Grains and Grain Products

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ABSTRACT

Cereal crops are the most important group of agricultural crops grown for grain, cereal grain is the main food product for humans, raw material for many branches of industry, as well as fodder for livestock. This article contains sufficient information on cereal crops, their types and pest control.

Keywords: Grain, caryopsis, aleurone layer, gluten, belt conveyors, fungicides, PGR, rodenticides, Pesticides

Introduction: In terms of grain composition and product consumption, cereal crops (wheat, rye, barley, barley, oats, corn, corn, etc.) , pea, soybean, vetch, etc.) are divided. Grain, grain (caryopsis) - the fruit of cereal crops or the seed of leguminous plants; one of the main products grown in agriculture. Grains are human food, flour, beer, starch-molasses, alcohol, raw material for compound feed and nutritious feed for cattle. Products processed from grain are used in bread, macaroni, confectionery enterprises. Humanity gets 50% of protein, 70% of carbohydrates, and 15% of fats from grain products. in whole grain forms of wheat, rye, corn and barley and oats huskless and thin-skinned in oat, barley, rice, millet, etc. The main part of the grain consists of endosperm. When the grain is milled, a significant part of it is formed from the endosperm. Most of the endosperm cells are filled with starch and protein. The last layer of the endosperm, the aleurone layer, is rich in protein and fat. This layer is added to the bran during milling (it is not well digested by the human body). The internal structure of the grain is transparent (glassy), semi-transparent and floury, depending on the location and properties of the starch grains in it, the properties and distribution of proteins. At the tip of the grain is the pulp, which contains a lot of protein, fat, sugar, vitamins and enzymes. 81-84.2% of wheat grain weight consists of endosperm, 6.8-8.6% aleurone layer, 1.4-3.2% bran and 3.1-5.6% husk. Food and fodder value of grain depends on its substances and their composition. Ripe grain of legumes does not contain endosperm. The seed is covered with a husk, under which there is a pulp. The main part of carbohydrates in the grain is starch. Hemicellulose is part of the cell membrane. Sugars include maltose, glucose and fructose. Proteins of wheat grain mainly include gliadin and glutelins. Wheat proteins combine with water to form gluten during kneading, the

elasticity, porosity and size of bread depend on the amount and quality of gluten.

Main part: Legumes consist of grain proteins, mainly globulins and less albumins. They are more nutritious than Karaganda in the protein of grain crops. Oils are mostly found in mulberry, ground nuts and seeds in the shade. Grain ash contains phosphorus, potassium, magnesium, calcium, silicon, etc. there are elements. Enzymes (amylase, maltose, sucrose, lipase, etc.) are mainly concentrated in the pulp. Grain contains vitamins thiamin (V,), riboflavin (V2), pyridoxine (V6), nicotinamide (RR), ascorbic acid (S), etc. damage level and others are evaluated according to indicators. The moisture content of grain stored in warehouses is 14-17%, dirtiness is not allowed to be more than 1% (additional Cereal crops, Legume crops). The wheat market plays an important role in the formation and operation of the food safety system.

Wheat products are one of the main food products of Uzbekistan, and currently the republic not only meets its own grain and its domestic needs. not only satisfies, but also satisfies the needs of a number of countries through export. Nomenclature of export products:• wheat• flour Storage of grain products (organization of grain warehouses): Grain warehouses are divided into mechanized and non-mechanized ones. Normal warehouses are 60 m long and 20 m wide. Their capacity is 3200 tons with a full load of wheat grain. Non-mechanized warehouses are built only with horizontal floors. In these warehouses, reception, transportation and release of grain is carried out with the help of mobile and self-propelled mechanisms. Construction of mechanized warehouses with both horizontal and inclined floors. These warehouses are equipped with upper (loading) and lower (unloading) stationary belt conveyors and bucket elevators installed at the ends of the warehouses. or set in an impassable gallery. Warehouses with impenetrable galleries are mainly built in places with high groundwater levels. When using impenetrable galleries, the belt conveyor, as a rule, wraps, that is, one branch of the belt (lowering) is at the bottom o In the impregnable gallery, the second (loading) passes along the rafters of the warehouse.

In some cases, warehouses are built only with an upper or only a lower conveyor. Such warehouses are partially mechanized In order to fill the warehouse more completely, especially along the longitudinal walls, a dumping cart with a grain carrier is installed on the upper conveyor, with the help of which the grain unloaded from the conveyor is thrown onto the walls. In warehouses with horizontal floors, the height of the grain fence is allowed: 2-2.5 m on the walls, 4-5 m in the middle of the warehouse. The grain from the warehouse to the lower conveyor is unloaded through the hopper discharge hatches installed in the ceiling. In total, there are 10 hatches along the length of the warehouse. The output of grain to these hatches is regulated by valves in the draft tube above the lower conveyor. In warehouses with impassable galleries, the door valves are controlled by vertical rods with hand wheels from the upper conveyor platform. can negate all gains in gross productivity, devalue the labor involved in cultivation and harvesting. Storage, which is the final stage of grain production, is a science that studies the properties of grain and grain masses as storage objects, as well as the influence of physical, chemical and biological factors on grain condition.

Storage of grain and grain products requires a huge material and technical base and a staff of specialists with basic knowledge in this regard. In recent years, serious changes have taken place in the technical base of grain storage in our farm. . The share of elevators and mechanized warehouses has increased significantly. The degree of mechanization of working with grain and grain products has increased in all sectors of the national economy. This made it possible to implement new improved technological methods that reduce the loss of grain and reduce costs during its storage. It is very important to fight against pests and diseases in the process of planting wheat. Some common pests and diseases of wheat and their control methods. Integrated management of wheat diseases and insect pests is mainly based on prevention supplemented by disease and pest control. In the process of

prevention and control, the combination of comprehensive control, physical control and biological control is supported, and the use of chemical pesticides is reduced, wheat production can reach the standard of green food without pollution

Summary. Photoelectric separators prevent damage to grain products is a method of automated cleaning methods. Cleaning the grain mechanical processing, washing, calibration processes are not carried out, which may damage the product. The use of photoelectronic separators is required allows you to get a pure uniform, 99.9% pure product of high consumption quality. Cleaning grain from impurities is an important step in grain storage and this allows to ensure the high quality of the harvest and its storage stability will give. The use of a photoelectric separator reduces the cost of the product,
and this is to be able to sell high-quality and cheap grain products to the population allows.

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