



PRODUCTIVITY OF RASPBERRY VARIETIES

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ABSTRACT

This article examines the productivity indicators of raspberry varieties grown in the conditions of Uzbekistan. The average weight of fruits of raspberry varieties, the weight of the largest fruits, the weight of 100 fruits, the yield per bush and the productivity per hectare were analyzed.

KEYWORDS: *raspberry varieties, weight of one fruit, weight of the largest fruit, weight of 100 pieces of fruit, yield per bush, productivity.*

INTRODUCTION

Raspberry productivity depends on the specific characteristics of each variety, the number of branches on a raspberry bush, agrotechnical measures and planting schemes. The ripening period of the raspberry plant lasts a long time. It takes place in the same sequence as the formation and differentiation of flower buds. The fruits on the side branches near the tips of the branches ripen first, and the fruits on the lower part of the branch ripen next. After the raspberry is pollinated, a juicy berry is formed. Formed fruits are first green, then red, yellow and other colors depending on the variety [3].

Raspberry is a light-demanding plant that cannot tolerate shade for a long time. As a result of lack of light, the growth period of young branches is delayed, the number of fruiting branches decreases, the number of fruits and their mass decreases. At the same time, the taste qualities of the fruits and their biochemical composition deteriorate. As a result of low light, metabolic processes are disrupted and plants are easily affected by pests and diseases [2].

During the research period of 2019-2021, the productivity of raspberry varieties, that is, the yield of one bush, the weight of each fruit and the largest fruit, the weight of 100 fruits, and the total productivity per hectare were determined.

MATERIALS AND METHODS

The productivity of raspberry varieties was determined by using the method recommended by Kh.Ch. Buriev, N.Sh. Enileev and others [1]. In this case, the weight of the total crop is calculated every 4-5 days from the beginning of ripening according to each option. The average weight of raspberry fruit, the weight of the largest fruit, the weight of 100 fruits and the average yield per bush were determined in the first, second, fourth and last harvest.

RESULTS AND DISCUSSION

During the years 2019-2021, when the weight of raspberry fruits was determined, the average weight of one fruit in the Barnaulskaya variety was 2,7 g, and the weight of the largest

fruit was 3,8 g and the weight of 100 fruits was 264 g (Table 1).

Table 1

Quality indicators of raspberry varieties (2019-2021)

Varieties	yield per bush, gr	weight of one fruit, gr	weight of the largest fruit, gr	weight of 100 pieces of fruit, gr
Summer harvest				
Barnaulskaya	722,3±112,1	2,7±0,2	3,8±0,06	264,1±14,3
Vislukha	753,3±112,0	2,6±0,08	3,5±0,1	260,5±7,0
Sugana	1362,3±166,4	5,5±0,08	8,2±0,1	571,9±7,4
Isobilnaya	1094,3±167,7	4,9±0,1	6,6±0,1	502,1±5,7
Laszka	1270,3±215,1	5,3±0,1	8,2±0,1	568,3±6,5
Malboro	650,7±82,4	3,1±0,08	4,2±0,2	312,9±10,4
Polka	1281,7±127,9	5,0±0,2	8,0±0,1	525,6±6,6
Progress	1085,7±96,4	3,7±0,2	5,1±0,1	326,4±5,2
EKF05	8,7	0,2	0,1	5,3
Sx %	0,9	5,3	1,8	1,3
Autumn harvest				
Sugana	785±130,8	5,2±0,2	7,9±0,1	496,1±10,6
Polka	742±116,7	4,7±0,2	7,4±0,1	481,5±11,4
Progress	667±86,6	3,3±0,1	4,8±0,1	324,0±5,5
EKF05	6,2	0,1	0,1	7,1
Sx %	0,8	1,5	1,9	1,6

The average weight of one fruit of the Vislukha variety was 2,6 g, the weight of the largest fruit was 3,5 g and the weight of 100 fruits was 260,5 g. Among the varieties, it had the smallest index compared to other varieties. The rest of the varieties had high fruit weight, that is, the average weight of one fruit of the Malboro variety was 3,1 g, the weight of the largest fruit was 4,2 g and the weight of 100 fruits was 312,8 g. The average weight of one fruit of the Izobilnaya variety was 4,9 g, the weight of the largest fruit was 6,6 g and the weight of 100 fruits was 502,1 g. The average weight of one fruit of the Laszka variety was 5,3 g, the weight of the largest fruit was 8,2 g and the weight of 100 fruits was 568,3 g.

The average weight of one fruit of the Progress variety was 3,7 g, the weight of the largest fruit was 5,1 g and the weight of 100 fruits was 386,4 g. The average weight of one fruit of the Polka variety was 5,0 g, the weight of the largest fruit was 8,0 g and the weight of 100 fruits was 525,5 g. The largest result was recorded in the Sugana variety, the average weight of one fruit was 5,5 g, the weight of the largest fruit was 8,2 g and the weight of 100 fruits was 571,8 g.

In terms weight of one fruit, weight of the largest fruit and weight of 100 fruits of raspberry cultivars, Vislukha variety had the lowest value compared to other varieties, while Sugana variety showed the best results compared to other varieties.

During the years of research, when the productivity indicators of raspberry varieties were studied and analyzed, the average yield per bush of the Barnaulskaya variety was 722,3 g and the productivity per hectare was 68,6 s/ha (Tables 1 and 2).

Table 2

Productivity of raspberry varieties

Varieties	Productivity s/ha			
	2019	2020	2021	average M±m
Summer harvest				
Barnaulskaya	89,7	60,3	55,8	68,6±10,6
Vislukha	92,4	64,5	57,4	71,5±10,6
Sugana	160,2	120,0	107,9	129,4±15,8
Isobilnaya	135,3	92,9	83,6	103,9±15,9
Laszka	160,7	107,7	93,6	120,6±20,4
Malboro	76,9	57,7	50,7	61,8±7,8
Polka	145,8	112,6	106,8	121,7±12,1
Progress	119,7	101,6	88,0	103,1±9,1
EKF05	1,8	1,4	1,5	0,9
Sx %	1,4	1,5	1,7	0,9
Autumn harvest				
Sugana	98,3	69,0	56,3	74,5±12,4
Polka	91,4	66,5	53,5	70,4±11,1
Progress	78,6	60,9	50,4	63,3±8,2
EKF05	1,3	1,6	1,0	0,6
Sx %	1,4	2,3	1,8	0,8

Among the studied raspberry varieties, the yield of the Malboro variety showed the lowest result compared to other varieties and was shown as follows. The average yield per bush was 650,7 g and the productivity per hectare was 61,8 s/ha. In the Vislukha variety, the average yield per bush was 753,3 g and the productivity per hectare was 71,5 s/ha. In the Isobilnaya variety, the average yield per bush is 1094,3 g and the yield per hectare is 103,9 t/ha. The average yield per bush of Laszka is 1270,3 g and the productivity per hectare is 120,6 s/ha. In the Progress variety, the average yield per bush is 1085,7 g and the yield per hectare is 103,1 s/ha. In Polka variety, the average yield per bush is 1281,7 g and the productivity per hectare is 121,7 s/ha. The Sugana variety has the highest productivity index, with an average yield of 1362,3 g per bush and 129,4 s/ha of productivity per hectare.

Remontant varieties of raspberries produce twice a year. Therefore, during the years of research, the autumn productivity of raspberry varieties Progress, Polka, Sugana was determined. In this case, the average yield in the three years of the Progress variety was 667 g per bush and the yield per hectare was 63,3 s/ha. In the Polka variety, the average yield per bush was 742 g and the productivity per hectare was 70,4 s/ha. The productivity of the Sugana variety was higher than the other two varieties, the average yield per bush was 785 g and the yield per hectare was 74,5 s/ha. From the above data, we can see that the autumn yield in remontant varieties was significantly lower than the summer yield.

CONCLUSION

According to the results of the study, the Sugana variety of raspberry – 129,4 s/ha, the Polka variety – 121,7 s/ha and the Laszka variety – 120,6 s/ha showed higher results than other varieties. Malboro and Barnaulskaya varieties recorded a yield of 61,8-68,6 s/ha and had a

low yield index compared to other varieties. Sugana and Laszka varieties were superior to other varieties in terms of fruit quality.

References:

1. Buriev Kh.Ch., Enileev N.Sh and others. Methods of calculations and phenological observations in conducting experiments with fruit and berry-bearing plants. - Tashkent: ToshDAU, 2014. - P. 37-40.
2. Kazakov I.V., Evdokimenko S.N. Raspberry remontant. - Moscow: GNU VSTISP, 2007. - P. 8-271.
3. Yaroslavtsev E.I. Raspberry. - Moscow: Agropromizdat, 1987. - 207 p.
4. Islamov S., Zuftarov E. Study of heat resistance of raspberry varieties. European Journal of Agricultural and Rural Education – 2022. P.1-3.