

Research Article

Identification and Characterization of New Resistance Sources Against *Sclerotinia* Stem Rot (*Sclerotinia sclerotiorum*) in Oilseed *Brassica*

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Abstract

Sclerotinia stem rot, caused by *Sclerotinia sclerotiorum*, is a big threat to the production of *Brassica* crop worldwide. In this study, a total of hundred rapeseed and mustard genotypes were screened for tolerance/resistance to *Sclerotinia* stem rot under artificial stem inoculation conditions in the sick plot. Out of the promising 100 genotypes, eight genotypes namely, EC 597317, EC 597328, RH 1222-28, DRMR-261, DRMR-360, DRMR-1493, DRMR-1034, DRMR 2035 were tolerant, whereas 3 genotypes including Rohini, EC 597314 and NRCYS5-2 were highly susceptible. Further, 42 polymorphic SSR (Simple Sequence Repeats) markers were used to evaluate genetic relationships among these eleven genotypes based on UPGMA dendrogram. In the cluster analysis, the genotypes were discriminated very well in two groups where three susceptible genotypes were grouped in cluster I while 8 tolerant genotypes fell together in cluster II thus differentiating tolerant and susceptible genotypes. The similarity coefficient ranged from 0.38 to 1.00 indicating the existence of wide diversity among these genotypes. These genotypes could be explored for the management of stem rot in *Brassica* production.

Key words: Molecular markers, oilseed *Brassica*, *Sclerotinia*, tolerance

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