MORPHOLOGICAL INDICATORS OF SOYBEAN VARIETIES PLANTED IN COMBINATION WITH CORN

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ANNOTATION

In this article, important morphological features of soybean varieties planted with corn in the Tashkent region were studied.
Keywords: soybean, corn, morphology, flowering, honing, legumes.

INTRODUCTION

The country is taking great measures to improve the culture of agriculture, increase yields, improve the quality of the harvest, especially to ensure the grain independence of our country through the widespread introduction of the achievements of science and technology, advanced experience.

Today in our country, special attention is paid to the development of agricultural technologies for leguminous crops, including the creation, testing and adaptation of new varieties of soybeans to specific soil and climatic conditions, cultivation, storage and improvement of soil fertility.

Legumes increase soil fertility and are suitable as past crops for many crops in a rotation system. In addition, legumes have a higher protein content per unit area, which is much higher in quality and easier to digest.

In recent years, the acceleration of food and animal feed production has necessitated an increase in soybean production. Despite the fact that soybeans are of a sufficiently high quality, that is, they are rich in proteins and fats, today they are not widely used in agriculture in Uzbekistan. Its various varieties contain up to 57% dietary protein, easily digestible unsaturated fats and up to 30% carbohydrates (mainly mono- and disaccharides), which contain biologically active substances and vitamins: A, B1, B2, B3, B6, E, C, D , PP and others also contain trace elements such as Mo, Mg, B, Fe. They are all very important to our daily life and the diet of pets (7).

In Uzbekistan, soybeans are used as food, livestock feed, butter, milk and confectionery. The cultivation of this culture among the local population is expanding every year.

Soybeans are rich in minerals like potassium, calcium and phosphorus. This substance allows the use of soybeans for food, feed and technical purposes. In addition, soybean is the only valuable plant from which artificial milk and dairy products are obtained.

After planting soybeans, soil fertility increases, it softens, the field is cleared of weeds.It can be a very good precursor for other crops.

For growing fodder and high-yielding soybeans with high nutritional value, it is advisable to plant corn together with soybeans. The two plants have planting times, soil and climatic requirements, germination, slow growth in the early stages of growth and rapid growth in the later period, the requirements for minerals and organic matter are close to each other, and soybean is not an easy task. a short day plant like corn.

It is known that the growth, development and productivity of plants depend on their genotype and growing conditions. After all, the soybean leaves the soil fertile, free of weeds, enriched with organic matter and nitrogen. The water-physical properties and biological activity of the soil significantly increase after soybean planting (6).

OBJECT AND METHOD OF RESEARCH

In order to study the biochemical and morphophysiological characteristics of some local and foreign varieties of soybeans in the soil climate of the Tashkent region. The Chirchik State Pedagogical Institute of the Tashkent Region planted soybeans along with corn as the main crop.

According to D.Yu. Yormatova, when sowing soybeans in combination with other plants, including corn, it is necessary to choose the varieties of soybeans and corn that should be planted first so that the soybean ripening period coincides with the ripening period. corn kernels.

The source of research was the study of the morphological characteristics of local and foreign varieties of soybeans in ontogeny. The object of the study was the crops of Russian varieties of soybean Select-302, Kazakh selection of Nena, local varieties of Tomaris, imported corn Harvest (Hungary) and Diamond.

Low growth compared to soybeans, so the plant is partially killed by the shading of the corn when grown together. In our experiments, the number of plants in the legume period was close to the theoretical power. Corn kernels, green mass, silage and soybeans, cereals are excellent nutrients. 1 kg of grain contains 1.34 nutritional units and 78 g of easily digestible protein. Corn is a valuable ingredient in compound feed preparation. 100 kg of silage harvested during the milking phase contains 21 nutritional units and 1800 g of easily digestible protein. The height of maize varieties Harvest (Hungary) and Diamond is usually 250-300 cm, but when planted in the soybean at the same time, the soybean during the budding period was 350-400 cm.It has been shown that its effectiveness as a fodder plant is good (6).

The development of transplanted plants differs sharply from the development of plants planted in the main period, since the conditions for their growth are different. In all cases, the grass germinated 5-7 days after planting, when sowing soybeans with corn, the flowering period was 53-56 days, and the ripening period was 91-105 days after planting. The growing conditions had a strong influence on the development of soybean plants (7).

RESULTS AND DISCUSSION

Biological characteristics of varieties, irrigation and feeding regimes are also of great importance in the formation of soybean legumes.

The study of bioecological and morphophysiological characteristics of various foreign and domestic varieties of soybeans when sowing corn in the soil and climatic conditions of the Tashkent region in 2020-2021 in soil and climatic conditions was carried out as follows (table 1.2).

The number of soybean crops of foreign and domestic varieties in the Tashkent region in 2020, pcs.

Table 1.

№	Varieties	M	G	V
1	Nena	58,20±10	31,6	54,29
2	Select	41,40±9	28,6	69
3	Tumaris	75,9±8	25,22	33,27

Nena (58.20 ± 10, respectively) in foreign Kazakhstani varieties and Tumaris (75.9 ± 8, respectively) in domestic varieties showed the highest rates among leguminous crops in 2020.
The number of soybean crops of foreign and domestic varieties in the Tashkent region in 2021, pcs.

Table 2.

№	Varieties	M	G	V
1	Nena	73,2±5	32,4	52,3
2	Select	65,3±7	26,8	58,1
3	Tumaris	72,9±7	23,1	28,4

The highest duplication rates in 2021 were shown by Nena (63.2 ± 5, respectively) in foreign Kazakhstani varieties and Tumaris (62.9 ± 7, respectively) in domestic varieties. The reason for the good germination of the Tumaris variety is its adaptability to the climatic conditions of Uzbekistan and its rapid maturation.

Soybean variety Tomaris is an early maturing variety. When re-planted, it ripens in 78-86 days. Stems are erect, almost branched, the height of the main stem is 85-115 cm on average. The pods are relatively small, the number of seeds in each pod is 3-4. The seeds are soft, ovoid, orange, with a shiny skin, yellow seeds are pale grains, the seed coat is bright red, large, with a white pouch in the middle, the pods ripen at the same time. Disease resistant. (7)

Also, the Russian selection of Select-302, the Kazakh selection of Nena, the Tumaris varieties of local varieties planted together with corn in the Tashkent region were compared with the varieties sown as secondary crops in 2019 and 2021 in the Samarkand and Navoi regions (1.2.3.4.9.) And the following. Were divided into indicators (Table 3).

Productivity of soybean varieties under different planting conditions in 2019-2021 For the processing of leguminous crops.

Table 3

Varieties	The main harvest of 2019 is in the Samarkand region.	The second harvest of 2019 in the conditions of the Samarkand region	The second harvest of 2019 in the Navoi region.	The second harvest of 2020 in the conditions of the Samarkand region	The second harvest of 2020 in the Navoi region.	The second harvest of 2020 in the conditions of the Tashkent region	The second harvest of 2021 in the conditions of the Samarkand region	The second harvest of 2021 in the Navoi region	2021 - the main harvest In the conditions of the Tashkent region
Nena	73,12±12	94±9	81,8±8	82,40±6	74,40±8	73,20±10	118,3±7	94,5±3	73,2±5
Select	51±2	67±4,21	51,40±8	72±2	53,±6	62,4±9	88,9±7	93,3±3	65,3±7
Tumaris	84±10,2	77±10,2	82,40±6	87±9	68±10,2	75,9±8	98,9±4	75,1±5	72,9±7

CONCLUSION

Thus, when studying the bioecological and morphophysiological characteristics of various foreign and domestic soybean varieties grown with corn as a secondary crop in the soil and climatic conditions of the Tashkent region, the Nena variety in foreign Kazakh varieties showed high performance in the Tumaris variety in local varieties.

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