Evaluation of advanced breeding lines derived from the crosses of three Okra varieties of diverse origin

A field experiment was carried out to identify the promising advanced breeding lines (ABL) of Okra for fruit yield along with resistance to Yellow Vein Mosaic Virus (YVMV) disease, local adaptability and also for fruit quality for the market and consumption. The experiment was conducted at the University farm located at Vantharumoolai (DL2) during May-August 1998

All treatments each replicated four times, consisting of 28 ABLs and two parents (Palvendi & HRB -10) were arranged according to a randomized complete block design. Batticaloa local, Palvendi and HRB-10 were the parents of these ABLs in F6 generation. Data were collected on agronomically important characteristics such as total fruit yield, number of fruits/ plant and length, girth and weight of fruits. Assessment on the incidence of YVMV was also made under the field conditions.

Significant differences among ABLs were observed for total fruit yield, number of fruits/ plant, fruit weight and girth. A remarkably significant higher yield (16.3 t/ ha) was obtained in line 23 over the parent HRB-10 (7.8 t/ ha) at $p=0.05$ and also produced the highest number of fruits per plant. Resistance to YVMV disease was observed in ABLs 4, 10, 11, 12, 14, 15 and 23 under field conditions along with HRB-10 which proven to be resistant to this disease.

A significant correlation and direct relationship was evident between yield and its components such as fruits/ plant, fruit weight and girth. These relationships provide a good scope for the improvement of okra by selecting plants with higher number of fruits/plant and higher fruit weight and girth. It has been found that ABL 23 is the most promising for all the agronomic characters of economic importance, including resistance to YVMV disease, and therefore it is qualified to be a potential variety for the future.