The Omani Barley Landrace Bahtini. II-Diversity of Isozyme Markers (C08-jaradat114048-Oral)

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Abstract:

Patterns of variation, based on seven isozyme loci, were used in characterizing seven ecotypes of the salt tolerant Bahtini Omani barley landrace. A total of 20 alleles were observed on seven isozyme loci; all were polymorphic except for Pgd-1. Seven of the loci were found to be common widespread, three common sporadic, four common localized and six rare localized. Total gene diversity within ecotypes (0.332) was partitioned into average gene diversity within (0.267) and among (.0646) ecotypes. Gene diversity among ecotypes relative to total gene diversity was 0.1946. Three esterase loci (Est1, Est2 and Est4) had the highest average gene diversities (0.552, 0.542 and 0.432, respectively). Three of the seven ecotypes showed unique esterase isozyme genotypes. The unbiased estimates of genetic distances between ecotypes ranged from 0.0321 to 0.294 and separated all seven ecotypes into four distinct subgroups. Results of the study will be utilized in maximizing genetic diversity in germplasm collections of this landrace threatened by increasing salinity in the irrigation water.

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