

Screening of Different Native Genotypes of Broadleaf Mustard against Different Diseases

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Abstract : Broadleaf mustard is a commercialized leafy vegetable of Nepal. However, its utilization is hindered in terms of production and productivity due to the high intensity of insects, pests, and diseases causing great loss. The plant protection part of the crop's disease and damage intensity has not been studied much from research perspectives in Nepal. The research aimed to evaluate broadleaf mustard genotypes for resistance against different diseases. A total of 35 native genotypes of broadleaf mustard were screened at weekly intervals by scoring the plants for ten weeks. Five different diseases, such as Rhizoctonia root rot, Alternaria blight, black rot, turnip mosaic virus disease, and white rust, were reported from the broad leaf mustard genotypes. Out of 35 genotypes, 23 genotypes were found with very high Rhizoctonia Root Rot severity, whereas 8 genotypes showed very high Alternaria blight severity. Likewise, 3 genotypes were found with high Black rot severity, and 1 genotype was found with very high Turnip mosaic virus disease incidence. Similarly, 2 genotypes were found to have very high White rust severity. Among the disease of national importance, Rhizoctonia root rot was found to be the most severe disease with the greatest loss. Broadleaf mustard genotypes like Rato Rayo, CO 1002, and CO 11007 showed average to the high level of field resistance; therefore, these genotypes should be used, conserved, and stored in a mustard improvement program as the disease resistance quality or susceptibility of these genotypes can be helpful for seed producing farmers, companies and other stakeholders through varietal improvement and developmental works that further aids in sustainable disease management of the vegetable.

Keywords : genotype, disease resistance, Rhizoctonia root rot severity, varietal improvement

Conference Title : ICPPF 2023 : International Conference on Plant Protection and Fertilisers

Conference Location : Paris, France

Conference Dates : January 23-24, 2023