

Relationships Between Traits and Path-coefficient Analysis for Bulb and Seed Yields in Iranian Landraces of Onion (*Allium cepa* L.).

A.Dehdari¹, M.Mobli² and A.Rezai³

1,2,3- Ph. D. Student and Assis. Prof. of Horticultur and Prof. of plant Breed respectively. College of Agric., Isfahan Univ. of Tech.,Isfahan, Iran

In order to determine the relationships among different traits of onions and to study the direct and indirect effects of these traits on bulb and seed yields, an experiment was conducted at Research Farm of Isfahan University of Technology, in 1998.

The results showed that phenotypic and genotypic correlations were similar and bulb weight showed the highest and lowest coefficients of correlation with bulb diameter and number of days to emergence, respectively. Results of stepwise regression analysis showed that: (1) leaf wide at 25% of its length from the neck, leaf length and leaf dry weight were the best estimators for leaf area, (2) bulb diameter, bulb height, plant height and number of days to maturity were the most determinate characters for bulb yield variation, (3) number of fertilized florets was the best determinator of seed yield, and (4) bulb weight, diameter and volume were the most explainer of the number of meristems on the basal plate. Path-coefficient analysis revealed that bulb diameter showed the highest direct positive effect on bulb yield and the indirect effect of plant height through bulb diameter on it was of prime importance. Number of fertilized florets per plant, and number of inflorescence per plant through the number of fertilized florets showed the highest direct and indirect effects on seed weight, respectively.