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## INFORMATION SYSTEM FOR LINEN YARN QUALITY CONTROL

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*Key words: linen yarn, Information system, quality control, statistical reports, quality indicators.*

*Abstract. Information system for linen yarn quality control reduces the time required to examine physical and mechanical properties of the final product and eliminates necessity of paper reporting. Developed information system allows making statistical reports online and automatically determining appropriate corrective action if produced yarn deviate from required quality.*

RUPTP «Orsha Linen Mill» is the biggest enterprise in Eastern Europe, which processes flax fiber and produces linen fabrics. The linen yarn is the final product of spinning production at 2nd and 3rd factories of the enterprise. Therefore, quality control of linen yarn is the most important. The quality of the produced yarn affects on the quality and cost of produced fabrics.

At the production quality control of linen yarn in textile laboratories of RUPTP «Orsha Linen Mill» various physical and mechanical properties are tested: breaking load, elongation at break, humidity, linear density. Coefficients of variation for breaking load, elongation at break and linear density are calculated. Manual processing of laboratory data and preparation of relevant reports takes time. Data stored on paper do not allow sufficient speed to produce reports on the current state of quality of textile materials and state of the industrial equipment. This makes the task of automating routine operations performed by laboratory technicians during the study of physical and mechanical properties of linen yarn and textile materials relevant. It is important to accelerate the generation of statistical reports and increase its visibility.

Information system for quality control, which covering all technological processes of spinning production of RUPTP «Orsha Linen Mill», was developed and implemented by specialists of Vitebsk State Technological University. Using of the specialized information system allows to completely get rid of the paper documents. This information system allows building different types of reports and statistical analyzes online. It also allows automatically determining appropriate corrective action if produced yarn deviate from required quality. Modern information and communication technologies make possible to quickly inform all relevant engineering

and technical workers about the results of laboratory testing of yarn and textile materials.

#### References

1. Estimation and prediction of long scutched flax spinning ability Dyagilev A.S., Kogan A.G., Biziuk A.N. The 90th Textile Institute World Conference "Textiles: Inseparable From The Human Environment", Poznan, 25-28 April 2016. pp. 66-72.
2. Production quality control of long scutching flax Dyagilev A.S., Biziuk A.N., Kogan A.G. The News of higher educational institutions. Technology of Light Industry. 2015. N. 28. pp. 59-62.
3. Construction of an Information System for Quality Control of Long Scutched Flax Fiber Dyagilev A.S., Biziuk A.N., Kogan A.G. Proceedings of higher education institutions. Textile Industry Technology. 2016. № 1 (361). pp. 51-54.
4. Methods and means of research technological processes Dyagilev A.S., Kogan A.G. Vitebsk, 2012.
5. Comparative analysis of physical and mechanical properties of long scutched flax fiber Dyagilev A.S., Biziuk A.N., Kogan A.G. Vestnik of Vitebsk State Technological University. 2016. № 1 (30). pp. 12-20.

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### **CREATIVE DESIGN METHODOLOGIES FOR TEXTILES AND FASHION EDUCATION**

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*Key words: design, Research methodologies, textiles, fashion, trends.*

*Abstract. Understanding market intelligence, trends, influences and personal approaches are essential tools for design students to develop their ideas in textiles and fashion. Identifying different personal approaches including, visual, process-led or conceptual by employing creative methodologies are key to developing a brief. A series of ideas or themes start to emerge and through the design process serve to underpin and inform an entire collection. These investigations ensure that the design collections are able to produce a diverse range of outcomes. Following key structures and coherent stages in the design process creates authentic collections in textiles and fashion.*