



## **Soil use and hydraulic systems in the Terramara S. Rosa (Poviglio, northern Italy). The role of micromorphology in decrypting site formation processes**

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The S. Rosa moated site (Terramara), which dates back to the Middle-Recent Bronze age, is under excavation since 1984, by the Soprintendenza ai Beni Archeologici dell Emilia Romagna, in cooperation with the Università degli Studi di Milano, CNR-IDPA of Milano, and the sponsorship of the Comune di Poviglio and Coopsette.

The field seasons of the last ten years were concentrated in the south-western part of the fringe of the site and the adjoining ditch, and unearthed a complex hydraulic system composed of several wells, the moat, a canal converging to it, and minor ditches connecting these structure to the countryside surrounding the Terramara.

During the early phase of occupation (late Middle Bronze age), a large number of wells, located at the fringe of the village, in coincidence with the fence were dug to reach the water table. They were kept in use for a long time and the water extracted from them was not directed to the interior of the village but it was carried inside the moat throughout a system of ditches.

Outside the moat, a large canal has been recently discovered. Its large size and the sophisticated knowledge in hydraulic engineering that its construction required, make it the first archaeological proof of a large scale water management during the Bronze Age.

During the last phase of the village (late Recent Bronze age) the wells of the fence and the canal were deactivated and the flow inside the moat interrupted. Consequently, more wells were excavated in a very short time at the bottom of the moat, as indicated by refitting of the potsherds included in the fill. These wells are surrounded by reservoirs connected by small ditches to make the extracted water available to be used at the outer fringe of the moat.

An intensive program of micromorphological studies has been undertaken to reconstruct the formation processes of the excavated deposits. Thin section study led to the differentiation of long lasting phases of use, maintenance and abandonment on the wells at the village fringe, while it indicates an abrupt dumping of those dug within the ditch. Furthermore, comparison between the fill of the minor ditches and the Bronze age soils surrounding the Terramara suggests possible evidence of cultivation and soil management.