

Before Monoculture: Archaeogenetics and the Diverse Field

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Abstract

The transition to agriculture has often been viewed as a revolution in resource diversity. Before the transition, a considerable range of biological resources was foraged, gathered and hunted. After the transition, the resource base dwindles to a handful of species, typically raised singly within bounded plots. While this opposition broadly resonates with major trends in the human food web during the Holocene, it obscures the diversity of Neolithic food economies, raised within ecosystems for which modern analogues are scarce. This diversity is evident from a number of sources, including archaeobotany, ethnographic observations and genetics. This paper reviews how the interface between genetics and archaeology in the study of early agriculture may reveal different aspects of early biocultural diversity.

Attention will be paid to a series cereal species that are predominantly self-pollinated. In monocultural stands, genetic diversity in such cereals would be expected to diminish in a relatively small number of generations. Persistence of or increase in genetic diversity begs questions of how such diversity was maintained. The young field of ‘archaeogenetics’ has moved from simply charting phylogenetic pathways in relation to specific non-coding regions, both to examining coding genes and the dynamics of past populations. This paper will review some of the progress,, potential and problems in growing area of research.

Keywords: archaeogenetics; archaeobotany; landrace; early agriculture