

Abstract

The text of the thesis is divided into two parts. The literature overview discusses the importance of decomposition to carbon cycling in soils and evaluation of biological, physical and chemical factors that affect decomposition. To understand the factors affecting the soil respiration is essential to improve the global carbon balance. Decomposition affects also the release of nutrients, soil fertility and other soil processes and properties.

The very project aims at the impact of leaf litter quality assessment (specifically, the C: N: P ratio) on the rate of decomposition. The assumption is that the low C:N ratio initially accelerates the decomposition which quickly reaches its minimum. Conversely, at a high C: N ratio the rate of decomposition is initially slower and subsequently reaches its minimum, and the average value of decomposition will be higher than in samples with low C:N ratio. For litter which has undergone leaching phase none of the significant differences in respiration of the individual samples with different C:N were statistically proved.