

## The identification of remains funeral food in clay molded vessels from burials by gaschromatography and mass spectrometry

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### Abstract

The study of food products lipid residues found on external and internal surfaces of ancient clay or ceramic vessels, also their identification by chemical methods can provide valuable information about these vessels using and the food preferences of ancient people. Burial ground Shekshovo is a burial monument in Suzdal Opole, where in the course of archeological works, mound burial mounds with destroyed and undisturbed burials were detected. The samples extracts from ground filling 6 ceramic molded vessels from the burials of the XI century were investigated by gas chromatography and mass spectrometry.

The various sterols were found by chromato-mass-spectrometric study of the fat residues. The main sterols was cholesterol, with insignificant admixtures of  $\beta$ -sitosterol and squalene.

Monocarboxylic fatty acids (FAs) with carbon chain from 12 to 18, including lauric and myristic acids, as well as monocarboxylic acids odd-chain FAs and branch-chain FAs were detected in the studied extracts.

The presence of cholesterol, lauric and myristic, as well as the high content of palmitic and stearic acids in extracts of soil samples from vessels, indicates the presence of animal fat in the remains of burial food.

As result of comparison fatty acid profiles of soil extracts from archaeological vessels with literature data about fatty acids content of various fats, It was suggested that the remains of the burial food of three samples were contained the fat of ruminants (cattle, sheep or goats), the other three samples were contained animal fat single-chamber stomach (pigs or horses).

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