European Journal of Interdisciplinary Research and Development
Volume-09 Nov. - 2022
Website: www.ejird.journalspark.org ISSN (E): 2720-5746

STUDIES OF THE WORKING CAMERA OF THE LINTER

Mahmudov Yu. A.
Candidate of Technical Sciences, Associate Professor
TAshkent Institute of Textile and Light Industry

Annotation
The article analyzes the existing UMPL and creates a base for theoretical and experimental studies of a new working chamber with high performance and stability of operation, ensuring safety and reducing energy intensity.

Annotation
The resulting rise in sea levels from the meltwater could spell for hundreds of millions of people.

Annotation
In article the analysis existing УМПЛ and creation to base theoretical and experimental researches of the new working chamber having high efficiency and stability of work and providing decrease of power consumption is resulted.

Keywords: Linter, Rotational speed, Frequency of browsing, working camera KL-8, PMP 05.000

As a result of experimental and theoretical studies, it has been established that the most favorable conditions for uniform exposure of seeds are created with a minimum gradient of the speed of subglacial interactions with the saw cylinder in the arc. This can be achieved by removing the expansion in the lower part of the apron and the seed comb, as a result of which the flow of seeds, practically without deforming, is fed to the saw-grate zone. In this case, the cross-section of the outer surface (in plan) of the seed roller (in this zone) is as close as possible to the circumference.

In accordance with the above, making the necessary changes to the geometric parameters of the thin-layer working chamber KL-7, previously proposed in /1/, a modification was obtained, which was assigned the index-KL-8. To increase the stability of the Linter power supply, the receiving chamber of the KL-8 is somewhat expanded. According to preliminary calculations, the working chamber KL-8 is supposed to be used for 1 lane. Almost all previous studies on this issue claim that an increase in the arc of the loops entering the working chamber, achieved by an increase in the volume of its lower part, contributes to an increase in the efficiency of lintering. Obviously, this is due to the following:

- The active surface of the saw cylinder increases,
- The "stagnant" zone in the region of the seed comb increases. Taking into account the above and modifying the lower part of the KL-8 working chamber accordingly, we proposed 2 versions of the KL-9. The working chamber KL-9 is supposed to be used for large amounts of removal, in particular on the 2nd line.

To assess the change in the profile of the proposed working chambers, sweeps are constructed in the form of the dependence of the radius-vector R from the center of the spigator to the wall of the camera profile from the angular coordinates. The starting (end) point is the point of exit of the saws from the working chamber. For comparison, similar sweeps are given for the working chambers PMP 05.000. and KL-7.

Analysis of graphic studies of dependence shows that the smoothest conjugation in the zone of the seed comb, grate and adobe roller, with minimal deformation of the latter, is characteristic of the working chamber KL-8. Next, in ascending order, KL-7, PMP 05.000 and KL-9.

At the bench installation, we tested the models of the proposed working cameras KL-8 and KL-9, as well as for a comparative assessment of the new cameras KL-7 and PMP 05.000.

The tests were carried out on cotton seeds of the Namangan-1 variety, grade 3, a release of 14.5% and a humidity of 13% at various combinations of saw cylinder speeds (600,780,900 rpm) and a turner (300,350,400,450 rpm).

For the convenience of evaluating the results obtained, graphical dependencies of the value of lint removal (%) on the bandwidth of the linter (kg / h) at different rotational speeds of the turner and saw cylinder are constructed.

Analysis of graphical dependencies made it possible to identify the most effective ratios of rotational speeds of the turnpiece and saw cylinder for the working chamber KL-8 and on the I and II intermingling, the most widely used currently technological scheme of seed processing (Table 1)

Table 1.

Multiplicity of lintering	Pickup %	Rotational speed rpm		Seed capacity kg/h
		Voroshitel	Saw cylinder	
1	2	3	4	5
I	2,4-3,0	350	780	2400-3400
II	5,0-5,6	350	900	1850-1750

According to table 1, it can be noted that the optimal rotational speeds of the sweep for I and II lanes are the same, which corresponds to a circumferential speed of 4.4 m / s, and the speed of rotation of the saw cylinder increases with an increase in the percentage of removal.

A comparative assessment of the bandwidth of the KL-8 working chamber in relation to the KL-7 with fixed values of removal characteristic of I and II lanes showed its increase by 30% and 51%, respectively.

This effect is caused by a thin layer of the seed roller, the elimination of the stagnant zone in the lower part of the working chamber and the optimal ratio of the kinematic characteristics of the turner and the saw cylinder.

LITERATURE

1. Makhmudov Yu.A., Nuraliev E.K., Khodjaeva D.M. Isolation of seeds from the working chamber of the linter.-Tashkent. TITLP.1993-p.23.
2. Korabelnikov R.V., Makhmudov Yu.A. Study of the new working chamber of the linter.-Tashkent.Dep.in UzNIINTI ;No 1553-Uz92 from 27.02.92

3. Determination of the most effective technological modes of the new working chamber in the processing of cotton seeds of high varieties.Report on the topic No. 3/93.-Tashkent. TITLP, 1993-18 p. (acting by Yu.A.Makhmudov).
4. Belov S.V., Ilnitskaya A.V., Koziakov A.F. et al. Safety of life. - M.: Vyss. school. 1999. 448 s.
5. SanPin RUz No0046-95. Hygienic standards of MPC of harmful substances in the air of the working area
6. GOST 12.1.014-94 SSBT. Air of the working area. Method of measuring the concentrations of harmful substances with indicator tubes.
7. http://gorjunkova.professorjournal.ru/54
8. rudocs.exdat.com›docs/index-75217.html
9. jantik.ucoz.ru›load/0-0-0-112-20
10. Dolin P.A. Safety Manual. - M.: Energoatomizdat. 1994. p. 507.