1. N. Belousov. Social housing in Finnish /http://smi.liga.net/articles.
2. DBN V.1.1-12 2006. Building in seismic areas Ukraini. - K .: Ukraine Ministry of Construction. - 2006. - 61 p.
3. monolithic ceilings /www.solostroyservice.ru/page/page67.html.
4. precast-monolithic slabs of concrete blocks / www.gazobeton78.ru
5. Delta Beam. Peikogroup. Products 2009 / http://www.peikko.com.
6. Ukraine Patent 14587, IPC E 04 B 5/32. Bahatoporozhninna floors reinforced concrete structure with steel profiled decking / [OI Davydenko, M. Prysyazhnyuk, Davidenko NA, Bamburi AM, Belov ID (Ukraine)]; DonSTU. - № 200511604; Appl. 06/12/05; Publish. 15.05.06, Bull. № 5. - 2 seconds.

In Article pryvedenы proposals on creation эffektyvnoho steel concrete perekrыtyya a video crossbar with voids in rastyanutoy zone, upper nadopornoy armaturoy and pustotnorebrystыmy plates.

Prochnost, element, armyrovanyya, basalt, Fibro.

The paper presents the proposal to establish an effective reinforced concrete slab as bolt from the voids in tension zone, the upper superbasic fittings and voids-ribbed slabs.

Strength, element, reinforcement, basalt, fiber.

UDC 631.55

INVESTIGATION OF PHYSICAL AND MECHANICAL PROPERTIES HEMP STALKS

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A study of the physical and mechanical properties such as obliquity, length, diameter stalks of hemp, to study the structural and geometric parameters of the working machine designed collection of hemp.

***Scientific consultant - PhD VP Sausage**

Physical and mechanical properties obliquity, length, diameter stalks of hemp.

Formulation of the problem. Physical and mechanical properties of hemp stems are output data for justification of parameters of working bodies of machines for harvesting hemp. Investigations of physical and

mechanical properties of hemp stalks engaged in such prominent scholars as Goncharov GI [1] Pashin EL [2].

Roll of hemp harvesting technology requires the development of a new set of machines that includes konoplezhatku of rozstylalnym apparatus perevertuvach hemp belts, round baler, reelings rolls. To justify the working parameters of these machines are important are the physical and mechanical properties as obliquity stems, their length, diameter and others [4, 5, 7]. For example, the presence of a taper stems of cannabis does not allow to form rolls of tape parallel oriented hemp stalks baler purpose [3, 6]. Therefore, to justify the bale chamber round balers obliquity hemp stalks are the main technological parameters.

Analysis of recent research. When transporting hemp stalks Overhead conveyor lower part of the stem, which is under the conveyor belts a section on its path faced with the real cover and undergoes bending. Equally important is the determination of the maximum otgibom to correctly calculate the force pressing belts tension and power plays that would have made it impossible to evil stems Pasach sectional conveyor during their transportation.

The purpose of research is to determine the physical and mechanical properties of hemp stalks, to improve the technology of hemp harvesting and reducing the complexity of operations performed manually.

research results. For the study was taken most common grade cannabis YUSO-31. Biometric hemp stalks are presented in Table. 1.

Experimental studies taper dry stalks of hemp straw and trusts made their technical length.

The aim of the experiment was to determine δ_{with} hemp stalks taper during the complete drying of straw and vylezhki trusts of their technical length and diameter: - at the extremity of the stem; - At a distance of 1.4 meters from the extremity of the stem; - Early inflorescence stems.

For the experiment, the stems were selected from a variety of hemp belts trusts YUSO-31, which were conducted laboratory tests of experimental sample baling. Determined humidity stems, then conducted measurements of the diameter and length was measured technical stalks and their length.

1. Basic characteristics of hemp stalks.

Name specifications	Boundary value	Finished value	Dispersion	Standard deviation	Coefficient variations%

The length of the stem, cm	142 ... 244	198	758	26.4	13.4
The diameter of the stem, mm:					
-bilya limbs	5.3 ... 11.7	9.1	3.4	1.8	20.2
- In the middle	4.2 ... 8.9	7.1	1.7	1.2	17.8
-bilya peaks	2.1 ... 4.7	3.6	0.3	0.5	15.9
The thickness of the walls of the two sectional stem, mm	2.1 ... 7.6	4.4	2.2	1.4	32.4

According to the research received 350 total taper design valuesδ_{with} stems straw and hemp trusts humidity Wc = 12,4-14,2% of their technical lengths for different diameters of stem and early limb buds.

Determined the obliquity stems straw and hemp trusts at a distance of 1.4 m from the stem and limb buds early. That is the length of the stem is outside the active part of the bale chamber round balers PRO-1.6. 350 values obtained taper on the length of the stems with different diameters limbs and stems at a distance of 1.4 meters from the limbs of stems for straw and hemp trusts. Correlation Field overall taperδ_{with} and taper stems straw and hemp trusts shown in (Fig. 1 - Fig. 8).

With features (Fig. 1 - Fig. 4) shows that with the increase and both straw and hemp stalks trusts for value δ_{with} and reduced (negative correlation).

At the same time with increasing diameter stems values δ_{with} and significantly increasing both straw and hemp stalks for trusts (Fig. 5, Fig. 6 and Fig. 7, Fig. 8). Established that and diameters and taper δ_{with} and - the value interrelated.

In the stems of hemp straw value pair correlation coefficients showed that the strongest correlation pronounced linear relationship betweenδ_{with} and (r = 0,7235), and between δ_{with} and (r = 0,7182).

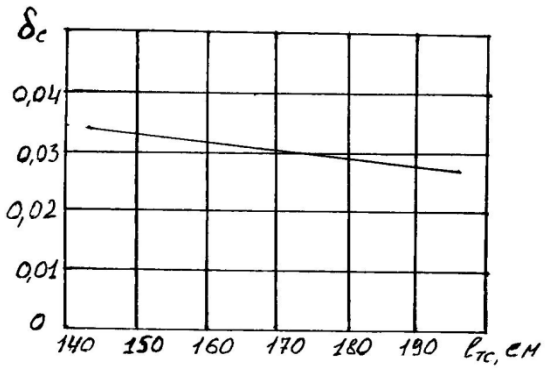

Fig. 1. Correlation Field overall taper δ_{with} straw and hemp

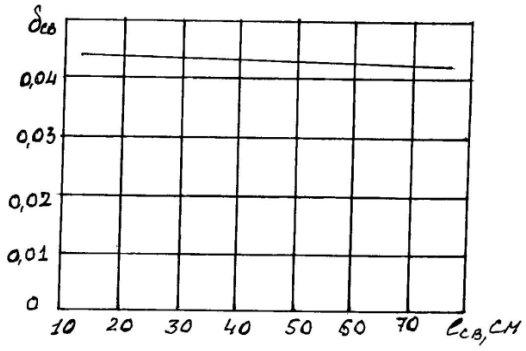

Fig. 2. Correlation Field taper top of stalks and straw trend line

stalks trend line values of the technical long stems within 12.4 ... 14.2%.

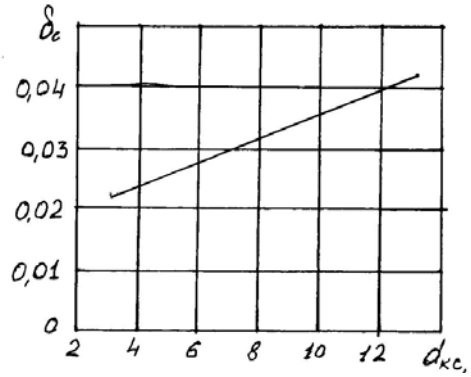

Fig. 3. Correlation Field overall taper δ_{with} trusts and hemp stalks trend line values of its long stems technically within 12.4 ... 14.2%.

values of the length within 12.4 ... 14.2%.

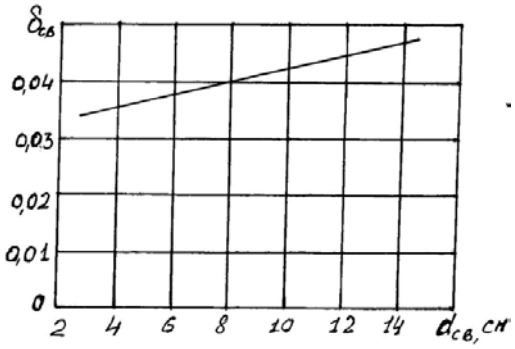

Fig. 4. Correlation field of stem apical taper trusts and trend line values of the length within 12.4 ... 14.2%.

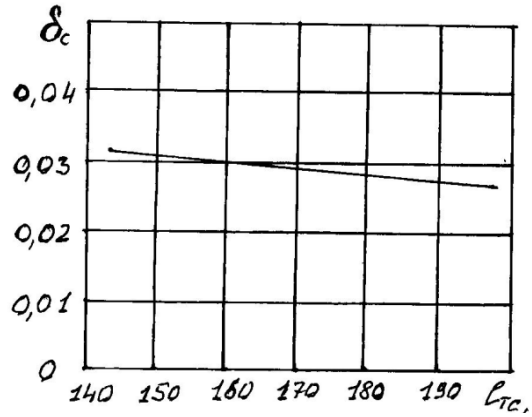

Fig. 5. Correlation Field overall taper δ_{with} straw and hemp stalks trend line values of the diameter stems 12.4 ... 14.2%.

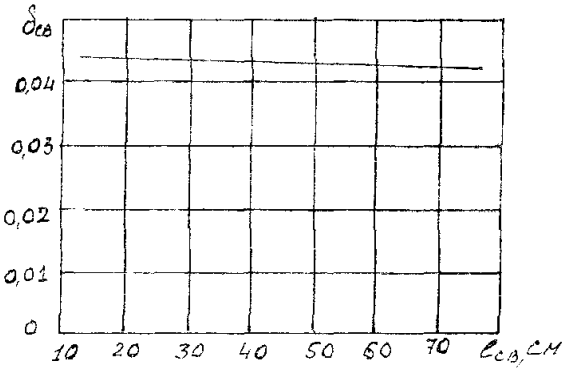

Fig. 6. correlative right apical taper of the stems straw and trend line values of the diameter of 12.4 ... 14.2%.

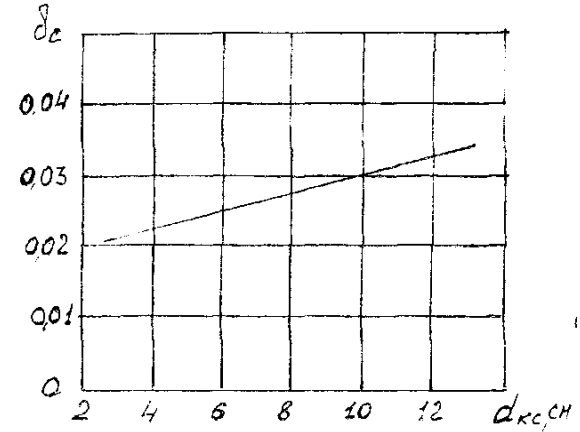

Fig. 7. Correlation Field

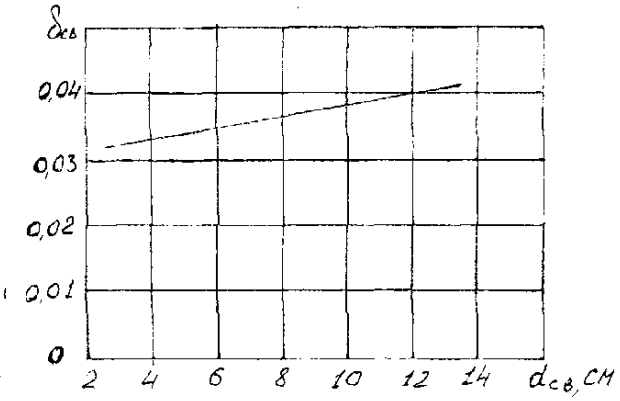

Fig. 8. Correlation field of

overall taper δ_{with} trusts and hemp stalks trend line values of the diameter stems 12.4 ... 14.2%.

stem apical taper trusts and trend line values of the diameter of 12.4 ... 14.2%.

Conclusion. The average height of the stems of cannabis - 198 cm. With a range of variation 143-244 cm diameter of the stem at the root of the neck is an average of 9.1 cm diameter of the stem in the middle - 7,1 cm, diameter about inflorescences - 3.6 cm. Obliqueness stems δ_{with} hemp straw is: maximum - 0,041; average - 0.0312; minimum - 0,022; trusts hemp stalks in accordance obliquity is: maximum - 0,032; average - 0.0294; minimum - 0.0264. Obliquity apical part of stems straw: maximum - 0.0582; average - 0.0445; minimum - 0,042; trusts hemp stalks in accordance obliquity is: maximum - 0.0454; average - 0.0431; minimum - 0.0414.

List of references

1. *Goncharov GI* Study, development and production of Introduction to novyh konopleuborochnыh machines and processes tehnolohycheskyh Integrated mechanization Other cleaning hemp / GI Goncharov. - M., 1967. - 168 c.
2. *Pashin EL* Physical and mehanycheskye properties and cannabis dependence as s preferred method pryhotovlenyya trestы and stalk diameter / EL Pashinin // selective breeding, semenovodstvo, pervychnaya obrabotku Other cleaning and hemp. - Glukhov, 1990. - C. 28-32.
3. *Patent* 12922 Ukraine, A01D45 / 00, A01D45 / 06. Method reversal films stems vysokosteblevyh cultures and pick-perevertuvach for its implementation. / VS Head, VA Hrydyakin; ILK Agrarian Sciences; appl. 04/30/1991; publ. 02.28.1997, Bull. №1.
4. *Theory*, Constructions and production of agricultural machines / VYSHOM, V.5: Designing, raschetы, Constructions. - M.-L .: Selhozhyz, 1940. - 646 p.
5. *Directory* Designer agricultural machines [text]: in 4 vol. / Ed. WE. Kletskyn. V.3. - 2nd ed., Rev. and add. - M .: Engineering, 1969. - 743 p.
6. *Theory*, Constructions and production of agricultural machines / VYSHOM; Society. Ed. VP Horyachkyna. T. 3: Theory. - M.-L .: Selhozhyz, 1936. - 780 p.
7. *Johnson C.* Mechanics of contact interaction / K. Johnson. - M .: Mir, 1989. - 510 p.

An Investigation of physical and mechanical properties, such As taper, length, diameter stems hemp justification for konstruktyvnыh and workers bodies parameters heometrycheskyh machines pred-naznachennыh collection for hemp.

Physical and mehanycheskye properties, taper, length, diameter hemp stalk.

Research of physical and mechanical properties, such as conicity, length, diameter of stalks of hemp, for justification of design and geomet-

rical parameters of working bodies of machines designed for collecting hemp is conducted.

Physical and mechanical properties, conicity, length, diameter of stalks of hemp.

UDC 531.3

CRITERIA OF STRENGTH AND RELATIONSHIP TENSIONS between the components of granular ENVIRONMENT

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The influence of limiting stress shear stress initial displacement, internal and external factor in determining friction loads from the materials to the design, construction and working bodies.

Criterion strength, loose environment, stresses in the environment, soil, shear stress in the environment.

***Supervisor - PhD VP Sausage**

Formulation of the problem. Many processes in the formalization of materials and mediums used a loose model of discrete environment [1-4]. These models come in cases related to the formalization of soil grain materials, animal feed, processed cereals, legumes and oilseeds [5-7]. However, these materials have significant differences in mechanical properties, particularly extreme tension shear stress initial displacement, internal and external coefficients of friction. Therefore, the formalization of a very important consideration in determining the properties of these traffic conditions such materials by determining loads on construction materials, structures and working bodies. Also important is the knowledge of the values of external influences at having to move these materials and changing their properties.

Analysis of recent research. Therefore, knowledge of communications components such material stress and imbalance conditions is essential. According to a statement Haar and Karman classical theory of plasticity theory and limit equilibrium soils (loose