

## Evaluation and Characterization of wild tomato germplasm

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Genetic resource is very essential for any crop improvement work as it is the basis of genetic variability. Tomato (*Lycopersicon esculentum* Mill) is one of the most important vegetable crops cultivated in Sri Lanka. Bacterial wilt (BW) caused by *Ralstonia solanacearum* and virus diseases has been found to be major production constraints. The primary objective of this study was to identify promising donors for creating genetic variability in tomato crop improvement programmes. Fifteen wild accessions from 4 species (*L. cheesmanii*, *L. hirsutum*, *L. peruvianum* and *L. pimpinellifolium*) along with one promising accession from cultivated species (*L. esculentum*) were tested in observational plots during maha 2002/03. The cultural and agronomic practices were done according to departmental recommendations. The observations made on these plants revealed that there were variations in plant height (from 85 cm to 156 cm), and days to flowering. The accessions L00671 and L00672 in *L. peruvianum* species took 47 days to 50% flowering from transplanting while L004253 in *L. cheesmanii* species and L00135 in *L. pimpinellifolium* species took only 31 days. The variations in fruit quality characteristics were very prominent. The weight of 10 fruits varied from 18-49 g, the fruit colour was dark red, yellow and whitish green. The seeds of 10 fruits ranged from 51-1134. The laboratory screening results for BW disease showed a reaction of moderate to high level of resistance. Three accessions (L00733, L001054, L001065) in *L. hirsutum* species, L00672, L00673 and L00687 in *L. peruvianum* species and L00135 and L00140 in *L. pimpinellifolium* species showed a reaction of high resistance for BW. The accession L00645 a *L. hirsutum* species had moderate resistance. In the field, only few accessions showed virus diseases. The wild tomato collection appears to provide an ideal working germplasm to the breeder.

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