

RESEARCH ARTICLE

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# CULTIVATION OF SWEET PEPPER (CAPSICUM ANNUUM L.) SEEDLINGS AT DIFFERENT NUTRIENT LEVELS

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## Abstract

This article describes the experimental results of determining the optimum growth and development of sweet pepper (*Capsicum annuum* L.) plants in laboratory conditions, applying different nutritional standards to seedlings of medium-ripening varieties. . As a result of the experiment, it is envisaged to grow healthy, high-quality and marketable sweet pepper seedlings and introduce them into production.

**Keywords** Nursery, protected area, peat, pH, neutral environment, fertilizer rate, Bella Vista F1, Dar Tashkenta.

## INTRODUCTION

Today, in solving the food problem of the population of our country, it is important to prepare seedlings of sweet pepper varieties with high quality, high transportability and resistance to diseases. Sweet pepper is unique compared to other vegetable crops, its fruit can be eaten both when it is blue and red, and its fruit is rich in vitamins A and C.

The average production of pepper in our republic is 270-280 thousand tons, most of which is exported abroad. In terms of biochemical composition, nutritional value, transportability and shelf life, sweet pepper is significantly different from other vegetables. According to the amount of dry matter (14.5%), it ranks first among vegetables (after garlic), and according to the amount of vitamin "C" (ascorbic acid). Sweet pepper fruits

grown in our country contain 54-118 mg/% in the period of technical ripening, and 368-535 mg/% in the period of physiological ripening of vitamin "C" [1].

Under certain conditions, the possibility of increasing the production of sweet pepper is to expand the cultivated areas and increase the yield. The main way to increase productivity and obtain products suitable for export is the correct selection of adaptive, high-yielding varieties, improvement of agricultural cultivation technology, in particular, rational use of organic and mineral fertilizers and growth stimulants. [1,2].

In the conditions of irrigated light gray soils of Kashkadarya region, it is recommended to use organo-mineral fertilizers in order to obtain a high and stable market yield (32-35 t/ha) from sweet

pepper variety “Dar Tashkent”. 20 t/ha manure + N200P160K100 kg/ha and treatment with solutions of growth stimulants during the flowering period (gibberellin 0.6-0.7 g per 10 liters of water).[7]

The seedling method has a number of advantages over the conventional method of sowing seeds directly into the ground. Seedlings are usually grown for 30-80 days. The achieved progress in plant development allows early harvest. Selling early harvest at higher prices provides additional income. Thanks to the advance, the seedling method allows you to extend the growing season. This increases plant productivity and makes it possible to grow heat-loving crops and enrich the variety of vegetables in the northern regions, where the growing season is long, but there is not enough heat, and there are no conditions to collect the harvest from seeds. The seedling method reduces the need for land at the beginning of the plant's life. Better provision of plants with food, moisture, heat, light and other factors, better protection of still weak seedlings from pests, diseases, and weeds, can reduce labor costs in the fight against them. In the seedling method, seed consumption is reduced by 3-7 times compared to planting in a permanent place. Cultivation of plants through seedlings in protected ground conditions extends the product release period and provides an opportunity to use artificial lighting sources economically [7].

Accordingly, we focused on this type of crop in our research.

The main goal of the research is to grow sweet pepper seedlings of high-quality, disease-resistant, highly transportable varieties.

Taking this into account, experiments were conducted in laboratory conditions on a special peat substrate.

## **METHODS**

In the experiment, the seeds were collected in a thermostat at 25°C for 3 days, and then on January 10, they were planted in special cassettes as a substrate in peat with a pH of 6.5-7.0. On January 20, seedlings were transplanted into special peat containers with a capacity of 200 ml during the

period of two full blooms, then the seedlings were watered, and the humidity was kept at 70-80% MPV. 6 options were used for planting seedlings, i.e. option 1 - control; Option 2: N18P18K18 kg/ha; Option 3: N36P36K36 kg/ha; Option 4: N54P54K54 kg/ha; Option 5: N72P72K72 kg/ha; Option 6: N90P90K90 kg/ha was used. From mineral fertilizers, NPK fertilizer 18:18:18+3MgO+ME or azofoska was used. 10, 20, 30, 40, 50 grams were applied to 10 l of distilled water.

Research was conducted in laboratory conditions. All records, observations, analyzes and calculations in the experiment were conducted based on generally accepted methods and agricultural recommendations [3,4,5].

## **RESULTS AND DISCUSSION**

According to the results of the study, when analyzing the growth and development of sweet pepper varieties “Bella Vista”, “Kalota” and “Dar Tashkenta” in 6 options and 3 returns, the survival rate of seedlings in the experimental options on the 5th day after planting is 100 percent it was determined.

The use of mineral fertilizers tends to increase the survival rate of seedlings. When the seedlings of the plant form 5-6 true leaves, the biometric indicators are analyzed in the section of the varieties. Before planting in the field, in the 1st experiment (“Bella Vista” variety was planted), in the control option, the plant height is 6 cm, the number of leaves is 6 pieces. , in the 2nd experiment (the Kalota variety was planted) the plant height was 5.5 cm, the number of leaves was 7 pieces, in the 3rd experiment (the Dar-Tashkenta variety was planted) the plant height was 8 cm, and the number of leaves was 8 pieces reached, the highest superiority in variant 4 (N54P54K54) compared to the control, in accordance with the above, plant height 2 cm in experiment 1. ha, the number of leaves is 3.5 pieces, 2 - in the experiment, the plant is 1 cm tall. ha, the number of leaves is 3.5, and in the 3rd experiment, the plant is 2 cm tall. ha, if the number of leaves was 2 more, the relatively highest indicator was returned in 5-6 options. The lowest indicator was found in variants 2 and 3.

When these varieties were analyzed not only in the section of variants, but also among varieties, the “Dar Tashkenta” variety prevailed with all variants. The “Kalota” variety took the second place after the “Bella Vista” variety.

### **CONCLUSION**

The seeds of medium-quick ripening varieties of shirin qalanpir were grown in 200 g plastic containers with soil + peat substrate. When observations were made in all varieties, compared to the control option, the highest advantage in terms of plant height, joint spacing, number and level of was returned in options 4, compared to essa 4. - Observed in 5 options. It was found that the lowest indicator is in 2-3 options.

### **REFERENCES**

1. Ostanakulov T.E., Zuev V.I., Kadirkhojaev O.K. Fruit and vegetable growing (Vegetable). Textbook. In Uzbek the language is T. Navruz. 2019. - 552 p.
2. Rasulov F.F. Cultivation of sweet pepper. Tashkent. 2021.- 62 p.
3. Azimov B.J., Azimov B.B. Methodology of conducting experiments on vegetable growing, potato growing and potato growing (in Uzbek). Tashkent. National encyclopedia of Uzbekistan. 2002. - 217 p.
4. State register of agricultural crops recommended for planting in the territory of the Republic of Uzbekistan. T. 2022. - 103 p.
5. Litvinov S.S. Methodology of field experiment in vegetable farming. M. 2011. - 648 p.
6. Ostanakulov T.E., Islamov A.J., Shamsiev A.A. Effects of different rates of fertilizers and growth stimulants on the yield of sweet pepper in Kashkadarya region // Proceedings of the international scientific and practical conference on the topic “Integrated management and reclamation of degraded soils to ensure food security: new approaches and innovative solutions” . April 22 - International Earth Day. Tashkent, April 19-22, 2023 p. 351-355.
7. Zuyev V., Atakhodjayev A., Kadirkhoyayev O.

Cultivation of seedlings and vegetables in protected lands. Study guide for students of agricultural colleges. T-2007.B-5.

8. Azimov B.B., Mavlyanova R.F., Azimov B.J. Recommendations for obtaining a high yield of sweet pepper in Uzbekistan. Tashkent: 2016. p. 18.