



GRAIN AND GRAIN STRUCTURE

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ABSTRACT

High-quality grain cultivation, complete organization of conditions for its collection and storage, break-even liquidation of grain harvest create prerequisites for the growth of the economy of processing enterprises.

KEYWORDS

wheat grain, losses, acceptance.

INTRODUCTION

Grain is an important product of agricultural production, the basis of human nutrition, the development of productive agriculture is the fodder base of Uehong. A feature of grain crops is that grain synthesizing extremely valuable organic substances for the human body contains a greater amount of dry matter than other agricultural products, accounting for 85% of the mass of ripe grain. These are mainly high-value protein substances, easily digestible carbohydrates. The grain of cereals contains 10-15%,

and the grain of legumes contains 28-30% of high-quality protein: cereals are a source of protein and carbohydrates in the human diet of uehun, and the production of high-quality omixta uehun feed is an excellent raw material. In addition to proteins and carbohydrates, cereals and grain processing products are also an important source of a number of vitamins and minerals. However, grain can also be stored and transported over long distances under normal conditions for several years. The main crops are

leguminous crops (wheat, rye, barley, oats, millet, rice, corn - oats, white oats). Wheat, rye and corn belong to seed crops, and the grains of these crops are covered only with a fruit shell. Barley, oats, millet and rice are part of the husk, and their grains, in addition to the fruit shell, are also surrounded by a floral shell. Depending on the timing of sowing, wheat, rye, and barley are divided into spring and autumn types. Spring cereals are sown in spring, autumn varieties in autumn. The rest of the plants are planted mainly in spring.

The structure and chemical composition of wheat grain. The formed properties of grain have a decisive influence on many processes of its processing, storage and processing after harvest, but often change by themselves as a result of these processes. Therefore, familiarity with the external (morphology) and internal (Anatomy) structure is the beginning of a deep knowledge of the processes in the grain. The morphology and anatomy of fruits and seeds is an important part of the technological characteristics of grain. The morphological and anatomical structure of the grain is almost identical, except for some features. To characterize the morphological features of the grain of any crop, a description of its shape, size, surface, color and other distinctive features is given.

All substances in the composition of cereals are divided into organic (carbohydrates, proteins, lipids, pigments, enzymes, vitamins) and inorganic (water, mineral elements). According to the chemical composition, the kernels of all grain products belong to the group of starchy plant materials, since starch is contained in them in large quantities, legumes belong to the group of proteins, since they have an increased protein content, and oilseeds – mainly lipids[3].

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Wheat and rye are mainly used in flour production. Rice, oats, barley and corn are used for technical purposes, in the preparation of cereals and feed.

The structure of wheat grain and Kim is a wild composition. Wheat is the most important food crop. It ranks first in grain production in the world, including in the CIS countries. The main properties of wheat are the structure and chemical composition of the grain, as well as the structure and composition of the constituent tissues.

The quality and properties of the grain mass include the grain grade, as well as the quality of the seed. The porosity of the grain mass in some cases varies depending on the variety.

Grains of the same plant, characteristic of different varieties, may exhibit different physiological activity during storage, as well as have different respiratory intensity.

In our region, many scientists of the Scientific Research Institute of Breeding and Seed Production of Cereals and Legumes, located on its territory, have created more than a dozen varieties resistant to soil climate,

harem and drought. The created varieties are planted in all agricultural fields and receive a rich harvest. The sowing rates on farm fields are set in millions per piece or KG. Seeds are supplied through seed distribution points based on grain control standards for variety purity, germination, humidity, processing, drying and coverage and are distributed per hectare of agricultural fields. Sarah seed is the key to a bountiful harvest.

It is known that each variety of grain or seeds will have different consumer characteristics, such as yield, growing season, resistance to diseases and pests, in addition to the characteristics that are paid attention to in agriculture.

Seasonal climatic conditions also do not remain without influence on grain quality. For example, if there is a lot of precipitation before harvesting and during harvesting, the moisture content of the grain increases, and the safety indicators drop sharply. Conversely, if the grain dries up in a drought, or due to lack of moisture, the grains do not ripen completely.

Weeds also have a great influence on the quality and yield of grain. In fields polluted by weeds, crops do not grow and develop well. Especially most of the mineral fertilizers that are given to grain are absorbed by weeds.

Z.Ibragimov and S. From the experience of working with Sulliyev weeds in scientific research, we were convinced that timely support of weeds with herbicides in the wheat field itself gave a good effect. Weed seeds dramatically reduce yields and degrade grain quality.

Weed seeds attach to the main plant grains during the harvest period and pollute the grain mass, reducing the quality of the grain mass.

Therefore, the grains must be thoroughly cleaned before being stored. The quality and safety of grain largely depends on the harvesting processes. The better these processes are organized, the higher the quality and quantity of the harvest will be.

Harvesting of grain crops in our republic is carried out by direct harvesting. The direct harvesting method should shorten the harvest time as much as possible in order to achieve a high abundant harvest. The longer the harvest lasts, the more grains begin to crumble and cause death. Grain crops are mostly harvested by mechanization. The type of mechanization, principles of operation and varieties strongly affect the quality and properties of grain. Grain must be harvested as much as possible without mechanical damage and impurities. Currently, modern advanced technologies for high-quality grain harvesting have been introduced in our country. In particular, modern high-efficiency combines of the American company Keys are widely used in mechanization work.

Grain is supplied to production enterprises with various indicators of condition and quality. Responsible attitude to the grain mass is required. The resulting grain must be properly analyzed and clearly divided by quality. In addition, they need to ensure proper paperwork, apply the correct storage modes and implement modern processing systems.

Based on the results of our experiments conducted on seed grains, harvesting begins 1-2 weeks before they are dried, cleaned, sorted, processed, dried and packaged for 3 months, stored in closed storages or on sites with good air circulation, cleaned of waste, staggered from 1 ton, and then they are distributed for sowing in the 2nd and 3rd decade of October.

Losses from export from the field to acceptance at enterprises amount to 10-12%. The impact of the

harmful rodent khasva is also 2% or more. Grain harvested for the product is stored in the open ground on sunny concrete platforms in June, July, August, September to survive the period of rest and maturation. At this time, birds, dust and dirt from the air of the guard from the external environment settle on the surface of the grain for 4 months. If we analyze the results obtained, then a rat that eats only grain eats 22-25 kg per year, 1 bird eats 8-12 g per day, and 4 kg 320 g of grain per 1 year. Sparrows, pigeons and other birds bring a lot of crabs for grain in the barn or a pile of grain in the open ground and threshing. In addition, they pollute heaps of grain with their own droppings, feathers.

Grain quality also changes under the influence of pests and diseases. In particular, pests dramatically reduce the baking qualities of grain.

3 of the grain processing enterprises located in our region have modern granaries, but many of them are closed warehouses in the form of one-story houses, while in some granaries are stored on sloping open-form porches. On open sloping porches, losses also occur due to the changing seasons.

Storing grain and cereals is a difficult undertaking in the country, like most other goods. The organization of storage of grain products requires a large material and technical base and qualified specialists.

REFERENCES

1. Kurbanbaeva Gulshad, & Askarova Khurshida. (2023). GRAIN RAW MATERIALS AND THEIR CLASSIFICATION. Intent Research Scientific Journal, 2(5), 61–64. Retrieved from
2. HISTORICAL STAGES OF STORAGE AND PROCESSING OF GRAIN AND CEREALS.Xojametova Bibimaryam Kaypovna,.Kurbanbaeva Gulshad Sarsenbaevna, Askarova Khurshida Ekram kizi "Intent Research Scientific Journal". 2023-07-31. 2(7), 95-98.
3. Методы анализа побочных продуктов процесса рафинации масел и жиров. Курбанбаева.Г.С,Нурыллаева.А.А.International forum: problems and scientific solutions proceedings of the 3rd international scientific and practical conference melbourne, australia .26-28.04.2020. 229-232 страница.
4. THE USE OF NON-TRADITIONAL LOCAL RAW MATERIALS IN PRODUCTION OF COMPOUND FEEDS.Kurbanbaeva Gulshad Sarsenbaevna.Keñesbaeva Nargiza Polatbaevna. I International bulletin of applied science and texnology (ibast) ibast | volume 2, issue 11, november 2022. 116-119
5. Grain raw materials and their classification. Kurbanbaeva Gulshad, Askarova Khurshida Intent research scientific journal-(irsj) issn (e): 2980-4612 volume 2, issue 5, may -2023. 61-64:
6. Ресурсосберегающий способ производства хлебопекарных дрожжей на основе рисовой муки. Г Курбанбаева.Проблемы науки .русский импакт-фактор: 0,17 научно-методический журнал № 7 (55), 23.07.2020
7. Применение нетрадиционного местного сырья в производстве комбикормов ГКурбанбаева ,М.Адилханова,Ф.Турсунбаева ,А.Мухаммедалиев, М.Соатов,Б.Жалгасбаева. Universum:технические науки выпуск: 4(85) апрель 2021 часть 4 москва
8. Soap production technology. G Kurbanbaeva ,Kh. Asqarova, "Science and innovation" 15.12.2022. 23-26
9. Improving the effectiveness of the procedure for controlling antibiotics in milk and dairy products. Kurbanbayeva Gulshad.Masharipova Baxor American journal of social and humanitarian



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“global research network llc” under volume: 3
issue: 6 in jun-2022

- 10.** Nutritional quality of high-yielding cereals in
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