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THE IMPROVING SEED STORAGE METHODS

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ABSTRACT

This article discusses how to improve harvested cottonseed storage practices and improve the quality of stored cotton. Techniques have also been explored to ensure indoor storage of seeds to maintain their fertility, as well as to ensure good seed storage. In cotton, the quality of the seeds sown next year is the timing of their harvesting in the field. The degree to which the harvest season is organized depends on the extent to which storage processes and planting preparations are carried out in accordance with the requirements of the State Standard. Many scientists, with their experience and innovations, are making a significant contribution to further improving the quality of cotton products in cotton mills.

KEYWORDS: *Product Quality, Seed Quality, Technology, Equipment, Fiber Quality, Temperature, Humidity, Processing, Climatic Conditions, Forgetfulness.*

INTRODUCTION

In cotton, the quality of the seeds sown next year is the timing of their harvesting in the field. The degree to which the harvest season is organized depends on the extent to which storage processes and planting preparations are carried out in accordance with the requirements of the State Standard. Many scientists, with their experience and innovations, are making a significant contribution to further improving the quality of cotton products in cotton mills.

Improving the efficiency of the cotton crop in cotton, increasing the quantity and quality of cotton products depends on the quality of cotton seeds and seeds. In order to improve the quality of seeds, the “Uzpakhtasanoat” Association attaches great importance to the creation of new technologies and equipment and their introduction in ginneries.Based on the above, we researched to study the improvement of methods of storage of hand-picked cotton seeds **[1-3].**

Cotton varieties grown in Uzbekistan are fast-ripening, high-yielding, high fiber yield, good fiber quality, rich in oilseeds and proteins, resistant to adverse environmental conditions (soil salinity, low temperature, wind, drought, etc.), as well as resistant to diseases and pests. It is required to

have effective use of agro-technical measures, mechanization of row spacing, adaptation to machine harvesting and other valuable economic features and characteristics **[3-6].**

MATERIALS AND METHODS

Based on the above, we researched to study the improvement of methods of storage of hand-picked cotton seeds.In cotton, the quality of the seeds sown next year is the timing of their harvesting in the field. The degree to which the harvest season is organized depends on the extent to which storage processes and planting preparations are carried out following the requirements of the State Standard.

Many scientists, with their experience and innovations, are making a significant contribution to further improving the quality of cotton products in cotton mills.Sufficient opportunities are being created by our state to introduce these innovations into production.As a result, today almost all ginneries in the country have been transferred to the cluster system and re-equipped with modern equipment.This year, it is planned to sow the seeds of 15 early-ripening, 5 medium-ripening and 8 promising varieties of cotton in the regions of the country.This means that 55.0% of the total sown area is planned for early ripening, 30.0% for medium ripening, 6.5% for promising and 8.5% for new varieties.Varieties must be adaptable to environmental changes, including soil moisture deficiency, salt-resistance, and contribute to the improvement of agro phone **[6-8].**

Due to the high flexibility of the cotton variety "Sultan", which is characterized by the high fiber quality and high yield, this year this variety is intended for planting in 20-50% of the areas in the Republic of Karakalpakstan, Andijan, Samarkand, Surkhandarya, Tashkent and Syrdarya regions.Cotton growers of Andijan, Namangan and Fergana regions plan to sow high-yielding varieties such as Andijan-35, Andijan-36, Andijan-37, Namangan-77, S-8290, S-6524 on 60-70% of cotton fields.

Taking into account the growing demand in the cotton market for S-6524, which is characterized by the quality of fiber, type IV fibre, this year it is planned to plant this variety in 15-35% of cotton fields in Jizzakh, Namangan, Syrdarya, Tashkent and Fergana regions. In addition, Jizzakh, Syrdarya and Navoi regions are planting salt-resistant, fast-ripening variety "An-Boyovut-2" on 20-30% of cotton fields, which will allow getting a rich harvest in the soil and climatic conditions of the region.

Cotton is stored in a special order in tarpaulins and covered warehouses on special open areas for selection, industrial varieties and grades. Open areas for storage of seed cotton are 40 cm above the ground and their surface is 25x14 m or 22x11 m. Up to 150-400 tons of seed cotton can be stored in such open areas. Overall dimensions of closed warehouses for seed cotton 54x18x8 m; 54x24x8 m, their capacity is 600x750 t and must be assembled from reinforced concrete blocks (blocks) or built of baked brick. Shelters can also be used from four-sided open sheds. According to the research conducted by G.D.Djabborov, S.D.Baltaboev, the fiber residue of the seed also changes with the change in the quality of the processed cotton. To do this, the fibers are cleaned from the fiber flow over the vibrating net. The cleaned seeds fall out of the net hole at the required level. Seeds with a fiber residue of 0.12-0.19% and a moisture content of 12% are left on the net for re-cleaning **[5-9].**

It can be seen that poorly dried seeds have a negative effect on the sorting process. Complex physiological-biochemical processes occur during the storage of seed cotton and seeds in cotton mills. This will not only save them but also improve their quality.

Khodjiev M.T., Tadjiev U.S., Mubarakov A.Ya. According to (1999), cotton received from farms in cotton processing plants and points is stored in different ways and under different conditions. Cotton absorbs a certain amount of moisture when stored in different humid winter conditions in bunts, warehouses and warehouses under a covered shed. In this case, the humid environment can adversely affect the cotton fibre and seeds (especially seeds). This, in turn, leads to a deterioration in product quality. Increased humidity and excessive temperature rise or fall can impair the quality of the seed, its forgetfulness, quantity, as well as the deterioration of fibre quality **[2-7].**

In particular, while seeds need to be stored in closed warehouses, due to the lack of such warehouses, second-and third-generation seed cotton and seeds are also stored in cages. We know that Uzbekistan occupies a significant place in world cotton production not only in terms of quantity but also in terms of fibre quality.

Given that the climatic conditions of Uzbekistan are highly variable, cotton harvested from the fields accumulates in different autumn weather conditions. This leads to differences in the quality of cotton products received. Mannopov A., Boronov H. (2001) noted that the ginning industry is the last stage in the Republican cotton complex. Therefore, improving the quality of work of the industry will largely depend on the fact that its work organization is equipped with 5-2 modern tools.

Prepared cotton and seeds are dewatered after processing or left with a small amount of hair. They are shed in pots and stored at low pressure, and such seeds are exposed to a variety of natural conditions. The effect of moisture on cotton and the associated temperature during storage is important in one way or another for the quality of seeds and fibre. If the temperature in the seed rises, a state of spontaneous heating occurs, resulting in accelerated respiration of the seed, which leads to premature depletion of the available energy reserves in the seed.

Moisture and contamination of cotton increase with the increase of machine harvesting in the seed cotton crop. This situation leads to an intensification of drying and cleaning operations in treatment plants.

According to Iksanov M.I., Egamberdiev A., Khalmanov B. measures should be taken to preserve the natural properties of fibre and seeds in the storage of first-grade cotton with a raw material of up to 11% and low-grade cotton with a moisture content of up to 13%.However, in practice, there are cases when very high-moisture cotton is also harvested. In this case, there are cases of spontaneous heating of cotton in some parts of the yard **[5-9].** Therefore, it is advisable to open tunnels and remove hot air during long-term storage of 1-11 varieties with a moisture content of up to 11% and low-grade cotton with a moisture content of 13%. Mirahmedov S. M. etc. (1989) the moisture content of seeds is of great practical and economic importance. High moisture content reduces the germination of seeds and rots them during storage. Seed production should not exceed 10% in Central Asia. Seeds are divided into three classes depending on moisture, germination and other quality indicators: the germination of seeds of the first class

should be at least 95%, the second class - 90%, the third class - 85%. Seeds with a germination rate of less than 85% were considered unfit for sowing.

RESULTS AND DISCUSSION

Observations showed that as the shelf life of the seed increased and the heat increased, the protein content in the seeds decreased by an average of 2-3% in one-year seeds and by 5% in two-year seeds. Detected. However, it was also found that the activity of the total protease enzyme was slightly activated depending on the shelf life of the seed. Seeds stored for one year have been proven to have a higher rate of germination and growth energy than 2-3-year-old seeds.

In ginneries, heavy-duty cleaning equipment is installed from the horizontal to the vertical side of the pneumatic transport. In this case, the air velocity, which can lift and move the cotton in a vertical direction, allows the separation of other compounds that are heavier than it. The biggest disadvantage of these side-based devices is that cotton falls to the bottom of the chamber along with heavy mixes. To overcome this, experiments have been shown to reduce the size of the pocket at the bottom of the chamber, and it has been found that quality seed preservation can be achieved as a result of its elimination.

In ginneries, fibrous seeds are stored in reservoirs for 1-4 months. During storage, the temperature is basically kept constant. The seeds are first dehydrated and then desalinated with 96% sulfuric acid.

Up to 30% of seeds that do not meet the required size in accordance with GOST are sent to oil companies. Cotton fibre, lint and fibrous waste bales are stacked on top of each other in sheds, if there are no special sheds, timbers are placed under the sheds and covered with a tarpaulin. According to the results of the experiment, it was found that cotton fibre stored in the closed state is 3.7-4.1% more than in the open.

REFERENCES

1. Федотов ВА, Кадыров СВ, Щедрина ДИ, Столяров ОВ. Растениеводство. 2020.
2. Атабаева Х, Қодирхўжаев О. Ўсимликшунослик. Янгиасравлоди, Tashkent; 1990.
3. Шайхов ЭТ. вабошқалар. Пахтачилик: Дарслик. Tashkent.:Меҳнат. 1990.
4. Мирзаева МА. (2020). Методысушкивинограда. Universum: техническиенауки, 2020;74 (5-2):21-23.
5. Мирзаева МА, Рахмоналиева НН, Холматов, СН. (2021). Изучениеспособовхраненияземян. Universum: техническиенауки, 2021; 87(6-3):50-52.
6. Маматожиев ШИ, Мирзаева МА, Шокирова ГН. (2021). Влияниетехнологиидопосевнойобработкинасодержаниевлаги в почве. Universum: техническиенауки, 2021;87(6-3):46-49.
7. Мирзаева МА, Акрамов ШШ. Биологиясортовсахарнойсвеклы, вредителей, болезней и способыборьбы с ними. Universum: техническиенауки, 2020;80(11-3).

8. Mirzayeva M, Akramov S, Abdukarimova D. Biology of Sugar Beet, As Well As The Scientific Basis For The Cultivation Of Ecologically Pure Products. The American Journal of Agriculture and Biomedical Engineering, 2020;2:7-10.
9. Абдукаримова ДН, Мирзаева МА. ИсследованиеСтруктуры, Составов И Физико-Химических СвойствИнгредиентов ДляРазработки Композиционных Химических Препаратов. Central Asian Journal Of Theoretical & Applied Sciences, 2021;2(12): 323-328.