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Ways to Increase the Efficiency of Using Techniques and Technologies in the Digital Economy in Cotton Factories

Nuriddinova Rohila Pazlitdin qizi

Department of "Design", Namangan Institute of Engineering and Technology, Namangan Uzbekistan

ABSTRACT:The article discusses and analyzes current issues in the use of machinery and technology in ginning enterprises in the digital economy. In addition, the parameters of fiber damage in the technological processes of the enterprise were checked and analyzed, and recommendations were given. Information technology should be widely introduced in all sectors of the economy. In particular, the digital economy plays an important role in the activities of the country's ginning industry, and therefore the introduction of a digital economy in the enterprises of this sector will be effective. We know that the ginning industry plays a significant role in the economy of our country.

KEY WORDS: cotton, fiber, seeds, transportation, technological process, damage, digital economy, technology, technology, efficiency, productivity, cost-effectiveness

I. INTRODUCTION

Currently, the world is in the process of transition to a digital economy. In our country, too, large-scale work has begun in this direction. In his Address to the Oliy Majlis, President of the Republic of Uzbekistan Sh. Mirziyoyev said: "It is necessary and necessary to acquire digital knowledge and modern information technologies in order to achieve development. This gives us the opportunity to take the shortest path to ascension. After all, information technology is penetrating deep into all areas of the world. " [1].

Information technology should be widely introduced in all sectors of the economy. In particular, the digital economy plays an important role in the activities of the country's ginning industry, and therefore the introduction of a digital economy in the enterprises of this sector will be effective. We know that the ginning industry plays a significant role in the economy of our country. Along with cleaning, drying and storage of raw cotton grown in the country, the enterprises of this sector carry out important production activities, such as cleaning cotton and obtaining high-quality fiber from it. Today, cotton clusters are being formed. In these clusters, ginneries are the main link. These enterprises are required to ensure the quality of cotton fiber, seeds and other products, along with the processing of the required amount for many sectors of the economy and enterprises during their activities. In this process, first of all, modern information technologies are needed. Predicting the quality of raw cotton grown in agriculture, what conditions should be created for the storage of raw cotton, the weather at that time, the level of energy supply and the level of equipment and technology used in the processing of raw cotton what it is now, what news may be in the future in this direction, and the necessary information on such questions can be obtained using information technology. All this raises the urgent need for the rapid introduction of the digital economy in ginneries and the effective use of machinery and technology through it and with its help.

Among the important directions adopted in our country for 2020 is the direction "Achieving reduction of prices and improvement of quality by ensuring healthy competition among enterprises" [1], the implementation of the tasks set in this direction is of great importance. Improving the quality and competitiveness of products produced by all industrial enterprises requires the effective use of existing equipment and technology, their improvement and rational use of modern ones. In this context, this topic is one of the most pressing issues in the current transition to a digital economy.

This topic was of interest to many scientists and researchers, engineers in their time. Among them are Abdullaev O., Mahmudov NM, Akhmedkhodjaev HT, Muradov RM, Korabelnikov RV, Toshmatov AT, Jumaniyazov Q.J., Mavlyanov TM. and the scientific research of others can be pointed out. In the scientific work of these specialists,

the introduction of information technology in the development of the economy, the level of use of existing equipment and technologies in industrial enterprises were analyzed and areas for improvement were identified [4-8].

II. ANALYSIS OF GENERAL AND ECONOMIC INDICATORS OF CHUST PAKHTA TOZALASH JSC FOR 2016-2018.

Today's level of development and fierce competition in world and domestic markets require further improvement of the activities of industrial enterprises, including ginneries, using a wide range of information in the use of existing equipment and technologies. The peculiarity of machinery and technology in ginneries is that they require use only at certain times of the year. The machinery and technology in these network enterprises remain idle for the rest of the year. Therefore, the efficiency of funds, which is the most important indicator of the use of machinery and technology in these enterprises, remains relatively low. Or in other words - there are huge opportunities to increase the efficiency of equipment and technology in these enterprises, which are not used. Effective use of machinery and equipment in ginneries requires extending their year-round operation and increasing their productivity during this time. This, in turn, will improve the quality of cotton fiber and other products produced by ginneries, increase competitiveness and optimize production costs [2].

Table 1
“Chust Pakhta Tozalash” JSC for 2015-2018 analysis of balance sheet indicators

№	Name of indicators	2015 year	2016 year	2017 year	2018 year	2018 year than 2017 year,%
1	Initial value of fixed assets	7442553	7792728	8549221	9346992	109,33
2	Depreciation of fixed assets	1779651	2251441	2585609	3171082	122,6
3	The residual value of fixed assets	5662902	5541287	5963612	6175910	103,5

Note: The table is based on the data of JSC "Chust Pakhta Tozalash".

Chust Pakhta Tozalash JSC, one of the most effective ginning enterprises in the country, receives raw cotton grown in Chust district of Namangan region, is engaged in cleaning and drying, and throughout the year is engaged in the extraction of cotton fiber from raw cotton. Today, Chust Pakhta Tozalash JSC is an industrial enterprise equipped with modern technologies and fully mechanized processes. The fixed assets of the company are constantly improving. In 2015, the company had fixed assets worth 7442553 thousand soums, in 2016 - 7792728 thousand soums, in 2017 - 8549221 thousand soums and in 2018 - 9346992 thousand soums, or fixed assets in 2018 amounted to 109.33% of the 2017 level. did (Table 1). The initial value of fixed assets in 2018 compared to 2015 amounted to 125.58%. This table shows that the process of depreciation of fixed assets is accelerating in the enterprise. The change in their residual value lags behind the change in the initial value. In 2015, the residual value of fixed assets at the enterprise amounted to 5662902 thousand soums, and in 2018 it amounted to 6175910 thousand soums. In 2018, the residual value of fixed assets increased by 103.5% compared to 2017, and compared to 2015 amounted to 109.05%.

It follows that in order to achieve high efficiency, the company needs to accelerate the process of replacing obsolete fixed assets with new ones.

Table 2 analyzes the results of financial activities of JSC "Chust Pakhta Tozalash" for 2015-2018. While the company's gross sales revenue increased in 2015-2017, by 2018 gross revenue decreased by 11.78% compared to 2017. Analyzing the reasons for this, we can see that the net revenue from product sales in 2018 was 96.77% of the 2017 level.

Table 2
Analysis of the results of financial activities of JSC "Chust Pakhta Tozalash" for 2015-2018

№	Name of expenses	2015 year	2016 year	2017 year	2018 year	2018 year than 2017 year,%
1	Net revenue from product sales	26775234	36309130	31669873	30648215	96,77
2	Product cost	24042782	32418597	25336641	25943056	102,3
3	Gross revenue from product sales	2732452	3890533	5333232	4705159	88,22
4	Total operating expenses	2605942	3488343	4441747	3848410	86,6
5	Cost of sales	74821	85628	112072	260357	223,3

6	Administrative management costs	354978	546120	646627	1033038	159,7
7	Other operating expenses	2176143	2856595	3683048	2555015	69,3
8	Other income from operating activities	1094315	623786	542379	57289	10,5
9	Profit from operating activities	1220825	1025976	1433864	914038	63,7
10	Benefits of general activity	223275	274969	315488	510184	161,7
11	Profit before taxes	223275	274969	315488	510184	161,7
12	Income tax	53396	72988	91589	120397	131,4
13	Net profit	157275	185857	205987	389767	189,2

Note: The table is based on the data of JSC "Chust Pakhta Tozalash"

The cost of the product has increased over the years. Gross profit and gross profit of the enterprise are affected by the volume of sales and product cost indicators. Reducing the cost of production is one of the main tasks. The role of costs incurred in the production of products in the efficiency of economic activity of the enterprise is very high. If we look at the company's expenses in 2017 and 2018, we can see that the costs associated with selling the product, administrative expenses have increased [3].

Table 3
2016-2018 in Chust Pakhta Tozalash JSC general indicators

№	Name of the indicator	2016 year		2017 year		2018 year	
		plan	fact	plan	fact	plan	fact
1	Produced fiber, tons	2868	3601	3375	3460	2229	5282
2	Commodity product, thousand soums	28262593	28346799	37474249	37515278	64044846	64186669
3	Production cost, thousand soums	24000728	23835907	31888017	31648419	59172547	59093741
4	1 soum costs for branded products, tiyins	85	84	85	84	92	92

Note: The table is based on the data of JSC "Chust Pakhta Tozalash"

In 2016, the company received 3601 tons of fiber, in 2017 - 3460 tons and in 2018 - 5282 tons of cotton fiber. Over the years, the volume of branded products at the enterprise has also increased. Its growth was influenced on the one hand by fluctuating prices, on the other hand by a set of measures taken at the enterprise. Despite the measures taken to reduce the cost of cotton fiber production, the cost of cotton fiber is growing. Expenditures for 1 soum of goods amounted to 84 tiyins in 2016, 84 tiyins in 2017 and 92 tiyins in 2018. The level of profit from the production of each soum of goods is declining.

III. DETERMINATION OF QUALITY INDICATORS OF FIBER SAMPLES OBTAINED FROM THE PROCESS OF COTTON TRANSPORTATION IN CHUST PAKHTA TOZALASH JSC

At the current level of economic development, the effective use of machinery and technology in ginneries is important, because only in this way will the production of the main problem of the economy, the effective use of economic resources, fully meet the growing needs of the population.

The first and foremost condition for the full use of machinery and technology in ginneries on the basis of the widespread use of modern information technology is to regularly determine the development process by obtaining the necessary information from information sources and extracting the most necessary from them and using them in production. By determining the prospects of possible situations in advance, it is possible to prepare for these situations and to identify solutions to the problems that are expected to occur, to make practical decisions [9-12].

The authors also conducted a study on the preservation of the natural properties of cotton products in the initial processing (Figure 1).

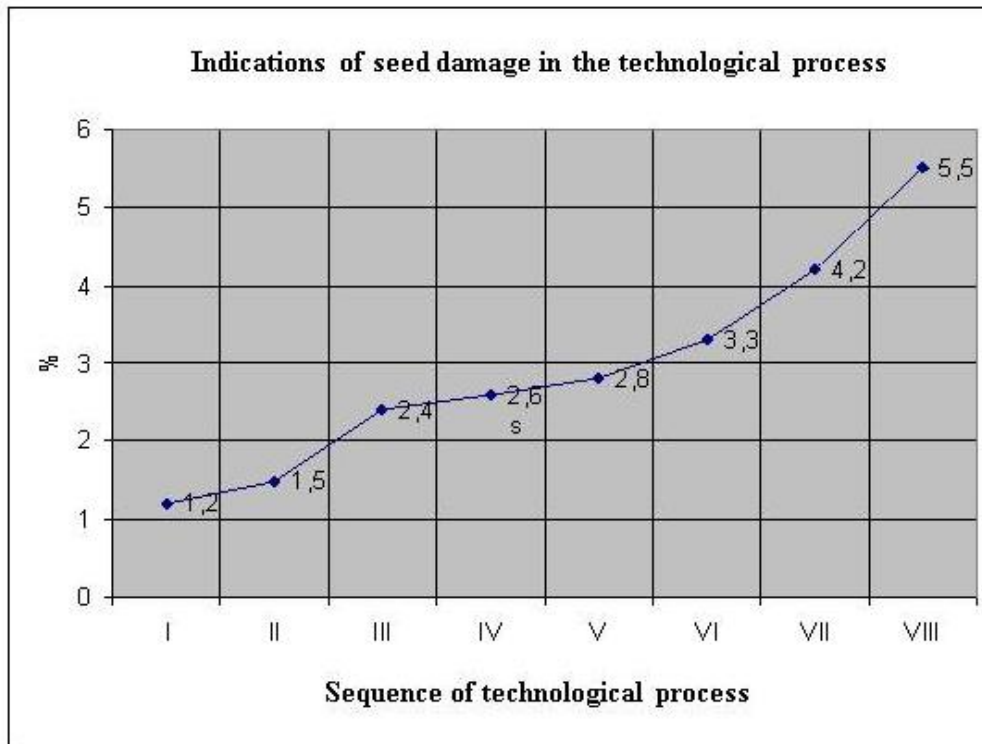


Figure 1. The degree of damage to the seed in the technological process

Seed damage research showed that the selection variety was 108-F, I-grade, hand-picked, seed cotton with a moisture content of 9.2% and a contamination level of 1.2%. During the processing of seed cotton, the speed of raw cotton in pneumatic transport is 24-26 m / s. In the study, samples were taken for analysis at eight points of the cotton processing process. In the process of storing I-seed cotton in the bale, at the first turn of II-pneumatic transport, after III-SS-15A separator equipment, after IV-drying-cleaning shop, after V-SS-15A separator equipment, after VI-sorting process, VII -After linting, samples were taken from VIII-delintertization processes. The results of the sample show that the maximum damage to the seed was increased by 2.5-3% in the area between ginning and linting processes (V-VIII). Up to 1.5% of seed damage was observed in the area (I-VI) between the ginning process of seed cotton storage. It has been proven that 1.0-1.2% of damage to seed cotton occurs during transportation of raw cotton by pneumatic transport.

IV. RESULTS

Based on the above, in order to check the quality of fiber in the pneumatic transport system at Chust ginnery, samples were taken from the cotton field, separated from the seed by natural manual labor and taken after the pneumatic transport pipe, ie separator equipment and separated from the seed by manual labor. Cotton sample Andijan-35 industrial grade, fiber grade-I, fiber class-2 high, fiber moisture, 6.4%, total fiber defects-0.5%, seed fluff -9.5%, seed damage-0.6%.

Table 4

Analysis of international quality indicators in the laboratory system HVI 900 - SA of fiber samples taken after the bale and separator equipment in the process of transporting cotton in the joint-stock company "Chust pakhta tozalash"

№	Quality indicators in the international universal standard system of cotton fiber	Andijan-35 selection grade	
		Unprocessed fiber	Fiber obtained from pneumatic transport
1	Mic Micronaire	4,6	4,4
2	Str Specific tensile strength, gs / tex	40,1	42,5
3	Len Upper average length, inches, mm	1,21	1,19
4	Unf. Length homogeneity index, %	83,6	83,9
5	SFI The amount of short fiber, %	2,6	3,4
6	Elg Relative elongation at break, %	7,5	7,0
7	Trash Pollution code	4	2
8	Cnt Amount of contaminants	18	15
9	Area The area of dirty mixtures	0,9	1,2
10	CG By color type	31 - 4	31 - 4
11	Rd The light reflectance coefficient of the fiber, %	74,9	74,9
12	+b The degree of yellowing of the fiber	8,9	9,2

Summarizing the quality indicators in the table above, it can be seen that during transportation, cotton fiber causes a certain percentage of mechanical damage to the natural quality indicators. In particular, this is evident in the international quality cotton fiber standard quality indicators in terms of length uniformity percentage (Unf.), Short fiber percentage (SFI), amount of impurities (Cnt).

V. CONCLUSION

1. JSC "Chust Pakhta Tozalash" managed to receive 1681 tons in 2018 compared to 2016. Despite the measures taken to reduce the cost of cotton fiber production, the cost of cotton fiber is growing. Expenditures for 1 soum of goods amounted to 84 tiyins in 2016, 84 tiyins in 2017 and 92 tiyins in 2018. The level of profit from the production of each soum of goods is declining.

2. In the process of transportation at the Chust ginnery, the uniformity in length relative to natural cotton fiber increases by 0.3%, the amount of short fibers increases by 0.8%, the amount of impurities decreases by 3 units. Another conclusion from research and experiments is that according to the international universal cotton fiber standard, the yellowing, micronaire and other quality parameters of the fiber during transportation remain unchanged.



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