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**Research Article** 

# IMPROVING THE EQUIPMENT OF LINT SEPARATION TECHNOLOGICAL PROCESSES

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## ABSTRACT

This article describes the operation of the lint separation process equipment, the design and operation of the lint extraction equipment that is wasted in the technological process, and analyzes the operation procedure.

# **K**EYWORDS

Lint, crevice, airflow, corrector, apron.

# Introduction

Lint is separated from the seed using linter equipment. At the same time, lintering equipment

in the regions of the country: 5LP, 4LP equipment is used. 5LP lintering equipment: the distribution

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auger drops the seed into the shaft at the top of the linter. from the mine, the seed falls into the KPP supplier (1), where it falls on a receiving roller driven by a pulsed variator, from it permissive and tropolnia of a prickly slatted drum arrives. The seed receiving roller is 0 to 20 rpm depending on the density of the seed roller. moves at. The pile-drum drum drags the seed over a 2.5 x 3 mm perforated mesh surface [1-4]. Due to the force of the piles and the planks, as well as the force escaping from the model and the air flow generated by the rotation of the planks, the seeds are cleaned of small debris and contaminants, sent down and sent to the waste conveyor. The gap between the pile drumand the

net is 10-15 mm, which prevents damage to the seed [5-9].

#### THE MAIN PART

The reason why the seeds fall evenly and intensively into the working chamber of the linter (4) is due to the checkerboard arrangement of the piles and their rotation at the same speed. For these reasons, the density of the seed roller in the working chamber is uniform and leads to a uniform dehydration of the seed (removal of lint from the seed), thus reducing the degree of damage to the seed [10-15].

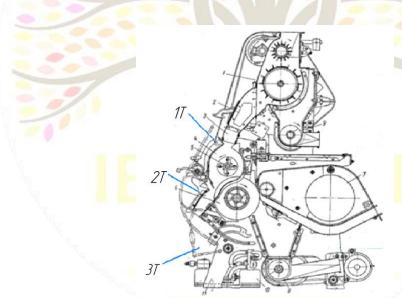


Fig.1. Dust and lint separation from 5LP equipment: 1T - A slit in the top of the camera; 2T - A hole under the seed comb; 3T - A hole in the top of the foundation

In the liner's working chamber (4), the seeds entering the chamber at the expense of the

rotating feeder (5) and the saw cylinder (6) form a rotating seed roller. The saw enters the seed

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roller with its teeth and hangs or scrapes the fibrous mass (lint) on the surface of the seed.

The fluff attached to the saw tooth is removed from the working chamber depending on the rotation of the saw. In this case, the density of the seed roller is of great importance. Because the higher the density, the higher the amount of fluff (in percent) on the saw. As a result, the liner's fluffy performance increases. The fiber attached to the saw teeth is passed through the space between the saws and separated from the saw teeth by the velocity of the air coming out of it when it reaches the stem of the air chamber. It separates the fluff and drops it down to the fluffy throat of the air chamber, from where the fluff with the air goes to the condenser. The air coming out of the nozzle separates the fluff from the saw teeth, which also separates the fluff from the fluff due to the presence of the upper rail, and discharges the fluff to the conveyor [16-19].

The seeds, due to the removal of fluff from their surface (due to dehydration), detach from the seed roller, fall to the surface of the column, and slide down to the seed conveyor and are transported to the next process. Seed germination is planned by means of a seed comb. The higher the seed comb, the higher the density of the seed roller and the higher the amount of fluff. If it is lowered, the density of the seed roller decreases

and the amount of fluff decreases, but the higher the fiber of the seed lib, the total amount of fluff output decreases as a significant percentage is left with the fluffy seeds. In this case, the length of the fluff obtained is high, and the fluff belongs to type A [20-21].

One of the problems is that dust and fluff are constantly coming out of the equipment. This, first of all, is very harmful to the health of workers. Dusty feathers were found to belong to types A and B.

As one of the solutions to this problem, we recommend placing a continuous air intake next to the lintering equipment. That is, when an air intake is installed in the dust and lint-emitting areas of the lintering equipment, the dust and lint from it is collected and sent to the fiber for cleaning. It can recycle waste feathers and use them in industry. Ensures the environmental safety of workers and protects them from short fibers and dust that are harmful to their health.

As a solution to this problem, we offer the following air intake equipment. This equipment continuously pulls the fluff and fibers coming out of the lintering equipment and the fluff is transferred to the conveyor.

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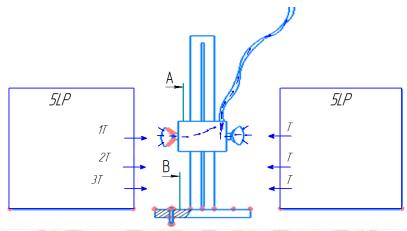


Fig. 2. Lint eater, transmitting camera

The principle of operation of this equipment is as follows:

The device works as follows, the device is installed between the two linters and the air intake is connected to the factory's fluffy pneumatic transport system. The main receiving chamber of the device absorbs the fluff coming out of the above-mentioned grooves T1, T2, T3 during the forward rotation, ie up and down movement along the vertical axis, and transmits it to the pneumatic transport system. This increases the efficiency of the linter equipment and ensures that the operation is continuous without clogging.

# Conclusion

The application of this device will increase the efficiency of the lintering equipment due to the additional feature of collecting fluff from the equipment and repair the lintering department with an environmentally friendly environment.

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