

ORGANIZE ADDITIONAL CLEANING BY IMPROVING THE DESIGN OF THE PNEUMATIC CONVEYING DEVICE

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Annotation. This article puts forward scientific and technical ideas for organizing additional cleaning by improving the design of the pneumotransport device.

Keywords: Air, pipe, cotton, lattice, raw materials, mechanization, screw conveyors, elevators, fans.

Аннотация. В данной статье выдвигаются научно-технические идеи по организации дополнительной очистки путем совершенствования конструкции пневмотранспортного устройства.

Ключевые слова: воздух, труба, хлопок, решетка, сырье, механизация, шнековые конвейеры, элеваторы, вентиляторы.

One of the most important directions of the economic development program of the Republic of Uzbekistan is such priorities as the modernization of the economy and its leading industries, the acceleration and expansion of technical and technological re-equipment. As the President said: "Our main goal is to resolutely follow the path of large-scale reforms and modernization."

"Modernization of cotton processing enterprises and equipping them with new technical developments is a factor in further improving the quality of Uzbek cotton." The most important thing is that the measures taken to modernize the industry are reflected in the products. When processing cotton, the fiber yield is growing annually, exceeding 33%. As a result of the measures taken, production was optimized in industries, i.e. the range and quality of cotton products, as well as the productivity of the enterprise, increased. In particular, at the modernized enterprises, fuel consumption has been reduced by 15-17%, and electricity consumption for the

production of 15 tons of fiber has decreased by 25%. At the same time, due to the rational and compact placement of equipment, the production areas of enterprises have almost halved, while the production capacity of enterprises has increased and their productivity has increased.

Today, modernization and If we take into account the fact that the reconstructed ginneries set higher prices only for cotton fiber of the highest grade, then an enterprise producing an average of 10 thousand tons of cotton fiber will receive an average of 700 thousand US dollars or 1.7 billion rubles. soums. There will be an opportunity to get more.

A comprehensive study of the methods and technologies for cleaning raw materials can be observed in the studies of such scientists as Nuraliev A.N., Samandarov S.A., who were engaged in this work in previous years. The works of G.I. Miroshnichenko, A. Dzhuraev, A. E. Lugachev, A. Agzamov also play an important role in the development of cleaning equipment and technology. The composition of raw materials, which ensures their continuous operation, has a significant impact on the efficiency of the equipment installed in the technological processes of cotton ginning plants.

After studying a number of scientific studies by scientists of IIHB "Pahtatozalash", TTESI and TGSKB to study the optimal technological modes and sizes of drying and cleaning of raw cotton. Scientific and experimental studies have made it possible to determine the optimal basis for the processing of raw cotton, the moisture content of cotton.

They recommended that when cotton was processed with more than 9% moisture, there would be a reduction in cleaning efficiency in the production line, an increase in fiber defects and contamination levels. This condition is based on an increase in the adhesive properties of the fibrous mass and impurities and complicates the cleaning process.

According to the studies of A. I. Uldyakov, E. F. Budin and S. A. Samandarov, the optimal moisture content of raw cotton in the cleaning process is 8-9%. Practice shows that the processing of raw cotton with a moisture content of more than 8-9%

worsens the quality of the fiber and reduces the cleaning efficiency of technological machines.

In the process of transporting raw cotton and cleaning it from contamination, repeated mechanical interactions of cleaners with working bodies cause mechanical damage to raw cotton seeds. As a result, various defects are formed in the fiber structure. At the same time, the priority operation of technological machines of drying and cleaning shops is disrupted and the physical and mechanical properties of raw cotton are deteriorating.

According to the results of production tests carried out at the Kop cotton gin, on a production line of the PLPX type, flow technological machines with a moisture content of 8-9% raw cotton worked with priority and maximum cleaning efficiency.

As a result of the research, the optimal moisture content of raw cotton was determined - 9-10%. At the same time, priority was given to the manufacturability of machines and high efficiency of equipment cleaning (90-92%), the number of interruptions and pollution did not exceed the limits of state standards. The moisture content of the fiber was about 6%.

It was recommended to R.E.Uzakov, M.A.Aliyeva for the analysis of the technological process in the drying and cleaning workshops, the moisture content of raw cotton in the cleaning process is up to 9% for high grades and up to 15% for low grades.

The authors recommend that for the effective operation of cleaners, the moisture content of medium-staple cotton should be 5-6%, before sawing - up to 7-8%, and for fine-staple varieties - up to 6.5-7% with roller cleaning. Fozilov S.A. and Abdazimov S.Kh.A. conducted research on a multi-drum cleaning machine to study the effect of the main working parts on the performance of the cotton gin. We have seen that the homogeneity of the working bodies of multi-drum cleaning machines leads to a decrease in cleaning efficiency. To overcome this shortcoming, we conducted a study of grates, proposing to establish the most effective grate shape of 5 round and 5 vane shapes. At the same time, we found that the cleaning efficiency increased by 15% compared to the previous one.

We have tried to improve cleaning efficiency by improving the main working parts of cotton gins. Therefore, we have done a lot of research to improve the design of the pile drum, which is the main working body of the cleaning machine. As a result, the use of the most effective forms of pile-drum piles was proposed.

In our research, we studied the effect of the distance between the cleaning drum and the screen surface on the cleaning efficiency and, taking this into account, proposed a new grate shape, according to which a decrease in the distance between the grate will increase the cleaning efficiency. To do this, I learned that vibrating, rotating, or moving back and forth across the surface of the grating and mesh can greatly improve the efficiency of ginning. Having studied that the same mechanical impact on cotton during the cleaning process reduces the cleaning efficiency. To solve this problem, I propose to prepare drum cleaning piles of various shapes. As a result, we can move the cotton along different paths and also improve efficiency.

REFERENCES:

1. U.M. Matmusaev and others. Textile materials science. Tashkent. "Uzbekistan", 2005
2. Yu. V. Pavlov et al. "Getting a large linear plot." - Ivanovo, 2004
3. A.G. Sevostyanov and others. Mechanical technology of textile materials. - M.: "Legprombitizdat", 1989.
4. Jumaniyazov K.J., Polvonov Yu.M. "Design of technological processes of cotton spinning". TTESI, 2007
5. Kh. Ibragimov and others. "Spinning machines" Tashkent. "Teacher", 1985.
6. Yu.V. Pavlov et al. "Theory of technological processes and equipment for the production of cotton wool and chemical fiber". - Ivanovo, 2000.