



Characterization and distribution of ridge and furrow in Lower Saxony, Germany

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Medieval cultivation in long strip fields using the scratch plough creates patterns of ridge and furrow still visible in present time. Therefore soils of medieval ridge and furrow cultivation can be archives of regional land use and cultural history. To assess the pedo-functions, three different forms were considered. Depending on the relief and use (i) preserved, (ii) eroded and (iii) embedded shapes were investigated. The various forms are schematically featured. In terms of the German soil and nature conservation as well as according to the heritage protection law of Lower Saxony, these areas need to be protected. The potential distribution and the systematic position of soils developed by ridge and furrow is still an open question. For this purpose, more than 1200 landmarks and point records from ADABweb, the Forest Planning Authority of Lower Saxony (FPA), and the Institute for Historical Land Research of Göttingen were assigned to the soil landscapes of Lower Saxony. In order to create a comprehensive picture, the potential area of medieval arable land is calculated from historical data (FPA, NLWKN). The new soil map (LBEG) and the geomorphographical map (LBEG) are used to define excluded areas and proofs of ridge and furrow. Validation is carried out using the historical map of the first national measurement from 1800 (LBEG) and the soil assessment map (LBEG). The spreading of the medieval farmland can be verified with a high degree of validity for sub-regions of Lower Saxony while in other areas there are still uncertainties that need to be clarified. To validate the results, a map for historical use, covering the total area of Lower Saxony, is needed.