

## Improvement of the Melon (*Cucumis melo* L.) through Genetic Gain and Discriminant Function

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**Abstract :** To find out the yield of melon, the traits are vital. This research was performed with the objective to assess the impact of nine different morphological traits on the production of 20 melon landraces in the sistan weather region. For all the traits genetic variation was noted. Minimum genetical variance (9.66) along with high genetic interaction with the environment led to low heritability (0.24) of the yield. The broad sense heritability of the traits that were included into the differentiating model was more than it was in the production. In this study, the five selected traits, number of fruit, fruit weight, fruit width, flesh diameter and plant yield can differentiate the genotypes with high or low production. This demonstrated the significance of these 5 traits in plant breeding programs. Discriminant function of these 5 traits, particularly, the weight of the fruit, in case of the current outputs was employed as an all-inclusive parameter for pointing out landraces with the highest yield. 75% of variation in yield can be explained with this index, and the weight of fruit also has substantial relation with the total production ( $r=0.72^{**}$ ). This factor can be highly beneficial in case of future breeding program selections.

**Keywords :** melon, discriminant analysis, genetic components, yield, selection

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