

Abstract

The aim of this diploma thesis was to better understand the factors influencing the establishment, survival and growth of climax tree species during spontaneous succession and thus to contribute to the understanding of the mechanism of spontaneous succession and improve the procedures for ecosystem restoration after coal mining. The study was conducted at the Podkrušnohorská spoil heap in western Bohemia near Sokolov.

In my diploma thesis I compared the prosperity of the shade-tolerant beech and the light-demanding oak. I compared the condition of oaks eight years after the original study and the condition of beeches eleven years after the original study. At the same time I also compared the data of current beeches and oaks and tried to find out which of these species is more successful on post mining heap.

Data analysis revealed significant changes in the composition and structure of forest stands. While in the initial stages of succession, English oak dominated, a significant expansion of European beech is currently evident, especially in conditions of increased shade. This shift is interpreted in the context of the different tolerance of both species to abiotic stressors and competitive interactions.