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THE DEGREE OF JUICINESS AND CHEMICAL COMPOSITION OF SORGHUM SEEDS

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Abstract
The article presents the information obtained about the moisture content and the chemical composition of the seed in corn varieties. It shows that the value of the indicators of the moisture level and the chemical composition of the seed is directly related to the conditions of their cultivation, soil and climate factors. Also, the value of these indicators has changed to different degrees directly depending on the biological characteristics of the varieties and their properties of resistance to stress factors.

Keywords: Oat varieties, yield, productivity, the chemical composition of grain, ecological factors.

Introduction
Sweet sorghum (Sorghumbicolor (L) Moench) is a traditional forage alternative in several large agricultural areas. Nowadays, it is widely used in the production of grain, green mass, hay, silage, and grass flour, in a word, it is a crop that provides the necessary complex nutrition for farm animals. In regions with an arid climate, sorghum, Sudanese grass, and corn crops form the basis of fodder cultivation. Of these, cereals and green mass are grown at a high level, which ensures the need for compound feed concentrates for farm animals and poultry. If the grain is used for feeding poultry or for preparing feed, fresh feed, silage, silage, and barr hay can be prepared from its green mass. Before feeding with green mass, it is necessary to pay attention to the fact that a young plant contains a toxic substance, the amount of which decreases as the plant develops. Therefore, it is not allowed to graze cattle in fields sown with corn when the plant is young.

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High-quality silage contains valuable enzymes, vitamins and other nutrients needed by animal husbandry. According to A.Z. Bolshakov, modern varieties and hybrids of sweet corn can produce up to 110 t/ha when used for green mass, silage, and silage by repeated harvesting. According to the results of experiments on feeding cattle and sheep with corn and barley grains at an experimental station in the state of Arizona, sheep had a higher absorption rate of fibre, fat and nitrogen-free extracts contained in ground corn grains compared to cattle. In poultry farming, feed of plant origin, namely corn, is of great interest. Oats contain 12.0% protein and 3.5% fat. This is a high rate of thorny plants. In terms of nutritional value, corn grain is equal to corn and barley, only the amount of protein in it is 8% less compared to corn grain. Oats contain a small amount of lysine (0.23%) and organine (0.34%) amino acids [1].

Oatmeal and green stalks are as nutritious as corn. When feeding corn grains to laying hens, their productivity increases by 25-30%. When it was given to young chickens, it grew quickly and gained a lot of mass. Oat flour can be added to 30% of the feed composition of broiler chickens during the entire period of growth of broiler chickens, as well as replace corn flour in the feed of broiler chickens of the ROSS-308 breed.

Fish weight increased by 34% when fed corn grain. Oat grain is superior to corn grain in terms of the content of macro- and microelements. According to this indicator, it is equal to barley. If pigs are fed with oat grain, they get twice as much meat compared to barley grain. When carp were fed granules containing up to 50% oat grain, their productivity increased to 6.99%. If corn grain is 50% in the composition of dry feed, then the degree of feed digestibility increased by 80%, and the profitability of fish production increased by 3.24%.

Based on the results of experiments conducted in Uzbekistan on horses, sheep, poultry, bulls and dairy cows fed with sorghum grain and green mass, it was concluded that it is possible to use sorghum grain as a complete feed. In the experiments conducted by the scientists of the Research Institute of Animal Husbandry of Uzbekistan Rybina E.V., Karibaev K.K., Saidgaziev S.S., when adding sorghum grain to the diet of chickens towards sheep, calves and eggs, nitrogen-free substances of the extract were obtained. found in chickens fed local grain sorghum was more digestible.

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Many scientists believe that sorghum ranks first among all field crops in terms of sustainable yields, and surpasses all fodder crops in terms of green mass yield. It has been noted that up to 100 q of grain and 1000 q of green mass can be obtained from 1 ha of irrigated sorghum [2].

The sorghum crop also has ecological properties. If one hectare of broad-leaved forests absorbs 16-18 tons of CO_2 from the atmosphere, then corn in the same area absorbs 55 tons of CO_2.

Methodology

Cultivated sorghum varieties, their importance, growth and development, juiciness and silage biomass and inorganic and organic substances in the grain. The ability of sorghum to accumulate a large amount of sugar is a very important biological characteristic of this plant. Due to this feature, the stem consisting of leaves has a highly nutritious mass and was considered an incomparable component of the diet for obtaining high-quality silage.

Results

According to science and practice, the amount of sugar in the corn stalk varies between 13-20%. But experiments show that the amount of sugar in local (Uzbekistan) varieties of sorghum reaches 26%. As proof of this, it is possible to show the varieties of sorghum grown in farms, Bolching'iriq and Kandburug.

According to the researchers, the studied biology and economic value of corn, the amount of sugar in its content determines the characteristics of their variety, and the soil-climatic conditions of the growing zone. The degree of manifestation of these signs depends on the phases of plant development, agrophone, harvesting period, selection of seeds and sorting of this type of seed according to its juiciness. According to the data, each 100 kg of grain in bare-seeded varieties and hybrids of sorghum is equal to 127.5 nutritional units according to its composition, the amount of digestible protein in it is 7.3 kg, in sugar varieties it is 8.8 kg [3].

The blue pulp of corn contains a lot of sugar, protein, amino acids - lysine, tryptophan, arginine, etc., as well as phosphorus and minerals. Cereals contain carotene, group B vitamins, riboflavin and other nutrients.

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Sorghum, especially the grain of shelled varieties, has a positive effect on the growth of animals and reduces the incidence of gastrointestinal diseases. Sorghum has been used since ancient times in Central Asia as a nutritious fodder for a variety of livestock. Nowadays, it is a herb rich in vitamins, and it is used in food preparation. In terms of nutritional value, the green mass of Sershira variety sorghum corresponds to 23-25 nutritional units per 100 kg, and the digestible protein content of the grain is 11-15%. In some cases, it even goes to 25%.

In addition, corn grain contains 68-73% starch, 3.5-4% fats, carotene and other substances. Flavin, almost all amino acids. Each 100 kg of grain is equal to 117-130 nutritional units. For example, in the improved variety grown for the grain of local chilaka, the starch content of the grain is on average 70%, the amount of crude protein is 1%, and the amount of fat is around 5%. is 9.23% compared to substance [4].

Most of the information in the literature shows that the protein content of white oats is low (9-12%), and at the same time, its quality is low. However, according to the results of the observation, some samples of sorghum (local breeding varieties of Central Asia) retain a few more nutrients, especially starch and protein. is developing a lot.

The Kuban Experimental Station of the Plant Science Institute has been working seriously for several years to increase the productivity of buckwheat and improve its quality. They studied collections of oats from around the world and confirmed that the grain contains 7% to 26% protein, 0.5 to 3.8% lysine, and 0.34 to 4.51% tryptophan. An American scientist came to this conclusion after conducting a biochemical analysis of the world collection of Kos sorghum. For example, the amount of protein in corn grain ranges from 8.8 to 13.6%, its average amount is 10.5%, and lysine in protein is 2.62% [5].

Despite Kos's great efforts in this regard, he was unable to create lines containing large amounts of protein and lysine by selection and other methods. However, Kos' work in the field of creating new uniforms with good product quality is noteworthy. Because they bring many innovations to the biochemistry of corn.

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In the technological evaluation of corn varieties in the production of starch cocoons, special importance is attached to the flour quality of this grain variety. Accordingly, it is necessary to pay attention to the quality of grain flour in selection work and to increase this characteristic

According to observations, the chemical composition of sorghum is extremely variable, depending on the characteristics of the variety, growing conditions, and the length of the growing season. The information in this regard corresponds to the information obtained in the conditions of Uzbekistan. As for the amount of sugar in corn, scientists say that early-ripening varieties are more sugary than late-ripening varieties.

Data from Moldova and Ukraine confirm this. In our conditions, the sugar content of sorghum grain is high, even though it is sweet and quick-cooking, and it remains at a high level in any case. This can be expressed by the fact that it depends on the climatic conditions. The same law is observed regarding the storage of other chemical substances of sorghum, where the difference between varieties naturally affects its chemical composition.

It should also be noted that when using re-sprouted greens of corn as food, it is necessary to take into account not only its general productivity but also the chemical composition of the plant. Because this feature of the plant changes as it ages. In other words, the protein content decreases. With the appearance of a new stem in the plant, the protein in the vegetative mass increases again. The most suitable period for harvesting the plant for its green mass is the budding phase [6-10].

Scientists conducted observations on the biochemistry of corn in the conditions of irrigated lands of Uzbekistan on hybrids of ten varieties in the increased fund of regular and mineral fertilizers. It was found that the types and hybrids of corn have a different chemical compositions in the normal background, and the amount of certain substances in the plant increased with the increased dose of mineral fertilizers. However, the amount of substances contained in it is preserved according to the characteristics of their species. The same agrotechnical measures were used in all cases [11-24].

Comparative indicators of the chemical composition of new varieties of sorghum in the milk-wax maturity phase of the plant are as follows.

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For example, the Sudanka Uzbekitson-1 variety ranks first among other sorghum varieties in terms of the amount of nitrogen in the silage mass, compared to the absolute dry matter, and in terms of the crude protein content, it surpasses all standard and competing varieties. In other words, the amount of crude protein in its content reaches 14.95%.

Sudanka Uzbekistan-1, which is considered one of the new varieties in terms of vegetable oil content, surpasses most species (2.02%). If we take into account its high productivity, this variety ranks first among all other varieties and forms of corn in terms of total oil content.

Uzbek white grain, which is considered a new variety of buckwheat, is superior to other varieties in terms of total nitrogen, crude protein, and oil content, but lags behind the standards. In terms of nitrogen-free extractive substances, it is slightly behind new varieties, standard varieties and initial forms (49.8%). Its content is also slightly less than that of standard varieties and original forms of corn. However, the fibre content of new varieties of sorghum is much higher than the standard and original forms in terms of preservation, that is, its amount reaches 33.54%. In the early forms of buckwheat, the amount of cellulose does not exceed 26.44%.

Now, we have compared the chemical composition of silage-type corn grown for the purpose of silage with the orange variety, which is considered a standard type. According to the obtained data, the new variety of sorghum is a little lower than the standard in terms of the preservation of all types of nutrients. But due to the relatively high silage mass yield, gross nutrients are high. In this respect, they are superior to all standard varieties [25-31].

In the zones where different varieties and forms of sorghum have been planted since ancient times, in the foothills of the Amudarya river, the number of chemical substances in them was determined in the phase of rumination under the same growing conditions. This makes it possible to select the samples that contain the largest amount of nutritious nutrients and give the highest yield of blue mass among the varieties and forms of sorghum. These samples are used in breeding work, as well as food in livestock breeding.

The amount of water in the blue mass of sorghum varies up to 86.74%. The crude protein contained in the blue mass of white oats also varies by variety. For example, their amount is up to 9.18% of the absolute dry matter of the

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plant (in the local Naiman variety), 9.07% in Chimboy boshokhori, 8.94% in Pastdarg'om Altioyligi and 8.25% in Bolching'irik.

The results of the analysis show that the crude protein in the green mass of the new Sudanka variety selected by UzNIIJ is more than that of local varieties (11.5%). The Imeretin hybrid improved by UzNIIJ is equal to the new Sudanka variety of corn in terms of crude protein content. A similar difference is observed in the amount of protein in the blue mass of corn [32-39].

The following varieties of sorghum are distinguished by their oil content: this indicator is 4.04% in the Kyzilbash variety of Karakalpakstan, 3.36% in the Tortoylik-1 variety, 2.9% in the 6-monthly-2 variety, 3.03% in the Bolchingiriq variety, and 3.80% in the Shobboz boyjokhori. Other varieties of sorghum, sudanka and corn contain a slightly lower percentage of crude protein. Varieties of sorghum differ from each other in terms of other indicators of chemical composition.

The chemical analysis of grain of different varieties and forms of millet shows that the amount of starch in its content in terms of absolutely dry matter is 74.29 in Samarkand Uchoya, 72.48 in the improved local Chillaki variety, 72.16 in Charkhin six-month-old variety, 72.3 in Tortoylik-1 variety, Shabboz is 71.54% in the hardy variety. This amount is the maximum compared to other types of oats. The giant of Uzbekistan, the Bolchingiriq variety, has the least amount of starch in the grain, the amount of starch in them is 41.46 and 43.15%, respectively.

The amount of protein in the grains of the studied varieties and forms of buckwheat (compared to dry matter) is 7.61% in the Samarkand variety and 13.41% in the Erlik variety. Almost all the sorghum varieties we have studied, especially Tortoylik-2, and Chillaki varieties improved by UzNIIJ, stand out in terms of their content of large amounts of calcium and phosphorus. The given data show that it is necessary to pay attention to their fodder qualities when assessing the nutritional value of sorghum varieties and forms.

This is necessary for breeding and breeding. The following varieties of sorghum contain the highest amount of sugar (relative to absolute dry matter): 14.51 in Shabboz kattaboshi, 14.07 in sorghum "a" variety, 13.03 in

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Chillaki variety improved by UzNIIJ, 13.03 in Kho'raki variety (can be used for food 13.17% in the variety of grumpy, pious. Among the cereal crops, grain and silage varieties of sorghum and sweet sorghum, the Central Asian forms of sorghum, accumulate the largest amount of sugar in the rumen phase. It is during this period that they become the most valuable nutritious green food. For example, 7.38% sugar content was accumulated in the Oltioylik-2 variety, 6.27% in the Giant of Uzbekistan variety, and 8.43% in the Nayman variety. They can be ensiled in the same phase alone or together with other wild grasses, such as reeds, sedges, and rough-stemmed grasses. This makes it possible to dramatically increase the production of easily digestible fresh food and significantly reduce its cost. The presence of a large amount of sugar in some varieties of corn is useful in breeding for increasing their juiciness, this type of corn is of great importance as a nutritious feed for livestock, especially for young animals, as well as in the alcohol and beer-making industry.

It should be noted that some varieties and forms of sorghum yield from 700 to 1,700 centners per hectare and are equal to sugar beet in terms of total sugar content.

A good result is obtained by intercropping sweet corn, which contains a large amount of sugar, with corn, in which corn is planted in 10 rows and sorghum is placed in four rows. Since both crops are harvested almost at the same time, the sugar content of corn is 9.42%. At the same time, corn contains 14.51% of sugar. This accelerates ensiling of blue mass and improves its quality.

The amount of protein is also different in all varieties. Naiman variety oat contains much more protein than other varieties. But if its harvest is harvested once, the yield of greens will be 4-5 times less. If the greens of the Naiman variety are harvested, then the total protein content of the three harvests is close to the high-yielding varieties of sorghum. The variety Bolchingirg accumulates a large amount of phosphorus in the phase of rumination, but its blue mass yield is not very high.

As a result of the analysis of the yield of the Sudanka variety of corn and the blue masa of corn, it was found that the content of the Sudanka variety is high in protein.

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According to scientists, to obtain high-quality silage from the blue mass of corn and to grow the highest crop rich in nutrients, it should be harvested during wax maturity.

Imeretin hybrid was recommended to harvest when the grain is fully ripe. Because the incretin of corn preserves the colour of the stem leaves and the freshness until the grain is fully matured. The most important thing is that the yield harvested at maturity is greater than when harvested during wax maturity. For example, the dry matter yield of corn grain when harvested during the milk-wax ripening period is 20-23%. This amount is 30-32% harvested during wax maturity and 38-43% when harvested during full maturity.

Conclusion

It should be said that the leaves and stalks of the sorghum retain their green colour and crispness until the grain is fully ripe. Also, the sugar content, which is 16-18% and more, does not change until the end of the growing season. It can be included among the universal plants that are harvested at maturity for blue mass and grain. It is known that by the time of harvest, corn stalks and leaves are half-dried. While corn contains 30-40% water in the full phase, the water content of corn reaches 70%. This shows the superiority of sorghum over corn. Oat grain contains 11-15% protein and other substances. Similar information was obtained at the Institute of Livestock Research of Uzbekistan. In this case, the protein content of sorghum was higher by 10-12% and lysine by 2% in hybrid varieties compared to other varieties. In some cases, the protein content of corn reaches 18-19%, and the lysine content reaches 3.6-3.8%.

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