

Askarova Khurshida Ekram kizi

4th year student of Berdak Karakalpak State University,

Faculty of Chemical Technology, Department of Food Technology

GRAIN STORAGE TECHNOLOGY AND ITS IMPACT ON QUALITY

Annotation: In practice, the durability of the combine harvester is of great importance. This is due to the fact that during this period, the seeds acquire a conditioning character during cultivation and meet the requirements of state standards for the quality of sowing. Technological durability is a term in which the baking, feed or technical properties must be preserved during the grain pruning period. To grain or polluting mixtures in accordance with current standards seeds of wild and some cultivated plants that belong to them breathe during storage, they undergo the processes of the last maturation from collection and bruising under certain conditions.

Keyword: Economic and economic characteristics of grain, its conditioned character for growing seeds, state criteria for sowing quality, technological durability, impurities of pollutants.

Introduction: Grains and seeds of a plant are considered living organisms during collection, transportation and storage. Therefore, constant metabolism is a necessary condition for the survival of a living substance, which reflects the vital activity of the grain mass. The main form of vital activity is gas exchange (respiration). In addition, many batches of grain and seeds undergo physiological and biochemical processes called post-harvest ripening, and, finally, as a result of improper organization of storage of the grain mass, the germination process occurs, which is practically unacceptable.

The period of grain and seeds (technological and consumer), during which they retain their properties, is called their durability. Seed production has long-term biological and economic stability. At least one seed in the grain mass must germinate.

There are three types of seeds with biological long-term stability: 1 - microbiotic seeds, shelf life - from several days to 3 years (rye); 2 - mesobiotic seeds, stability - 3-15 years (wheat); 3 - macrobiotic seeds, stable for 15-100 years (alfalfa seeds, etc.).

In practice, the durability of grain is of great importance. This is the period during which the seeds are conditioned for germination and meet the requirements of state sowing quality standards. Technological durability is the period during which the grain must retain its whole, feed or technical properties.

According to current standards, grain or mixtures of contaminants include seeds of the corresponding wild and some cultivated plants that breathe during storage, where they undergo post-harvest maturation and germination under certain conditions. They can be considered as belonging to the main types of crops that make up the grain mass according to their characteristics.

In this case, the moisture content of the contaminant seeds should be taken into account, so the respiration rate in the early stages of storage is usually higher than the moisture content and respiration rate of the main species. They allow the grain mass to independently moisten and heat up. For these reasons, immediately after harvesting or collecting the grain, contaminated seeds must be removed immediately. If this is not possible, the grain should be cleaned in the first days of storage.

The temperature resulting from the active life of the components of the grain mass is called spontaneous heating. Spontaneous heating occurs in the grain mass under the influence of various environmental factors. As a result of the rapid respiration of the grains and the heat released by the seeds of wild plants, microorganisms, insects and channels, the heat is retained in the grain due to poor heat transfer. As a result, heating begins from this moment.

When the grain mass heats up by itself, its colour changes abruptly and becomes darker or dark brown. Grain darkens at the final stage of heating under the influence of microorganisms. Studies have shown that the quality and colour of self-heating grains vary. The darker and more pigmented the grain, the lower its nutritional, technological and food value. However, it should be noted that the quality of seeds (germination) decreases at the early stages of spontaneous heating. It is known that grain products contain a lot of dry matter during storage. Due to this, a special natural reducer was introduced into stored products. The method for calculating the natural reduction of dry matter in stored products has been specially developed for both laboratory and production conditions. These standards are used as a control when determining the quantity of products at grain enterprises. It is worth noting that the quality of the products is maintained with a natural decrease. If a batch of grain is stored for more than one year, the natural loss is 0.04% for each subsequent year or the corresponding number of months. Numerous experiments show that if the storage process at any enterprise is organized on a scientific basis, organizational and technological measures are taken in a timely manner, the decrease in the quality and quantity of products will be minimized. This means that during the storage of grain, their moisture content, the absence of various impurities, and storage conditions that affect the quality and durability of the grain mass are important.

Such a temperature difference is due to many reasons, such as: the condition of the grain heap; the condition and design of warehouses; the conditions of storage of grain heaps and the methods of monitoring them.

The condition of the grain waste. The intensity of the heating process is greatly influenced by its humidity, temperature, physiological activity and composition of microflora. Low capillary moisture of the grain mass (condensation of water vapor) significantly affects the intensity of heating. The more free water in the grain mass, the more intense the spontaneous heating.

It is known that grain products contain a lot of dry matter during storage. Due to this, a special natural reducer was introduced into stored products. The method for calculating the natural reduction of dry matter in stored products has been specially developed for both laboratory and production conditions. These standards are used as a control when determining the amount of products at grain enterprises. It is worth noting that the quality of the products is maintained with a natural decrease. If a batch of grain is stored for more than one year, the natural loss is 0.04% for each subsequent year or the corresponding number of months. Numerous experiments show that if the storage process at any enterprise is organized on a scientific basis, organizational and technological measures are taken in a timely manner, the decrease in the quality and quantity of products will be minimized. This means that during the storage of grain, their moisture content, the absence of various impurities, storage conditions that affect the quality and durability of the grain mass are important.

Conclusion: Thus, based on the above, we can conclude that wheat grain should be stored with access to air. This can be done either by actively ventilating the grain masses, or by throwing the grain from one place to another, as a result of which the air between the grain spaces is enriched with oxygen, as a result of which the humidity and temperature of the grain mass will be reduced. As a result, we can

say that properly organized grain storage should be aimed at the maximum reduction in dry matter consumption and, consequently, achieving the lowest possible loss in grain weight during storage

List of used literature:

1. Ibragimov O.O., Akramov Sh.Sh. Regulation of cotton fruiting by removing part of newly formed buds // Modern scientific research and development. - 2018. - No. 6. - P. 314-315.
2. Mamatozhiev Sh., Usarkulova M. Determination of changes in the natural angle of inclination of grain depending on humidity // Agrosience - agriculture and water resources of Uzbekistan. - 2020. - No. 3. - P. 30.
3. Mamatozhiev Sh.I. Usarkulova M.M. Determination of the procedure, composition and methodology of the wheat moistening process // Actual Science. - 2020. - No. 1 (30). - P. 18-21.
4. Mamatozhiev Sh.I., Usarkulova M.M. The influence of changes in the physicochemical properties of grain depending on humidity on the uniform distribution of the load over the surface of the crushing shaft // Problems of modern science and education. - 2020. - No. 4. - P. 5-9