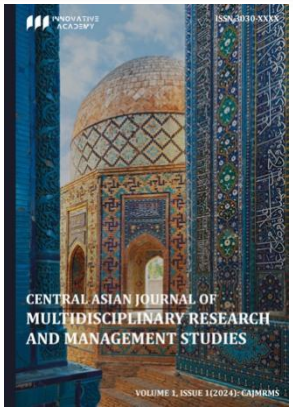

EFFECT OF TEMPERATURE CHANGES ON FIBER QUALITY DURING STORAGE OF COTTON RAW MATERIALS

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ABSTRACT

One of the first steps in cotton ginning factories is drying and cleaning. Modern equipment is of great importance in the storage of cotton raw materials. This article is about the modern technologies used in the cotton ginning plant of JV "Bek cluster" established in the Mirzaabad district of the Sirdarya region, the effect of moisture on the fiber quality during cotton processing.

Physico-mechanical indicators of cotton fiber: staple, weight, moisture and dirtiness of cotton are one of the indicators that determine its quality. The ratio of the amount of moisture in cotton to its absolute dry weight is called the moisture content of cotton.

Basically, the moisture content of cotton differs from calculated and limited moisture content.

Calculated humidity is the main criterion specified in this standard, and limiting humidity is the highest criterion of humidity, and cotton with a specified moisture content is accepted for each variety.

Moisture standards of hand-picked and machine-picked cotton, %. 1 sample of 40 g is taken to the VXS-M-1 device to determine the moisture content of seed cotton from the generalized sample. If the humidity is more than 22%, 2 samples of 40 grams are taken. When receiving cotton in laboratory equipment, 1 40 g sample is taken from each delivered batch, regardless of the moisture content.

Heat between the upper and lower plates (drying) of the drying device (195±2 S0 between the drying plates 3.7± mm duty cycle 5 min± 10 * C during drying, heat control is performed automatically. Before placing the sample in the device, we will check that the device is ready for work. 30-40 minutes before the start of the analysis, the device should be connected to the electrical network and should be in the "Normal" working state (195 ± 2) S.0

The obtained sample is spread on a copper plate of the same thickness, and the cover of the device is closed by carefully holding the handle.

The "drying" button is pressed and the appliance is started. After 5 minutes, the "drying" light turns off and the alarm sounds. With the help of the handle of the device, the cover is opened, the sample is placed in the bag and the cover is closed. The permissible error of the scale should not exceed 0.02 g.

The moisture content of the sample (W) is determined by the following formula.

Here: m is the mass of the sample before (initial) drying, g; m is the mass of the sample when dried, g.– or seeded cotton and fiber moisture is determined by the following method. 0.6 is the correction factor for moisture determination.

An example

Determine the moisture content of hand-picked cotton

m - 40 gr. Wq

m - 37.90.

When checking the analysis results of two daily or combined samples, the weight of the original sample should not exceed 5% of the daily sample weight when the moisture content is more than 10%. Closed warehouses, semi-open or four-sided open warehouses (porches) and open specially prepared areas are used for cotton storage. It is allowed to collect cotton in the areas covered with gravel or asphalt. the middle should be raised by 0.05-0.07 m.

The height of the cotton piles should not exceed the values given below.

Permissible heights of cotton bales during the preparation period

Note: Cotton of low quality, dirtiness and high humidity is placed in a special small jar. The length of such a gharam is 14 m, width is 7 m, height is 4.0-4.5 m (the rectangular part is 3.1 m, the height of the domed part is 1.5 m). In one 14 x 25 m standard garam area, three such garams are placed.

In order to store cotton better and organize long-term storage, it is necessary to collect cotton in layers, taking into account its moisture content. Cotton with a moisture content of up to 14% should be placed in the area of the cleaning department, and cotton with a moisture content of 14% and above should be placed in the area of the dry-cleaning shop. Cotton with a moisture content of more than 20 percent should be stored close to the drying room, as it needs to be quickly dried and processed.

Closed warehouses, semi-open or four-sided open warehouses (porches) and open specially prepared areas are used for cotton storage.

It is allowed to collect cotton in the areas covered with gravel or asphalt. the middle should be raised by 0.05-0.07 m. Tarpaulin tents measuring 8.5 x 7 m are used to cover the cotton fields. The 25 x 14 m gharam is covered with ten tarpaulins. Tarpaulins are sewn in pairs to form a tent with 7 m x 17 m sides, and when it is necessary to cover the 25 x 14 m gharam with 8 tarpaulins, they are made in pairs with 7 m sides. sewn with Then the formed tents are sewn again in pairs with 17 m sides. Two such tarpaulins are closed to the gharam with a side of 17 m across so that the second tarpaulin protrudes 1 m above the first one.

The tarpaulin is pulled by a rope through its rings. The ends of the ropes are tied to the wire rings placed on the ground around the gharam. The tarpaulin with which the garment is closed should cover not less than 350-400 tons of cotton.

If the difference between the indicators of the degree of impurity of the two average samples is not more than 0.6% for cotton up to 10%, to find the actual impurity of the cotton, if it is above this limit, take the 3rd sample specified for caution. also checked and the value of all three indicators is determined.

When cotton is infected with gommosis, the quality of the fiber decreases. When determining the amount of seeded cotton infected with gommosis, 500 g is taken from the sample brought to the laboratory, if the cotton infected with gommosis is picked by hand, the cotton bolls are separated from it, if it is picked by machine, the infected leaves are separated, and the amount of infected cotton expressed in % is weighed and determined.

REFERENCES:

1. Ungarov, A. A., & Xodiyev, U. E. (2024). MAXALLIY LINTERLAR SAMARADORLIGI. TAHLIL VA TAKOMILLASHTIRISH YO ‘LLLARI. *Журнал академических исследований нового Узбекистана*, *1*(14), 98-100.
2. Ungarov A., Xudayberdiev R. IMPROVING INFRARED DRYING OF AGRICULTURAL PRODUCTS //Евразийский журнал академических исследований. – 2023. – Т. 3. – №. 12 Part 2. – С. 230-233.
3. Khujakulov F. et al. The Dependence of Grape Feeding on the Productivity Indicator and Harvest Quality of Rizamat and Large Dry Varieties //Journal of Advanced Zoology. – 2023. – Т. 44. – С. S2.
4. Ungarov A., Ergashov A. QISHLOQ XO ‘JALIGI MAHSULOTLARINI QURITISH DAVRIDA ENERGIYA TEJAMKOR TEXNOLOGIYALAR YORDAMIDA QURITGICHLARNING ISH UNUMDORLIGINI OSHIRISH //Евразийский журнал медицинских и естественных наук. – 2023. – Т. 3. – №. 1 Part 1. – С. 24-27.
5. Ungarov A., To‘raqulova O. QISHLOQ XO ‘JALIGI MAXSULOTLARINI INFRA QIZIL NURLARI YORDAMIDA QURITISHNI TAKOMILLASHTIRISH //Евразийский журнал технологий и инноваций. – 2023. – Т. 1. – №. 10. – С. 38-40.
6. Egamberdiyev P. et al. UZUMNI MUZLATIB ISHLOV BERISHNI SUSLADAGI QAND TARKIBIGA TA’SIRINI O'RGANISH //Евразийский журнал технологий и инноваций. – 2023. – Т. 1. – №. 6 Part 2. – С. 127-129.
7. Qurbanov E. et al. AGRAR SOHADA RESURSLARDAN SAMARALI FOYDALANISH TEXNOLOGIYALARI TAHLILI //Евразийский журнал технологий и инноваций. – 2023. – Т. 1. – №. 6. – С. 143-146.
8. Жулбеков, И. С. У. (2025). ВЛИЯНИЕ ЦИТОГУМИНОВОГО ВЕЩЕСТВА НА РАЗМЕР ЯГОД И МОРФОЛОГИЧЕСКИЕ ОСОБЕННОСТИ КИШМИШНЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, *4*(1 (130)), 9-11.
9. Султонов, К. С., Эгамбердиев, П. Э., & Жулбеков, И. С. У. (2024). ПРИМЕНЕНИЕ НОРМ МИНЕРАЛЬНЫХ ВЕЩЕСТВ (ЦИТОГУМАТ) И ИХ ВЛИЯНИЕ НА МЕХАНИЧЕСКИЙ СОСТАВ ГРОЗДЕЙ КИШМИШНЫХ СОРТОВ ВИНОГРАДА. *Universum: технические науки*, *3*(7 (124)), 54-56.
10. Jo‘lbekov, I., Ungarov, A., Umrzoqova, I., & Adhamov, A. (2023). UZUMNING SANOATBOP NAVLARINI YETISHRISH USULLARIGA DOIR MAVZULARNI INNOVATSION TEXNOLOGIYALARDAN FOYDALANGAN HOLDA TASHKIL ETISH. *Евразийский журнал технологий и инноваций*, *1*(6), 89-93.
11. Тухтамишев С. С., Шокирхужаева У., Искандаров З. С. УНИВЕРСАЛЬНАЯ МАШИНА ДЛЯ ОЧИСТКИ ДЫНИ ОТ КОЖУРЫ И РАЗРЕЗАНИЯ ЕЕ НА КОЛЬЦЕВЫЕ ДОЛЬКИ //Евразийский журнал академических исследований. – 2023. – Т. 4. – №. 1. – С. 110-118.
12. Tukhtamishev S. WEIGHT-DIMENSIONAL AND VOLUMERIAN INDICATORS AND PHYSICAL AND MATHEMATICAL PROPERTIES CHARACTERISTIC FOR CENTRAL ASIAN

VARIETIES OF MELONS //Journal of Agriculture & Horticulture. – 2023. – Т. 3. – №. 11. – С. 9-12.
13. To‘xtamishev S. S. et al. MEVA O ‘SIMLIKLARINING INDIVIDUAL RIVOJLANISHI //RESEARCH AND EDUCATION. – 2023. – Т. 2. – №. 4. – С. 51-56.
14. Egamberdiyev, P. L., Xojaqulov, F., Jo‘lbekov, I., Maxmudov, I., & Qabulov, I. (2023). INTENSIV BOG ‘DORCHILIKNING ASOSIY ILMIY RIVOJLANISH ISTIQBOLLARI. *Евразийский журнал технологий и инноваций*, *1*(6 Part 2), 105-109.
15. Tokhtakoziev A., Bababekov U. A STUDY OF THE WORKING PROCESS OF A TWO-TRACK HARROW //Journal of Agriculture & Horticulture. – 2023. – Т. 3. – №. 10. – С. 64-68.
16. To‘raqulov M., Aynaqulov K., Ergashov A. IMPORTANT AGROTECHNICAL MEASURES CARRIED OUT IN ORCHARDS AFTER THE VEGETATION PERIOD //Евразийский журнал академических исследований. – 2023. – Т. 3. – №. 12. – С. 117-121.
17. Maxmudov I., Yuldosheva D. QISHLOQ XO ‘JALIGI MAHSULOTLARNI QURITISHNING ZAMONAVIY USULLAR SAMARADORLIGINI TAHLIL QILISH //Евразийский журнал технологий и инноваций. – 2023. – Т. 1. – №. 6 Part 2. – С. 110-113.
18. Узайдуллаев, А., & Баракаев, Н. (2018). Гранат-уникальными полезными свойствами считается" королем среди всех плодов" на Востоке. In *Вестник научных конференций* (No. 3-4, pp. 157-158). ООО Консалтинговая компания Юком.
19. Узайдуллаев, А., & Баракаев, Н. (2018). ТЕХНОЛОГИЯ ПРОИЗВОДСТВА ГРАНАТОВОГО СОКА УНИКАЛЬНЫМИ ПОЛЕЗНЫМИ СВОЙСТВАМИ. *O’ZBEKISTON*, 25.
20. Kuzibekov, S. (2023). ANALYTICAL AND THEORETICAL STUDIES OF THE ASPIRATION AND FRACTIONATION PROCESS OF LOCAL SOYBEAN SEEDS. *Science and innovation*, *2*(A1), 222-231.
21. 3. Solijonov, G., Uzaydullaev, A., Kuzibekov, S., & Jankorazov, A. (2023). The role of standardization in the industry and the analytical methods of product certification. *Science and innovation*, *2*(A3), 144-149.
22. 4. Solijonov, G. K., Uzaydullaev, A. O., Kuzibekov, S. K., & Jankorazov, A. M. (2023). SANPIN RULES AND METHODS OF FOOD WASTE ANALYSIS. *Евразийский журнал академических исследований*, *3*(11), 52-56.
23. 5. Barakaev, N. R., & Kuzibekov, S. K. (2022). INVESTIGATION OF FLOW HYDRODYNAMICS IN THE PROCESS OF ASPIRATION CLEANING OF SOYBEAN SEEDS (GRAIN) ON A COMPUTER MODEL. *Harvard Educational and Scientific Review*, *2*(2).