

Abstract

This master's thesis deals with the natural environment of two selected deserted medieval localities – Jevany-Dubina (Prague-East District) and Hol (Capital City of Prague). This work consists of two relatively independent parts. The first theoretical part describes chemical processes occurring in forest soils, and anthropogenic impact on soil. The second part is the actual research associated mainly with the study of agricultural land use and the variability of the natural environment influenced by man.

The research of the Jevany-Dubina site consisted of an additional geodetic survey, a description of all relics, a surface collection and a geophysical survey. Selected procedures partially helped to interpret the parts of the settlement and its function. We conclude that a farmstead with guardians was most probable.

The main part of the thesis is devoted to a geochemical research in the intravilan and extravilan of the deserted medieval village Hol. The greatest attention was paid to the interpretation of phosphorus (P) distribution in soil. Another of the issues dealt with in this thesis was the extent to which residents fertilized their fields and gardens around the village. Higher values of anthropogenic P in soil have been documented only in the intravilan of the village. Farther away from the buildings the traces of P in soil are negligible. It is therefore a question of whether the medieval fields were even fertilized. It seems that mainly gardens and area close to the village were fertilized. However, we assume that fertilization was not effective in the environments with different types of cambisols (according to The World Reference Base for Soil Resources) and soils inclining to illimerisation.

Soil analysis by the portable XRF spectrometer demonstrated the differences in the chemical content between the southern and northern parts of the deserted medieval field and the recent contamination of forest soil (As, Cu and Pb). Differences in the geochemical image of the parts of the deserted medieval field are caused by diverse geological subsoil and soil types.

The presence of the bleached soil E horizon was monitored during the probing. E horizon was more present in probes at the northern edge of the village. Therefore, based on analogies, we do not expect extensive soil cultivation in this area.

Both settlements did not pass a successful transformation in the late Middle Ages, and therefore disappeared. Their disappearance could be caused by an insufficient water supply. Also, the soil properties in the surrounding areas are not favourable. Unsuitable agricultural cultivation of the land, in an effort to increase yields, could have caused soil depletion and gradual soil degradation.