STUDY OF QUALITY INDICATORS IN THE TRANSFER OF COTTON RAW MATERIALS TO MANUFACTURING

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This article *discusses the impact equipment used when supplying existing ginneries to the production of raw cotton on its natural properties.*

Cotton raw materials grown in our country are supplied by farms to clusters on the basis of contract agreements. Currently, clusters are focused on obtaining high-quality fiber with extensive use of resource-saving

technologies. In order to obtain quality fibers from cotton raw materials receivedby cluster cotton ginning enterprises, it is necessary to pay attention to their quality storage process.

The main raw material base of the textile industry of our republic is cotton fiber. At present, cotton fibers are used to produce various fine and high-quality fabrics and knittedproducts [1].

Taking into account the latest scientific and technical achievements, theregulation on the implementation of existing technological processes in the cotton ginning industry was developed, and this is considered the main document, which defines the procedures and regimes of all operations in cotton processing [2].

In recent years, as a result of consistent reforms carried out in the field of modernization and diversification of agricultural production, development of the product processing industry, a new system of activity in the agrarian sector- the cluster method - has been introduced. Cotton ginning enterprises occupy a large share in the total production volume of other industries processing cotton, as well as in the volume of products produced by agricultural enterprises[3].

The unique features of the cotton ginning complex are that it has a network of preparation points in addition to a large-scale cotton ginning enterprise, where 70-80% of the accepted cotton is temporarily stored, and then it is processed in cotton ginningplants [4,5].

The regulations for the implementation of existing technological processes in the cotton ginning industry have been developed, and this is considered the main document, which defines the procedures and regimes of all operations in cotton processing. In accordance with the specified requirements, cotton is received in the cotton processing facilities, ginned, and stored in the gin until the processing period [6].

It is known that the natural properties of cotton include the mechanical damage of the seed, the total number of defects in the fiber, the staple weight length of the fiber, the amount of short fiber, and its appearance. RBA equipment is

used to transfer cotton from gin to production. It is important to study the effect of this equipment on the natural propertiesof cotton.

For this purpose, experiments were carried out to study the effect of the RBA type equipment, which is used to transfer the available cotton from the gin to production at the cotton ginning enterprise of Uzbekistan belonging to the "Real Agro Cotton" cluster, on the natural properties of cotton. In this case, the level of impact on the following natural features was determined.

1. Mechanical damage to the seed, %
2. Amount of short fiber, %
3. Staple weight length of fiber, mm.
4. Weight percentage of defects and impurities in fiber content, %

S-6524 selective grade, hand-picked, moisture W=7.8%, impurity 3=2.2%, and I-industrial gradewas used in the experiment.

The process of transferring cotton from gin to production is carried out on RBA-type equipment, which has a significant effect on the natural properties of cotton. This situation can be seen in the results obtained from the conducted experiments. The results are presented in Table

1. The increase in the above-mentioned natural characteristics occurred particularly as a result of disrupting the lower layer of the cotton stack, which has a high-density value.

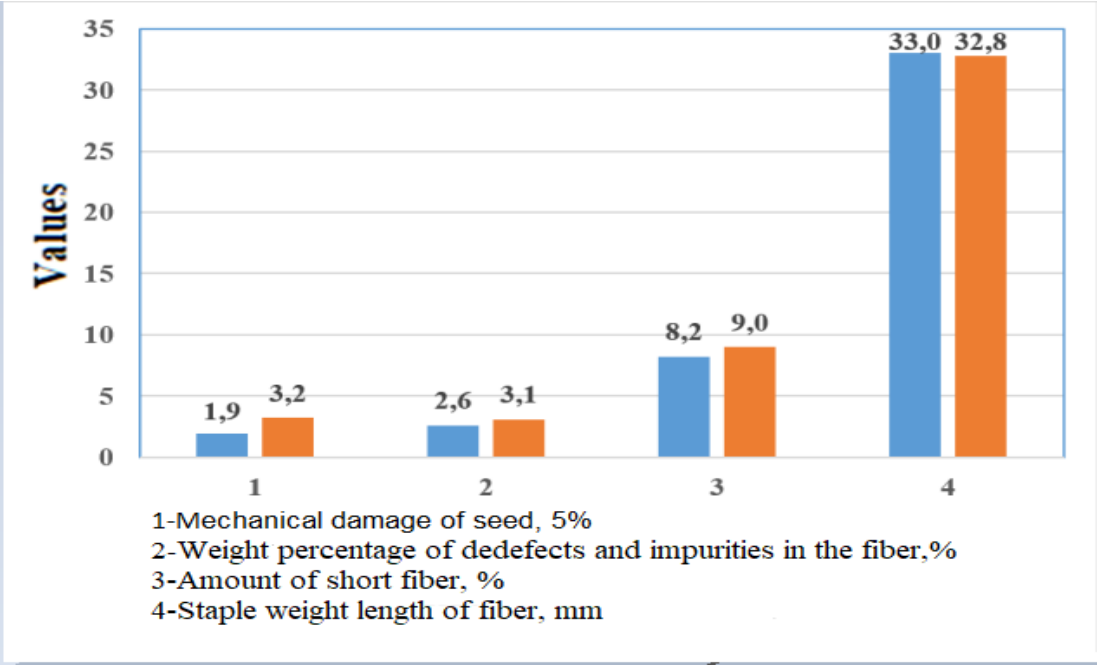
Table 1

Effect of RBA equipment on the natural properties of
cotton during the process of breaking cotton gin
W=7.8; Z=2.2%

№	Indicators	Indicators level	
		First	Next
1	Mechanical damage of seed, 5%	1,9	3,2
2	Amount of short fiber, %	8,2	9,0
3	Staple weight length of fiber, mm	33,0	32,8
4	Weight percentage of defects and impurities in the fiber,%	2,6	3,1

In order to increase the reliability of the results obtained from each experiment, it was repeated 3 times each and the average values were taken. After each experiment, samples were taken and the natural properties of cotton were determined based on standard requirements in the technological laboratory of the cotton ginning enterprise. Based on the results of the 4 indicators obtained from the experiments, graphs were constructed and these graphs are presented in Figures 2.

Figure 2. Experimental results obtained on 4 indicators



Analyzing the resulting graph, the rate of mechanical damage to the seed is1.3%, defects in the fiber content and dirt mixtures increased by 0.5%, and the number of short fibers increased by 0.8%. It was observed that the length of the staple mass of the fiber was reduced by 0.2 mm. In this case, it became clear that the influence of the process of ginning with the help of equipment on all selected natural properties of cotton is extremely significant. And this affects fiber's type.

In conclusion, when forming the cotton stack in an open field, an increase in its height and density can affect the quality of the fiber. This, in turn, creates an opportunity to improve the existing RBA equipment used for processing cotton, allowing it to maintain the quality indicators of the raw cotton during production.

LIST OF USED LITERATURE:

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