WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 6, June, 2022

THE DEPENDENCE OF YARN DENSITY ON SPINNING SYSTEMS AND QUALITY INDICATORS

A. Rakhimjonov
Assistant of the Fergana Polytechnic Institute

Annotation
This article explores the use of yarns spun by ring and pneumomechanical methods, compact rewinding and simple card compact system at the Quva CPOOO Tekstil joint venture in Quva district of Fergana region, and the dependence of yarn flux on spinning methods and systems. Linear density 19.6 () compact ring card system and rewinding system 19.6 tex (30 OE) are produced by pneumomechanical method.

Keywords: snow, re-combing, compact yarn, ring spinning, pneumomechanical spinning, fluff, quality, relative toughness, number of thin spots, defects.

Introduction

Currently, our country has all the conditions for the development of the textile industry - raw material stocks, labor resources, and is being equipped with the most advanced technologies. With the start of the activities of a number of joint and private enterprises producing ready-made products from cotton fiber grown in the republic, the production volume of exportable textile products increased. By 2022, 100% of the cotton fiber produced in our country (1 million tons of fiber) will be processed in Uzbek enterprises, and an additional 300,000 tons of chemical fiber will be purchased.

In this regard, the decision of the President of the Republic of Uzbekistan No. PQ-4408 of November 28, 2017 "On measures to fundamentally improve the management system of the cotton industry" serves as an important factor [1]. As we know, one of the important properties of yarn is hairiness. Figure 1 below illustrates the hairiness in the thread.

Fluxes are usually defined by standard deviation, similar to CV (%) [2].

WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 6, June, 2022

In general, long piles in yarns cause significant destruction in further processes, incur additional costs, and reduce the appearance and practical properties of the textile product [3].

In conducting the research related to the article, the properties of the threads, such as number, number of twists, unevenness and hairiness, were studied using the Ritter company equipment available in the laboratory of the "Quva CPOOO Tekstil" enterprise.

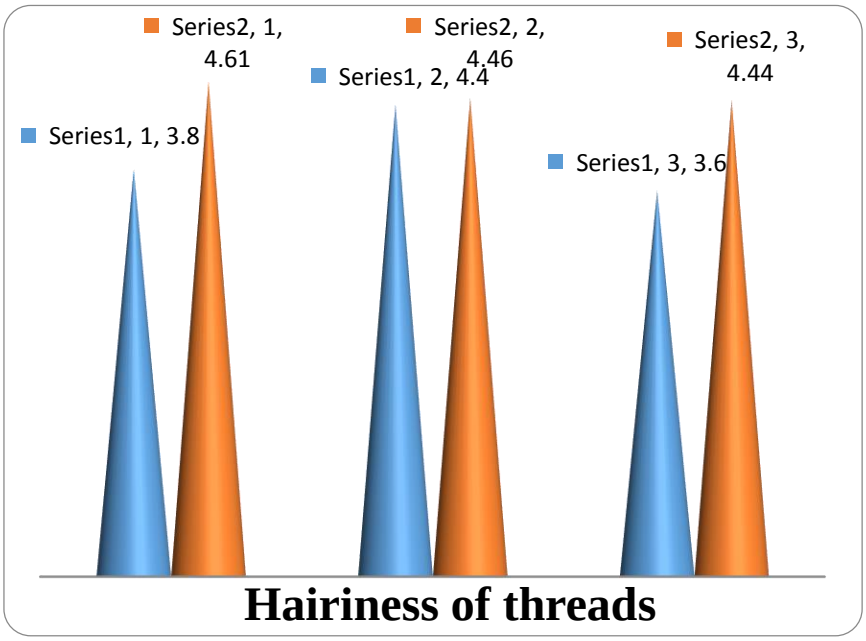
When the parameters of the yarns taken for research from the enterprise "Quva CPOOO Tekstil" are compared to the 5% indicators of Riter Statistik 2018 in terms of hairiness (Ne=30), re-combing compact yarn by 21.3%, (Ne=30) it is seen that it is 1.36% lower in the compact rope and 23.3% higher in the pneumomechanical rope. Analyzing the results at this point, we can see that among the yarns taken for the study, regular carda compact yarn has the lowest hairiness index and almost matches the Ritter statistic 2018 5% for carda compact yarn. will be possible.

In the table below, it is possible to see the comparison of the indicators of yarns obtained from the company "Quva CPOOO Tekstil" with the 5% indicators of Riter statistician 2018 [4].

Indicators of threads from "Quva CPOOO Tekstil" enterprise

№	Name of indicators	Riter statistician 2018 for re-combing thread	Compact for re-threading comb again The result of the Ritter spinning enterprise is statistical 2018	Rieter statistics for plain carded yarns 2018 Pneumomechanical spinning The result of pneumomechanical spinning in snow	The result of a compact spinning enterprise on ordinary snow	Ritter is a statistician 2018 Pneumomechanical spinning	The result of a pneumomechanical spinning enterprise in Karda
		N_e=30	N_e=30	N_e=30	N_e=30	N_e=30 OE	N_e=30OE
1	Linear density, tex	19,6	19,6	19,6	19,6	19,6	19,6
2	Breaking strength (force), sN	431	420,9	375	342,8	250	249,4
3	Relative hardness, (Rkm) sN/tex	21,8	21,38	18,9	17,49	12,8	12,67
5	Number of thin places (Thin -50% /km)	0	9	3	238	9	80,3
6	Number of thick places (Thick+50% /km)	6	16	50	161	43	106,5
7	Number of knots (Neps200 /km)	17	24	115	163	9	402,8
8	Hairiness index, H	3,8	4,61	4,4	4,46	3,6	4,44

WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979, Volume 3, Issue 6, June, 2022



5% Ritter Statistics 2018 indicators
"Quva CPOOO Textile" indicators

In this article, yarns of the same number (Ne=30) were spun in the enterprise conditions using different spinning methods and systems for testing. In the above tests, the quality indicators of the yarns were studied, and the Riter Tester 6 device of the "Quva CPOOO Tekstil" enterprise was used to determine the hairiness indicators of the yarns. The results were presented in the form of tables and diagrams.

References

1. G‘afurov Q.G’, Fayzullayev Sh.R., G‘afurov J.Q «Texnika va texnologiya yangiliklari» leksiyalar kursi – 5320900 - Yengil sanoat buyumlari konstruksiyasini ishlash va texnologiyasi yo‘nalishidagi talabalar uchun, 2016.
2. O‘zbekiston Respublikasi Prezidentining PQ-4408-sonli “Paxtachilik tarmog’ini boshqarish tizimini tubdan takomillashtirish chora-tadbirlari to’g’risida”gi qarori// 2017-yil 28-noyabr.
3. Sh.R. Marasulov Paxta va ximyaviy tolalarni yigirish 2 qism Toshkent<<O‘qituvchi>> 1985-y.
4. Riter Statistics 2018 ma’lumotlari.
5. Ubaydullayev Madamin Mo’minovich, & Ne’matova Feruzaxon Jamolxon Qizi. (2021). The Importance Of Planting And Processing Of Medium-Field Cotton Varieties Between Cotton Rows In Fergana Region . The American Journal of Agriculture and Biomedical Engineering, 3(09), 26–29. https://doi.org/10.37547/tajabe/Volume03Issue09-05

6. M. M. Ubaydullayev, Ne'matova F.J, & Marufjonov A. (2021). DETERMINATION OF EFFICIENCY OF DEFOLIATION IN MEDIUM-FIBER COTTON VARIETIES. Galaxy International Interdisciplinary Research Journal, 9(11), 95–98. Retrieved from https://www.giirj.com/index.php/giirj/article/view/453
7. Ubaydullaev M.M., & Komilov J.N. (2022). EFFECT OF DEFOLIANTS FOR MEDIUM FIBER COTTON. International Journal of Advance Scientific Research, 2(05), 1–5. https://doi.org/10.37547/ijasr-02-05-01
8. Ubaydullaev M.M., & Mahmutaliyev I.V. (2022). EFFECTIVENESS OF FOREIGN AND LOCAL DEFOLIANTS ON THE OPENING OF CUPS. International Journal of Advance Scientific Research, 2(05), 6–12. https://doi.org/10.37547/ijasr-02-05-02
9. Ubaydullaev M.M., & Makhmudova G.O. (2022). MEDIUM FIBER S-8290 AND S-6775 COTTON AGROTECHNICS OF SOWING VARIETIES. European International Journal of Multidisciplinary Research and Management Studies, 2(05), 49–54. https://doi.org/10.55640/eijmrms-02-05-12
10. Ubaydullaev M.M., & Sultonov S.T. (2022). DEFOLIATION IS AN IMPORTANT MEASURE. European International Journal of Multidisciplinary Research and Management Studies, 2(05), 44–48. https://doi.org/10.55640/eijmrms-02-05-11
11. Yu.Ergashev, A.Sh.Khusanova, M.Babayeva. Analysis of dynamic characteristics of selective technology of sawing // FarPI Scientific-Technical Journal-Fergana 2020 №1 B.252-2555
12. A.Sh.Khusanova. Optimization of geometric dimensions of ginning elements of selective technologies // FarPI "Journal of Scientific Technology" Issue 4. "Optimization of geometric dimensions of ginning elements of selective technologies" Fergana-2020 P.158-160
13. A.Salimov, Sh.A.Khusanova. Analysis of experience in the introduction of modern information and communication technologies in ginneries. Republican scientific-technical conference International scientific-educational electronic journal. №A3-21.10.2020.
14. A.Salimov, O.Salimov, Sh.Khusanova, I.Khakimov "The problems of natural fiber and textile materials on fire resistance" Saarj journal Akademicia: an international multidisciplinary research journal april-2020. https://saarj. com/wp-content/uploads/special-issue/2020/ACADEMICIA-JULY-2020-SPECIAL-ISSUE.pdf
15. O.Sh.Sarimsaqov, N.M Sattoriv, Z.A.Siddiqov, Sh.A.Xusanova. Improvement of the Process in Disassembling of Cotton Stack and Transfering the Cotton into

Pneumotransport// International Journal of Advanced Science and Technology Vol. 29, No. 7, (2020), pp. 10849-10857

16. Yu.Ergashev, A.Sh.Khusanova, O.Sh.Sarimsaqov, X.Turdiyev, J.Oripov. Selective technologies of sawing Fergana Polytechnic Institute “Selective technologies of sawing madness” “Classic” publishing house-2020 ISBN: 978-9943-6662-7-6.
17. A.Sh. Khusanova, O.Sh.Sarimsaqov, Yu.Ergashev. “Multi-position saw fiber separator” Journal of Innovation in Scientific and Educational Research_V 04/30/2021.
18. A.Salimov, Sh.A.Khusanova, O.Salimov, I.Khakimov. “STUDY OF CONSTRUCTIVE AND TECHNOLOGICAL PARAMETERS OF” INTERNATIONAL SCIENTIFIC AND PRACTICE CONFERENCE ON " INTERNATIONAL EXPERIENCE IN INCREASING THE EFFECTIVENESS OF DISTANCE EDUCATION: PROBLEMS AND SOLUTIONS. journal mai-2020. www.iejrd.com.
19. A.Sh. Khusanova,Q.Toshmirzayev. “Selective technologies in sawing” Collection of conference materials 23-24 April 2021.
20. M.X.Axmedov, T.O.Tuychiev, A.A.Ismoilov, Sh.A.Khusanova. “The supply part of the engineering equipment algorithm for evaluation of movement of cotton raw materials out of tarnovi” Scientific-technical journal Volume 4 Issue 3 Article 11 https://uzjournals.edu.uz/ferpi 2021, V.4, №3 pp69-74
21. N.Sattorov, Sh.A.Khusanova. “Selective technologies in sawing” Intellectual Property Agency of the Republic of Uzbekistan № DGU08698 06.07.2020.
22. O.Sh.Sarimsaqov, Sh.A.Khusanova, Yu.Ergashev, A.U.Sarimsaqov. "Cotton fiber separator" Intellectual Property Agency of the Republic of Uzbekistan FAP 2021 0058.
23. A.Salimov, O.Salimov, Sh.Khusanova, I.Khakimov“The problems of natural fiber and textile materials on fire resistance ” Saarj journal Akademicia: an international multidisciplinary research jurnal april-2020. https://saarj.com/wp-content/uploads/special-issue/2020/ACADEMICIA-JULY-2020-SPECIAL-ISSUE.pdf