THE INFLUENCE OF DRYING SEEDLESS VARIETIES OF GRAPES BY DIFFERENT METHODS ON THE YIELD AND QUALITY OF THE FINISHED PRODUCT

Sh. Y. Dehkonova [1] **,**

O. N. Sulaymanov **,**

G. A. Artikova [2] **.**

[1] *Andijan village farm and Institute of Agrotechnology , ,* [2] *Fergana State Technical University undergraduate*

Abstract: *In the course of studying the mechanical composition and organoleptic value of finished grape products from seedless grape varieties dried using various drying methods, research was conducted to determine the mass of 100 raisins, raisin size (length, width, mm), and tasting score (score) of raisin grape varieties grown in the Fergana region without sun drying (control).*

Key words: *grapes, seedless varieties, drying methods, yield, quality.*

Annotation: *During the study of the mechanical composition of grape products in the Fergana region, mainly 100 raisins, raisons (raisions , ei , mm), tasting prices based on the mechanical composition of grape grape varieties in various methods (points), research has been held.*

Keywords: *grapes, seeds without springs, drying methods, productivity, quality.*

Annotation: *during the study of the mechanical composition of vineyard products in the Fergana region, in the main 100 varieties, Raisions (Raisions , EI, MM), degustation prices based on the mechanical composition of grapevine varieties and different methods (tochki), research was carried out.*

Key words: *vinograd, semena bez spring, metody sushki, proizvoditelnost, kachestvo.*

In our country, scientific research related to the cultivation of fruit and grape crops, their storage, processing, including drying, was carried out by scientists such as Sh. Temurov , M.M. Mirzaev, R.M. Abdullaev, A.F. Safarov, Zh.M. Kurbanov, A.Kh. Mamatkulov, Zh.N. Faiziev, Z.S. Iskandarov, M.I. Odinaev, B.A. Abdusattorov, N.S. Yusupov, and Zh.A. Shamshiev.

In Uzbekistan, a number of scientists have also conducted research on grape drying and achieved certain results. However, there is not enough scientific research on the impact of grape drying methods on the quality of the finished product. The Development Strategy of the Republic of Uzbekistan for 2022-2026 pays special attention to "... increasing the income of peasants and farmers by at least 2 times through intensive development of agriculture on a scientific basis, increasing the annual growth rate of agriculture to at least 5%, in particular, by 2026, increasing the volume of food products to 7.4 million tons and the level of processing of fruits and vegetables to 28% [1]." Ensuring the implementation of these tasks, including achieving high efficiency by drying seedless grape varieties in various ways and producing quality products, is of great importance.

According to the results of research conducted on the farm in 2022–2024, the mass of 100 raisins in the Kishmish Batir variety during sun drying without treatment was 41 g. The length of the raisins was 8.9 mm and the width was 2.3 mm, and the tasting score was 82.0%. This indicator was lower than that of the Kishmish pink variety, which was evaluated as a control. In the control group, the mass of 100 raisins in the Kishmish pink variety during sun drying without treatment was 43 g, the length was 7.7 mm and the width was 2.6 mm, and the tasting score was 80.3%.

[1] *https://businesstat.ru*

Table 1

Mechanical composition and organoleptic assessment of dried grape products (2022-2024)

Varieties	Weight of 100 raisins, g	The size of the raisin, mm		Tasting price , points
		height	sister	
Sun drying (control)				
Kishmish Batir	41± 0.60	7.1±0.10	2.3±0.03	82.0
Pink raisins	43± 0.79	7.7±0.11	2.6±0.04	80.3
Black raisins	47± 0.69	8.9±0.13	3.3±0.05	88.3
Kishmish Sogdiana	84± 1.08	9.5±0.14	3.9±0.08	82.3
's a raisin .	40± 0.64	6.3±0.09	2.7±0.06	87.4
ECF $_{05}$	1.6	0.2	0.1	–
S $_x$ %	0.5	0.5	0.7	–
Shade drying				
Kishmish Batir	44±0.65	7.2±0.11	2.1±0.03	90.7
Pink Kishmish	45±0.82	7.8±0.11	2.9±0.04	86.3
Black Kishmish	49±0.72	8.1±0.12	2.9±0.04	90.3
Kishmish Sogdiana	87±1.12	10.5±0.15	3.3±0.07	82.8
White Kishmish	41±0.65	7.3±0.11	2.3±0.05	90.4
ECF $_{05}$	1.7	0.2	0.1	–
S $_x$ %	0.5	0.5	0.7	–
Stack drying				
Kishmish Batir	42±0.62	6.8±0.10	2.0±0.03	88.0
Pink raisins	43±0.79	7.4±0.11	2.8±0.04	83.7
Black raisins	47±0.69	7.7±0.11	2.8±0.04	87.6
Kishmish Sogdiana	83±1.07	10.0±0.15	3.1±0.06	80.3
's a raisin .	39±0.62	6.9±0.10	2.2±0.04	87.7

ECF $_{05}$	1.6	0.2	0.1	–
S $_x$ %	0.5	0.5	0.7	–
Drying in an artificial dryer (at a temperature of 50°C)				
Kishmish Batir	47±0.69	7.7±0.11	2.2±0.03	88.9
Pink raisins	48±0.88	8.3±0.12	3.1±0.05	84.6
Black raisins	52±0.77	8.7±0.13	3.1±0.05	88.5
Kishmish Sogdiana	93±1.20	11.2±0.16	3.5±0.07	81.1
's a raisin .	44±0.70	7.8±0.11	2.5±0.05	88.6
ECF $_{05}$	1.8	0.3	0.1	–
S $_x$ %	0.5	0.5	0.7	–

The drying method differs from other methods in that when drying in an artificial dryer (50 °C), the largest weight of 100 raisins was in Kishmish Sogdiana, which was 93.0 g, the size of the raisins was 11.2 mm long and 3.5 mm wide, and the tasting score was 81.1 points. The lowest indicator was in Kishmish Belyy variety, which was 44 g, 7.8 mm long and 2.5 mm wide, and the tasting score was 88.6 points.

When we dried the raisin grape varieties grown during the study in 2022-2024 using four methods, the results show that products dried using the shade method have a significant advantage over products dried using other methods in terms of their organoleptic and marketability indicators.

The effect of the drying method of seedless grape varieties on the yield and quality of the finished product was studied in 2022-2024. The drying duration, the yield of the finished product, and the moisture content of the dried product were studied depending on the drying method. According to these results, the drying time of the Kishmish Batir variety without treatment in the sun (relative to the control) was 32 days, when dried in the shade it was 48 days, when dried in the stack method it was 28 days, and when dried in an artificial dryer (at a temperature

of 50°C) it was 3 hours (see Table 2).

Table 2

Effects of different drying methods on the yield and quality of seedless grapes (2022-2024)

Drying method	Indicators			
	duration of drying, days	finished product	moisture of dried product,	organoleptic assessment of the dried
Kishmish Botir variety				
Sun drying (control)	32	23 ,1	18.3	82.0
Shade drying	48	24.2	19.3	90.7
Stack drying	28	22.8	18.6	88.0
Drying in an artificial dryer (at a temperature of 50°C)	3	21.4	17.6	88.9
Kishmish Rozovy variety				
Sun drying (control)	31	22.4	19.2	80.3
Shade drying	46	23.1	19.4	86.3
Stack drying	26	24.7	18.8	83.7
Drying in an artificial dryer (at a temperature of 50°C)	4	21.8	17.8	84.6
Kishmish chyornyy variety				
Sun drying (control)	29	26.2	18.0	88.3
Shade drying	42	29.1	19.3	90.3
Stack drying	28	22.1	19.8	87.6
Drying in an artificial dryer (at a temperature of 50°C)	4	25.6	18.3	88.5

Kishmish Sogdiana variety				
Sun drying (control)	34	23.6	19.3	82.3
Shade drying	43	28.7	19.6	82.8
Stack drying	33	14.25	18.3	80.4
Drying in an artificial dryer (at a temperature of 50°C)	4	23.2	18.5	81.1
Kishmish bely variety				
Sun drying (control)	21	24.6	17.8	87.4
Shade drying	38	25.3	18.7	90.4
Stack drying	33	28.5	19.1	87.7
Drying in an artificial dryer (at a temperature of 50°C)	3	25.2	18.0	88.6

During the studies, the yield of the finished product for this variety was in the range of 23.1-21.3%, with the highest yield being found in shade drying. The moisture content of the dried product was in the range of 17.6-18.3%, with the moisture content of the finished product being higher, and of course the organoleptic rating of the dried product was 90.7 points for the same variety and shade-dried product.

According to the results of the experiment, the duration of drying in the Kishmish chyorny variety was 29 days without processing in the oven, 42 days in the shade method , 28 days in the stack method , and 4 hours in the artificial drying device (at a temperature of 50°C) .

Conclusion: The results of the studies on the Kishmish Sogdiana variety show that the drying time in the sun without treatment was 34 days, drying in the shade was 43 days , drying in the stack method was 33 days, and drying in an artificial dryer was 4 hours. The yield of the finished product was in the range of 23.6-23.2 percent, and the highest yield of the finished product was

determined in the shade method. The moisture content of the dried product was in the range of 19.3-18.5 percent, and it was determined that the moisture content of the product dried in the stack method was higher. The organoleptic rating of the dried product was determined as 82.8 points when dried in the shade method. At the same time, the tasting rating of the product dried in the sun without treatment was estimated with a slight difference, namely 82.3 points.

Used literature

1.Dehqonova Sh.Y., S.Xalilova Quritilgan uzum mevasining foydali xususiyatlarini aniqlash va zamonaviy quritish usullarining istiqbollari / “Qishloq xo’jaligida resurs tejovchi innovatsion texnologiyalardan samarali foydalanishning ilmiy-amaliy asoslari” mavzusidagi Xalqaro ilmiy va ilmiy-texnik anjuman. (2023-yil). №2.- Andijon- 2023 B.158-161.

2. Дехканова Ш.Ю., Юсупов Н.Ш., Журабаева Ш.М. Анализ естественнова уменшения столовых сортов винограда (сорт хураки) в процессе хранения в холоделных помещениях / Естественно-научные и технические исследования как основной фактор развития инновационной среды. Сборник научных трудов по материалам Международной научно-практической конференции (2021). – С. 27-31.

3. Деҳқонова Ш.Ю. Қуритилган узум меваси қайта ишлашнинг янги ва истиқболли тенденциялари// “Янги Ўзбекистон тараққиётида тадқиқотларни ўрни ва ривожланиш омиллари” мавзусидаги Республика миқиёсидаги илмий-амалий конфренция материаллари 11-тўплам 1-сон, сентябр. – Қўқон, 2024. – 415-420 б.

4. Dehqonova Sh.Y. Urug’siz uzum navlarini soyaki usulda quritish texnologiyasini takomillashtirish. / Tavsiyanoma. ”Poligraft Super servis” MCHJ Farg’ona.2024 yil.10B.

5. *Azizov, A., Abdusattorov, B.A. Study of the effect of different grape guard sheets for the storage of "toyfi" variety of grape. Journal of Advanced Research in Dynamical and Control Systems, 2020, 12(7 Special Issue), страницы 2189–2194.*

6. Г.А.Ортикова, Ш.Ю.Дехконова, О.Н.Сулаймонов, Volume 3, Issue 1, January – 2025 **ISSN (E):** 2938-378123 | P a g e The effect of the interval of application of ventilation system on drying duration of seedless grape varieties by shield drying