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CHANGES IN THE BIOLOGICAL CHARACTERISTICS AND QUALITY INDICATORS OF WHITE HUSSAIN AND HUSSAIN BRIDE FINGER VARIETIES STORED UNDER LOCAL CONDITIONS

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Abstract: The article scientifically analyzed the changes in the biological properties and quality indicators of table grape varieties (Aq Husayni and Husayni Kelin finger) stored using traditional methods in local conditions. During the study, the sugar content, pH environment, and storage period were studied. The results showed a sharp increase in the storage period with an increase in the sugar content in grapes. Also, slight changes in the pH environment were observed during the storage process. The data obtained will serve as a scientific basis for increasing the efficiency of grape storage, improving traditional methods, and expanding export potential.

Keywords: methodology, grape berry hardness, dry matter content, temperature, pH environment, spillability , grapes, storage, sugar content, biological properties, traditional methods.

Login. The world row in countries grapes harvest storage and quality stabilization according to different innovative technologies current to grow on the surface scientific research take In particular , in the USA , Dr. Renee Threlfall developed “ Cryopreservation ” (freezing) storage) method , feeder from substances using oxidation reduce and MAP packages using storage the deadline extension in the direction of research take visited in Germany biotechnology and genetic modification based on to keep resistant new varieties is being created in China and chemical substances instead of biological protection and energy economical technologies application wide is developing .

With this together, world on a scale working issued grapes of the harvest at least 15–18 percent wrong harvest and storage technologies because of perish what is happening record This is effective storage technologies create and there is methods improvement requirement will reach.

Uzbekistan In the Republic viticulture field develop and the harvest good quality storage especially on issues attention In particular, for the years 2022–2026 "New Uzbekistan " is intended progress strategy in the village farm scientific basically intensive development, resources reasonable use and export size expansion tasks This is defined. Chapter III, Objective 30 of the document states that “Rural farm scientific basically intensive develop through farmer and farmers income at least two even increase and village farm annual growth at least 5 percent " delivery " task showing passed.

Also , Uzbekistan Republic Presidential Decree No. PQ-5037 of March 23, 2021 “ On Viticulture and winemaking network further develop measures " about " in the document grapes harvest to collect , to store and again at work modern technologies current to grow, local

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varieties export potential increase tasks by designating issued in Resolution No. PQ-289 of June 24, 2022 and village farm products storage according to modern logistics systems to develop circle complex measures in the eye caught .

This point of view from the point of view, local under the circumstances traditional in methods stored food grapes varieties biological features and quality in the indicators changes scientific basically study This is a pressing issue. not only the harvest disappearance level reduces, maybe in our country food safety provide and export size to increase service The scientific research work we are conducting will undoubtedly contribute to a certain extent to ensuring the implementation of the above decisions and decrees. [1].

Materials and methods of research. The effect of different temperature regimes on selected grape varieties (for example, 5 °C, 10 °C, 15 °C), taking samples every 7-10 days, studying the physicochemical parameters of grapes (sugar content, pH environment), studying the resulting changes and determining the effect of temperature on the shelf life were studied, and 3 variants and 3 replicates were studied for each variety.

The varieties of Aq Husayni and Husayni Kelin Barger were selected for the study. The following quality indicators were studied: sugar content - by refractometry, based on ISO 2113-2013 standards, pH environment - determined in laboratory conditions using a pH meter, dry matter content - by refractometry, based on three repeated analyses, juice was prepared from 5–10 berries for each analysis. The results were expressed as average values.

Results and discussion. Relationship between storage life and sugar content. White Husayni variety was stored for 22 days at a sugar content of 15%, and up to 120 days at a sugar content of 20%. Husayni kelin finger in the genre and 15% sugar 20 days, 20 % sugar up to 116 days saved.

Table 1

Sugar content storage for the period connection

Sugar amount, %	White Husayni (day)	Husseini bride finger (day)
15	**22**	**20**
16	**32**	**35**
17	**57**	**56**
18	**93**	**87**
20	**120**	**116**

From the table apparently It is clear that both grapes sugar in any form amount average 18 % gap organization This indicator of grapes biological features and agrotechnician to the conditions directly White the truth in the genre sugar amount of 20% organization if it does, the fruits storage deadline usually 210 days organization does. Save in the process humidity and temperature to the conditions relatively sensitivity because of faster quality loss possible. Husayni's bride finger in the genre sugar amount a little when the top 20 % this of the variety storage The term is 116 days. the day organization does. In general, when you get it, sugar amount high was in varieties cell inside osmotic pressure stability because of fruits farther term quality save to remain in experiments was determined. With this together, temperature and humidity normative at the level to be storage for the period noticeable impact shows.

Table 2

White Hussain and Husayni's bride finger varieties sugar and pH environment changes

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Indicators	**White Husayni (before)**	**Husseini bride finger (before)**	**White Hussaini (after)**	**Husseini bride finger (after)**
Sugar amount, %	20.1	21.83	22.1	22.5
pH environment	5.72	5.77	5.65	5.68

From the table apparently It is clear that both keep in stock from the process then sugar amount increases and pH of the environment decrease is observed.
Sugar content: White the truth in the genre was originally 20.1 % sugar amount storage from the process then up to 22.1% increased. Husayni's bride finger in the genre and from 21.83% to 22.5% This is a change fermentative and biological processes on account of to the surface come and save in the process of water known at the level evaporation as a result sugar amount relative increase with pH environment: White the truth pH range from 5.72 to 5.65 decreased. Husayni's bride finger in the genre and from 5.77 to 5.68 decreased . This change on the vine organic acids (mainly tartaric) and malic acids) storage in the process relatively increase or in them biochemical balance with related. Generally when you get it, sugar amount increase and pH level decrease of grapes biological maturity process continue to reach shows. This is of fruits taste adjectives strengthen them, preservation also known for his ability at the level positive impact shows.

CONCLUSION

The conducted studies have shown that biological and biochemical processes continue in the Aq Husayni and Husayni Kelin Barger grape varieties stored in local conditions, and they have a significant impact on the quality indicators of the product.

1. The increase in sugar content (from 20.1% to 22.1% in the Aq Huaydini variety, and from 21.83% to 22.5% in the Husayni Kelin Barger variety) is mainly explained by water evaporation, the breakdown of polysaccharides into simple sugars, and enzymatic processes. This increases the sweetness of the grapes and improves their taste.
2. The decrease in pH (from 5.72 to 5.65 in the Aq Huaydın variety, from 5.77 to 5.68 in the Husayni Kelin Barger variety) occurs during storage as a result of changes in the balance of organic acids, respiration, and biochemical reactions. This can slow down the development of some microorganisms.
3. The shelf life is directly related to the sugar content, and it has been found that at 15% sugar, it is extended to 20–22 days, and at 20%, it is extended to 116–120 days. Therefore, determining the sugar content of the fruit before storage allows us to predict the shelf life of grapes.

In general, a thorough analysis of changes in the biological properties and quality indicators of berries during traditional grape storage in local conditions is of great importance in determining their optimal storage period, reducing losses, and maintaining product quality. These scientific results will serve as a theoretical and practical basis for improving technologies for storing grapes in resource-saving and environmentally friendly conditions in the future.

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