

Abstract

Emmer wheat [*Triticum diccicum* (Schrank) Schuebl] is an example of a crop which has been largely grown in less favourable farming areas (i. e. less fertile montane lands, arid areas, etc.). Our paper work aims at a description of an availability of the wheat genetic resources within Europe and an evaluation of the particular agronomically significant parameters and the elementary qualitative parameters of the emmer wheat genetic resources within the Czech Republic. Data for the evaluation of a structure and availability of the wheat genetic resources were drawn from the European Wheat Database and evaluated. Precise small-plot trials were established on the certified organic parcel of the University of South Bohemia in České Budějovice and used between 2009 and 2011. Eight emmer wheat genetic resources and two bread wheat control varieties were involved in the trials. Selected agronomic and elementary qualitative parameters were studied. The accessions were resistant to the common wheat diseases and competitive to weed plants. The mean yield rate achieved 2.03 t.ha⁻¹. A reduced resistance to lodging, just as a reduced spike productivity, were two most significant disadvantages of the wheat growing. The protein proportion achieved almost 17 per cent. On the other hand, the emmer wheat proteins usually swell less than the protein of bread wheat (low values of Zeleny test). The emmer wheat is not, therefore, suitable for the traditional baking and processing but for other types of processing, i.e. a production of pasta, biscuits, etc. As for the yield formation, a legally protected variety Rudico was considered as the most prospective of all the tested emmer wheat accessions.

Key words: genetics resources, wheat, emmer, organic farming