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REED BASE, COTTON CLEANING, TEXTILE AND OTHER INDUSTRIAL COTTON WAS MADE ON THE BASIS OF FIBER WASTE STUDY OF PHYSICAL-CHEMICAL, MECHANICAL AND STRUCTURAL PROPERTIES OF COMPLETE CELLULOSES

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Abstract. The study examined the physical-chemical, mechanical and structural properties of the local raw material - reed plant and fiber waste from cotton ginning, textile and other industries, the cellular cellulose obtained on the basis of the map.

Keywords: reed stalk, poplar cellulose, textile fiber waste, Jerusalem artichoke cellulose, water vapor absorption rate, water resistance index, stabilizer, suffocation, base substance content, cotton lint, polymerization rate, pentosan, alkali sediment, ash content, moisture, concentration , parameter, optimal conditions, destruction.

In this study, the physical-chemical, mechanical and structural properties of the cellular cellulose obtained on the basis of fibrous waste from local raw materials - reed plant and cotton ginning, textile and other industries were studied.

Below is the capillary porous structure of cellulose obtained from reeds, hemp and cotton lint Soн, SK and a comparative study of the supramolecular (nonmolecular) structure of celluloses. Examination and analysis of cellulose samples were performed by the following methods: moisture absorption, IR-spectroscopic, roentgen, electron and light microscopy. Data on water vapor absorption of cellulose samples of different humidity are given in Table 1 below.

From the data in the table, it can be seen that the pill is characterized by the absorption of water vapor in the sample tube with a specific moisture content i.e., wood pulp and cotton lint cellulose have a higher rate of water vapor absorption when compared, or topinambup (Helianthus tuberosus) plant cellulose has a higher hydrophobicity when it is applied to the pulp of top wood.

1-TABLE

Absorption of water vapor into cellulose at 25oC

Examples	Cotton lint cellulose	* TKTCh cellulose	Hill wood cellulose	Cellulose Topinambupa «Fayz-Bapaka»	Reed cellulose
In moisture, %	Degree of Absorption, %				
10	0,20	0,30	0,40	0,50	0,55
20	0,40	0,50	0,90	1,00	1,15
30	0,60	0,60	1,10	1,40	1,40
40	0,70	0,80	1,40	1,70	1,85
50	0,90	1,00	1,50	3,00	3,15
60	1,30	1,40	2,00	6,60	7,60
70	2,00	2,20	3,40	8,10	8,65
80	2,40	2,90	3,60	9,00	9,40
90	3,70	4,60	8,80	9,50	10,20
100	8,00	8,40	9,10	9,90	10,60

HCTKT *- Fiber waste from the textile industry.

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Reed cellulose is much higher than topinambup (Helianthus tuberosus) cellulose. From this multiplication, it can be concluded that reed-based cellulose is distinguished by its high peak ability. The capillary porosity of the cellulose sample is given in the table below.

It can be seen from the table that the relative sieve area and relative absorbency of cotton lint cellulose TKTCh are relatively high when compared to other cellulose samples, while the Sуд Index of cellulose samples obtained from lumber is higher than topinambup (Helianthus tuberosus) cellulose Sуд. The bulk of reed plant cellulose is higher than that of TKTCH and topsoil cellulose, and the radius of capillary flap is 105-112 A0.

2-TABLE

Characteristics of capillary porosity of cellulose samples

Examples	Cotton lint cellulose	* TKTCh cellulose	Hill wood cellulose	Cellulose Topinambupa «Fayz-Bapaka»	Reed cellulose
X_m, g / g	0,0143	0,0137	0,0127	0,0098	0,0032
Relative surface, S_{salt}, *m^2/g	49,876	47,790	44,010	25,080	17,402
Total pore size, ,oW* ^{3}ms /g,	0,095	0,089	0,072	0,235	0,071
capillary radius $R_к$, A^0	38,8	49,2	76,1	105	148

* TKTCH - Fiber waste from the textile industry

It can be seen from the table that the relative silt surface and relative absorbency of cotton lint cellulose TKTCH are relatively high when compared to other cellulose samples, the Ssalt index of cellulose samples obtained from timber is higher than topinambup (Helianthus tuberosus) cellulose Ssalt. The multiplicity of reed plant cellulose is TKTCh and the radius of the capillary valve is 105-112 A0, which is higher than that of the top cellulose. As can be seen from the table, the index of SK and Sон differs slightly in the composition of topinambup (Helianthus tuberosus) and poplar stalks, because in addition to cellulose there are other amopf compounds in the composition of stems and stockings.

After ripening and leaching, i.e. the removal of the endophytic compounds from the tube other than the cellulose, the indexing in the Sон and SK index sharply. According to the table, the cellulose in the cellulose is higher than that of the reed plant in the pulp of the tree, as well as in the pulp of the other objects. It is also possible to observe an area where the intensity is reduced or the spectacle is lost. The data obtained from the analysis of the spectrograms and X-ray diffraction patterns to determine the comparative coefficients of the Sон and SK samples are given in Table 3.9.

3-TABLE

The difference between Sон and SK of the sample under study

Examples	$S_{он}$, cm^2	SK, %
Cellulose Topinambupa «Fayz-Bapaka»	32	37
Reed cellulose	20	22
Cellulose Topinambupa «Fayz-Bapaka» after ripening and watering	71	70
Reed cellulose after ripening and watering	74	72
Hill wood trail	31	34
Hill wood cellulose	67	55

Based on the analysis of the above results, it can be concluded that the absorption of reed cellulose into the water when covered with tapinambup and topak cellulose is very sensitive. The loss of the crystalline component of cotton lint cellulose is characterized by a low water absorption rate when compared with topinambup (Helianthus tuberosus) and hemp cellulose [1-15]. Below is a table comparing the quality of cellulose obtained on the basis of cotton lint to the requirements of GOST (state standard) 95-79 then it is possible to observe that in the course of this scientific research the object intended for chemical processing - cotton lint cellulose - meets the requirements of the normative quality coefficient.

4-TABLE

Comparison of the quality of cellulose obtained on the basis of cotton lint with the requirements of GOST (state standard) 595-79

Indicators	By varieties			
	High grade	first grade	second grade	Cotton lint cellulose
1. Appearance	Fragmented mass of white pang without foreign additives in the form of socks, sand, pieces of rubber, metal additives and other non-cellulose compounds			In accordance
2. The proportion of alpha-cellulose in the mass,%, is not less				
a) by weight for brands:				
15	98,2	97,2	96,0	96,8
25, 35	98,5	97,7	97,5	
For others	99,0	98,0	97,5	
б) with a photometric tip with a stamp:				
15	98,2	97,2	96,0	
25, 35	98,5	97,7	97,5	
For others	99,0	98,0	97,5	
3. Sufficiency (for the production of nitrocellulose), g, not less than the brand:				
15	145	140	130	150
For others	150	140	130	
4. Moisture content, %, not much	8,0	10,0	10,0	9
5. The amount of ash, %, is not much	0,1	0,2	0,3	0,4
6. the amount of insoluble residue in sulfuric acid, %, is not much	0,10	0,30	0,50	-
7. The proportion of fibrous powder in the mass, %, is not much	2,0	2,0	2,0	-
8. Abs. The mass of iron in the dry cellulose, mg / kg, is not much	25	-	-	-
9. Dynamic viscosity, sPa · (SP): for brands:				

From the results of comparison with the requirements of GOST (state standard), it can be concluded that the viscosity of the cotton lint cellulose synthesized during the study, i.e. 531 sPa · s (SP), ductility 150, the amount of ash in the tap, and the percentage of alpha-cellulose in the mass. chemical processing of synthesized cellulose from the loss of peak activity. and organic matter, which can be widely used in the synthesis of composite materials [16-28].

The first step is the amount of ash, lignin in the ash during the synthesis of cellulose, which is coated for chemical processing, from local raw materials - reeds and considering the importance of determining the composition of similar compounds, several existing normative documents have been applied.

The following comparison was made in accordance with the requirements of GOST (state standard) 11960-79 (K59 group), i.e. compliance with the requirements for annual plants for fibrous raw materials and pulp and paper industry. The method given in GOST (state standard) 11960-79 was used to determine the amount of lignin in the cane. During the study of the reed object, the amount of ash in the mass was determined using the method specified in GOST (state standard) 18461-73. The following table shows that the requirements of GOST (state standard) 11960-79 and GOST 18461-73 correspond to the coefficients [29-38]. As a result of the test, the average apiphmetic value of the results of the two papal detection rounds, rounded up to 0.1%, was obtained.

The aim is to determine the amount of lignin and ash in the local raw material reed bed, natural polymep synthesis shapoitlapi from its discovery, how to control the parameters, has made it possible to make a delicate mathematical modeling that includes factors such as reducing the sap of the chemical reagents to be sapped.

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