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MATTERS TO BE RESOLVED CONCERNING TEST GUIDELINES ADOPTED BY THE TECHNICAL COMMITTEE: PARTIAL REVISION OF THE TEST GUIDELINES FOR TOMATO ROOTSTOCKS

Document prepared by an expert from the Netherlands

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1. The Enlarged Editorial Committee (TC-EDC), at its meeting held in Geneva, from March 26 to 27, 2018, considered a proposal for a partial revision of the Test Guidelines for Tomato Rootstocks (see document TC-EDC/MAR18/9) and agreed that the technical issues raised on the proposed partial revision of the Test Guidelines for Tomato Rootstocks should be addressed by the TWV (see document TC-ECD/MAR18/11 "Report", paragraph 57).

2. The following table presents all the comments made by the TC-EDC on the proposed partial revision of the Test Guidelines for Tomato Rootstocks (document TC-EDC/MAR18/9), including the technical issues, with the proposed responses by the Leading Expert, Ms. Amanda van Dijk (Netherlands).

Chars. 24, 27, 31	- to be kept as VG (VS not appropriate for DNA marker test, see TGP/9. In case of DNA markers, 20 plants are observed for uniformity. According to chapter 4.1.4 of TG/44/11 Rev., indication of VS is not appropriate.) - DNA marker test to be presented to the BMT to check whether method corresponds to TGP/15 *Leading Expert: I will participate in the BMT and the item will be discussed. I will report to the TWV accordingly*
Ads. 24, 27, 31	to clarify "often" (does not meet requirements for use of gene-specific marker model) (e.g. in Ad. 24 (ii) to confirm whether under (ii) DNA marker test there are always resistance alleles present in Gene I2 to both race 0 (ex 1) and race 1 (ex 2).) *Leading Expert:* *Ad. 24 (ii)* *To read "Dominant resistance gene I2 is always associated with resistance to both race 0 (ex 1) and race 1 (ex 2). The presence or absence of the resistance allele can be detected by the co-dominant marker as described in this method."* *Ad. 27 (ii)* *To read "Resistance gene Tm2 gives resistance to ToMV. Gene Tm2 has two dominant resistance alleles: resistance allele Tm2 is always associated with resistance to strain 0 and 1, resistance allele $Tm2^2$ is always associated with resistance to strain 0, 1 and 2. The presence or absence of both resistance alleles can be detected by the co-dominant markers as described in Arens, P. et al (2010). Specific aspects: "* *Ad. 31 (ii)* *To read "Dominant resistance gene Sw-5 is always associated with resistance to TSWV strain 0. The presence or absence of the resistance allele can be detected by the co-dominant marker as described in Dianese, E.C. et al (2010). Specific aspects: "*
Ad. 24 (i), 4. Footnotes	to indicate e-mail and web address of the institutions instead of personal e-mail addresses *Leading Expert: Valerie.grimault@geves.fr to be changed into matref@geves.fr. cardaba@inia.sp: no alternative available yet.*
Ad. 24 9.3.1	remark should be deleted (not appropriate for 1/9 scale (see 12.)) *Leading Expert: agreed*

Ad. 24 (ii) 3.	to read ~~"Susceptible allels~~ Allele for susceptibility ~~Resistant allele~~ Allele for resistance" *Leading Expert: agreed*
Ad. 24 (ii) 4.2	to check whether to add control varieties as example varieties in the table of characteristics *Leading Expert:* *Ad. 24 (ii) 4.2* *homozygous allele for susceptibility present: (Solanum lycopersicum) Moneymaker* *homozygous allele for resistance present: Emperador, (Solanum lycopersicum) Tradiro* *24.1 race 0 (ex 1), example varieties* *absent [1]* *present [9] Emperador* *24.2 race 1 (ex 2), example varieties* *absent [1]* *present [9] Emperador* *24.3 race 2 (ex 3), example varieties* *absent [1] Emperador* *present [9] Colosus* *In order to be coherent, the same should be done in Ad. 27 (ii) 4.2 and Ad. 31 (ii) 4.2* *Ad. 27 (ii) 4.2* *homozygous allele for susceptibility tm2 present: (Solanum lycopersicum) Moneymaker* *homozygous allele for resistance Tm2 present: (Solanum lycopersicum) Moperou* *homozygous allele for resistance $Tm2^2$ present: Emperador* *27.1 strain 0, example varieties* *absent [1]* *present [9] Emperador* *27.2 strain 1, example varieties* *absent [1]* *present [9] Emperador* *27.3 strain 2, example varieties* *absent [1]* *present [9] Emperador* *Ad. 31 (ii) 4.2* *homozygous allele 1 for susceptibility present: Emperador* *homozygous allele 2 for susceptibility present: (Solanum lycopersicum) Mountain Magic* *homozygous allele for resistance present: Enpower* *31, example varieties* *absent [1] Emperador* *present [9] Enpower* *(Explanation: Big Power is not available anymore)*
Ad. 24 (ii) 8.	24.1 reference to "absent" is missing (see 48.2). *Leading Expert: To add:* *absent [1] can not be concluded from the DNA-test, a bio-assay should be performed.*
Ad. 24 (ii) 8. 24.1 and 24.2	to read "In case the DNA marker test result does not confirm the declaration in the TQ, a bio-assay should be performed to observe whether ~~the resistance is absent or present for~~ the variety is resistant e.g. ~~(~~on another mechanism like gene I3~~)~~." *Leading Expert: agreed*
Ad. 27 (i), 4. Footnotes	to indicate e-mail and web address of the institutions instead of personal e-mail addresses *Leading Expert: Valerie.grimault@geves.fr to be changed into matref@geves.fr.*
Ad. 27 (ii)	Arens, P. *et al* (2010) to be added to 9. Literature *Leading Expert: agreed*
Ad. 27 (ii) 3.2	to read "Assay 2 to check ~~susceptible or resistance~~ allele for susceptibility or resistance" *Leading Expert: agreed*
Ad. 27 (ii) 4.2	Are the control varieties homozygous for Tm2 and $Tm2^{ß}$? *Leading Expert: See the updated lists of control varieties and example varieties.*
Ad. 27 (ii) 8.	to read "In case the DNA marker test result does not confirm the declaration in the TQ, a bio-assay should be performed to observe whether ~~the resistance is absent or present for~~ the variety is resistant e.g. ~~(~~on another mechanism like gene Tm1~~)~~." *Leading Expert: agreed*

Ad. 27 (ii)	Table on test results (below 8.): to delete "~~(occurs incidentally)~~" *Leading Expert: agreed*
Ad. 30 (i)	in footnotes 10, 11: to check whether to read "IHSM-UMA-CSIC" *Leading Expert: For both footnote 10 and 11 it is to read "IHSM-UMA-CSIC" (mentioned e-mailaddresses are correct)*
Ad. 30 (i) (8.5)	to check wording of disclaimer. The use of a GMO as part of requirements for DUS examination must be worded according to internationally accepted terminology/Conventions concerning the transboundary movement of Living Modified Organisms and release of GMOs. Should be worded by relevant experts with experience implementing international regulations. *Leading Expert: proposal for the disclaimer to read "The transformed Agrobacterium tumefaciens is a living modified organism (LMO; or genetically modified organism (GMO)) and in many countries it requires to comply with Cartagena Protocol on Biosafety in case of transboundary movement, transit, handling and use that may have adverse effects on the conservation and sustainable use of biological diversity, taking also into account risks to human health."* *To change OGM at 9.5 and 9.9 into LMO/GMO.*
Ad. 31	to add explanation below title of Ad. 31 to read the same as other Ad. *Leading Expert: "Resistance to be tested in a bio-assay (method i) or in a DNA marker test (method ii), if appropriate."*
Ad. 31 (ii)	Dianese, E.C. et al (2010) to be added to 9. Literature *Leading Expert: agreed*
Ad. 31 (ii) 3.	to read "~~Susceptible allele~~ Allele for susceptibility ~~Resistant allele~~ Allele for resistance" *Leading Expert: agreed*
Ad. 31 (ii) 8.	to read "homozygous ~~susceptible~~ susceptibility allele 1 present homozygous ~~susceptible~~ susceptibility allele 2 present homozygous ~~resistant~~ resistance allele present:" *Leading Expert: agreed*
Ad. 31 (ii) 8.	to read "In case the DNA marker test result does not confirm the declaration in the TQ, a bio-assay should be performed to observe whether the resistance is absent or present for the variety is resistant e.g. (on another mechanism)." *Leading Expert: agreed*

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