

## Variation analysis of phenological traits in the potatoes of Iran

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**ABSTRACT:**

The potato production requires earliness and late maturity cultivars, depending on the type of culture and environment. Hence this research was made to find out the genotypic and phenotypic variances, heritabilities and genetic advance for phenological traits. In the following, General Combining Ability (GCA) of parents and Specific Combining Ability (SCA) from each crosses was calculated. Moderate and low phenotypic coefficient of variation was observed for all of the traits except the flowering period. The heritability estimates were found higher for all the characters studied and varied from 77% to 58% indicating that the characters are less influenced by environmental factors. The AS692, AS72,HS and Stbr2 cultivars may be good combiners for earliness and in return, Agria, UT43 and UT42 may be good combiners for late maturity breeding programs. Agria×UT42, AS72×Caeser, Daifela×Stbr2, Luca×UT43, Satina×AS12, Satina×AS14, Satina×AS692 and Satina×Stbr2 were the best crosses because of the most negative SCA effects of the studied traits.

**Keywords:**

GCA, potato, physiological traits, SCA.