EUROPEAN JOURNAL OF LIFE SAFETY AND STABILITY (EJLSS)
ISSN 2660-9630
www.ejlss.indexedresearch.org Volume 12, 2021 ||

Selection of Varieties and Hybrids of Squash and Identification of Planting Dates

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Annotation: In this article is given the results of experiment of the Patison cultivation in the climatic conditions of Uzbekistan, planting in different times, growth, development and yield capacity, and the influence of weather. Patison - annual plant belonging to the gourd plant family, usually grows as a shrub, in rare cases it is in the form of a whip. The stem is straight, faceted, rigidly cyst, shortened between the nodes. The length of the crooked stem is 30-60 cm. The product is oval in the form of a plate and a bell, the color is white or dark yellow. It is early maturing variety of the pumpkin family. The period between growth and harvest is 40-50 days. According to the results of the study, we achieved high yields in the cultivation of varieties "Beliy 13" and "Zarkokil".

Date of Submission: 17-11-2021 ***Date of Acceptance: 22-12-2021***

INTRODUCTION

Relevance. The steady population growth justifies the need to increase food crop production and ensure food security. Accordingly, an important task of agricultural production is to intensify the farming culture by obtaining several crops from the same area of land per year. The climate of our country is also suitable for this, the warm period lasts 8-9 months: from late February to early March - late November [1].

Zucchini and patison are planted on the world's 1.8 million hectares and 24.7 mln. tons of gross crop is grown. Mainly developed in China (7.2 million tons), India (4.9 million tons), Russia (1.3 million tons), Iran (0.9 million tons), worldwide. average yield is 13.7 t / ha. The highest yields (48.5-65.4 t / ha) are obtained from the Netherlands, Israel, China and Spain. [3].

Patisson is very popular among the population of our country. This is due to its high nutritional, dietary and medicinal-prophylactic properties. Patisson fruits contain essential nutrients (carbohydrates, proteins), biologically active substances (vitamins, mineral salts, enzymes, antioxidants, etc.), which makes it a more valuable product in a healthy diet.

2-4-day-old young fruits (knots) of squash are used for vinegar in pumpkin vegetable crops, unripe fruits are used in kitchens and canning industry, ripe fruits are given to livestock as juicy food.

Pattypan squash plant tufts grow in bunches. Therefore, they do not require a large feeding area, such as squash and pumpkin. These crops ripen very quickly, the fruits are technically (farmed) in 50-60 days after germination. As a cultural crop, these stand close to cucumbers.

Zucchini and pattypan squash varieties are not so common. Grechesky 110 variety of squash is common. The fruit of this variety is cylindrical in color, light green in color, the fruit is technically light green when ripe, and yellowish when fully ripe.

Pattypan squash`sBeliye 13 variety is widespread, the fruit is flat plate-like, strongly articulated, the edges are polygonal, the color is light green when cut for consumption purposes, and then turns into completely pale. If the squash is harvested during the fruiting period, it will bear fruit during the summer until the first frost. Therefore, they are planted once in the spring and used until late autumn after harvest. Depending on the growing season and climatic conditions of the year, it is advisable to plant it in April.

Harvesting. Unripe juicy fruits like zucchini and pattypan squash are also used for consumption. Therefore, they are harvested daily or every other day to prevent overgrowth. Pumpkin fruits are harvested 7-10 days, squash fruits 3-4 days later for processing, and for canning (vegetable caviar salad), when their diameter reached to 10-12 cm until upper layer is not hardened.

When picking ripe fruits, they are cut by pressing the band with your thumb, without cutting them with a fork. In addition to harvesting, diseased and ripe yellow fruits are also harvested. Their presence in the stalk delays plant growth and the emergence of new fruit, as well as seriously damages the yield.

The average yield of cucumbers in the farms of the country is 100-120 quintals per hectare, squash and zucchini - 60-120 quintals per hectare, and in advanced farms - 250-300 quintals and more [2].

Object of research: as an objects of research selected 20-30 varieties and hybrids of squash as the optimal planting thickness and feeding area (70x40, 70x50, 70x60, 70x70) and six planting periods (April 1.16, May 1, May 16, June 1.16, 1.16 July and August 1, 16) and pattypan squash variety Beliy-13 .

The subject of the study is the selection of high-yielding squash varieties and hybrids suitable for cultivation in medium and repeated plantings, the determination of the most convenient, final and possible dates for planting squash grown in the summer-autumn period.

Research methods: Scientific research using the methodical manual of B.J.Azimov and B.B.Azimov "Methods of conducting experiments in vegetable, melon and potato growing", studied physical and chemical processes, as well as environmental factors and interrelationships of the region where the product is grown.

The accuracy and reliability of the obtained data is analyzed mathematically and statistically using the generally accepted multivariate method of B.A. Dospehov and the computer program SPSS (Statistical Package for Social Science).

Scientific and practical significance of the research: The scientific significance of the research results is to create a collection of squash, to test varieties and hybrids, and to determine the most suitable sowing dates for spring and re-sowing.

Experimental system and methods of research. Research on this topic is planned to conduct on the cultivation of varieties and hybrids as a repeat crop after spring and wheat in the conditions of lightly sandy soils of ancient irrigated meadow-grass, mechanical composition of Tashkent region. Experiments are will be conducted in three ways.

1) Creation of a collection of varieties and hybrids of Pattypan squash;

2) Selection of hybrids for planting Pattypan squash at different times;

3) Development of elements of Pattypan squash cultivation technology.

The research will be conducted under laboratory conditions to determine the biochemical composition of squash in field experiments and variety testing.

Results of the research: In the scientific research, the agro-technological features of our pattypan squash varieties and hybrids in our collection are evaluated and the environmental factors and interrelationships of the region in the process of their cultivation are studied using various research methods. The studies included phenological observations, biometric measurements, determination of the average weight of squash fruits and yield per unit area. Scientific research was conducted in 2020 on the land of the laboratory of the Department of "Vegetables" of Tashkent State Agrarian University and the Information Consultation Center (extension center) of the university.

The 13 squash seeds selected in the study year were sown in the 2nd decade of April in a pre-prepared experimental field according to the scheme in which each variety and hybrid was installed. (Figure 1)

In the year when Patisson seeds germination was studied, researches showed that the full germination of Beliy 13 and Solnishko varieties and hybrids were observed on day 8, and they were the leaders among other varieties and hybrids. In particular, later germination of squash seeds was observed in Zolotoy medallion tsv / p - 11, Kopeyka - 11, NLO Beliy - 10, Cheburashka - 10 and Zarkokil - 10 varieties and hybrids.

Among the cultivars and hybrids observed in the study, Beliy 13 was 100%, Solnishko was 90% and Cherepaha was 85%. All other studied varieties and hybrids had a low field fertility of 62-70% (Table 1 and Figure 1).

Table 1 Field seeds of pattypan squashvarieties and hybrids Germination (2020 year, day,%)

№	Name of variety and hybrid	Date of seed sowing	Number of days from sowing to full germination, %		Field germination
			50	100	
1	Beliy 13 experiment	22.04.2020	7	8	100
2	Cheburashka	22.04.2020	6	10	75
3	Polo F1	22.04.2020	7	9	75
4	Cherepaha	22.04.2020	6	9	85
5	NLO Beliy	22.04.2020	7	10	75
6	Solnishko	22.04.2020	6	8	90
7	Pyatachok early ripen	22.04.2020	7	9	65
8	ZolotoyMedalyon	22.04.2020	7	11	62
9	Zontik	22.04.2020	6	10	60
10	Zontik early ripen	22.04.2020	7	10	63
11	Kopeyka	22.04.2020	8	11	65
12	ZvezdnayaRossip	22.04.2020	6	9	68
13	Zarkokil	22.04.2020	7	10	62

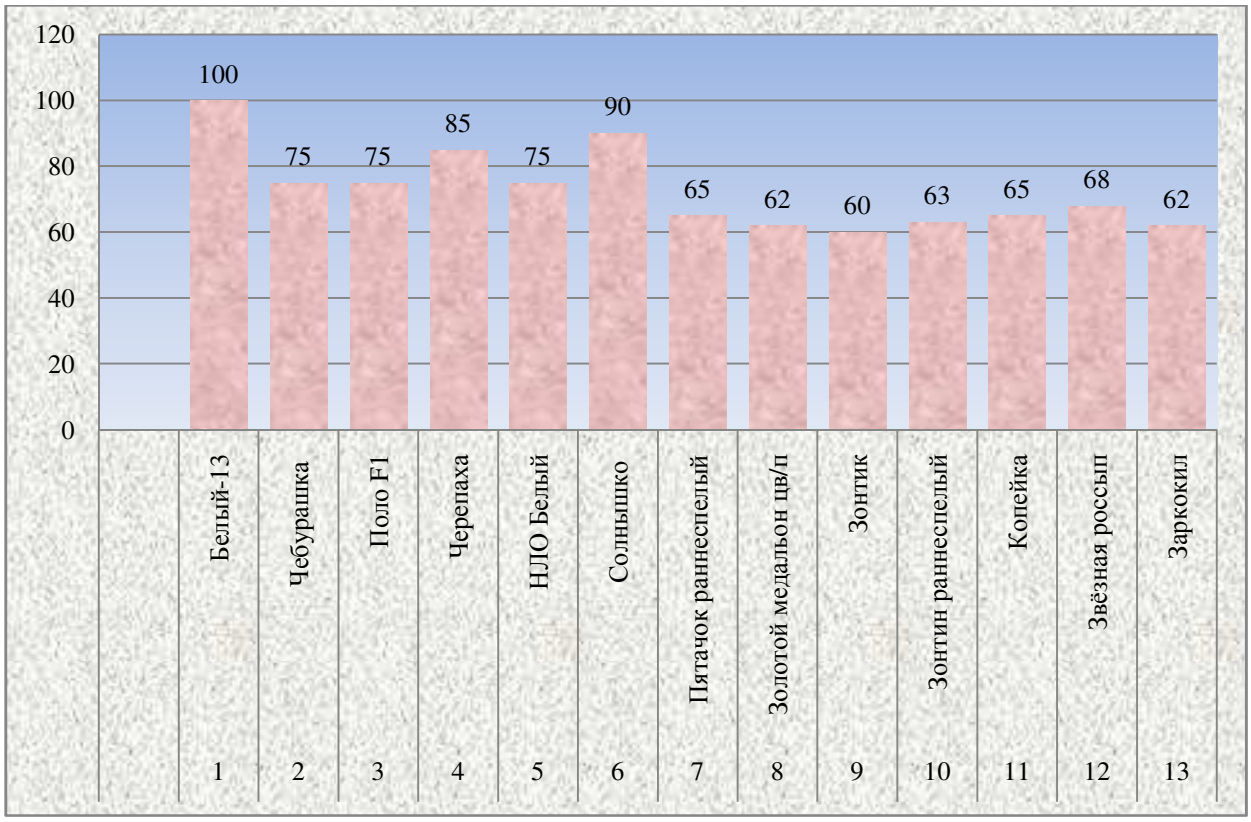

Figure 1 Field fertility of patisson seeds,%.

According to the results of this year's survey on the yield of squash varieties and hybrids observed during the study, Beliy-13 variety averaged 16.0 t / ha and Solnishko variety averaged 17.0 t / ha. In addition, NLO Beliy - 15 t / ha and Zontik - 15.1 t / ha, which gave a higher yield than other varieties and hybrids.Among other observed hybrids Pyatachokearly ripen, Zolotoy medallion tsv / p, Zvëznayarossyp and Zarkokil varieties and hybrids yielded 14.2 t / ha - 14.7 t / ha. According to the results of this year's study, the lowest yield was Polo F1 - 11.5 t / ha, in Cherepaha and Kopeyka varieties - 13.2 t / ha (Table 2 and Figure 2).

Table 2 Yield of Patisson varieties and hybrids, t / ha (2020)

№	Name of variety and hybrid	I	II	III	IV	Total	Average t/ha
1	Beliy 13 experiment	15,0	16,0	17,0	16,0	64,0	16,0
2	Cheburashka	12,0	14,0	13,0	12,5	51,5	12,8
3	Polo F1	10,0	11,	12,0	13,0	46,0	11,5
4	Cherepaha	12,0	12,0	14,0	15,0	53,0	13,2
5	HLO Beliy	15,0	16,0	14,0	15,0	60,0	15,0
6	Solnishko	18,0	17,0	17,0	16,0	68,0	17,0
7	Pyatachok early ripen	16,0	15,0	12,0	14,0	57,0	14,2
8	Zolotoymedalyon	14,0	14,5	13,5	15,6	57,6	14,4
9	Zontik	14,2	14,3	15,2	16,5	60,2	15,1
10	Zontik early ripen	13,5	13,6	14,3	14,1	55,5	13,9
11	Kopeyka	12,9	12,5	14,0	13,5	52,9	13,2
12	Zvezdnayarossip	14,0	15,0	16,0	13,6	58,6	14,7
13	Zarkokil	15,5	14,9	12,7	15,6	58,7	14,7
	EKF_{05}	4,0	3,3	4,2	4,0	-	-
	$P_{\%}$	4,3	0,7	1,0	2,3	-	-

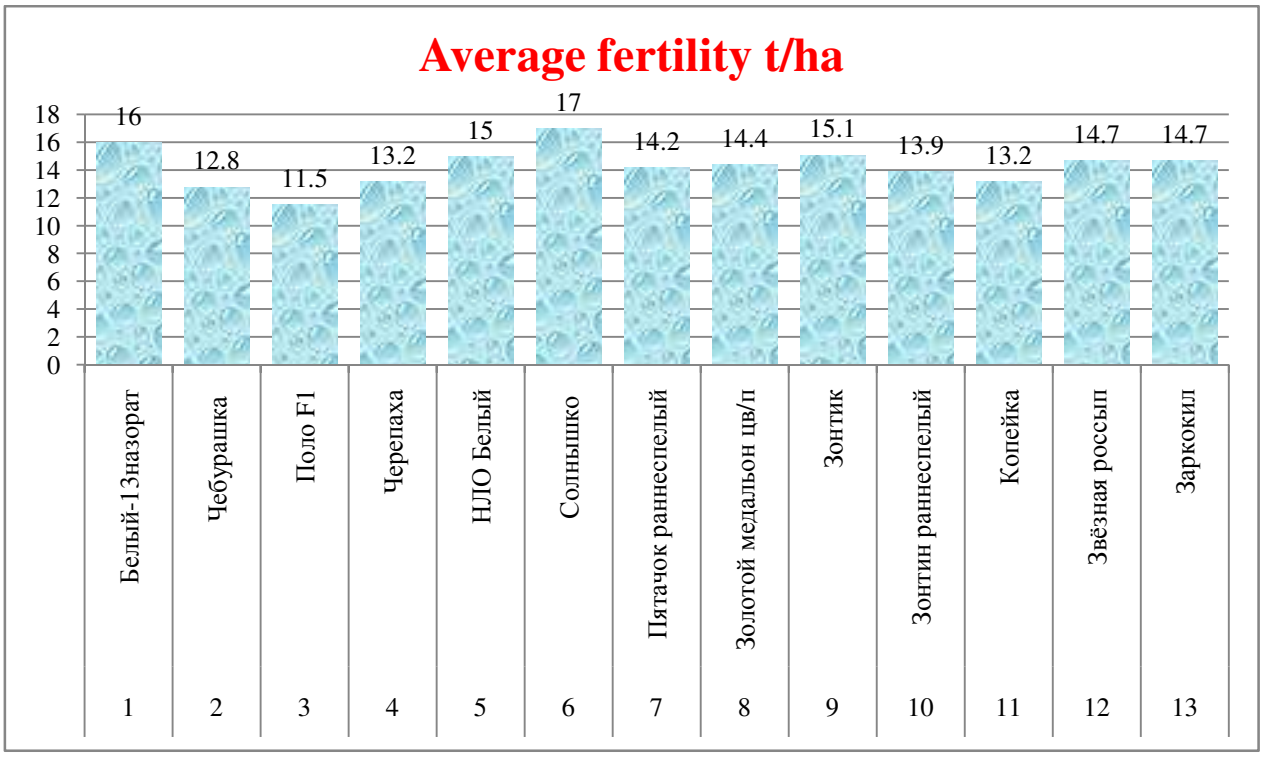

Figure 3.Yield of pattypan squash varieties and hybrids, t / ha

CONCLUSION

As a result of the first year of research, the following conclusions can be drawn:

Observations show that during the year of the experiment, it took an average of 8-11 days for the seeds of the patisson variety and hybrids to fully germinate. In this case, the full germination of Beliy 13 and Solnishko varieties and hybrids was observed on the 8th day, and they took the lead among other varieties and hybrids.

Among the cultivars and hybrids observed in the study, Beliy 13 was 100%, Solnishko was 90% and Cherepaha was 85%. All other studied varieties and hybrids had a low field fertility of 62-70%.

According to the results of this year's study on the yield of squash varieties and hybrids observed during the study, the highest result was Beliy-13 variety with an average of 16.0 t / ha and Solnishko variety with an average of 17.0 t / ha.

According to this year's research, the lowest yield was Polo F1 - 11.5 t / ha, Cherepaha and Kopeyka - 13.2 t / ha.

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