

Differential Sets

Plasmodiophora brassicae (Pb)- *Brassica Oleracea*

Clubroot (*Plasmodiophora brassicae*) is a persistent and devastating soil-borne disease. Resistance genes out of amongst others *Brassica rapa* have been introduced into commercial varieties of *B. oleracea*. A new race designation system for clubroot with four clubroot races and differentials from several *B. oleracea* species was developed to enable a relevant and reproducible description of clubroot resistant *B. oleracea* varieties.

Differential hosts		Pb: 0*	Pb: 1*	Pb: 2*	Pb: 3*
Bartolo*	White cabbage	S	S	S	S
Lodero*	Red Cabbage	HR	HR	HR	S
051632*	White cabbage	HR	S	S	HR
Kilaton*	White cabbage	HR	HR	S	HR
Monclano*	Broccoli	HR	HR	S	HR
Clapton*	Cauliflower	HR	HR	S	HR
Crispus*	Brussel sprouts	HR	HR	S	HR

S = susceptible; HR = highly resistant

*differential hosts and isolates that are used by the seed sector

References

W. D. Smilde, E. G. A. Linders & R. M. Veenstra, 2012. Characterization of clubroot resistance in *Brassica oleracea*. Program and abstract book 10th Conference of the European Foundation of Plant Pathology, 1-5 October 2012, Poster abstract P46 (http://www.efpp.net/ipm2/Program_and_abstract_book/posters.html)

Note: Following our last exchanges concerning *Plasmodiophora brassicae* on brassica, we acquired the ISF differential hosts and tested them on three out of the seven Pb isolates maintained by GEVES. An epidemiological study was done in the main production areas in France with field sampling from soil and entrapment on the susceptible variety ECD 5 (Chinese cabbage Pe-tsaï). The isolates P1* (MATREF/04-06-01), P1- (MATREF/04-06-02), P2* (MATREF/04-06-04) being the most frequent ones.

The results on the table below show that these pathotypes are different from those described in the ISF table. Same results were also observed by some vegetable breeding companies on other samples from field. It gives then an indication that the ISF table may be incomplete and other pathotypes could be added.

Variety		P1*	P1-	P2*
Lodero	Red Cabbage	S	S	S
51632	White cabbage	S	S	S
Kilaton	White cabbage	S	R	S
Clapton	Cauliflower	S	R	S

P1* and P2* have a different comportment on other oil-seed rape differentials.

For more information contact the ISF Secretariat at isf@worldseed.org

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