

BREAD FOR THE GODS: MACRO- AND MICROSCOPICAL ANALYSES OF BREAD FRAGMENTS FROM A RELIGIOUS CONTEXT IN SOUTHEASTERN ITALY

Cosimo D'ORONZO¹, Giovanna ARUTA¹, Girolamo FIORENTINO¹

Key words: Starch, Doughnut, Cereal, Sanctuary, Experimental archaeobotany

Archaeological and archaeobotanical analyses have allowed understanding the use of plant resources in a complex cultural context, a sanctuary at Oria, Lecce, Italy, during the 6th century BC.

The archaeobotanical analysis has been done on charred remains of wood tissue of some Mediterranean taxa such as olive and oak which were used as fuel, and palaeoethnobotanical analysis of cereals, pulses, grape pips and various kinds of dough used in cultural rituals.

The main shape of the dough is like a doughnut, but it is possible distinguish flat bread too. In order to identify the grain used to make them, we tried to check various kinds of marker such as starch grains.

Therefore a particular experiment was designed to extract starch grains from cereals and other seeds such as pulses and tree fruit. The dough and leavened dough were experimentally reproduced and after cooking, they were charred at different temperatures.

Our results confirm that the heating process caused morphological changes often resulting in the total destruction of starches. The experimental results and the ESEM (environmental scanning electron microscope) analysis suggest choosing another marker such as the internal morphology of dough: the density and dimensions of voids are connected to gluten quantity. On the basis of our analysis, we propose that the taxon used to make the doughnut was a cereal with a high percentage of gluten, such as naked wheat.

¹ Laboratory of Archaeobotany and Palaeoecology, Dipartimento di Beni Culturali, Università del Salento, Via D. Birago 64, Lecce, Italy, e-mail: cosimodoro@alice.it; gioaruta@yahoo.it; girolamo.fiorentino@unisalento.it