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Influence of the Shape of the Working Surface of the Screed on the Grain Quality Mixture on the Performance of the Shell

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Annotation: In his address to the Oliy Majlis, President of the Republic of Uzbekistan Shavkat Mirziyoyev touched upon the most important tasks in the agricultural sector. The operation of the sieve device, which separates grains from the shell and core, is also complex, so that the grains in the core and shell that come to the surface of the sieve are separated, and the core and shells fall off the sieve surface in time without accumulating on the sieve.

Keywords: Shell, sota, Grinded, core, immovable, grains.

Experimental studies have also shown that in some cases, the soda shells come out of the core and shell outlet of the soybean device without complete tearing. With this in mind, it was also planned to test the size of the height of the drum's sliding bars.

During the experiments, the number of rows of drums was six rows, the gap between the drills on the surface of the drum and the deck was 38 mm, and the number of revolutions of the drum was 600 rpm. formed.

From the results obtained in the experiments, it was found that the height of the sliding bars also leads to a significant change in the performance of the device. In the process of increasing the height of the slats of the device from 20 mm to 40 mm, it was observed that the friction accuracy of the shells decreased from 99.8% to 92.4%. Slab contraction joints should intersect at the openings for columns

when the size of the height varied from 20 mm to 30 mm, it was insignificant, decreasing from 99.8 per cent to 99.3 per cent

when the height of the sliding bars was changed from 35 to 40 mm, a sharp decrease in the shredding completeness of the shells was found, while the shredding fullness of the shells was reduced from 99.3% to almost 7%. 8 percent and 92.4 percent, respectively. [1]

The shells were then fixed to the surface of this device without moving, and the friction angles of the soot, grain, and core between them were studied. The cores were also fixed and the friction angles of the grain and shell between them were studied.

In this "inclined plane" device, the experimental sample was placed on the friction surface to determine the friction angles of the components of the shell, and the "inclined plane" was slowly raised upwards through the lifting lever until the component of the shell began to move.

The angle of inclination of the surface relative to the horizontal plane, which corresponds to the period of onset of motion of the components of the shell, is known on the angle scale, and the

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following expression can be used to determine the coefficient of static friction of the free mass. Experiments showed that (Table 2.3) showed that the friction angles of shelled and non-shelled sots differed sharply from each other.

Table 1.1 Angles of friction of steel surfaces with and without shells

№т/р	ample Direction of Movement	Sample Direction of Movement	Friction angle		
			МЎ , градус	градус	V, %
1.	Cross the shell shell		$21^0$6'	$3^0$6'	14,2
		Cross the shell shell	$33^0$6'	$3^0$30'	10,5
2.	longitudinal	longitudinal	$25^0$18'	$3^0$12'	12,3

Thus, based on experiments to determine the friction angle in the steel surface plane of shelled and non-shelled soybeans (Table 2.3), the smallest friction angle was in the transverse position of the shelled soybeans, which was 2106. [2]

Its deviation from the mean and the coefficient of variation were 306 and 14.2 per cent, respectively. We can see that the friction angle of the shell rod in the longitudinal direction is 12000 'greater than in the transverse plane, 3306', and its deviation from the mean and the coefficient of variation are 3030 'and 10.5 per cent, respectively.

In an experiment on a longitudinal plane of a shellless soybean, its friction angle was 25 ° 18 ', and the deviation from the mean and the coefficient of variation were 3 ° 12' and 12.3 per cent, respectively.

Experiments to determine the angle of mutual friction on the constituents of the shells show that (2.4-table), as long as the suta on the shells has the lowest friction angle in both the transverse and longitudinal directions.

The deviation from the mean was 14 ° 36 'in the transverse direction and 15 ° 18' in the longitudinal direction, respectively, at 2 ° 42 'and 2 ° 30', respectively. The coefficient of variation of these indicators was 18.5% in the transverse direction and 16.3% in the longitudinal direction. [3]When we determined the friction angle of the grain on the shells, we found that the friction angle of the grain on the shells was higher than that of the soot. According to him, the angle of friction in the transverse direction of the grain on the shells was 20018, and the angle of friction in the longitudinal direction was 19, 7

Table 1.2 Angles of mutual friction of the components of the shell soot

№т/р	For example	Ҳаракатйўналиши	Ишқаланишбурчаги		
			Мў,градус	градус	**V,%**
1.	Soda on the shells	кўндаланг	$14^0$36'	$2^0$42'	18,5
		бўйлама	$15^0$18'	$2^0$30'	16,3
2.	Grain on the shells	кўндаланг	$20^0$18'	$4^0$0'	19,7
		бўйлама	$19^0$42'	$2^0$18'	13,2

percent, the coefficient of variation in the longitudinal direction was 13.2 percent. When the friction angle of the core on the shells was studied, it was found that the friction angle of the core in

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the transverse direction on the shells was lower than in 2002 compared to the friction angle in the longitudinal direction.

1.2 is a continuation of the table

3.	The core on the shells	transverse	$26^0$30'	$3^0$36'	13,6
		longitudinal	$28^0$18'	$3^0$24'	12,0
4.	The grain on the cores	transverse	-	-	-
		longitudinal	$35^0$12'	$4^0$24'	12,5
5.	The shell on the cores	transverse	$54^0$30'	$2^0$24'	4,4
		longitudinal	$50^0$12'	$2^0$12'	4,3

The angle of friction of the cores on the shells in the transverse direction was 26030 'and in the longitudinal direction 28018'. Their deviation from the mean was 3036 'and 3024', respectively, while the degree of variation was 13.6 per cent in the transverse direction and 12 per cent in the longitudinal direction.

When we studied the angle of friction of the grains on the cores, it became clear that the grains do not rub in the transverse direction over the cores, they only roll in this direction. However, in the longitudinal direction, the grains on the cores had the highest friction angle, which was 35012. Its deviation from the mean and the coefficient of variation were 4024 and 12.5 per cent, respectively.

When the friction angle of the shells over the cores was studied, it was found that the friction angle of the shell over the cores in the transverse direction was 54030 'and the friction angle of the shell in the longitudinal direction was 50012'. The deviation of these indicators from the average, respectively, in 2024 and 2012, respectively, their coefficient of variation was 4.4% in the transverse direction and 4.3% in the longitudinal direction.

To study the tensile or tear breaking strength of sota shells

Many researchers have conducted research to determine the tearing or tearing strength of soot shells, and various scientific sources have reported this strength. [3]

Therefore, we determined the crushing or breaking strength of the shells based on the data provided in the sources. A.I.Pyankov studied the tensile strength of shells, according to which the shells of soda, which are perpendicular to the blade that vibrates the shells, vibrate under the influence of a force of 68.7 - 88.3 N. When the blade of the shell is aligned with the length of the shell, the shells are sharpened under a force of 78.5 to 176.6 N. [4]

K.Shatilov, M.I.Dombrovsky and others found that the rupture of the suta shells varies in different parts of the suta. It takes 2-3 times more force to open half of all the shells of a soybean than to completely cut a single shell, i.e. 34 - 44 N force is required to cut a single shell. Hence, a force in the range of 102 to 132 N is required to arch half of the sota shells [4].

M.F. Burmistrova found that the transverse tensile strength of suta shells is in the range of 100 - 218 N, as well as the tensile strength of the shell and the core from the point of connection is in the range of 96 - 117 N [80; 343 b]. We will continue our research taking into account the results obtained by the above-mentioned researchers.

Investigation of the basic parameters of the grinding device that separates the crushed grains from the core and husk

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When an experimental version of the threshing machine was tested, it was found that the grinding accuracy was 99.4%, grain damage was 0.9%, and grain purity was 99.2%. Although these figures are at the level of established requirements, it was found that the amount of grain added to the waste from the core and husk holes is 4.7-5.0% [5].

In order to overcome this shortcoming of the sieve, on the basis of research, a siding device was installed in front of the outlet hole of the shell and the core.

The operation of the sieve device, which separates grains from the shell and core, is also complex, so that the grains in the core and shell that come to the surface of the sieve are separated, and the core and shells fall off the sieve surface in time without accumulating on the sieve. This largely depends on the angle of inclination, the amplitude and frequency of the oscillations.

Previous studies have shown that the gravitational force G = mg, the inertial force J = m□2 r cos□t, the normal reaction force N = mgcosag + Jsinag and the friction force Fishk = fN = f (mgcosag - Jsinag)) affects [6/410 b].The following condition must be met for the grain mixture to shift under the influence of these forces

Influence of the shape of the working surface of the sliding rail on the performance indicators of the work in the zone of cracking of the shells

On the basis of theoretical research, a laboratory stand (Figure 4.2) was prepared and experimental studies were conducted to study the effect of a sliding bar with a defined surface on the performance of the slider. The results of experimental studies were also analyzed.

In these experiments, the number of revolutions of the drum was 600 rpm, the number of sliding bars was 6, the gap between the sliding bar and the deck was changed from 36 mm to 44 mm in 2 mm, and the working surface was compared with straight-toothed, bevel-toothed and rifle bars. When the clearance between the straight gear rail and the deck varied from 36 mm to 44 mm, and the clearance between the rail and the deck was 36, 38, and 40 mm, the total wear of the soot shells was 99.8, 99.3, and 97.2 percent, respectively. the amount of milled grain decreased from 97.0% to 83.4%, and grain damage was found to decrease from 3.1% to 1.5%. However, when the cracks were 42 and 44 mm, the shredding of the husks was observed to decrease by 96.8 and 96.2 per cent, respectively, the grinding of the grains by 50.8 and 24.2 per cent with each change, and no damage to the grains occurred.

Using the experimental method described above, the bevel gear was also investigated. It was found that when the gap between the rail and the deck was changed from 36 mm to 44 mm, the degree of friction of the shells at 36 mm was 100%, and at 38 mm it was slightly reduced to 99.6%.

Table 1.3 Influence of the type of work surface of the sliding rail on the performance indicators of the work in the zone of cracking of the shells

№	Job quality indicators	The gap between the drum deck and the slats, mm														
		Straight gear					Inclined gear					Rifelli				
		36	38	40	42	44	36	38	40	42	44	36	38	40	42	44
1.	Crust shredding,%	99,8	99,3	97,2	96,8	96,2	100	99,6	98,3	97,8	96,7	100	100	99,4	98,7	98,0
2.	Ground grain,%	97,0	92,4	83,4	50,8	24,2	97,0	91,8	72,3	28,9	15,0	93,8	97,4	88,1	27,1	25,9
3.	Grain breakage,%	3,1	2,2	1,5	0	0	2,8	0	0	0	0	7,7	2,6	0	0	0

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In these cases, the amount of milled grain was 97.0 and 91.8 percent, respectively. Grain damage was 2.8% when the crack was adjusted to 36 mm, while no crack was observed at 38 mm and then 40, 42 and 44 mm.

When the clearance between the bevel gear and the deck was adjusted between 40 mm, 42 mm and 44 mm, the friction of the shells decreased to 98.3 per cent, 97.8 per cent and 96.7 per cent, respectively, while the grinding of the grains was 72 at the same adjustments. , 3, 28.9, and 15.0 percent, respectively.

When the clearance between the rafters and the deck varied from 36 mm to 44 mm, the clearance between the rails and the deck was 36 and 38 mm, the soot shells were completely crushed, the grain grinding increased from 93.8% to 97.4%, and the damage was 7.7%. A decrease of 2.6 percent was found. However, when the cracks were 40, 42, and 44 mm, shell shredding was observed to decrease by 98.0 percent, grain crushing by 25.9 percent, and grain damage was not observed.

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