

**Technical Working Party for Vegetables** 

TWV/53/7 Add.

Fifty-Third Session Seoul, Republic of Korea, May 20 to 24, 2019 Original: English

Date: May 29, 2019

### ADDENDUM TO PARTIAL REVISION OF THE TEST GUIDELINES FOR TOMATO

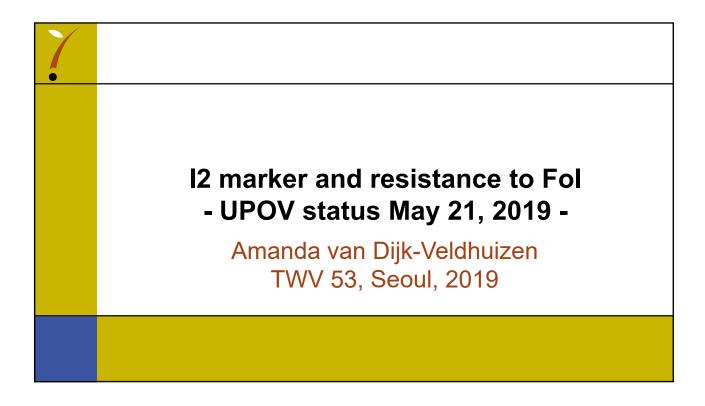
Document prepared by an expert from the Netherlands

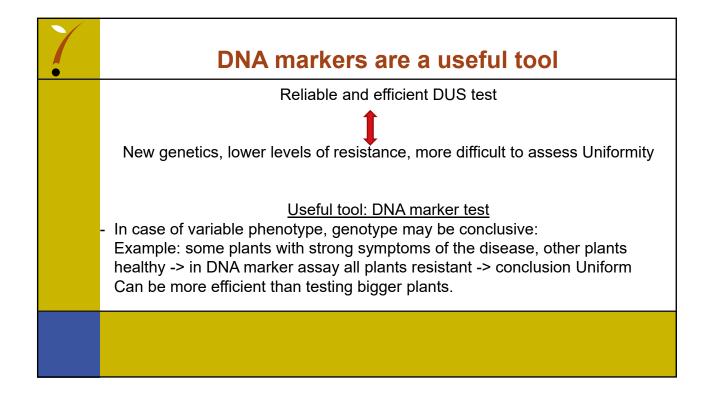
Disclaimer: this document does not represent UPOV policies or guidance

The annex to this document contains a copy of a presentation on the "I2 marker and resistance to Fol – UPOV status May 21, 2019" by an expert from the Netherlands, made at the fifty-third session of the Technical Working Party for Vegetables (TWV).

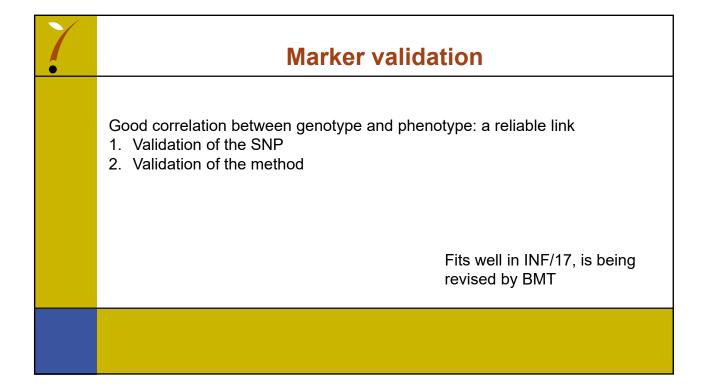
[Annex follows]

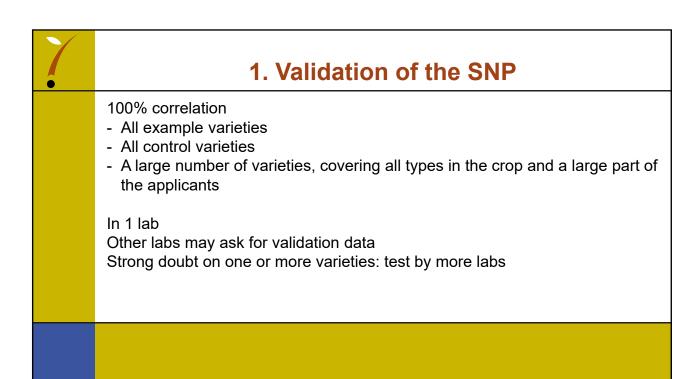
### **ANNEX**

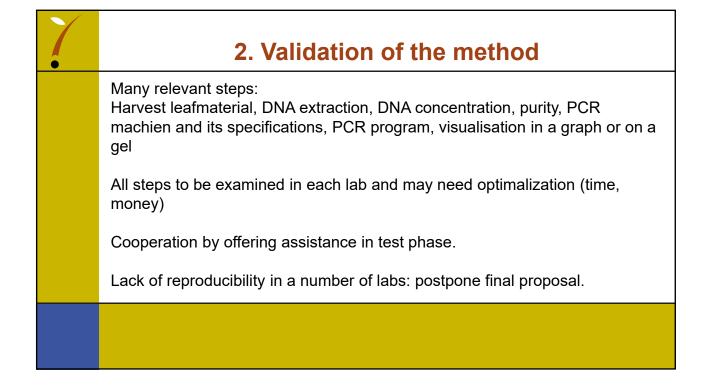




Decision rules
Clear decision rule needed for each characteristic/bio-assay/marker assay:  Example: "if both homozygous resistant and heterozygous resistant plants occur, this is not a lack of Uniformity, as both genotypes confer to phenotypical resistance."  Example: "if the number of off-types in the DNA marker assay is more than allowed, the variety lacks Uniformity." or "if the number of off-types in the DNA marker assay is more than allowed, the bio-assay is conclusive for the Uniformity."









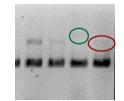
# 12 marker for resistance to Fol: 0 and Fol: 1- current status (1) -

- · Efficient? Yes!
  - Normally faster and cheaper than bio-assay
  - Bio-assay more and more difficult to assess due to interaction between Fusarium and tomato plants (penetrance, modifiers)
  - Even to be improved: I3 marker validated at Naktuinbouw for tomato, I marker to be developed.
- Decision rule? "as both homozygous resistance and heterozygous resistance give a resistant phenotype, both may occur in one variety."
   To be put more clearly in the protocol?
- SNP validated? Yes!
  - By Naktuinbouw, on examples, control varieties, prox. 200 varieties



# I2 marker for resistance to Fol: 0 and Fol: 1- current status (2) -

- Method validated?
  - · Yes, at Naktuinbouw
  - No, at other labs
  - · Conclusion: no



non-specific band? vague band?

Variety	lab A			lab B			lab C		
	Homo	Hete	Homo	Homo	Hete	Homo	Homo	Hete	Homo
	12	12	S	12	12	S	12	12	S
Cherry type control 2 = H	20			1	8	1	4		
Н	13	7					4		

# Postpone the addition as alternative method until 2020

