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INDUCE MUTATION BREEDING FOR DOWNEY MILDEW TOLERANCE IN ISABGOL (*PLANTAGO OVATA* FORSK.)

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ABSTRACT

Twenty four mutagenic progenies of isabgolwere selected from different families of M_2 generation of gamma rays irradiated variety RI 89. These lines were grown in a sick plot along with infector rowsin randomized block design with three replications at the experimental farm of Rajasthan College of Agriculture, Udaipur. The observations were recorded on stage of disease occurrence (crop age), per cent disease index andtotal phenolic compounds in leaves at 55, 75 and 95 DAS. The observations for other quantitative and qualitative characters were also recorded. Out of 24 lines 14 lines showed disease resistance to downy mildew. It was also noted that disease tolerant lines were having a higher concentration of total phenolic compounds in leaves. Further, with increasing severity of disease the depletion of total phenolic compound in leaves was less intolerant lines. In the present study it is clear that total phenolic compounds in leaves play an important role in disease resistance and reducing the downy mildew disease of the host plants. The 4 mutant lines viz., L7, L19, L2 and L15 were having less than 8 percent disease infestation and may be used for developing downy mildew disease tolerant varieties for commercial cultivation.

KEWWORDS: *Isabgol, Mutation Breeding, Phenolic Compounds, Disease Index*

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