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EXPERIMENTALLY DETERMINE THE CLEANING EFFICIENCY OF COTTON - CONTAINING HEAVY COMPOUND CAPTURE EQUIPMENT

M. Nazarov
Master's Degree of the M1-21 Group

N. Akhmatov,
PhD. Senior Teacher

M. Akhmatov
Scientific Leader Candidate of Technical Sciences, Associate Professor

Abstract:
The article presents the results of experiments with a stone trap that separates heavy objects from cotton, installed in the process of work of a technologist of cotton ginning enterprises.

Аннотация:
Мақолада, Пахта тозалаш корхоналарни технологи жараёнига ўрнатилган, пахта таркибидаги оғир жисмларни ажратиб олувчи тош тутгичнинг тажрибада олинган натижалари келтирилган.

Аннотация: В статье представлены результаты экспериментов камне уловителя, отделяющего тяжелые предметы от хлопка, установленного в процессе работы технолога хлопкоочистительных предприятий.

In the following years, all cotton-growing countries in the world are considering improving the quality of cotton products in our republic and revising the technologies and technologies of the cotton-textile industry to take the direction of manufacturing fiber into the world market as a finished product. Countries producing cotton-textile techniques such as the United States, Germany, Switzerland, China, India and Turkey have high efficiency, are conducting large-scale R & D in the direction of the production of technological equipment of tomorrow. Today, the issue of a competitive finished product remains an urgent problem by reworking the quality of cotton fiber in standards that correspond to World templates. To achieve this goal, it is necessary, first of all, to comprehensively improve the progress of Science and science and technology.

The production of high-quality fiber, suitable for World templates, sets an important task for experts and scientists in the field of cotton processing as improving existing techniques and technology [1]. In turn, the introduction of modern forms of Organization of cotton-textile

production in our republic requires a lot of attention to the quality of cotton fiber in increasing the competitiveness of manufactured products.

The initial processing of cotton consists of a number of technological processes (placement, storage, transportation, drying, cleaning, fiber separation, etc.), which form a specific technological chain[2,3]. Just as in the technological process of preliminary processing of foreign cotton, the equipment for catching heavy objects of the type xam MQHZ-7T is installed[4,5].

The performance and quality of each unit in this chain is closely related to the performance and quality of work of the machines before it. Taking this into account, it can be concluded that the quality indicators of cotton products are greatly influenced by each unit in the technological chain that processes it. In cotton cleaning enterprises, the transportation of raw materials from stacks to cleaning and drying tsexes is carried out by means of an air-assisted carrier device (pneumotransport). The simplicity of its construction and the fact that the product can be transported in any complex directions without dying to the specified places has caused the use of air to become very common in cotton cleaning enterprises of the carrier. With the help of air, cotton can be cleaned at a high level from heavy objects in the passages of the pipes of the carrier device. Because at this location, the aeroarization changes its direction of movement to 900. That is, it goes from a horizontal position to a vertical position. In this case, it will be convenient to distinguish between cotton and heavy objects due to the difference in their physical, mechanical properties.

In the current era, there are 2chtl, LKS brand cylinder-shaped, centrifugal type and similar heavy object trapping devices that are installed in the transition part of the pipes of the cotton air-assisted device. They all have a place to collect heavy mixtures, which are conditionally called "pockets".

T.In mahametov's work, "pockets"of different widths were examined and observed in order to increase the grip capacity of the blowtorch in the take-up of the tip, that is, if its useful cross-sectional surface is increased, its degree of retention of heavy impurities increases, but also when the amount of cotton in which the "pocket"falls, a device is not installed that detaches

M. Qobuljonov examined whether a 2chtl brand sprocket with different sizes of heavy mixtures was found to increase in efficiency when it had one, two and three pockets, just as extensive research was carried out by many of our scientists on the process of transporting cotton by air [7]. But there is not enough attention paid to the installation and improvement of an air pressure adjuster, generalizing the elements of an air-assisted carrier device (pneumotransport).

Purpose from experience; to study the amount of heavy object trapping of a stone catcher in cotton ginning enterprises, which traps heavy impurities in cotton.

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The experiment was carried out in the LUXYAN TEX LLC cluster under the Beshariq cotton ginning enterprise.

Before launching the technological process to conduct the experiment, the stone holder was cleaned of previous impurities.

Air-assisted carrier device in cotton ginning enterprises pneumotransport, aosan suction system is used[8]. This structure consists of the main adhesives below: 1st tube with cotton mechanical transmitter equipment; 2nd working tube; 3rd tube; 4th separator 5th suction air conductor 6th ventilator; 7th exhaust air conductor; 8th cyclone and 9th dust chamber.

For the experiment, the Cotton s-6524 Breed 2, which was placed in Gharam, had a moisture content of 12.3% and a dirt content of 5.1% of the cotton obtained in the hand skin. After the technological process worked for 4 hours, the technological process was stopped and heavy impurities were obtained, which were trapped in the grinder.

Heavy impurities from the rock catcher were separated into size and origin, and organic and mineral parts. As a result of the experiment, the trapped heavy impurities in the cotton were separated into dirty parts as follows; stones, cotton swabs, pieces of cotton mixed into the dirt, unripe cotton swabs and pieces of cutlery. the stones were separated into three parts depending on their size; to Stones up to 10 mm , 10mm to 30mm and larger than 30 mm (1 pictured).

1A consists of unripe mosses and small stones, as well as Khas-debris. 1B-stones larger than 30 mm in size. 1V-cotton swabs, pumpkins. 1g-stones ranging in size from 10 mm to 30 mm. 1D-pieces of cotton. 1e-formed stones up to 10 mm in size.

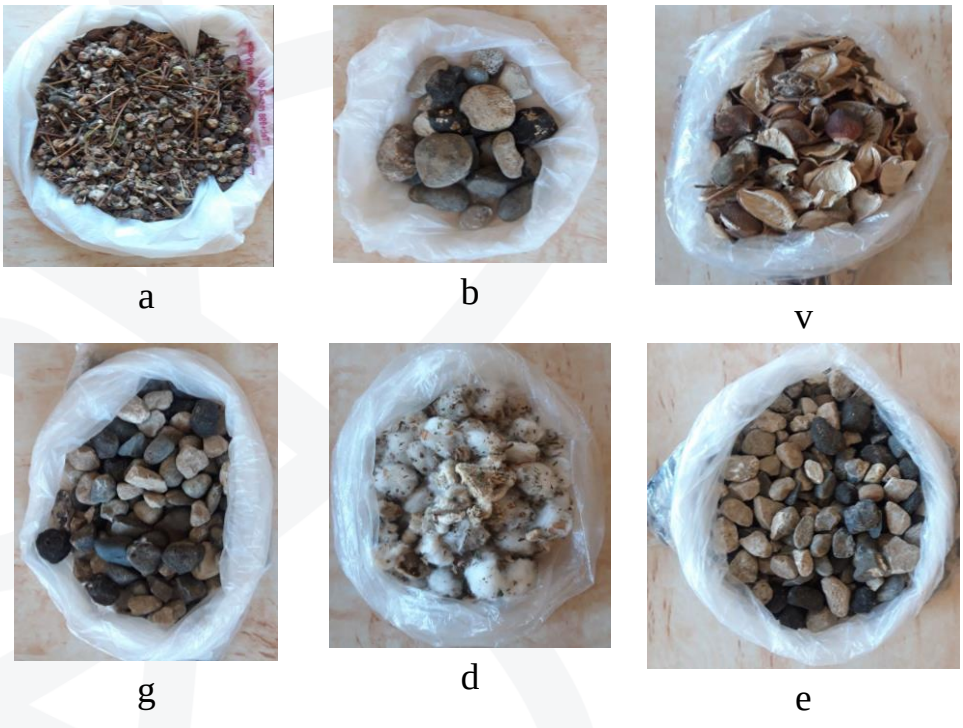

Figure 1. Heavy impurities from the stone holder.

From the result obtained, it can be seen that stones larger than 30 mm in size weigh 800 grams, while Stones 10 mm to 30 mm in size weigh 730grams, and stones up to 10 mm in size weigh 580 grams. That is, the reduction in the ability of equipment to catch heavy objects as the dimensions of heavy objects become smaller was determined on the basis of experiments conducted. Especially when the stone holder is filled with heavy objects in the working chamber, the special stone collection pocket is filled with heavy objects, as a result of opening and cleaning the pocket special barriers, it is important to look at the size of heavy objects, in which smaller objects are added together with more cotton, using air to come to the equipment of the next technological process. As a result, the main working parts of the equipment in the technologi process are causing the breakage of drums, piles and saws, which clean cotton from small and large impurities, reduce the efficiency of equipment work, reduce the quality of fiber and seeds, and cause such shortcomings as fire leakage in equipment. To do this, it will be advisable to ensure that the stone holder in the working Chamber of the stone holder is constantly cleaning the brush, to implement an element device that adjusts the air pressure in the working part of the pneumotransport air pipe.

Conclusion:

1.As can be seen from experiments on a 2chtl stone holder that cleans heavy objects in cotton, it was found that as the dimensions of heavy objects become smaller, the efficiency of cleaning the equipment to catch heavy objects decreases.

2.In order to ensure that the 2chtl stone holder for cleaning heavy objects is constantly cleaning the stone holder brush in the working chamber, it is advisable to provide mechanical or automatic air pressure adjusters to ensure that the pressure in the air chamber is uniform.

REFERENCES

1.Ўзбекистон Республикаси Вазирлар Маҳкамасининг 2020 йил 22 июндаги “Пахта-тўқимачилик ишлаб чиқаришини янада ривожлантириш чора-тадбирлари тўғрисида”ги 397-сонли қарори.

2.Н.М.Ахматов, И.С.Тошқулов, М.Ахматов, О.З.Косимов, Х.С.Усманов Производственные испытания модернизированного сушильно-очистительного барабана// Международной научно-практической конференции «Научно-практические исследования». ISSN 2541-9528. № 8.3 (23). Декабрь 2019 г. 18-28 стр. Омск 2019. http://weeqly.ru E-mail hello@weeqly.ru.

3.Зикриёев Э.З. Пахтани дастлабки қайта ишлаш. Ўқув қўлланма. – Т.: Мехнат, 2002. – 290 бет.

4.Samuel Jackson Incorporated. www.Samjackson. com.

5.M.G.Dobb and M.Z.Satain. The effect of the rmal tuatmenton the crusceruzed cotton // S. of the textile institute. V.67. №718.1976 P. 229-234.
6.Махаметов Т. Д. Исследование процессов, установление режимов и изыскание оптимальных форм и размеров рабочих элементов, линейных камнеуловителей: Дисс.канд.тех.наук-Т.: 1972.
7.Р.Мурадов. Пахтани ҳаво ёрдамида ташувчи қурилма самарадорлигини ошириш асослари**.** Монография «Фан». Тошкент-2014. – 246 бет.
8. М.Назаров., Н.Ахматов., М.Ахматов. Пахта таркибидаги оғир аралашмаларни тутиш ускуналарини тозалаш самарадорлиги. “Магистратура талабаларининг илмий мақолалар тўплами,, Тошкент .ТТЕСИ 2022 й. 26-27 бетлар.