

# CLASSIFICATION, PLANTING TECHNOLOGY AND MORPHOECONOMIC CHARACTERS OF CORN AND SOYBEAN VARIETIES SOWED TOGETHER

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## Abstract

Classification of some corn and soybean varieties in Uzbekistan and technology of their joint planting, determination of morphological and economic characteristics of the obtained crop and analytical comparison of the results are presented.

**Keywords:** Corn, soybean, variety, classification, technology.

## BIRGALIDA EKILGAN MAKKAJO'XORI VA SO'YA NAVLARINING TASNIFI, EKISH TEXNOLOGIYASI VA MORFOXO'JALIK BELGILARI

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## Annotatsiya:

O'zbekiston hududidagi ayrim makkajo'xori va so'ya navlarini tasnifi va ularni birgalida ekish texnologiyasi bunda olingan hosilni morfoxo'jalik belgilarini aniqlash va taxlili solishtirish natijalari bayon qilingan.

**Kalit so'zlar:** makkajo'xori, soya, nav, tasnif, texnologiya.

## Introduction

In our republic today, the amount of protein produced per unit area in grain and leguminous crops is higher, its quality is much higher, and its assimilation is easier. In the coming years, the acceleration of food and animal feed production requires an increase in soybean cultivation. In addition, for the purpose of productive use of land, it is necessary to organize joint planting.

## Main part

The "Diomond" corn variety is a selection hybrid of the American state. It has been planted throughout the republic since 2017. The hybrid is resistant to spring frosts. Medium-sized, the average plant height is 150.0-200.0 cm. The vegetation period is 85-98 days. The average weight of 1000 seeds is 209.0-308.6 g. The average yield in repeated periods is 42.5-50.7 t/ha for grain, 350-450 t/ha for silage. The grain yield is 72.0-82.0%. Resistant to lodging. No cases of disease and insect damage were observed during the test years.

Corn variety "Harvest" (Hungary). Sown throughout the Republic since 2012. The hybrid is medium-tall, 200-210 cm tall. The average weight of 1000 grains is 242.0 g. The average



vegetation period is 92 days. The hybrid has a lodging resistance of 5.0 points. Suitable for mechanical harvesting. The average yield is 33.7-43.0 t/ha. Good food quality. The grain yield is 71.0%. No cases of diseases or insect infestation were observed during the test years.

Corn variety "Uzbekistan 300 MV". It is a selection hybrid of the Uzbekistan Maize Scientific Experimental Station. This variety has been cultivated for grain as the main and repeated crop on irrigated lands throughout the Republic since 2012. It is a simple hybrid plant. The plant height is 280-300 cm, and the average weight of 1000 grains is 298.0-320.0 g. The vegetation period is 105 days on average. The hybrid's resistance to lodging is 5.0 points. It is suitable for mechanical harvesting. The average yield is 58.0 s / ha. The food quality is good, the grain yield is 81%. No cases of disease and insect damage were observed during the test years.

The authors of the soybean variety "Tumaris" are M. Mannopova, R. Siddikov, B. Mirzaakhmedov. Economic characteristics: the growing season is 94-112 days, the plant height is 85-115 cm, the number of joints is 18-20, the number of grains per pod is 2-3, the weight of 1000 grains is 140-165 g, the protein content is 40-45%, the yield is 25-26%, and the yield is 24-38 t. The soybean variety "Selekta 301" has a growing season of 95-110 days, a plant height of 115-130 cm, a 1000-grain weight of 180-200 g, a protein content of 39-41.2%, and an oil content of 21-23%. The pods are semi-bent, large, flat, with a tip of three, with an average of 2-3 seeds. The seeds are orange, shiny green, ovoid, round. The seed capsule is light red with a large white mark in the middle. It is resistant to lodging, shedding, and diseases and is intended for mechanized harvesting. Under favorable conditions, the variety can yield 26-28 t/ha of grain and 250-280 t/ha of blue mass.

The growing season of the soybean variety "Nina" is 95-100 days, the plant height is 110-120 cm, the flower color is purple, the number of joints is 10-11, the number of grains in the pod is 1-3, the weight of 1000 grains is 140-165 g, the protein content is 40-42%, the yield is 21-23%, and the yield is 27-28 s. The height of the low shoots is 11-13 cm. Resistant to pests. Source of the study: morphological signs of local and foreign soybean varieties during ontogenesis were studied. The objects of the study were foreign soybean varieties Selekta-302 of Russian selection, Nina of Kazakh selection, local varieties Tumaris, foreign varieties of corn Harvest (Hungarian) and Diamond, and local varieties of Uzbekistan 300.

Soybean is a shorter plant than corn, therefore, when grown together, part of it dies due to the shading of corn.

In our experiments, the number of plants during the mowing period was close to the theoretical thickness. Corn grain, green mass, silage and husk, and groats are excellent feed. 1 kg of grain contains 1.34 nutritional units and 78 g of digestible protein. Corn is a valuable component in the preparation of mixed fodder. 100 kg of silage mass harvested in the milk-ripening phase contains 21 nutritional units and 1800 g of digestible protein. Since corn is a tall plant, its growth energy is higher than that of soybean, therefore, there was no significant difference between the thickness of corn planted together and alone.

The height of the corn plant varieties Harvest (Hungary) and Diamond is usually 250-300 cm, but when planted together with soybean, the soybean reached 350-400 cm during the podding period. This has been shown to be a good forage crop.

The development of replanted plants differs significantly from that of plants sown in the main period, since their development conditions are different. In all cases, grasses emerged 5-7 days



after sowing. When soybeans were planted together with corn, the flowering period was observed 53-56 days, and the ripening period was 81-95 days after sowing. The development of soybeans was strongly influenced by growing conditions.

The biological characteristics of soybean varieties, irrigation and feeding regimes are also of great importance in the formation of soybean pods.

### Conclusion

The morphology of soybean and corn plants was analyzed from the literature, and it was found that the cultivation technology of both plants is similar, the agrotechnical work performed after planting is similar, and valuable economic characteristics increase when both plants are planted together.

The characteristics of soybean and corn plant varieties obtained from experimental studies were studied, and it was found that their planting period and growth standards are compatible with each other.

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