



Association Mapping of Germination and Some Early Seedling Stage Traits of a Turkish Origin Oat Collection

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Summary:

In recent years, oats for use as hay have been in high demand in Turkey. In this study, 167 Turkish oat landraces were evaluated for germination and some early seedling stage traits. They were then genotyped using the 6K SNP Chip assay to detect candidate markers for these traits using association mapping analysis.

The variation in oat genotypes for germination and other investigated traits was significant at 5%, except for germination rate (GR). Principal component analysis explained 63% of the total variation.

Association mapping analysis resulted in 33 candidate markers: eight for germination rate, five for germination ratio (GP), five for radicle length (RL), five for coleoptile length (CL), four for plumula length (PL), and six for seed vigor index (VI). The candidate markers identified here could be useful in future studies.