



RESEARCH ARTICLE :

Studies on heterosis for yield and yield components in okra (*Abelmoschus esculentus* L.)

■ RAMESHKUMAR , GUNASEKAR AND MANIMARAN

ARTICLE CHRONICLE :

Received :

12.07.2017;

Accepted :

25.07.2017

KEY WORDS :

Germplasm lines,
Full-diallel progenies,
Heterotic pattern,
Mean performance

SUMMARY : Okra [*Abelmoschus esculentus* (L.) Moench], being an often cross-pollinated crop, responds well to heterosis breeding. Exploitation of heterosis is primarily dependent on the screening and selection of available germplasm that could be produced by better combinations of important agronomic characters. Six elite, optimally divergent and nearly homozygous lines of okra namely P₁ (Arka Abhey), P₂ (Pusa-A4), P₃ (Arka Anamika), P₄ (EC-755647), P₅ (EC-755648) and P₆ (EC-755654) selected from the germplasm were crossed in all possible combinations including reciprocals during summer 2014. The resultant 30 F₁s along with their 6 parents and one commercial check (Arka Anamika) were evaluated in a Randomized Block Design with two replications during mid *Kharif* (August - October), 2014 at the Adhiparasakthi Horticultural College, Kalavai, Vellore, Tamil Nadu, India. Heterosis over mid parent, better parent and standard check were studied for 10 quantitative characters pertaining to pod yield and its associated characters. For total yield per plant, the crosses as a whole manifested 21.42% and 22.48% average and standard heterosis, respectively. The crosses Arka Abhey x EC-755648 (P₁ x P₅) and EC-755648 x EC-755654 (P₅ x P₆) manifested significantly negative commercial heterosis for days to first flowering (-2.26%) and fruiting nodes (-12.82%), respectively, indicating their earliness. Highest heterobeltiosis of 16.54% for total yield per plant was manifested by the cross EC-755654 x Arka Abhey (P₆ x P₁). The extent of standard heterosis for total yield per plant (22.48%) appears to be sufficient for exploitation of heterosis commercially. The crosses Arka Anamika x EC-755648 (P₃ x P₅) and EC-755647 x EC-755648 (P₄ x P₅) were statistically on par with the standard check in their mean performance and are as promising as that of the standard check (Arka Anamika).

How to cite this article : Rameshkumar, Gunasekar and Manimaran (2017). Studies on heterosis for yield and yield components in okra (*Abelmoschus esculentus* L.). *Agric. Update*, 12(TECHSEAR-2) : 547-553; DOI: 10.15740/HAS/AU/12.TECHSEAR(2)2017/547-553.

Author for correspondence :

RAMESHKUMAR

Department of
Horticulture (Vegetable
Science) Tamil Nadu
Agricultural University,
COIMBATORE (T.N.) INDIA

See end of the article for
authors' affiliations