

## Developing Drought and Heat Stress Tolerant Chickpea Genotypes

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**Abstract :** Chickpea (*Cicer arietinum* L.) with high protein content is a vital food, especially in under-developed and developing countries for the people who do not consume enough meat due to low-income level. The objective of the proposed study is to evaluate growing, yield and yield components of chickpea genotypes under Mediterranean condition so determine tolerance of chickpea genotypes against drought and heat stress. For this purpose, a total of 34 chickpea genotypes were used as material. The experiment was conducted according to factorial randomized complete block design with 3 reps at the Eastern Mediterranean Research Institute, Adana, TURKEY for 2014-15 growing season under three different growing conditions (Winter sowing, irrigated-late sowing and non-irrigated- late sowing). According to results of this experiment, vegetative period, flowering time, podding time, maturity time, plant height, height of first pod, seed yield and 100 seed weight were ranged between 68.33 to 78.77 days, 94.22 to 85.00 days, 94.11 to 106.44 days, 198.56 to 214.44 days, 37.18 to 64.89 cm, 18.33 to 34.83 cm, 417.1 to 1746.4 kg/ha and 14.02 to 45.02 g, respectively. Among the chickpea genotypes, the Aksu, Arda, Çakır, F4 09 (X 05 TH 21-16189), FLIP 03-108 were least affected by drought and heat stress. Therefore, these genotypes can be used as sources of drought and heat tolerance in further breeding programme for evolving the drought and heat tolerant genotypes in chickpea.

**Keywords :** chickpea, drought stress, heat stress, yield

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