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# The Effect of Currency Process on the Quantity of Seeds

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**ABSTRACT:** This article examines the effectiveness of seed cleaning by drying Beshkahramon selection varieties regionalized in Kopaysin, Navruz and Beshkahramon of Surkhandarya regions at a temperature of 120<sup>0</sup>S, 140<sup>0</sup>S and 160<sup>0</sup>S and a humidity of 8-9%.

**KEY WORDS:** seed pods, side and micropile parts, hairiness, mechanical damage of seeds, migratory part of seed pods, amount of cracked seeds

## I. INTRODUCTION

Improper drying or drying of seed cotton at high temperatures in ginning plants increases the rate of damage as a result of a decrease in the amount of moisture in the seed. Cotton seeds have an irregular and symmetrical shape. The seed consists of aunt, side and micropile parts. For example, when we dry cotton at high temperatures, there is a greater chance that the husks will move more with the fiber, especially since the apex of the seed is looser. These figures vary in breeding varieties. Therefore, some selection varieties should be dried at high humidity, some selection varieties should be dried at moderate humidity.

Ginning is a process that has a more negative impact on the quality of fiber and seeds in the ginning plant. The moisture of the saw teeth will break the seeds below the standard values or cause an increase in the amount of cracks on the seed surface. As a result, the seed causes a decrease in the number of seeds and an increase in the number of technical seeds. In addition, the seeds of some selection varieties are not durable. It can even be damaged during the cleaning process. At the same time, the seeds are mainly cracked during cleaning and ginning.

## II. METHODOLOGY

In order to study this feature of cotton seeds, research work was carried out. For this purpose, after drying of cotton of different selection varieties at different temperatures and humidity in the ginning plant, the characteristics of the seeds after mechanical damage, fluffiness, residual fluff, fibrous part of the seed coat, the amount of cracked seeds were studied.



The results of the obtained scientific research are presented in Tables 1-3.

Table 1

Influence of ginning process on the amount of contamination of seeds obtained as a result of drying of Navruz selection variety

τ/p	Indicators	Drying temperature of cotton, °C		
		120	140	160
1.	Mechanical damage to the seed, %	1,90	1,97	2,14
2.	The fluffiness of the seed, %	10,5	11,2	11,4
3.	Residual fiber content of seeds, %	0,067	0,089	0,102
4.	The fibrous migration part of the seed coat, %	11	14	17
5.	The amount of cracked seeds, %	3,0	5,0	6,0

Table 2

The effect of the germination process on the amount of contamination of the seed obtained as a result of drying the Kopaysin selection variety

τ/p	Indicators	Drying temperature of cotton, °C		
		120	140	160
1.	Mechanical damage to the seed, %	2,04	1,89	2,10
2.	The fluffiness of the seed, %	11,7	11,9	12,5
3.	Residual fiber content of seeds, %	0,086	0,094	0,113
4.	The fibrous migration part of the seed coat, %	15	14	18
5.	The amount of cracked seeds, %	2,0	7,0	5,0

Table 3

Influence of ginning process on the amount of contamination of seeds obtained as a result of drying of Beshkahramon selection variety

τ/p	Indicators	Drying temperature of cotton, °C		
		120	140	160
1.	Mechanical damage to the seed, %	2,18	2,23	2,29
2.	The fluffiness of the seed, %	12,1	12,7	12,4
3.	Residual fiber content of seeds, %	0,078	0,101	0,122
4.	The fibrous migration part of the seed coat, %	13	16	20
5.	The amount of cracked seeds, %	4,0	6,0	8,0

The test results obtained are shown in Figures 1-5.

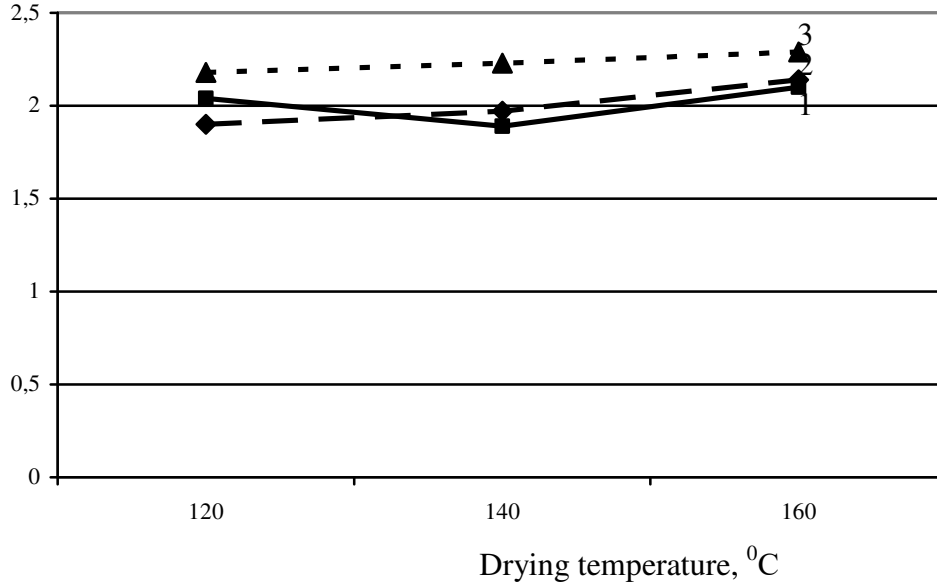


Figure 1. Influence of drying temperature and humidity of cotton on mechanical damage of seeds after ginning process.

- 1- Ko'paysin selection variety;
- 2- Beshqahramon selection variety;
- 3- Navruz selection variety.

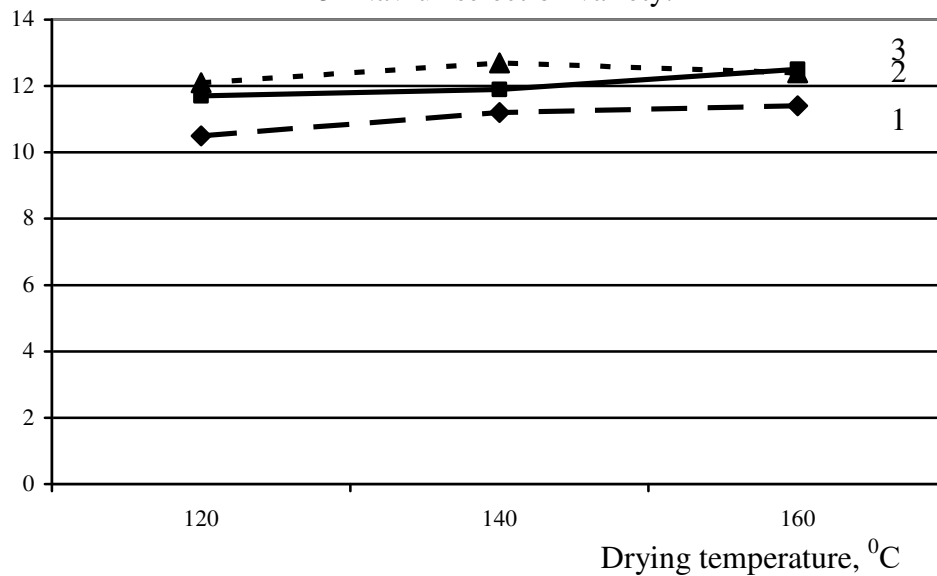


Figure 2. The effect of drying temperature and humidity on cotton seed germination after the ginning process.

- 1- Ko'paysin the selection variety;
- 2- Beshqahramon selection variety;
- 3- Navruz selection variety.

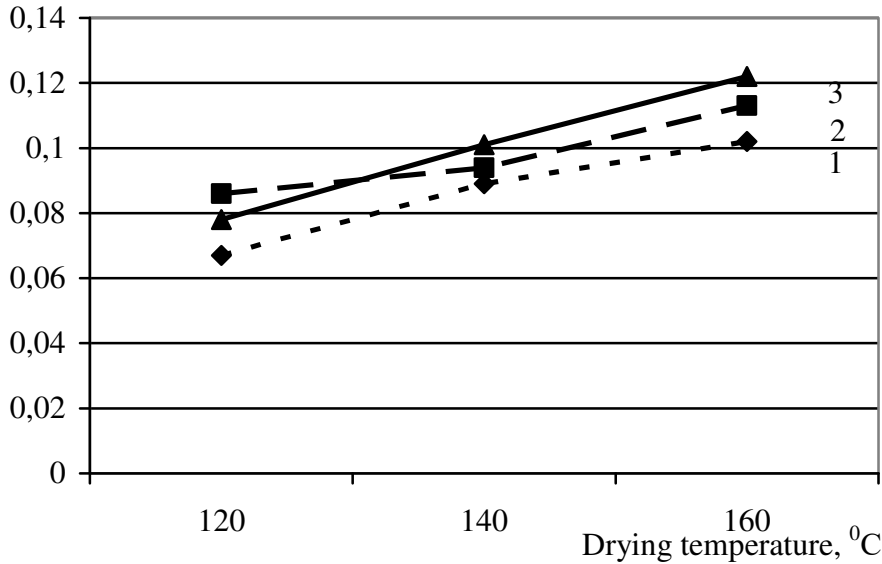


Figure 3. The effect of drying temperature and humidity of cotton on the residual fiber content of the seed after the ginning process.

- 1- Ko'paysin the selection variety;
- 2- Beshqahramon selection variety;
- 3- Navruz selection variety.

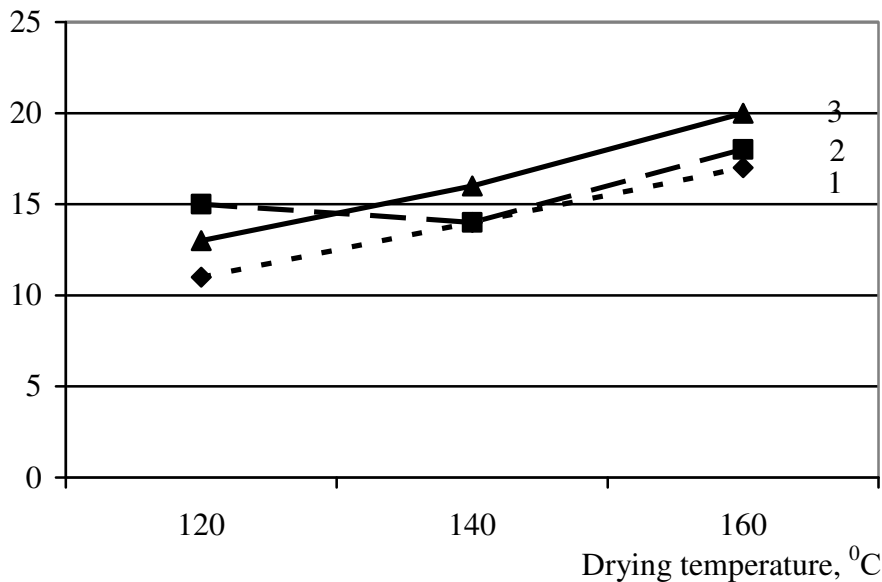


Figure 4. Influence of drying temperature and humidity of cotton on migration of seed husk after ginning process.

- 1- Ko'paysin the selection variety;
- 2- Beshqahramon selection variety;
- 3- Navruz selection variety.

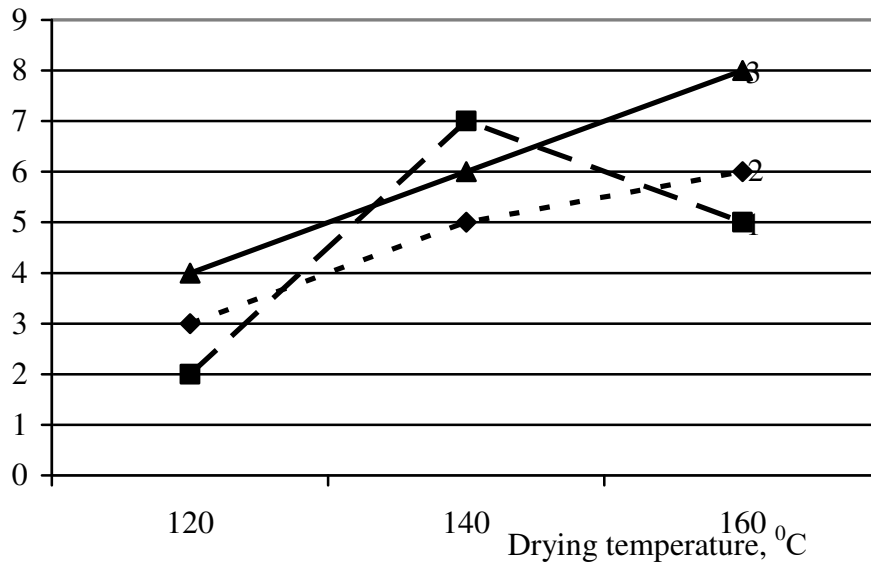


Figure 5. The effect of drying temperature and humidity on the amount of cracked seeds after the ginning process.

- 1- Ko'paysin the selection variety;
- 2- Beshqahramon selection variety;
- 3- Navruz selection variety.

### III. RESULTS AND DISCUSSION

Defective indicators of seeds of selection varieties dried at different temperatures and humidity after ginning at the ginning plant were studied and the test results were compared with the results of seeds obtained by drying cotton at a temperature of 120°C. For example, as a result of drying of Navruz selection cotton at a temperature of 140°C, mechanical damage to the seed after ginning increased by 3.4%, fluff by 6.2%, residual fiber by 24.8%, fiber migration by 21.4%. the amount of seeds increased by 4.0%, mechanical damage of seeds after ginning as a result of drying cotton at a temperature of 160°C increased by 11.2%, fluffiness by 7.9%, residual fiber by 34.3%, fiber migration by 35.3% the amount of cracked seeds increased by 50.0%, as a result of drying of Navruz selection cotton at a temperature of 140°C, the mechanical damage of seeds after ginning decreased by 7.4%, fluffiness by 1.4%, residual fiber by 8.5%, fiber migration by 6.7%, cracked seeds mechanical damage of cotton after ginning as a result of drying at a temperature of 160°C by 2.4%, fluffiness by 1.4%, residual fiber content by 23.9%, fiber transfer of seed husk by 16.7% , the amount of cracked seeds increased by 60.0%.

Mechanical damage of seeds after ginning as a result of drying of cotton of Beshkahramon selection variety at 140°C increased by 2.2%, fluffiness by 4.7%, residual fiber by 22.8%, fiber migration by 18.7%, the amount of cracked seeds Increased by 33.3%, mechanical damage of seeds after ginning as a result of drying cotton at 160°C increased by 4.8%, fluff by 2.4%, residual fiber by 36.1%, fiber transfer by fiber by 35.0%, the amount of cracked seeds increased by 50.0%, as a result of drying cotton at a temperature of 120°C relative to the performance of seeds after the ginning process.

### IV. CONCLUSION

If we dry cotton at different temperatures and different humidity, the increase in mechanical damage to the seed will inevitably affect the economic performance of the ginnery. In addition, the migration of the husk from certain parts of the seed, the yarn obtained from it, has a negative impact on the quality of the fabric and causes defects in the



printing of flowers on the fabric. Therefore, it would be expedient to develop an optimal option for each selection variety in ginneries.

The results of the study showed that in all selection varieties, as a result of temperature increase, mechanical damage to the seed, fluffiness, residual fiber, fibrous migration of the seed coat and increased amount of cracked seeds.

#### REFERENCES

1. Ismoilov A.A., Usmonqulov A.Q. Changes in the structure of seeds in the process of drying cotton // Republican scientific-practical conference "The role of young scientists in the development of techniques and technologies in the field of cotton ginning, textile, light and printing." Tashkent, 2007, pp. 51-52.
2. Qosimov X.M., Qodirov A., Alimov K., Zokirov T. Methods of maintaining a high level of quality of raw materials in the drying process of cotton // Republican scientific-practical conference "Modern technologies and promising materials for the textile, light and printing industries." Tashkent, 2005, 9 pages.
3. Kukin G.N., Sloviev A.N. Textile materials science. Part 2, M :, Light industry, 1985, 378 p.
4. Mamajonov Sh.M., Salimov A.M. Improving the process of drying cotton // Republican scientific-practical conference "Modern technologies and promising materials for the textile, light and printing industries." Tashkent, 2004, 33 pages.
5. Ochilov T.A. Influence of the drying temperature of raw cotton on the fiber quality and the content of defects. Dissertation for the degree of candidate of technical sciences. Tashkent, 1989.
6. Kucherova L.I. Evaluation of the effect of drying on the structure and properties of cotton fiber and the quality of yarns and fabrics produced from it. Dis. for a job. uch st.k.n., Moscow, 1971.
7. A.E. Uzakov Investigation of roller gin with individual fiber type cleaners. Abstract Dis. for a job. uch. Senior Researcher, Toshkent-1979.
8. Kukin G.N., Soloviev A.N. Textile materials science. M., 1985.



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