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The Effect of Processing on Acorn Series Intervals on Soil Agrophysics As Well As Fiber Quality

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Abstract

This article provides information related to the impact of soil volume weight, porosity and seedling thickness on the quality indicators of cotton fiber on the range of Acorn care at different ranges of Acorn care in kxu-4B and milling cultivators. In this, it was noted that the agrophysic indicators of the soil improved in the range of 76 cm, compared to 60 sm (control), and the soil porosity increased by 1.4-0.3% after irrigation 1, at the end of the season, this indicator was mutonically 50.6-47.4%, 1.1-0.8% higher than the control option. When the quality indicators of the fiber were analyzed, it was found that kxu-4b between the 76 cm row and control in the complex processed variant in milling cultivators was 60 sm, copper-microneedle was 0.1, STR-specific break strength was 1.1 g strength/Tex, UI-uniformity index was 1.4, SFI-short fiber index was 0.4% less.

Keywords: *Soil Agrophysiology, Row Spacing, Processing Depth, Soil Layers, Different Cultivator, Growth, Cotton Yield, Fiber Length, Fiber Quality.*

1. Introduction

In recent years, new innovative technologies are being used in the processing of Acorn series ranges in our Republic. In this case, quality processing of the range ranges as well as an increase in the coefficient of feed use are achieved. It is known that when an optimal moisture, air, heat and nutrient regime is created in the soil, the growth and development of the plant is accelerated.

Soil agrophysiology is one of the factors affecting the growth and development of the plant, cotton yield and quality, and it is known from studies that water, air, microbiological processes for plant roots and change the amount and ratio of nutrient elements.

Place and source of research. The experiment was conducted in the upper Chirchik District of the Tashkent region in the conditions of typical rich soils. Typical Bous soils enter a type of unsalted automorphic soil irrigated from the old one, and sizot water is located at a depth of 3-4 meters. The mechanical composition of the soil is medium loamy soils.

The experiment found the effect of processing of acorns in medium-fiber cultivars "ravnaq-1" at 60 sm (control) and 70, 76 sm row intervals on soil agrophysical properties and fiber quality in kxu-4B and milling cultivators.

2. Literature Review

F.M.In khasanova's scientific research, when ground processing methods were analyzed by analogy, the Earth was constantly treated at a depth of 35-40 SM, and after taking a straw at a height of 30 sm, planting measures were carried out on the backgrounds at a depth of 35-40 SM, they found that the volume of the soil decreased by 0.006-0.010 g/sm3,

N.E.Avazakhulov, A.E.Avtokulovs [1] when the first type of Acorn fiber-giving variety "Termez-49" was bred using optimal agrotechnical measures, the fiber output was 34.4 %, the fiber length was 39.2 mm, the fiber break strength was 4.2 Gs, the methyric number was 7600 ml/AC, the relative break strength was 33.0 Gs/AC and the weight of 1000 grains was 119 gr. An average yield of 47.6 ts/ha is achieved when the variety is planted on an area of 42 at the seed Experimental Station "friendship".

F.M. Khasanova, M.S. Atabaeva [5] s have been found to have a positive effect on the quality of cotton fiber when nitrogen fertilizers were applied under the pushta in the fall in the form of 100% and 50% ammonia per 200 kg/ha in the meiore when caring for the Andijan-36 acetic variety using new combination processing technology into the soil. In this case, the Earth is planted in a pushtah with a drive of 30-35 SM, in a care option with a seedling thickness of 148.8 thousand/PCs per hectare, the fiber output is 38.2%, the fiber length is 34.2 mm, the relative elongation strength of the fiber is 28.2 GK/Tex and the microneir is 4.3 GK/

Ganiev M.S and Besedin P.In the N [9] data, it shows its direct influence on the agrophysical properties and structures of the soil in the processing of the soil between the main and the series with agricultural techniques. It was noted that an increase in soil porosity or its decrease, on the other hand, can adversely affect the violation of moist storage in the soil, changes in soil aeration, active movement of beneficial microorganisms, and reduce the yield of cotton, as well as the quality of fiber.

A.S.In Shamsiev's research, the volume mass of the soil was the lowest when applied together with the irrigation of mineral fertilizers to film-bearing egats, and the volume mass and porosity of the soil were at 1.31 g/cm^3 and 51.4% in a 0-30 cm layer, 0-50 CM. in the layer 1.33 g/cm^3 and 50.6%, bottom 0-70 and 0-100 CM. it was mentioned that its layers averaged 1.35 g/cm^3 and 50% [6].

R.In Qurvontoev data, the mass of volume, one of the physical properties of the soil, changes as a result of erosion and soil treatment. According to the data obtained, the volume mass in the soil surface layers is 1.31-1.42 g/cm^3 on moderately eroded slopes, and in the non-eroded area, 1.30-1.34 g/cm^3 [7].

D.When analyzing the volume weight of the soil in the 0-30 cm layer of 12.13-16 variants planted in a 76 cm planting system with a film bed and a Pushta additive in the seed cell in the Janibekov studies, the volume weight of the soil increased by an average of 1,369-1,378 g/cm^3, with a porosity of 48,975-49,975 although a decrease of 3.087% has been observed, it has been observed that the volume weight of the soil is 0.021-0.029 g/cm^3 less compared to the variant planted with 2-control tile beds at the end of the period of action, and porosity is 0.7-1.0% more [8].

3. Results and Discussion

Agrophysical properties are an important indicator that determines their cohesion in all processes taking place in the soil. The volume weight of the soil is variable depending on its mechanical composition, the amount of humus, the granularity state and the viscosity state. The application "metodi agrofizicheskix issledovanium" (Tashkent, 1973) was used in conducting agrophysical analyses of field soil in which research is carried out.

The experimental field uses 5 points in the envelope method at the beginning of the amal period to determine the volume mass of the soil, 1-after irrigation, and 0-10, 10-20, 20-30, 30-40, 40-50 CM of the soil from each option at the end of the amal period. soil samples from the layers were taken using a cylinder (size 100 cm^3), N.A.Determined by the Kachinsky method.

It can be said that kxu-4b, adopted in production (in Uzbekistan) to various ranges of acetic care, as well as the volume mass and porosity of the soil when treated in a milling cultivator produced in Turkey, change, lead to active movement of biological active substances in the soil and a change in the food regime. In studies from this point of view, scientific studies on the impact of soil on agrophysical properties in the treatment of Acorn series ranges in kxu-4B as well as in Turkey-made milling cultivator were carried out in 2020-2022. In all years of the study conducted, close to one data was recorded. Table 1.

Soil layers, CM	At the start of the season, g/sm^3	Var									
		I-II		III-IV		V-VI		VII-VIII		IX-X	
		60 см. (КХУ-4Б)		70 см. (КХУ-4Б)		76 см. (КХУ-4Б)		76 см. (КХУ-		76 см. (фрезер)	
		1-after wateringr/cм3	At the end of the season, g/см3	1-after waterin g/см3	At the end of the season, g/см3	1-after watering/cм3	At the end of the season, g/см3	1-after watering/cм3	At the end of the season, g/см3	1-eg after smokin g/см3	At the end of the season, g/см3
40-50	1,41	1,43	1,45	1,42	1,44	1,42	1,43	1,42	1,43	1,42	1,44
30-40	1,34	1,4	1,43	1,41	1,42	1,39	1,42	1,39	1,41	1,41	1,42
20-30	1,3	1,35	1,38	1,34	1,39	1,33	1,37	1,32	1,37	1,32	1,37
10-20,	1,26	1,32	1,37	1,31	1,35	1,3	1,35	1,28	1,33	1,29	1,34
0-10	1,22	1,29	1,33	1,28	1,32	1,28	1,33	1,25	1,3	1,26	1,31

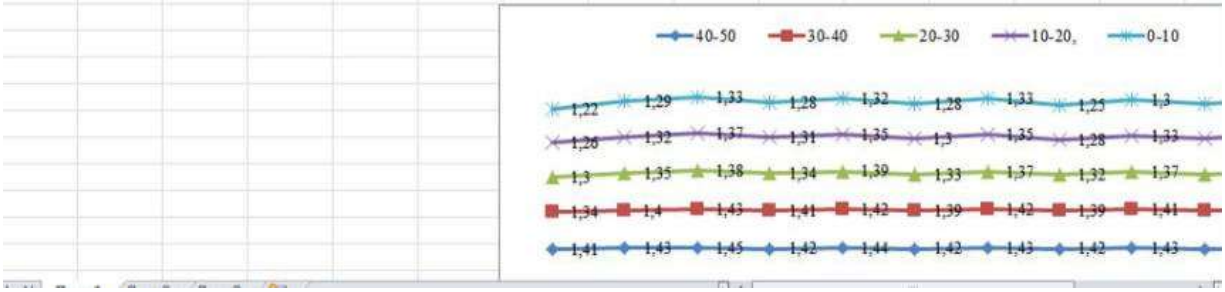

Fig 1. The effect of processing in different cultivators between the rows on the volume weight of the soil, in layers g/cm^3. 2022.

In the scientific studies carried out, the soil was determined in terms of volume weight on a general background at the beginning of the season, after watering 1, and by options at the end of the season.

Before planting (at the beginning of the season), when samples of soil from 5 points were taken from the experimental field and analyzed, the volume weight in the driving layer was reduced to 0-10, 10-20, 20-30 cm layers 1,22-1,26-1,30 while g/cm^3, at 0-30 CM was 1.26 g/cm^3, under the drive layer the volume weight was 1.34-1.41 g/cm^3 mutonosively at 30-40.40-50 cm layer, at 30-50 cm 1.37 g / cm^3. Figure 1.

In the study carried out, 60 cm. in the I-II control options treated with the kxu-4B cultivator adopted in production between the rows (in Uzbekistan), 1 when determining the volume weight of the soil after watering, the driving layer is mutonosibed into layers of 0-10, 10-20, 20-30 cm 1,29-1,32-1,35 it was observed that g/cm^3, 1.32 g/cm^3 at 0-30 CM, as well as soil volume weight by the end of the season slightly compacted at the expense of agrotechnical activities carried out during vegitation in all variants, when soil samples are taken and analyzed in layers of 0-10, 10-20, 20-30, 30-40, 40-50 CM 1,33-1,37-1,38-1,43-1,45 G / sm^3. Also, the last 76 cm. in the IX-X variants, which are processed in a milling cultivator during the season between the rows, the volume weight of the soil is 0-10, 10-20 and 20-30 cm after 1 watering. in the drive layer 1,26-1,29-1,32 g / cm^3 as well as 30-40 and 40-50 CM. it was inconsistent that the undercurrent layer mutonosively measured 1.41-1.42 g/cm^3, and at the end of the season the rate was mutonosively 1.34-1.43 g/cm^3 to the 0-30 and 30-50 cm layers.

According to the results of the analysis, the optimal indicator for the volume weight of the soil is 76 cm. complex yani (KXU-4b+milling+kxu-4b+milling+kxu-4b) cultivators between the rows are recorded in complex treated variants VII-VIII, 0-30 CM after 1 watering from control (I-II) variants. drive layer and 30-50 cm. in the undercurrent layer, it was known that mutonosively compacted 0.04-0.01 g/cm^3, and at the end of the season, this indicator was less compacted by 0.03-0.02 g/cm^3. In this variant, the relatively low volume weight is explained by the efficiency of processing cultivators to row intervals. Figure 7.

It should be noted separately that the effect of complex processing with kxu-4B and milling cultivators on the row intervals, as well as on the row intervals, on the volume weight of the soil in the care of the ACORN was determined to be significant.

It is known that when processing between the Acorn row with agricultural techniques, regardless of the type of soil or the region of transfer, they have a direct impact on soil structures such as: soil tightness, porosity, granularity. An increase in soil porosity or its decrease, on the other hand, can lead to a violation of moist storage in the soil, changes in soil aeration, active movement of beneficial microorganisms and other negative consequences like this. In this regard, in the studies carried out, observations were also made on the effect of processing on soil porosity in different cultivators between

the Acorn row. It is known that the high or low soil porosity directly depends on the volume weight of the soil.

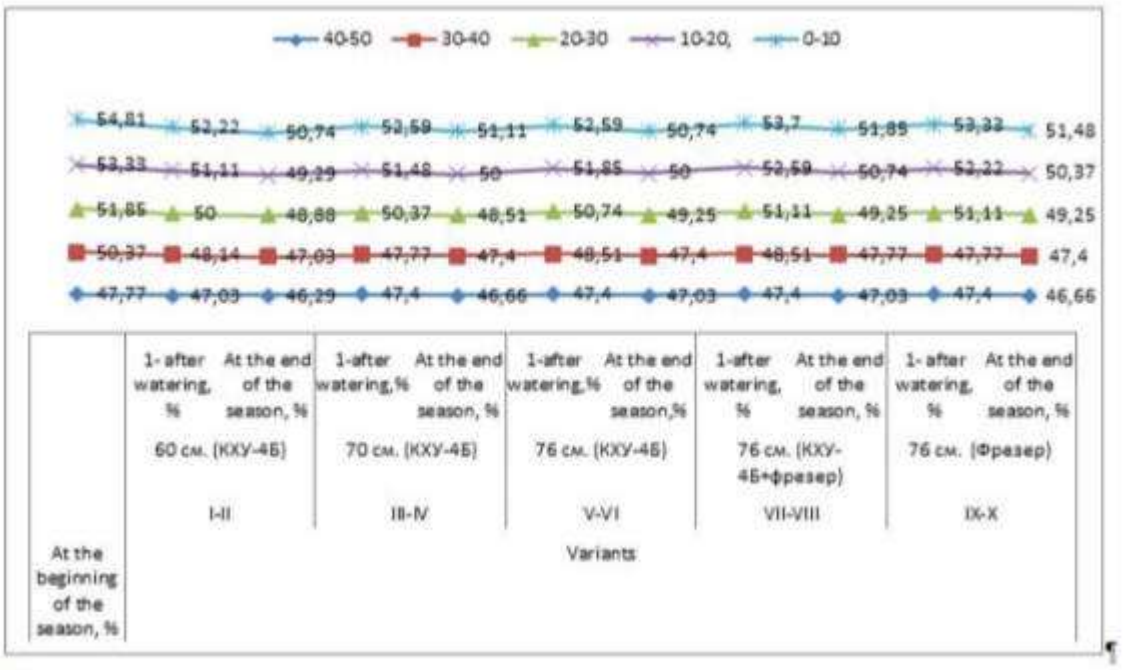

Fig 2. The effect of processing on soil porosity in different cultivators between the rows,%. In tiers. 2022.

At the beginning of the season in the experimental field i.e., the porosity of the soil on the general background before the preparation of the Earth mutonosively at 0-10, 10-20, 20-30 cm in the driving layer 54,81-53,33-51,85 %, 53.3% at 0-30 CM, mutonosibically 50.37-47.77% at 30-50 cm layers under the drive, 49.2% at 30-50 cm layer. Draw 2.

Table 1. The effect of processing in different cultivators between the rows on the volume weight and porosity of the soil. 2020-2022.

Soil layers, CM	At the beginning of the season (on a common background), g / sm^3		Variants																	
			I-II				III-IV				V-VI				VII-VIII				IX-X			
			1-after watering / cm^3		At the end of the season, g / sm^3		1-after watering / sM ^{3}		At the end of the season, g / sm^3		1-after watering / sm^3		At the end of the season, g / sm^3		1-after watering / sm^3		At the end of the season, g / sm^3		1-after watering g/ sm^3		At the end of the season , g/sм^3	
	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк	Volume weight	Говакликк
2020- y																						
0-30 sm.	1,3	51,8	1,31	51,481	1,36	49,63	1,3	51,852	1,36	49,63	1,31	51,481	1,35	50	1,3	51,852	1,34	50,37	1,3	51,85	1,35	50
30-50 sm.	1,39	48,5	1,41	47,778	1,42	47,407	1,41	47,778	1,43	47,04	1,42	47,407	1,43	47,037	1,41	47,778	1,42	47,41	1,41	47,78	1,43	47,04
2021- y																						
0-30 sm.	1,28	52,593	1,33	50,741	1,36	49,63	1,32	51,111	1,35	50	1,32	51,111	1,33	50,741	1,3	51,852	1,32	51,11	1,31	51,48	1,34	50,37
30-50 sm.	1,35	50	1,41	47,778	1,43	47,037	1,41	47,778	1,42	47,41	1,4	48,148	1,41	47,778	1,39	48,519	1,41	47,78	1,41	47,78	1,44	46,67
2022- y																						
0-30 sm	1,26	53,333	1,32	51,111	1,36	49,63	1,31	51,481	1,35	50	1,3	51,852	1,35	50	1,28	52,593	1,33	50,74	1,29	52,22	1,34	50,37
30-50 sm.	1,37	49,259	1,42	47,407	1,44	46,667	1,42	47,407	1,43	47,04	1,41	47,778	1,43	47,037	1,41	47,778	1,42	47,41	1,42	47,41	1,43	47,04

In the study carried out, soil porosity was taken into account both after watering 1 and at the end of the season. 60 cm. in the I-II control options processed in the cultivator (KXU-4B) adopted in the production between the rows, 1-the drive layer after watering is mutonosibally applied to the layers of 0-10, 10-20, 20-30 cm 52,22-51,11-50 %, 51.11% at 0-30 CM, and 48.14-47.03% mutonosively to 30-40 and 40-50 CM layers in the Under-driving layer, 47.4% at 30-50 cm, with slight declines by the end of the season, namely 49.62-46.66% mutonosively to 0-30 CM and 30-50 cm layers.

In a study on inter-row processing, 76 cm. in variants VII-VIII with complex processing between the rows, high indicators are noted 1-after watering, the driving layer is mutonosibily laid into layers of 0-10, 10-20, 20-30 cm 53,7-52,59-51,11 %, 0-30 CM. 52.5%, 48.51-47.4% mutonosively into layers of 30-40 and 40-50 CM under the drive, 30-50 cm. at 47.7%, it was noted that the control option was 1.4-0.3%, and at the end of the season this indicator was mutonosively 50.6-47.4%, 1.1-0.8% higher than the control option.

According to the results of the data obtained, 76 cm. when complex processing between the series KXU-4B and the milling cultivator, it was found that the porosity of the soil was well maintained compared to that treated in a cultivator adopted in the production condition (Uzbekistan).

In our scientific research, it is necessary to ensure that the quality of the cotton crop is high and that the industrial products extracted from it correspond to the world templates. The observations also analyzed the effect on the technological quality indicators of cotton fiber of all agrotadbirths used in the care of the Hawthorn variety "ravnaq-1" between 60 sm and 76 sm in row. In these experiments, the technological quality indicators of fiber were determined at the NVI-base for the analysis of samples obtained before each harvest of cotton. Table 2.

Table 2 Technological quality indicators of fiber.

Var. №	SCI-thread spinning coefficient	Mic-Micronair	Mat-Writes ganlik coefficients %	UHML-high average length (inches)	UI-uniform index	SFI-short fiber index (%)	Str-strain-strain break strength (gkuch/teks	Extension at Elg-junction	Rd-Nur kaitarish coefficient %	+B-Sar-brick level	Cgrd-variety by color	Tr Cnt-number of dirty mixtures	Tr AR-dirty mixed-malar area %	TrID-Tresh code
1	143	4,5	0,88	1,20	83,5	8,1	32,3	5,9	78,7	7,0	31-2	10	0,1	1
2	134	4,5	0,87	1,18	82,2	10,5	31,7	6,0	78,3	6,6	41-1	12	0,2	2
3	142	4,4	0,89	1,20	84,0	6,6	32,5	6,1	78,7	7,0	31-2	10	0,1	1
4	153	4,5	0,88	1,19	84,9	6,3	34,5	5,7	76,6	6,3	41-2	12	0,1	1
5	152	4,4	0,88	1,22	85,4	5,9	32,5	6,1	79,2	6,5	41-1	12	0,2	1
6	145	4,5	0,87	1,21	84,2	7,6	31,2	6,9	80,8	5,9	41-1	7	0,1	1
7	150	4,4	0,88	1,23	84,9	7,7	33,4	6,9	76,5	6,7	41-1	14	0,2	2
8	154	4,5	0,88	1,21	83,9	6,4	35,9	6,7	77,6	7,4	31-2	11	0,1	1
9	147	4,5	0,88	1,21	83,9	8,2	33,4	5,6	75,4	7,2	41-1	13	0,3	3
10	143	4,5	0,87	1,20	83,6	6,9	31,6	6,1	79,8	6,6	31-2	6	0,1	1

In our research, a 76 cm ACORN was processed between the rows in a milling machine+a simple cultivator, and the theoretical seedling thickness in a variant of 90-100 thousand Bush/Ha when analyzed in laboratory conditions, the fiber length is 36.6 mm, the fiber output is 36.3%, the weight of 1000 pieces of seeds is 122.8 gr. founded ni. In this, the row spacing was observed in analyzes with a

fiber length of 0.4-0.8 mm higher compared to 60 cm control options, a fiber output of 0.3-0.1% less, a weight of 1000 pieces of pollen of 2.7-3.6 gr higher. When the quality indicators of the fiber were analyzed at the Republic quality center, it was observed that the Acorn row range was 76 cm, only some indicators of the technological characteristics of cotton fiber differed from the 60 cm option. In this case, it was found that copper-microneedle increased by 0.1, UI-homogeneity index by 1.4, UHML-fiber length by 0.03 inches, Str-specific discontinuity strength by 1.1 g of force/Tex, SFI-short fiber index by 0.4% less.

4. Conclusion

In general, the diversity of the Acorn row and the processing of different cultivators between the row has to some extent influenced the improvement of soil agrophysics and quality indicators of cotton fiber. In this case, the formation of the root system, moisture content, improvement of air exchange, growth and development of the acorn, and acceleration of the coefficient of food use were determined when the ACORN was treated in a 76 cm row in a milling machine+simple cultivator, and the technological quality indicator of the fiber changed for the better in the analysis results.

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