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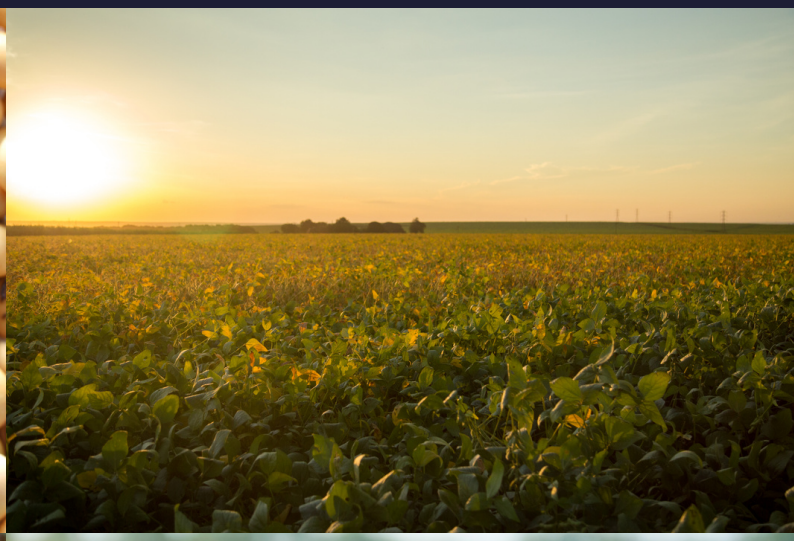
AGROTECHNOLOGY OF SOY CULTIVATION

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AGROTECHNOLOGY OF SOY CULTIVATION

(Monograph)

India – 2023

ANNOTATION

D.Y.Yormatova, M.K.Hamroyeva, M.A.Xalmuratov, M.Mallaev
Agrotechnology of soy cultivation.:
This monograph provides data obtained as a result of the cultivation of soy ecotypes of different varieties and the study of its technological properties. The Botanical characteristics, biological characteristics and technological properties of the soybean varieties "Olympic", "Slavia", "flight", "friendship", "elegant", "Fortuna" and imported from the Russian Federation were studied for the first time on saline soils. For planting, early, fertile varietal specimens were selected, which give a high yield in the conditions of our Republic of the shade. Also, the method of planting this plant on saline loamy soils, the planting norm, the planting depth, the demand for mineral and bacterial fertilizers, the number of irrigation, which was not studied at all, was described and specific recommendations were made, linking the number of experiments studied to soy varieties in our regions.
This monograph can be used by bachelors, undergraduates, doctoral students and students of higher educational institutions and colleges of biology, ecology, food industry and Agriculture, Research researchers who carry out scientific work, as well as specialists.

Reviewers: **R.Sh.Kurbannazarova –** Doctor of biological sciences professor of the denov Institute of entrepreneurship and pedagogy;

X.S. Xushvaktova – Head of the Department "Natural Sciences" of the Uzbekistan State University of world languages doctor of Pedagogical Sciences, Associate Professor.

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INTRODUCTION

The main task was to provide the population with food in sufficient quantities to agricultural workers and scientists of our republic. It is known that grain growers increase grain production from year to year, and in 2016, 7 million 540 thousand tons of grain products were poured into the Republican threshing floor. The achievements in the field of grain were compared, saying that the average grain yield in the Republic was about 55 centners per hectare, at one time an average grain yield of 17 centners per hectare was obtained. It is known from the figures that the grain of Uzbekistan has achieved historical achievements. The fact that some farms receive a grain yield of 90-100 centners per hectare was not considered the highest finish today.

In his speech in Tashkent (2017), Jose Gracianuda Silva, director general of the UN Food and Agriculture Organization, stressed that the formation of an international and regional balance in the Republic on basic food products and agricultural resources, the most advanced selection and land processing methods to developing countries, the involvement of modern agricultural techniques and equipment production technologies, brought the Republic of Uzbekistan

Providing people with food products is one of the most pressing issues on a global scale. As the president noted, the international expert research on food security, which is being conducted, shows that a complex situation with this problem is developing in the world and in some of its regions, raises serious concerns and concerns. Today, the shortage of food problems is included among the extremely urgent and serious threats to world countries.

According to data provided by the UN Food and Agriculture Organization as well as the World Health Organization, in 2013, an average of more than 840 million people in the world, or one in eight people who live, do not eat belly-fed food. Representing this indicator in percentages, almost 30% of people lead a half-Hungry Life. Hence, the food consumed by 30% of a person lacks the necessary vitamins, trace elements necessary for life, for his longevity, for a healthy existence. Because of these deficiencies, the axerologically height of 160 million children in the globe lags behind growth, physical and intellectual development. As a result of the lack of substances necessary for life, people's life expectancy is reduced, they suffer from various diseases.

Events related to the problems of the world crisis, which began in subsequent years, have shown that all over the world, due to the decline in production, the price of all types of products has risen. After these cases, there was a lack of obvious food products. At the time of food shortages, there will certainly be

interruptions in the internal lifestyle of countries and confusion will begin among the population.

Such riots and the norism of people undermine stability, which is a schusless deposit all over the world. One of the main tools that maintain and maintain a stable lifestyle of the world's population is the achievement of a complete supply of people with food.

Another of the reasons why food is a problem is considered a demographic issue. The discrepancy between the rapid increase in the population of the Earth's surface and the increase in the volume of food production is quite present. The amount of food products that are developed around the world is not proportional to the number of inhabitants who are born and join and live. The birth and number of the population is rapidly increasing. That's all the problem.

Especially this situation is rapidly felt in countries with backward production or in economically backward countries with insufficient conditions for the development of their production. The environmental damage of nature to the serious reasons for the lag behind in food production is the fact that in subsequent years there is a growing increase, there is a frequent occurrence of unexpected and unpredictable negative changes taking place in nature. For example, as a result of climate changes, drought, desertification, soil degradation, salinity, melting glaciers, the origin of the shortage of fresh waters, the results of a decrease in soil fertility lead to the fact that food products and other production products do not expand.

Increasing the area of legumes, which store a lot of protein, is considered one of the pressing issues of today. The soy plant is considered one of the main crops that increase soil fertility. It is known that in later times, soil fertility is decreasing as a result of the increasing amount of pesticides, insecticides and large amounts of mineral fertilizers placed in the soil to obtain high yields.

As a result of insufficient investments allocated for activities that restore soil fertility, the amount of yield will continue to be less than the population. Also, the increase in insects and diseases that reduce the yield of plants due to the practice of planting many of the same crops or monoculture also remains the cause of the depletion of the gross harvest to be obtained.

In this monograph, to identify ecotypes of soy varieties that increase soil fertility in saline soils of the Bukhara region, provide protein products, and study the technological features of soy grain, grow various food products from it and bring them to the table of our people. In World Farming, the soybean plant is characterized by the expansion of cultivated areas and a sharp increase in grain yield. In subsequent years, its gross grain yield increased by 30% or amounted to 167.58 million. t.from 218.64 million. up to tons. More than half of the vegetable

oil raw materials grown in the globe are obtained from soy grains. Soy grains are benefited not only in the food industry, but also in the technique, as well as in animal husbandry as a high-protein feed. In addition, soy roots are considered one of the crops, increasing soil fertility, as they have the property of absorbing free nitrogen from the air.

The area of grain crops in our republic is more than 1,300 thousand hectares, and grain independence has been achieved. Now it is considered positive to plant a soybean plant in a certain part of the fields freed from grain crops. When this was done, it was possible to harvest grain crops twice from one area, and plant another new cultivated crop in the field of wheat and cotton. As you know, soy is of particular importance as the best predecessor as well as a replanting crop. The best feature of the soy plant is that it is considered the best predecessor for geese, wheat and other crops, as it belongs to the legume family. Wherever it is planted, it creates an environmentally friendly environment in the same area, and the crops planted after it give an environmentally friendly product, since nitrogen fertilizers are rarely used in these areas.

Today, one of the most severe cases in the world is the growth of demography. Chunonchi said that over the next 50 years, the population of the globe grew from 2.5 billion to 6.5 billion, or increased by 2.4 times. This indicator, which increases every minute, indicates that the vital necessity of providing the population with food is becoming more and more. Land sphere spike crop area 587 in the 1960s mln.ga 732 million in 1981. reached hectares. Now the population of the planet is 1 billion. one is eating well, 1 billion. one is hungry, the remaining 4.5 billion. and Mani does not eat enough food. So, if measures are not taken to correct the situation, the words "atom for humans in the near future" or "hydrogen bomb" will not be dangerous, as noted by professor Josuya DeCastro, head of the UN All-World Association for the fight against hunger, replace it with the threatening word "protein deficiency." Therefore, it is necessary to expand the possibilities of preventing protein deficiency. One of the plants that contribute to this is shade.

Soy is the most abundant protein-preserving crop in its grain, stem and roots. When it is grown as a primary or repeated crop, the human demand for protein is slightly satisfied, protein feed for livestock, poultry and fish farming is also increased by environmentally friendly vegetable oil, the soil is enriched with pure biological nitrogen, making it possible to maintain its fertility. Even taking into account the above, it is an important task to study the agrotechnics of the soybean plant on a scientific basis, to give scientific recommendations for repeated planting of soybeans to more than 220 thousand farms that, as a result of economic reforms in agriculture, have switched to a new form of ownership. Including to Steam farmers. But the varieties of the soybean plant, the agrotechnics of their cultivation

are very little studied in the hungry Gray soils of the Bukhara region. On the cultivation of the soybean plant as a repeated crop, q.Mirzajanov, (1992), D.Yormatova (1985), Sh.Ibragimov (1998), O.YAqubjonov (1998-2003.y.), X.Atabaeva (2002), I.Positive conclusions were drawn from the experiments carried out by Israilov and others in a number of soil and climatic conditions of our republic and recommendations were made for production.

Our experiments are devoted to the study of the sowing period and the work of seeds with nitragin strains, as well as technological indicators as a result of the processing of soy grain, which determine whether it is possible to obtain high yields of soy plant varieties in the saline areas of the Bukhara region.

I PART. LITERATURE REVIEW

1.1. Influence of planting deadlines on shadow growth, development and productivity

Soy is a valuable crop and is also used in various sectors of the national economy, as it contains protein and oil together. In recent years, its planting area has also been expanding more and more. In terms of the volume of soy grain, it took 4th place in our Republic in 2003 after wheat, corn and rice.

Soy grain is valuable in that it contains high-quality protein 40-45% and fat-acid content of 20-25%, contains valuable oil, 25-30% carbohydrates, up to 6% various minerals and 12 basic vitamins.

N.I.Vavilov (1948.) noted in its data that the growth, development of soy varieties changes under the influence of the external environment and agrotechnics.

In order for the shade, like every crop, to give a high yield, the system of agrotechnical measures will be developed in time and, accordingly, the yield will be planned.

D.Basil (1972.), C.W.Anderson (1967.), V.L.Mahanin, S.M.Bere-zovskaya and O.P.Pasishnichenko (2000.) according to the data, the varieties of medium and early-ripening soybeans "Volna" and "Hudson", when sown as a repeated crop in late June and early July, have a height of their height, the number of leaves and side branches is no less than that planted in spring.

V.F.Baranov (2000.) wrote that in the Krasnodar Territory, sowing and growing early and medium-sized varieties of soybeans as the main crop in early spring, as well as in June, gave a good result. According to her, weeds grow a lot in the shadow field planted in the spring. During the period of growth and development, they absorb more mineral fertilizers and moisture embedded in the soil than cultivated plants. The fields in which the shadow is about to be planted are cultivated a couple of times in the spring, thus removing weeds. As a result, it absorbs all the nutrients in the field, moisture from the shade.

Therefore, the scientist comes to the conclusion that varieties of shade with a short growing season should be planted in summer terms. In his opinion V.G.Pozdnikov and g.S.Posipanovs (1998.) they also joined. They believe that the correct conduct of agrotechnical measures is the main factor in the good growth and development of the plant. The Moscow region believes that the correct setting of the sowing period in soil-climatic conditions is the main event that provides the basis for high yields.

For a high yield of soy varieties, it is first necessary to determine the planting period, writes D.Yormatova (1986.) The scientist notes that in the period chosen as

the most favorable, the regime of heat, humidity and air in the soil should be favorable for the germination of soy seeds. The planting period should be determined taking into account the biological characteristics of the plant, varietal signs and natural and climatic conditions of this territory.

D.Yormatova's (1991y.) wrote that the height of the Volna variety, planted in the Guzor district, is 71 CM when planted on June 20-30. 66.5 when planted in July sm.ni established. When planting was carried out in July, the shadow plant was relatively low in height. The same result was obtained when the variety was planted in the Lowdargom District of the Samarkand region. Based on this, the scientist believes that the most favorable period for repeated planting of soybeans is June 15-20.

One of the main agrotechnical measures that determine the features of growth and development is the timing of planting, the scientist concludes. A.G.Efimov (2000 y.), V.F.Baranov, Hugo Toro Correa (2000.) in the opinion, the sowing period is the most basic indicator in agrocenosis. If the planting period is set correctly, weeds, insects and disease will not affect the shade plant, it will develop well in its ontogenesis and give a high yield. If the plant develops in favorable conditions, then, in addition to growth and development, there is a high level of self-defense or protection.

A.V.Kochegura (2003.) due to the fact that the expansion of shadow areas in Krasnodar is slow, there is still no scientifically based soy agrotechnics developed, and the yield indicators are not stagnant. "If,"writes the scientist-for the full use of heat reserves in the country, varieties with a short growth period (85-120 days) are created, where it is possible to plant them in June in May drift, the shadow fields will increase rapidly; it will be possible to fully use the bio-climatic potential in the area." Hence, in obtaining high yields and in the expansion of cultivated areas, the correct setting of sowing deadlines expands the possibilities of meeting the demand for food. Therefore, we also need to study the deadlines for planting soybeans and agrotechnical processing processes in areas freed from cereals in late may and early June, just like in the Krasnodar Territory.

N.I.BOCHKAREV (2013.) wrote that the varieties" lira"," Delta " ripen on September 15, when planted on May 30, on September 25, when planted on June 10, on October 3, when planted on June 20. The yield was 28, 24.7 and 19.2 centners, in accordance with the sowing deadlines. The seeds were fully ripe and turned white-yellow. As planting times were delayed, yields decreased. The scientist believes that the term of planting affects not only the fertility of the seed, but also the yield of dry blue stems.

V.V.Smalyaninov (1993.), Relying on the results of their experiments in Ukraine, says that the yield of soy varieties is determined by soil fertility, light and

planting time. The most favorable planting period in Ukrainian soil-climatic conditions is the end of April and the beginning of may, sowing on 10 May gives the yield of soy varieties an average of 0.2 ts per hectare. believes that it will lead to a decrease.

A.P.Gusalenko (1991), relying on his experiments in Moldavia, notes that the ertapishar variety - "Kuriyaniya" - is the most favorable term for planting after spring barley, in which shade gives a high yield, one of the reasons for the high yield of soybeans planted after spring barley is the planting of weeds in a clean area. In weed-free areas, shade grass yields 15-17.5 centners,even if planted in summer. The scientist concludes that the development of specific Agrotechnology for each soil-climatic conditions and the created biological variety is the basis for obtaining a high and high-quality harvest. We also agree with this opinion of the scientist, based on our own experiences.

The fact that the timing of planting depends on soil-climatic conditions and varieties V.L.Mahanin (1997y.), A.V.Kochegura (1998y.), S.V.Zelensovs (2017y.) has also been proven in his experiments.

V.A.Mahonin planted the ertapishar Volna and Kharkivchanka and midapishar varieties Hudson and VNIIMK-3895 in 2003, 2013, 2017 as repeated crops on June 30 and July 11. With a high germination rate of 86-88% in both planting periods, early and Mid-Autumn varieties planted on June 30 are well developed. The pods formed in them corresponded to the varietal indicators. But the biomass in the medium-sized "Hudson" and "VNIIMK-3895" is poorly concentrated. As a result, the yield was 20-23% less. In the seeds of the Ertapishar Volna Variety, the protein content was also 3.0-4.8% higher than in other varieties.

On the study of the influence of the planting period on the growth and yield of shadow varieties V.I.Zöveryukhin (1981.), D.D. Edli, D.M.Tegrany, R.A.Wilawaga (1990.) and V.F.Baranov and Hugo Toro Correas (2019.) also conducted research. Their conclusions confirmed each other.

For Example, V.F.Baranov and Hugo Toro Correa (2019) study the planting dates and planting depth of the "elegant" variety in the Krasnodar Territory. Scientists planted the" elegant " variety in two terms, may 13-15 and June 13-15, determining the number of tubers in germination and preservation, the height of the plant's height, the height of the location of the first pods, the side branches, the number of seeds in pods, the number of seeds in one bush plant and 1000 pieces of seedwazni. A notable aspect in their experiments is that when the shade is planted early, the plant is 118-122 cm tall, the first pods are 14.8-18 cm from the ground. located in height, when planted late, the plant turned out to be relatively low 93.3-97.8 CM, the height of the location of the first pods increased or amounted to 18.4-21.4 CM. In the experiments of scientists, early sown soybeans gave a high yield,

the protein obtained at the expense of each hectare reached 1165-1184 kg when planted early, 900-956 kg when planted late, and 599-512 kg when planted early, 458-487 kg when planted late.

O.V.F. (Baranov and Hugo Toro Correa) received such a result when they studied the second variety "lira". The difference between the amount of protein and oil obtained from one hectare in this variety was noticeable in return for productivity. V.F.Baranov (2002y.), V.Kalyuzhny, Hugo Toro Correa (2003y.), A.A.Boreshevskaya (2013y.), A.V.Kocheguras (2013y.) In the southern regions of the Krasnodar Territory, 5 varieties - "elegant", "Aldana", "Lan", "Alba" and "Nika" - studied the growth, development, leaf, legume numbers depending on the timing of planting. The recorded varieties were planted on May 10, may 20, may 30 and June 10 in a climatic area similar to ours. From the experimental data, it turned out that in the ontogenesis of growth and development of each variety, the formation of generative organs differs from each other. For example, the best planting period was June 10 for the Alba variety, May 30 for Lan and Aldana. And the" elegant " variety showed that when planted on May 10, it has the best indicators in terms of height growth, number of leaves, side branches and pods. In each variety, paternity and maternal forms depending on which territory the original developmental evolution or which soil-climatic conditions it adapts to is also genetically preserved.

L.A.Kucherenko, V.S.Petibskaya, A.A.Savelev (2019 year.) according to the data, in 2001-2017, the amount of shadow sown areas in Kuban increased by 3.1 times, gross yield by 5.6, and productivity by 1.2 times. The fact that the shadow areas expanded towards the northern regions of the Kuban required breeders to create early maturing varieties. Scientists have tested and tested various varieties of soybeans on this basis, determining that the earliest sowing periods for soybeans in the area are late February and March, and the most late sowing period is late June.

G.T.Balakey, V.N.Hedrin, S.A.Selisky and others (2017.) It is believed that in the conditions of the Rostov region, late sowing of soy varieties is not ineffective. Varieties" Lan"," Liana " are planted every 10 days until the end of May and the 30th of June. While 28 centners per hectare were harvested from a soybean plant planted on May 30, the yield was 22 ts/Ha when planted on June 30, cucumbers were also grown in these areas.

The main criterion for determining the sowing period is the humidity necessary for the heating of the soil surface and seeding in it. A number of scientists-I.N.Galchenko (1953.), V.B.Engen (1959 y.), V.I.Zeveryukhin (1981 y.), D.Yes.Yormatova (1986.), V.M.Stepanova (1972.), A.A.Babich (1974.), A.N.Riger (1995.), A.G.Efimov (1984.) experiments have shown that when the

soil surface warms up to 12-18 0s, a very favorable period for planting soy seeds occurs.

Scientists who conducted very large experiments in the field of shading V.B.Engen (1959 y.), A.G.Novak (1960 y.) and A.K.According to Letshenko (1972), the lowest temperature should be 6-8 0s, a sufficient temperature 12-16 0s, and the optimal temperature 18-22 0s for the formation of soybeans and grass. So it is better to spend the planting in the same conditions.

D.Yormatova's (1989.) believes that in Uzbekistan, 12-15% of seeds rot as a result of planting soybeans too early or in March without the soil heating up, or sprouted grass is also suffering from diseases. In March drift, the soil temperature is 10-12 0S. In this case, the germination rate decreases, becomes sluggish, and the soil temperature increases when it is 14-15 0s. Soybeans sown as a repeated crop germinate in 3-4 days when the soil temperature is 20-24 0S, and the death of its seeds is not observed.

S.V.Qadirav (2019.) it should be noted that when determining the planting period, it is important to note that the air temperature should not be lower than 12-20 0s in the flowering phase, 22-24 during the period of fruit harvest and 18-20 0s during the ripening period. The planting period should also be determined by the sum of the required useful temperatures, depending on the plant variety.

S.V.Kadyrov and N.A, Makarova (2019y.) according to the data, if the planting period changes, there will also be a change in the height of the shade plant and the number of tubers. This is also confirmed in experiments. It turned out that the varieties "Krasnodar-778" and "Harcor", planted on the 30th day of April, are large in size and tall in the number of bushes. In variants planted on May 10, 20 and 30, however, the figure in this regard was the same as in the initial sowing dates. The height of the shadow varieties is 6.8 cm higher than that of the 10 and 20 May planted variants in 30 May. it was low. In early planted variants, the number of tubers was kept high.

V.F.Baranov (2019.) according to the information received, the later the soy varieties are planted, the more attention should be paid to the soyazor from the south side to the position where the sun falls steeply, since the air temperature on the south side will be 200-300 0s higher. A plant planted late does not ripen if there is a lack of temperature.

In experiments, it was found that depending on the location of the seedling, the yield can increase or decrease by 10-12%.

V.F.When setting the planting period, Baranov believes that in the soil there is a proximity of grunt waters, factors such as water content should also be paid attention to, so that the yield can be increased by 7-10%.

V.F.This opinion of Baranov V.H.Peterson (1976.), A.Siler (1978 y.) is also added.

Hugo Toro Correa (2019y.) writes that in order for each new variety created to show its capacity for yield from the genetic and bioclimatic side, it is necessary to follow the agrotechnics of its cultivation. One of the main agrotechnical measures is the timing of planting, in which the demand for heat, moisture and light by phases of shadow varieties is fully studied. Based on this condition, the growth and development of the fast-growing varieties "lira", ertapishar "Delta" and medium-sized "elegant" depending on the planting period was studied. The data obtained in the process showed that although these varieties were planted in the same period, the yield was different.

An experiment conducted for 4 years tezpishar variety " lira "in may 3 years, the ertapishar variety" Delta "May 2 years 15, and the" elegant " variety gave high yields when planted on April 30 even for 4 years. Among the studied varieties, the medium-sized variety "elegant" turned out to be the most adaptable to the external environment.

T.G.Vatshenko and others (2013.) it is noted that soy is one of the crops whose land area in the globe is increasing from year to year. It is now possible to grow it in the northern regions. To take advantage of this opportunity, it is very important to correctly choose the timing and method of planting fast and early maturing varieties. In the Voronezh region, it is possible to get a harvest of 25.6-28.4 ts/ha from the shade. This was confirmed in experiments in which 12 varieties were planted. When the studied varieties were planted on May 5, 2002 year gave an average yield of 14.3-17.2 ts/ha, and in 2003 year-29.4-35.4 ts. The yield of soybeans is influenced not only by the timing of planting, but also by climatic conditions. X.N.Atabaeva (2013.) according to the data, when determining the sowing period, it is necessary to pay attention to the growing season of the varieties. When replanting, the ertapishar " flight "and the medium-sized" Uzbekistan-2 "varieties ripened, but the kechpishar" Uzbekistan-6 " Variety did not ripen, and this variety was mowed as a blue stem.

A.N.Gribanov, V.L.Zakharov (2019.) and V.D.Litvinov, A.A.Sevas-tianovs ' (2019.) from their experience it turned out that the biological yield in the studied soy varieties varies depending on the timing of planting.

Also, X.N.Atabaeva, I.A.The Israelis (1998.) studied several of the soy varieties as a repeated crop, noting that mineral fertilizers are of great importance in their growth, development and increase in yield.

S.I.Antonov (2000.) writes that legumes belong to the group of environmentally friendly crops with a level of use in each area. These plants do not

require excessive agrotechnical measures for growth and development, due to their biological nature, they are also undemanding to soil types.

In general, from the studied literature, it turned out that the growth and yield of soy varieties changes under the influence of agrotechnical measures and biological factors.

1.2. Soy varieties of Nitragin-137 strains Effect on productivity

Abundant and high-quality fertilization is possible only when agrobiological and agrochemical activities from a soy plant are carried out at the highest level, in a interdependent manner.

The growth, development and yield of a soy plant is significantly influenced by how it is supplied with nitrogen. The plant begins to absorb nitrogen from the soil 6-7 days after the development of vegetative organs or the germination of its seed, and then receives free nitrogen in the air symbiosis with the help of bacteria.

A number of scientists-V.B.Enken (1959y.), A.A.Babić (1973y., 1975y., 1980y.), Yu.P.Myakushko (1981y., 1983y.), G.Mangold (1986y.), A.M.Margues (1988y.), D.Yo.Yormatova (1981y., 1987y., 1991y.) note that the crop that absorbs free nitrogen the most in soy legumes is soy.

M.A.Ivetkova, R.A.Teremova (1978.), E.P.Gorelov, I.M.Babayarov (1985.), M.Babayarov (1986.) it is believed that the yield of all soybean varieties increases by 4-11 centners per hectare, depending on soil-climatic conditions, if their seeds are planted nitraginlab.

The following scientists draw from their experiments and note that V.F.Baranov (1984.), A.A.Kutuzov et al (1984.), V.N.Sichkar (1987y.), V.M.Penchukov (1983y.), A.Lebedovsky (1978-1980.y.), D.Karagusheva, Sh.Alibekova (1978.), T.Nabiev (1983.), Z.Karimov, Z.Ganich (1987.) when soybeans are nitraginated and fed with additional nitrogen fertilizers, its yield and the formation of vegetative organs increase significantly.

There is always something to pay attention to in the formation of legume bacteria in the roots of soybeans, " says D.Yormatova (1991.) when the plant is being planted in this soil for the first time, of course, there are no Rhizobium bacteria here. So, the shade planted here acts as an absorber of nitrogen from the soil. To form spontaneous bacteria, not nitrogen accumulators, it is necessary, of course, to work with nitragine strains before sowing soybeans.

The first scientists from Germany-Nobbe and Galtnep-isolated and put into practice the strains of nitragine, and (in 1897) experiments showed that spontaneous bacteria proved to live in the soil for 2 to 18 years, depending on favorable conditions. Some foreign scientists L.Thompson, R.Rong sakul (1976.),

V.M. Mildoon (1980.) they mix nitragine strains into the soil, rather than into the urine, and recommend nitragination in this way.

O.V.Enkena et al (1982.) in their experiments, they proved that applying rhizotorphine to the soil with this method yielded very little result.

The growing season of the plant-after germination, the fungal bacteria on the root naturally move into the soil, and they begin to live in a saprophytic state and wait for their master-the soybean plant-to be planted. It is known that with the planting of legumes other than soybeans in these areas, bacteria they cannot live symbiosis at the root. Over time, under the influence of various unfavorable conditions in the soil, fungal bacteria begin to die. Therefore, when planting soybeans or other legumes, the use of nitragine strains, the seeds of which are typical for the plant, is of a positive effect every year.

J.Poshon, G.D.Barjak (1960.), L.M.Dorosinski (1970.), B.N.Mishustin, W.K.Shilnikova (1978.), A.K.Letshenko, V.M.Jellyfish (1977.) the applied nitragine strains should be more mobile, lively than those in the soil, until they conclude that the shade yield increases by 2-8 centners when exposed to nitragine strains.

A.I.Chunderov, N.P.Of the kupriyanovs (1976.). In variants using nitragine in an experiment conducted in the Far East, productivity increased by 0.6 t/, or 35%, from the control variant.

In the symbiosis of nitrogen by legumes, the main service is performed by the plant itself, he says. V.I.Romanov (1983.). According to the scientist, as a result of increased photosynthetic productivity, the work of azotfixation in the root system accelerates. So, a good course of photosynthetic conditions accelerates the symbiotrophic process. In order for the symbiotrophic process to go in a good environment, it is imperative that there is always a sufficient amount of moisture in the soil.

When soybeans are nitraginated and grown under irrigated and non-irrigated conditions, the difference in yield is V.F.Baranov (2017.) is significant, with a yield of 34-37 ts per hectare when irrigated, and 15-18 ts or 2 times less when not irrigated. In his opinion, the symbiotrophic process that goes in the soil is in an aerobic state, so it is necessary to keep an eye on the fact that the water-air regime in the root is in an alternative state. Watering should be correct, water should not be retained, and water should not accumulate in Low Places, Even as a result of heavy rains. Otherwise, the air regime in the soil will deteriorate, The Root will lack air, and as a result, the activity of Rhizobium bacteria will slow down.

The good development of fungi is influenced to some extent not only by agrophysical properties, but also by agrochemical processes.

The soybean plant is not only nitrogen-containing, but also less demanding on other mineral fertilizers. Its roots have the ability to absorb difficult soluble phosphorus compounds in the soil and absorb the fertilizer it needs using biological fixation.

V.F.Baranov and o.M.Shirinyak (2017.) data showed that the yield of the" Rannyaya-10 " Variety was 28.3 from the use of strain 646, 24.0 ts/in the non-nitragine variant, the protein content in seeds was 38.0 %, and almost 5% higher in the nitragine variant.

N.A.Penchukova, G.K.Shelevoy (1974), V.F.Kuzin (1976) shows his experiments in the Amur region that favorable conditions are created when n30p60 kg are given to shade areas on podzolli-brown forest soils so that nitragin strains work well.

1.3. The effect of planting oil on the growth and development of the soybean plant

Soy plant is rich in protein, high in calories among cultivated plants due to its chemical composition, and is of particular importance in the development of the global food industry and the increase in livestock production, as well as in the increase of soil fertility.

Soy grain contains 40-45% protein, 22-25% vegetable oil and 12 different vitamins necessary for the human body.

Academician N. in the 30s of the 20th century in order to provide the population with sufficient food products.I.Vavilov developed a special shade program. It provides valuable information about the placement of the soybean plant in regions depending on its biological characteristics and its growth, development and yield, changing under the influence of geographical area and agrotechnical measures.

Pryanishnikov D.N. the first studied the importance of the formation and grain of biological nitrogen, which accumulates in the roots of soybeans, in the food industry. In his works, the scientist was the first to record the method of making artificial milk from soybeans [58].

The outstanding scientist Enken V, who founded the shadow technology.B. [56] according to their observations, one of the factors determining the yield of soybeans varieties is the planting temperature. According to experiments, when the number of tubers was low, the yield of the "Kievskaya-48" variety was also decreasing. Even in the amurskaya-41 variety, a decrease in the planting norm led to a lower yield at the expense of hectares.

Similar to other legumes, soy ontogenesis is divided into several periods of development. These include embryonic reproduction, Juvenil, maturation, and

slow suppression of living organisms. A number of scientists have made observations on the change in growth and development of the soybean plant during this period of development as a result of external factors and agrotechnical measures[3; 56; 85; 28;62; 115].

One factor that has a significant impact on growth and development in agriculture is the number of bushes of the plant in the planting area or hectare. As a result of the greater or lesser number of bushes, the height of the plant height, the number of leaves, side branches, etc.change. Myakushko Yu.P. [101], Letshenko A.K. [85], Korsakov N.I. [151], Baranov V.F. [17], Tilba V.A. [131] such scientists have studied soybean varieties by planting them in different regions, in different planting centers.

Enken V.B. [56] according to his experiments, planting meyori determines that the varieties also affect the development phases. The formation of the third triple Leaf has been observed in the "Sibiryachka" variety to form two days earlier when planting meyori is 60 kg/ha, and two days later when planting meyori is 80 kg/ha. According to the scientist, sufficient supply of nutrients to the flowering phase of the soybean plant will be the basis for its good growing development. The plant grows and develops well if there is enough food in the soil during the flowering and ripening phase. This is the main indicator that determines productivity.

Belikov I. [35] according to their observations in the Primore area, when planted in soybeans or the planting meiore is 3-4 times more, development is not sufficient as a result of light falling on the plant's joint intervals, especially the lower joints, where the crop accumulates a lot. The scientist believes that not only the ground part of the plant, which is planted in a wide row of 60x15cm, develops well, but also the underground part.

S.V.According to Kadyrov [78], an increase in the number of bushes per hectare increases the amount of germination of seeds. In this experiment, the "Belgorod-48" variety of shade on black soils in two ways with different planting sizes row between 45cm, number of bushes-250, 400, 550, 700, 850 thousand pieces, simple rows 15 cm wide, number of bushes-400, 550, 700, 850, 1000 it was known that germination decreased when the sowing rate was increased, planting seeds with a yield of 45 cm between the rows and 86.4% when the number of tubers was 250 thousand pieces. When planted in wide rows and sowing meyori 400,000 seeds, germination was observed to increase by 1.5% compared to a simple narrow row planting, with a 4-10% higher seed germination rate when planted in wide rows.

According to Ugo Toro Correa [141] writing, the All-Russian oil crop dog is responsible for the full formation of morphophysiological characteristics that go in

the plant, in order to obtain a higher yield from new varieties created at the planting plant and the number of bushes. The scientist studied the criteria for planting 200, 300, 400 thousand bushes on 3 different varietal scales, noting that each Bush number is particularly demanding on food.

Davidenko O.G., Goloenko D.V., V.E.According to roseniwegs [45], it has been observed that the increase in the number of bushes increases when there are up to 70 plants in determinant varieties, while the height of the height of the Ros variety with a bush number of 30-40 in 1m2 does not increase when the Bush number is increased to 70 in 1m2. An increase in the number of bushes to 80, 90, 100 did not increase the Leaf number and height of the plant, but was found to decrease the number of leaves to 2-4.

Posipanov N.G. According to [116], ertapishar determinant varieties branch poorly, but grow well when the Bush number is dense, with up to 80 plant Bush numbers at 1m2 being the best option for ultrapishar varieties. Such varieties were named by the scientist "Northern ecotype".

Shevchenko N.S., I.E.The romansovas [148] conducted research on the growing development of shade varieties belonging to four groups in the area of the central black soil. They observed in their experiments that up to 35, 45 and 55 plants were grown on an area of 1m2, the formation of vegetative organs of varieties varied in determinant and indeterminant varieties, vegetative organs were higher in indeterminant varieties than 35 in 1m2, and in determinant varieties up to 35 in 1m2. They argue that a low number of tubers leads to a large number of leaves, joints and legumes, and that the presence of a large number of vegetative organs does not determine productivity.

Kadirov S.V. [77], Gribanov A.N., Zakharov V.L. [42] scientists such as "Belgorodskaya-143", "belor", "Belgorodskaya-48" and Belgorodchanka conducted scientific research on the methods of planting meyori in the northern part of the central black earth region. Planting method simple row 15 cm and wide row 45 cm, planting meyori 300, 400, 500, 600, 700, 800 and taken on the example of the number of 900,000 bushes, the "belor" Variety has an average of 3 years with a maximum number of leaves on an area of 1 m2, when the planting rate is increased to 800-900 thousand pieces, the number of leaves in the plant decreases, the height of the height when the plant is planted sparsely

Baranov V.F. [17], Gusev A.A. [43], Volkov O.V., Artemev A.A. [39] research shows that increasing the yield of 500,000 bushes of planting fruit in indeterminant varieties leads to a decrease in yield. The density of agrocenosis leads only to the growth of the height of the plant, while in order to obtain a blue mass, the number of tubers can be increased. While the number of 300 thousand

bushes for the Armavir-15 variety is favorable for growing development, the number of 500 thousand bushes for the duar variety is considered optimal.

Yormatova D.Yo. [69] according to the data, all farms of the Republic have tractors and working bodies that work between rows 60-70 centimeters wide, so it is advisable to spend 80 kilograms per hectare, taking the same width between the shadow rows. Planting Ertapishar varieties should be carried out with a germination capacity of 90-100 kilograms per hectare, since medium-sized varieties are tall and produce side branches from themselves, 70-80 kilograms per hectare.

Litvinov V.D., Sevastyanov A.A. [89] in the data, they write that the number of bushes is well preserved when the planting temperature of the varieties "Belgorodskaya-6", "Svetlaya", "Mageva" is 80 kg/ha, and the development phases of the plant coincide with the biological characteristics of the variety. As the planting temperature is increased to 90-100 kg/h, the varieties are confirmed to be thin, prone to lying down.

Miroshnichenko M.V. According to [100] opinions, the fertility status in the Fora, Vesta, Delta, and renta varieties was decreasing when planting meyori was 50 kg/ha. The plant has a large number of leaves, the stems are large, the ripening of seeds is delayed when the leaves are dense, the weight of the seeds does not correspond to the varietal characteristics. Legumes are formed late in such plants, there are no seeds even if the pods are formed, or one can be fertile. The pods remain unripe green until the end of the growing season.

Korsakov N.I. [82] and others at the Russian Institute of Crop Science Research, having planted soy collections in regions of Russia from south to North, studied the demand for Air Charter of varieties, even scientifically studied the yield in the 60th parallel of the northern latitude, and noted that the exact determination of the planting temperature is one of the main factors.

The dense location of agrocenosis affects the productivity of soy in a certain amount. The large number of bushes per hectare leads to a decrease in the individual yield of one plant. The low number of tubers per hectare also indicates a decrease in soil moisture, nutrient use. The yield from a separate plant cannot compensate for the total sum spent on the account of the entire hectare. Accordingly, due to the biological characteristics of the cultivated variety in the known area, it is necessary to correctly determine the planting temperature.

The analysis of the above literary sources testifies to the scarcity of research carried out in our republic on the influence of planting meyori on the growth and development of the soybean plant. Therefore, it is relevant to determine the standard of alternative planting of various soybeans, as well as the choice of fertile soybeans in the cultivated areas of our republic.

1.4. Influence of the nitragine strain on the growth and development of the soybean plant

Thanks to the fact that food products are obtained from soybeans, soy allows the planted areas to receive an environmentally friendly product with low application of chemicals, mineral fertilizers, herbicides.

When soybean seeds are planted with nitragine strains, the formation of vegetative and generative organs in the plant changes for the better, and the yield increases by 8-12%. When soybean seeds are processed and planted with nitragine strain or rhizotorphine powder, the movement of nodular bacteria in the soil is activated, absorbing pure biological nitrogen from the atmosphere through the plant roots.

Enken V. When it comes to handling soybeans with nitragine or rhizotorphine.B. [56], Penchukov V.M. [110], Baranov V.F. [28], Balakai G.T. [31] and Atabaeva X.N. [10] in their observations, they found that all soy varieties studied were more impressive compared to nitragine and rhizotorphine. In the type of cereal crops, soybeans and lupine absorb nitrogen from the air in the greatest amount.

Scientists who studied nitragine strains in various soil-climatic conditions of the Republic Saltas M.M. [120], Yormatova D.Yo. [70], Israilov I. [75], Yormatova D.Yo, Mamurov A. [65] and others have noted that the grain yield increased by 7-12 centners, as the plant is adequately supplied with nitrogen under the influence of nodular bacteria in the soil if the seeds are treated with nitragine strains.

Gorelov E.P. and Babayarov M. [41] according to their observations, nodules were formed on the roots of soy varieties only when seeds were processed with rhizotorphine in the Shahrisabz District of the Kashkadarya region. This opinion was expressed by Yormatova D.Yo.[61] he also confirmed in his observations, writing that no nodules were absolutely formed in Shadow fields unless nitragine or rhizotorphine were used in experiments in Samarkand, Bukhara, Jizzakh and Kashkadarya, Surkhandarya regions.

Spontaneous bacteria Mishustin B.N. and Shilnikova V.K. [99], L.M.Dorosinski [48] S write that in favorable conditions on the soil lives in motion until 15-17 years, waiting for his "master".

German scientists Hobbe and Galtneps were the first to extract nodular bacteria from the roots of legumes, suggesting in their experiments that spontaneous bacteria can live from 2 to 18 years, depending on the conditions.

Dorosinski L.M. [48] according to the data, nodular bacteria slowly move into the soil when the plant ripens and begin to live without saprophytes themselves. In

the soil, these bacteria wait for their "owner", that is, the soybean bacteria begin to slowly perish the soybean plant, if their own original "owners" do not come.

Yormatova D, Khotamov E. [59] according to their experiments, the first nodules are formed on the root after 7-10 days after the germination of the soybean plant.

Kalmikov A.V, Knyazov B.M. [80], Osin A.A, Osina V.S. [108], Baranov V.F. [28] it is written that the soybean plant provides itself with nitrogen fertilizer at a certain temperature. The soybean plant feeds on nitrogen by symbiotrophic and autotrophic pathways. Soil-depending on climatic conditions, symbiotrophically satisfies its total nitrogen demand by 30-70%. As a result of the supply of nitrogen fertilizers, the photosynthetic activity of the plant changes. When soybeans were processed with high doses of rhizotorphine before sowing, the number of nodules was higher, and photosynthetic activity was higher than the control option of 0.58 mln m2/ha and leaf levels of 9.5 thousand m2 / ha.

Ugo Toro Correa [141], Baranov V.F. According to [28] the presence of Rhizobium bacteria in the soil in an alternative state has a positive effect on the formation of the vegetative and then generative organs of the shade first.

Balakai G.G, Shedrin V.N. and Selesky S.A. [32] in his observations of Rostov-on-don soil-climatic conditions, it became known that nitrogen fertilizers per 30 kg/ha, and when seeds are planted with a nitragine strain, the vegetative organs of the plant will be 8-10 CM in height, leaves 3-4 pieces, the number of legumes 8-12 more than in the control option. These conclusions were drawn by Lucomes V.M. [91] also confirms in his experiments.

Belikov I.F. [35], Posipanov G.S. [115], Farniev A.T, M.A.In addition to working seeds with nitragine strains in experiments conducted by Pliev [145], nitrogen and phosphorus fertilizers in high meior were given in amounts of nitrogen 120 kg/, phosphorus 90 kg/, while there was a difference in growth-development as well as a change in generative organs. Such overgrown shade plants can be used for forage purposes.

Posipanov G.S. [116], Bykov Yu.N, Kadirov S.B. [36], Shmoylova T.P. [152] Lar writes in his scientific work that crop rotation of soybeans is more important than other crops. It is shown that the shade acts as a binder in the middle, as it absorbs additional nitrogen from the atmosphere and absorbs it through the soil by the plant. If soybeans are planted in a wheat monoculture, the yield of wheat increases after soybeans and the meiori of mineral fertilizers applied to the arable land decreases.

Shmoylova T.P. According to [152], soy stores the greatest amount of nitrogen in the leaf, stem and Root during the branching phase, with its amount going to decrease in the following phases. Changes in the amount of nitrogen in

their flowers are almost imperceptible, the amount of nitrogen in the pods drops from 1.84 to 0.81% during the saturation phase, while in soybeans the amount of nitrogen decreases even more or falls from 5.18-4.26% before ripening from the saturation phase. Similar information has been observed in nodes in the root of the shadow.

Gribanov A.N. and Zakharov V.Ya. [42] according to research, according to the influence of planting meyori and nitragine strains, the law in variants is that with an increase in the number of tubers, in nitragine-free, nitragine-free variants, the number of pods increases at 1m2, with a decrease in the number of tubers, the number of seeds increases in the pods.

Rozentsweig A.S. and others [119] according to data, the number of bushes with a nitragine strain of branching and single-stem varieties 30, 40, 50, 60, 70, 80, 90 and seeded at 100 m2. The processing of seeds with nitragine had a positive effect on its formation. In nitragine variants, the number of lateral branches increased by 1.6-2.4 units, in non-branching types there was no lateral branch formation in nitragine and non-nitragine variants, but the number of pods formed in the stem increased by 3-7 units in nitragine variants.

Hugo Toro Correa [141] writes that in order to obtain a crop above the shade, the number of bushes per hectare must be complete. The low number of bushes proves that the use of nutrients, moisture and falling sun in the malum area decreases. The increase in the number of tubers and work with nitragine proved in their experiments that in the varieties "Vilana", "lira", "Delta" (from 200 thousand to 300, 400 thousand) increased to 4.5; 6.8; 7.5 centners.

Morrison M.S, Walden H.D, Cober E.B. [158], Nelson R.L. [159], in their data, they note an increase in photosynthetic activity from the production of soybeans with nitragine or rhizotorphine, and a decrease in the amount of nitrogen extracted from the soil in the soil at the cost of nitrogen absorbed from the air. They have proven in their experiments that due to the activation of photosynthetic activity and the supply of nitrogen to the plant itself, an increase in yield to 4-6 centners, and in some cases to 7.8-8.5 centners.

Nematov U. [105] writes that in order to optimize the irrigation regime of the US varieties "Yug-30" and "5334", suitable for the Fergana Valley, the Andijan Institute of agriculture, according to research carried out in the educational and experimental farm in order to obtain a high yield, affected the accumulation of biological nitrogen in the soil of soybeans planted after autumn wheat, not While the amount of nitrogen associated with the plant is 104-110 kg per hectare, this figure fell to 84.2-84.6 kg per hectare in variants not treated with rhizotorphine.

Dozorov A.I. [54] reports that symbiosis activity increases when the soy plant is fed in low amounts (60 kg/ha; 45 kg/ha) with phosphorus and potassium mineral

fertilizers. This indicates a significant increase in yield even if Fed in moderate amounts (80 mg/kg - 120 mg/kg of soil) with phosphorus and potassium mineral fertilizer. Nitrogen mineral fertilizers can only be applied to soils with low fertility or soils without the application of rhizotorphine, otherwise the yield will decrease.

Posipanov G.S. [113] he believes that to obtain 1 ton of grain, the maximum nitrogen requirement of a soy plant will be-82 kg/ha, phosphorus - 26 kg/ha, potassium-47 kg/ha.

Myakushko Yu.P. [103], Yormatova D.Yo. [63], Baranov V.F, Shirinyan O.M. [27], Baranov V.F, Efimov A.G.[26] according to the data, soy is a nitrogen absorber and a plant that enriches the soil with biological nitrogen. The soybean plant accumulates 30-55 kg/ha of nitrogen in the soil when treated with nitragine and under conditions of optimal humidity and serves as an excellent predecessor to cereals and non-legumes agricultural crops. The soybean plant replenishes 40-70% of its nitrogen demand with the help of Tugan bacteria at the expense of continuous absorption of free nitrogen in the atmosphere. From the moment the soybean pods begin to ripen, until they ripen, all of their leaves are poured into the soil, soil fertility increases from the accumulation of pure nitrogen by nodular bacteria in the root, and the spilled leaves enrich the soil with organic matter.

Khalilov N., B. Umrzakov [135] s studied the varieties "Medeya", "currency", "Izumrud" of soybeans from Ukraine in the Samarkand region, as well as the "dream" varieties included in the State Register of the Republic of Uzbekistan. Seeds are processed by the rhizobophyte preparation, in which M-8 strains of soybeans are grown, brought from the Simferopol Institute of Agricultural Microbiology, with a count of 200 grams per 1 hectare of spent seed before planting.

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Based on the data of scientists who conducted research on the above soybeans, research has been carried out on our side to study the effect of soil nitragine on the growth and development of various soy varieties on moderately saline soils in the Jondor District of the Bukhara region. Studies on this topic have not been studied in the saline soil-climate of the Bukhara region. We also studied the growth, development and yield of a number of varieties in different planting norms, terms, comparing them with each other. Due to the experiments obtained, we recommend the sowing period and the norm for which variety to get a high yield in the saline regions.

The demand of soy varieties for mineral fertilizers was also studied, and conclusions were made on the Jondor district.

CHAPTER II. SOIL-CLIMATIC CONDITIONS OF EXPERIMENTAL AREAS

2.1. Definition of experimental field soils

As a result of the scientific research carried out, scientific observations on the topic of dissertation were carried out during the period 2013-2019 in the Jondor District of Bukhara region, on the farm "iron, Fozil, Fayoz".

Bukhara region occupies the northern part of the Republic of Uzbekistan, bordering the Republic of Turkmenistan. The general appearance of the provincial God is Oval, with a length of 300 km.from, and 120 km wide.more than. The region is divided into several groups according to its relief. While its main plain is covered by farmland and partly by shifting dunes, the Northern, Southern and eastern parts gradually rise through the Adirs and merge into the mountains. Since the Adirs are formed almost from quaternary alluvial deposits, the stones are also made up of polished whitish stones and sand soils. 3,500 m in the mountains.snow and glaciers above are the main source of water in the Valley. The Valley soils are diverse, with a component composed of sulfate-containing, chlorinated and magnesium-containing salts. The large accumulation of these salts was responsible for the salinity of the soils. Most of the arable land is saline, especially as sulfate salts are poorly soluble in water. The province was the first to develop its soil into a.F.Middendorf (1882.) learned. A.N.Rozanev (1951., 1963.), G.M.Konobeev (1966.), T.I.Popova (1971.), A.Maqsudov (1979) scholars have also done some work on these soils. The county soil is a.N.Rozanov (1958.) is considered the central location of the Turon low plain under the classification (classification), the Western Bukhara city is low-lying, the territory consists mainly of grassland-shurkhok (lugovo-solonchakov) and shurkhok soils, in some places there are also sandplains.

Mountain land with gypsum chalk soil (serozem), as it rises, they alternate with light chalk soil (svetliy serozem), Gray Chalk soil is found in Ahyan-ahyon on mountain slopes, except.

The soils of the farm in which the experiment was carried out were loose soil of a light tone, the mechanical composition of which, according to the degree of salinity, corresponds to the soils of the regional territory.

Agrochemical composition of the soil is presented in Table 2.1.1.

Agrochemical definition of the experimental field, %

2.1.1-table

Dist., sm.	Gross shape (relative to soil mass)			
	gumus	**nitrogen**	**phosphorus**	**potassium**
Before planting soybeans				
0-30	0,025	0,136	0,142	215
30-50	0,875	0,063	0,130	184
After reaping the shadow				
0-30	1,327	0,374	0,203	273
30-50	1,106	0,168	0,188	216

The soils of the region are S in a wide range.N.Rijov (1948.), M.A.Pankov (1957.), V.V.Gorbunov (1965.), K.M.Mirzajonov (1973., 1961.) and others. According to them, 70% of the soils of this area are grassland and grassland-Heath, 20.8% are beech soil (hungry and typical), the rest are grassland-Heath (2.7%), Meadow-Marsh (1.3 %) and other soils. The amount of humus is from 0.80-1.56% in the grassland-soil and mountain chalk soils irrigated from old, from 1.02 to 1.25% in the plowing layer, 100-130 CM.da 0.09-0.27%. Gross nitrogen form: -0.14-0.19; 0.08-0.13 %, 0.004-0.11% on soil horizons, gross phosphorus: 0,14-0,19; 0,10-0,17; 0,010-0,11; gross potassium: -1,10-2,20; 1,10-2,08; 0,70-1,03. Most soils in the province are carbonaceous, with SO2 content in the ploughing layer ranging from 4.0-17.0%.

2.2. Climatic conditions

Jondor district is located in the western part of Bukhara region. The indicators of climatic conditions observed over the years of the experiment are presented in Table 2.2.2. Judging by the data from the Bukhara Metereological station, during the period 2013-2019, the lowest air temperature in the average years was 1.43 0s in December-February, and the highest temperature was 26.75 0s in June-July. In the same years, the lowest temperature was -5-9.6 0S in December-February, the highest temperature was 28.3-29.3 0s in June-July, and the lowest temperature in years was -9.6 0s, while the lowest temperature in years was -4.9 0s in 2013, -4.9 0s in 2017 and -1.8 0s in 2019. The years of the experiment in which the highest temperature was conducted were distributed as follows. 2013 was 27.9 0S. Having studied the average multi-year data on the air temperature, we determined the change in this regard: for the next decade, the air warmed up. In the years of the experiment, the air saturation to moisture was around 17.5-22.4%. The amount of precipitation during the tumour period was as follows in these years, with the total fat content being 156.8 mm in 2013, 84.47 mm in 2017, and 88.1 mm in 2019. The amount of fat in general is very low or has decreased even more in later times.

The precipitation typical of the countries of Central Asia mainly corresponded to the winter and spring periods. The indicator in this regard when we divide the amount of precipitation into spring months is 43.2 mm in March 2013, 45.8 mm in April, 6.1 mm in may.it became known (table 2.2.1).

As you know from the table data, precipitation falling in the spring will not be able to adequately provide the planted crops with moisture. As can be seen from agrometereological data, climatic conditions did not differ much from each other during the growing season.

Average fat content: 200-220 mm.ni, the top 300 in the mountains mm.ni organized. Most of the precipitation falls during the winter and spring seasons, while most of the summer does not. Vegetation (crop)vegetation skin amounted to 210-220 days, (card scheme). The climate of the valley is Continental, and the "cock wind" blowing from the West is of great importance in its formation. Westerly winds often blow during the spring season, occasionally bringing dry, and occasionally wet air. This has a negative effect on the valley from wind strength: as a result of soil erosion, reduced moisture and the opening of the roots of the grass, the crops dry out. The wind speed is sometimes 30-35 per second m.ga will. Garmsel also blows in the western part of the valley during the summer months.

Experimental field weather data. 2013-2019.

(Bukhara meteorostancy data)

2.1-table

Months	Years	Average monthly temperature, ^{0}C				Average monthly fat content, mm				Average monthly air ratio			
		Decada			Average annual	Decada			Average annual	Decada			Average annual
		I	II	III		I	II	III		I	II	III	
1	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**
January	2013	2,2	4,7	4,9	38	4,4	7,1	127	24,2	8	12	5	12 м/с
	2017	4,9	2,4	2,4	3,2	1,2	-	0,5	1,7	9	13	13	13 м/с
	2019	-1,8	-1,4	-1,2	-15	0,5	1,6	39,5	41,6	8	11	13	13 м/с
	Perennial	-1,2	-1,2	-1,5	-	2,8	3,6	6,1	-	-	-	-	-
February	2013	4,3	84	9,6	7,4	0,1	0,1	-	0,2	5	18	7	18 м/с
	2017	1,5	0,8	6,1	2,6	10,2	5,5	0,0	15,7	16	9	16	16 м/с
	2019	1,9	7,3	7,0	5,3	4,6	16,9	2,7	24,2	5	17	8	17 м/с
	Perennial	-0,6	1,8	2,9	-	4,3	6,4	3,5	-	-	-	-	-
March	2013	10,3	8,3	13,2	10,7	4,2	38,5	0,5	43,2	23	14	14	23 м/с
	2017	13,1	13,9	12,5	13,2	-	24,7	3,7	28,4	6	19	26	26 м/с
	2019	12,0	11,7	14,8	12,9	0,4	0,0	3,1	3,1	18	13	19	19 м/с

	Perennial	5,7	8,8	11,6	-	6,3	4,7	6,0	-	-	-	-	-
April	2013	14,3	18,0	17,9	16,7	13,5	29,6	2,7	45,8	19	24	18	24 м/с
	2017	11,3	16,9	21,9	16,7	6,3	-	0,3	6,6	25	17	9	25 м/с
	2019	15,3	17,1	22,2	18,2	2,9	-	1,8	4,7	21	7	18	21 м/с
	Perennial	14,4	17,1	18,7	-	3,4	5,4	4,5	-	-	-	-	-
May	2013	20,1	24,6	22,7	22,5	2,7	-	38	6,1	17	21	19	21 м/с
	2017	21,8	18,9	21,7	20,8	10,5	3,8	-	14,3	16	17	7	17 м/с
	2019	21,1	26,1	25,1	24,1	5,8	0,0	7,5	13,3	14	14	14	14 м/с
	Perennial	20,3	21,7	23,0	-	4,9	2,8	5,2	-	-	-	-	-

2.2.1- continuation of the table

June	2013	25,6	27,4	27,9	26,8	2,7	0,4	0,5	3,6	14	17	17	17 м/с
	2017	26,4	27,1	28,3	27,3	0,4	0,1	-	0,5	13	12	22	22 м/с
	2019	24,8	27,0	29,3	27,0	-	-	0,6	0,6	19	18	13	19 м/с
	Perennial	24,8	26,0	27,3	-	2,0	2,3	0,9	-	-	-	-	-
July	2013	28,6	26,2	29,1	28,0	0,1	0,8	15	2,4	19	10	9	19 м/с
	2017	29,4	28,3	28,3	28,7	0,0	-	0,0	0,0	14	14	8	14 м/с
	2019	28,2	26,0	29,5	27,9	0,8	0,8	-	1,6	11	18	0,8	18 м/с
	Perennial	27,4	27,6	27,5	-	1,6	1,3	1,3	-	-	-	-	-
August	2013	25,9	28,0	26,7	26,9	25,6	-	5,2	30,8	17	7	10	17 м/с
	2017	27,6	26,2	22,8	25,4	-	3,0	17	4,7	14	12	19	19 м/с
	2019	29,1	26,7	26,4	27,4	-	-	-	-	11	14	11	14 м/с
	Perennial	26,7	26,2	24,1	-	1,6	0,5	0,5	-	-	-	-	-

September	2013	25,1	22,8	19,7	22,6	-	0,1	0,4	0,5	9	12	5	12 м/с
	2017	25,1	23,7	21,0	23,3	-	0,5	2,1	2,6	14	6	9	14 м/с
	2019	22,4	21,2	20,4	21,3	-	0,0	-	0,0	13	14	10	14 м/с
	Perennial	22,4	20,4	18,4	-	0,3	0,9	1,3	-	-	-	-	-
Oktober	2013	16,8	12,5	12,8	14,0	0,0	11,5	6,4	17,9	20	17	14	20 м/с
	2017	20,3	14,7	12,7	15,8	0,7	0,0	8,7	9,4	8	19	12	19 м/с
	2019	19,9	18,4	16,5	18,2	0,0	4,3	3,3	7,6	8	16	17	17 м/с
	Perennial	15,7	13,2	10,9	-	3,3	3,4	4,7	-	-	-	-	-
November	2013	13,2	10,8	8,9	11,0	4,2	11,1	11,0	26,3	14	4	17	17 м/с
	2017	11,6	7,6	6,5	8,6	0,1	0,8	-	0,9	7	9	16	16 м/с
	2019	17,0	10,0	2,3	9,8	-	1,2	0,0	1,2	22	14	19	22 м/с
	Perennial	8,5	6,2	3,9	-	3,4	3,9	1,5	-	-	-	-	-
December	2013	4,4	5,0	1,9	3,7	0,6	35,2	0,5	36,3	13	22	5	22 м/с
	2017	4,3	2,4	3,7	3,5	4,8	-	6,8	11,6	17	11	17	17 м/с
	2019	0,8	0,9	2,4	0,2	11,0	-	2,4	13,4	6	4	12	12 м/с
	Perennial	2,4	1,0	-0,6	-	5,5	3,7	2,8	-	-	-	-	-

2.3. Methods of conducting research

The field experiments under study were carried out on the basis of scientific methods developed in the Gallaorol branch of the research institutes of Plant Science and the Andijan Research Institute of cereals.

The experiment was carried out in a field style, in a system reflected in Table 2.3.1 in a 4-fold repetition. The surface of the Pagal is 72 sq.m (width 2.40 m, length 30 m.), the number of plants counted is 20, and the number of options is 32.

Replays were placed on two Yarus. At the beginning and end of each piece (delyanka), space was left for protective areas.

Experimental system. (2013-2019 years)

2.3.1-table

№	Sowing period	Work with nitragine	Varieties
1	15 june	1) nitragine-free (control)	a - "flight" b - "friendship" v - "elegant" g - " Fortuna
		2) nitraginous	a - "flight" b - "friendship" v - "elegant" g - " Fortuna
2	25 июнь	1) nitragine-free (control)	a - "flight" b - "friendship" v - "elegant" g - " Fortuna
		2) nitraginous	a - "flight" b - "friendship" v - "elegant" g - " Fortuna
3	5 july	1) nitragine-free (control)	a - "flight" b - "friendship" v - "elegant" g - " Fortuna
		2) nitraginous	a - "flight" b - "friendship" v - "elegant" g - " Fortuna

4	15 july	1) nitragine-free (control)	a - "flight" b - "friendship" v - "elegant" g - " Fortuna
		2) nitraginous	a - "flight" b - "friendship" v - "elegant" g - " Fortuna

In the experiment, the following observations were made calculations, measurements.

The agrochemical properties of the field soil under the experiment were studied by taking samples until soybeans were planted and after harvesting.

In this:

- the amount of humus of the soil I.V.In the style of Tyurin;
- gross nitrogen content in K'eldal style;
- gross phosphorus content in Lorentz style;
- potassium content P.V.It was determined in the style of Protasov.

In the experimental field, phenological observations were carried out, squinting in all variants. It was noted that the plant germinates, forms the first three leaves, grunts, blooms, pods begin to form, the pods turn brown and ripen. In conducting phenological observations, "methodika Gosudarstvennogo sorta ispitania selskoxozyaystvennix Kultur" (m.Kolos, 1964).

In the experiment:

-At the Uzbekistan Rice Research Institute, the varieties "" (ertapishar) and "friendship" (midtapishar), "nafis" (midtapishar), created in Krasnodar, "Fortuna" (midtapishar) of Ukraine were studied.

- the germination rate of soy varieties was determined, for this, in the middle of the account rows, seeds were counted, sown and their germination was observed. The main part of the grass sprouted well, for unknown reasons, the germination of some was delayed. The germination period was calculated until the first three leaves were formed;

-in nitragined and nitragine-free variants of soybean varieties, and depending on the timing of planting, 20 modular plants were isolated from the account beds to monitor their growth and development, and label (labels)were hung on them. All biometric observations were made on these plants. Every 15 days, the height of the height of the height of modular plants was measured, the number of leaves, side branches and legumes formed was counted;

-before planting, the seeds of each variety were treated separately with a strain of nitragine-137, obtained from the Laboratory of the Institute of Microbiology. To do this, 4 1.5-meter films were taken, each variety of seeds was laid out, and 137 strains of nitragine were mixed in 150 mg of water, sprinkled with seed and mixed with a plastic shovel by seed. Seeds in this case were wrapped for 1-1.5 hours and selgiated. In this case, it was ensured that there was absolutely no sunlight on the seeds and nitragine strains as required (Rhizobium bacteria die instantly if sunlight falls on them). The selgitted seeds were also sown without sunlight. Planting work was carried out in all four terms in the evening. This made it possible for Rhizobium bacteria that fell into moist soil in the evening to settle well;

-7 days after the germination of soy varieties, the number of tubers in the roots was determined. The number of tubers was analyzed in the phases of development;

- leaf level A.A.Nichiporovich (1963.) method. To do this, the wet and dry weight of the 20 circular shapes obtained from the leaf from each Pike was determined, and the leaf surface was found based on the formula. Based on the number of tubers and the Leaf weight on the Bush, the leaf surface on the stalks was determined;

- the accumulation of Blue Stem crop in the paikals according to the paikal, where the calculation is carried out in the development phases, 5 plants are cut and dried in place and pulled out;

- the process of settlement and development in the roots of soybean varieties was studied according to the planting dates of the tubers;

- the intensity (intecivity) of transpiration was also studied by the method of weighing on torzion scales (Ivanov et al 1950);

- the chemical composition of the Blue Stem and grain of soy varieties was studied based on the amount of protein, protein, oil substances in them. Also, the activity of trypsin inhibitors was determined by the method of infrared spectroscopy, the composition of fatty acids, the process of entering the depth of the roots of soy varieties, depending on the sowing dates with the method of gas-liquid chromatography;

- the timing of planting soybeans as a repeated crop, the structure of yield was determined in nitraginous and nitragine-free legumes;

- the economic yield was calculated based on the indicators of sowing dates, varieties, yield on nitragine and nitragine-free satellites in experimental satellites;

-the correctness and reliability of the data obtained was analyzed in the style of Mathematical Statistics (B.A.Dospehov, 1979.).

- from the conclusions obtained during the experiment, a recommendation for production was prepared and tested on farms in the districts of Uzbekistan and Bukhara, the yield of wheat and cotton planted after the shade was studied economically;

2.4. Description of planted varieties

In the experiment, 4 varieties of soybeans were studied-ertapishar "flight", medium-sized "friendship" "elegant" and "Fortuna" varieties, and in repeated planting, "chara", "Slavia" and "Olympia" varieties.

The" flight " variety was created at the Uzbekistan Rice Research Institute. Authors: A.R.Rakhmonov, O.V.Burigina, B.K.Yunusov and N.To the variety" flight " ertapishar. The grains ripen in 110-120 days. The stems grow erect, the height of their height is 60-70 CM. reaches up to. The leaves are pointed, light green. When the grains are fully ripe, the biological leaves shed 75%. The flower is white, with up to 2-7 flowers in a flower cluster consisting of shingles. The pods are gray in color, small, each pod contains up to 1-3 grains, the length of the pod is 2.4 cm. from 4.0 CM. up to. The pods do not boil, up to 30-50 pods are formed on one Bush. The weight of 1000 seeds is 120-130 g, the grain yield is 32 ts/ha, the grain contains 36-38% protein and 24-25% oil. Recommended for repeated planting.

The "friendship" variety was created by scientists from the Uzbekistan Rice Research Institute. Authors: M.Saltas, O.V.Burigina, B.K.Yunusov et al."Friendship" is a medium-sized variety. The height of the neck is 140-150 CM.up to, the leaves are ternary, the color is dark green in color. The lower pods are 12-16 cm from the ground. at an elevation of. The branching is medium, the leaves are very numerous, the flower is a white shingle, the tip of the pods is sharp, the grain is yellow, the seed coat is well visible, in which sometimes black spots are also found. The weight of the seeds of 1000 pieces comes from 130-160 grams. At the time of ripening, the pods do not crack. The grain contains 23-24% oil, 38-40% protein. One good feature of this variety is that if the planting time is delayed, it will shorten the growing season.

The" elegant " variety was created by scientists from the former Rice dog. Medium-sized, high yields. The seeds require a useful temperature of 2600-2700 0S for ripening. Since 1999, it has been planted as a variety. This variety accounts for 70% of the shade areas in Krasnodar. The pods are light yellow in color, the grain is large, whitish Cream Color, 1000 grains 150-160 g. The growing season is 115-118 days. It stores 41% protein, 24% oil in its seeds, is relatively drought resistant. The average yield is 30-35 ts/ha, in Seryogin years up to 30 centners of

grain can be obtained from it. Gray rot and stem do not get sick with Rake diseases. Resistant to lying down, the lower pods are 13-15 cm above the ground. located above.

"Fortuna". Created in the Republic of Ukraine, it is intended for the steppe-steppe regions of the Mediterranean. The pods are gray, the grain is large, the Seeder is not visible, the height of the neck is 100-110 CM. up to. The growing season is 120-130 days, according to the description of the variety. We have ertapishar planted as a variety, the weight of 1000 seeds is 130-140 g. the seeds contain 38% protein and 23-24% oil. Yields 24-25 ts/ha as the main crop. Resistant to lying down. The morphological structure has changed in part since we planted it.

2.5. Agrotechnical activities carried out on the experimental site

The area allocated for the experiment was watered immediately after the autumn harvest of wheat, 25-28 CM with thawing. plowed in depth. After the plow, the plow was drawn, followed by the boron, and the mola was suppressed. After drawing with the recommendation of the farm, 75 kg of phosphorus and 60 kg. potash fertilizers were given. Once ready for planting, the experimental field was divided into 4 pieces. In these pieces, the varieties were considered nitraginous, nitragine-free and sowing deadlines. When the shade is planted in a wide row, the crop is set at 60 cm between the rows, 3.5-4 cm between the bushes, the planting norm is set at 70 kg per hectare.

In the experiment, soybeans were planted in four terms - June 15, June 25, July 5 and July 15. Sowing was carried out every time in the second half of the day. Depending on the sequins before planting, the norm of strain nitragine 137 was applied to the seeds.

Depending on the delay in sowing dates, some agrotechnical activities were carried out less often on the experimental site, working between the series, The number of irrigations was less than once in the last two terms.

Terms of general agrotechnical events

2.5.1-table

№ T/p	Event name	Time spent		
		2013 y	2017 y	2019 y
1	Reaping wheat	9.06	9.06	9.06
2	Watering	9.06	10.06	10.06
3	Plowing	12.06	12.06	13.06
4	Drawing and fertilizing	14.06	14.06	14.06
	1-planting	15.06	15.06	15.06
1	Processing between rows 1-in	10.07	10.07	10.07

	planting			
2	2-processing	25.07	25.07	25.07
3	1-irrigation	25.06	25.06	25.06
4	2-irrigation	7.07	7.07	7.07
5	3-irrigation	24.07	24.07	24.07
6	4-irrigation	10.08	10.08	10.08
7	5-irrigation	28.08	28.08	28.08
8	6-irrigation	20.09	20.09	20.09
9	Harvest	28.09	28.09	28.09
	2-planting	25.06	25.06	25.06
1	Inter-row processing	8.07	9.07	9.07
2	1-irrigation	27.07	29.07	29.07
3	2-irrigation	14.07	15.07	150.7
4	3-irrigation	29.07	30.07	30.07
5	4-irrigation	15.08	150.8	16.08
6	5-irrigation	5.09	5.09	6.09

2.5.1- continuation of the table

7	6-irrigation	23.09	23.09	24.09
8	Harvest oilsch	3.10	5.10	4.10
	3-planting	5.07	5.07	5.07
1	Inter-row processing	26.07	27.07	27.07
2	1-irrigation	15.08	15.08	14.08
3	2-irrigation	18.07	18.07	18.07
4	3-irrigation	12.08	12.08	12.08
5	4-irrigation	30.08	30.08	29.08
6	5-irrigation	24.09	25.09	24.09
7	6-irrigation	29.09	28.09	29.09
8	Harvest	10.10	9.10	10.10
	4-planting	15.07	15.07	15.07
1	Inter-row processing	25.07	26.07	29.07
2	1-irrigation	5.08	5.08	6.08
3	2-irrigation	20.08	20.08	21.08
4	1-irrigation	8.08	8.08	8.08
5	2-irrigation	25.08	25.08	26.08
6	3-irrigation	15.09	15.09	16.09
7	4-irrigation	29.09	29.09	30.09
8	Harvest	16.10	16.10	17.10

CHAPTER III. EXPERIMENTAL RESULTS

3.1. Influence of agrotechnical measures on the growth and development of soy varieties

The growth and development of soybean varieties is associated with the sowing period and the processing of seeds with nitragine strains, biological vegetation, varietal characteristics and soil-climatic conditions of the planting site.

A number of scientists have studied the planting and development of soy varieties, specific aspects of the quality of a repeated crop, in particular, V.F.Baranov (2003.), V.F. Kuzin (1976.), I.V.Boriskin (2000.), S.V.Nazarenko, V.S.Petibskaya, I.V.Shvedov (2000.), D. In Uzbekistan.Yo.Yormatova (1991.) X.N.Atabaeva, I.Ismailov (2003.) and others studied.

They believe that the planting time and shade varieties of Rhizobium bacteria affect the formation of phenological stages of maturation; a certain planting time for each variety is determined based on the duration of its growing season.

Our experiments show that medium-sized varieties created in Ukraine are associated with the fact that they grow and develop in our soil-climatic conditions and accumulate the beneficial temperatures necessary for the ripening of their crop. Because, it is necessary that each variety grows and receives a certain amount of useful temperatures until it gives a harvest.

The varieties" flight "and" friendship " are ertapishar varieties, for which a temperature of 2000-2300 0S is necessary during the growing season. This variety was created for repeated planting in our republic.

The variety "Fortuna" is intended for the steppe-steppe regions of Ukraine, medium-sized, however, when we have repeated plantings, the range of ertapishar varieties has matured. The midapishar "elegant" Variety, brought from Krasnodar, retained the genetic nature of mediapisharity in the ontogenesis of growth and development.

In the Bukhara region, experiments on the study of the timing of planting soybeans after autumn wheat were practically not carried out. In the experiment, the timing of planting and the use of the nitragine strain influenced the growing development of soy varieties. Planting is carried out on June 15, 2019 the growing season of the varieties in which nitragine is applied will be relatively long.

Foreign scientists o.Vgidmapp, I.Woof (1974.), W.I.Brugmann (1974.), O.Carter (1975.), R.I.Cooper (1977.) in the opinion that soybean yields directly depend on the planting time: the earlier the soybean is planted, the higher the yields have been experimentally proven.

As a result of the correct choice of the period of repeated planting, an increase in shade areas is achieved. In experiments, the phases of development of varieties

and the period between them and the time from germination to ripening of seeds were calculated.

Sowing dates, varieties were studied in variants with and without nitragine. In the experiment, the seeds of the soybean variety were sown on June 15 and 25, and on July 5 and 15. In all planting periods, all varieties germinated in 4-5 days.

It should be noted that the air temperature in the soil is higher than 20 0s, when there is enough moisture, the seeds germinate very quickly.

From germination to the formation of the first three leaves, another 5-6 days pass between them. This is also confirmed in our experience. Seeds sown on June 15 germinate on June 20, in which the first three leaves were formed on June 25. Seeds sown on June 25, on the other hand, germinated on June 29, and the first three leaves began to form on July 4.

The thundering phase began on July 15 in the" flight " variety, 7 days after the flowering phase, on July 22. The ripening phase began on September 12, which took 83 days in the nitraginlab planted variant from the germination of the variety to the ripening of its seeds (Appendix 2). In our experiments, the "Fortuna" variety, considered medium-sized in Ukraine, matured as an ertapishar variety, or 83 days passed before its seeds germinated.

The same planting period is that, when planted on June 15, the mid-ripening "friendship" and "elegant" varieties ripen on September 22-26. It took 97-93 days before the seeds ripened when they germinated. In the varieties planted on June 25, a hump was observed on July 23, the flowering phase was observed on July 30, the ripening phase began on September 16.

The ripening phase of the" Fortuna "Variety also went in the same period as the" flight". The ripening of" friendship "and" elegant " was observed on the 29th of the end of September. The ertapishar varieties, planted on June 25, ripen in 79 days, the middleapishar varieties in 89 days.

Ripening was recorded on 19 September in the varieties of ertapishar, planted on 5 July, on 2 October in the varieties of ertapishar; on the varieties of ertapishar, planted on 5 July, in 72 days, on the varieties of ertapishar, in 84 days. The most recent sowing period-varieties planted on July 15, "flight" and "Fortuna" ripened in 69.70 days, "friendship" and "elegant" in 76 days.

Depending on the delay in planting dates, the growing season of the varieties began to shrink.

In Ertapishar varieties, the growing season has decreased by 3.4.7 days in terms of planting periods or 14-15 days in a season, in midapishar varieties, the reduction of the growing season has become more extended by 20-22 days. 5-4 days have passed before they germinate when soy varieties are planted without nitragine in different planting periods. All varieties planted on June 15 germinated

on June 20 or 5 days, while those planted during the next planting periods germinated on June 25 and 29.

In the options planted on July 5 and 15, the grass was visible in 4 days. In our 2013 experiments, all planting dates and the growing season of the varieties were shorter in non-nitragine variants than in the nitragine variant.

In the nitragine-free variant, ertapishar varieties ripen in 79-80 days, medium-sized varieties in 87-90 days. It was observed that the ertapishar varieties planted on June 25 ripen in 79-80, and the middleapishar varieties in 91-92 days.

On the 5th of July, the "flight" variety, planted in July, germinated in 4 days, while on August 2, the phase of humming this variety was observed, 5-6 days later, the first first flower was formed on the first leaf axils.

The "Fortuna" variety planted during this period practically did not differ from the "flight" variety in all stages of development.

Both varieties ripen in 79-80 days, the period from germination to ripening of the soybean varieties planted on June 15 and 25 was the same.

The period of development in the medium-sized "friendship" and "elegant" varieties went the same. On the 5th of July, the period of development in all varieties of nitragine-free variants planted has decreased.

For example," flight "and" Fortuna " ripened in 71-70 days. The period of their growth accelerated more than in the previous sowing periods and decreased by 8-10 days in the "friendship" and "elegant" varieties in 9-10 days. Early varieties were made in 70-71 days, medium-sized varieties in 81-82 days. The ertapishar varieties planted on July 15 matured in 67-68 days, the midapishar varieties on the 73rd day.

Influence of planting deadlines on the phases of development of shade varieties (Control, without nitragine, 2019

3.1.1-table

T/p	Variants		Developmental phases					
	Varieties	Sowing period	Germination	First oak leaf formation	Hunching	Flowering	Maturation	Germination-ripening period (day)
1	"Flight"	15 june	20.06	24.06	14.07	21.07	10.09	82
2	"Fortuna		20.06	24.06	14.07	22.07	10.09	82
3	"Friendship"		20.06	25.06	15.07	23.07	20.09	93
4	"Elegant"		20.06	25.06	15.07	23.07	18.09	92
5	"Flight"	25 june	29.06	3.07	22.07	30.07	14.09	78
6	"Fortuna		29.06	3.07	20.07	26.07	14.09	78
7	"Friendship"		29.06	4.07	23.07	1.09	20.09	84
8	"Elegant"		29.06	4.07	23.07	31.08	18.09	82
9	"Flight"	5 july	9.07	13.07	2.08	9.08	22.09	74
10	"Fortuna		9.07	13.07	2.08	9.08	22.09	74
11	"Friendship"		10.07	13.07	3.08	12.08	2.10	84
12	"Elegant"		10.07	13.07	3.08	11.08	30.09	82
13	"Flight"	15 july	19.07	23.07	19.08	26.08	27.09	70
14	"Fortuna		19.07	23.07	19.08	26.08	26.09	70
15	"Friendship"		19.07	23.07	21.08	28.08	2.10	81
16	"Elegant"		19.07	23.07	21.08	28.08	7.10	80

Sowing dates and the effect of strain nitragine 137 on the phases of development of soy varieties, (2019)

3.1.2-table

T/p	Variants		Developmental phases					
	Varieties	Sowing period	Germination	Formation of the first three leaves	Hunching	Flowering	Maturation	Germination ripening period (day)
1	"Flight"	15 june	20.06	25.06	15.07	22.07	12.09	84
2	"Fortuna		20.06	25.06	14.07	21.07	10.09	82
3	"Friendship"		20.06	25.06	16.07	24.07	26.09	98
4	"Elegant"		20.06	25.06	15.07	21.07	28.09	95
5	"Flight"	25 june	29.06	3.07	22.07	1.08	18.09	84
6	"Fortuna		29.06	3.07	21.07	28.08	17.09	83
7	"Friendship"		29.06	4.07	25.07	3.08	28.09	94
8	"Elegant"		29.06	4.07	23.07	1.08	26.09	92
9	"Flight"	5 july	10.07	14.07	4.08	13.08	29.09	81
10	"Fortuna		10.07	14.07	3.08	12.08	28.09	80
11	"Friendship"		10.07	15.07	6.08	16.08	6.10	88
12	"Elegant"		10.07	15.07	6.08	15.08	3.10	85
13	"Flight"	15 july	20.07	24.07	21.08	27.08	25.09	77
14	"Fortuna		20.07	24.07	20.08	26.08	23.09	75
15	"Friendship"		20.07	25.07	22.08	30.08	6.10	88
16	"Elegant"		20.07	25.07	21.08	28.08	5.10	85

In conclusion, as the sowing period is delayed, the growing season has shrunk and accelerated to 12-13 days in the ertapishars and 17-18 days in the middle ones.

In the experiments of 2017, 4-5 days passed before the sowing was germinated during the sowing periods in all slices, which were carried out without nitragine. Soy varieties planted on June 15, 25 and July 5, when the germination was calculated, blossomed in 30-32 days, those planted on July 15, in 26-28 days.

As the planting time was delayed when nitragine was not used, the short-day plants began to shorten the growing season (phenosphector) due to their biological nature. The data obtained indicate that the growing period of early and medium-sized varieties was different or almost the same when planted on June 15-25-78-82 days and 90-92 days, while in varieties planted on July 5 and 15, this period amounted to 75-78 days in early-growing varieties and 81-84 days in medium-sized varieties.

When soybeans were processed with strain nitragine 137, the growing season was several days longer than in non-nitragine variants. The period from flowering to ripening in early and medium-sized varieties with nitragine variants, the ripening period in all varieties planted with nitragine is extended.

While the variety " flight "and" Fortuna", planted on June 15, ripened in 88 days, in non-nitragine variants this mudat amounted to 82 days, while the variety" friendship", planted with nitragine, ripened in 99 days, in the non-nitragine variant, ended the vegetational period in 92 days.

For the" elegant " variety, it took 97 days in the nitragine variant, and 88 days in the nitragine-free variant. While "flight" and "Fortuna", planted on June 25, ripened in 84 days, in non-nitragine variants, their vegetative period reached 78-79 days.

This period amounted to 92 days in the" friendship "variety"elegant", or in their nitragine-free variants developed faster than plants for 6 and 12 days.

As the growing season was delayed, the ripening of the varieties also accelerated. In nitragine variants, the ertapishar varieties ripen in 75 days, while the midtapishar varieties ripen in 83-85 days, in nitragine-free variants, the ertapishar varieties end their vegetation in 72-73 and the midtapishars in 81 days (phenophacts).

In experiments carried out in 2019, on June 15, ertapishar varieties planted without nitragin ripen in 82 days, midtapishar varieties in 92-93 days, on June 25, ertapishar varieties planted in 78, midtapishar varieties in 82-84 days.

According to reports, soy varieties in nitragine variants planted on June 15 have almost the same growth period as those of ertapishar varieties, while those of medium-sized varieties have become 3-5 days longer. The difference in the growing season was 6-7 days from the varieties planted on June 25, 10 days in the

middle ones, 6-7 and 2-3 days in those planted on June 5, and the same 5-7 days in all varieties planted on July 15 (3.1.2.- table).

From experiments carried out on soybean varieties planted for different periods and grown under conditions with and without nitragine, it turned out that the period of development of plants that assimilate free nitrogen from the air with strains of nitragine 137 extends for 5-10 days. This was caused by a short-day characteristic of all plants or a delay in the planting period.

The reduction of the growing season by 5-10 days made it possible to quickly harvest the crop in the field where the crop was planted, and instead plant another crop 5-10 days early. By the way, during this period, autumn wheat can be planted and harvested in favorable conditions.

Shadow. Soy grain contains a large amount of minerals such as potassium, calcium and phosphorus. The composition of such a substance makes it possible to apply the shade for food, fodder and technical purposes. In addition, soy is the only valuable plant from which artificial milk and dairy products are obtained. Soy flour is added to non-buns and sausages and increases the nutritional value, taste qualities and strength of these products.

Soy products are recommended for patients with diabetes mellitus, since soybeans practically do not contain carbohydrate substances.Soy grain itself is eaten by soaking it in various liquid foods and soups. In addition, a variety of crumbs, breads, cookies can be prepared.

Shade also has agrotechnical significance. As a legumes, soy enriches the soil with nitrogen, an average of 70-100 kg of nitrogen accumulates per 1 hectare in a year. After shade, the field is much cleared of weeds soybean can be a very good predecessor for most crops. In addition, soy siderate is also used as a crop.

Observations of the dynamics of flowering in experimental variants of shade varieties planted in the Jondor District of the Bukhara region 2019

3.1.3 - table

Varieties №	Number of pieces, flowers and legumes, days			
	Total flower	Number of legumes	The day the Rose blossomed	The day the bean is formed
1- result obtained				
"Flight"	6	4	2019 y 25 may	2019 y 28 may
"Fortuna	5	3		
"Elegant"	6	4		
"Friendship"	7	5		
2- result obtained				
"Flight"	10	8	2019 y 2 june	2019y 6 june
"Fortuna	12	9		
"Elegant"	11	8		
"Friendship"	12	9		
3- result obtained				
"Flight"	16	12	2019 y 13 june	2019 y 16 june
"Fortuna	15	11		
"Elegant"	14	10		
"Friendship"	16	11		
4- result obtained				
"Flight"	18	13	2019 y 20 june	2019y 23 june
"Fortuna	19	14		
"Elegant"	18	13		
"Friendship"	20	14		
5- result obtained				
"Flight"	23	17	2019 y 30 june	2019 y 3 july
"Fortuna	22	16		
"Elegant"	24	18		
"Friendship"	25	20		
6- result obtained				
"Flight"	29	23	2019 y 8 july	2019 y 12 july
"Fortuna	30	24		
"Elegant"	32	22		
"Friendship"	31	21		
7- result obtained				
"Flight"	46	43	2019 y 15 july	2019 y 20 july
"Fortuna	48	44		
"Elegant"	47	42		
"Friendship"	46	42		

It is known that the yield of each plant is influenced by factors such as the external environment, feeding area, planting norm. With the variety of planting methods, it is not necessary to reduce the number of bushes that will definitely be in hectares.

In any way, it is necessary to have an average of 350-400 thousand bushes of sprouts per hectare.

Based on our experiments, we came to the conclusion that the shadow is absolutely not affected by the steep fall of sunlight. Providing moisture in the soil, they give a high yield, regardless of how high the air temperature is. All the varieties that we have learned in our experience have grown well both in the main planting and in repeated planting. In repeated planting, we studied the varieties "chara", "Slavia" of Krasnodar selection, the yield of which was good in our conditions when we look at Planting for the first time.

The shade not only withstood the sharp solar temperatures of the Bukhara region, but also developed very well, which indicates that it is a light-demanding plant. An average yield of 35-40 centners per hectare can be obtained if the shade varieties are selected correctly. The reason why the shade is resistant to drought compared to other plants is that its roots are very energetic and can keep the stems well kept. In general, if it is envisaged to get a higher harvest than the shade, the soil moisture at the time of the shade flowering should be 80% field wet capacity, while at the time of filling 70% of the pods. Excessive field wet capacity is considered harmful in the early and late phases of shadow development. The agrophysical properties of the soil are also of great importance when the shade is more or less in demand for water during the growing season. If there is a lack of moisture in the soil, it leads to degradation and reduction of factors such as photosynthesis, growth, transpiration levels and productivity.

The fact that the shade is 70 or 90 centimeters between the planted rows indicates that the technical means are suitable for this. In fact, when the row is between 60-70 CM, the yield is higher at the expense of the number of bushes. At 90 cm between the rows, the number of bushes decreases, which in turn affects productivity. The number of seeds per pogon meter should be at least 25-30, when the number of seeds is less than this, the yield decreases. In shading, the number of tubers is considered one of the main indicators that determine productivity. Soybean seeds are mixed with soil nitrate and then wrapped for 1-1.5 hours without sunbathing soybean stored in a cool place and then planted. Planting work is very advisable if it is done in the morning before sunrise or in the evening an hour before sunset. When planting is carried out on a day, it is necessary not to let sunlight into the soil nitrate after mixing, otherwise the Rhizobium bacteria will perish from sunlight. When sowing seeds, all agrotechnical requirements were met.

"Olympia" is a soy Variety that is grown both for cereals and for Blue Mass. The weight of 1000 seeds brought from the Russian Federation comes from 111-120 grams. The height of the location of the first leg is 15 centimeters. The height of the neck is 100 centimeters. The flowers are white, the pods are densely covered with thin, light malla-colored hairs. The seed is oblong light yellow, the kertic is yellowish black. The growing season is 110-120 days. Seeds are located in 2-4 pieces in the pod. On irrigated land, the yield reaches 32-35 centners fertile crop.

"Slavia" -this shade variety is grown both for cereals and for Blue Mass-revives. The weight of 1000 seeds brought from Russia comes from 115-128 grams. The height of the location of the first Duchy is 18 centimeters. Seeds are located in 2-4 pieces in the pod. The height of the neck is 110 centimeters. The flowers are reddish, the pods are covered with thin, light malla-colored hairs with slightly curled margins. The seed is oblong light yellow, the kertic is yellowish black. The growing season is 115-125 days. On irrigated land, the yield reaches 30-33 centners, fertile.

Rust bacteriosis. This disease of soy is common in the southern regions, which is caused by special bacteria. Before flowering, there will be a whitish spot on the top of the Leaf. At the onset of the disease, the spots are small and separate. They are then joined together to cover the entire leaf surface. It is not visible to the Spotted eye on the underside of the leaf, then turns yellow, strongly damaged leaves are shed.

In the fight against pests and insects, it is of great importance to properly and timely carry out planting, crop rotation in the specified periods of weed and plant residues, loss, deep plowing of soy land. When combating them, planting by mixing nitragine in the soil will work well and the yield will be high.

So, in conclusion, soy is a biologically pure crop that can improve the structure of the soil, renew the course of biological processes. Analysis showed that while humus was 0.85-0.92% in the soil until soybean was planted, the amount of humus in autumn when soybean was planted reached 1.19-1.33%. With organic residues of the shade, 45-55 kg/ha of nitrogen, 8-12 kg/ha of phosphorus and 28-42 kg/ha of potassium substances return to the soil. Soybeans, characteristic of legumes, absorb pure nitrogen from the air through their roots and enrich the soil with pure biological nitrogen. The plant leaves a certain amount of nitrogen in the growing season, both for itself and for the next plant.

3.2. Sowing dates and the effect of the soil nitragini strain on the formation of vegetative and generative organs in varieties Agriculture is developing rapidly in the third millennium, crops are being selected and planted. Growing

environmentally friendly plants in particular is becoming a necessity, writes T.P.Shmoylova (2019).

G.S.Posipanov (1991), A.P.Gusalenkos (1995y) argue that soy is not an environmentally friendly crop, but is important in the exchange planting of most agricultural crops by absorbing pure nitrogen from the air, having a good past, and keeping the environment, especially the soil grown on its own, clean.

For the good growth and formation of vegetative and generative organs of soy varieties, it must first be provided with sufficient amounts of nutrients in the soil. The most important of such substances is nitrogen. It occupies a fundamental place in the growth of the vegetative organs of the plant and the formation of its generative organs. The soybean plant has a high degree of symbiotic potential, " writes A.V.Kalmikov, B.M.Knyazev. In order for it to absorb nitrogen from the air, of course, there must be special symbiotic bacteria in the soil, if not, they must be formed in the soil.

In the experiment we conducted, it was studied that four soy varieties develop in variants with different planting periods without nitragine and with nitragine. In this case, 20 of the modular plants in the calculation arcades were isolated and marked with labels and studied every 15 days by measuring and counting the growth, development of their vegetative and generative organs.

The Ertapishar" flight " variety, depending on its peculiarities, was inferior to that of other varieties; on average, according to three-year data, the growth of 27 cm on July 20, and 41.6 or 14.6 cm after another 15 days increased to 55 on August 20 sm.ni organized. Growth in this variety continued until the first ten days (decadal)of September, when at the end of the growing season the height of the plants was 67 sm.ga made the "Fortuna" Variety 2 on July 20, as opposed to the" flight " Variety 2 sm.ga tall or 69 cm, when measured after another 15 days, it was found that 38.3 cm or 9.3 cm had grown. On 20 August, the "Fortuna" cultivar was 65.5 sm.ga did. For the growth of this variety, this period turned out to be very favorable: 27.2 in 15 days sm.ga it grew, when it stopped growing on September 5, the height of the stems was 74.6 CM. The "friendship" variety, planted on June 15, was found to be the tallest among the varieties under study and to have a large number of leaves.

It was noted that the number of lateral branches did not differ significantly in the nitragined and nitragine-free variants studied. In this regard, it is worth noting that the formation of side Kings in a soy plant is often associated with the norm of planting or the number of bushes. The more sparse the plant is planted, the more its side branches will be.

The number of legumes in nitragine variants also increased by 4-5 pieces. This naturally affected productivity.

When the studied soy varieties were planted on June 25, their vegetative and generative organs were formed in accordance with the varietal nature. During this time, the seeds are planted nitraginized, the height of the plants is 3-10 from plants of the nitragin-free variant sm.ga high. The height of the Ertapishar" flight " variety is 30.3 CM in pieces planted on June 20, 45.3 CM in options planted on August 5, or 4 more than in the option without nitragine sm.ga, 67.3 when planted on August 20, or 12.3 cm above the height of plants in the nitragine-free variant. high altitude was observed. Growth in nitragine-free and nitragine variants in the" Fortuna " variety all observation periods 2.5-4 sm.ga an elevation of was observed. Plants of the variety Chunonchi, medium-sized "friendship" 3-5 sm.ga the height was recorded.

In experiments, it turned out that the" elegant " variety is impressive to the nitragine 137 strain. While the difference between the height of the neck of the varieties" flight"," Fortuna "and" friendship " was 4-6 CM, in variants with nitragins this figure is 4-10 CM.gacha was found to be high.

The experiment also studied the number of leaves produced in the plant. On July 20, all varieties in nitragine-free and nitragine variants received almost the same indicator in terms of the number of leaves. In a three-year-long experiment, in the nitragine and nitragine-free variants, on 20 July, the "flight" variety produced 5 leaves, the "Fortuna" variety 4 leaves, the "friendship" variety 5 leaves in the nitragine-Free State and 6 in the nitragine variant, and the "elegant" 4-6 leaves in both variants.

On dates on August 5, it was observed that the number of leaves in nitragine variants increased by 4-2 pieces. Biometric observations conducted on August 20 revealed that the leaves were 2-3 units more in nitragine variants. The Leaf number was found to be the same at the beginning of the growing season and later increased. According to data from September 5, the last measurement period in soybean varieties planted as a repeated crop, it became clear that the "flight" variety produced 14.3 leaves when nitraginated, 9.6 in the nitragin-free variant, 16.0 in the "friendship" variety nitragin-free variant, 14 in the "elegant" Variety also in the nitragin-Free State, 12.3 in the nitragin-Free State. Plants height 35.6 on 20 July, 54.0 on 5 August or (19 cm, growth) 78 on 20 August and 89 on 5 September sm.ga did. The most favorable period for the growth of the" friendship " variety is the period from July 20 to August 20. It was noted that during the period when observation was carried out on the" elegant " variety, growth and development were the same.

The cultivar is 28.3 cm tall on 20 July and 50.6 on 5 August sm.ga, 63.6 CM on 20 August, 75.6 on 5 September sm.ni organized. Plants in nitragine-free variants 6-12 from plants in nitragine variants sm.ga became low-rise. In the" flight

" Variety, this figure is 10.7 cm on August 20. if it happened, then on September 5, the difference in this regard between plants with nitragine and non-nitragine variants is 3 cm, in the" friendship "variety 5 sm.ni, 9.7 in the" elegant " variety sm.ni organized. On July 20, the number of leaves in plants of all variants became almost equal. From August 5, a difference began to be felt in the number of leaves. From the observations of September 5, it turned out that the number of leaves in nitraginous and-riants differed by 2-5 pieces. In the" flight " variety, 9.6 leaves were formed in the non-nitragine variant, 14.3 in the nitragine variant, 9.0 in the "Fortuna" Variety without nitragine, 11 in the nitragine variant, 14 and 16 respectively in the "friendship" variety. When the formation of lateral branches in all varieties was studied, it became known that very little difference in this regard is felt in variants with and without nitragine. At the beginning of the testing period, the side branches were almost identical. From the observations of September 15, it turned out that they increased by 0.3-0.9 units.

The effect of sowing dates on the formation of vegetative and generative organs in soy varieties

3.2.1-table

Varieties	Sowing deadlines	Height, см.				Number, pieces											
						Leaves				side Kings				Dukes			
		20.07	5.08	20.08	5.09	20.07	5.08	20.08	5.09	20.07	5.08	20.08	5.09	5.08	15.08	25.0	5.09
Nitragine-free																	
"Flight"	15.06.	27.0	41.6	55,0	67,0	5,0	7,3	9,6	9,6	1,0	2,0	3,0	3,0	18,0	32,0	44,3	46,6
"Fortuna	15.06.	29.0	38.3	65,6	74,6	4,0	5,6	8,3	9,0	0,33	1,3	2,3	2,3	14,6	24,3	33,0	38,3
"Friendship"	15.06.	35.6	54,0	78,0	89,0	5,6	8,6	11,6	14,0	1,6	2,6	3,3	4,0	24,6	35,0	54,0	58,6
"Elegant"	15.06.	28.3	50,6	63,6	75,6	4,6	7,0	10,3	12,3	1,0	2,0	3,3	3,3	16,6	31,3	45,6	48,6
Nitragine-free																	
"Flight"	15.06.	30,3	45,3	67,3	70,0	5,0	8,3	12,0	14,3	1,3	2,0	3,0	3,0	19,6	35,0	46,6	50,6
"Fortuna	15.06.	32,6	47,0	67,6	76,0	4,0	6,3	9,3	11,0	0,6	2,0	2,0	2,3	17,3	27,0	34,0	39,6
"Friendship"	15.06.	39,3	58,3	82,6	93,6	6,0	9,0	13,3	16,0	2,3	3,0	3,6	4,0	25	39,0	57,6	62,6
"Elegant"	15.06.	31,6	54,0	66,3	85,3	4,6	8,3	11,0	14,0	1,6	2,0	3,0	3,0	19,6	36,3	48,0	52,3

The number of legumes, which is a generative organ, is one of the indicators that determine productivity in the plant. When the plant is well fed, of course, legumes also form a lot on the stem. The difference in the number of legumes formed in plants in the nitragine and nitragine-free variants of our experiment was noticeable. On August 20, 15 pieces were formed in each bush plant of the" flight " variety in a nitragine-free variant, and 20 pieces in a nitragine variant. This figure is 12 and 17 in the" Fortuna "variety, respectively, and 16.3 and 25.6 in the" friendship " variety. From the last observations it turned out that up to 5-8 pods were formed a lot on each bush plant. When soybean varieties were planted on 5 July, the difference in nitragine-free and nitragine variants remained at the end of the growing season. During this planting period, it was noted that the height of the height of all varieties is lower than that of plants in the variants planted on July 15 and 25. It was noted that this law was maintained both in terms of the number of leaves formed and in terms of side branches.

The most recent planting period it turned out that all shade varieties of gabitus in the options planted in July have become smaller. A similar situation was observed in the number of leaves, side branches and legumes. From our experiments, it turned out that with a delay in the sowing period, there was a significant difference in the vegetative and generative organs of all soy varieties in nitragine-free and nitragine variants.

After the seeds are processed with nitragine strains, of course, the Rhizobium bacteria in the soy roots absorb free nitrogen in the air and form tubers in the roots. Plants with the formation of tubers at the root are well supplied with nitrogen, grow and develop in more favorable conditions than plants in nitragine-free variants.

Sowing dates for the formation of vegetative and generative organs in soy varieties and the effect of nitragine (on average 3 years)

3.2.3-table

Varieties	Sowing deadlines	Height, см.				Number, pieces											
		15.08	30.08	15.09	30.09	Leaves				side Kings				Dukes			
						15.08	30.08	15.09	30.09	15.08	30.08	15.09	30.09	15.08	30.08	15.09	30.09
Nitragine-free																	
"Flight"	5,07	22,6	28,3	53,3	60,3	5,3	5,3	7,6	9,6	1,0	2,0	2,0	3,0	14,6	28,0	37,0	41,6
"Fortuna	5,07	30,6	39,3	66,6	70,0	3,6	5,0	7,0	8,3	0,0	1,0	2,0	2,0	13,0	21,6	32,0	32,3
"Friendship "	5,07	39,3	49,3	72,3	79,6	6,0	8,0	11,6	12,6	1,6	3,0	3,3	4,0	22,0	36,6	49,0	56,6
"Elegant"	5,07	26,3	45,6	63,3	69,0	4,3	5,6	9,3	10,0	1,3	1,6	3,3	2,6	14,6	29,0	41,0	46,0
Nitraginli																	
"Flight"	5,07	26,6	39,0	54,0	64,3	4,6	7,3	10,3	12,0	1,6	2,0	2,6	3,0	17,6	32,0	41,3	46,6
"Fortuna	5,07	29,6	40,3	61,6	69,3	4,3	7,0	9,3	11,0	0,0	0,6	1,6	2,0	15,6	25,0	35,3	40,3
"Friendship "	5,07	34,3	53,0	77,6	91,0	6,6	9,6	11,6	13,6	1,6	2,3	3,3	3,6	21,0	39,0	50,6	62,3
"Elegant"	5,07	27,6	48,6	61,6	77,0	4,6	7,6	10,3	12,3	1,3	2,0	2,3	2,6	16,6	31,0	44,3	50,3

Sowing periods in the formation of vegetative and generative organs in soy varieties and the effect of nitragine (on average 3 years)

3.2.4- table

Varieties	Sowing dates	Height, cm				Number, pieces										
						leaves				side Kings				Dukes		
		20.08	5.09	20.09	5.10	20.08	5.09	20.09	5.10	20.08	5.09	20.09	5.10	20.08	5.09	20.09
Nitragine-free																
"Flight"	15.07	19,3	28,3	46,6	55,3	4,6	5,6	8,3	8,3	1,0	2,0	2,3	2,6	12,3	25,6	35,6
"Fortuna	15.07	24,6	35,3	56,3	62,6	4,0	5,6	6,6	9,3	0,0	1,0	2,0	2,0	10,0	18,6	30,3
"Friendship"	15.07	31,6	46,3	69,3	80,0	5,3	8,0	11,3	13,0	1,6	3,0	3,3	3,3	17,3	32,0	46,0
"Elegant"	15.07	25,6	33,3	59,3	63,6	4,3	7,3	11,0	11,0	1,3	2,3	2,3	2,3	13,0	24,6	40,0
Nitraginli																
"Flight"	15.07	22,6	31,3	50,0	60,0	4,6	7,0	9,3	10,6	1,3	1,6	2,6	2,6	16,0	29,3	42,6
"Fortuna	15.07	27,6	37,3	57,0	66,0	3,6	6,3	9,3	10,0	0,0	1,0	1,6	2,3	15,3	24,3	38,0
"Friendship"	15.07	33,0	50,3	72,0	85,0	56	9,6	10,6	12,3	2,0	2,6	3,6	3,0	21,0	31,6	51,6
"Elegant"	15.07	25,0	44,3	58,6	73,6	4,3	7,6	10,6	9,6	1,0	1,6	2,0	2,3	15,6	28,6	45,6

3.3. The effect of soil nitragine on the yield of soy varieties

In the following years, the growth of food production and feed production for livestock makes the cultivation of soybeans more widespread.

Soy contains a completely valuable rare protein, which, in terms of nutritional value, is not inferior to animal protein.

It contains unique biologically active substances, lecithin, choline, vitamins A, V and E, macro-microorganisms and other valuable substances. Soy does not contain lactose and cholesterol.

It is worth noting that in terms of calorie content and composition of basic nutrients and biologically active substances, this product is an alternative balanced.

When soybeans are processed with nitragine, the yield increases by 15-30%. Nitragination work should usually be done at sunset in the evening or outdoors until sunrise in the morning.

One of the important agrotechnical measures in obtaining a crop above the shade is to determine the optimal planting dates. In order for soybeans to germinate during the period chosen as the Optimal period, heat, moisture and air regimes should be favorable in the soil.

The sowing period is studied taking into account the biological characteristics of the plant, varietal signs and the natural and climatic conditions of this place.

Bacterial fertilizers in combination with mineral fertilizers are now widely used to increase the productivity of agricultural crops.

With plants belonging to the legume family, legume bacteria biologically absorb pure nitrogen from the air.

Perennial legume grasses some 130-150 kg of annual legume in one year collect 70-80 kg of pure nitrogen on one hectare of land. The soybean varieties we have experimented with Leave 45-50 kg of soybean nitrogen in the soil from itself. Every crop planted after the shade gives a good harvest, for example, in 2016, on the fields planted after the shade, Cotton gave an additional harvest of 6-7 centners on the farm "iron Phosyl Pheosis" in the Jondor district.

2019 the impact of shade on growth dynamics when planted with the addition of cotton on the farm "iron Fozil Fayoz" in Jondor District of Bukhara region of the year

3.3.1-table

Soy varieties	Number of leaves (PCs.	Flowers (PCs.	Beans (pieces	Number of tubers in the root (PCs.	Height of the stem, (sm).
2019 y 30 May					
"Flight"	7	4	6	6	60
"Friendship"	6	5	7	6	65
"Fortuna	5	4	6	6	68
"Elegant"	7	5	7	7	67
2019 y 26 june					
"Flight"	8	11	10	14	89
"Friendship"	9	10	11	15	91
"Fortuna	8	11	12	13	92
"Elegant"	8	12	12	14	89
2019 y 5 july					
"Flight"	12	15	18	19	111
"Friendship"	11	16	20	18	112
"Fortuna	10	15	19	21	113
"Elegant"	12	14	21	20	115
2019y 18 july					
"Flight"	14	23	38	29	167
"Friendship"	15	25	39	30	170
"Fortuna	14	24	42	28	169
"Elegant"	15	24	44	27	167

In order to activate the movement of legume bacteria in the soil or to form them, it is necessary to process seeds with legume bacteria. When seeds are processed with legume bacteria, firstly, the yield of the plant increases, and secondly, their ability to absorb nitrogen in its pure state from the air increases several times. These fertilizers, which are made up of legume bacteria, are called nitragine. Currently, three types of nitragine are used to plant soybeans:

1. Soil nitrate.
2. Dry nitragine.

3. Peat nitragine.

4. Since we do not have dry nitragine, peat nitragine in our experiments, the rice dog weighs 2 kg from the fields planted with soybeans. we took the soil and treated it with these soils before planting in soybeans. With this, we introduced Rhizobium bacteria into the soils of the Bukhara region, now in the nitragination of soybeans, we process seeds by taking soil in the fields where soybeans were planted the previous year, and introduce Rhizobium bacteria into the areas where new soybeans are planted.

When planted with the addition of nitragine to soybeans, the growth of all varieties is in the norm, the yield is good, during the flowering period the flowers are pollinated by 80-85%, soybean tubers have fully developed especially since pests do not fall on their leaves at all. All varieties were given the same moisture, mineral fertilizer at the same time. In this experiment, crops planted after shade are planted on clean soft areas, so not much agrotechnical processing is carried out, does not require a lot of mineral fertilizer, and the main thing is that at the request of the current period, spending from the economic side is used less. From experience, it can be said that all varieties of shade give a high yield on saline soils in the Jondor District of the Bukhara region.

3.4. Sowing dates for changes in the number and level of leaves and effects of soil nitragine

During the growth period, the plant undergoes a process of substance exchange in its cells, as a result of which vegetative organs change their weight, level, shape and accumulate nutrients for the formation of generative organs. Physiological processes that go in the plant are associated with sunlight or light. When sunlight gets on the vegetative organs, the stems, leaves of the plant are vigorous, large and creamy. These indicators, in turn, determine productivity. As long as the growing plant takes full advantage of the light, its leaves are kept long at the base, they shed naturally only after they begin to ripen or biologize.

The number of leaves in a soy plant will depend, first of all, on the agrotechnical measures and soil-climatic conditions applied after the characteristics of this plant variety. The number of leaves is much less in each bush plant of ertapishar varieties, 8-10 pieces, in medium-sized varieties-10-14 pieces, in Quechua-up to 15-20 pieces.

V.B.Enken (1852y), A.A.Babich (1983y), I.According to Israilov (2017y), mineral and bacterial fertilizers placed in the ground in which soybeans are planted have led to an increase in the number of leaves in crop varieties to 0.5-3.2 pieces, depending on planting times and feeding area.

In all 4 varieties studied, the number of leaves was changing under the influence of planting deadlines and the strain "nitragin-137". In early plantings and variants with the use of the strain "nitragin-137", the number of leaves increased to 1.5-2.5 pieces. The indicator in this regard changes in the phases of development. The number of leaves formed in our experiments was studied in all variants at the beginning of the flowering period, the end of the flowering period and the phase of the ripening of the pods.

The" flight " variety formed 9.6 leaves on one bush plant at the beginning of the flowering phase, when planted with strain 137 on June 15, 7.3 pieces when planted on June 25, 6.5 pieces when planted on July 5, 6.1 leaves on July 15 or at the latest planting period. Without the same variety of nitragine strain, each bush plant produced 6.2 leaves when planted on June 15, 5.9 when planted on June 25, 4.6 when planted on July 5, and 4.1 on July 15.

The number of leaves produced in the" Fortuna "Variety also became similar in variants to that of the" flight " variety, with 7.2 leaves formed on one bush plant planted on June 15 at the beginning of the flowering phase, 6.8 on June 25, 6.2 on July 5, and 5.8 on July 15. In variants grown without a strain of nitragine, the number of leaves was 5.5 pieces in the term planted on June 15, 5.3 pieces when planted on June 25, 4.2 when planted on July 5, and 3.8 when planted on July 15. At the beginning of the flowering phase, the" friendship " variety produced 8.9 leaves in the variants planted on June 15, when planted on June 25, the number of leaves reached 8.6 pieces, when planted on July 5, 7.3 and in the variants planted on July 15, 6.2 pieces. The number of leaves on each Bush of this variety was as follows in the variants planted without nitragine: 6.7 pieces in the variant planted on June 15, 6.4 pieces in the Leaf number on June 25, 5.3 pieces when planted on July 5, and 4.6 pieces when planted on July 15.

The indicators of the" elegant "variety in this regard have become very close to those of the" flight " variety. The number of leaves was the highest in the fullness phase of the bean grain according to the laws of development of the plant during all planting periods. In each Bush of the" flight " Variety, the pods form 10.5 pieces in the variant planted on June 15 with nitragine in the ripening phase, 10.3 pieces when planted on June 25, 9.3 leaves when planted on July 5 and 9.0 leaves when planted on July 15. In variants where the strain" Nitragin-137 " was not applied, the number of leaves per bush plant was 8.4 on June 15, 8.2 on June 25, 7.5 on June 5, and 7.1 on July 15.

In the" friendship " Variety, the number of leaves has become higher than in other varieties, both in the nitragynous state and in the non-nitragynous state. Each bush plant in the legume ripening phase produced 13.5 pieces in the variant planted on July 15, 13.2 pieces when planted on June 25, 12.2 pieces when planted on July

5 and 11.6 pieces when planted on July 15, 11.7 pieces when planted on June 15, 11.4 pieces when planted on June 25, 10.6 on July 5 and 10.1 pieces when planted on July 15. The indicator of the results of the experiment shows that the timing of planting and the use of the strain "nitragin-137" affect the increase in the number of leaves.

In variants where nitragine was used, the number of leaves in each bush plant was greater than 1.5-2.5 pieces, while in variants with delayed planting periods, they began to decrease again, there was no significant difference in the number of leaves between the variants planted on 15 and 25 June. Variants planted on 5 July and 15 July saw a low number of leaves. In the variants planted in July, the gabitus of plants has become smaller than in June. In variants planted without nitragine, it was observed that the Leaf matured early, in variants developed with nitragine, the Leaf was dark green in color, and the ripening period was found to be several days late. This can be explained by the fact that nitrogen substances cause the plant to stretch the development of vegetative organs.

When the plant has a large number of leaves, the leaf level will also be large. The number of leaves is high, the size of the leaf level leads to a high level of photosynthetic activity in the plant or the accumulation of organic matter in moderation. The course of the photosynthetic process is influenced by biological factors and agrotechnical measures. Late planted varieties require more light, for the formation of vegetative and generative organs, the plant must also absorb a certain amount of temperature sums. In our experiment, the leaf level was studied at the beginning and end of the flowering phase, during the period of budding. In the non-nitragine variant when planted on June 15, the leaf level of one bush plant in the" flight "variety was 287 cm2, in the" Fortuna "variety it was 246, in the" friendship "it was 320, and in the" elegant " variety it was 233 cm2. The leaf level of the plant per hectare was found to be 12.7 thousand m2 in the "flight" variety, 12.3 thousand m2 in the "Fortuna" variety, 13.2 in the "friendship" variety and 12.6 thousand m2 in the "Nafis" variety. The options planted on June 25 practically did not differ between the options planted on June 15 in the leaf level on one bush plant and calculated on 1 hectare. However, in the variants planted on July 5, the leaf level began to decrease both on one bush plant and when it was calculated per hectare. The most recent planting period in the variant planted on July 15, the difference in leaf level has become noticeable. In the variant planted on July 15, the leaf level of the "flight" Variety reached 242 cm at the expense of one bush plant, and 12.0 thousand m at the expense of an hectare. At the end of the flowering phase in all varieties, it was observed that the leaf level increased. This increased to 30.2% in the "flight" variety, 28.3 in "Fortuna", 32.3 in "friendship" and 25% in the "elegant" variety. In the" friendship " Variety, the leaf level turned

out to be 32% more than in other varieties. In the "elegant" variety increased by 25%, only. In this variety, the level of leaves has become smaller than in other leaf levels. In all variants with the application of nitragine, the same observation was carried out both on the change in the leaf level of a bush plant and on the change in the leaf level of plants per hectare. In this case, in the June 15 variants, the plants of the "flight" variety in the phase of the ripening of the pods were 1383 cm2 in the case when the leaf level of each Bush was 1383 cm2, while in the variant with nitragine application, it was found that 42 cm2 is more or 1425 cm2. This figure was 1125 cm2 in the" Fortuna "variety in the nitragine-Free State, 75 cm2 more or 1200 in the nitragine-Free State, 1515 cm2 in the" friendship "variety in the nitragine-free variant, 78 cm2 more in the nitragine-free variety, or 1593 cm2 in the" elegant " variety in the nitragine-Free State, 1268 cm2 more or 1387 cm2 in the nitraginy variety. So, the" elegant " Variety has grown well compared to other varieties under the influence of the nitragin-137 strain. The leaf level of plants of the varieties planted on the 5th and 15th of July became 168 cm2 in the "flight" variety, 111 in the "Fortuna" variety, 189 in the "friendship" variety and 106 cm2 in the "elegant" variety, compared to the leaf level of plants of the variant planted on June 15-25.

In variants with nitragine, depending on the sowing period in the legume, the leaf level exceeded 57 cm2 in the "flight" variety planted in the early term, 25 cm2 in the "Fortuna"variety, 115 cm2 in the "friendship" variety and 186 cm2 in the "elegant". This law was repeated in 2017 and 2019. As a result of experiments over three years (table 3.4.1) confirm the accuracy of the data. On an area of one hectare, the leaf level was 55.8 thousand m2 of the "flight" variety in the non-nitragine variant planted on June 15, while when the nitragine strain was applied, it was found that 2.3 thousand m2 more or 58.1 thousand m2. In the" Fortuna " Variety, this indicator reached 47.6 thousand m2/ha in the nitragine-free variant, 2.5 thousand m2/ha in the nitraginli, 65.4 thousand m2/ha in the "friendship" variety, 67.1 thousand m2/ha or 1.7 thousand m2/ha in the nitragin-free variant in "elegant", 50.5 thousand M2/ha in the nitragin-free variant, 53.9 thousand m2/ha or 3.4 thousand m2/ha. As a result of early planting of soy varieties and with the strain nitragin-137, it was determined that the leaf level in all varieties will be large. Because if, when planted early, the plant uses a lot of sunlight, it will be able to provide a lot and full supply of nitrogen fertilizers when cultivated with a nitragine strain. This leads to its good development.

Early planting and the use of strain nitragin-137 also have a positive effect on the correct formation of the assimilation surface of the Leaf.

E.P.Gorelov, M.Babayarov (1996.), G.T.Balakai, O.G.Revenkov (2013.) and others note that each shade variety requires specific agrotechnical measures. When

accurately determining the duration of planting and the composition of the fertilizer to be given, the biological nature and agrotechnical requirement of each of them are taken into account. In our experiments, it was shown that the yield of soybeans depends on the variety, sowing time and pre-sowing processing of its seeds with the strain nitragin-137. It was in this aspect that an additional crop was obtained from the shade planted, keeping in mind. In the study of grain yields in soy varieties, the structure of yield and the positioning yarns of legumes were analyzed. Our experiments have shown that productivity in a plant depends on a number of biological and agrotechnical factors.

Planting deadlines and the effect of the nitragine-137 strain on the leaf surface of soy varieties, (3 y)

3.4.1-table

Varieties	Sowing period	Nitragine-free						Nitraginli					
		Flowering head		End of flowering		Dukkak Fullish		Flowering head		End of flowering		Dukkak Fullish	
		1 cm^2 on the plant	1 га майдон минг $м^2$/га	1 ўсимликда $см^2$	1 га майдон минг $м^2$/га	1 ўсимликда $см^2$	1 га майдон минг $м^2$/га	1 ўсимликда $см^2$	1 га майдон минг $м^2$/га	1 ўсимликда $см^2$	1 га майдон минг $м^2$/га	1 ўсимликда $см^2$	1 га майдон минг $м^2$/га
"Flight"	15 june	279,0	11.8	975.6	30.9	1394	55.8	303.6	13.1	10.11	32.9	1433	58.1
"Fortuna		246,3	11.2	827.0	29.4	1141	47.6	260.6	12.5	978	29.9	1182	49.7
"Friendship"		315,3	13.0	1003	30.1	1542	65.4	340.3	14.4	1061	37.9	16.03	67.1
"Elegant"		240,0	11.5	900.3	291	1322	50.5	259.0	12.9	979	33.2	139.2	53.9
"Flight"	25 june	276,6	11.4	960.6	32.6	1134	531	285.6	11.5	974	33.1	1414	57.0
"Fortuna		266.3	10.6	819.6	27.7	1343	52.6	257.0	11.9	9313	29.8	1185	54.9
"Friendship"		308,6	12.3	1010.6	36.0	1479	62.8	356.0	13.5	1044	37.2	1530	64.6
"Elegant"		241,3	11.4	902.3	29.9	1210	52.0	260.0	12.1	965	31.4	1277	52.4
"Flight"	5 july	258,6	10.6	908.6	30.2	1297	504	259.0	11.2	940	30.2	1387	54.0
"Fortuna		243,6	10.7	791.3	27.0	1088	467	227.3	11.5	931	27.9	1172	47.7
"Friendship"		294,6	11.7	970.6	33.8	1381	61.0	334.6	13.2	1015	34.9	150.2	63.9
"Elegant"		231,0	10.6	871.0	28.7	1164	48.2	246.0	12.5	921	29.3	125.2	49.9
"Flight"	25 july	243,3	10.5	900.3	28.0	1171	48.7	245.0	11.4	940	28.6	1342	52.4
"Fortuna		206,0	10.0	754.0	22.2	1017	41.0	215.0	10.2	884	25.0	1095	47.1
"Friendship"		276,0	11.5	935.3	30.9	1297	55.9	303.3	12.7	935	32.8	1459	61.7
"Elegant"		231,3	10.5	822.6	25.6	1120	43.0	241.0	11.4	928	27.0	1226	50.2

Formation of tubers in soy roots.

3.5. Effects of soil nitragine on root development

As a result of the formation of toxins in the roots, the plant additionally accelerates the absorption of pure nitrogen, which it receives from the air, and nitrogen fertilizers in the mineral state in the soil.

Regardless of which crop is planted last from the shade, the yield increases and the amount of nitrogen fertilizer given to them decreases significantly. Tubers appear on the roots of soy varieties for the first 7-8 days. Scientists who worked on nitragine A.V.Krimtsev (2017.), X.A.Khamakov (2017.), A.B.Beich (2003.), (2002.), S.M.Denenko, V.A.Tilba, S.A.Ivanova, E.A.Arabkina (2002.), T.A.Trofimova, S.I.Korzhov (2002.), M.Avzamov and N.I.Dolotins write that plants planted with nitragine or rhizotorphine are tall, have a long growing season and have a grain and dry stem yield of 5-9 centners higher than in the control option. In the experiment, the formation, number, depth of location and occurrence of tubers in varieties at all planting periods were studied. In this, the process of formation of tubers in the root of 10 plants of all varieties was observed during each planting period; the formation and location of the tubers in the development phases was observed.

Formation of tubers under the influence of a soil nitrate strain in soy varieties (sowing period June 15) (3 years on average)

3.5.1-table

№ T/p	Varieties	Developmental phase	Number of cockroaches			Location depth	
			total	In the main root	On the side Root	0-10 sm.	10-20 sm.
1	"Flight"	No lumps formed germination and mowing phase					
2	"Fortuna						
3	"Friendship"						
4	"Elegant"						
5	"Flight"	The first three leaves are yuvenil	18,3	12,3	6,0	13,0	5,3
6		Generative at the beginning of the flowering phase	30,0	18,0	12,0	20,3	9,6
7		Full bloom generative	56,6	32,3	24,3	36,3	20,3
8		Duckpill	73,3	45,0	37,0	44,6	26,6
9	"Fortuna	First three leaves	14,3	9,0	5,3	8,3	6,0
10		At the beginning of the flowering phase	30,3	20,3	10,0	18,4	11,6
11		Full bloom	56,6	37,3	19,3	32,3	24,3
12		Duckpill	67,3	41,0	26,3	38,0	29,3
13	"Friendship"	First three leaves	23,6	13,6	10,0	15,6	8,0
14		At the beginning of the flowering phase	41,0	22,6	18,0	26,0	15,0
15		Full bloom	58,3	37,0	21,3	35,6	22,7
16		Duckpill	87,3	56,0	31,3	57,3	30,0
17	"Elegant"	First three leaves	20,3	11,6	8,7	13,0	6,7
18		At the beginning of the flowering phase	32,6	21,6	11,0	14,3	18,3
19		Full bloom	53,0	31,0	22,0	22,0	31,0
20		Duckpill	73,6	42,3	31,3	32,0	41,6

Formation of tubers under the influence of strain nitragin-137 in soy varieties (sowing period June 25) (average 3 years).

3.5.2- table.

№	Varieties	Developmental phase	Number of cockroaches			Location depth	
			total	in the main root	on the side Root	0-10 sm.	10-20 sm.
1	"Flight"	No tubers formed					
2	"Fortuna						
3	"Friendship"						
4	"Elegant"						
5	«Парвоз»	First three leaves	20,0	13,0	7,6	13,0	6,3
6		At the beginning of the flowering phase	33,3	21,6	13,6	21,3	14,0
7		Full bloom	66,0	41,3	26,0	43,6	23,3
8		Duckpill	80,0	58,0	22,0	52,3	31,0
9	«Фортуна»	First three leaves	16,0	9,3	8,6	10,0	8,0
10		At the beginning of the flowering phase	30,3	19,3	18,6	19,0	11,3
11		Full bloom	62,6	40,3	23,0	38,6	24,6
12		Duckpill	77,0	47,0	30,0	43,3	30,0
13	«Дўстлик»	First three leaves	27,6	17,0	12,6	15,0	16,6
14		At the beginning of the flowering phase	42,6	25,6	19,6	23,6	19,0
15		Full bloom	68,3	41,0	27,3	43,0	23,6
16		Duckpill	88,0	53,6	34,3	60,3	27,6
17	«Нафис»	First three leaves	18,0	11,3	6,6	10,3	7,6
18		At the beginning of the flowering	33,3	20,3	16,3	15,0	19,0

		phase					
19		Full bloom	65,3	38,3	25,6	26,6	28,0
20		Dukkak Fullish	79,6	48,6	31,0	35,3	44,0

In terms of the number of tubers, the following average results were obtained for 3 years in the variants planted on June 15. In each bush plant of the" flight " variety, 18.3 tubers were formed when the first three leaves were formed, of which 12.3 on the main stem, 6 on the side STEM, at the beginning of the flowering phase, 18 of the 30 tubers were counted on the main stem, 12 on the side stem, in the full flowering phase the tubers increased almost twice, of which The number of tubers in the roots of the" Fortuna "Variety has become lower in all development phases than in the" flight " variety. For example, 14.3 pieces were counted when the first leaves were formed, while 67.3 pieces were counted during the ripening period of the pods. However, even in this variety, in all stages of development, the number of tubers in the main Root was formed much more than in the side Root.

Among all the varieties studied, the" friendship " Variety has become a well-developed variety with tall or vegetative and generative organs. The number of tubers formed in their roots also repeated this law. In it, 23.6 tubers were formed in the phase of formation of the first leaves. This is 14.0 more than in the" flight "variety, 20.3 more than in the" Fortuna", 13.7 more than in the"elegant". From the study of the tubers on its main and side roots, it became known that many of them are located on the main root. The number of tubers on the side roots is less formed than in some varieties. The number of tubers in the root of the" elegant "variety became almost equal to the number of tubers in the root of the" flight " variety. With the formation of tubers, the previous law was repeated in this variety as well. From the results of the experiment, it turned out that the main tubers are 0-10 of the soil sm.li settles on the layer.

Chunonchi," flight " variety 13 of the tubers formed in the first three leaf formation phases in each bush plant are 0-10 CM, 5.3-10-20 cm. it was deep. When we study the location of the tubers in the legume phase, 44.6 of them are 0-10 CM, 26.6 are 10-20 cm. we saw that it was formed in depth.

At the beginning of the growing season in the" Fortuna " Variety, the tubers are 10 cm at the expense of each bush plant, at a depth of 8.3-10-20 cm. and at the depth was taken at the expense of 6 cockroaches. Their number is 10 cm. 38, 10-20 cm in depth. in depth reached 29.3. The number of tubers formed at the end of the development phase was close to each other in both layers of arrangement.

The main part of the stem formed in the" friendship " variety-57.3 grains 0-10 CM, 30-10-20 cm. suffered at depth.

And in the" elegant " variety, a completely different position of the arrangement of the feathers was observed. 41.6-44.0 grains, or more often 10-20 cm. formed in a layer. Since the roots of this variety penetrate deeper into the soil, the tubers have also formed lower.

The shade planted on the 25th of June was revealed by a study of the tubers formed in the varieties, during which the tubers are formed more often than those planted on the 15th of June. For example, in each Bush of the" flight " variety, 20.0 tubers were counted in the period when the first three leaves were formed, 33.3 at the beginning of the flowering period, 66.0 at the end, and 80 by the ripening period of the pods.

The number of chickens in the "Fortuna" Variety has less than in the "flight" variety of all development phases, and in the "friendship" variety more than in other varieties, which are also studied on June 25, almost equal to that of the "flight" and "Fortuna" varieties in the "elegant" variety.

The number of tubers in the main roots of all shade varieties planted on the 25th of June is higher than in the side roots, in the "flight" Variety, the tubers in the side roots during the ripening period became less than at the end of the flowering phase. This is explained by the fact that the tubers are quickly formed and rot when the nitrogen is absorbed. Consequently, in some varieties, tubers are formed quickly, and nitrogen in the tuber is quickly absorbed or added to the soil, leaving only the bark of the tuber in the soil layer.

A study of the location of tubers in the roots of varieties planted on June 25 gave the following results: in the varieties "flight", "Fortuna" and "friendship", the main tubers are 0-10 CM. located at a depth of, the ratio of tubers formed by the roots of the" elegant " Variety at a depth of 0-10 and 10-20 cm was close to each other. For example, the roots of the" friendship " variety are 0-10 CM. in depth 60.3 pieces 10-20 cm. at a depth of 27.6 pieces, the "flight" formed at that depth 52.3 and 31.0 pieces, respectively. This indicator was 10.3 and 7.6 when the" elegant " variety was very close to each other in all stages of development or when the first three leaves were formed, 19 and 15 at the beginning of the flowering phase, 38.6 and 26 at full flowering, and 44.3 and 35.0 pieces in the legume phase.

The location of the tubers in this variety can be explained based on the varietal characteristics, moreover, D.Yormatova (1991), Yu.P.Myakushko (1993.), V.F.Baranov (1995.) it should also be remembered that each variety is particularly demanding on nitragine strains. Table 3.5.3 provides information on the number of tubers formed by the influence of the "nitragin-137" strain of soy varieties planted on July 5 and the depth of their location. It can be seen from them that during this period, the number of tubers in the roots of planted varieties has significantly decreased. When planted on June 15, the" flight " variety produced 20 tubers in the formation phase of its first three leaves, when planted on July 5, 14 pieces were planted in this phase, and 15.7 were planted on July 15, when the pods were planted on July 5, forming 80.0, 54.3 tubers. During the last development phase of

the" Fortuna " variety, 77 tubers were formed when planted on June 15, and 51 when planted on July 5.

"Friendship" also retained the character of producing more tubers than other varieties when planted on July 5.

As the ground organs of soy varieties become smaller as the planting time is delayed, the number of tubers in the roots also began to decrease.

The shrinkage of the terrestrial and terrestrial organs was in direct proportion (proportional) to each other.

It should be remembered that when the number of tubers is high, the level of nutrition improves, while the upper organs of the earth are good, the plant is well fed as a result of the process of photosynthesis. On the roots of the soybean varieties planted on July 15, a large difference in the formation of the soybean was felt than on the varieties planted on June 15.

While the" flight " Variety has formed 80 tubers at the expense of each Bush from planting on June 15, planting on July 15 is 51.6 pieces.

Fortuna " 77 pieces when planted on June 15, 47.6 pieces when planted on July 15, The "Friendship" variety planted during the same terms 88 and 63.3, respectively.

The period of sowing the formation of tubers under the influence of the strain nitragin-137 in soy varieties

5 July (3 years on average)

3.5.3-table

№ T/p	Varieties	Developmental phase	Number of cockroaches			Location depth	
			total	in the main root	on the side Root	0-10 sm	10-20 sm
1	"Flight"	**No tubers formed**					
2	"Fortuna						
3	"Friendship"						
4	"Elegant"						
5	"Flight"	First three leaves	14,0	8,0	6,0	9,0	5,0
6		At the beginning of the flowering phase	22,0	13,3	10,0	14,0	8,0
7		Full bloom	44,3	26,0	22,0	28,6	18,3
8		Duckpill	54,3	31,0	23,0	32,0	22,3
9	"Fortuna	First three leaves	11,6	7,0	4,6	8,0	4,3
10		At the beginning of the flowering phase	21,0	12,0	12,6	10,3	7,3
11		Full bloom	38,6	22,6	16,0	24,6	14,0
12		Dukkak Fullish	51,0	31,0	20,0	32,0	19,0
13	"Friendship"	First three leaves	18,3	11,6	6,6	12,0	6,3
14		At the beginning of the flowering phase	24,3	14,3	10,0	14,6	9,6
15		Full bloom	56,6	33,0	23,6	36,6	19,0
16		Duckpill	75,6	49,6	28,0	46,0	27,3
17	"Elegant"	First three leaves	16,6	9,6	7,0	10,3	6,3
18		At the beginning of the flowering phase	22,0	12,3	10,3	8,3	13,6

19		Full bloom	55,0	29,0	25,3	24,0	32,0
20		Duckpill	68,3	37,3	30,0	30,6	44,0

Formation of tubers under the influence of a soil nitrate strain in soy varieties (sowing period July 15 (3 years on average)

3.5.4-table

№	Varieties	Developmental phase	Number of cockroaches			Location depth	
			total	in the main root	on the side Root	0-10 sm	10-20 sm
1	"Flight"	No tubers formed					
2	"Fortuna						
3	"Friendship"						
4	"Elegant"						
5	"Flight"	First three leaves	13,3	8,0	5,3	8,3	5,0
6		At the beginning of the flowering phase	22,0	12,6	9,4	13,6	8,6
7		Full bloom	37,3	25,3	12,0	22,3	15,0
8		Duckpill	51,6	27,3	24,3	33,0	18,6
9	"Fortuna	First three leaves	11,3	7,0	4,3	7,3	4,0
10		At the beginning of the flowering phase	17,0	11,3	5,7	10,6	6,4
11		Full bloom	37,3	21,3	16,0	23,3	6,0
12		Duckpill	47,6	28,0	19,6	32,0	56
13	"Friendship"	First three leaves	20,3	8,6	11,7	14,3	6,0
14		At the beginning of the flowering phase	28,0	14,0	14,0	19,0	9,0
15		Full bloom	46,3	23,0	23,3	26,0	20,3
16		Duckpill	63,3	34,3	29,0	42,0	21,0
17	"Elegant"	First three leaves	15,6	5,3	10,3	10,0	5,6
18		At the beginning of the flowering phase	25,0	11,6	13,4	13,0	12,0

19		Full bloom	44,3	21,6	11,7	23,6	20,7
20		Duckpill	65,3	32,6	32,7	33,6	31,7

The "elegant" Variety has formed 79.6 and 65.3 tubers.

During all planting periods, the tubers were more settled on the main roots, as well as the main part of them was formed at a depth of 0-10 CM.

The information obtained during our experiment confirms the opinions of scientists who made observations on this matter.

It is also necessary to note that timely loosening of the soil, that is, improving soil aeration, re-affects the development of nodular bacteria and led to an increase in their number.

In addition, irrigation also showed a decrease in the number of tubers in the land where water was collected.

Yield from various varieties of soybeans planted on the farm "iron Fozil Fayoz" of the Jondor District of the Bukhara region, *(3-year results obtained).*

3.5.5-table

Varieties	**Seeds number, pieces**			**Medial**	**Seeds weight, g**			**Medial**	**1 hectare-gi yield, ts**
2013y									30
"Flight"	470	445	420	445	95	89	90	91	
"Friendship"	369	356	376	367	75	73	87	78	
"Elegant"	217	220	213	216	50	54	59	54	
"Fortuna	226	223	218	222	60	63	62	62	
2017 y									32
"Flight"	475	430	415	440	89	84	85	86	
"Friendship"	367	359	387	371	85	87	90	87	
"Elegant"	223	229	210	221	57	50	65	57	
"Fortuna	230	219	216	221	66	60	59	62	
2019y									31
"Flight"	480	445	466	464	93	81	83	86	
"Friendship"	389	356	396	381	72	88	83	81	
"Elegant"	220	214	217	217	52	59	61	57	
"Fortuna	224	221	225	223	56	66	63	62	

Based on our experiments, we note a number of advantages of the soy plant:

-At the time when soybeans are being planted as a repeated crop, the labor and technical means will be empty, the field will be relatively cleared of weeds;

-since nitrogen is a collecting crop, the demand for mineral fertilizers decreases after it;

- soy is the best predecessor to cotton, wheat and other crops in our Republic;

-since it is a new crop, it does not have individual diseases and pests that are characteristic of this plant;

-during the period of harvesting and harvesting soybeans, grain combines are loose, cotton is mostly harvested, and labor is enough to harvest soybeans;

-when the shade is planted repeatedly, the pods will crack at night for air coolness, and the grain will not spill.

3.6. SOYBEAN SEEDING

The first task in breeding: mass selection, seed nursery and elite release (as directed by the All-Union Institute of oil crops) the second task: single selection, evaluation of offspring in a nursery, seed nursery, superelita release, elite acquisition.

As with all plants, 1000-1500 plants are selected by less than each variety. These selected plants are infected and those with low yields are sorted out and renewed and withdrawn for seeding next year. In seed nurseries, it is necessary to create all the conditions necessary for that variety.

The seeds are released into the output based on all the signs of that Variety during the ripening period. A seed nursery must be planted on an area of 0.25-0.30, regardless of what Variety it is.

Elite seeds are obtained by releasing superelita seeds into the outlet. At the time of elite cultivation, 10-20% of the same variety can be planted with the addition of maternal seeds.

SEEDING SCHEME AND SOYBEAN CULTIVATION IN PRODUCTION

Elite seeds are grown in special experimental stations and elite-seed farms according to the following scheme.

Selection nursery	Scientific verification institution.
Seed kennel	NAV inspection institution.
Reproduction of seeds in 1-3 years	The initial germination of the variety is its creation
Superelita	
Elite	
1-reproduction-seed field	Seed farm
2-reproduction-in a large area	Seed reproduction

It is sown in order to obtain the first reproduction by taking it from elite Seed Farms. The first reproduction is planted by Seed Farms and the second reproduction is obtained. Breeders give a second reproduction to seed plots in

farms for general reproduction. In the farm, seed is planted for the needs of farms to close the seeds obtained from the third reproduction, which is propagated on plots.

The large size of the seed plots depends on the internal needs of the farm and should be about 10-15 percent of the shade areas to be planted. For example, if the farm needs to plant soybeans on an area of 100 hectares, seed soybeans should be planted on 10-15 hectares.

The fields reserved for seed are necessarily with its fertility, with the efficient use of water and temperature, and the relief of the place must be flat. In order for soybeans to ripen evenly and give a high yield, it is necessary to farm using the most advanced agrotechnical methods.

One of the main tasks in seed production is to propagate the best seeds, improve their quality and bring the zoned varieties to the highest condo. Particular attention should be paid to the reproduction of varieties and their varietal purity in the process of germination.

Keeping soybeans and increasing their productivity, the correct Organization of seeding depends on two activities inseparable from each other: 1) seed propagation after perfectly maintaining the varietal characteristics; 2) tirelessly increasing the economic and bilogical signs of these seeds.

One of the biggest concerns in soybeans is that there is too much mechanical damage while being milled. More or less damage to the seed is caused by yu.P.Myakushko (1985) suggests that the moisture content of the grain is also due to its dryness. When mowing, seeds were 48.7-54.9 percent when they were 10-20 percent wet. Seed damage was 10-12 percent when humidity was 14 percent.

The most important considered indicator in damaged seeds is very low germination. Laboratory and field tests have shown that germination decreases by 40 percent in laboratory conditions to an even greater amount in field conditions.

The main decisive factor in soybeans, as in all plants, is an important technological event. To have the best Sarah seeds, of course, is to strictly follow agrotechnical measures.

The most important of the technological measures is to ensure the moisture and food regime that the plant needs to grow and develop. In order for diseases and insects such as plants belonging to each family to be scarce, soybeans should not be planted after absolute shade, dandelions, sunflowers and other legumes. The shade should be planted in weed-free, fertile lands. In certain raions, soy varieties are replaced at such a time that, when a more fertile new variety occurs than the cultivated one in the oblast, the created new variety is replaced by the old one. The work of replacing the variety with a new one should be carried out in at most 2-4 years.

Renewal of the variety in the soybean plant once every five years, the seeds of the second reproduction must be completed bialn. It should be said that this period can reduce and prolong the purity and hereditary characteristics of cultivated varieties in collective farms and sovkhozes. Elite seeds are grown mainly in scientific institutions and elite Seed Farms. Elite seeds are sown in seed farms to obtain the first reproduction.

The farm qualities of all varieties, or character, quickly diminish when grown on farms with a low agricultural culture. During the seeding period, it should be avoided until the seeds of each variety can be mixed with a second variety.

Scientists from the All-Union Scientific Research Institute of oil crops in Krasnodar believe that germination in field conditions with germination in laboratory conditions of a seed will not always be interconnected. Seeds that germinate well in laboratory conditions do not give this result in field conditions. In the laboratory, slightly damaged seeds can also germinate well, it is these damaged seeds that are considered a favorable source for the development of various fungi in field conditions. As a result, the seeds rot leads to a decrease in yield. As you can see from the table below, germination begins to decrease as the amount of damaged seeds increases.

Changes in yield depending on seed damage (VNIIMK -1992-1994)

Seed damage percentage	Germination		Seed productivity	Difference in yield
	Percentage of flour	Weight of 100 pieces of dry plant	ц.га	
5	73	24,5	16,4	-1,1
10	68	23,8	15,4	-2,1
15	66	20,7	15,9	-1,6
20	58	21,5	15,4	-2,1
Whole seed	78	25,5	17,5	0
NSR05				1,2

To increase the amount of germination of damaged seeds, I.I.According to Galiy (1978), it is necessary to take medication immediately after harvesting. At this time, fungi are observed to decrease in the seed. Fungi do not penetrate especially into the internal tissues of freshly damaged seeds. For medication, 4 grams of the drug TMTD is spent on 1 kg of urine. Seed work in the improvement of elite seeds, as well as the creation of prospective varieties, is created in most cases in special scientific institutions and experimental farms. These works begin primarily with the selection of a good plant and its study in special nurseries. Over the years, germination grown in nurseries is assessed, or low-yielding, Quechua and disease-resistant plants are released into the waste.

The size of the arable land in nurseries depends on the plan indicators that the farm submits to the state. When choosing, it is necessary to take at least 1000-1500 plants in order to preserve their characteristics of each variety. In order to evaluate the varieties in the nursery, soybeans should be thrown into at least 400-600 nests. Of this, 30-40 percent of the best should be spent on selection and breeding work in the future seed nursery. From the best places of elite and superelita planted areas, productive and healthy plants are selected.

All batch of soybeans must have a separate document, that is, the elite, whose quality marks confirm, and the superelita seeds will have a "seed" certificate at the time of shipment for sowing, and other reproduction seeds will have a document

that says "seed certificate". This document shows where the shade was planted, the origin, the qualities of the variety and the weight of the seed. There should also be a spray about ICT aprobasia.

Depending on the characteristics of the variety, soybeans are divided into categories based on Gost. (GOST-9669-91) I-sort purity should not be less than 100 prosent, II-98 should not be less than prosent, and III-95 percent less than. Seeds are divided into 3 classes, depending on the quality of planting.

Sowing quality of soybeans (GOST-9669-91)

Characteristic	class		
	1	2	3
The main Seeder, in percentages			
The main Seeder, in percentages	98	95	92
Of this, the seeds without a bubble are in the percentage account	1	2	3
Other plant seeds found in a kilogram: total pieces	10	25	25
From this weed seed grain	5	5	15
Seeds infected with fuzariosis in percentage account	5	5	5
Seedpalla leaves with bacteriosis damaged seeds in percentage account	2	5	10
Germination should not be less in the percentage account	90	85	80
Humidity should not be much in the percentage account	14	14	14

Elite seeds all the time must comply with the conditions required for seeds of the first category. The first, second reproduction seeds sown for seeds should not be inferior to seeds of the second category all the time with signs of varietal quality. And in terms of planting qualities, it should not be lower than the requirements for seeds of the second class.

The cost of one Centner of soy commodity seeds is 26 rubles. Superelita, prepared by scientific inspection institutions and experimental stations, seeds of elite and all reproductions on the outside and inside in special bags, labels are placed on the labels the name of the Variety, the category of purity of the Variety, the name of the reproduction, weight, party name and Seed Production Farm.

SOY SEED GRADE

Seed quality	Additional		Total shadow value sum, tsentner
	Prosent account for the price	sum	
Superelita	200	52,0	78,0
Elite	150	39,0	65,0
Reproduction I and II			
Category I-class	80	18,2	44,2
Class II	60	15,6	41,6
Class III	55	14,3	40,3
Out of class	35	9,1	35,1
Category II Class I	50	13,0	39,0
Class II	45	11,7	37,7
Class III	40	10,4	36,4
Out of class	25	6,5	32,5
III and subsequent reproduction			
Category I-class	50	13,0	39,0
Class II	45	11,7	37,7
Class III	40	10,4	36,4
Out of class	25	6,5	32,5
Category II Class I	40	10,4	36,1
Class II	35	9,1	35,1
Class III	30	7,8	33,8
Out of class	15	3,9	29,9

In special seed farms in each country, oblast and region, it is necessary that all work on seed production is always carried out in accordance with certain conditions.

EARLY SEED PRODUCTION

High-quality excellent grade superelita and elite seeding are grown in simpler and more complex ways, depending on the varieties in each farm and their characteristics are traced in production. High-quality seed production from soybeans is seeded as follows at the All-Union Research Institute of oil crops in the Krasnodar Territory. In this, first of all, the general choice, seed nursery and elite cultivation.

And at the All-Union Scientific Research soy Institute, seeds are grown as follows: single selection, generation testing nursery, seed nursery and superelita and elite.

When seeds are grown in a simple scheme, at least 1000-1500 plants are selected from each variety. The seeds of the selected plants are milled separately, plants with low productivity, even infected with various diseases, are removed to the outlet, and the remaining seeds are sorted separately and stored for the seed nursery. The size of the seed nursery must correspond to the natural and economic conditions of the farm.

In a seed nursery, soy seeds are completely cleared of late blight or early blight and diseased plants, which are not typical of low yields during the ripening period.

Seed from the seed nursery is considered a maternal fund in elite cultivation. By single selection for elite and superelita farms, the crop is separated by plants belonging to exactly the same variety, resistant to diseases and insects, not lying down, with a full ripening period of 2-2.5 thousand pieces. Elect the plants individually milled and analyzed in the laboratory, the signs such as the height of the seed yield, the type of branches, the quality of the seed and the height of the placement of the lower pods are studied.

The extraction of soy seeds is first done in the field during the period when the grains are ripening, the second time they are sorted out again in the analysis in the laboratory. Even after the second time the seeds are sorted, the seeds are collected separately and separated to obtain a superelita. The seed nursery is planted on an area of 0.25-0.3 hectares for each variety.

Elite seeds are obtained from superelita seeds with very strict adherence to varietal purity. The area planted for seed production is expanded or reduced by hodla, which takes into account the need of each oblast or country for Lent.

To get a high yield from the shade, it must definitely be included in the crop rotation scheme. The best predecessors for soybeans are crops such as wheat, barley and corn, both autumn and spring.

Since soy is a self-pollinating plant, it is not necessary to leave a distance between the seed and the shadow areas planted for commodity purposes. Every year, during the period when the leaves of the shade fall and the main plants begin to ripen, the pods turn yellow, aprobasia is carried out in all shade areas. Aprobasia is carried out mainly in areas with pronounced varietal characteristics.

The rule for obtaining aprobasia Gardens is as follows:

Plant development phase	The main ripe pods and the main mass on the plants
The approximate size of the area where the aprobasia is performed is	200 ga
Number of points to be sampled from the plant	50
Number of plants per sample	500

The size of the area where the aprobasia will be held should not exceed 200 hectares. The samples will consist of two pieces with 50 pods. Samples are separated by obtaining 10 plants from 50 points, and these plants are divided into two at once, packed in separate containers for analysis and control options.

Harvesting soy pods is done in very short periods when their seeds are fully ripe. The sign of full ripening of soy pods is acarterated by the fact that the leaves fall, the stems dry out, all the pods turn brown.

From the moment the seeds are harvested, they must be immediately cleaned of various additives. Even drying of seeds of some late varieties is required.

The moisture content of seeds stored in warehouses should be 12-16 percent. Seeds are stored mainly in bags. The height of the bags should not exceed 1.5-2 meters, or the overlap should not exceed 6-8 bags. Samples are taken for analysis in accordance with the requirement of GOST-12036-66 to determine the absorbency and excitation energy every three months during the storage period.

Superelita and elite seeds, as well as seeds of promising varieties, are stored in sliding bags, and labels are attached both inside and outside the bags. On the label it is clearly written about the name of the variety, reproduction, purity of the variety, size, batch, stems and prepared organization. The stored seeds intended for sowing are transferred to warehouses on the basis of ICT and recorded at a separate namered level. The use of seed materials for food, fodder and other purposes is absolutely prohibited. Of course all storage facilities where soy seeds are stored in all storage facilities where insects and rodents are kept, the air temperature and humidity must of course be monitored over the entire storage period.

3.7. The effect of planting a shadow between a hollow row

The soy plant is used in food, technology, Canning, in the production of milk, confectionery products, and as fodder. Such use of soy depends on the quality of the grain, it contains 30 – 52% protein, 17 – 27% oil, and 20% carbon water. Soy protein is of high quality, fully soluble in water, has good digestibility. Glycine is high in amino acid, which is involved in fermentation, and it will be possible to produce milk - yogurt products. From soy grains, oil, margarine, cheese, milk, flour, confectionery, canned food are developed. Oil is used in the manufacture of lacquer paints, soap, 40% of the vegetable oil produced on Earth is soy oil. In general, soybeans are planted for the following purposes:

- To improve human nutrition. In most states, soy remains the only source of protein;
- Increase the productivity of livestock. When regularly fed with soy, it quickly becomes fat, The Daily growth is high;
- Production of an industrial product - a construction product from a shade that has not been used in food and livestock, snacks, artificial fertilizer products are produced. In Uzbekistan, soy is used as an important raw material in food, animal husbandry and in the production of meat, milk, oil, confectionery products. X.S.Romanov, Q.M.Mirzajonov and R.T.Talibullin (1990) states that among legumes there is no equal in shade according to the amount of protein it contains, while in precipitation it stands after peanuts. Soy grains contain up to 55% protein, 20-27% fat. Compared to meat, soy grain has been found to contain twice as much phosphoric acid and four times as much mineral. 100 g of peas holds 336 calories, beans-335, chechevisa-334, wheat-347 and soy-411.

The protein contained in soy has the property of rapid digestion. The protein in its composition (72-94 %) is rapidly soluble in water and is of high quality. The absorption rate of its protein is 77-92%, while that of fats is 84-100%. 95% of the fats in soy consist of glycerins, and it contains 44-59% linolic acid. Soybean oil is superior in its sensitivity to ground beef fat. It contains 25-27% carbon water, in

addition to protein, fat, and contains vitamins A, V1, V, D, E, C, K; a kilogram of wheat flour contains 2.5 g, and the same amount of soy contains 27 g of lysine.

For comparison, it is enough to remind that from one hectare of land, 188 kg can be obtained from cereals with spikes, 294 kg from legumes and 506 kg of protein from soybeans. 300 different food and industrial products can be made from soy grain. The dairy product from the shade is not inferior to the cow's. Also, the importance of soy grain in the provision of nutritious feed for poultry in the conditions of widespread development of intensive poultry farming in the countries of the world, including Uzbekistan, is invaluable now. In addition, soy hay is a nutritious feed for pets. Most importantly, it enriches the soil with nitrogen in the air.

3.7. BENEFITS OF GROWING A SOY PLANT BETWEEN ROWS OF GHERKINS.

Today, special attention is paid to the widespread introduction of new resource-saving technologies in agriculture around the world, reducing the cost of growing products due to the saving of fuel and lubricants and other costs in the production of high and high-quality crops in order to meet the demand of the population for food products. In order to regularly provide the population with food products, innovative technologies that preserve soil fertility and increase crop yields cost 19.3 million US dollars., 17.4 million in Brazil., 14.8 million in India., 12.3 million in China., 10 million in Mexico., 3.5 million in Australia., 3.7 million in Pakistan. hectares, a total of 80 million people worldwide. it is being introduced in areas of more than hectares.

President of the Republic of Uzbekistan dated March 14, 2017– Decree No. 2832"on measures to increase the planting of soybean crops and the cultivation of soy grain in the Republic in 2021", Resolution No. 3281"on measures for the rational placement of agricultural crops for the crop of 2018" of September 15, 2017 and the volume of production of agricultural products in the Republic of Uzbekistan".M.During Mirziyoyev's visit to Andijan region on may 21-22, 2020, they gave instructions on planting a soybean plant in the region in a total area of 10 thousand hectares.

Currently, in China, the USA, India, Pakistan and most Arab countries, the method of partner planting of gooseberries with soybeans, peanuts, koreandra, mosh and other crops is used in a wide range of fields.

O. According to Volovik, a crop was planted as a partner in China for 9 million annually. more than tons of grain, 15 million tons of cotton are grown. In India, ghee is grown as a partner with corn, white oats, sesame, pepper, legumes-grain crops. It is known that not all the work done abroad corresponds to the conditions of our country, but it is possible to follow their example.

The effective use of cultivated areas, as well as the regular increase in soil fertility as well as crop yields, remains a requirement of the period. The solution to these issues depends on the introduction of new and modern technologies in agriculture. In this regard, the introduction of the technology of growing a soy crop between the rows of geese is an urgent issue. When the goose and the shadow are planted partner

first, the amount of yield from the unit of hectares is significantly increased;

secondly, the soybean plant increases soil fertility due to the assimilation of nitrogen in the air, and also increases the amount of soil humus due to the remains of anchovies;

thirdly, partner planting allows you to get a protein-rich soybean crop from both the unit of the field and cotton, fulfilling the task of self-crop rotation;

fourth, leads to an increase in the income of clusters and farms.

Agrotechnical measures in the cultivation of crops by partner sowing of grain and soybeans

In this place is the researcher in 1993-1995 and 2008-2010 I.Ro it is appropriate to describe the results of scientific research carried out by ziev on planting a number of intermediate partners with a soybean crop. These experiments were carried out on light-tinged gray soils irrigated from eskit, to which the Uzpsueaiti Andijan Experimental Station belonged.

In the experiment, all agrotechnical measures were carried out on the basis of the recommendations introduced for the farm.

60% of phosphorus and potassium fertilizers were laid in the fall before the plow. Autumn plow in the steppes of November (26-28.XI.) carried out on a two-tier PYA-3-35 plow to a depth of 30-35 CM.

Conducted in the system under field experiments.

RESULTS

Various	Type of crops	Planting scheme	Theoretical seedling thickness, thousand / ha
1	Ghouza	60x20-1	83,3
2	Ghouza +	120x10-1	83,3
	Shadow	120x10-1	83,3

In Option 1 of the experiment, the goose is planted in the usual order 60x20x-1, in Option 2, the goose is planted in order 120x10 - 1, and a shadow plant is planted between its rows, that is, 60 cm between the rows of the goose and the shadow crop. makes up the.

When sowing crops, soy seeds were sown in the same period as the seeds in a seyalka of the STX-4 brand with an egat oralatib, that is, a seed in one bunker, with a procedure for placing soy seeds in the second bunker. Agrotechnical measures such as processing, feeding, watering and combating hashes between rows of crops were carried out in terms and methods suitable for the goose.

It is important to note that the soy crop is a crop susceptible to spider mites and other pests, when growing it together with the goose, it is required to pay

special attention to this and apply effective measures of timely struggle against them. It was found that soil humus increased by 0.2-0.3%, total nitrogen content by 0.01-0.02%, nitrate nitrogen by 3.7-4.2 mg/kg (18-20 kg of easily assimilable nitrogen per hectare) when planting a corn and soybean plant in a row.

In the experiment, the soy crop was manually mowed and harvested in the first half of September, and the grain was separated using a combine. Only in the option where the goose was planted received an average cotton crop of 29.9 ts/ha in 3 years, while in the option where the partner with the goose and soy was planted, a cotton crop of 24.9 ts/ha, a soybean grain crop of 23.1 ts/ha, and a soybean crop of 31.9 ts/ha were obtained. It was observed that crop yields increased from year to year when grain and shade were planted when crop yields were estimated over the years. That is, 1, 2 and 3 years of experience are 24.8; 25.2; 25.8 ts/ha cotton crop, 21.2; 23.8, respectively; A crop of soy grains was obtained at 24.0 ts/ha. This indicates that the partner planting of crops increases soil fertility from year to year.

SUGGESTIONS

1. Sowing of grain and soybean crops in a row in a system 120x10-1;
2. The soybean plant increases soil fertility due to the assimilation of nitrogen in the air and increases the amount of soil humus due to the remains of the anchovies;
3. The amount of yield per hectare unit will increase significantly;
4. Partner sowing has the task of self-crop rotation, allowing both Cotton and field units to obtain a protein-rich soy grain crop;
5. Leads to an increase in the income of clusters and farms.

CONCLUSION

Based on the results of our experiment, the following conclusions were drawn:

1. Planting four varieties of the shade on light gray soils of the Bukhara region of medium-sized varieties "friendship", "elegant", "Fortuna" and ertapishar "flight" in four terms until July 15 on June 15 will ensure that their grain is fully ripe, allowing in early October to loosen the ground and prepare for the next year's harvest or plant a crop on it.

2. The application of the Nitragin-137 strain made it possible for soy grass to fully germinate and maintain a large number of tubers up to 6-10% more than in the nitragin-free variant by the end of the growing season. The large number of Bush keeping led to higher yields. The generative organs of all soy varieties during the planting periods in which Nitragin was applied are 5-12 cm tall. it was observed that the number of leaves and side branches is low, the growth period is reduced to 2-5 Days. Mineral fertilizer 200 kg per hectare of nitrogen. when given, all indicators were reversed.

3. Even in our experiment, it was confirmed that the later the planting period, in accordance with the Photoperiodism of short-day plants, the shorter the growth period.The soy plant belongs to the group of short-day plants due to its biological nature. According to the data obtained, the "flight" variety, planted on June 15, was ripe in 82 days, and when planted on July 15, it was made in 70 days.

4.Planting periods affect the formation of vegetative and generative organs in soy varieties. In our experiment, early planted varieties "flight" variety when planted on June 15, when the height of the stem grew by 67 cm in early September, when planted on July 15, this figure was 55.3 CM, and the number of leaves was 8.3 and 6.3 pieces. The number of leaves of the most necessary organ for the plant varies under the influence of planting periods, strain nitragin-137.

5. The leaf level of each bush plant will be equal to 287 cm2 in the "flight" variety, planted on June 15, and 320 cm2 in the "friendship" variety. The expansion of the leaf level leads to an increase in the process of photosynthesis. The increase in the performance of the "flight" variety in this regard in the nitragin variant by 2.3 thousand m2, the "friendship" naviniki by 1.7 thousand m2 led to positive results. The process of photosynthesis, like all plants, determines the yield indicators in shade varieties.

6. 2013 the yield obtained from soybean grain planted for the experiment was 30 centners per hectare on average, the yield obtained from soybean grain planted in 2017 was 32 centners, the yield obtained from soybean grain planted in 2019 was 31 centners.

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