



**FOREIGN EXPERIENCE IN COLLECTING AND STORING RAW  
COTTON**

<https://doi.org/10.5281/zenodo.187964371>

**N. Khashimova**

*Tashkent institute of textile and light industry*

**ABSTRACT**

The article provides information on foreign experiences in the collection and storage of raw cotton

**АННОТАЦИЯ**

В статье приведены сведения о зарубежных опытах сбора и хранения хлопка-сырца

**ЗАРУБЕЖНЫЙ ОПЫТ СБОРА И ХРАНЕНИЯ ХЛОПКА-СЫРЦА**

**Ключевые слова**

хлопок, сбор хлопка, хранения хлопка, хлопкоуборочные машины, модуль хлопка, самосогревание хлопка

**Keywords**

cotton, cotton picking, cotton storage, cotton harvesting machines, cotton module, self-heating of cotton.

In the USA, where cotton growing is one of the most important in the agricultural industry, growing and harvesting cotton in a similar way is used in our country. But soil and climatic conditions, types and selected varieties of cotton differ significantly [1-3].

In the United States, the raw cotton harvest is almost entirely (up to 98%) harvested by machine. Therefore, much attention is paid to preparing fields for harvesting: weeds are removed, cotton defoliation is carried out carefully and in a timely manner.

For harvesting raw cotton, two types of cotton harvesters are used: double-row horizontal spindle "Pickers" and tracking "Strippers", used for harvesting wind-resistant cotton varieties with half-open bolls.

Spindle machines collect cotton when at least 70-80% of the bolls are opened on the plants in two passes, and with strippers - in one. The collected raw cotton from the combine bunker is dumped into special trailer bodies, into which the raw cotton is loaded onto the field and formed into a module [4-9].



The American company "Cotton Incorporated" has developed a mechanized unit for the formation of modules of raw cotton, its transportation and disassembly, which is called the "Haski" system. This system includes a complex cotton picker - stacker module - trailer - disassembler module[10]. The main disadvantage of this method is that the raw cotton module is not covered and the cotton is stored on the ground, as a result, excess moisture content occurs in the upper layers of the formed module, which leads to deterioration and rotting.

Taking these shortcomings into account, a machine has been developed for automatically forming raw cotton into a module on transport carts in the field. According to advertising data, a machine for automatically forming modules on transport containers increases the efficiency of procurement processes.

Along with stacker modules, the USA has developed specialized vehicles for transporting modules to a cotton gin plant, as well as a disassembler module operating in automatic mode.

The complex of machines - module stacker, trailer and module disassembler - made it possible to comprehensively mechanize receiving, storage and transport operations, including the supply of cotton to production, but this does not solve the issue of ensuring the preservation of the quality of raw cotton.

Because when storing cotton in trailers or a warehouse, self-heating may occur, even if the moisture content of the raw cotton does not exceed the standard value. Self-heating of raw cotton, even at the initial stage, leads to a deterioration in the varietal characteristics of the fiber, a decrease in the yield of oil from the seeds and a change in its taste properties.

Thus, when storing raw cotton in trailers and in warehouses, additional measures are required to ensure the preservation of its natural properties.

Storing cotton in trailers slows down harvesting work due to insufficient quantities. In order to free trailers, many factories began to use storage in metal baskets with a capacity of 2.0-4.0 tons. The baskets are stored under a canopy or covered with polyethylene material.

Research has established that long-term storage in baskets does not affect the quality of raw cotton. Obviously due to the low density of stored raw cotton (does not exceed 150 kg/m<sup>3</sup>). Storing it in specially equipped rooms poses many difficulties. Considering the issue from this perspective complicates the choice of using this technology.

#### REFERENCES:

1. A.Salimov, Wang Hua, T.Tuychiyev «Technology and equipment for primary cotton processing» China, 2019 – p. 174.



2. S.Gordon, Y-L.Hsieh. Cotton: Science and technology. Woodhead Publishing Limited, 2007. г.
3. А.Салимов и др. “Технология первичной обработки хлопка”. Т.: “Адабиёт учқунлари”, 2018 г.
4. A.Salimov, O.Salimov. Study of methods for improving the physical and mechanical properties of cotton fiber. Philadelphia, USA. Published: 30.10.2019 <http://T-Science.org>. Soi: <http://s-o-i.org/1.1/TAS-10-78-5> Doi: <https://dx.doi.org/10.15863/TAS> Scopus ASCC: 2604.
5. A.Salimov. Modelling of technological conditions of storage of cotton-raw . Philadelphia, USA. Published: 30.10.2019 <http://T-Science.org>. Soi: <http://s-o-i.org/1.1/TAS-10-78-5> Doi: <https://dx.doi.org/10.15863/TAS> Scopus ASCC: 2604
6. A.Salimov. Razrabotka texnologicheskix uslovii i sposobov podgotovki xlopka-sirtsya 10-15% k xraneniyu. Dissertasiya na soiskaniye uchenoy stepeni kandidata texnicheskix nauk. T.1987
7. A.Salimov, O.Salimov, Sh.Khusanova, I.Khakimov “The problems of natural fiber and textile materials on fire resistance ” Saraj journal Akademica: an international multidisciplinary research jurnal april-2020.
8. А.Салимов “Исследование проницаемости воздуха через слой хлопка-сырца”. Тўқимачилик муаммолари Т: 2020 йил № 1
9. O.Salimov, A.Salimov, B.Mirzaev. Research allocation of heat and moisture from the body of the working staff and penetration through a layer of clothes, Woodhead Publishing Limited, Cambridge. *May-June 2020 ISSN: 0193-4120 Page No. 29495 - 29501*
10. М.Ходжиев. “Основы процесса уплотнения хлопка-сырца”. Т.: “Фан”, 1996