EPRA International Journal of Agriculture and Rural Economic Research (ARER)- Peer-Reviewed Journal
Volume: 8 | Issue: 3| September 2020| Journal DOI: 10.36713/epra0813|Impact Factor (SJIF): 7.367| ISSN: 2321 - 7847

TREATMENT OF FERTILIZING TYPE OF FACTORY FACTORY IN TREATMENT AND FOOD

[1]Shamsiyev Akmal Sadirdinovich
[1]Candidate of Historical Sciences, Professor, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan,

[2]Kamilov Bakhtiyor Sultanovich
[2]Ph.D, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan,

[3]Ziyatov Musulman Panjievich
[3]Ph.D, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan,

[4]Karshiev Rustam
[4] Independent Researcher, At the Irrigation and Water Problems Research Institute, Uzbekistan,

[5]Togaev Shukhrat Mirakhmatovich
[5]Small scientists, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan,

[6]Eshonkulov Jamoliddin
[6]Base doctoral student, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan,

[7]Muhammadieva Oygul Normengliyevna
[7]Small Scientists, Research Institute of Cotton Breeding, Seed Production and Cultivation Agrotechnology, Uzbekistan.

ABSTRACT
Effectiveness of applying different rates of mineral fertilizers with the method of fertigation in furrow irrigation and in mulching with black polyethylene film of cotton in the condition of old irrigated typical sierozem soils of Tashkent province were presented in article.
KEYWORDS: ***soil weight, poorness, guzanian irrigation, black polyethylene film, mineral fertilizers, fertigation, flexible pipe, pipe.***

INTRODUCTION

Today, the use of new innovative technologies in the irrigation and feeding of cotton with mineral fertilizers in the country achieves a uniform moistening of the active layer of the soil, which is the root system of plants, and an increase in fertilizer utilization. With the creation of optimal soil, air, heat and nutrient regimes in the soil, the growth and development of plants are accelerated, and ultimately high and quality yields are achieved. Irrigation with mulch between rows of cotton with a black polyethylene film and the application of mineral fertilizers in the form of water-soluble fermentation is of great practical and theoretical importance. In recent years, drip irrigation of cotton fields and the use of polyethylene film between rows to irrigate and dissolve mineral fertilizers in water, as well as the distribution of irrigation water through irrigation pipes, have not only saved water, but also made it possible. Therefore, in the effective use of

Volume: 8 | Issue: 3| September 2020| Journal DOI: 10.36713/epra0813|Impact Factor (SJIF): 7.367| ISSN: 2321 - 7847

available water resources and mineral fertilizers in cotton growing, it is necessary to introduce the method of fertilization of irrigation and feeding mulch between rows of cotton.

In the research carried out by GA Bezborodov [3], as a result of irrigation between rows of cotton with mulch of winter wheat straw, the soil is evenly moistened for a long time, due to the lack of nutrients and mineral fertilizers, irrigation water retention by 20%. It is also possible to reduce the number of intercrops by 3-4 times compared to the control, to save 25-30% of FDI, to reduce the fertile layer of the soil, to prevent damage to the root system, and to create favorable conditions for plant growth and development. The increase in the number of soil microorganisms and the amount of mineralized nitrogen in plant residues, the acceleration of biochemical processes in the soil, the increase in its biological and enzymatic activity were noted.

MATERIALS AND METHODS

A. Avliyokulov [2; Pp. 244-248], in the conditions of typical glacial soils of Tashkent region in the cultivation of drought-resistant varieties of cotton "Denov" irrigation is carried out at a rate of 65-65-60% relative to the CDNS, nitrogen fertilizers at 100 kg per hectare, 100 kg of nitrogen fertilizers per 100 kg. a high yield of 36.8 quintals of cotton was obtained. GA Bezborodov [4; According to a study conducted by pp. 9-14, an average of 6 million tons of grain is harvested annually in the country. tons of somoni will be grown. Research on the use of straw as mulch is important in maintaining soil fertility and natural restoration of its macro-and micronutrient content. Mulch promotes water, air and heat regulation of the soil, serves as a depressant that prevents moisture evaporation, increases the amount of humus in the soil, improves agrophysical and water-physical properties, improves the biological activity of the soil, improves its biological activity.

M.Yu. Esanbekov [5; Pp. 18-19], in the variants with a calculated moisture content of 70-100-70 cm, the average seasonal water content of the cotton is around 3820-4377 m3 / ha, and in the variants with a calculated layer of 50-50-30 cm - 2755-2712 m3. / ha. In the first group of options, in order to maintain the calculated irrigation regime, it was irrigated 5 times, and in the second group, it was irrigated 7 times, and the maximum water efficiency was 0.83-0.89 m3 / h in the options irrigated by mulched fields. In the non-mulched versions of the cotton row spacing, these values were 0.48-0.69 m3 / h. A. Haydarov [6; Pp. 208-212] In his research, in the cultivation of cotton varieties "Andijan-77" and "Navruz" in the light-colored soils of Andijan region, the application of mineral fertilizers at a rate of N200, P140, K100 kg per hectare is high. In this case, the soil moisture of the medium-fiber cotton variety "Andijan-77" in the order of 65-65-60% compared to the CDNS, in the growing season in the range of 0-2-1, on average 3577 m3 per hectare, and the variety "Navruz" in the order of 70-70-60%. In the 1-2-1 system, it is recommended that irrigation at a rate of 4048 m3 during the growing season gives good results. Mulching between rows reduces the physical evaporation of soil moisture, prevents soil erosion, and eliminates water wastage through ditches when water is distributed to crops through flexible artificial pipes.

Irrigation of cotton using flexible pipes used a system of hoses in the form of soft pipes instead of water supply and distribution ditches of the field. At the points of these hoses on the fields, water outlets are opened and the water supplied to the irrigation system is distributed along the fields. Irrigation with the help of portable flexible pipes eliminates wastage of water by infiltration into the soil from ditches and ditches, the water is distributed evenly over all fields, and all parts of the field are uniformly moistened by melting black polyethylene film. When irrigated with the help of portable flexible pipes, the water level in the irrigated reinforced concrete tray was 30-50 cm and higher than the surface area. Due to the fact that the water level in the irrigation source is higher than the irrigated area, the water flows in the flexible pipe, which in turn allows providing the same amount of water to the fields at the head and bottom of the irrigation pipe. This, in turn, prevented excessive water wastage. In addition, due to the timely processing of cotton between rows, soil moisture was not wasted. According to the results of our research, at the beginning of the cotton growing season, the agrophysical properties of the soil in the experimental field, including water-physical properties, such as mass, porosity, water permeability and field moisture capacity, were studied in detail. 1.29 g / cm3 in the 0–30 cm layer, 52.2%, 1.31 g / cm3 in the 0–50 cm layer, 51.4% and an average of 1.33 g in the 0–70 and 0–100 cm layers. / cm3 and 50.7%.

RESULTS AND DISCUSSION

Towards the end of the growing season, in the 1st variant, where mineral fertilizers are traditionally applied, the volume mass of the soil is 0–30 cm in furrows and 0–50 cm in layers of 1.34 and 1.36 g / cm3, in the lower 0–70 cm, 0–100 cm layers. 1.38 g / cm3. In Option 2, when mineral fertilizers are dissolved in water with irrigation, the bulk density of the soil is 1.34 g / cm3 in the 0–30 cm tillage layer, and 1.36 g / cm3 in the 0–50 cm layer, and 0–70 and 0–100 cm in the lower layer. layers averaged 1.37 and 1.38 g / cm3, respectively. When mineral fertilizers are applied in conjunction with irrigation on filmed soils, the bulk density and porosity of the soil are 1.31 g / cm3 in the 0–30 cm plowing layer and 51.3% in the 0–50 cm layer, 1.33 g / cm3 and 50.6% lower 0 In the layers -70 and 0–100 cm, the average was 1.35 g / cm3 and 50.0%. It was noted that the optimal values of soil volume were observed in the variants of mineral fertilizers in

EPRA International Journal of Agriculture and Rural Economic Research (ARER)- Peer-Reviewed Journal
Volume: 8 | Issue: 3| September 2020| Journal DOI: 10.36713/epra0813|Impact Factor (SJIF): 7.367| ISSN: 2321 - 7847

water-soluble variants with irrigation in film-covered areas (Fig. 1).

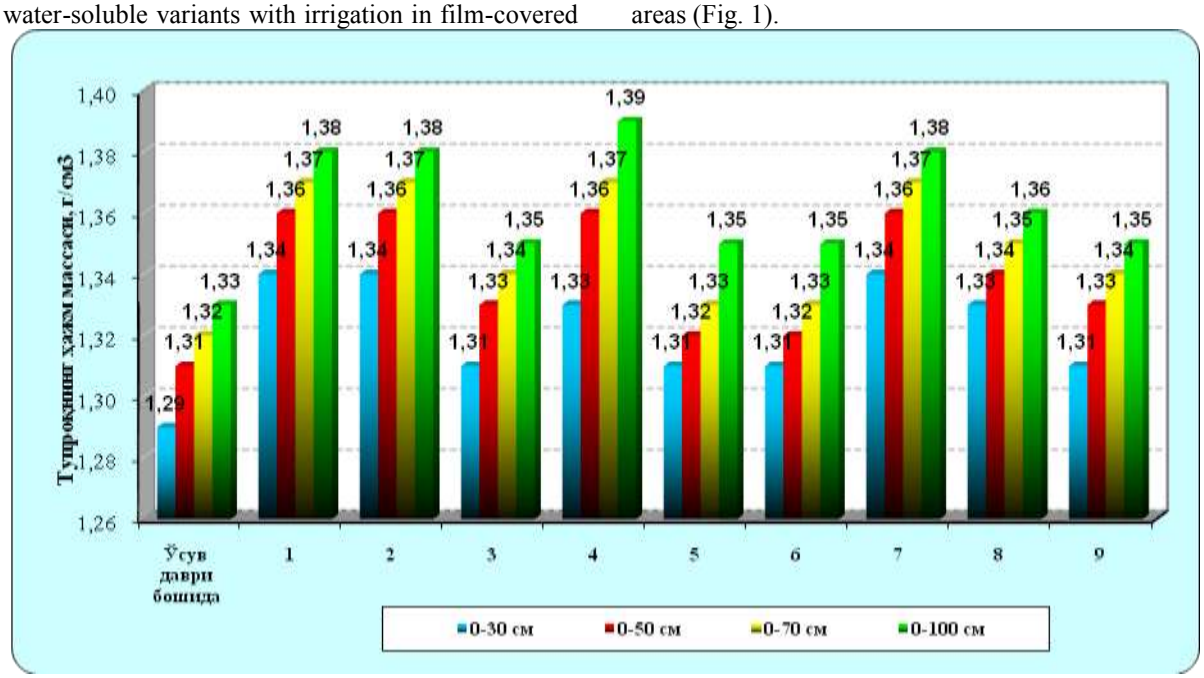

Figure 1. Variation of the volumetric mass of the soil of the experimental field, g / cm3

According to the three-year study, the annual agro-technical measures, in particular, the application of black polyethylene film between rows of cotton and the application of nitrogen fertilizers by means of flexible pipes, the volume of soil at the end of the season is 0.0 kg / m3. During the study years, at the beginning of the operation period, the porosity of 0–30 and 0–50 cm of soil relative to the bulk density was 52.2, respectively; 51.4; In the 0–70 and 0–100 cm strata, 51.1 and 50.7 per cent, respectively (Fig. 2).

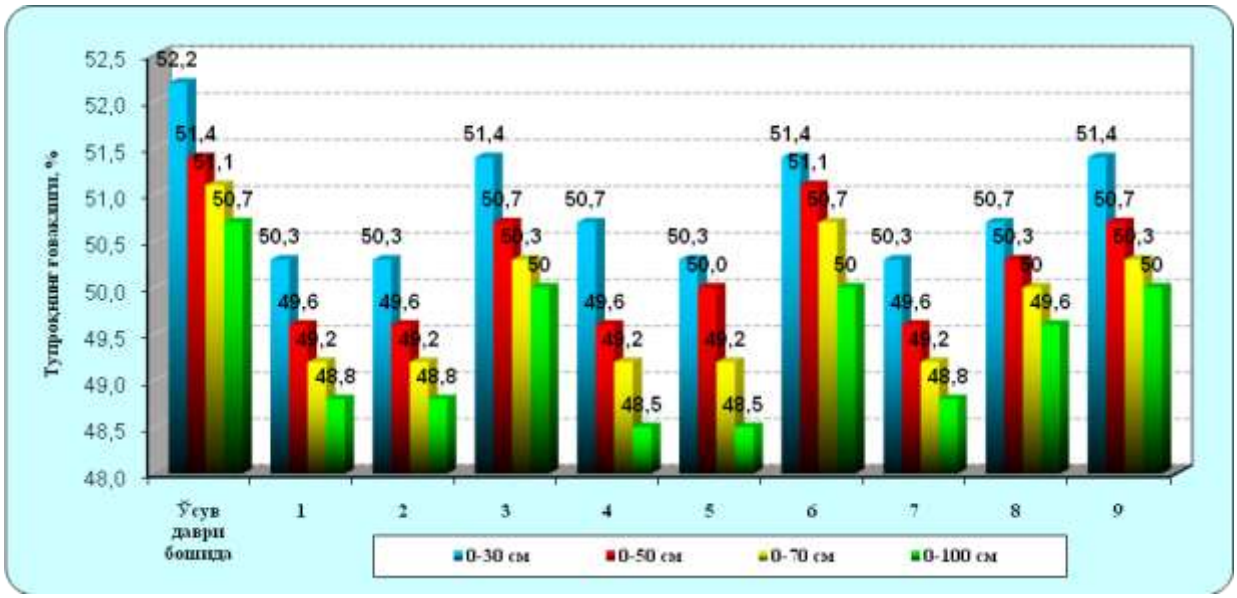

Figure 2. Changes in soil porosity in the experimental field,%

In our options, cotton is irrigated 6 times at the rate of 602-980 m3, while the average seasonal water rate is 4075 m3 per hectare. In the variants irrigated in flexible polyethylene film mulched pipes between rows, it was observed that during the growing season the cotton was irrigated 6 times at the rate of 500-590 m3 per hectare and the seasonal water norm was 2980 m3 per hectare. In practice, the average yield of cotton was 35.9 centners per hectare in the first variant, when mineral fertilizers were applied in the traditional way at 100%, and 34.9 centners in the second variant, when mineral fertilizers were dissolved in water together with irrigation. It was observed that in the 3rd variant, when mineral

Volume: 8 | Issue: 3| September 2020| Journal DOI: 10.36713/epra0813|Impact Factor (SJIF): 7.367| ISSN: 2321 - 7847

fertilizers were dissolved in water together with irrigation in the film-covered areas, in option 3, it was 38.2 centners. This indicator averages 28.2-32.0 centners in 4-7 variants of 75-50% annual application of traditional mineral fertilizers, and an average of 27.0-32 in 5-8 variants of 75-50% annual solubility with irrigation. , 5 centners. It was found that the average fertilizer yield was 30.2-34.7 centners in 6-9 variants, when the mineral fertilizers were dissolved in water along with irrigation in the filmed areas.

CONCLUSION

An additional 3.3 quintals of cotton per hectare was obtained in 3 variants given by the method of fermentation when dissolved in water in comparison with the 1st variant, which is traditionally fed with mineral fertilizers at the rate of 100% per annum. An additional yield of 2.7 quintals of cotton was achieved with the traditional method of mineral fertilizers at the rate of 75% per annum, and with the traditional method of mineral fertilizers at the rate of 50% per annum - 2.0 quintals.

In summary, using portable flexible pipes for watering cotton plants and applying fertigation method to provide mineral fertilizers bring equal water distribution, efficient use of land, prevention of excess water evaporation and evaporation, prevention of water leakage into the lower layers, rising groundwater levels, as well as environmental protection and efficient use of water.

REFERENCE

1. *Methods of conducting field experiments. ПзПИТИ.-Тошкент, 2007. - 122 б.*
2. *Avliyokulov AE Collection of articles based on the reports of the International scientific-practical conference "Scientific and practical basis for increasing soil fertility" Irrigation timing, standards and seasonal water consumption of cotton varieties. Tashkent-2007, pp. 244-248.*
3. *Bezborodov GA- Dissertation for the degree of Doctor of Technical Sciences on the topic: "Improvement of the seed network and the technique of cotton growing in the foothills of Uzbekistan." Tashkent, 1994.*
4. *Bezborodov GA - Scientific and practical bases of soil fertility (part 2) Collection of articles based on the reports of the International scientific-practical conference. Tashkent, 2007. Pages 9-14.*
5. *Esanbekov M.YU. Improving the elements of cotton irrigation technology in soils prone to irrigation erosion. Author's abstract of the dissertation of the doctor of philosophy in agricultural sciences Tashkent - 2017. № pp. 18-19.*
6. *Khaidarov BA Collection of reports of the Republican scientific-practical conference on "Introduction of new energy-saving agro-technologies in agriculture" "Impact of cotton on the future of irrigation" Navruz "irrigation system". Tashkent-2011, pp. 149-150.*