

fabrics. Specialists of Vitebsk State Technological University have developed an information system for quality control of flax fiber, which is used in production processes of the linen mill [1].

One of the important tasks to expand the raw material base for the flax processing industry is the use of oilseed flax fiber. Stems of oil flax as well as stems of short fiber flax include bast pieces of cellulosic fibers. With a certain technological processing of oil flax stems, it is possible to extract textile fibers with physical and mechanical properties which satisfy the requirements of the industry for the manufacture of textile products for various purposes [2].

Using the information system of quality control of the RUPTP «Orsha Linen Mill», based on data on the physical and mechanical properties of the Belarusian short fiber of the crop in 2016, were analyzed the physical and mechanical properties of the fibers of the Ukrainian flax oilseed. The fibers were extracted using the technology proposed by the specialists of Kherson National Technical University. The physical and mechanical properties of individual oilseed flax fiber samples satisfy the requirements for a short flax fiber for the production of pure flax yarn for bagging and wrapping fabrics, linear densities from 220 to 600 Tex.

#### References

1. Construction of an Information System for Quality Control of Long Scutched Flax Fiber Dyagilev A.S., Biziuk A.N., Kogan A.G. The News of higher educational institutions. Technology of Textile Industry. 2016. № 1 (361). pp. 51-54.
2. Comparative analysis of properties oilseed flax fiber and short fiber flax Dyagilev A.S., Golovenko T.N., Chursina L.A., Kogan A.G., Shovkomud A.V. The News of higher educational institutions. Technology of Light Industry. 2017. № 36. pp. 54-58.

UDC 004:677.001.7

### IMPROVING THE COMPETITIVENESS OF TEXTILES

### УЛУЧШЕНИЕ КОНКУРЕНТОСПОСОБНОСТИ ТЕКСТИЛЬНЫХ ИЗДЕЛИЙ

*Dyagilev A., associate professor, Katovich A., associate professor,  
Biziuk A., senior lecturer, Kogan A., full professor*

*Vitebsk State Technological University, Vitebsk, Republic of Belarus*

*Дягилев А.С., доцент, Катович О.М., доцент, Бизюк А.Н., старший  
преподаватель, Коган А.Г., профессор*

*Витебский государственный технологический университет,  
г. Витебск, Республика Беларусь*

*Key words: information system of quality control, textile materials, production efficiency.*

*Ключевые слова: информационная система контроля качества, текстильные материалы, эффективность производства.*

*Abstract. Modern innovative methods of products quality control, allowing to increase the effectiveness of measures to control the quality of textile products and improve its competitiveness.*

*Аннотация. Современные инновационные методы контроля качества продукции, позволяющие увеличить эффективность мероприятий по контролю качества текстильной продукции и повысить ее конкурентоспособность.*

Improving the quality of textile products to the level of world standards, expanding assortment of production, is one of the conditions for the effective work of textile enterprises of the Republic of Belarus. Competitors from goods from Russia, Central Asia, Turkey and China require the textile enterprises to use innovative methods to improve competitive ability.

RUPTP «Orsha Linen Mill» is the largest textile enterprise in the Republic of Belarus and Eastern Europe for the production of linen fabrics and products thereof. This mill processes up to 90 % of long and up to 50 % of short Belarusian linen fibers and produces a wide range of linen fabrics. Linen products have good hygienic properties. The technological equipment installed at the mill and modern technologies allows producing high-quality products from flax raw materials.

The specialists of Vitebsk State Technological University have developed an information system [1] for quality control that has the following functional capabilities:

- accumulates data on the qualitative characteristics of incoming flax fiber [2];
- generates various types of statistical reports that allow analyzing the quality of flax fiber [3];
- automatically identifies cases of improper quality of raw materials.

To increase the productivity of employees, they have the opportunity to access the information system of quality control at any place of the enterprise using mobile computers. This allows to make timely decisions on production management. Modern information technologies have allowed to completely replace paper documents with electronic ones.

Using modern information system for industrial quality control allows:

- to control the changes in the physical and mechanical properties of flax fiber [4] and linen textile materials (sliver, roving, yarn, etc.) at various stages of textile production;
- to reduce the complexity of work in the laboratory of the enterprise;
- to predict the qualitative characteristics of yarn on the basis of laboratory studies of a single party of flax fiber, using previously accumulated data [5].

The use of the modern information system on RUPTP «Orsha Linen Mill» has increased effectiveness of quality control of manufactured products and efficiency of making managerial decisions, which allowed to improve the quality and competitive ability of the products.

#### References

1. Production quality control of long scutching flax Dyagilev A.S., Biziuk A.N., Kogan A.G. News of higher educational institutions. Technology of Light Industry. 2015. N. 28. pp. 59-62.

2. 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.
3. Comparative analysis of properties oilseed flax fiber and short fiber flax Dyagilev A.S., Golovenko T.N., Kogan A.G., Shovkomud A.V. The News of higher educational institutions. Technology of Light Industry. 2017. N. 2. pp. 54-58.
4. Estimation of uncertainty at measurement the breaking load and flexibility of long scutched flax Dyagilev A.S., Petyul I.A., Biziuk A.N., Kogan A.G., Razumeev K.E. Proceedings of higher education institutions. Textile Industry Technology. 2016. 6 (366). pp. 69-75.
5. 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.

UDC 687.051.3

**PROBLEM OF DESIGN OF PRODUCTS FROM SEWING WASTE AT THE ENTERPRISE**

**ПРОБЛЕМА ПРОЕКТИРОВАНИЯ ИЗДЕЛИЙ ИЗ ШВЕЙНЫХ ОТХОДОВ НА ПРЕДПРИЯТИИ**

*Gerasimuk I., iriska.gin@tut.by, Zimina A., alenakul26@mail.ru.  
Vitebsk State Technological University, Vitebsk, Republic of Belarus*

*Герасимук И., Зими́на Е.*

*Витебский государственный технологический университет,  
г. Витебск, Республика Беларусь*

Key words: *sewing industry, waste processing, the location of the templates, cabbage.*

Ключевые слова: *швейная промышленность, переработка отходов, раскладка лекал, межлекальные выпадки.*

*Abstract. The main purpose of recycling sewing waste at the enterprise is the rational use of materials and the creation of additional products from waste. This article examines the main problems and issues that each sewing enterprise faces. The necessity of improving the «The location of the templates» module during the development of goods from waste identified and justified. Based on the research, a software module developed to automate the process of accounting for wastes, which formed when cutting and developing products from them.*

*Аннотация. Основной целью переработки швейных отходов на предприятии является рациональное использование материалов и создания дополнительных изделий из отходов. В данной статье рассмотрены основные проблемы и вопросы, с которыми сталкивается каждое швейное предприятие. Выявлена и обоснована необходимость совершенствования модуля «Раскладка лекал» в процессе проектирования товаров из отходов. На основании исследований*