B-142: A promising heat-tolerant tomato variety for high temperature areas in Sri Lanka

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Tomato cultivation during dry season is less profitable as a result of low yields. High temperatures limit or prevent production of tomatoes during Yala season in dry zone areas in Sri Lanka. Depending on genotype and environmental conditions, such as humidity and soil moisture, temperatures greater than 34/20°C (day/night) or a period of 4h at 40°C cause blossom drop in many tomato varieties.

Therefore, this study was initiated with the objective of identifying a suitable genotype far the farmers who grow tomatoes in the dry zone area. Ten promising lines from the tomato crop improvement programme at HORDI were tested in four Yala and two Maha seasons in National Co-ordinated Varietal trials and in farmer fields for adaptability. The check variety used in these trials was T 245 and the experimental design was a Randomized Complete Block Design with 3 replications. The cultural practices and fertilizer applications were made according to departmental recommendations.

The statistical analysis on the marketable yield data clearly revealed that the variety B_1 (42t/ha) was superior to the check variety T 245 (27.4t/ha) in yield in the dry zone areas tested during the Yala seasons.

This variety also showed rolling of leaves mechanism to minimize the evaporation lossee to maintain the humidity and soil moisture of the growing environment. Apart from this character the laboratory and field screening results showed its resistance to Bacterial wilt disease and good fruit quality characteristics such as firmness and dark red peel colour.