

[10] Landscape Transformations of Early Rice Agriculture: Methodological Developments and New Results in the Archaeological Identification of Arable Rice Systems in Prehistory

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Rice can be cultivated in a range of arable systems, including upland rain fed, lowland irrigated and deep water. Our current NERC-funded project aims to reconstruct early rice cultivation systems, and to better establish how ancient arable rice systems be seen using archaeobotanical data. One method is by building modern analogues using associated crop weeds, and phytolith morphotypes found within each type of cultivation regime. Different cultivation systems produce different flora assemblages. Rice weeds and sediment samples have been recorded and collected from a variety of arable systems in India, China, Thailand and Laos. The seeds added to a reference collection, and husks, leaves and culms processed for phytolith references, the sediment samples processed for phytoliths in order to establish patterns identifiable to specific systems. We are using these models on archaeological samples from the Lower Yangtze from between 5000 and 1800 BC to track the evolution of weed flora from Pre-Domestication cultivation (for example at Tianluoshan) to later intensive systems.