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COMPARATIVE ANALYSIS OF TECHNOLOGICAL PROCESSES OF KURITSKY EQUIPMENT 2SV-10 AND TOWER DRYING EQUIPMENT

Madaminjon Ubaydullayev
PhD, Head of the Department of Natural Fibers,
Fergana Polytechnic Institute, Fergana, Uzbekistan
E-mail: mubaydullayev6554@gmail.com

Yuldashali Ergashov
Candidate of Technical Sciences, Docent, Department of Natural Fibres,
Fergana Polytechnic Institute, Fergana, Uzbekistan
E-mail: yuldashaliergashov@gmail.com

Ilyosjon Mahmutaliyev
Master's student, Department of Natural Fibres,
Fergana Polytechnic Institute, Fergana, Uzbekistan
E-mail: ilyosbekmahmutaliyev4@mail.com

Abstract

In this article, technical and technological indicators, advantages and disadvantages of SBO and 2 SBO10 drying equipment in the technological process of cotton drying at the Rishton cotton ginning plant were considered.
Also, information about the tests of Namangan 77 and Andijan selection varieties of cotton raw material for the analysis was disclosed.

Keywords: cotton, drum, drying, dirtiness, amount of heat, selection, humidity.

Introduction

It is known that our country is one of the countries with a developed cotton industry. It ranks 4th in cotton production and 2nd in export. The quality of our produced products depends on drying them at a standard level. We conducted experiments in 2 separate cotton-ginning enterprises [1-7].
Comparative analysis of technological processes of drying equipment 2CB-10 and tower dryer equipment in cotton ginning enterprises operated by Rishton Cotton Refinery LLC and Bohodir Log'on Tekistil LLC joint facility and study of the effect of seed cotton characteristics on technological processes and technological processes Rishton cotton ginning and Bahadir logan textile LLC joint ventures

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were selected for the experiment. 2CB-10 drying equipment was installed in the Rishton cotton ginning enterprise and Namangan 77 was used for analysis. 1st class 1 seed cotton with 10% moisture content and 5% impurity of selection cotton variety was selected and experimental tests were carried out.

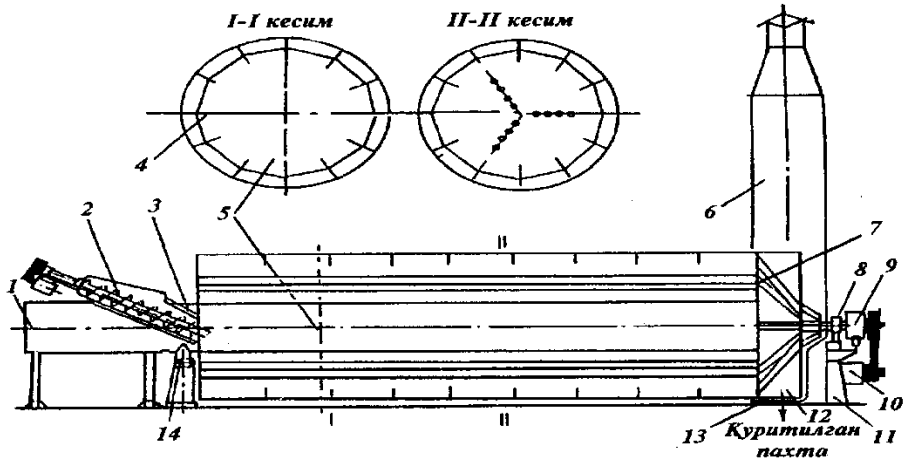

Figure 1. 2SB-10 dryer drum diagram

1-drying agent pipeline; 2-screw feeder; 3rd front row; 4 - shovels; 5th drum; 6th chimney; 7- skewers; 8 - bearing; 9 - reducer; 10 - electric motor driving the drum; 11 and 14 - back and front supports; 12-drop shovel; 13 - landing gear.

Seeded cotton with a moisture content of 10% and impurities of 5% was fed to the drum and heated at 100 °C.

In order to prevent cotton from getting stuck in the dryer with tower drying equipment installed at the joint enterprise "Bohodir Log'on Tekistil LLC", the airflow in the air conveyor is 20-25m/s, and the front part of the shelves is placed at 450 relatives to the horizontal, and the raw cotton material is 10-12m falls onto the tower dryer shelf at a speed of /s. In the dryer, it moves at a speed of 7-8 m/s. The time of dividing cotton raw material in the drying equipment is 10-15 seconds. Therefore, the moisture separation of the tower dryer is 2-3%. The productivity of dry cotton is 2000 kg in the first stage when the drying agent temperature is 110 ℃ for dehumidification of 8000 kg/h [14-21].

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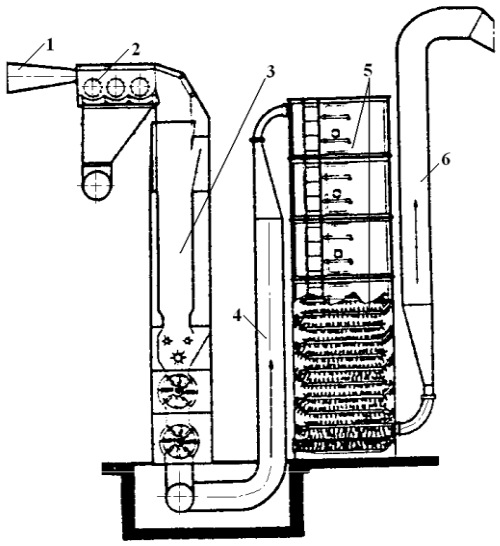

Figure 2. Diagram of a tower dryer

Here: 1 - pipe, 2 - equipment for cleaning small impurities, 3 - hopper feeder, 4 - pipe for transporting cotton raw material and drying agent, 5 - shelves of drying equipment, 6 - pipe for transporting cotton raw material and drying agent.

In order to prevent the cotton from getting stuck in the dryer, the front part of the shelves is placed at 450 to the horizontal, the airflow is 20-25 m/s, and the raw cotton material falls on the tower dryer shelf at a speed of 10-12 m/s. In the dryer, it moves at a speed of 7-8 m/s. The time of dividing cotton raw material in the drying equipment is 10-15 seconds. Therefore, the moisture separation of the tower dryer is 2-3%. The productivity of dry cotton is 8000 kg/hour, the temperature of the drying agent for moisture separation is 2000 kg in the first stage when it is 110 ℃, it is 100 ℃ when it is given seeded cotton of Namangan 77 selection cotton grade 1 with a moisture content of 10% and dirtiness of 5%. The moisture content of the seeded cotton was 8% and the dirt content was 3.5%. It can be seen that the drying efficiency of the tower dryer was 2% and the cleaning efficiency was 1.5%.

Conclusion

In conclusion, when analyzing the drying equipment, the moisture separation indicators of the drum drying equipment were 3% in 2CBO-10. It was 2% in the tower dryer. This shows that the selected selection variety has achieved a high result in the drum dryer. It has been confirmed that the selection of seeds of cottonseed has an effect on the equipment of technological processes of drying.

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