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Assessment of the Quality Indicators of Threads Obtained by an Improved Method from Mixtures of Fiber and Secondary Material Resources with Different Compositions

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Abstract: in this article, "Safira-Samira textile" LLC and "OYGUL PLUS" LLC in Bukhara produce yarn and fabrics used for technical purposes from 100% secondary material resources of knitting scraps from 80 tex yarns. And in our research work, the secondary material resources of 66.4% cotton fiber with 27.0% viscose fiber + 6.6% nitron fiber for jute yarn, 66.4% cotton fiber with 27.0% lavsan fiber + 6.6% nitron fiber secondary material resources, 66.4% cotton fiber with 27.0% nitron fiber+6.6% cotton fiber secondary material resources, 66.4% cotton fiber with 27.0% lavsan fiber+6.6% viscose fiber secondary material resources, 66.4% cotton fiber with 27.0% viscose fiber + 6.67% lavsan fiber secondary material resources from a mixture of 66.4% cotton fiber with 27.0% cotton fiber + 6.6% viscose fiber secondary material resources 29.4 tex yarns were produced and their physical and mechanical properties were determined using modern equipment in the Uster Tester-5 test laboratory at the UZTEX TASHKENT LLC enterprise.

Keywords: testing and control of unevenness of products, unevenness affects the technical and economic performance of yarns, physical and mechanical properties of spinning and weaving products, breaking strength, coefficient of variation in breaking strength, elongation at break, specific breaking strength.

INTRODUCTION

It is of great importance to introduce new technological methods, technologies, and improve existing methods and devices in order to maximally involve the production of material and raw materials and consumer goods in the sewing and knitting industry of the Republic. This is especially true at the present time, when large enterprises in the sewing and knitting industry have ceased operations, and mainly small, private enterprises are being established, for which it is not possible to purchase expensive foreign equipment for the processing of ecologically clean waste.

Nowadays, textile waste is generated in all light industrial enterprises. Such wastes are generated in large quantities and are not accepted by the preparation and processing enterprises, but are disposed of, which worsens the ecological situation of the country. Therefore, an important scientific and technical problem arises, which is the production of

technological processes with the effective use of textile waste.

The amount of secondary material resources is also increasing sharply in the sewing and knitting industry of our republic. In the last 5 years, the production of textile products, which process these secondary material resources and use them only for technical purposes, was launched.

A certain amount of secondary material resources is generated in the production of fabrics and articles in the sewing and knitting industry. It depends on the equipment and range of weaving fabrics. Defects occur due to equipment malfunctions, pattern violations, and lack of qualified maintenance.

Technological waste and secondary material resources from light industry account for 25% of all recycled textile raw materials in the world. This is a large stock that can be used for production. However, only 10% of these secondary material resources are used.

The development of improved methods and equipment for the processing of waste from the sewing and knitting industry, and the maximum use of raw materials are of great importance today. Efficient use of raw resources does not cause environmental pollution.

The textile industry has been hazardous to human health and the environment since its inception, as various chemicals and dyes are used in the production of textile. Therefore, the production of a new range of products that protect the environment based on the effective use of secondary material resources remains an urgent issue today.

II. METHODOLOGY

Unevenness index is one of the most important indicators in spinning enterprises. Unevenness is a negative property of production products in a spinning enterprise, and often has a negative effect on the technical and economic indicators of the enterprise, as well as on the physical and mechanical properties of the yarn. It is important to test and control the unevenness of the products in the spinning production, and determine the causes and timing of the unevenness. In spinning machines, the more breaks during winding and forming, the higher the unevenness of the yarn. As a result of the increase in breakage of threads, the employment of workers increases, and it leads to a decrease in the productivity of the machines.

Unevenness affects technical and economic performance of yarns, physical and mechanical properties of spinning and weaving products. Many factors; the unevenness of the properties of raw materials, often due to the technological process and the design of the machine, the violation of the regime, the unevenness is formed as a result of moving away from the machines and adjusting it. If a product with uneven product structure or linear density enters the stretching tool of a different machine, the area size of the stretching force and friction force will change.

Yarn roughness adds several components to it and affects the roughness of various stages of spinning production. Different forms of unevenness are related to each other. These factors make it difficult to change the causes of inequality. It determines the following types of unevenness in the change of its special properties along the length: unevenness according to the linear density, the number of fibers in the product cross-section or cross-sectional weights of different lengths, unevenness of the product according to its volumetric weight (density), unevenness according to the physical-mechanical properties of the product (strength, elasticity, elasticity, moisture, air permeability, electrical resistance, electrical resistance, size of electrical charges).

In addition, threading is one of the main processes in spinning, and from relatively short fibers, a product-yarn (or pile) with a certain strength is formed.

As a result of weaving, fibers oriented along the axis of the product and aligned to a certain extent overlap each other like a screw line. The product is stretched at the expense of hearing, the fibers located in the form of a screw are pulled and stretched, trying to fit together and be closer to the axis. As a result, the thread becomes denser, pressure is created and the force of friction provides a certain strength.

Although the length of the fibers in the woven product is slightly longer, the length occupied by them decreases as a result of being arranged in a spiral form from a straight line. After that, the initial length of the product (yarn) will be reduced due to weaving, and this will result in a reduction of the yarn during weaving.

The thread speed is determined by the angle of the thread, the thread length and the thread coefficients. The shear angle is expressed by the angle of inclination between the outer fibers and the thread axis. By increasing the tension of the threads, the thread becomes smoother and more elastic.

The angle of warp is the angle of external inclination of the yarns or fibers that make up the warped product along the longitudinal axis. The greater the angle of the cut, the more the threads are cooked. For uncooked yarns, for example, the angle of bunching is zero. It is possible to compare the cooking level of yarns of different thickness according to the angle of the cut.

According to the direction of rotation of the loom, the textile threads are woven to the right and to the left. If the bobbin rotates in the clockwise direction, the thread is counted as having been wound ten times. Right-hand drive is denoted by the Latin letter Z, and left-hand drive is denoted by the letter S.

The hearing of threads greatly affects their properties. As the degree of weaving increases, the fibers in the yarn become denser, their average density increases, and the diameter of the yarn decreases. Fiber density changes rapidly during the initial period of hearing. As the speed of ripening increases, the increase in the average density of the thread decreases, and the diameter decreases. The increase in threading has a positive effect on the strength of the thread at the initial stage, after a certain amount it begins to decrease. The value of elongation at which the thread has maximum strength is called its critical elongation. In cases of excess of critical tension, the tension of the fibers that make up the thread begins to break. The positive effect of cooking on complex yarns is much lower than that of spun yarns. As the degree of elongation of threads increases, their resistance to multi-cycle stretching deformation increases.

Therefore, the quality indicators of yarns obtained based on the combination of secondary material resources to cotton fiber in different options and giving different twists were determined and the obtained test results are presented in Tables 1-4.

Table 1 Variation of the yarn quality indicators obtained by placing the secondary material resources in the middle part of the braiding machine (assuming 1000 br/m)

n/n	The fiber of the yarn composition	Кўрсаткичлар			
		Interruption strength, sN	Coefficient of variation in tensile strength,%	Outage prolongation,%	Comparison breaking strength, cN/tex
1.	66.4% cotton fiber with 27.0% viscose fiber+6.6% nitron fiber secondary material resources	320,6	9,10	6,72	10,9

2.	Secondary material resources with 66.4% cotton fiber, 27.0% lavsan fiber+6.6% nitron fiber	402,4	7,74	7,23	13,69
3.	66.4% cotton fiber with 27.0% nitron fiber+6.6% cotton fiber secondary material resources	333,7	9,05	6,86	11,35
4.	66.4% cotton fiber with 27.0% lavsan fiber+6.6% viscose fiber secondary material resources	345,2	11,12	7,06	11,74
5.	Secondary material resources with 66.4% cotton fiber and 27.0% viscose fiber + 6.6% lavsan fiber	378,6	13,16	7,12	12,88
6.	Secondary material resources with 66.4% cotton fiber 27.0% cotton fiber +6.6% viscose fiber	310,4	10,78	6,78	10,56

Table 2 Variation of the yarn quality indicators obtained on the basis of placing the secondary material resources in the middle part of the braiding machine (assuming 1100 br/m)

n/n	The fiber of the yarn composition	Кўрсаткичлар			
		Interruption strength, sN	Coefficient of variation in tensile strength,%	Outage prolongation,%	Comparison breaking strength, cN/tex
1.	66.4% cotton fiber with 27.0% viscose fiber+6.6% nitron fiber secondary material resources	290,4	11,5	5,96	9,88
2.	Secondary material resources with 66.4% cotton fiber, 27.0% lavsan fiber+6.6% nitron fiber	376,8	9,45	6,88	12,8
3.	66.4% cotton fiber with 27.0% nitron fiber+6.6% cotton fiber secondary material resources	312,4	9,68	6,14	10,6
4.	66.4% cotton fiber with 27.0% lavsan	342,8	13,23	6,06	11,7

	fiber+6.6% viscose fiber secondary material resources				
5.	Secondary material resources with 66.4% cotton fiber and 27.0% viscose fiber + 6.6% lavsan fiber	325,8	13,78	6,78	11,1
6.	Secondary material resources with 66.4% cotton fiber 27.0% cotton fiber +6.6% viscose fiber	286,7	12,45	6,11	9,8

Table 3 Variation of the yarn quality indicators obtained on the basis of placing the secondary material resources on the two ends of the braiding machine (assuming 1000 br/m)

n/n	The fiber of the yarn composition	Кўрсаткичлар			
		Interruption strength, sN	Coefficient of variation in tensile strength,%	Outage prolongation,%	Comparison breaking strength, cN/tex
1.	66.4% cotton fiber with 27.0% viscose fiber+6.6% nitron fiber secondary material resources	348,7	8,80	6,60	11,86
2.	Secondary material resources with 66.4% cotton fiber, 27.0% lavsan fiber+6.6% nitron fiber	420,6	6,54	7,40	14,31
3.	66.4% cotton fiber with 27.0% nitron fiber+6.6% cotton fiber secondary material resources	350,4	7,12	6,90	11,91
4.	66.4% cotton fiber with 27.0% lavsan fiber+6.6% viscose fiber secondary material resources	361,5	9,24	7,20	12,30
5.	Secondary material resources with 66.4% cotton fiber and 27.0% viscose fiber + 6.6% lavsan fiber	386,8	9,40	6,40	13,16
6.	Secondary material resources with 66.4% cotton fiber 27.0% cotton fiber +6.6% viscose fiber	332,7	9,86	7,12	11,32

Table 4 Change in the quality indicators of yarns obtained on the basis of placing secondary material resources on two ends in a braiding machine (assuming 1100 br/m)

n/n	The fiber of the yarn composition	Кўрсаткичлар			
		Interruption strength, sN	Coefficient of variation in tensile strength,%	Outage prolongation,%	Comparison breaking strength, cN/tex
1.	66.4% cotton fiber with 27.0% viscose fiber+6.6% nitron fiber secondary material resources	317,5	9,45	6,14	10,8
2.	Secondary material resources with 66.4% cotton fiber, 27.0% lavsan fiber+6.6% nitron fiber	400,5	8,02	7,10	13,6
3.	66.4% cotton fiber with 27.0% nitron fiber+6.6% cotton fiber secondary material resources	312,5	8,65	6,46	10,6
4.	66.4% cotton fiber with 27.0% lavsan fiber+6.6% viscose fiber secondary material resources	325,4	10,67	6,96	11,06
5.	Secondary material resources with 66.4% cotton fiber and 27.0% viscose fiber + 6.6% lavsan fiber	345,8	11,44	6,10	11,73
6.	Secondary material resources with 66.4% cotton fiber 27.0% cotton fiber +6.6% viscose fiber	298,7	12,65	6,78	10,16

III. RESULTS AND DISCUSSION

If we analyze the quality indicators of the yarns obtained based on placing the secondary material resources in the middle part of the braiding machine, if we compare the quality indicators of the yarns obtained by giving 1000 b/m, compared to the indicators of the yarns obtained according to the 1st option, the breaking strength of the yarns obtained according to the 2nd option is 17.1% increased to, the coefficient of variation in breaking strength decreased by 25.7%, the elongation at break increased by 10.8%, the specific breaking strength increased by 17.1%, the breaking strength of yarns obtained according to option 3 increased by 1.5%, the breaking strength the coefficient of variation decreased by 9.1%, the elongation at break increased by 4.3%, the specific breaking strength increased by 0.4%, the breaking strength of the threads obtained according to option 4 decreased by 4.5%, the variation coefficient of breaking strength was 4.8 %, the elongation at break increased by 8.3%, the relative tensile strength increased by 3.6%, the tensile strength of the yarns

obtained according to option 5 increased by 9.9%, the coefficient of variation of the tensile strength increased by 6.4%, the elongation at break by 3 , decreased by 1%, the specific tensile strength increased by 9.6%, the tensile strength of the threads obtained according to option 6 by 4.5%, the coefficient of variation in tensile strength by 10.8%, the elongation at break by 7.3%, compared breaking strength increased by 4.6%.

In addition, if we compare the quality indicators of the yarns obtained based on placing the secondary material resources in the middle part of the carding machine, for example, the indicators of the yarns obtained from the mixture of the secondary material resources of 66.4% cotton fiber and 27.0% viscose fiber + 6.6% nitron fiber for hemp yarn For relatively weak yarn, the breaking strength of yarns obtained from the mixture of secondary material resources with 66.4% cotton fiber and 27.0% lavsan fiber + 6.6% nitron fiber increased by 20.3%, the coefficient of variation in breaking strength decreased by 4.4% , the elongation at break increased by 7.1%, and the specific tensile strength increased by 20.4%.

If we compare the obtained test results to the performance of yarns obtained from a mixture of 66.4% cotton fiber and 27.0% nitron fiber + 6.6% cotton fiber secondary material resources, the breaking strength of the yarns is 4.0%, the coefficient of variation in breaking strength 10.5%, elongation at break increased by 2.1%, specific tensile strength increased by 4.0%.

The analysis of the results shows that the breaking strength of yarns obtained from the mixture of secondary material resources with 66.4% cotton fiber and 27.0% lavsan fiber + 6.6% viscose fiber for jute yarn is 7.1%, the coefficient of variation in terms of breaking strength is 27, 7%, elongation at break increased by 4.8%, specific tensile strength increased by 7.2%, obtained from a mixture of 66.4% cotton fiber with 27.0% viscose fiber + 6.6% lavsan fiber secondary material resources for hemp yarn the breaking strength of yarns increased by 15.3%, the coefficient of variation in breaking strength by 38.4%, the elongation at break by 5.6%, the specific breaking strength by 15.4%, 66.4% for hemp yarn with cotton fiber 27, The breaking strength of yarns obtained from the mixture of 0% cotton fiber + 6.6% viscose fiber secondary material resources decreased by 3.2%, the coefficient of variation in breaking strength increased by 24.9%, the elongation at break increased by 0.9%, the specific breaking strength was 3 , decreased by 1%.

From the analysis of the obtained results, depending on the composition of fiber and secondary material resources, the breaking strength of yarns increased from 3.2% to 20.3%, the coefficient of variation in breaking strength from 4.4% to 38.4%, elongation at break from 0.9% to 7 ,1%, it was found that the specific tensile strength increased from 3.1% to 20.4%.

In addition, if we analyze the quality indicators of the yarns obtained based on placing the secondary material resources in the middle part of the braiding machine, if we compare the quality indicators of the yarns obtained by giving 1100 b/m, the breaking strength of the yarns obtained according to the option 2 compared to the indicators of the yarns obtained according to the 1st option is 22 increased by .9%, the coefficient of variation in breaking strength decreased by 17.8%, the elongation at break increased by 13.4%, the specific breaking strength increased by 22.8%, the breaking strength of yarns obtained according to option 3 increased by 7.1% , the coefficient of variation in breaking strength decreased by 15.8%, the elongation at break by 2.9%, the specific breaking strength increased by 6.8%, the breaking strength of yarns obtained according to option 4 by 15.3%, the coefficient of variation in breaking strength 12.9%, elongation at break increased by 1.7%, specific tensile strength increased by 15.6%.

Comparing the results of the research to the parameters of the yarns obtained according to the 1st option, the breaking strength of the yarns obtained according to the 5th option is 1.5%, the

coefficient of variation in the breaking strength is 33.9%, the elongation at break is 0.9%, the relative breaking strength is 0.2% increased to, the tensile strength of yarns obtained according to option 6 decreased by 10.5%, the coefficient of variation in tensile strength increased by 26.9%, the elongation at break decreased by 9.1%, the specific tensile strength decreased by 10.1%, and pilling If we compare the quality indicators of yarns obtained by giving 1100 b/m on the basis of placing secondary material resources in the middle part of the machine, compared to the indicators of yarns obtained according to option 1, the breaking strength of yarns obtained according to option 2 increased by 20.7%, the coefficient of variation in terms of breaking strength is 15 , decreased by 1%, the elongation at break increased by 13.5%, the specific breaking strength increased by 20.6%, the breaking strength of the threads obtained according to the 3rd option decreased by 1.5%, the coefficient of variation in breaking strength decreased by 8.5%, elongation at break increased by 4.9%, relative tensile strength decreased by 1.2%, tensile strength of threads obtained according to option 4 increased by 2.4%, coefficient of variation in tensile strength by 11.4%, elongation at break by 11.8% , the specific breaking strength increased by 2.4%, the breaking strength of the threads obtained according to option 5 increased by 8.2%, the coefficient of variation in breaking strength increased by 17.1%, the elongation at break decreased by 0.7%, the specific breaking strength increased by 7.1%, the tensile strength of yarns obtained according to option 6 decreased by 5.1%, the coefficient of variation in tensile strength increased by 25.3%, the elongation at break increased by 9.4%, the specific tensile strength by 5.1% decreased.

In addition, it was found that the quality indicators of the yarns produced as a result of combining the wicks obtained from secondary material resources to the cotton fiber in the edge part have higher results compared to the quality indicators of the yarns produced as a result of the wicks obtained from the secondary material resources added to the cotton fiber.

In addition, during the braiding process, the optimal option of combining the braids, giving 1000 p/m on the pneumomechanical spinning machine was selected, and based on this, the quality indicators of the obtained yarns were determined by the "Uster Tester-5" device, and the test results are presented in Tables 5 and 6.

Table 5 Changes in the quality indicators of the obtained yarns based on the placement of secondary material resources in the middle part of the braiding machine

n/n	Кўрсаткичлар	Аралашма таркиби,%					
		66.4% cotton fiber with 27.0% viscose fiber+6.6% nitron fiber secondary material resources	Secondary material resources with 66.4% cotton fiber, 27.0% lavsan fiber+6.6% nitron fiber	66.4% cotton fiber with 27.0% nitron fiber+6.6% cotton fiber secondary material resources	66.4% cotton fiber with 27.0% lavsan fiber+6.6% viscose fiber secondary material resources	Secondary material resources with 66.4% cotton fiber and 27.0% viscose fiber + 6.6% lavsan fiber	Secondary material resources with 66.4% cotton fiber 27.0% cotton fiber +6.6% viscose fiber
1.	Unevenness of threads U, %	14,42	10,20	13,36	11,12	12,78	16,54
2.	Coefficient	20,99	13,34	16,7	14,32	15,46	21,96

	of variation CVm, %						
3.	1 m coefficient of variation CVm, %	8,83	5,01	6,22	7,45	5,89	11,26
4.	10 m coefficient of variation CVm, %	5,30	2,46	3,78	4,01	2,78	6,90
5.	Neps+140%	7196	3050	5180	4476	4760	9695
6.	Neps+200%	3981	718,8	1120	1368	1060	4118
7.	Neps+280%	268,3	160,0	230,0	415,0	200,8	273,1
8.	Hairiness, H	9,44	6,12	7,02	6,56	6,77	6,88
9.	Coefficient of variation in hairiness, sh	2,91	1,89	2,89	2,01	2,58	2,26

Table 6 Changes in the quality indicators of yarns obtained based on the two ends of secondary material resources in the braiding machine

n/n	Кўрсаткичлар	Аралашма таркиби,%					
		66.4% cotton fiber with 27.0% viscose fiber+6.6 % nitron fiber secondary material resources	Secondary material resources with 66.4% cotton fiber, 27.0% lavsan fiber+6.6 % nitron fiber	66.4% cotton fiber with 27.0% nitron fiber+6.6 % cotton fiber secondary material resources	66.4% cotton fiber with 27.0% lavsan fiber+6.6 % viscose fiber secondary material resources	Secondary material resources with 66.4% cotton fiber and 27.0% viscose fiber + 6.6% lavsan fiber	Secondary material resources with 66.4% cotton fiber 27.0% cotton fiber +6.6% viscose fiber
1.	Unevenness of threads U, %	13,65	9,40	12,24	10,26	11,42	14,20
2.	Coefficient of variation CVm, %	16,24	11,20	14,80	13,68	14,12	17,34
3.	1 m coefficient of variation CVm, %	7,45	4,86	5,08	6,32	4,76	8,12
4.	10 m coefficient of variation CVm, %	4,20	2,30	3,15	3,80	2,56	5,72
5.	Neps+140%	6180	2960	4980	4120	4280	7540

6.	Neps+200%	2760	680	975	1122	996	2840
7.	Neps+280%	245,3	150,8	220,4	319,8	188,9	245,6
8.	Hairiness, H	8,12	5,78	6,78	5,94	6,45	6,35
9.	Coefficient of variation in hairiness, sh	2,22	1,78	2,89	1,96	2,26	2,12

The analysis of the quality indicators of yarns obtained on the basis of placing secondary material resources in the middle part of the braiding machine showed that, compared to the indicators of yarns obtained according to option 1, the unevenness of yarns obtained according to option 2 was 29.3%, the coefficient of variation was 36.4%, 1 m the coefficient of variation in hairiness decreased by 43.3%, the coefficient of variation by 35.2%, the coefficient of variation by hairiness decreased by 35.1%, the unevenness of the threads obtained according to option 3 decreased by 7.4%, the coefficient of variation by 20.4%, 1 m the coefficient of variation in hairiness decreased by 29.6%, the coefficient of variation by 25.6%, the coefficient of variation by hairiness decreased by 1.7%, the unevenness of the threads obtained according to option 4 decreased by 22.9%, the coefficient of variation by 31.8%, 1 m the coefficient of variation in hairiness decreased by 15.6%, the coefficient of variation by 30.5%, the coefficient of variation by hairiness decreased by 30.9%, the unevenness of the threads obtained according to option 5 decreased by 11.4%, the coefficient of variation by 26.3%, 1 m the coefficient of variation in hairiness decreased by 33.3%, the coefficient of variation by 28.3%, the coefficient of variation by hairiness decreased by 11.3%, the unevenness of the threads obtained according to option 6 decreased by 22.8%, the coefficient of variation by 4.4%, 1 m the coefficient of variation in increased by 21.6%, hairiness by 27.1% and the coefficient of variation by hairiness decreased by 22.3%.

In addition, the analysis of the quality indicators of yarns obtained on the basis of placing secondary material resources on the two ends of the braiding machine showed that, compared to the parameters of the yarns obtained according to the 1st option, the unevenness of the yarns obtained according to the 2nd option was 31.1%, the coefficient of variation was 30.9% ha, the coefficient of variation in 1 m decreased by 34.8%, hairiness by 28.8%, the coefficient of variation by hairiness by 19.9%, the unevenness of yarns obtained according to option 3 by 10.3%, the coefficient of variation by 8.6% ha, the coefficient of variation in 1 m decreased by 32.2%, hairiness by 16.5%, the coefficient of variation by hairiness decreased by 23.2%, the unevenness of yarns obtained according to option 4 by 24.8%, the coefficient of variation by 15.6% ha, the coefficient of variation in 1 m decreased by 15.2%, hairiness by 26.8%, the coefficient of variation by hairiness by 11.7%, the unevenness of yarns obtained according to option 5 by 17.3%, the coefficient of variation by 12.8% , the coefficient of variation in 1 m decreased by 36.1%, the hairiness decreased by 20.6%, the coefficient of variation in hairiness increased by 1.8%, the unevenness of the threads obtained according to option 6 by 3.9%, the coefficient of variation was 6.5 %, the coefficient of variation at 1 m increased by 8.3%, hairiness by 21.8%, and the coefficient of variation by hairiness decreased by 4.5%.

IV.CONCLUSION

From the analysis of the results, it was found that if the yarn contains the amount of synthetic fibers, i.e., the percentage of lavsan and nylon fibers, the breaking strength and relative breaking strength of the yarns obtained from their mixture increases, and the unevenness indicators decrease compared to the indicators of the yarns obtained from a mixture of other fibers.

It can be seen from the analysis of the quality indicators of the yarns obtained from a mixture of fiber and secondary material resources of different composition that, based on placing the

secondary material resources on both ends of the carding machine, the secondary material of 66.4% cotton fiber and 27.0% viscose fiber + 6.6% nitron fiber secondary material compared to the indicators of yarns obtained from the mixture of resources, the unevenness of yarns obtained from the mixture of secondary material resources for 66.4% cotton fiber with 27.0% lavsan fiber + 6.6% nitron fiber is from 29.3% to 31.1%, the coefficient of variation is 30 .9% to 36.4%, coefficient of variation in 1 m from 34.8% to 43.3%, hairiness from 28.8% to 35.2%, coefficient of variation in hairiness from 19.9% to 35.1 It was found that it decreased to %.

When analyzing the quality indicators of yarns obtained based on combining skeins in different options, in order to obtain high-quality yarn, placing skeins obtained from secondary material resources in the outer parts of the skeining machine and 1000 br/m was chosen as the optimal option for obtaining yarn in a pneumatic spinning machine, and fabric was produced from it in sari weaving, and technological and physical-mechanical properties were studied.

REFERENCES

1. Isaeva L.K. The effect of harmful and harmful ecological factors on the human body. Metrological aspects. - M.: VNIIPI. - 1997. - T. 1. – 510 s.
2. Urumova A.G. Ispolzovanie i pererabotka ugarov i vtorichnogo syrya v BNR // Tekstilnaya promyshlennost. – 1978. – No. 2. – S. 38-40.
3. Textile factories. – URL: http://recyclers.ru/modules/section/item.php?itemid=190 (data processing: 10.03.2020).
4. Izmesteva L.K. Technology izgotovleniya shveinykh izdeliy. - M.: Legkaya industry, 1973. - 510 p.
5. Atanafasov Muhiddin Rakhmonovich, Ochilov To’lqin Ashurovich, Rahimjonov Husanboy Rahimjonovich “Turli tarkibli va qayta ishlangan tolalar aralashmasidan olingan piltaning notekislik ko‘rsatkichlarining o‘zgarishi” Innovative Development in Educational Activities, Volume 2, Issue 4, ISSN: 2181-3523, 2023.
6. Atanafasov M.R., Ochilov T.A., Usmonova Sh.A., Yuldashyev J.N., Hakimov Sh.H. Influence of Cotton Fiber of Different Composition and Secondary Material Resources on Single-Cycle Elongation Deformation of Yarns // International Journal of Innovative Research in Science, Engineering and Technology – India, Volume 11, Issue 2, February 2022. Pp.1135-1137. (05.00.00; #8).
7. Ashurov Khasan To’lqin o’g’li, Usmonova Shakhnoza Anvarovna, Atanafasov Mukhiddin Rakhmonovich, Elmira Talgatovna Laysheva, Sobirov Doniyor Xolmurodovich “Evaluation of Mechanical Properties of Covered Fabrics from Different Secondary Material Resources”. International Journal of Innovative Research in Science, Engineering and Technology (IJIRSET) 2021.
8. T.A.Ochilov, D.M.Isaeva, N.A.Niyazova, Sh.P.Shumkarova, T.G’. Bobomurodov. Changes in Technological Performance of Lastic Knitted Textiles in Different Range. International Journal of Advanced Research in Science, Engineering and Technology Vol. 7, Issue 9 , September 2020. P. 14846.
9. M.R.Atanafasov, T.A.Ochilov, R.X.Norboev, M.A.Mansurova, D.A.Khalmatov. Changes in the Uneven Indexes of Sliver and Threads by Different Technological Processes. International Journal of Recent Technology and Engineering, Volume-9 Issue-1, May 2020. P.2809.
10. T.A.Ochilov, B.B.Akhmedov, T.A.Toyirova, Sh.S.Mengnarov, J.T.Xasanov. Influence of Separating Fibrous Seed Mass to Fractions to Quality. International Journal of Recent

Technology and Engineering, Volume-9 Issue-1, ay 2020.p.200.

11. Akhmedov Bakhodir, Akbarov Rustam, Ochilov Tulkin Ashurovich, Umirova Robiyakhan Bakhtiyarovna. Changes in the physical and mechanical properties of shirt fabrics with different fiber content. Proceeding of International Conference on Research Innovation In Multidisciplinary Sciences, 2021 Hosted From New York USA.p.227.