

### 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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