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Table Of Content

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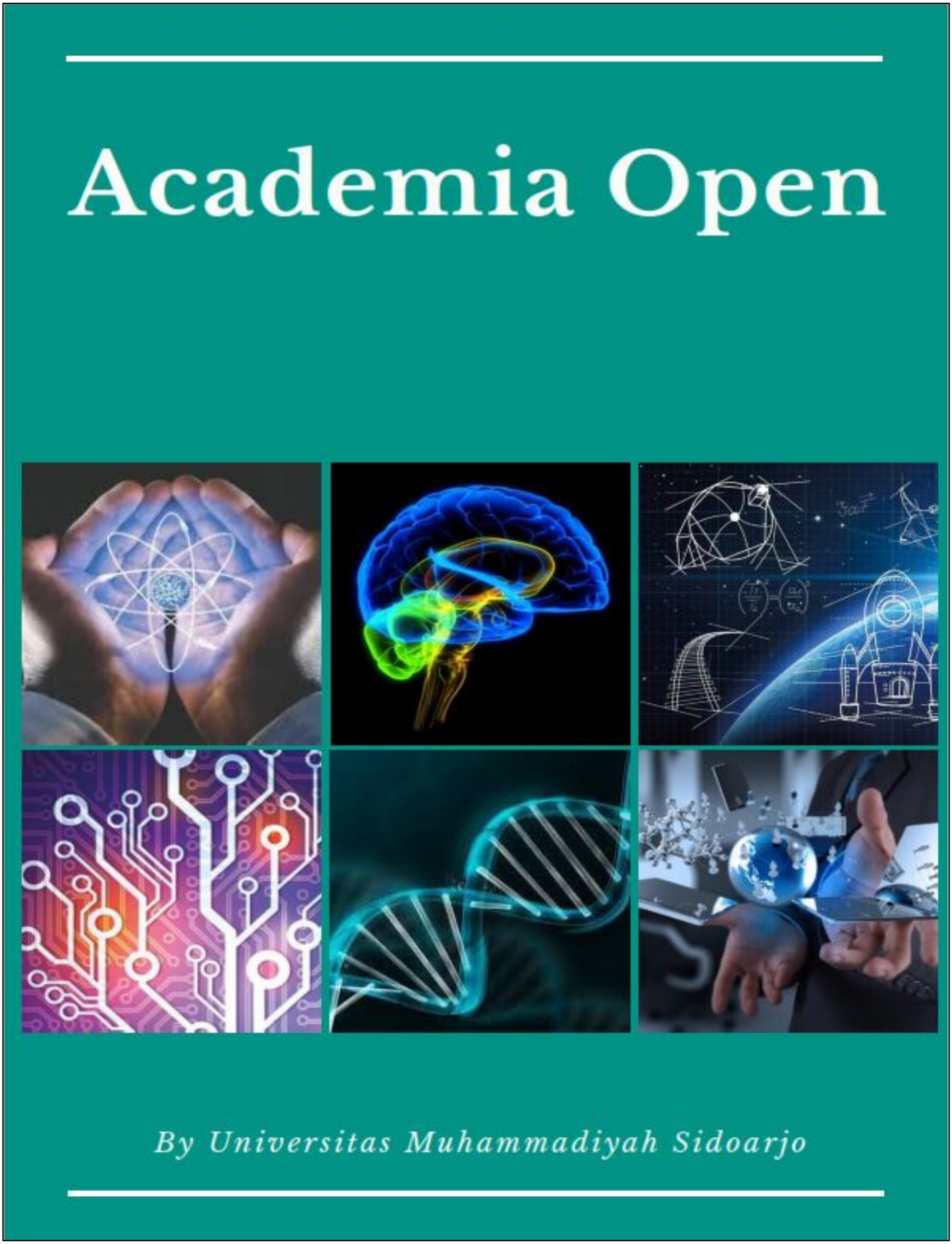

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Effect of deep work on the green blood system

K.Komilov , kamilova.dilfuza1177@gmail.com, (0)
Tashkent state agrarian University, Andijan Branch, Uzbekistan , Uzbekistan

D.Komilova, kamilova.dilfuza1177@gmail.com, (0)
Tashkent state agrarian University, Andijan Branch, Uzbekistan , Uzbekistan

O.Mo'minova, kamilova.dilfuza1177@gmail.com, (1)
Tashkent state agrarian University, Andijan Branch, Uzbekistan , Uzbekistan

(1) Corresponding author

Abstract

The result of the study have been scientifically proven to be the best agro-technology for the formation, growth and cultivation of high-quality cotton yields by differentiating inter-row cultivation in the conditions of ancient irrigated and original soils of Andijan region

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I ntroduction.

In Uzbekistan, deep loosening (23-25 cm) of cotton is important in the production of high-quality cotton. Because of the use of this agro event, the agrophysical, agrochemical, agrobiological and water properties of the 23-25 cm long soil layer with the largest root system of cotton are positively changed.

The majority of this agrarian production is held on a cotton ground without scientific justification, and farmers will continue to soften the rows of cotton by 50 percent, with the conclusion that the more crops (cultivation, the strip), the better. Therefore, in our research we have learned the optimal number and timing of deep processing or designing between cotton fields.

In our view, the theoretical foundations for deepening the rows of cotton are as follows:

- at least 4 times a technique per field during soil moisture retention, soil preparation for sowing, sowing, seeding, cultivation between rows of cotton after irrigation. Due to these, the root of cotton is 0-25 cm. The density of the soil layer increases, the porosity decreases, and the unfavorable soil environment for optimal growth and development of the cotton root system occurs.

According to scientific data, even if the damaged or truncated roots of the cotton root grow out of the "old" roots (callus), this root will not fully recover (1).

Research method.

Based on the foregoing, we conducted field experiments in the context of ancient irrigated, original sandy soils of Kurgantepa district, Andijan region, in order to determine the impact of deep processing or cross-sectioning on cotton fields.

Option 1. All surface treatment (cultivation) was carried out to 14-16 cm, no deep treatment (control).

Option 2. The rows of cultivation were differentiated and the first one was moved to 17-18 cm and the next to 14-16 cm.

Option 3. Differentiation of strips and deepening (23-25 cm) prior to mowing was carried out.

Option 4. Deep smoothing was carried out 23-25 cm after stratification.

Option 5. Differentiation (cultivation) of rows, deepening of 23-25 cm during the shale period was performed.

In the experiment, the variants are arranged in four turns and the pieces are arranged in a row. Observations, calculations and determinations made in the course of the research were based on the methods of field experiments of the former UzSPI Institute (2007) and BA Dospekhov's methodology of methodology (1983).

The soil of the experimental field is original (typical), irrigated from the old, with a moderate sandy loam, humus of 1.2%. The groundwater is 10-12 meters below the surface. Cotton was irrigated 70-70-60% against ChDNS.

Results of the study.

The main nutritional part of the cotton is the roots and leaves. The root system reacts with photosynthesis products of minerals and organic matter in its feeding site, synthesizes complex substances: nucleoproteids, energy-rich phosphorus compounds, various biocatalysts, growth stamulers, and transports cotton to the surface.

As root activity takes place in the soil environment, measures are needed to improve its agrophysical, agrochemical, biological and water properties to optimize their dispersed soil environment.

Based on the foregoing, in-depth analysis of the root system of the cotton crop, number and distribution of soil in the soil layers was investigated. Because of course, the roots and roots of the crop are naturally damaged and cut.

Studies have initially identified the root system at the beginning of the cotton cycle (Table 1).

The data show that in the conditions of the original gray soils the root of the shoot is 15,2-55,5 cm. goes to length. The number of side roots is 41.0.

Table 1 **Formation of cotton root system at the beginning of action period**

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№	Stages of development	Shoot root length, cm	The number of primary sidelines, pcs	Width width of side roots, cm
1	Seed leaf	15,2	16,3	4,2
2	1-2 maples	26,4	32,2	11,5
3	3-4 maples	41,3	37,7	29,1
4	During the blackening period	55,5	41,0	42,3

Table 1.

The lateral roots of the cotton grow 42.3 cm. This is a must and must be considered in deep processing of cotton fields.

Deep cultivation of cotton by 23-25 cm between rows will undoubtedly affect the root system as shown in Table 1. Particularly, the probability of cutting off the side roots of the cotton starts from the stage when the plant produces 3-4 cloves of maple. Implementation of this agro event in cotton plants during the production of 1–2 maple bushes will result in a dramatic reduction in root or root damage.

The study investigated the further development of cotton roots at the beginning of the flowering and fruiting phase of the plant. At the same time, processing depths between rows of cotton were performed according to the experimental procedure Table 2 .

Specifically, in the first version, where the rows of cotton were regularly shallow, with a deep softening, the roots of one bush were formed by 17 primary root roots. As a result of deep inter-row cultivation, the number of primary roots increased by 5-9 units.

Table 2

Cotton is at the end of the period of the depth of inter-row working

Effects on root system (0-40 cm)

Variant	The number of primary side roots, pcs	Out of these, pieces	Out of these, pieces 3	Weight of one plant root, d
2	18	6	8,5	8,523
3	26	4	14,1	10,201
4	24	4	12,8	9,771
5	20	10	9,8	8,307

Table 2.

It should be noted that in our study, the tissue (colitis) was damaged during the process of intermittent interruptions, the clusters were closed, and the wound was closed, with a small root of 2–3 cm in length; but only. Finally, it was discovered that the primary lateral roots that were cut could not restore their original shape, length, and size.

This is proved by the size and dry weight of the root system. Consequently, deep processing of the plant between the rows of cotton causes deep damage to the root system (10 pcs), the size of one plant root. (9.8 cm3) and low weight (8.307 g).

The study found that the number of primary side roots was 26-24, when only 4 rows of roots were cut or damaged when the rows of cotton were stratified and then softened to 23-25 cm before weeding. In addition, one plant root size (14.1–12.8 cm3) and weight (10,201–9,771gr) were higher than in Experiments 1,2 and 5.

This, of course, had an impact on the growth and development of the cotton. In particular, the cotton of the control variant increased by 84.1 cm on August 1,

In the 3rd variant, it increased by 88.2 cm and in the 5th variant by 82.3 cm. In short, when the plant grows 4–5 maples between the rows and deep in the shingling process, the roots are cut and damaged.

Periods of deep processing between rows were evident in the cotton yield of cotton. Specifically, cotton yield was

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32.2 t / ha from Option 1 (control), yield was 36.8 c / ha from Option 3 and 35.5 c / ha from Option 4. The next variant 5 yielded 33.5 c / ha.

Summary.

In the conditions of the ancient irrigated, gray soils of the Andijan region, the primary lateral roots of the cotton develop mainly in the 0-30 cm layer. It is desirable for deep processing (23 to 25 cm) between the rows of cotton to be carried out to the point of cutting, and the number of primary side roots is on average 26 pieces, while the cutting or damage of the side roots is greatly reduced.

The roots and the weight of one plant root are higher than those that were not cultivated deep in the rows or were carried out during this period of plant shading. As a result, high-quality cotton is grown (36.8 c / ha).

References

1. Muhammadjonov MV, Zokirov A. Agrotechnics of cotton. Tashkent, 1988, p. 224
2. Rakhmatov O. Agrotechnical methods for increasing the yield of cotton crop rotation in the Karshi steppe. T. “Menat”, 1991, p. 184
3. Ruzimetov R. and others. Impact of inter-row cultivation of cotton and effective use of organic fertilizers on cotton yield. Current issues in cotton growing and prospects for its development. T.2009, B. 279–281.
4. Saidumarov S.S, Yusupov I.M. Soil fertility and cotton yield in different types of tillage after intermittent cultivation. (Modern technology of cultivation of cotton, T, 1993) p.38-41
5. Chesalin G.A. Agrotechnical and chemical weed control measures. M, 1963, p. 63-75.
6. Hasanova F.M. Influence of post-wheat soil cultivation methods on soil agrophysical properties. The source of a rich crop of crops in the agricultural system and water-saving technologies. T. 2010, B. 149-151.
7. Saliyeva, R., Musaev, A., & Jumaeva, A. (2019). CLEARANCE OF THE EAST FRUIT BIOLOGY. Academia Open, 1(1).

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