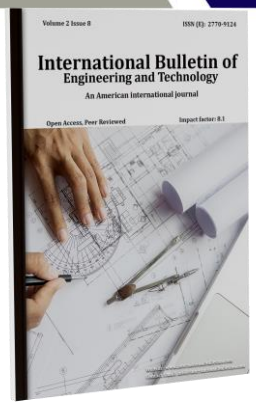

RESEARCH ON THE AMOUNT OF FIBROUS WASTES RELEASED INTO THE ATMOSPHERE

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Abstract. The rapid development of science and technology, the growth of industrial production and the increasing anthropogenic impact on the environment around us negatively affect its ability to self-govern. Therefore, protecting the environment, and therefore the health of current and future generations, is one of the most important issues.

Keywords: cotton fiber, pollution, dust, technology, method.

INTRODUCTION

In Uzbekistan, an Environmental Protection Committee has been created to develop long-term plans and master plans for improving the air and water environment, drawing up environmental maps of cities and regions.

Regulatory documents have been adopted to improve engineering and technical means of environmental protection, to create continuous, waste-free and low-emission technological cycles and production. The main sources of air pollution in Central Asia are thermal power plants, road transport, agriculture and non-ferrous metallurgy, production of building materials, chemicals, cotton ginning and cocoon processing. During the production process at cotton ginning and ginning industries, large amounts of hazardous waste were released from technological machines and equipment into the environment. Dust emitted into the atmosphere from technological equipment contains a certain amount of harmful substances - from 18 to 1200 mg/m3, and is blown by the wind.

MATERIALS AND METHODS

Dust masses settle on power lines, destroy trees, pollute nearby houses, and pollute water. One of the most promising ways to solve the problem of environmental protection at these enterprises is the installation of local ventilation ducts, the introduction of highly efficient dust collection devices and technological processes that eliminate and reduce emissions of harmful substances into the atmosphere and groundwater. waste use. In the future, the problem of environmental protection will be solved, first of all, by creating production without a technological cycle (i.e., eco-decontamination of waste). To do this, in some cases, it is necessary to radically transform the entire technological process or its individual stages, develop methods for separating and recycling harmful substances from gases, water return systems, the future of waste-free production - these are industrial complexes, the waste of one enterprise serves as raw materials for another, and in some cases Specific greening models have been developed for this issue. While work on greening primary processing enterprises is not being carried out, some elements of waste-free production are not being used either. In conditions where science and technology do not completely eliminate environmental pollution from hazardous waste, it is important to develop standards that ensure the safety of the environment for humans, animals and flora. Standards in

development. The International Organization for Standardization, its committees and the standardization bodies of some countries play an important role. The International Health Organization has created an international service to monitor pollution levels. The network of monitoring stations is determined by the size of the republic, the level of environmental pollution, economy and urbanization.

RESULTS AND DISCUSSION

Among the main industrial enterprises, the main sources of air pollution are thermal power plants, road transport, ferrous and non-ferrous metallurgy, production of building materials, raw materials, cotton ginning and cocoon processing. During the production process in the cotton ginning and silk industry, a large amount of hazardous waste is released from technological machines and equipment into the environment.

At all stages of the primary processing of cotton, a large amount of dust is released, polluting production premises and the atmosphere, worsening the working conditions of workers and employees and leading to their occupational diseases, especially silicosis. The issue of decontamination of cotton gins is of paramount importance, especially in connection with the increase in contamination of machine-harvested cotton.

The composition of dust emitted during the process at a cotton gin plant varies. At the beginning of the primary processing of cotton, a powder containing a large amount of mineral fractions is released into the air. During the subsequent processing of cotton - during the production of fiber and linters, dust is released, which represents a larger amount of organic substances: seed husks, fragments of leaves and other parts of cotton, as well as fibrous fragments. At the end of the technological process, for example: in linters, pressing units, seed sorting and complete disinfection shops, the dust emitted into the air consists mainly of fibrous particles mixed with the shell.

According to the analysis, only one cotton gin plant produces 150-350 tons of fibrous waste per year; according to industrial navigation, irrecoverable waste is 5-6 thousand tons, of which 70-90% is organic waste. These wastes are used as raw materials for animal husbandry in agriculture. During the primary processing of cotton, three types of dust particles are released, which consist of the following fractions:

a) mineral particles 0.1-0.2 mm in size;

b) contaminants ranging in size from 0.1 to 0.315 cm, consisting of crushed cotton stems (stems, stalks, flowers, leaves);

c) short fibers of different lengths - from the greatest length, characteristic of varieties III-IV, to several microns. Large particles up to 0.4 mm wide have a high rotation speed, fly to a height of 8-11 m and sink after 3-5 s, so they do not fall into the dust chain.

During the primary processing of cotton, a large amount of fiber is used (up to 30-40%), which is used in the textile industry. A description of such waste is given in table 1.

Table 1

Description of fibrous waste

Waste removal machines	Name of waste	Characteristics of waste
All types of gin and fiber purifiers, gin seed purifiers, regenerators, fiber condensers, etc.	Waste fiber	The remaining mass of cotton seeds from development, consisting of interconnected and free

Cotton condensers, cyclones, seed cleaners (machines for processing seeds before the second and	Waste wax	fibers and organic, mineral impurities

In the cleaning department of the drying and cleaning shop, located at the beginning of the technological process of the cotton ginning shop, the processed cotton is cleaned of mineral dust. The dust content of such cotton can be relatively high - 10-30 mg/m2, but this dust probably contains 40-50% carbon fiber minerals.

When processing low-grade cotton, indoor air pollution reaches 40 mg/m2, but the amount of minerals in the dust is reduced to 13-16%.

CONCLUSION

The dust generated in the cotton ginning unit is released into the atmosphere through the air from the cotton pneumatic transport system. Buchang is fibrous and contains less mineral fractions. Fine fractions mainly consist of crushed dirty particles.

The harvesting method (lake or machine) affects the total amount of dust in cotton, its dispersion, the distribution of each type of fraction of dirty particles (short fibers, mineral particles, etc.). The initial cleaning of cotton also does not affect the shape of the particles.

When transporting grade I hand cotton by pneumatic transport - 24% fine (from 20 to 25 microns) powder with a dispersed fraction. When transporting machine-harvested cotton, these fractions are reduced to 13-14% (due to the removal of the crop by a cotton harvester). The amount of such particles in the air processed during the transportation of low-grade (IV grade) cotton does not exceed 4%.

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