

PROSPECTS OF CROP GROWING AND SIGNIFICANCE

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***Annotatsiya.** In recent years, special attention has been paid to the establishment and cultivation of non-traditional agricultural crops in the Republic. Soybean is a plant that is very useful in medicine, effective in increasing productivity in animal husbandry, and suitable for cultivation as a companion crop in agriculture.*

Soybean planting areas in Uzbekistan are expanding year by year. In 2022, 146,500 hectares, of which 82,500 hectares are open fields and 64,000 hectares are planned to be planted with soybeans. In particular, soybeans were grown on 18,500 hectares in 2018, 19,800 hectares in 2019, and 17,314 hectares in 2020. By the end of this year, a total of 165,000 tons of soybeans are expected to be produced in the republic. 34,000 tons of vegetable oil and 128,000 tons of soybean meal are produced from it. Soybean meal will be directed to 38 million poultry that are raised in an industrial way.

***Key words:** legumes, protein, lysine, sugars, organic acids, vitamin, carotene, isoflavone glycosides, mineral.*

ПЕРСПЕКТИВЫ РАСТЕНИЕВОДСТВА И ЗНАЧЕНИЕ

***Аннотация.** В последние годы особое внимание уделяется созданию и выращиванию нетрадиционных сельскохозяйственных культур в республике. Соя — растение, очень полезное в медицине, эффективное для повышения продуктивности в животноводстве и подходящее для выращивания в качестве сопутствующей культуры в сельском хозяйстве.*

Посевные площади сои в Узбекистане с каждым годом расширяются. В 2022 году планируется засеять соей 146,5 тыс. га, из них 82,5 тыс. га — открытые поля и 64 тыс. га. В частности, соя в 2018 году выращивалась на 18,5 тыс. га, в 2019 году — на 19,8 тыс. га, в 2020 году — на 17,314 тыс. га. Всего до конца текущего года в республике ожидается производство 165 тыс. тонн сои. Из него производится 34 тысячи тонн растительного масла и 128 тысяч тонн соевого шрота. Соевый шрот будет направлен на 38 миллионов птиц, выращиваемых промышленным способом.

***Ключевые слова:** бобовые, белок, лизин, сахара, органические кислоты, витамин, каротин, изофлавоновые гликозиды, минерал.*

INTRODUCTION

Our government pays great attention to the cultivation of soybeans in the republic and to meet the needs of the population for soybean oil more fully. In particular, the decision of the President of the Republic of Uzbekistan dated March 14, 2017 "On measures to increase the planting of soybean crops and the production of soybeans in the republic in the years 2017-2021" PQ-2832 accepted. A program of measures for 2017-2021 was developed for the development of soybean production, the creation of high-yielding varieties of soybeans and the expansion of

cultivated areas, as well as the systematic organization of soybean selection and primary seed production, approved by this decision [1].

Today, when the population of the globe is increasing dramatically, the population is underfed and demand also is increasing dramatically. Today, in order to provide people with vegetable protein, it is necessary to prepare 20 times more protein than is currently being developed. As a result of the continuous increase in the demand for protein, its price is increasing in the world market. Therefore, growing plant and animal protein and meeting human demand for protein is the main issue, and protein is becoming the most important strategic product [2].

The main way to solve this problem is to introduce large areas of protein-rich plants, including soybeans, and to incorporate them into the crop rotation structure.

METHODS AND MATERIALS

The main reason for the opening of such wide opportunities for soybean cultivation in our Republic is its great importance in the national economy. A single grain contains 38-42% protein, and some varieties have up to 55% protein. It is known that the human body always requires a lot of meat, milk, yogurt, oil, eggs and other products [6].

Soy is an annual herbaceous plant belonging to leguminous plants. Homeland is China. Soy is a very ancient crop, it has been cultivated since the 5th millennium BC.

It began to spread widely in Uzbekistan in the 60s of the 20th century. The root of the common soybean type is well developed, the arrow root, the root, penetrates the soil to a depth of 2 m, the main part is located in the arable layer (nodular bacteria develop in the root). The stem is rough, cylindrical, grows upright, but there are also varieties that lie down. The height is from 15 cm to 2 m, it is branched, there are 28 side branches. The leaf is serrated, banded, the length of the band is 8-20 cm, the leaf is flat the length is 13-15 cm, the flower is small, white or pink, collected in a small inflorescence, located in the axil of a leaf.

The fruit is a pod, yellow, black, brown, serrated. Each pod contains 2-6 grains, 1000 grains weigh 40-42.5 g. It contains 24-45% protein, 13-37% fat, 20-32% carbohydrates, 1-2% lecithin, D, V, E and other vitamins. Oil, protein and lecithin are extracted from the seed. Soy is a valuable plant rich in protein. The value is that the shade grain contains from 35% to 48% protein, 22-23% valuable fat. The human body is always very sensitive to butter, yogurt, butter, eggs and other products. In our daily activities, we try to consume animal products. Only soy has its own protein and we try to consume their products. Soy alone contains 10 amino acids in its protein and amino acid composition that are found in animal protein [5].

When the protein enters the human or animal body, it is broken down into its components. The importance of essential amino acids is that they are readily available for human consumption. If an organism is deficient in one of the amino acids for a long period of time, that organism will die. Today, almost half of the world's population suffers from protein deficiency. Especially in Africa, South America and Asia, people suffer from a lack of protein and essential amino acids in their food. 20 million tons of protein are lacking every year [6].

Lysine is one of the most important properties of soy protein is an excess of amino acid. 100 grams of soy protein contains 6 grams of lysine. It is quickly digested in the body and biologically very similar to meat, milk and egg protein. Soybeans have 14 times more protein than chicken and eggs 4 times more than beef, 3.5 times more than beef that is why. Soy is a complete solution to the lack of vegetable protein in our country should play a major role. Soy in

the food industry, technology and animal husbandry is the most valuable raw material. When oil is extracted from soybeans by heating, the protein content reaches 75 percent. This highly concentrated product is called soy isolate. Soybean isolate is used in the preparation of various sausages. The cost of soy protein is 25 times cheaper than milk protein and 50 times cheaper than beef protein. If 800,000 tons of soybeans are grown, this means 320,000 tons of protein. 4 million 200 thousand tons of meat should be grown to get this amount of protein.

Soybean meal contains two to three times more protein than regular beef. Protein in meat is up to 18-25%, while protein content in soybean meal isolate reaches 80%. Currently, 10-15 percent soybean isolate is added to the sausages produced in the meat factories of our republic.

The amount of protein in one kilogram of soy flour is equivalent to the protein in 2-3 kilograms of beef. The amount of phosphoric acid in soy protein is two times higher than that of regular meat, and the amount of minerals is four times higher. Phosphoric acid is very important in the human body. It improves bone tissue formation, carbohydrate metabolism and muscle activity.

RESEARCH RESULTS

It also improves muscle tone, muscle tone and muscle function. Soybean contains 17-25% oil, 30-45% protein, sugars, organic (malic and other) acids, vitamin V1, V2 S, E and K, provitamin D, carotene, isoflavone glycosides (genistin, etc.), minerals (salts of potassium, magnesium, calcium, phosphorus, iron, copper, manganese, zinc, nickel, cobalt and other elements) and other substances. 80-90% of the seed protein consists of high-quality vegetable protein, which contains all essential amino acids important for life (arginine, histidine, lysine, tryptophan, phenylalanine, methionine, threonine, leucine). , isoleucine, valine) are included [3].

More than four hundred different products are made from soybean grain and protein. Its grain contains up to 45% protein and up to 25% vegetable oil, amino acids rarely found in livestock protein. Eco-friendly quality oil from soy protein, egg powder containing lecithin, blood plasmas, quality lenses for glasses are obtained. In addition, woolen gauzes are produced. It is difficult to distinguish them from real woolen fabrics.

Soybeans absorb pure nitrogen from the air through their roots and enrich the soil. During the growth period, the plant leaves a certain amount of nitrogen both for itself and for the next plant. That is, it improves the composition of the soil and increases the activity of biological processes.

Another advantage of the soybean plant is that when it is planted as a repeated crop, it is possible to get two grains from the same land and the soil is enriched with organic matter. At this time, we get 400-450 kg of nitrogen and 300-350 kg of vegetable oil from each additional hectare of land.

So, growing soybeans solves a number of important issues, firstly, we enrich the soil with biological nitrogen, secondly, we provide the population with high-quality, ecologically clean vegetable oil, prepare various products, and create new jobs.

In livestock production, no forage crop has as many nutrient units as soybeans. It stores 138 nutrient units per 100 kg of grain, which is lower than soybeans in corn, alfalfa and other crops. Even its 100 kg of dry stalks have 52 nutritional units. In order to quickly fatten cattle and increase the daily weight of poultry in the world, soy products are definitely included in their daily diet.

In order to obtain high 539sil from the soybean plant, based on the data, it should be given an annual standard of 70.75 kg of nitrogen, 90 kg of phosphorus and 60 kg of potash fertilizers. It is necessary to feed soybeans with nitrogen fertilizer for the first time before the period of sowing. 30-35 per hectare of pure nitrogen it is necessary to feed with fertilizer. In this case, mineral fertilizer in the amount of 30-35 kg of pure nitrogen per hectare is placed between the rows at a distance of 10-12 cm from the plant to a depth of 12-14 cm from the soil surface.

The optimal period for planting soybeans is when the temperature in the 10 cm layer of the soil is 12-14 °C. Soybean seeds need an effective temperature of 120-130 degrees Celsius (10 degrees higher) to germinate [7].

It is most effective to plant 60 cm, 70 cm between the rows and use 50-70 kg of soybean seeds per hectare based on the size of the seeds, to achieve an average of 350-450 thousand seedlings per hectare. . The depth of planting seeds is 4-5 cm.

One of the most important activities is to recover the planted seeds to the natural moisture of the soil. After planting the seeds, in case of insufficient moisture in the soil, it is necessary to water the seeds without watering lightly. By affecting the germination energy of the seeds in the treated areas, the seeds will have difficulty in germinating and will cause a decrease in the thickness of the seedlings in the field.

DISCUSSION

The period of planting soybean seeds in the main fields in the spring, depending on the soil and climate conditions, is from March 25 to April 15. It can be planted until April 20 if it is delayed due to some reasons. The fed area is lightly watered. As soon as the irrigated area is mature, it is cultivated between the rows in order to soften the soil in the sap moisture.

The second feeding of soybeans with nitrogen fertilizer, combing the plant during the flowering period, the fertilizer cultivator applies pure nitrogen fertilizer in the amount of 40 kg per hectare, the working body of the cultivator is 14-16 cm from the plant. at a distance of 16-18 cm from the soil surface between the rows. placed in depth [8].

Application of nitrogen fertilizers at later stages of development or at late periods delays the growth period of plants and causes the need for this nutrient. As a result, it delays the ripening of the crop and reduces the grain yield.

The growth and development of the shade also depends on the relative humidity of the air. Especially, when the relative humidity of the air drops below 60 percent during the flowering phase of the plant, it causes the flowers and pods to drop. Therefore, keeping the relative humidity of the air at 75-80 percent at this stage is the most necessary for the soybean plant [9].

Depending on the soil conditions during the growing season of soybeans, during the flowering-flowering stage, the first time is 600-650 m³ per hectare, the second time during the flowering-seeding period, the third time during the period of grain filling, 800-850 m³ per hectare. It is advisable to water the grain every 15-20 days in order to maintain moisture during the ripening stage.

Irrigation on time ensures completeness of the grain. When there is a lack of moisture in the field, soybeans will ripen small, resulting in a sharp decrease in yield.

Thus, there is no plant in the animal husbandry system that has a higher nutritional value than soybean. Expanding its area allows us to increase protein-rich livestock and poultry feed, and reduce the cost of the product. That is, 961 g of soybean meal produces 1 kg of chicken meat. The cost of soy protein is 27 times cheaper than animal protein.

All of the existing oil factories in our republic have developed soybean oil processing technology, and they have great potential in this regard.

CONCLUSION

Another feature of this plant is that, as it belongs to the legume family, it leaves behind 55-60 kg of pure nitrogen in the soil. Today, restoring soil fertility or maintaining it remains an urgent issue in our country. During its growth, there is no need to apply large amounts of mineral fertilizers to the field, because the plant itself absorbs nitrogen from the air. can be used. Due to its biological characteristics, this plant does not choose the land compared to other crops.

In short, what does soybean planting provide:

- our people's table with food and livestock products enriches;
- livestock and poultry are provided with high-quality and protein-rich feed;
- Cheap, high-quality raw materials are supplied to the oil factories of the republic, and their the service life is extended and the vegetable oil is not imported; - soil fertility increases in farming and short-term change planting system is created. Good and high-quality nutrition is one of the main factors necessary for a person's health, normal sleep and work. Without it, it is difficult to imagine healthy people.

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