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Analysis Of Technological Processes In Cotton-Textile Clusters

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Abstract. This article analyzes the technological systems of production processes in cotton-textile clusters organized in the Republic of Uzbekistan. Further, recommendations were given on the development of technological parameters of the compact spinning system for cotton-textile clusters.

Keywords: Cotton-textile clusters, cluster theory, cotton fiber, compact spinning.

Introduction. The tasks defined in the Action Strategy were systematically implemented during the specified years. In order to further improve this work, based on a deep analysis of complex global processes and the results of the development of our country, in order to further improve the well-being of our people in recent years, transform sectors of the economy and accelerate the development of entrepreneurship,... the "Development Strategy of New Uzbekistan for 2022-2026" has been approved [1,2].

As a result of consistent reforms carried out in the field of modernization and diversification of agricultural production, development of the processing industry, the Association "Cotton-Textile Clusters of Uzbekistan" was created in order to further increase the efficiency of cotton-textile clusters, increase capacities for deep processing of raw cotton, widely introduce scientifically based methods and intensive technologies into this process, as well as timely eliminate problems arising in the activities of cotton-textile clusters, and establish a system for protecting their interests in government bodies [3].

To develop the activities of cotton-textile clusters, the task was set to organize marketing research in the domestic and foreign markets, participate in the development and implementation of medium- and long-term industry development programs, as well as the widespread introduction of market mechanisms into the industry.

In order to expand the range of finished products manufactured in cotton-textile clusters, the state has set tasks for 2022-2025 to improve the quality of yarn spun in the Republic of Karakalpakstan and regions, organize the production of yarn with an artificial fiber content of more than 80 percent, and allocate subsidies from the Fund in the amount of no more than 500 thousand US dollars equivalent for the purchase of technological equipment necessary for the production of

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dyed fabrics and blended and dyed textile products from prepared yarns to enterprises that have implemented projects [4,5,6].

American economist M.Porteroy proposed the introduction of the concept of cluster into the economy in 1990, and clusters can be characterized by the following features [7]:

- very close geographical proximity;
- proximity of technologies;
- commonality of raw materials;
-content of innovations.

Theoretical Part. The purpose of cluster formation is to orient enterprises of the same industry located within the city, district, region, as well as educational, scientific, engineering, consulting, standardization, certification and other services that are in a single technological chain with them, towards the creation of competitive products based on the organization of innovative production.

From the evolution of "cluster" theory, two fundamental characteristics can be distinguished:

The first is that the activities of enterprises and firms integrated into the cluster should be connected with the market of specific types of goods. Such relationships are vertical (purchase and sales chain) and horizontal (use of additional departments and services, associated product costs, technologies or institutions, and other connections);

The second is that clusters are a group of geographically closely located interconnected enterprises, and as a result of the stabilization of mutual socio-economic relations between them, the development of competitiveness, the creation of opportunities for creating more added value and sales in the market.

Therefore, in the innovative development of the economy, especially in the current period when traditional methods of economic development are not providing sufficient benefits, the application of cluster theory in practice is considered the optimal way [8].

Experimental part. In developed countries, certain experience has been achieved in the use of clusters in the formation and management of an innovative economy. The industry of Great Britain, the Netherlands, Germany, the USA, Denmark, France, Italy, Finland, and Sweden is completely occupied by clusters.

Based on the analysis and study of the experience of foreign countries, it is considered the most rational choice that the issue of forming clusters in the system of the textile and light industry of Uzbekistan is being implemented not at the national level, but on the basis of specific economic and social conditions in the regions, based on the essence of cluster theory [8].

In the Russian state, the agro-industrial cluster creates an environment for the introduction of innovation by ensuring that organizations and enterprises in each region, producing raw materials, producing and selling finished products, operate in a continuous technological chain, directing the actions of participants towards one goal, leading to a high level of additional effect [9].

One of the main tasks of organizing cotton-textile clusters is the widespread introduction of market principles to ensure the interests of producers and processors of products.

The technological chain of the cotton-textile cluster includes the cultivation of raw cotton, primary processing of cotton, production of yarn from cotton fiber, fabric production, and the production of finished products. At the same time, the goal of uniting farmers growing raw cotton, a cotton primary processing plant, a spinning mill, a textile factory, clothing manufacturing

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enterprises, and auxiliary production enterprises is to create a unified system that reduces the costs of each production and increases the competitiveness of the final product [10].

Currently, as of 2024, 134 cotton-textile clusters in the republic produce high-quality yarn, fabrics, and finished products from local raw materials. These cotton-textile clusters can be divided into two categories according to their organization: the first category is multi-sectoral clusters, in which several farms are attached to existing textile enterprises, and the second category is multi-sectoral clusters, created on the basis of new investments [11,12].

Analysis of the results. Starting from 2022, the main task for cotton-textile clusters is to ensure that the annual volume of raw cotton in cotton-textile clusters exceeds 30 thousand tons and has the capacity to process at least 50 percent of the grown raw materials on the ground (at least yarn) [13].

As a result of the cultivation of fiber from the cotton breeding variety recommended by the State Commission for the regions where cotton-textile clusters are located, the effective use of raw materials in the spinning processes of clusters, the study of the possibilities of effective mixing of a limited number of grades of cotton fiber during the spinning process, maximizing the uniform distribution of fibers in the composition of raw and finished products, and the introduction of optimal spinning options into the cotton-textile clusters being created are considered urgent issues.

Conclusion. In solving these problems, as a result of theoretical and experimental experiments, it is necessary to develop the technological parameters of a combined compact spinning system based on reducing the loosening processes during the primary processing of cotton and spinning, and to systematically conduct research work on its implementation in cotton-textile clusters.

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