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NUTRITIONAL QUALITY OF HIGH-YIELDING CEREALS IN KARAKALPAKSTAN

Kurbanbayeva Gulshad Sarsenbaevna
Department of Chemical Technology Food Direction Assistant
Karakalpak State University

Kosbergenova Bibinaz Muratbaevna
Department of Chemical Technology Food Direction Assistant
Karakalpak State University

Annotation
Our country is one of the Central Asian countries in the cultivation and export of cereals. In particular, the cultivation of cereals in each region is one of the most important issues raised at the level of the state program. In this article, the author describes in detail how to grow cereals in the soil climate of the Republic of Karakalpakstan and the specific complexity and importance of this process.

Keywords: cereals, Republic of Karakalpakstan, drought, Amudarya, seed production, agriculture, high yield

Introduction

Cereals are the main source of food for people all over the globe. They make bread and various delicacies, as well as nutritious fodder for farm animals. Cereals are also widely used in industry. Their grains are used to make beer, starch, alcohol and other products. Grain and its processing produce food and serve as a raw material for the paper industry and other industries. Cereals are the basis of agricultural production.
As in the Republic of Karakalpakstan, the introduction of resource-saving irrigation practices is required to transform degraded lands into self-sufficient, ecologically and agriculturally productive areas. The introduction of proven technology of laser land planning will allow more efficient use of water resources, achieve higher productivity and at the same time maintain land productivity.

Chemical Composition of Cereals

It varies drastically for various reasons, primarily depending on weather conditions, level of agricultural technology, soil, crop navigation.
The most valuable nutrient in cereals is protein. Proteins in cereals are divided into 4 groups depending on the nature of the crop: water-soluble albumin; globumin soluble

in salts; alkali-soluble glutenin and alcohol-soluble gliadin. Gliadin and gluten, which are high in gluten, are more important in food grains. The quality, volume and porosity of bread depend on the amount and proportion of these proteins. The ratio of gliadin and glutenin is 1: 1. The content of protein in spring wheat grown in the country can be up to 18%, depending on its type. In winter wheat, the protein content is 13-14%. Amino acids are the main component of protein (20). Eight of them are lysine, tryptophan, methionine, valine, leucine, isoleucine, threonine and phenylalanine. The need for these is that they are not synthesized in the body, so they should enter the body only with food.

Carbohydrates make up 60-80% of the total weight of the grain. Starch is one of the most important carbohydrates. Its amount decreases from the center of the grain to the husk. The least amount of starch is on the outside. The amount of starch in the grain varies depending on soil and climatic conditions.

Fats. Cereal seeds contain 2-6% fat. It is not evenly distributed throughout the seed. The sperm cells contain large amounts of fat (14% in wheat, 12.4% in rye and barley, up to 26% in oats, up to 20% in millet, and up to 40% in corn). Corn, oats and millet are the richest in fat. If there is a lot of fat in the flour and groats, they will turn sour. Therefore, before the corn is weighed, the husks of the grain are separated and the oil used for food is extracted from them.

Cellulose forms the basis of cell walls and grain husks. That's why whole grains are high in fiber.

Gray elements are mainly found in the husks and husks of grains. Grain ash contains about 50% phosphorus and 30% potassium, the rest is Mg, Ca, sodium, sulfur, iron salts and others. The lower the fiber and ash content of the grain, the higher the value.

Vitamins help the human and animal body to develop properly. Cereals contain vitamins A, B, V2, V3, C, D, and YE. Lack or deficiency of these vitamins in the diet leads to metabolic disorders and avitaminosis.

Enzymes play an important role in the conversion of stored nutrients into well-digested forms. The main enzymes are diastase, which breaks down carbohydrates (starch, sugar), lipase, which breaks down fats, protease, which breaks down proteins, oxidizing enzymes, peroxidases.

Cereals are divided into 2 biological groups: autumn and spring cereals.

Autumn cereals include fall wheat, fall rye, triticale, and fall barley. They are planted in the fall and bear fruit in the summer after winter. If the autumn crops are sown in the spring, they will sprout but will not sprout, low temperatures are required during their development, and the temperature should be -0-30 C between 30-60 days (10-120 C during the accumulation phase).

Spring cereals (spring wheat, spring rye, spring barley, oats, and millet) are planted in early spring and harvested this summer.

In addition to the fall and spring forms, there are also intermediate forms. These include Caucasian wheat (dvuruchka), which is planted in the spring and has time to germinate. When planted in the fall, it can be harvested in the winter when the winter is not severe.

Yields of autumn crops are 0.8-1 tons per hectare higher than those of spring crops. Autumn crops planted in a timely manner accumulate a large amount of mass, as their growing season lasts 120-150 days, and spring cereals - 90-100 days.

In Uzbekistan, semi-autumn or round varieties are planted in two periods: autumn and spring. Autumn cereals (winter wheat, autumn barley, autumn rye) are planted in the fall and harvested in the summer of the following year.

There are also economic advantages of winter cereals in production. Fully utilizes autumn cereals and early spring rainwater and soil fertility, resulting in high yields (10-15%). The autumn grain crop ripens earlier than the spring crop (7-15 days) and is much easier to harvest. After the autumn harvest, additional sorghum is planted in the same area for fodder. Autumn grain crops yield 60-70 s per hectare.

In Uzbekistan, wheat is grown on fallow lands, busy plows, row crops, legumes and fodder crops. Cultivation depends on past crops. The soil should be ready 7-10 days before the sowing of winter wheat. Depending on the type of crop and the mechanical composition of the soil, the land is plowed, discarded, harrowed and plowed. For spring wheat, storms and thunderstorms are carried out in the spring.

President of the Republic of Uzbekistan Shavkat Mirziyoyev has met with deputies and activists of the Jogorku Kenesh of the Republic of Karakalpakstan in Nukus. It critically analyzes the work done so far and identifies priorities and current tasks for the next two years for the development of all areas.

Shavkat Mirziyoyev said that the relevant ministries of the country, as well as the heads of companies and banks are regularly sent to the regions to search for additional reserves, develop and implement specific investment projects. Two weeks before today's visit to Karakalpakstan, the work was organized in the same order and a new draft program aimed at attracting additional investment was developed.

Under this program, in 2018-2019, more than 1,300 projects worth 4.5 trillion soums will be implemented in the Republic of Karakalpakstan and about 10,000 jobs will be created. In particular, 232 investment projects worth $ 492 million will be implemented in the industrial sector.

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