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## Development of late leaf spot and rust tolerant genotypes from TMV 2 and JL 24 by marker assisted backcross breeding in groundnut

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Foliar diseases like late leaf spot (LLS) and rust cause severe loss in the quantity and quality of the yield in groundnut. Development of foliar disease resistant genotypes, especially from the varieties that are already under commercial cultivation, but are susceptible to LLS and rust, is a promising approach in resistance breeding. The QTL and markers identified to be linked to LLS and rust resistance would hasten the selection scheme in the breeding program. TMV 2 and JL 24 released during 1940 and 1978, respectively for cultivation are still popular, except for their disease susceptibility. They were crossed to LLS and rust resistant genotypes like GPBD 4 (a released variety), ICGV 86699 (interspecific derivative), ICGV 99005 (interspecific derivative) and a second cycle derivative involving synthetic tetraploids. The F<sub>1</sub>s were selected based on the allele type at LLS and rust resistance-linked markers. Three cycles of backcrossing was attempted, and a few homozygous plants were identified from the BC<sub>3</sub>F<sub>2</sub> from JL 24 × GPBD 4, JL 24 × ICGV 86699 and JL 24 × ICGV 99005. Selected BC<sub>3</sub>F<sub>3</sub> families were highly resistant to LLS and rust, and they carried resistant allele at linked markers like IPAHM103 and GM2301. These lines were *on par* with the recurrent parent (JL 24) for test weight, SMK and yield. The background genome recovery in a selected family (JG\_BC<sub>3</sub>F<sub>3</sub>\_18) of JL24 × GPBD 4 was up to 86.6% when checked with 30 polymorphic transposable element (TE) based markers. Currently, BC<sub>3</sub>F<sub>4</sub> lines are being evaluated in larger plots for productivity and disease resistance.

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