
Pisum sativum L.	pea	TP/007/2 Rev.3-Corr. (06.03.2020) TG/7/10 Rev. 3 (25.10.2022)	**3 diseases / 3 char.** Fop, Ep, Ap
Phaseolus vulgaris L.	french bean	TP/012/4 (27.02.2013) TG/12/9 Rev. 2 (25.03.2015)	**4 diseases / 5 char.** Cl, BCMNV, Halo Blight, Common Blight (Xap)
Brassica oleracea L. var. capitata L.	savoy, red and white cabbage	TP/048/3 Rev.3 (11.04.2024) TG/48/7 Rev. 2 (24.10.2023)	**1 diseases / 1 char.** Foc
Spinacia oleracea L.	spinach	TP/055/5-Rev.5 (April 2025) TG/55/7 Rev.8 (09.08.2024)	**2 diseases / 20 char.** Pe (race 20), CMV
Cucumis sativus L.	cucumber, gherkin	TP/061/2 Rev.3 (03.01.2025) TG/61/7 Rev. 3 (24.10.2023)	9 **diseases / 9 char.** Ccu, CMV, Px, Pcu, Cca, CVYV, ZYMV, CYSDV, *Cucumber green mottle mosaic virus* (CGMMV)
Valerianella locusta L.	cornsalad	TP-075/2-Rev (29.02.2024) TG/75/7 Rev. (24.10.2023)	**1 diseases / 2 char.** downy mildew (*Peronospora valerianella*)
Capsicum annuum L.	Pepper	TP/076/3 (April 2025) TG/76/9 (09.08.2024)	**8 diseases / 13 char.** TMV, PMMoV, PVY, Pc, CMV, TSWV, X spp, Mi
Cucumis melo L.	melon	TP/104/2-Rev.3 (April 2025) TG/104/5 Rev. 3 (09.08.2024)	**8 diseases / 16 char.** Fom, Px, Gc, Ag, ZYMV, PRSV, MNSV, CMV
Citrullus lanatus (Thunb.) Matsum et. Nakai	watermelon	TP/142/2 Rev.3 (29.02.2024) TG/142/5 Rev. 2 (24.10.2023)	**2 diseases / 4 char.** Fon, Co
Solanum lycopersicum L. *x Solanum habrochaites S.* Knapp & D. M. Spooner	tomato rootstocks	TP-294/1-Rev. 6 (29.02.2024) TG/294/1 Rev.5 (24.10.2023)	**11 diseases / 20 char.** Mi, Va and Vd, Fol, Forl, Pf, ToMV, Pl, Ss, TYLCV, TSWV, On
Cucurbita pepo L.	Squash	TP/119/1 Rev. (April 2025) TG/119/4 Rev. (09.08.2024)	**2 diseases / 2 char.** ZYMV, WMV

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Annual Reporting to UPOV TWV

1) CPVO will regularly update UPOV TWV, on behalf of the EU working group, regarding ongoing revisions in the EU that may be relevant for revisions of UPOV TGs.

- **5 working groups** have been created (by species) .
- Priorities have been established to implement the characteristics in the CPVO TPs (short-, mid-, and long-term).

WG1	French bean	*Southern bean mosaic virus* (SBMV) – new characteristic
WG2	Cucumber *(ToLCNDV: Melon, Squash)*	*Cucurbit aphid-borne yellows virus* (CABYV) – new characteristic *Tomato leaf curl New Delhi virus* (ToLCNDV) – new characteristic
WG3	Melon	*Fusarium oxysporum* f.sp. *melonis race 0, 1, 2* - to develop and to add an alternative molecular method (using markers based on resistance gene Fom-1 (races 0,2) and Fom-2 (races 0,1) next to the bioassay *Cucurbit yellow stunting disorder virus (*CYSDV) – new characteristic *Melon necrotic spot virus* (MNSV) - to develop and to add an alternative molecular method (using markers based on nsv (?) resistance gene) next to the bioassay
WG4	Pepper	*Leveillula taurica* – new characteristic
WG5	Tomato	*Passalora fulva* (Pf) - to add an alternative molecular method (using markers based on resistance genes Cf-4, Cf-5 and Cf-9) next to the bioassay ToBRFV – new characteristic *Fusarium oxysporum f. sp. Lycopersici* (Fol) (race 2 EU/3US) - to add an alternative molecular method (using markers based on resistance gene I3) next to the bioassay *Verticillium sp.* (Va and Vd) race 0 - to add an alternative molecular method (using markers based on resistance gene Ve (Ve1, Ve2) next to the bioassay
	Tomato rootstocks	*Meloidogyne incognita* - to replace the HR resistant control *Fusarium oxysporum f. sp. Lycopersici* (Fol) (race 2 EU/3US) - to add an alternative molecular method (using markers based on I3) next to the bioassay

➡ Any revisions to be included in the agenda of next TWV/60, in 2026?

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➡ Any revisions to be included in the agenda of next TWV/60, in 2026?

2) UPOV members will be invited to join the working groups to share their experience and contribute to the revisions.

➡ Any UPOV members interested to participate in one of the 5 newly created working groups?

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Annual Reporting to UPOV TWV

3) UPOV members will be consulted on issues of general interest related to disease resistance, as raised by the EU working group.

The EU working group would like to address the following question to the TWV/59:

Three situations should be considered:

- Characteristics that will be included **in the CPVO TP** and later **in the UPOV TG**
- Characteristics that will be included **in the CPVO TP** but **not in the UPOV TG**.
- Characteristics that will be used only as additional characteristic and **neither included in the CPVO TP nor the UPOV TG.**

(-> UPOV Office is informed of the use of an add. char., with information available on the CPVO and UPOV website)

➡ How will UPOV members consider resistance characteristics that are not included in the UPOV TGs, would they be ready to take over such reports and use them as a basis for national decisions?

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[End of Annex and of document]