

IMPACT ASSESSMENT OF THE LONG-TERM FALLOWED LAND ON AGRICULTURAL SOILS AND THE POSSIBILITY OF THEIR RETURN TO AGRICULTURE

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Supplementary

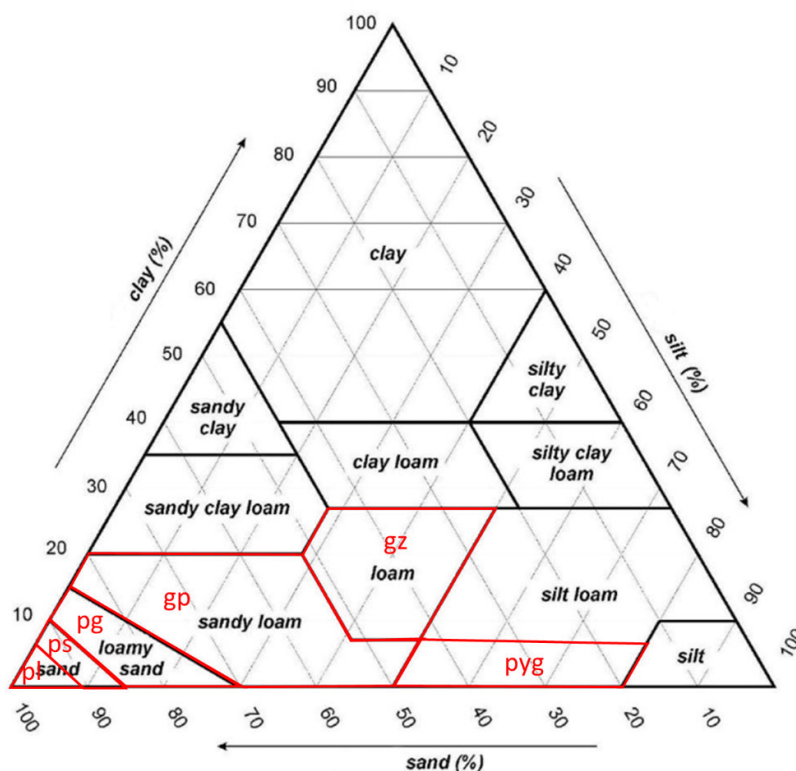
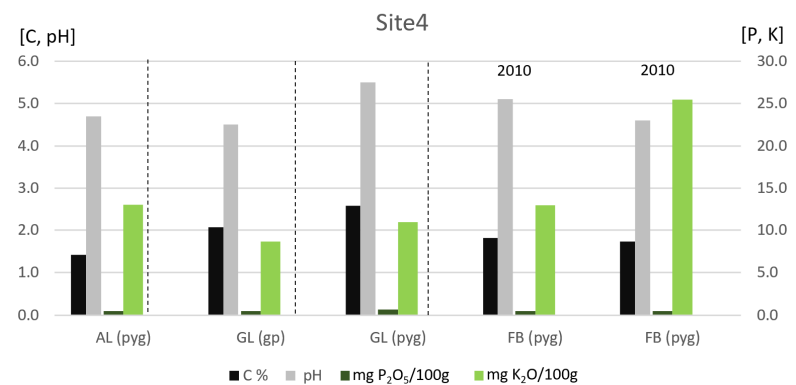
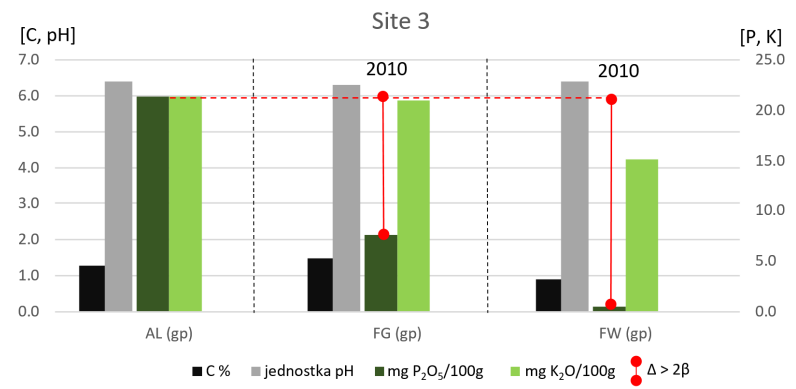
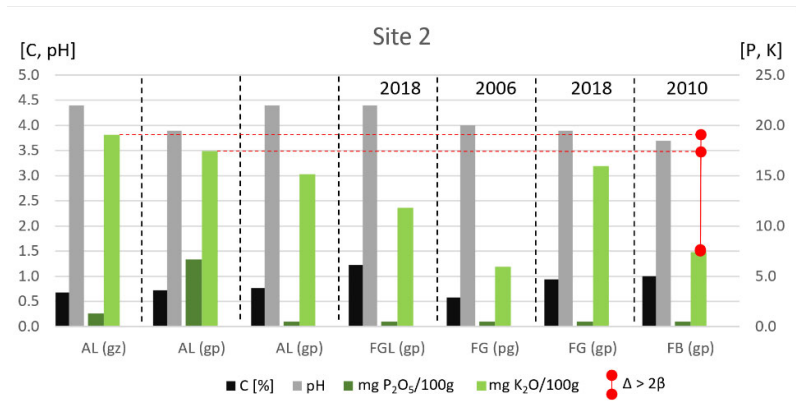
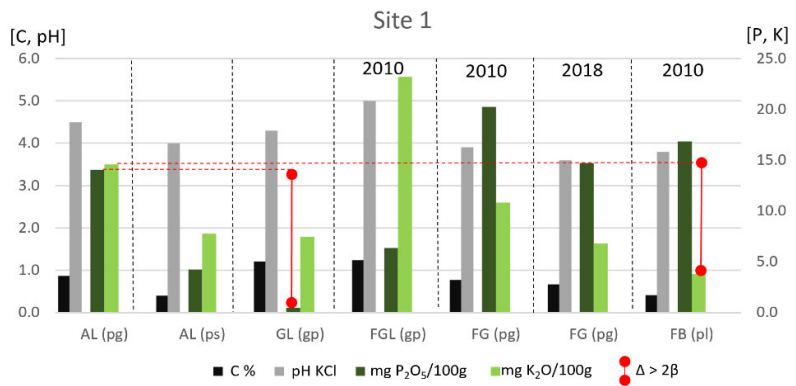
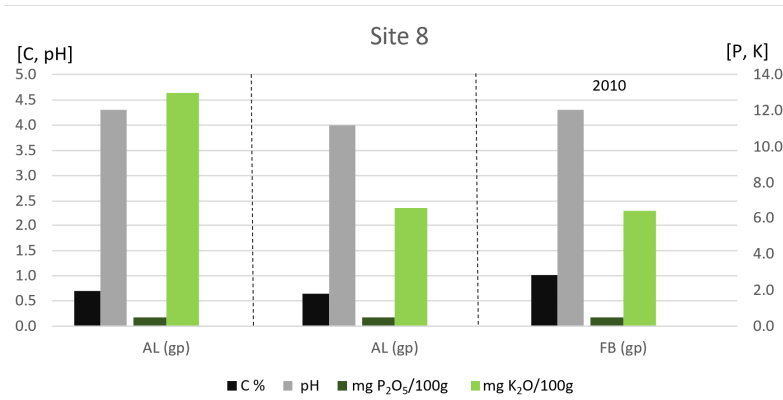
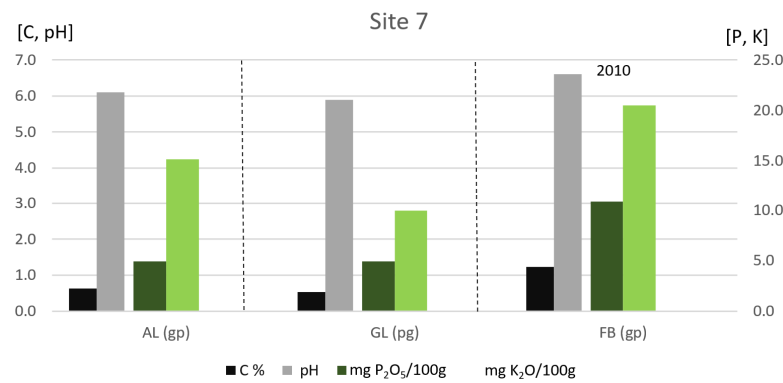
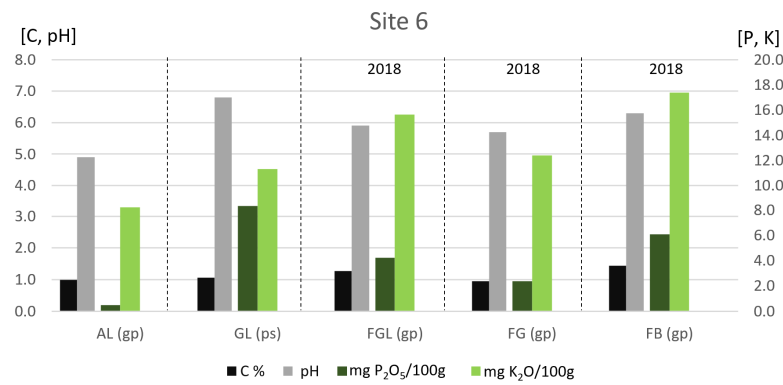
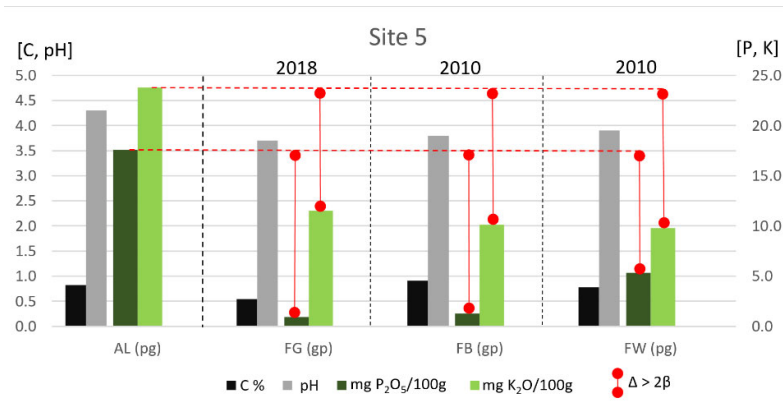
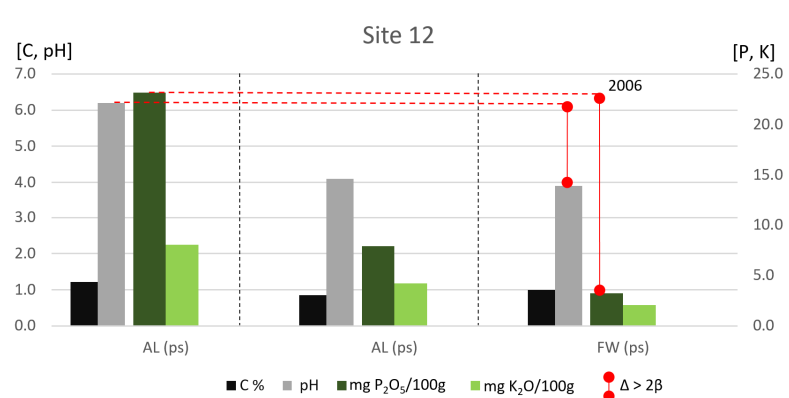
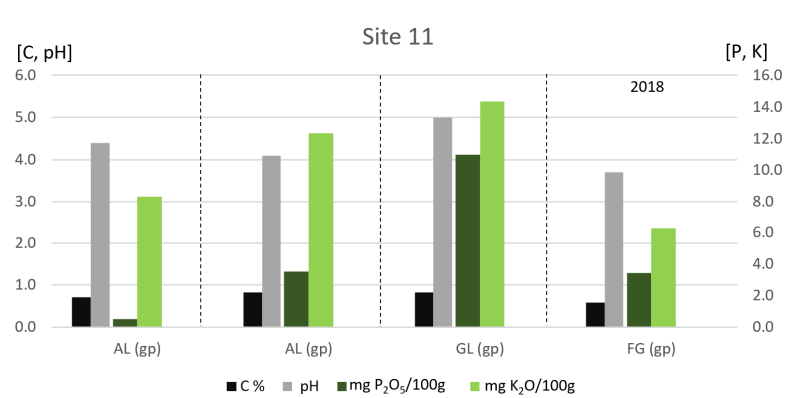
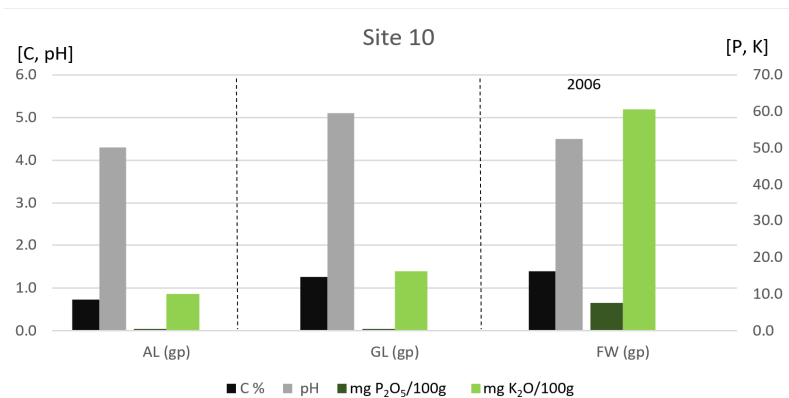
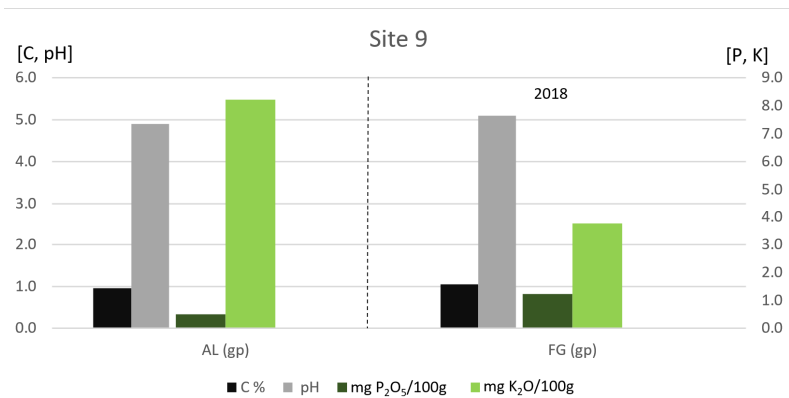
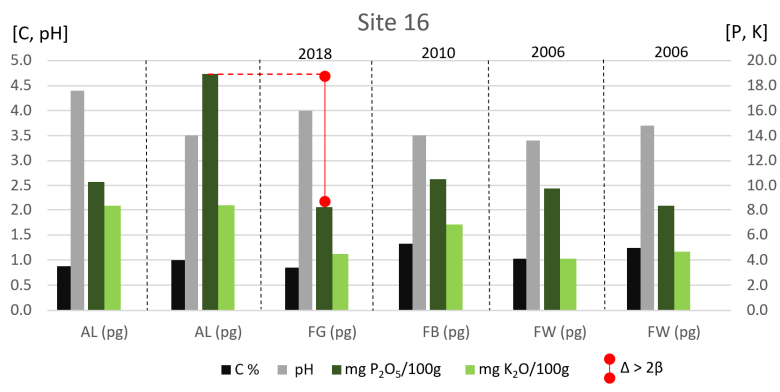
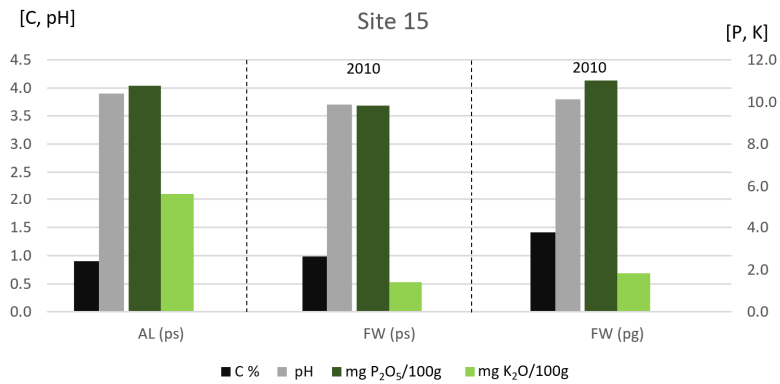
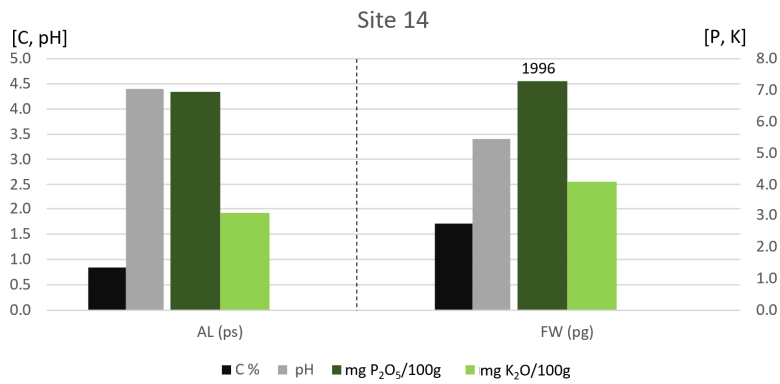
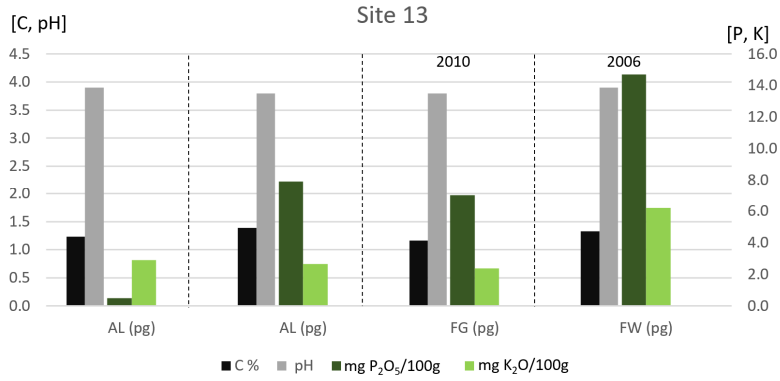


Figure S1. A ternary diagram of the soil texture triangle showing the USDA-based soil texture classifications [S1]. Red color marks fractions according to the Polish classification, which were used in this publication to characterize the granulometric composition of the tested soil samples: pl (loose sand), pg (clay sands), ps (weak loamy sand), gp (sandy loam), pyg (clay dust) [36-37].









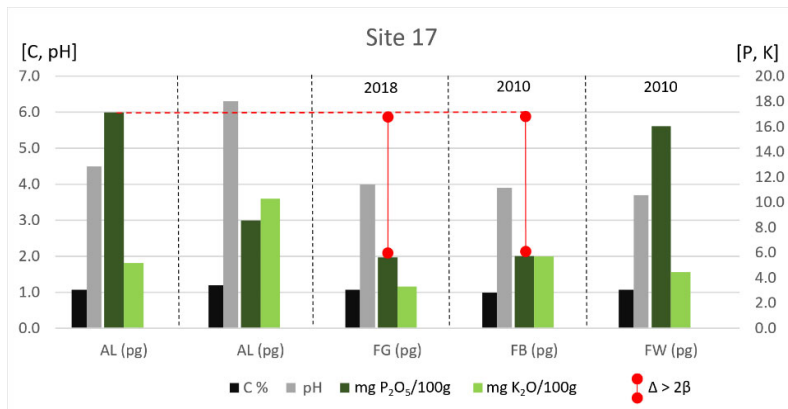


Figure S2. Primary results characterizing each tested site. AL - arable land, GL – grassland, FGL – fallow grassland, FG – fallow goldenrod, FB – fallow bushy, FW – fallow wooded (afforested). Soil granulometric type: pl (loose sand), pg (clay sands), ps (weak loamy sand), gp (sandy loam), pyg (clay dust) – see Fig. S1.

Approximate year of the appearance of natural succession was indicated in the upper part of the diagram as: 1996,2000,2010,2018

Red markers represent samples for which the difference between the fertility of arable soils (AL) and fallow (FGL or FG or FB or FW) exceeds the value of two classes of fertility, according to the Polish classification [S2]. Adopted critical values (Δ) were calculated as: $\Delta > 2 * \beta$, where: for carbon $\beta = 0,85$; for pH $\beta = 1$; for both P₂O₅ and K₂O $\beta = 5$. The methodology is described in detail in chapter 2.1.

Supplementary References

1. Twarakavi, N. K. C., J. Šimušek, and M. G. Schaap (2010), Can texture-based classification optimally classify soils with respect to soil hydraulics?, *Water Resour. Res.*, 46, W01501, doi:10.1029/2009WR007939
2. Jadczyzyn T (Ed.) Good agricultural practices in the areas particularly vulnerable (OSN) to nitrates of agricultural origin (in Polish), IUNG, CDR, http://iung.pl/dpr/Mat_szkoleniowe/publ_azotany.pdf access 04.02.2021