The Study of Rapeseed Characteristics by Factor Analysis under Normal and Drought Stress Conditions

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Abstract : To understand internal characteristics relationships and determine factors which explain under consideration characteristics in rapeseed varieties, 10 rapeseed genotypes were implemented in complete accidental plot with three-time repetitions under drought stress in 2009-2010 in research field of agriculture college, Islamic Azad University, Karaj branch. In this research, 11 characteristics include of characteristics related to growth, production and functions stages was considered. Variance analysis results showed that there is a significant difference among rapeseed varieties characteristics. By calculating simple correlation coefficient under both conditions, normal and drought stress indicate that seed function characteristics in plant and pod number have positive and significant correlation in 1% probable level with seed function and selection on the base of these characteristics was effective for improving this function. Under normal and drought stress, analyzing the main factors showed that numbers of factors which have more than one amount, had five factors under normal conditions which were 82.72% of total variance totally, but under drought stress four factors diagnosed which were 76.78% of total variance. By considering total results of this research and by assessing effective characteristics for factor analysis and selecting different components of these characteristics, they can be used for modifying works to select applicable and tolerant genotypes in drought stress conditions.

Keywords : correlation, drought stress, factor analysis, rapeseed
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