

EFFECTS OF SOIL TREATMENT ON COTTON YIELD

Abdurahimov Shavkatjon Olimovich*; **Berdibaev Erkaboy Yuldashevich****;
Charshanbiev Umurzoq Yuldashevich***; **Sattarov Oybek Abduganievich******;
Khaitov Ergash Ashuralievich*****; **Tolqinov Ilhom Gulomgli*******

*Associate Professor,
Candidate of Agricultural Sciences, Tashkent State Agrarian University,
Samarkand, UZBEKISTAN

**Professor,
Candidate of Agricultural Sciences, Tashkent State Agrarian University,
Samarkand, UZBEKISTAN

***Associate Professor,
Tashkent State Agrarian University,
Samarkand, UZBEKISTAN

****Associate Professor,
Tashkent State Agrarian University,
Samarkand, UZBEKISTAN

*****Master Student,
Tashkent State Agrarian University,
Samarkand, UZBEKISTAN

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ABSTRACT

In the conditions of light gray soils of Andijan region, using a new combined unit, various tillage of the soil and planting of Andijan-36 variety of cotton at different times and high-quality cotton. Due to the positive features of the new combined technology of tillage, the soil moisture was created for the longest time, the effectiveness of mineral fertilizers was high, the soil was adequately supplied with nutrients. Seedling thickness is important in the care of cotton, which has shown that in all respects it depends in many respects on the biological properties of cotton and the technologies used.

KEYWORDS: *Tillage, Irrigation Cotton Plant, Soil Conditions, Growth And Development, Yield.*

INTRODUCTION

In recent years, the world agricultural practice has taken into account the biological characteristics of crops, the widespread introduction of resource-saving advanced technologies that improve soil fertility through the use of soil and climatic technologies, high use of techniques, maintaining soil fertility, reducing the cost of production of cotton due to the saving of mineral fertilizers.

The purpose of the study

In the conditions of light gray soils of Andijan region, the technology of cultivating the soil with the help of a new combinatorial aggregate, maintaining and increasing the soil fertility of the technology of one-time application of fertilizer under the pile, and developing resource-efficient agrotechnology for planting Andijan-36 variety of cotton.

The object of the study is light gray soils, resource-efficient agrotechnology, combinatorial units, planting system, liquid ammonia, Andijan-36 variety of cotton.

Practical results of the research

When using the combined unit, the seeds are sown individually and in combination, 50% of the annual norm of nitrogen is applied in the form of liquid ammonia in the fall, and the remaining 50% is stratified in the form of ammonium nitrate (granules) during the growing season. cm³, porosity increased to 1.1%, soil water permeability increased to 21.3 m³ / ha.

According to the results of experiments conducted in 2020, the soil was treated with a combination of aggregates, one-time plowing, under the piles in the fall nitrogen was added to the annual norm of 200 kg / ha in the form of 100% liquid ammonia, seeds of Andijan-36 cotton variety planted separately and in combination of 3-4 observations on August 20, the ripening of the cotton crop was 27.8-30.0% of the seedling thickness, on August 23 - 51.8-57.7%, and on August 26 - 89.6-96.7%. the values of the annual norm of nitrogen in the soil treated with conventional methods during the period of application of cotton fed with ammonium nitrate form (NH₄NO₃) for 1-2 variants are observed that it was more than 3.8-3.7, 3.7-4.1; 2.1-4.3% depending on the seedling thickness.

By means of a combined aggregate, a single batch is taken, and then 50% of the annual rate of nitrogen is added to the bottom of the batch in the form of liquid ammonia. During the growing season of Andijan-36 cotton, the remaining nitrogen content during the growing season was observed in 5-6 variants of single-row and double-seeded seeds in the form of ammonium nitrate (granules). It was 57.2-65.3% on August 23 and it was 92.6-98.7% on August 26. The values of the annual rate of nitrogen in the soil treated with conventional methods, compared to the variants fed with ammonium nitrate form (NH₄NO₃) during the period of application of cotton, the indicators are observed to be more than 5.0-5.7, 9.1-11.7, 5.1-6.3% in accordance with the seedling thickness. In 3-4 variants treated with a combination of aggregates and 100% of the annual rate of nitrogen under the pile, it was observed that it was more than 1.2-2.0, 5.4-7.6, 3.0-2.0%.

It should be noted that the ripening of the cotton crop in resource-efficient agro-technology with the use of a new combined tillage unit depends on the application of the annual rate of nitrogen in the form of liquid ammonia and the amount of seedling thickness in the fall and the soil was treated in the traditional way, the annual rate of nitrogen was ripened 4-5 days earlier than the options fed with ammonium nitrate form (NH₄NO₃) during the period of application of cotton. As a result, new resource-efficient agro technology and the positive properties of nitrogen nutrition in the form of liquid ammonia allowed growing a fairy-tale cotton crop.

Seedling thickness is important in the care of cotton, which has shown that in all respects it depends in many respects on the biological properties of cotton and the technologies used. In

addition, the use of new combined tillage technology improves soil volume weight, porosity, water permeability and moisture storage capacity, as well as the creation of favorable soil conditions enriched with nutrients that are effectively absorbed by the plant. created the opportunity to grow crops.

New resource-efficient agrotechnology of soil tillage, ie combined tillage in autumn and taken the pile, in the variants of nitrogen at the rate of 200 kg / ha per year in the form of 100 and 50% liquid ammonia, and the seeds are sown in single-row and double sowing (3-4 and 5-6 var.), Thanks to the new resource-saving agrotechnology and the positive properties of liquid ammonia, the cotton crop was fully 100% ripe in 118-122 days.

It was observed that the annual rate of nitrogen (plowing + baronization + plowing), which was controlled by the soil in the traditional way, matured 2-4 days earlier than the variants fed with ammonium nitrate form (NN₄NO₃) during the period of application of cotton.

CONCLUSION

Due to the positive features of the new combined technology of tillage, the soil moisture was created for the longest time, the effectiveness of mineral fertilizers was high, the soil was adequately supplied with nutrients. As a result, the growth and development of cotton in these variants is significantly accelerated compared to the usual 30-35 cm plowing control 1-2 variants, and the yield process begins early, especially in variants with a seedling thickness of 140-150 thousand bushes / ha. observed.

In all cases where the number of seedlings was reduced to 90-100 thousand bushes / ha, in all cases, as mentioned above, the plants grew taller and were more prone to weeding, so the yield elements matured later than plants with seedlings of 140-150 thousand bushes.

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