

INCREASING DRYING EFFICIENCY BY IMPROVING THE INTERIOR OF THE SBO DRYER DRUM.

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Abstract: In cotton ginning enterprises, SBO drying drum is mainly used to dry seeded cotton. By changing the inner part of the SBO drying drum, the seeded cotton can be fed more easily and the seeded cotton drying efficiency is increased.

Keywords: 2SB-10 drying drum, shovels, IICH-1.9, TG-1.5, SBO, pneumatic supply, electric motor, reducer, screw conveyor, VVD-8 fan.

Cotton drying equipment is designed for drying cotton with a moisture content higher than that specified in UzRST 615:2008. It is advisable to dry cotton in drum-type drying equipment. Drying equipment is installed at cotton receiving points for long-term storage of cotton before ginning and at cotton ginning plants for drying in preparation for receiving finished products from cotton [1].

At cotton mills and drying-cleaning departments and cleaning departments at cotton ginning plants, for drying seeded cotton, 2SB-10 and SBO type drying drums are currently provided. To ensure continuous operation of these drying drums, they are equipped with heat supply, transport device and supply systems. Seed cotton is fed into the drying drum together with heat (drying agent) using a feeder. Due to the rotation of the drum, the seed cotton rises to a certain height and is dried due to mixing with the drying agent as a result of its fall. The used drying agent goes out through the transmission shaft [2].

In order to use drying drums economically and rationally, it is necessary to control the temperature, size, and humidity of seed cotton. In addition, the degree of contamination of seed cotton, the amount of dried seed cotton together with

impurities is also controlled. The operation of the SBO drum dryer is similar to the operation of the 2SB-10 drum dryer, but since the 2SB-10 does not have a cleaning section, it does not remove small impurities from seed cotton during the drying process.

Heat can affect wet cotton in three ways:

- a) Due to the process of mixing with hot air during the spilling of seed cotton from drum shovels;
- b) Due to the effect of heat on wet cotton falling between the shovels and on the shovels through the outer surface of the shovels;
- c) Due to the transfer of the heated parts of the drum and the heat of the drum to the seeded cotton.

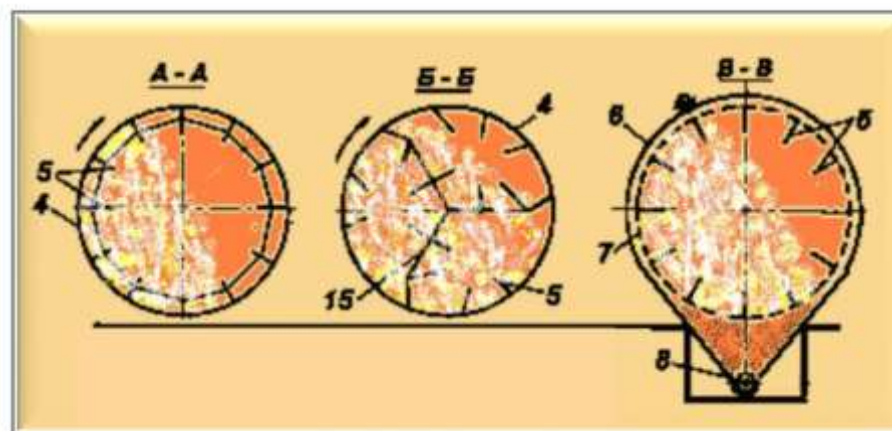


Figure 1 Cross-sectional view of the SBO drying drum

The main working parts of SBO drying drum are pneumatic supply, cleaning section, mesh surface, hot air transfer pipe, guiding surface, drying drum, shovels, used air outlet shaft, dried seed cotton discharge chute, electric motor, reducer and supports. is [3].

In recent years, TG-1.5 and ICh-1.9 heat generators have been used for drying cotton efficiently. By improving the SBO drying drum, compared to the currently used form, the amount of priming and drying of cotton with a large seed will be increased by a certain amount. The SBO drying drum has 12 blades, which are located inside the edge of the drying drum with a diameter of 3200 mm and a height of 500 mm. Cylindrical piles of 200 mm length are installed on the blades of this

drying drum. This ensures that more warm air reaches the seeded cotton than before due to the increase in the degree of creasing, and it is the basis for the additional 2-3% moisture reduction in the seeded cotton.

Conclusion:

In conclusion, it should be said that the difference of the SBO drying drum with modified internal shovels from the one currently in use is that compared to the current SBO drying drum, the seeded cotton is more crushed and the drying efficiency is 2-3 will be higher by %. This makes it possible to increase the efficiency of seed cotton drying without changing the amount of heat supplied.

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