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Selection of Samples of High-Yielding Varieties of Cherry Tomatoes

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Abstract: In the greenhouses of the country, it is important to select varieties of cherry tomatoes that are resistant to diseases, providing high yields and quality products, viable in local climatic conditions, to study the optimal timing and methods of planting and to strengthen exports. Since recently, cherry tomatoes have become known in the country for their high quality, richness in vitamins, good storage and long-distance transport, as well as their frequent use in the food industry in manufacture of various products. However, this sort of tomatoes is distinguished by its limited range of varieties, expensive seeds and high cost of the product. Therefore, cultivation of high-quality and inexpensive crops of cherry tomatoes faces a challenge to identify high-yielding disease-resistant varieties, as well as to creat local varietal samples and establish primary seed production. The aim of the research is to explore technology for growing high-yielding, disease-resistant tomatoes, able to meet the needs of local consumers and export-oriented varieties. The research was conducted in 2019-2021 in the greenhouse of the Department of «Horticulture and viticulture» of Tashkent State Agrarian University, biolaboratory «Yuldosh qizi Umida» in Kamashi district of Kashkadarya region. There, 11 varieties specimens of cherry tomato were studied by farm valuable traits and by planting in different planting schemes. The study of tomato varieties specimens was conducted on the basis of methodological manuals and recommendations.

Keywords: tomato. variety, greenhouse, growing, cherry, small fruit.

Introduction

Tomato is one of the main vegetable crops grown in greenhouses. It is grown in winter greenhouses in different periods (autumn-winter, winter-spring, transitional and long-term). It is important to eliminate the existing problems and shortcomings of greenhouse vegetable growing in our country, introduce modern technologies into production, and find factors that increase productivity. This requires an in-depth study of all technological elements, such as the biological properties of tomatoes, the conditions provided for their cultivation in greenhouses at different times, the correct selection of varieties, caring for plants, and the ability to use them in production conditions to obtain a high yield[1].

According to the forecast of “Modern greenhouse” LLC organization about the development perspectives of greenhouses in the Republic of Uzbekistan in 2018 - 2030, the volume of

Yunusov S.A. Growing tomatoes in greenhouses. (Set of 100 books). Publishing house "Tasvir" - 2021. 80 pages.[1]

greenhouses production in the world is estimated at US$ 12.6 billion with an annual growth rate of 11 percent. By the year 2030, 65-70 thousand hectares of modern greenhouse complexes will operate in the country. In the years of 2018-2030 average 4230.8 hectares annually and total 55 thousand hectares of greenhouse complexes will be established. The main products of these complexes will be vegetables (tomatoes, cucumbers, greens, peppers, etc.), vegetable seedlings, flowers and citrus (lemon and tangerine) plants. At the present the area where tomato is grown has extended over 3.0 mln hectares in the world, its yield is 70-100 t / ha in the open field, 180-200 t / ha in greenhouses and 250-350 t/h in hydroponics[2].

In the State Register of Agricultural Crops recommended for planting on the territory of the Republic of Uzbekistan in 2020, 136 varieties of tomatoes are zoned for planting in protected areas, of which 10 varieties and 126 first-generation hybrids. Only 2 hybrids and 5 varieties of cherry tomatoes are zoned in the state register. This will certainly contribute to the selection, evaluation and selection of promising cherry tomato varieties in the future, as well as the creation of new disease-resistant varieties suitable for local consumers [1, pp. 48-51, p. 8, 22-26].

Cherry tomato is a young and new variety compared to ordinary tomatoes, the first variety of which was created in Israel in 1973. Scientists set out to make tomatoes ripen slower than usual in hot conditions, and achieved this as a result of genetic combinations [10, p. 75-81].

Mississippi State University recommends F1 hybrids such as Trust, Match, Switch, Blitz for growing cherry tomatoes in greenhouses. The yield of cherry tomatoes is 2-3 times less than the yield of large-fruited varieties. Therefore, it is important to create high-yielding varieties and hybrids of cherry tomatoes [19, p. 104-112, 20.].

In recent years, a large number of F1 hybrids have been created in Russia for growing cherry tomatoes in greenhouses, which are grown in greenhouses in Russia and the Commonwealth of Nations [5, pp. 176-177, 6, p. 45-79, 9, p. 16-18, 2, p. 113, 14, p. 35-38].

In the greenhouses of the All-Russian Research Institute of Vegetable Growing, five indeterminate and four determinate tomato hybrids were studied, among them the influence of microclimate on the characteristics of fruit color, length and width of cherry and cocktail tomato varieties was studied [15, p. 28-29, 16, p. 37-40].

In Belarus, it is important to create new varieties of this type of crop that have valuable economic characteristics; cherry tomato varieties Yellow Cherry, Red Cherry and Khorovod have a high index of yield and taste [3, p. 9-11].

Based on the results of scientific research on the selection of cherry tomatoes in the conditions of Uzbekistan, the varieties Marvarid (2013) and Umid (2017) were created [11, pp. 25, 12, pp. 86-91]. The study of cherry tomato varietal samples under hydroponic conditions continues [17, p. 3795-3800., 18 r. 66-70].

Relevance of the topic. In the greenhouses of the country, it is important to select varieties of cherry tomatoes that are resistant to diseases, high yields and quality products, suitable for local climatic conditions, to study the optimal timing and methods of planting and to strengthen exports.

Problem statement. Recently, cherry tomatoes have become known in the country for their high quality, richness in vitamins, good storage and long-distance transport, as well as their frequent use in the confectionery industry in the manufacture of various products. Many consumers are more interested in its taste, appearance and smallness of fruit than ordinary tomatoes. However, this variety of tomato is distinguished by the small assortment of varieties, the high cost of seeds and the cost of the product. Therefore, in the cultivation of high-quality and inexpensive products of cherry

[2] Abdiev Z.T., Yunusov S.A. Specifications of the Cultivation of Tomato in Hydropon Greenhouses. International Journal of Recent Technology and Engineering (IJRTE) ISSN: 2277-3878, Volume-8, Issue-2S11, September 2019. P.3795.

tomatoes there is a problem of identifying high-yielding disease-resistant varieties, the creation of local varietal samples and the establishment of primary seed production.

The purpose of the study. Cherry is a study of tomato growing technology, high-yielding, disease-resistant, able to meet the needs of local consumers and export-oriented varieties.

Materials and methods. During 2019-2021, research was carried out in a greenhouse with an arched, two-part roof, covered with polyethylene film, a building area of 1000 m^2, each part 5 m, 50 m long, belonging to the "Yoldosh kyzy Umida" biological laboratory in the Kamashi district of the Kashkadarya region. At the same time, 11 cherry tomato samples were planted according to valuable economic traits and studied in different planting schemes. The plot contained 20 plants, the feeding area was 4.0-8.4 m^2, depending on the planting pattern. In the experiment, tomato plants were harvested 10-12 times during the growing season.

During the research, phenological observations, biometric measurements, determination of disease resistance, control and calculation of the quantity and quality of products were carried out in accordance with generally accepted requirements. The experiments were carried out in 4 repetitions. The study of tomato varietal samples was carried out according to the methods of “Methodology for state variety testing of agricultural crops”. Issue IV Potatoes, melons and vegetables (M. Kolos. 1975) [13, p. 180]., Conducting experiments with vegetable crops in protected ground structures (M. Kolos. 1975), “Methodology of field experiment” (Dospehov B.A., 1985) [7, p. 351]., “Methodology of experimental work in vegetable growing and melon growing” (Belik V.F., 1992) [4, p. 211]., Growing vegetables in greenhouses. Recommendation. [11, p. 25]., Guidelines for the selection of tomato varieties and hybrids for open and protected ground. Moscow: All-Russian Research Institute for Selection and Seed Production of Vegetable Crops, 1986 [2, p. 113], Statistical analysis of the results was calculated using the analysis of variance method in the computer programs “Excel 2010” and “Statistica 7.0 for Windows”.

Methods of experiment. The research was conducted in 2019-2021 in the greenhouse of the Department of "Horticulture and viticulture" of Tashkent State Agrarian University, biolaboratory "Yuldosh qizi Umida" in Kamashi district of Kashkadarya region. There, 11 varieties specimens of cherry tomato were studied by farm valuable traits and by planting in different planting schemes. The study of tomato varieties specimens was conducted on the base of methodological manuals and recommendations such as, “Methodology for state variety testing of agricultural crops”, Edition IV Potato, melon crops and vgetable growing (M. Kolos, 1975), Experiments with vegetable crops in protected ground structures (M. Kolos, 1975), “Methodics of field experiments” (Dospekhov B.A., 1985), “Methodics for experimental work in vegetable growing and melon crops” (Belik V.F., 1992), Cultivation of vegetable in greenhouses. Recommendation (Lyan E.E, 2007), Guidelines for the selection of varieties and hybrids of tomato for open and protected ground, Moscow: AURISSVC, 1986 (Alpatev A.V. et al. 1986), statistical analyses of the results was done in “Excel 2010” and “Statistica 7.0 for Windows” computer programmes according to dispersion analysis method.

Research results. In the experiment, 9 varieties and 1 hybrid were compared with the cherry tomato variety Marvarid as a standard variety; a total of 11 varieties were tested.

The experiment began with preparing tomato seeds for planting and growing seedlings. To sow tomato seeds, 50 polyethylene cassettes were filled with soil mixture and one seed was planted in each nest. The soil mixture includes 40% humus, 40% turf soil and 20% softening mixture of sand and vermicompost. After sowing, the seeds are mulched with a mixture of vermicompost and cassava shavings 0.5-1 cm thick. Then water was sprayed to moisten the seeds, the cassettes were collected in one layer on a stem 40 cm high and the cassettes were covered with paper. The seeds were soaked until they germinated, and the covering paper was removed once the seeds had germinated.

In the experiment, caring for cherry tomato seedlings was carried out in the same way as caring for ordinary tomato seedlings. Tomato varietal samples were grown in a separate section of the seedling preparation greenhouse.

The sprouts were fed with mineral fertilizers twice, and disease and pest control was carried out once. The seedlings were watered and weeded according to their condition. The seedlings were planted in a permanent place, that is, in the ground and in containers.

The experiment included phenological and biometric observations (Table 1).

Table 1.

Duration of growth phases when selecting varietal samples of cherry tomato in a greenhouse.

Sample varieties	Number of days after complete seed germination:								Harvest time, days
	germination		appearance of true leaves		appearance of combs		bloom	fruit ripening	
	10%	75%	1 st	5 th	1 st	3 rd			
Pearl - standard	8	10	11	31	45	64	61	122	97
Honey cascade	7	9	9	30	42	59	57	118	123
Red plum	12	17	17	42	55	70	79	127	120
Red beads	6	6	8	29	48	62	60	129	123
Dikovinka	7	8	9	33	46	62	60	120	123
Black cherry	6	7	8	27	43	55	49	110	136
Balcony miracle	7	9	11	31	45	62	58	120	124
Gulliver	7	9	9	42	61	74	69	135	84
Quality seed	6	9	10	44	64	88	80	138	84
1000 N2 tomatoes	7	9	9	30	43	59	58	121	126
Balcony yellow F_1	6	7	8	25	40	53	49	110	128

The timing of tomato seed germination, leaf appearance, budding, flowering, fruit set and ripening has been determined.

According to the results of phenological observations, 75 percent germination of tomato seeds was 6-17 days between samples. It has been established that the first and fifth leaves appear in plants. It has been observed that the first leaves appear after 8–17 days and the fifth leaves after 25–42 days. A relatively early appearance of the fifth leaf was observed in the F1 hybrid “Balcony Yellow” on the 25th day. In the remaining samples this was observed in the period 27-42 days.

In the experiment, the appearance of plant shoots was observed. At the same time, the day of appearance of the first pods on plant bushes was determined, which was observed relatively early, after 40-42 days, in the varieties Balcony Yellow F1 and Honey Cascade. In the remaining samples it was 43-64 days.

The appearance of the third stage in plants was observed 53-55 days after seed germination, in the hybrid Balcony yellow F_1 and Black cherry, which appeared relatively early. For the remaining hybrids it was 59-88 days. The seed varieties Gulliver and Kachestvo bloom relatively late, with 3 buds appearing in 74-88 days.

When observing the flowering of plants, the samples lasted an average of 49-80 days, and the samples of the hybrid F_1 Balcony Yellow and the Black Cherry variety bloomed relatively early. The Red Plum and Quality Seed varieties bloomed relatively late, at 79-80 days. These varieties show relatively late flowering even in greenhouse conditions.

As a result of phenological observations, it was established that the fruits of the tested samples ripened and ripened early. The earliest ripened hybrid Cherry and Balcony yellow F_1 ripened 110 days after seed germination. In the experiment, the seeds of the varieties Gulliver and Quality seed ripened relatively late, amounting to 135-138 days, while the other hybrids ripened in 118-129 days.

In the experiment, compared with the standard variety Pearl, varieties Dikovinka and 1000 H2 tomatoes, Balcony miracle have relatively similar flowering and yield. Hybrid Balcony yellow F_1, Black cherry, ripened 12 days earlier than the standard variety. The varieties Gulliver and Quality seed yielded a harvest 13-16 days later than the Standard. The remaining samples of the Red Plum-shaped and Red Beads varieties ripened 5-7 days earlier than the standard.

When determining the duration of the fruiting period of cherry tomatoes in greenhouse conditions, it was found that the yield of the samples was 84-128 days. The longest 126-136 days (29-39 days longer than the standard) were produced by the Black cherry, Balcony yellow F_1, 1000 H2 tomato and Dikovinka samples. For the Gulliver and Quality seed varieties, which have a short harvest period, it was 84 days, which is 13 days less than the standard.

Among the tested varieties, tomato samples were identified: Black cherry, Balcony yellow F_1 and 1000 H2 tomatoes, characterized by early ripening (12 days) and long yield (29-39 days).

In the experiment, biometric measurements were carried out, during which the length of the main stem of the plant, the number of layers of the main stem and the number of leaves were determined. Measurements were carried out on average 62, 80 and 117 days after germination of tomato seeds (Table 2).

Table 2.

Biometric measurements of cherry tomatoes in breeding trials in greenhouses.

Sample varieties	Main stem length (cm) in days:			Number of tiers on the main stem (pieces) in days:			Number of leaves (pieces) in days:		
	62	80	117	62	80	117	62	80	117
Pearl - standard	83	149	230	7	12	33	10	23	41
Honey cascade	87	155	246	9	14	37	14	25	46
Red plum	54	166	258	7	16	39	12	29	55
Red beads	100	116	220	8	14	33	13	19	53
Dikovinka	77	127	237	9	19	35	12	21	41
Black cherry	95	198	269	11	16	49	14	29	52
Balcony miracle	25	37	48	20	36	54	26	65	74
Gulliver	104	220	250	9	15	22	14	18	27
Quality seed	96	116	221	7	17	16	9	18	24
1000 N2 tomatoes	79	217	242	10	20	41	15	30	56
Balcony yellow F_1	85	146	216	9	27	61	14	36	63

Based on the results of a three-year study, it was found that the length of the main stem of the tested hybrids increased from 25 to 104 cm on average 62 days after seed germination and from 37 cm to 220 cm on the 80th day. observations. At the end of the plant growth period, that is, according to the results of 117 days of observations, the sizes of the samples ranged from 48 cm to 269 cm.

In the experiment, the length of the main stem in all three observations had Black Cherry and Red Plum, which had the highest indicator (258-269 cm in 117 days) compared to the standard variety, and the Balcony Miracle variety, which had the lowest indicator (in 117 days 48 cm), that is, 182 cm shorter than the standard variety. It was found that the remaining hybrids at the last observation grew to 221-258 cm.

Observations have shown that the length of the main stem also depends on the number of layers on the stem. The experiment also determined the number of cuttings of the main stem over three observation periods. According to the results of the experiment, at the last observation, the varieties Balcony Yellow F_1, Black Cherry and Balcony Miracle with the largest number of layerings - 49-61 pieces, which is 10-22 pieces higher than the standard, and the varieties Gulliver and Quality seed with a relatively small number of layers (22 -16 units). It has been established that the Red Plum variety is identical to the standard.

Over the last 80 and 117 days of observation in the experiment, it was noticed that the length of the stem and the number of plant layers changed differently depending on the morphological and biological characteristics of the cherry tomato and had their own characteristics.

In the selection test, the number of leaves of cherry tomato samples was also counted. In greenhouses, the number of plant leaves is of great importance; it serves as a main factor in the process of photosynthesis and plant productivity. The increase in yield depends on the number of leaves on each plant. According to the observation results, the difference between the samples was higher at the 62- and 80-day observation period. Because the temperature in the greenhouse during these periods was not moderate. According to the results of the last 117 days of observation, compared to the standard variety, 2 samples of the varieties Gulliver and Quality seed have 14-17 fewer leaves, and the remaining samples have more, especially Balcony Miracle and Balcony Yellow F_1. The samples had 22-33 more sheets compared to the standard. In the experiment, the Balcony Miracle variety, which had the largest number of leaves (74 pcs.), was distinguished by its small height and short main stem. Having plenty of foliage in the greenhouse prevents early spring sun from damaging the stems and promotes fruit formation.

Based on the results of studies when growing cherry tomatoes in greenhouse conditions, samples of the Black Cherry, Balcony Yellow F_1 and Red Plum varieties were identified, which had stronger above-ground growth than the standard variety.

In three-year observations, seed varieties Gulliver and Quality seed were found among the variety samples, which are inferior to other hybrids in terms of stem length, number of layerings and leaves. It is important that the stem and stem diameter of the plant be large to support the crop and supply water and nutrients to it.

In addition, the experiment determined the amount of shingles, the number of fruits and the level of plant disease when growing cherry tomatoes in a greenhouse (Table 3).

The number of pods and the number of fruits is one of the main factors determining the yield of a plant in a greenhouse. Of course, the slow formation of shingles is caused by a lack of light and temperature in greenhouses, as well as a lack of pollination.

In the experiment, when calculating the number of shingles on a bush in cherry tomato samples, it was found that on the 62nd day of observation of varieties there were on average 3-15 pieces, on the 80th day of observation - 6-20 pieces. Because over the years, the sharp drop in temperature in March and April and the increase in relative humidity have had a negative impact on the development of shingles, causing the shingles to fall off and develop slowly. Among the samples, this condition was more observed in the varieties Red Beads, Gulliver and Quality seed, which averaged 6-9 pieces per bush.

And over 117 days of research observations, we see that this figure has increased. Because an increase in light and temperature, as well as good pollination of flowers, caused the rapid appearance of brushes. At the same time, the number of tiles in the variety samples was 16-34 pieces.

Table 3.

The number of clusters and fruits on a bush and the degree of disease damage during breeding testing of cherry tomato varieties.

Sample varieties	Main stem length (cm) in days:			Number of tiers on the main stem (pieces) in days:			Fusarium wilt damage, %
	62	80	117	62	80	117	
Pearl - standard	6	9	28	7	9	10	2,5
Honey cascade	7	10	29	9	11	14	0
Red plum	9	12	33	7	9	9	0
Red beads	3	6	29	9	10	11	5
Dikovinka	11	15	27	10	11	13	7,5
Black cherry	15	20	34	14	16	18	0
Balcony miracle	9	17	20	9	10	11	2,5
Gulliver	5	8	17	7	9	9	10
Quality seed	6	9	16	7	9	10	10
1000 N2 tomatoes	8	13	31	9	10	13	2,5
Balcony yellow F_1	9	20	30	7	9	10	0

The varieties Black cherry, Red plum and 1000 H2 tomatoes (33-34 pcs.) produced more bunches compared to the standard variety. The samples “Honey Cascade” and “Balcony Yellow F_1” produced clusters almost identical to the standard variety Marvarid. The varieties “Balcony Miracle”, “Gulliver” and “Quality seed” are samples with smaller tassels compared to standard ones (8-11 pieces).

The dynamics of fruit formation in a plant depends on the influence of various components. In cherry tomato samples, the generative stage of development begins earlier, but the formation of fruits can change under the influence of microclimate. Therefore, regulation of the microclimate in greenhouses and moderate provision of nutrient solutions will have a positive effect on generative organs and productivity.

In experience, we see that the number of fetuses on the cyst is less in the first observation, that is, on the 62nd day, and relatively increases on the 80th day. Among the hybrids, the average number of fruits per pod for the standard Marvarid variety was 9, the same figure was observed for the Red Plum-shaped, Gulliver, Quality seed and Balcony Yellow F_1 samples. No samples with a lower average number of fruits per pod compared to the standard variety were found. It was found that the remaining samples produced more fruit than the standard.

In the experiment, the average number of fruits per pod on the 117th day of observation compared to the standard Marvarid variety for the Black cherry variety was 18 pieces. The lowest figure was 9 pieces for the Red Plum and Gulliver varieties.

Resistance to diseases and pests is also one of the main valuable economic characteristics when choosing promising varieties of cherry tomatoes. In the studies conducted, this indicator was determined when growing tomato plants in film greenhouses, that is, in conditions with high relative humidity, allowing the development of a number of pathogens.

When growing cherry tomatoes in greenhouses, fusarium wilt and cladosporiosis or leaf spot are more often observed, since these diseases spread quickly at high humidity (90%) and temperature (20-25^{0}C). This leads to a decrease in tomato yield. Therefore, most greenhouse hybrids are required to be resistant to these diseases.

In the experiment, the degree of infection with Fusarium wilt in the norm was determined and the results of the observation were stated. Among the hybrids, the standard tomato varieties Marvarid, Balcony Miracle and 1000 H2 tomatoes were affected by Fusarium wilt at a very low level (2.5%). The Red Beads, Dikovinka, Gulliver and Quality seed varieties suffered more, that is, by 5-10 percent. It was determined that the remaining samples were not infected with this disease.

The experiment established that the varieties Honey Cascade, Red Plum, Black Cherry and Balcony Yellow F_1 are resistant to Fusarium wilt.

Based on the results of the study, the yield indicators of varietal cherry tomato samples were determined (Table 4). Tomatoes were weighed on a yield scale for each return in each harvest, productive and unproductive crops were separated, and calculations were made. The total harvest, marketable harvest and the share of marketable harvest were separated from the total harvest, that is, deformed, crooked, double, heavily ribbed, rotten and damaged fruits were separated from the total harvest. The experiment also calculated yield indicators obtained from one square meter of tomato plant.

Table 4.

Yield indicators of cherry tomato varietal samples in greenhouse breeding trials.

№	Sample varieties	Average fruit weight, g	Commercial harvest, kg/m^2	Share of marketable harvest, %	Relative to the standard, %	Tasting rating, points
1	Pearl - standard	22	9,5	92,8	100	9,6
2	Honey cascade	19	12,7	94,1	134	9,8
3	Red plum	16	13,4	93,8	141	9,7
4	Red beads	10	10,8	92,7	114	9,6
5	Dikovinka	12	9,7	92,5	102	9,7
6	Black cherry	23	14,7	94,2	155	9,7
7	Balcony miracle	16	9,5	91,1	100	9,6
8	Gulliver	15	5,5	85,4	58	9,2
9	Quality seed	43	6,2	86,1	65	9,0
10	1000 N2 tomatoes	17	13,3	92,9	140	9,8
11	Balcony yellow F1	21	11,0	93,4	116	9,8
	ЭКМФ $_{05}$	5,2	1,0			
	Sx,%	2,8	3,8			

According to the results of the research, the tomato harvest was divided each year into commercial and non-commercial crops, since the marketability of tomato products in greenhouses is one of the main indicators by which the quality of the product is assessed.

In the experiment, the yield samples differed from each other. The highest marketable yield was 12.7-14.7 kg/m² of Black Cherry, Red Plum, 1000 N2 tomatoes and Honey Cascade samples, and the share of marketable yield was 93.0-94.2%. The marketable yield of the standard variety was 9.5 kg, and the Dikovinka and Balcony Miracle samples, which harvested the same yield, were close to it - 9.5-9.7 kg. The varieties Gulliver and Quality seed (5.5-6.2 kg/m2) turned out to be the samples with the lowest yield in the experiment, the marketable yield was 85.4-86.1%. In the experiment, it was noticed that the biological characteristics, characteristics of flowering, pollination and harvesting of different varieties of cherry tomato plants differ from each other.

In the experiment, in comparison with the standard variety Marvarid, it was found that the varieties Black cherry, Red plum, 1000 N2 tomatoes, Dikovinka, Honey cascade, Red beads and Balcony yellow F_1 give 14-55% higher yield and good harvest quality. The varieties Gulliver and Quality seed gave yields 43-35 percent less than the standard.

Based on the results of the study, the average weight, tasting value and biochemical composition of the fruits of the tested samples were determined. The average fruit weight of the Quality seed variety, which has the highest fruit weight among the hybrids, was 43 grams. The lowest figure was 10-12 grams for the Dikovinka and Red Beads varieties. In the remaining samples, this figure was 15-23 grams of fruit weight.

There were no significant differences between the samples in assessing the taste, color and fruit qualities of cherry tomatoes grown in a greenhouse. The tasting assessment of all varietal samples was 9.1-9.8 points. It has probably been noticed that the fruits of cherry tomatoes are tasty in their own way and have a high taste value due to their shape and appearance. Samples with a relatively high tasting score (9.8 points) were observed for the “Honey Cascade”, “1000 N2 tomatoes” and “Balcony yellow F_1” tomatoes.

Results of the work. The experiment revealed Black Cherry, Balcony Yellow F1 and Krasny slivovidnyy specimens that bloomed earlier than the standard variety and ripened 12 days earlier and had a longer fruiting period of 29-39 days. According to the results of biometric observations, the growth of the aboveground part of the plant was stronger than the standard variety (258-269 cm) Black Cherry, Balcony yellow F1 and Krasny slivovidnyy variety were isolated. Guliver and Quality seed varieties were known to be relatively short compared to other hybrids in terms of stem length, number of tiers and leaves. Cherry tomato Black cherry, Krasnyy slivovidnyy and 1000 N2 tomato varieties produced 33-34 more than the standard variety, Medovыy cascade, Krasnyy slivovidnyy, Black cherry and 1000 N2 tomato varieties collected 61-134 more fruits in one bush and these samples were fusarium. found to be resistant to withering disease. The highest yield in terms of yield was 12,7-14,7 kg per square meter in Black Cherry, Krasny Slivovidny, 1000 N2 Tomato and Honey Cascade, and the share of marketable yield was 93,0-94,2%. along with a high tasting price.

Scope of the results. It is recommended to use the technology of sowing and cultivation of these varieties in agriculture, farms and horticultural farms specializing in vegetables and melons.

Conclusions. Early ripening of cherry tomatoes Black cherry, Balcony yellow F1 and Krasny slivovidnyy samples, Black cherry, Krasnyy slivovidnyy, 1000 N2 tomato and Medovыy cascade samples were distinguished by compliance with all requirements for cultivation in populated farms and ranches, yield and yield quality. We hope that high yields of cherry tomatoes in our country, increasing the volume of production and the establishment of seed production will bring high economic benefits.

1. In the experiment, flowering of cherry tomato samples was 49-80 days, and the hybrid Balcony Yellow F_1 and Black Cherry varieties bloomed relatively early.

2. Among the tested varietal samples, Black Cherry, Balcony Yellow F_1 and 1000 H2 tomato samples were identified, characterized by an early ripening period (12 days) and a long yield period (29-39 days).

3. When growing cherry tomatoes in greenhouse conditions, samples of the Black Cherry, Balcony Yellow F_1 and Red Plum varieties were identified, which had stronger above-ground growth compared to the standard variety. Among the variety samples, the varieties Gulliver and Quality seed are highlighted, which are relatively short in length, that is, the length of the stem, the number of tiers and leaves compared to other hybrids.

4. The experiment established that the varieties Honey Cascade, Red Plum, Black Cherry and Balcony Yellow F_1 are resistant to Fusarium wilt.

5. It has been established that the Black Cherry, Red Plum, 1000 N2 tomatoes, Dikovinka, Honey Cascade, Red Beads and Balcony Yellow F_1 varieties give 14-55% higher yields and good harvest quality compared to the standard Marvarid variety. Samples with a relatively high tasting score (9.8 points) were observed for the “Honey Cascade”, “1000 N2 tomatoes” and “Balcony yellow F_1” tomatoes.

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