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EFFECT OF SOLVENT COMPOSITIONS ON OIL INDICATORS IN COTTON OIL EXTRACTION

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Abstract: This article studies the effect of solvent compositions obtained by mixing extraction gasoline with other organic solvents, especially ethanol and acetone, used in traditional technology for processing cottonseeds by extraction, on the physicochemical parameters of the oil. The results of the study showed that when performing the direct extraction process of cottonseeds, the solvent composition obtained in the ratios of 60:40 and 70:30, together with extraction gasoline, gave significantly better results than those obtained in other ratios. The conducted studies showed that the use of solvent raw materials instead of one type of solvent in the extraction of cottonseed oil was found to be effective. It was proven that increasing the proportion of extraction gasoline in the solvent composition changes directly proportionally to the micelle concentration and inversely proportionally to the acid value of the oil.

Keywords: gossypol removal, extraction, high-protein meal, solvent, protein composition, food safety, technological process, miscella.

Introduction. In order to maintain the required components of raw materials in manufacturing enterprises, in order to maintain the required components in the production of raw materials, the use of gradual extraction processes, the use of gradual extraction processes, the use of stages extraction processes today One of the most important issues.

A cotton seed plays a special role among oil pieces of oil oils. Cotton raw cotton is an agricultural output for fiber, is 18-25% of oils in the cotton seeds, a rich source of more than 40% of quality protein [1, 2]. The presence of a Gossypol substance in the cotton seeds serves as a restricting tool for the use of cotton oil and shrot. However, the cotton seeds also led to factors such as a substance of gossypols in the growing ground period of the raw cotton, such as violations of development facilities and a decrease in productivity. The American, Egyptian genetic scientists research conducted a research to create varieties of cotton without gossels. The presence of a Gossyol for the cotton seeds contains the presence of a hossypic, immunomodulofulator for raw materials [3, 4, 5].

There was a few centuries that the technology of the Takht seed processing was created. Although there were many research to improve cotton oil production, there are many scientific issues that have not been solved. TXTRACTORAL TORE PROCEDURE PROCEDURE PROCESSING TECHNOLOGY, Russian scientists, A.M. Goldovsky, V.G. Sherbakov, V.V. Beloborodov, R. Mirzakarimov, A.N. Glyushenkova, S.A. Abdurahimov, K.Y. The result of research conducted by Kadyrov has improved [6, 7, 9, 10, 10, 11].

The process of extraction of cotton seeds plays a special role among the processing processes. During the extraction process, the loss from Forpresses is separated by the help of oil products extractive gasoline. It is extragent ecostasy gasoline that meets the requirements for solvents used in this process. The quality of extractory oil and cotton shrot, obtained as a result of the use of extract gasoline, significantly deteriorates. The ratio of solvents and raw materials (hydromodules), temperature, moisture for the full process is fully indicated.

The world's scholars are kinomidinamics, thermodynamics, as a solution for the change of cotton oil, changes in the quality of the process, changes in the quality of oil and cotton shrot quality indicators. Deveshi Sakena, S. K. Sharma, D. Rebello, M. Dovd, M. S. Abraham, T. V. Chernenko and others have studied. [12, 13, 14, 15, 16].

Putkeeping Researchers F. D. Susanna, J. Dina, Valenti and Jouz M. F. Abrouz has conducted research to extract and compare the fruit of the oakan tree using the quercus subterior l. with the help of the oakan tree fruit. Research has proven that the optimal temperature is 40-75 ℃, and the explanors selected by the pressure 10 kpa, and selected by the utensils of 10 kpa. From our side to the component of the cotton oil, the use of the cotton oil was carried out in the component of cotton oil, and the use of extract gasoline and ethanol mixes used in the extradition.

In researches conducted by researchers, the extraction process is carried out only using a solvent of the research and compared to alternative melting. From our side to the component of the cotton oil, the use of the cotton oil was carried out in the component of cotton oil, and the use of extract gasoline and ethanol mixes used in the extradition.

Study objects and research methods

The following section was formed in Figure 1 to conduct the following sections.

Initially, ecstasy gasoline (Nephras) and ethanol extractive extracts from cotton seeds to develop the optimal composition of solvents and the compositions that measure the measurement minezer (2), ie in% of%, ie in% of 100 gr. The cotton seed crackdown was measured in scales (3) and placed in a Socket device (6) using the cartridges. The top of the Sexete device is installed to the top of the refrigerator (5), and dissatients condolate, carries the extraction process through the Socket. The Mithellla, which is extracted in solvent compositions, is collected at the Colaba (7). The laboratory device intended for the progress of the extraction is maintained at the water bath (8) at a constant temperature. The extraction process is carried out for 8 hours. In order to speed up the process, the refrigerator (5) is connected to the bottom of the refrigerator (5) NGO,

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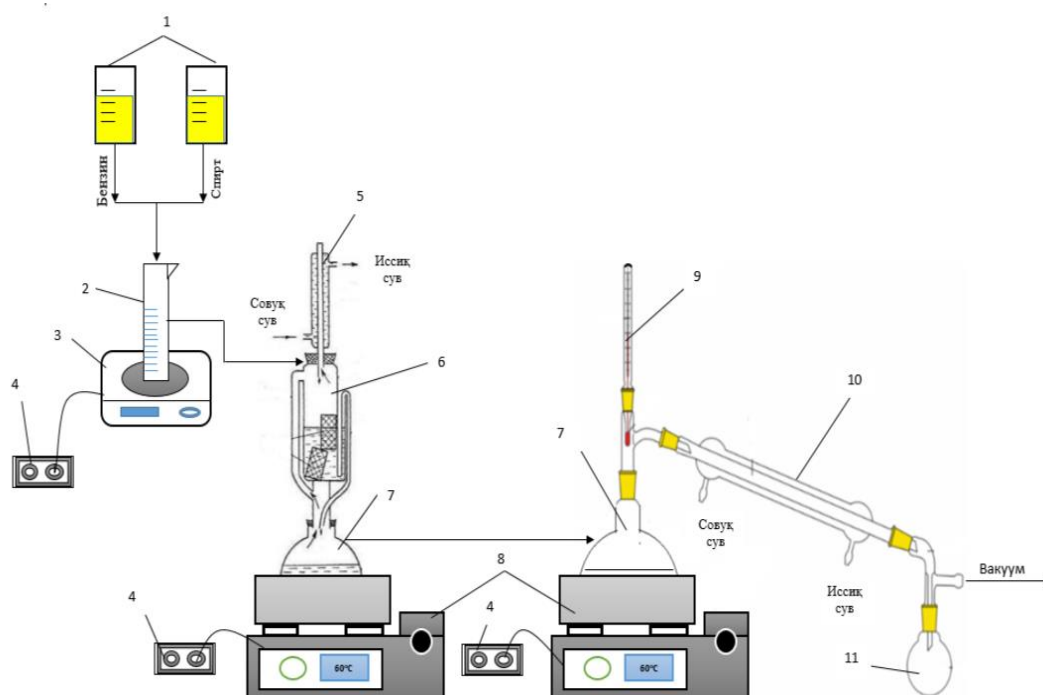accelerating the process by up to twice. Water les and scales are connected to the power supply (4).

Figure 1. Getting High Protected Cotton Scotati Laboratory Former
1-glass, 2- dimension, 3- electric scotlet, 5-fridge, 5-extractory, 7-water bath, 9 thermometer, 10- refrigerator, 11- colluba.

The end of the extraction process is observed through the touch appearance of the Methel, which is collected in the Squass. The process of extraction process, i.e. the process of extraction of 8-10 times for 8 hours will be done. The process is the process of corrosion in Methelela Causage (8) to separate the solvent in which the process is composed. The thermometer (9) is set to the top of the sausage and control. Solvatory steams are condolated in a refrigerator (10), and the collection of collaboration is collected in the colluba (11). The amount of oils collected in the sutba was drastally pulling in the scales and analyzed physicochemical parliament. In order to increase the intensity of driving process, the process can connect to the vacuum system.

Determining the number of acid. The oil percentage of the acid is identified by ISO 660: 2020 [21] and a 1% alcohol solution of phenolfaleein as an indicator. This methodology is based on trembling with the participation of a phenolphthalein indicator with a standard alkaline solution. Neutral solution of alcohol and dietil as a fat smiling is used. The 3-5 g of the analytical scales was poured into a sausage, which added 50 ml of ethyl alcohol and dietil airtays, which was thoroughly mixed and was completely dissolved in the oil solvent. The same mixture was added to the solution of 3-5 drops of 1 percent and mixed. The resulting solution was constantly mixed with a light pink alkali, with a solution of the Bureabonet to the alcohol, until it appeared in 30 seconds.

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K.S. (Mg KOH / g) was calculated according to the following formula:

$$K.s. = \frac{5,611 * a * k}{m}$$

Here: 5.611 - 0.1 n Colasses of potassium solution, gr / ml, amount of 0. ml / ml, shooting 0.1 n, ml, a fixture for the call; Sample weight of m-Analyzed oil, g;

- The mass fraction of moisture and volatile substances was determined by ISO 662: 2016;   - The degree of oxidization of the oil was measured by the number of perexis, Jesus 3960-2020 [23, 24]. The number of peroxis is considered as follows: fat content can be less than 5 g. The sample should be selected for less. If the weight of the sample affects the result, it is required to show it with the result. The example melt in 50 cm3 acidic acid / Idrous solution, then accepted by careful detours, then added 30 cm3 densely acute acid. A sample was slightly heated. The magnetic mixer was used and 0.5 cm3 potassium Yodid saturation solution was added. The sample was mixed with the timer (± 1 C accuracy with ± 1 s with a magnitude), mixed with medium rapes to prevent the splash and immediately added to 30 to 100 cm3 water. Depending on the phase inversion and the device used, large amounts of water can be spent. The potentiumometric difference between the first and last points of trembling with the amount of water will be greater (~ 100 mv). This leads to the fact that the curved curve of trembling will appear with a clear point of bending. The combined plass is combined with a simple solution of the electrical sodium forecasts of the test. The parallel SALT test was used by no more than 0.1 cuffs of Thiasulfate. Most trembling equipment identifies the equivalent point automatically. It was determined using the final point with a graphic bending point. In the oxygen millions of oxygen to 1 kilogram, PEREtic population was calculated according to the following formula:

$$PS = \frac{(V - V_0)c(Na_2S_2O_3) * f * 1000}{m}$$

Here: V is the factor of the Molar Concentration of the standard solution of the Sm3, c (NA2SO3) - the standard solution of sodium hypulophat. 5.8), mol / dm3, F - the standard solution of the F - sodium hypulium.

- The amount of oil in the recyclable materials was identified in Zaychenko and NAB devices [25];

- The moisture content of oil was analyzed by the method of weight [26];

Determining the indicators of cotton, sunflower and soybean shrots resulting from the study was carried out in standards for cotton, sunflower and soybeans [27-30].

The color index of the cotton oil (model e) was measured in red units in red units, and the color indicator of sunflower and soyalty oil (mg J) on the iodine scale.

Results and discussions. The use of compositions obtained by mixing the unique pigment cotton in the cotton seeds and the rational use of the cotton plot, not only a type of solvents, but also by mixing gasols (Nephras), but also by mixing gossip form (nephras) And in direct extraction, we conducted a study for the development and selection of optimal indicators of the technology of using a stage extraction process.

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The following table lists the extraction gasoline and physicochemical indicators used today.

Table 1. Physicochemical indicators of extraction gasoline and etanol

№	Name of indicators	Unit of measure	Extraversies Extractory gasoline	ethanol
1.	Density in 20 ℃	G/dm³	0,685-0,715	0,789
2.	Flight temperature	℃	61-70	13-15
3.	Full air temperature	℃	91-96	78-80
4.	An aroiatical hydrocarbons	%	0,1-0,5	-
5.	Molar mass	%	46	86-88
6.	The residue in the tube, not much	g	1	0,5
7.	Mechanical screws and the amount of water	%	not available	not available
8.	Hazard	%	4	4

It is clear from Table 1 that the exposure temperature is in particular, the starting temperature is 91-70 ℃ in extract of 61-70 ℃, which is 78-80 ℃ in extract of 13-15, which is 78-80 ℃, in zuril alcohol. The density of solvent also demonstrates nearby indicators. Exercise gasoline contains 0.1-0.5% of 0.1-0.5%.   If the suffixes of selected solvents are related to the fourth grade and the environment, the detection of potatoes and wheat raw materials in the food industry, that is, the importance of potatoes and wheat raw materials can be used in alcohol and rectification. We have conducted research on the use of extract gasoline and ethanol mixed compositions for the extraction of cotton oil directly. The following table lists the ratios of solvent compositions. In the development of solvent compositions, their weight was mainly selected as the main criterion. Because vegetable oils are calculated on solvent, weight of raw materials, and such a figure is called hydromodul.

Table 2. Interactions of solvent compositions

№	Solving compositions	Extractory gasoline	ethanol
1.	Solidging comsure (EC-1)	50	50
2.	ЭК-2	60	40
3.	ЭК-3	70	30
4.	ЭК-4	80	20
5.	ЭК-5	90	10
6.	ЭК-6	40	60
7.	ЭК-7	30	70
8.	ЭК-8	20	80
9.	ЭК-9	10	90
10.	ЭК-10	100	100

Interaction of solvent gasoline in selected solvent compositions: If the last extraction was selected at 10 composition, the last extraction was chosen by clean solvents. Mixing

solvents in different proportions will change their flight and full flight temperatures, to increase the concentrate of Misto Select, to remain in the solution of the Gossefol in the cotton field and to be maintained in the maintenance of the gossop. Changing such quality indicators of extradipater, in turn, also affects the quality indicators of extractory oil. One of the most important indicators of extractory oil is the number temperature, the number, color, color, indicating the amount of residual solvent in the oil. The concentration of Mistala, which is also important, and its spinning temperatures, which also play an important role in the extraction process. At the same time, the time of the progress of the extraction process is necessary to take into account. In traditional technology For 90-100 minutes, the process directly extracted is carried out in 120-180 minutes. Another factor influencing the process of extraction is the dimensions of raw material particles approving extraction. The particle dimensions are good to increase the surface of the extraction, but in turn affects the full extraction process, which also affects the progress of particle size. Based on the above, the dynamics of the dynamics of the dynamics of extraction of the particle of solving cotton oil was formed as a purpose for analysis of the dynamics of the particle, the brine of extractory oil and the acid number indicators. Figure 1 shows that the concentration of Mistala solving compositions.

As we can see from the picture, the increase in extract gasoline in the stage extraction process is an increase in the share of extract gasols in the steady compositions revealed the impact on the increase in the composition of oil in Mistal. In this case, if the Mistal Composition in EC-1 composition was 31.67%, the share of extract gasoline was 35.5% in the composition with the 90:10 (EC-5). The increase in the amount of ethanol was reduced by 30.90 (Ec-9) composition in 10.90 (EC-9) composition. The process was carried out with extract gasoline in the EC-10 composition chosen as a clean solvent, and the highest rate is 35.75%, while in ethanol is 3,12%, and in ethanol is 3,12%. At the same time, the increase in the share of extract gasoline in the compositions is analyzed by the increase in the Mistral Mistal Composition from the first state to 3.87%.

Concentration planning, % (м. н.)	ЭК-1	ЭК-2	ЭК-3	ЭК-4	ЭК-5	ЭК-6	ЭК-7	ЭК-8	ЭК-9	ЭБ
ЭБ+ЭТ	31,67	31,86	33,59	34,88	35,54	32,62	31,43	30,72	30,48	35,75
ЭТ										31,63
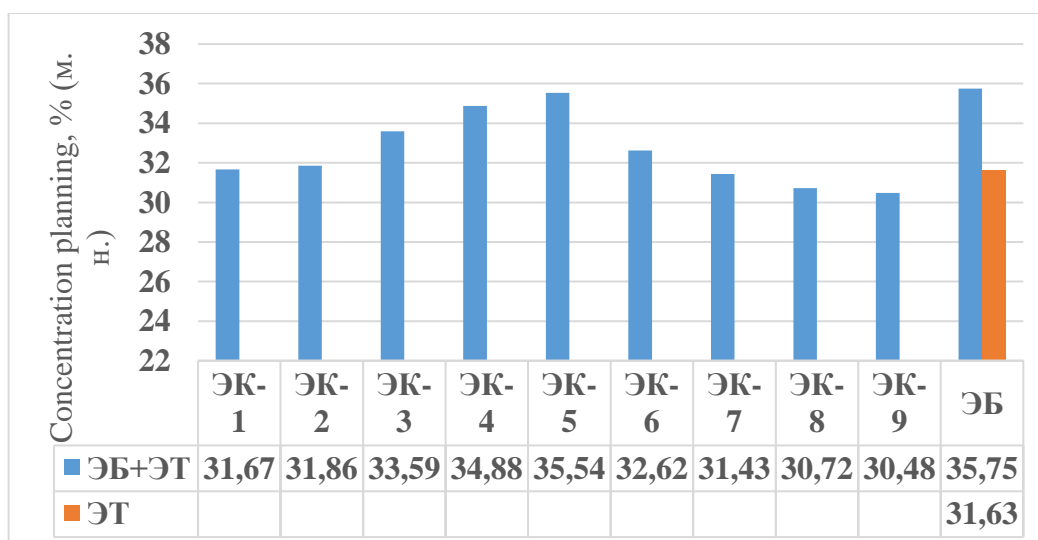
Figure 1. Dynamics of changes in connection with the solvent composition of Mistral Concentration

The indicators of extractory oil are also involved using cotton oil simply extraction compositions. One of the most important indicators of extractory oil is an indication of oil acid. The following picture shows that the solvent composition depends on the number of extractory oil extractory oil.

	ЭК-1	ЭК-2	ЭК-3	ЭК-4	ЭК-5	ЭК-6	ЭК-7	ЭК-8	ЭК-9	ЭБ
ЭБ+ЭТ	3,21	3,48	3,54	3,82	4,15	2,81	2,73	2,64	2,32	4,33
ЭТ										3,47
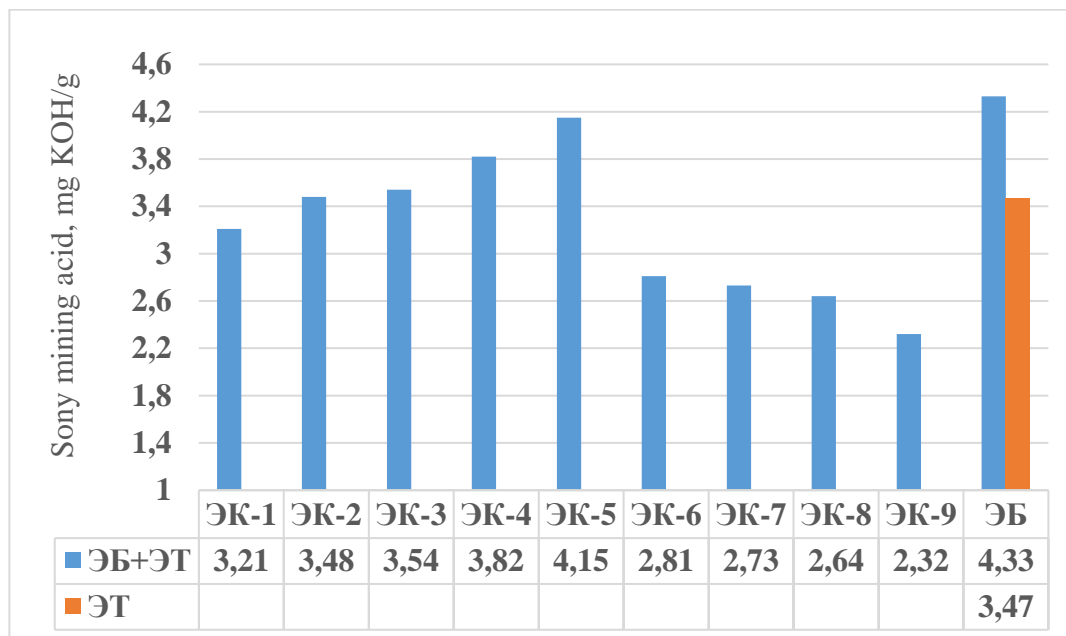
Figure 2. The dependence of extraction oil to the melting of the acid composition

The graph shows that the process of extraction process with clean solvents was 4.33 mg of noble in extraction gasoline, less than 3.47 mg of less than 3.47 mg. The increase in extraction gasoline from 10% to 90% in the solvent composition increased from 10% to 90% to 8,25 mg / g 4,15 mg to 4.15 mg. Also, as the share of ethanol in the solving composition, the share of iaanol was reduced from 90% to 10% in accordance with extract gasoline, decreased decrease in oil. In the solvent composition (EC-9) 10:90, the number of oil is 2.32 mg KH / g, this value was 3.21 mg No. to be 3.21 mg.

Conclusion. Studies have shown that the use of solvent rubles instead of a type of cotton oil. The increase in the share of extract gasoline in the melting composition proved that the Mistral concentration is accurately proportional to change the number of oil acid.

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