American Journal Of Agriculture And Horticulture Innovations
(ISSN – 2771-2559)
VOLUME 04 ISSUE 02 Pages: 46-50
SJIF IMPACT FACTOR (2021: 5. 705) (2022: 5. 705) (2023: 7. 471)
OCLC – 1290679216
Crossref doi Google Scholar WorldCat MENDELEY
Publisher: Oscar Publishing Services

Journal Website: https://theusajournals.com/index.php/ajahi

Research Article

THE INFLUENCE OF THE USE OF GROWTH SUBSTANCES ON THE CHEMICAL COMPOSITION OF SULTANAS' GRAPE JUICE

Submission Date: February 19, 2024, Accepted Date: February 24, 2024,
Published Date: February 29, 2024
Crossref doi: https://doi.org/10.37547/ajahi/Volume04Issue02-08

K.S. Sultanov
Tashkent State Agrarian University, Uzbekistan

P.E. Egamberdiev
Gulistan State University, Uzbekistan

I.S. Jo'lbekov
Gulistan State University, Uzbekistan

ABSTRACT

In this article, the effect of the application of growth substances on the chemical composition of grapes on the chemical composition of grapes is studied. The best result is that two times in the vineyard, the growth substances had a significant effect on the sugar content and acidity of the grape bunches.

KEYWORDS

Grape head, cluster, chemical composition, sugar content, flesh and juice, bandi, peel, growth substances, raisin.

INTRODUCTION

As a result of scientific research aimed at the development of viticulture, which is an important branch of world agriculture, the development of optimal standards for the use of the best growing substances to increase the yield and quality of grape varieties remains one of the current problems [1]. In order to find a solution to these scientific problems, various scientists are carrying out scientific research, including Viticulture and Enology Research Center (USA, California, W.M. Kliewer), Research Institute of Horticulture, Viticulture and Winemaking (Georgia, Howell. G.S), Instituto Nacional de Tecnología Agropecuaria (Argentina, Poni S, Casalini), Research Institute of Viticulture, Winemaking and Fruitcrops (Armenia, Chalak S.U., Kulkari S.S.) [2]. Many researchers who worked in Uzbekistan conducted

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scientific research on the dependence of the method of growing grapes on growing substances. D.I. Baulin, M.G. Tsetlin, A. Adylbekov, N. Buzin, V.I. Garboch, R.Yu. Soldatova, A. Mirzaev, G.I. Khaydarkulov, M.R. Musamukhammedov, K.S. Sultanov, J.N. Fayziev and O'.O. Ochildiev, A.M. Malikov, P.E. The Egamberdievs carried out various scientific researches on increasing the yield of grapes [3]. However, no studies have been conducted on the dependence of growing substances on the chemical composition of the grape head in the cultivation of young varieties of grapes by the traditional method [4; 5].

The development and implementation of optimal standards for the influence of grape clusters on the quality and the dependence of physiological and biochemical processes on growing substances in the cultivation of ripe varieties remains an urgent task, and its solution will allow solving a number of problematic issues that allow obtaining a high and high-quality harvest from vineyards.

The subjects of the study were grapes of Kishmish chery, Kishmish belyy ovalnyy, Kishmish sogdiana, F1 Black raisin, F1 White raisin and F1 Pink raisin varieties, as well as the standards of growing substances.

Research materials and method. The experiments were developed by Kh.Ch.Boriev, N.Sh.Enileev and others "Methodology of calculations and phenological observations during experiments with fruit and berry-bearing plants" (2014), M.A. Lazarevsky's "Metody botanicheskogo opisania i agrobiologicheskogo izucheniya sortov vinograda" " (1946), "Izuchenie vinograda dlya opredelenia ego ispolzovaniya" (1963) by N.N. Prostoserdov, conducted according to the recommendations and methods presented in the methodical literature.

Statistical analysis of research results was calculated in Excel 2010 and Statistica 7.0 for Windows computer programs with a confidence interval of 0.95% according to the method shown by B.A. Dospekhov.

Analysis and results. The influence of growing substances on the chemical composition of Kishmishbop grape varieties, sugar content, acidity, pH content, Carbohydrates (total) and Vitamin content of grape bunches were studied. The results of the conducted experiments showed that in the untreated (control) variant of Kishmish chery grapes, sugar content was 17.7%, acidity was 7.0 g/l, pH was 3.4%, carbohydrates (total) were 18.2%, and vitamins B1 0.001, B6 0.005 It was determined to be mg/ml. Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) When applied 10 days after flowering, sugar content was 0.4% higher, acidity was 0.6 g/l lower, pH was 0.2% lower, carbohydrates (total) were 0.7% higher and vitamin B1 content was higher than the control. , B6 was found to be less than 0.1%.

Kishmish bely ovalny grape variety in the untreated (control) variant has a sugar content of 17.6%, acidity 5.3 g/l, pH 3.39%, carbohydrates (total) 23.7% and vitamins B1 0.002, B6 0.004 mg/ml was found to be Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) When applied 10 days after flowering, sugar content was 0.6% higher, acidity was 0.4 g/l lower, pH was 0.2% lower, carbohydrates (total) were 0.2% higher and vitamin B1 0 compared to the control. .1% less, B6 was returned to be equal.

The Kishmish Sogdiana variety of grapes in the untreated (control) variant has a sugar content of 24.7%, acidity of 6.3 g/l, pH value of 3.53%, carbohydrates (total) of 19.1%, and vitamins B1 0.001, B6 0.005 mg/ml. was determined to organize.

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Cultivator Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 0.56% higher sugar content, 0.5 g/L less acidity, 0.21% lower pH, 0.6% higher carbohydrate (total) and B1 vitamin content compared to the control when applied 10 days after flowering %, B6 was observed to be less than 0.1%.

Grape F1 Black Raisin variety in untreated (control) sugar content 22.4%, acidity 7.0 g/l, pH 3.99%, Carbohydrates (total) 22.0% and vitamins B1 0.004, B6 0.006 mg/ml was found to be Cultivator Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 0.8% higher sugar content, 0.5 g/l lower acidity, 0.5% lower pH, 0.4% higher carbohydrates (total) and 0.4% higher vitamin B1 content than the control when applied 10 days after flowering. 0.1% and B6 0.1% was observed to be less. Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummate 200 mg/l, Phytovak 100 mg/l, Magnesium 50 mg/l for grape growing. 4% more, acidity 0.9 g/l less, pH 0.8% less, carbohydrates (total) 0.9% higher, and vitamin B1 0.1% and B6 0.2% less.

The effect of growing substances on the chemical composition of Kishmishbop grape varieties (Experiment 2. 2021-2023).

№	Options	Blood sugar, %	Acidity, г/л	pH quantity %	Carbohydrates (total) %	Amount of vitamins, mg/ml				
						B_1	B_2	B_6	B_{12}	PP
Kishmish black variety										
1	Untreated (control)	17,7	7,0	3,4	18,2	0,001	-	0,005	-	-
2	Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 10 days after flowering	18,1	6,4	3,2	18,9	0,001		0,004		
3	Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l, (2) When the color starts to enter	18,7	5,9	3,1	19,3	0,001	-	0,004	-	-
Kishmish white oval										
4	Untreated (control)	17,6	5,3	3,39	23,7	0,002		0,004		
5	Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 10 days after flowering	18,2	4,9	3,1	23,9	0,001		0,004		
	Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l, (2) When the color starts to enter	19,1	4,3	2,7	24,3	0,001		0,004		

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Kishmish Sogdiana										
1	Untreated (control)	24,7	6,3	3,53	19,1	0,001	-	0,005	-	-
2	Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 10 days after flowering	25,2	5,8	3,32	19,7	0,001	-	0,004	-	-
3	Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l, (2) When the color starts to enter	26,2	5,2	3,01	20,2	0,001	-	0,004	-	-
F1 Black Kishmish										
5	Untreated (control)	22,4	7,0	3,99	22,0	0,004	-	0,006	-	-
	Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 10 days after flowering	23,2	6,5	3,4	22,4	0,003		0,005		
	Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l, (2) When the color starts to enter	23,8	6,1	3,1	22,9	0,003		0,004		
F1 White Kishmish										
1	Untreated (control)	21,2	6,8	3,70	20,7	-	0,001	0,003	-	0,003
2	Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 10 days after flowering	21,8	6,2	3,4	21,1	-	0,001	0,002	-	0,002
3	Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l, (2) When the color starts to enter	22,4	5,9	3,1	21,8	-	0,001	0,003	-	0,003
F1 Pink Kishmish										
4	Untreated (control)	22,3	6,5	3,53	20,3	-	--	--	-	0,003
5	Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 10 days after flowering	22,8	6,1	3,2	20,7					0,002
	Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l, (2) When the color starts to enter	23,3	5,7	2,9	21,2					0,002

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F1 white raisin grape variety in untreated (control) sugar content 22.2%, acidity 6.8 g/l, pH 3.70%, carbohydrates (total) 20.7% and vitamins B6 0.001, B6 0.0036 g RR was found to be 0.003 mg/ml. Cultivator Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 0.6% higher sugar content, 0.6 g/l lower acidity, 0.3% lower pH, 0.4% higher carbohydrate (total) and 0.4% higher vitamin content compared to the control when applied 10 days after flowering. compared to the control variant, when used at the beginning of its introduction, the amount of sugar is 1.4% more, the acidity is 0.9 g/l less, the pH is 0.6% less, carbohydrates (total) are 1.1% higher and the amount of vitamins is equal to B2, equal to B6 and RR was equal. It was observed that B2 is equal, B6 is 0.1% and RR is 0.1% less. Hosilin extra 25 mg/l, Bornaic acid 50 mg/l, Cytogummat 200 mg/l, Fitovak 100 mg/l, Magnesium 50 mg/l for grape growing

F1 Pink Raisin grape variety in the untreated (control) variant has a sugar content of 22.3%, acidity of 6.5 g/l, pH of 3.53%, Carbohydrates (total) of 20.3%, and only RR of vitamins is 0.003 mg/ml was determined to do. Cultivator Hosilin extra 25 mg/l, Succinic acid 50 mg/l, NPK 125 mg/l, Calcium 100 mg/l, Phytactive Plant 50 mg/l. (1) 0.5% higher sugar content, 0.4 g/L lower acidity, 0.3% lower pH, 0.4% higher carbohydrates (total) and 0.4% higher vitamins than control when applied 10 days after flowering Returned to be less than 0.001 mg/ml. When the grape bunches start to color, when the second growth agent is applied, the sugar content is 1.0% higher, the acidity is 0.8 g/l lower, the pH is 0.4% lower, the carbohydrates (total) are 0.9% higher and the vitamin content is higher than the control option. the amount of vitamins was observed to be equal to RR (Experiment 2. 2021-2023).

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