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HISTORICAL STAGES OF STORAGE AND PROCESSING OF GRAIN AND CEREALS

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Abstract:
This article highlights the topic of the historical stages of storage and processing of grain and grain products and shows that since ancient times, grain products have been treated differently in different states. Ideas are also given about what innovative methods can be used today in the storage and processing of grain products.

Keywords: grain cultivation, grain cultivation, export of g'alla, jam mold, amphorae, Cato's masterpiece, modern advanced technologies.

That humanity has been living well since ancient times they searched mercilessly. In the course of his research, he made many discoveries. One of the greatest discoveries of mankind is the cultivation of grain crops.

Cultivating them, planting seeds in the field and abundantly watering with grain, I learned how to grow. Another great discovery of mankind making flour from wheat grain, bread and bakery products were made from this flour. Humanity, continuing the search, has learned to make porridge from cereals. Today, cereals made from cereals are considered Adam's daily food. Rice made from rice grains is ideal for the human body. 96% of rice is digested in the human body.

Currently in China, 120 kg of rice is consumed per person, in Japan-104 kg, in Pakistan-98 kg, in India-66 kg. Today, a huge number of cereals are grown all

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over the world. Of great importance is the storage and processing of grown grain without its nes-death. Grain production increased from year to year, the domestic market in our republic was fully provided with grain and grain products, grain exports were achieved.

In a market economy, a qualitative effect must necessarily be the main strategy of the economy. Support of large and small producers by establishing storage and processing of raw materials locally, the use of new innovative technologies will ensure economic efficiency and quality. Who knows well the peculiarities of growing raw materials, its processing and finished products. in a market economy, the demand for qualified specialists armed with socio-economic and legal knowledge is growing.

The history of grain and cereals storage dates back to ancient primitive times. Moving from the era of the Ancient Neolithic (ancient Stone Age) to the Silver Age, humanity discovers that grain products were stored in state palaces in large containers with a capacity of 700-750 tons with half grains, millet, barley, sesame buried in the ground, these containers (e.a. V IIIIIIX century BC) established belonging to the kingdom Urartu. Also, egg-shaped (oval) bread molds for toasted bread remnants and a large amount of flour, that is, rye flour stored in containers, were found. Several evidences of storage of grain and other food products in the Bosporan kingdom in the V-IV centuries BC artifacts were found. Grain was stored in basements and large chunks, which was a typical storage method not only for the Greeks, but also for other tribes in basements, chunks, in containers closed from above with smooth metal boards (plates) extending down two to three meters in the shape of a jug (in the shape of a bell). These methods are currently used in India, Asia and Africa. In amphoric vessels intended for food products (in a narrow form with a mouth part in the form of the current fly), oils, wine, grains and crumbly products of the kingdom of Athens and Bosporus were used for the exchange of products. On the ancient coins of the Bosporus, ears and grains were used as symbols.

The differences in the ways of storing grain products of ancient tribes from each other were not so great. In Egypt, grain was stored in wicker baskets, burying them in the ground. These baskets are placed between the huts. In the Middle East, grain products were widely used for storage in large chunks of land. Such gnomes were made directly in special basements, the height of which reached

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two meters or more. Warehouses built of pakhsa in the open ground in the form of current grain elevators storing grain in the ancient Elamite period, four millennia BC, are reflected in the caves there. The warehouses had a cylindrical appearance. Open top with holes, the cylinders are filled with grain and filled with wheat.

Helped protect against various pests. Ancient Greek and Roman scientists and poets wrote about the ways of storing wheat in their works. These artifacts are kept today as rare artifacts. In the work of Cato "agriculture", written in the II century BC, there are many tips: grain storage, container construction, protection from damage recommendations and instructions have been written for this. One of these recommendations reads: "what to do so that insects and rodents do not damage the grain? It is necessary to mix the clay with olive juice, add some thorn residues to it, soak the clay with moisture, dry it a little, squeeze out water, plaster the entire shed with a solution, sprinkle with olive juice and wait until it dries. After that, the container to the grain can be placed. Then the grain can be any damage has been done to the cunands."

With the increase in grain production, from pests there are big problems with the storage and quality storage of grain. This problem could be solved, starting with the ancient Roman Empire for centuries, many countries, such as England, France and recommendations have been developed. For example. The famous French naturalist Reamgor in 1708 on the topic "the art of preserving grain", he submitted his dissertation to the Paris Academy of Sciences.

With world grain and grain production, trade expanded by the 19th century. USA, Germany, France, New silo-type granaries have appeared in England. The first mechanized granary in 1839 Built in Chicago.

Warehouses and elevators of relatively large size in Uzbekistan in the second half of the XIX-early XX centuries. (near flour and rice production plants). 1928-1929 granaries in Tashkent their volume was l, 200t and 1,500 tons. In 1956-60, mechanized warehouses for 3200-3500 tons were put into operation. Currently, in many countries of the world, grain quality control using innovative storage methods, automatic analysis is controlled by computer methods. Let's get acquainted with the main ways of storing grain mass. This method is considered one of the highest quality storage methods. When storing grain mass below the critical humidity, metabolism, respiration and all other physiological

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processes in the grain sharply decrease. With this method of storage, the grain mass retains all its properties in full for a long time. If the grain mass is well cleaned and well protected from external factors, it can be stored in storage for up to 4-5 years, and threshing-up to 2-1 years without any additional processing. When storing a pile of grain in a dry state, it is necessary to constantly carry out control work. Because with the birth of favorable conditions, the activity of microorganisms and pests can increase, and grain can spontaneously overheat. At the same time, the relative humidity of the air is also important. Recommendations have been developed.

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In conclusion, it is worth noting that modern advanced technologies of high-quality grain harvesting have been introduced in our country. Before transferring g'alla to processing enterprises, grain is first placed in household barns or threshing machines for storage.

This stage can last from several hours and days to a month or more, depending on the batch of grain. During initial storage, the grain may be damaged by pests, get wet and suffer greatly from the development of microorganisms caution should be exercised.

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