Differential Sets

Fusarium oxysporum f. sp. *lycopersici* (Fol) – **Tomato**

Fusarium oxysporum f. sp. *lycopersici* is an important pathogen of tomato. This soil-borne vascular pathogen causes yellowing and wilting of plants. Affected plants might show brown vessels. Several resistance genes have been introgressed into commercial varieties. The gene *I* confers resistance to Fol: 0EU/1US, *I2* confers resistance to Fol: 1EU/2US, *I3* confers resistance to Fol: 2EU/3US. Additional resistance genes (*I4, I5 and I6)* exist that confer partial resistance to Fol: 2US/1EU. Several varieties have different combinations of resistance genes.

Differential hosts	Fol: 0EU/1US*	Fol : 1EU/2US*	Fol : 2EU/3US*
Bonny Best, Early Pak 7*, uc 82, Marmande verte*, Marmande*, Resal	S	S	S
VFN8*, Pakmor*, Marporum*, Larissa	HR	S	S
Florida MH-1*, Walter*, Motelle*	HR	HR	S
Florida 7547*, Florida 7481*	HR	HR	HR

S = susceptible; HR = highly resistant
*differential hosts and isolates that are used by the seed sector

References

G. Cai, L. Rosewich Gale, R. W. Schneider, H. C. Kistler, R. M. Davis, K. S. Elias, and E. M. Miyao 2003. Origin of race 3 of *Fusarium oxysporum* f. sp. *lycopersici* at a single site in California. *Phytopathology* Vol 93 (8): 1014 – 1022

Scott J. W. and J. P. Jones 1994. Fla 7547 and Fla 7481 tomato breeding lines resistant to Fusarium races 1, 2 and 3. Florida Agricultural Extension Circular.

Sela-Buurlage M., O. Budai-Hadrian, Q. Pan, L. Carmel-Goren, R. Vunsch, D. Zamir, R. Fluhr 2001. Genome-wide dissection of Fusarium resistance in tomato reveals multiple complex loci. *Molecular Genetic and Genomics* 265: 1104-1111.

Protocol

CPVO. See http://www.cpvo.europa.eu/ for a protocol on disease resistance testing

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