

15.3.5

Does your university as a body collaborate with the local community, e.g. through partnerships, in efforts to maintain shared land ecosystems?

“Effects of seeding rates and inoculants on plant growth, development and yield in cotton and soybean intercropping”

Field experiments on soybean planting and cultivation between cotton rows were conducted at the scientific-experimental station in Akdarya district of Samarkand region. In the experiment, cotton and soybean row spacing was 90x20 cm double row, 8 variants and 4 repetitions. The "Zarafshon" variety of cotton included in the State Register, Nafis and Selekt-302 soybean varieties were taken as experimental objects in the ongoing research.

The purpose of the study: to determine the effectiveness of optimal planting standards and inoculant application that will ensure higher yields of soybeans when intercropped with cotton and soybeans.

Sowing of cotton and soybean seeds was done on April 7, 2021. After sowing, the seed germinated in 9 days and soybean seeds germinated in 11 days. Field germination of soybean seeds with inoculant application was on average 88.2% and significantly increased compared to the control variant without inoculant application.

Crop care was carried out according to the procedure established in cotton agrotechnology.

In the experiment, when the Nafis variety of soybean was planted, cotton and soybean grew well together because it did not branch. When the variety Selekt-302 was planted with cotton, it was observed that the development of cotton was slowed down due to branching of the soybean.

In rows where cotton was planted separately, the number of cotton plants per hectare was 100,000, and when it was planted with soybeans, it was 72,000, and when soybeans were planted separately, the number of plants per hectare was 500,000, and when it was planted with cotton, it was 350-400,000.

Soybean seeds, when planted separately, form nodules on the roots, accumulate 70 kg/ha in pure soil, and up to 150 kg/ha in our rows with inoculants, because there is no need to use nitrogen fertilizers, and next year, up to 7-10 centners per hectare will be saved. allows to get a crop.

Soybean crop was harvested today, it was observed that the yield was 22 t/ha when soybean seeds were sown separately and 16 t/ha when planted together with cotton.

Cotton harvesting continues and yield determination is being carried out.

In conclusion, when soybeans are mixed with cotton and due to the use of inoculants, the increase in the number of symbiotic bacteria in the roots of soybeans increases soil fertility and has a positive effect on the next year's crop yield.

Recommendations

1. It is advisable to choose soybean varieties that do not branch and do not have a serious negative effect on the development of cotton when planted together with cotton.
2. Compared to the height of cotton, the height of the soybean plant is relatively low, and the study of early varieties by adding them to the experimental options will help to increase the relevance of the work and the efficiency of the results.
3. Conclusions based on the results of the first year's experiments will be summarized, a plan for next year's experiments will be drawn up, and the number of varieties in the experiment will be increased.

