

The Study of Genetic Diversity in Wild Wheat Species by Morphological Traits

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Abstract

To evaluate the genetic diversity, four wild wheat species named *T. boeoticum*, *T. thaudar*, *T. urartu*, *T. arraraticum* were studied. Quantitative traits were measured according to IBPGRI. Analysis of variance showed significant difference for all landraces. Result of Pearson correlation analysis showed positive and negative significant correlations between some of the traits. In principle component analysis, four principle components accounted for 59.56 percent of total variation. The first principle component with 29% mainly explained stem width, spikelet length, radicle node length and width, glum length and width and seed width. The second principle component with 12% of total variation explained plant height and spikelet width. While, the third principle component with 10% of total variation, explained leaf number and node number. Moreover, the fourth PCA indicated SNS and seed length. Cluster analysis also classified the landraces into three groups which separated landraces according to species. Result of PCA confirmed the result of cluster analysis as *T. arraraticum* placed in separated group, indicating that this species is different systematically from other species.

Keyword: Wild wheat, Cluster analysis, PCA