Turkish Journal

of

Botany

Keywords
Authors

bot@tubitak.gov.tr

Scientific Journals Home Page

Turkish Journal of Botany

Isozyme Variations in Some Aegilops L. and Triticum L. Species Collected from Central Anatolia

Mehmet KARCICIO
Hacettepe University, Faculty of Science, Department of Biology, Molecular Biology, 06532 Beytepe, Ankara - TURKEY
(e-mail: karcicio@yahoo.com)
Afife IZBIRAK
Hacettepe University, Faculty of Science, Department of Biology, Molecular Biology, 06532 Beytepe, Ankara - TURKEY
(izbirak@hacettepe.edu.tr)

Abstract: In this study the aspartate aminotransferase (AAT, E.C. 2.6.1.1), phosphoglucomutase (PGM, E.C. 5.4.2.2) and phosphoglucose isomerase (PGI, E.C. 5.3.1.9) isozyme patterns of nine different diploid and tetraploid wild wheat species belonging to the Aegilops L. and Triticum L. genera were analysed electrophoretically, using horizontal starch gel and non-denaturating polyacrylamide gel (only for AAT). All species were found to have three AAT isozyme zones (except for the AAT of Aegilops speltoides Tausch on starch gel) on both gels. While the migration distances of AAT-1 isozyme were similar, the AAT-2 and AAT-3 band patterns were different on both gels. A single PGI enzyme zone was detected for diploid and tetraploid wild wheats, except for Aegilops triuncialis L. and Aegilops biuncialis Vis. These two species had two PGI enzyme zones on starch gel. All the test species except for Ae. biuncialis showed only one PGM enzyme band, this species having two PGM zones. The utilization of PGM and PGI isozymes as genetic markers to distinguish interspecific variation among different wild wheat species seems encouraging, particularly PGM for Ae. biuncialis and PGI for both Ae. triuncialis and Ae. biuncialis. However, the usefulness of the AAT-2 and AAT-3 zones as genetic markers needs further study.

Key Words: Aegilops, Triticum, isozyme polymorphism, genetic markers, genetic variation, electrophoresis

---

Turk. J. Bot., **27**, (2003), 433-440.
Full text: pdf
Other articles published in the same issue: Turk. J. Bot.,vol.27,iss.6.