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RESEARCH ARTICLE :

Studies on screening of BC_3F_1 population against sorgum down mildew in maize (*Peronosclerospora sorghi*)

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SUMMARY : An experiment was carried out during *Rabi*, 2013 at Eastern Block of the Central Farm Unit, Department of Agronomy, Tamil Nadu Agricultural University, Coimbatore, Tamil Nadu, India to identify resistant progenies in BC_3F_1 population against sorghum downy mildew (SDM) incited by *Peronosclerospora sorghi*. Sorghum downy mildewis one of the most serious diseases in maize producing areas throughout the world. *P. sorghi* (SDM) is a factor that limits maize production in several countries of Asia (Rifin, 1983). Therefore, there is a need to develop the new maize cultivars with resistance to SDM in order to enhance the yield. In this present study, experiments were undertaken under vigorous artificial infection conditions in spreader row technique during *Rabi*, 2013 for characterization of responses of 22 back cross progenies to the SDM;in which 16 progenies were confirmed as phenotypically resistant to sorghum downy mildew *viz.*, UMI 79/936-C1-3-2, UMI 79/936-C1-3-4, UMI 79/936-C1-7-2, UMI 79/936-C1-29-8, UMI 79/936-C1-29-9, UMI 79/936-C1-29-13, UMI 79/936-C1-29-23, UMI 79/936-C1-29-35, UMI 79/936-C1-29-36, UMI 79/936-C1-67-3, UMI 79/936-C1-67-12, UMI 79/936-C1-67-25, UMI 79/936-C1-101-12, UMI 79/936-C1-101-13 and UMI 79/936-C1-101-14.Resistant lines will be serve as basis material for developing single cross and double cross hybrids for resistance against sorghum downy mildew in maize.

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