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Soil physics and chemistry at a medieval ridge and furrow site in northeastern Germany

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The usage of non-reversible ploughs, mainly during the Middle Ages and until historic times, led to the formation of ridge and furrow systems. Due to improvements of agricultural techniques, these historic agricultural sites were often abandoned and are now marginal land. The parallel ridges and furrows are usually, if not destroyed by later conventional ploughing, preserved in present-day forests. In northeastern Germany ridge and furrow systems are normally several decameters long and up to ten meters wide. The height difference between ridge top and furrow bottom is up to 50 centimeters and is expected to cause significant contrasts of soil properties and vegetation. Furthermore, due to the abandonment of sites with ridges and furrows, soils on these sites are unique archives for studies on fertilization, soil carbon dynamics and soil development. Therefore, we are characterizing soil physics (bulk density, saturated soil hydraulic conductivity, texture) and soil chemistry (soil acidity, carbon and nitrogen content) on a type location of historic ridges and furrows about 100 km northwest of Berlin.