

Abstract

The following work deals with the genus *Malus* in terms of the significant diversity that this genus represents. It summarizes a basic knowledge about the taxonomic position and world centers of the genus evolution. Part of the thesis also discussed reproductive mechanisms as a source of the genus diversity. The thesis then focuses on the species *Malus domestica*, its evolution and the hybrid origin. In this context, old varieties of apple trees, their significance and pomologically important regions of the Czech Republic are presented. An integral part of this work is also devoted to the protection of old varieties, its limits and possibilities. The protection of old varieties also encompasses the extensive orchard as an important agroecosystem. Finally, different Czech regions are compared with respect to the quantity of reported old varieties.