

RAPD Analysis of the Genetic Polymorphism in the Collection of Rye Cultivars

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Abstract : In the present study, RAPD-PCR was used to assess genetic diversity of the rye including landraces and new rye cultivars coming from Central Europe and the Union of Soviet Socialist Republics (SUN). Five arbitrary random primers were used to determine RAPD polymorphism in the set of 38 rye genotypes. These primers amplified altogether 43 different DNA fragments with an average number of 8.6 fragments per genotypes. The number of fragments ranged from 7 (RLZ 8, RLZ 9 and RLZ 10) to 12 (RLZ 6). DI and PIC values of all RAPD markers were higher than 0.8 that generally means high level of polymorphism detected between rye genotypes. The dendrogram based on hierarchical cluster analysis using UPGMA algorithm was prepared. The cultivars were grouped into two main clusters. In this experiment, RAPD proved to be a rapid, reliable and practicable method for revealing of polymorphism in the rye cultivars.

Keywords : genetic diversity, polymorphism, RAPD markers, *Secale cereale* L.

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