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Evaluation of agronomic traits variability in wheat germplasm

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Abstract

Wheat is one of the world's most important crop species. Recently, abnormal climate changes directly influence on the significant reduction of wheat productivity in the world. This threaten allow breeders to find new genetic resources. Wheat is one of the widely grown crops in the world. Individual cultivars / germplasm is adapted in that region where the climate is unique to each other. Therefore, introducing new genetic resources which was good in one place may better perform in another region. In this study, we evaluated germplasm in Korean environment and measured numerous agro-morphological characteristics. Information that are provided by the National Agrobiodiversity Center (Jeonju, Korea) and National Plant Germplasm System (Aberdeen, USA) were included in the analysis. Cluster analysis was performed using the unweight pair-group method of averages. The results of PCA indicated principal discriminatory characteristics of wheat landraces and varieties. Significant differences indicated high variability among the quantitative traits. Cluster analysis results showed that the groups were divided by geological climate condition. The preliminary evaluation of germplasms in Korean environment would help to develop wheat cultivars via providing useful genetic traits that are resided in alien germplasms.

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