CHARACTERIZATION AND GENETIC DIVERSITY CHANGES IN THE SLOVENIAN COMMON BEAN, ČEŠNJEVEC LANDRACE

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Received January 25, 2006; revision accepted May 1, 2006

The common bean has been cultivated in Slovenia for centuries, resulting in the development of numerous landraces that are still grown today. The objectives of this study were to define the genetic background and to estimate genetic diversity changes in the traditional Češnjevec landrace of the Slovenian common bean over the last 50 years of cultivation. Fourteen microsatellite loci were analyzed for the presence, number and size distribution of alleles in 231 individuals, representing 67 common bean accessions, including 19 new and five old accessions of landrace Češnjevec collected in the 1950s and stored at the Agricultural Institute of Slovenia (AIS). In factorial correspondence analysis and UPGMA cluster analysis, Češnjevec clustered apart from both Mesoamerican and Andean gene pools. It is suggested that occasional outcrossing, adaptation to particular environmental conditions and strong selection for consumer preferences for seed types could have played a significant role in the evolution of the additional variation in the common bean in this region. Three alleles present in old Češnjevec accessions were undetected in new Češnjevec accessions. The results presented here provide a firm basis for important and informed decisions concerning further conservation strategy and breeding program in Slovenia.

Key words: Common bean, Češnjevec gene pool, genetic diversity, microsatellites.