

HISTORY OF THE FORMATION AND DEVELOPMENT OF NEW AGROTECHNOLOGIES IN COTTON GROWING IN THE ANDIJAN REGION IN THE 90S OF THE 20TH CENTURY

A.A. Alisherov

Andijan State University named after Zakhiriddin Muhammad Babur

Associate Professor of the Department of "World History"

Annotation: The article analyzes the introduction of new agrotechnologies in the cotton growing of the Andijan region in the early years of independence in the context of agrarian reforms. In particular, the first application of the technologies of sowing seeds under film and drip irrigation, their economic and agrotechnical significance, experiences in archival documents, and subsequent stages of development are covered.

Keywords: cotton growing, agrotechnology, sowing seeds under film, drip irrigation, farming, water saving, independence.

Introduction: After the Republic of Uzbekistan gained independence, the reform of agriculture based on the requirements of a market economy became one of the priority directions of state policy. Along with the reorganization of land relations, the transformation of state farms into cooperatives and farms, and the development of various forms of ownership, special attention was paid to the introduction of modern agricultural technologies into the production process.

In the densely populated Andijan region, where irrigated agriculture prevails, the effective use of land and water resources, the achievement of high yields, and the increase in the competitiveness of cotton farming became an urgent task. Therefore, the introduction of scientifically based agricultural technologies into production became an important component of the state agrarian policy in the early years of independence.

As the President of the Republic of Uzbekistan Sh. Mirziyoyev noted, "The biggest problem in the agricultural sector is the lack of sufficient knowledge of

farmers in the field of agriculture. True, they have energy, initiative, love for the land, and many of them are eager to learn. But, unfortunately, with only desire we cannot achieve high productivity and final results. We need farmers who have mastered agricultural technologies and are familiar with modern production and innovation methods like air and water” [1.B.1] - therefore, achieving high results in agriculture is directly related to the activities of specialists who have thoroughly mastered modern technologies.

Methods and techniques: The archival materials that analyzed the history of the formation and development of new agrotechnologies in cotton growing in the Andijan region served as a research material for the study of the problem posed. The method of comparative analysis was used, based on the principle of historicity.

Main part: In the 1980s, cotton cultivation in the republic was developed extensively, and much attention was paid to the development of new irrigated lands. Although this process gave short-term economic results, it later became one of the factors that exacerbated the ecological crisis of the Aral Sea.

During the years of independence, this approach was gradually abandoned, and a policy of transition to resource-saving technologies was formed. This process also found its expression in the Andijan region.

“In accordance with the resolution of the regional governor No. 17-K of January 15, 1993, economically inefficient state farms were reorganized. Measures were established to develop non-state forms of ownership and strengthen the economic independence of producers. As a result of the reforms, 5,779 hectares of cotton and 1,174 hectares of winter grain fields were allocated to labor collectives along with the means of production” [2.B.22-23]. This process created an organizational basis for the formation of the farming movement and the introduction of new technologies.

One of the most important innovations in cotton farming in the early years of independence was the widespread introduction of the technology of planting seeds under film.

“In 1995, important steps were taken to implement new agrotechnologies in

cotton growing in Andijan region. In particular, 9,700 hectares of cotton fields in the region were sown using a new agrotechnical method. This experiment was carried out as an alternative to the traditional planting method, and its effectiveness was thoroughly analyzed by farmers and specialists. Analyses showed that in the fields planted using the new technology, seed germination was uniform, healthy development of the shoots was ensured, and the level of preservation of cotton bolls was significantly higher.

According to farmers' observations, an average of 160-170 thousand bolls of cotton were preserved per hectare of field planted using this method. This indicator is almost twice as high as the seedling density in traditional planting technology, which made it possible to effectively use the biological potential of cotton. Maintaining the seedling density at the standard level in the fields ensures the growth and development of plants at the same time ensured its passage and created favorable conditions for timely and high-quality execution of further agrotechnical activities" [3.B.2].

Another important advantage of the new agrotechnology is the ability to maintain soil moisture for a long time, ensure rapid and simultaneous germination of seeds, and significantly reduce the need for replanting. As a result, labor and material resources were saved, production costs were reduced, and a favorable agrobiological environment was formed for the sustainable development of cotton in the initial stage of the growing season. These results indicate that the economic and practical effectiveness of resource-saving agrotechnology began to manifest itself in the Andijan region as early as 1995.

This experience will serve as an important practical basis for the implementation of the technology of sowing seeds under film in even wider areas in subsequent years, as well as the introduction of water-saving technologies. In this regard, this experiment, conducted in 1995 on an area of 9,700 hectares, is considered one of the important stages in the history of the formation of innovative agrotechnologies in cotton growing in the Andijan region in the early years of independence.

As noted in the 1998 reference book stored in the Andijan region state archive, “As early as the fall of 1997, all organizational and technical preparations were carried out to sow 100 percent of cotton seeds under film on 110 thousand hectares of cotton for the 1998 harvest. This, first of all, indicates that the principle of advance preparation for seasonal work has been formed in agriculture. In particular, such measures as the qualitative implementation of autumn plowing, preparation of land for sowing, and the advance preparation of ridges on an area of 40 thousand hectares have served to increase the efficiency of spring agrotechnical work.

The source is sufficiently supplied with special seeders, and each The seeder was able to sow an average of 5 hectares per day. This created the opportunity to complete the planting work within 10 days. This situation indicates that attention is paid at the state policy level to the mechanization of agrotechnical processes and improving material and technical support in the Andijan region. Thus, the technology of planting under the film is not only an agrotechnical method, but also a system of coordination of the necessary technical, material and labor resources for its implementation has been formed” [4.B.22].

Another important aspect of the sources is that they specifically recognize the advanced farming traditions formed in the Andijan region. The terms “Andijan school”, “Andijan experience”, “Anjan method” used in the source are not accidental. These expressions mean that local farmers have achieved high results by combining many years of practical knowledge and scientifically based agricultural technologies.

Analysis shows that the effectiveness of this “Andijan experience” is explained by the following factors:

- sowing seeds at the most favorable times for soil temperature and moisture;
- uniform germination of seeds under the film in a short period of time;
- reduction of weeds;
- effective use of mineral fertilizers;
- creation of the opportunity for timely and high-quality cultivation of cotton

rows with high efficiency. This, in turn, increases labor productivity and cotton yield served to increase”[5.B.36].

According to archival data, “in 1998, seed sowing began on March 9 and was fully completed on April 20. The archival document evaluates this period as the most optimal agrotechnical period, taking into account the soil and climatic conditions of the region and the fact that the spring of that year was rainy and relatively cool. This indicates that the practice of taking into account agrometeorological factors rather than calendar dates in cotton growing is increasing”[6.B.2].

The technology of sowing seeds under the film provided a number of important economic and agrobiological advantages and high yields:

- due to the preservation of soil moisture, rapid and simultaneous germination of seeds was ensured;
- higher soil temperature accelerated the initial stage of cotton development;
- due to early growth, the first irrigation and cultivation periods were reduced;
- the vegetation period of the plant was extended, creating favorable conditions for the increase in yield elements.

From a historical point of view, archival data confirm that by 1998 this technology had left the experimental stage in the Andijan region and turned into a mass production technology. This process was inextricably linked with the policy of introducing resource-saving and highly efficient agrotechnologies in cotton growing in the republic in the first years of independence. In recent years, it was on the basis of this experience that a solid practical basis was formed for the introduction of water-saving technologies, drip irrigation, and intensive cotton growing systems.

Although drip irrigation was initially used as a test in limited areas, its advantages in reducing water consumption, targeted application of mineral fertilizers, and improving the land reclamation have been widely recognized in recent years. Especially in conditions of increasing water resource scarcity, this

technology has become important for the sustainable development of cotton farming.

Thus, the analysis of the archival reference book shows that the mass introduction of the technology of sowing seeds under film in the Andijan region in 1998 was not only an important agrotechnical measure that served to achieve high yields, but also a historical process that demonstrated the practical effectiveness of the “Andijan school” formed in the region. This source is of great scientific importance in studying the formation and development of innovative agrotechnologies in cotton farming in Uzbekistan during the years of independence and serves as reliable archival evidence for scientific research on agrarian history.

Conclusion: The results of the study show that the 1990s were an important historical stage in the development of technological innovations in cotton growing in the Andijan region. As a result of agrarian reforms, the organization of farms and the introduction of new agricultural technologies created the necessary conditions for increasing the efficiency of cotton growing.

According to the analysis of archival documents, by 1998, the technology of sowing seeds under film was introduced into mass production and became an important factor in ensuring high yields. At the same time, the first experiments with drip irrigation technology laid the foundation for the formation of a water-saving cotton growing system in subsequent years.

Thus, these agricultural technologies introduced in the Andijan region in the early years of independence not only served to increase productivity, but are also considered an important historical process that ensured the transition of cotton growing in the republic to a stage of innovative development.

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