

عنوان مقاله:

Cluster Analysis Helps to Select Appropriate Pollination States by Crossing of Phalaenopsis Varieties

محل انتشار:

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خلاصه مقاله:

To study the effective morphological and physiological characteristics and the cognition of main factors affecting pollination yield and seed production of phalaenopsis orchid, five varieties and their crossing were studied in a greenhouse of the Agriculture Institute, Research Institute of Zabol on ۲۰۱۹-۲۰۲۲. Eight morphological and physiological characteristics of pollination were evaluated in this research for three years and their grouping was according to a completely randomized design. The results of cluster analysis with the method of UPGMA based on the maximum distance between the clusters, ۲۵ pollination states were divided into two groups. The results of detection of function analysis significantly correlated with cluster analysis. Also, factors analysis showed that two main factors fitted ۷۷.۱% of the data variation considered in the breeding of characteristics with the most variations in each factor. Morphological characteristics such as fresh weight of capsule (FWC), capsule volume (CV), and weight of seed in capsule (WSC) had the most positive variations between factors, and physiological traits such as TCS (Time to Capsule formation Sign) and TPS (Time to first Pollination Sign) showed the most negative one. The most amounts of FWC, CV, and WSC characteristics belonged to Nottingham× Nottingham with ۹.۶۶ g, ۲۳.۵ cm^۳, and ۳.۵۸ g, respectively and in the cross-pollination of Andorra× Nottingham with ۸.۶۷ g, ۲۰.۸ cm^۳, and ۳.۴ g respectively. The results of the factors analysis showed the importance of morphological pollination characteristics (FWC, CV, and WSC) and physiological traits (TPS and TCS) in the indirect selection of desired genotypes for pollination of orchid varieties.

کلمات کلیدی:

Breeding, Capsule's volume, cluster, Seed weight, Sign of pollination

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