

Turkish Journal of Botany

Turkish Journal

of

Botany

Combining Ability Analysis of Yield and Yield Components in Tomato (*Lycopersicum esculentum* Mill.)

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 [Keywords](#)
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Abstract: The nature of the inheritance of plant height at 60 days, number of flowers per cluster, number of fruits per plant, fruit weight per plant, and number of seeds per fruit was studied from a 10-parent diallel cross of *Lycopersicum esculentum* Mill. Due to their high general combining ability effects, Pusharubi, Bari-4, and Dynasagor parents were suggested for future hybridisation programmes. For yield, the crosses Deshy x Ratan, Deshy x Epoch, Dynasagor x Ratan, Bari-4 x Pusharubi, and Dynamo x Namdhari had good specific combining ability effects and they were recommended because they produce stable performing rare transgressive segregants. A population improvement approach in the form of diallel selective mating or mass selection with concurrent random mating could be used for the exploitation of additive and non-additive gene actions for these characters.

Key Words: General combining ability, specific combining ability, F₁ seeds, yield components, tomato, *Lycopersicum* sp.

Turk. J. Bot., **31**, (2007), 559-563.

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