

TRADITIONAL HERMETIC METHODS OF GRAIN STORAGE USED IN CYPRUS

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Three structures, traditionally used since medieval times for storing grains, are described. Storage in those structures was mainly based on the concept of hermetic storage.

The first structure, *pilini* (in Greek pilos - mud, clay), was a clay pot of 50-500 litres capacity. After the pot was filled with grain, its opening was hermetically sealed with mud. In some cases larger pots were built inside the houses, with an opening at the top for filling with grain and another one at the bottom for emptying.

The second structure, *fournos* (oven, kiln), was built with stones and mud and had a hemi-spherical shape. It was located outside in the yard. Its capacity was about 500-1000 litres. Before storing grain, a fire was lit inside. Grains were placed inside the *fournos* after it had cooled down.

The third structure, *gouffer* or *gouppa* or *vouffer* (cavity, hollow), was an underground pit built in the open. The walls were plastered with mud and before storing grain, a fire was lit inside it. After the temperature had dropped and the floor cleaned, grain was poured in. Then the opening was sealed with mud.

Experimentally, a *pilini* of 35 litres capacity was used for hermetically storing local wheat for 2.5 months. Oxygen and carbon dioxide concentrations were measured.

In the structures fire caused a disinfection of the space and reduced air humidity. The thick walls of the structures and the mud seal provided a semi-hermetic system, where O₂ concentration was reduced and CO₂ increased gradually due to respiration of the grain and insects.