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STUDY OF THE POTATO GENEFOUND IN THE FUTURE

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Abstract

This article presents information on the study and enrichment of the potato gene pool, growth, and productivity. The research was conducted in 2022 in the experimental fields of the ITI of Vegetables, Poly crops, and Potatoes. Today, potatoes are sold in 21.5 million countries of the world. 351 mln. per hectare more than tons of potatoes are being grown. In the world, potato is the second most important crop after wheat, rice, and corn. Potatoes are a source of protein, starch, various vitamins, and mineral salts, elements important for humans. Potato tubers contain D. It was found that there are 26 elements in Mendeleev's periodic table. Potatoes are grown in large areas in China, Poland, Czechoslovakia, Holland, France, England, Italy, Germany, Finland, USA, Canada, Japan, India, and Russia. Potato farming is important in ensuring the food security of our country. That is why potatoes are called "second bread". That is why it is important to preserve and increase the potato gene pool.

Introduction. Ensuring food security in the world adequately satisfying the population's demand for potato products, increasing the yield, and improving the quality of this type of crop are some of the important and urgent problems of today.

According to the area of potato cultivation, it ranks third in the world after wheat, rice, and corn. It is second in importance. Potatoes are a source of protein, starch, various vitamins, and mineral salts important for humans.

Potatoes were brought to Uzbekistan at the beginning of the second half of the XIX century. Nowadays, it has reached the level of favorite product of all families, and it is called "second bread" in the people.

The biochemical composition of potato tubers consists of 75% water and 25% dry matter. 70-80% of the dry matter is starch, its amount in the pulp is 13-20%, protein 2-3%, fiber -1%, oil -0.2-0.3%, sugar -1%, ash 0.8-1 is 0%. In addition, potato tubers contain vitamins (C, B_1-B_6, PP, K, and carotenoids).

Potatoes are grown in large areas in Poland, Czechoslovakia, Holland, France, England, Italy, Germany, Finland, the USA, Canada, Japan, India, and Russia [5;6].

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In Germany, it is recommended to replace one variety for 12-15 years, while in France, zoned varieties are recorded in a separate register fo, plant height, productivity10 years.

Keywords: potato, collection, gene pool, stem number

Research material and method

The research was conducted in 2022 in the experimental fields of the ITI of vegetables, pulses, and potatoes. In the study, samples of potato varieties from 36 different countries were planted in 2 rows, 1 row. Planting scheme 70x25 cm.

The following methodological manuals were used in conducting research: "Methodology of conducting experiments in vegetable growing, potato growing and potato growing [1], "Metodokiya polevogo opyta" [2].

Research results and discussion

Experiments In the experimental areas of the Scientific Research Institute of Vegetables, Field Crops, and Potatoes, the following varieties of potatoes, brought from foreign countries and local varieties, were planted and studied.

Before planting, the samples of the potato collection were placed for germination in a special room with an air temperature of +14-18 C^0, air humidity of 70-80%, and quality germination in 20-25 days after the day of planting.

Samples of potato varieties imported from foreign countries and planted to preserve local varieties as a gene pool:

Dutch Picasso, Evolution, Royal, Sante, Arizona, Manitou, Kuroda, Saviola, Arielle, Red scarlet German Smena, Adretta, Gala, Russian Kronos, Romance, Mikado, Red vullet Sineglazka, Hungarian Botant, Balatoni rossa, White lady, Demon, Dizera, Spunta of France, as well as №01, №02, №05, №9, №12 lines and local varieties Umid-2, Kuvonch 1656, Tashkent ertagisi, Sarnav, Pskom are included in Balatoni; Samples of each variety were planted in a 70×25 cm scheme 5 m long in the experimental field of Bogizagon varieties.

In the experimental version, 36 samples of varieties were planted. In the collection of planted potatoes, phenological observation, and biometric measurements were carried out on a variety of samples. After every 10 cultivars, a local cultivar Pskom was planted as a control cultivar. Kronos, Picasso, Evolution, Umid-2, Red bullet, Romantika, Mikado, Royal, Folva, and Smega varieties were compared with the control variety in the top ten. 10% of the control Pskom variety germinated in 14 days, 75% germinated in 20 days, while Evolution, Red Bullet, Romantika, Mikado, Simega, Arizona varieties germinated 1-2 days earlier than the control variant.

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When the number of plant stems was studied in these 10 varieties, the number of stems in Kronos, Picasso, Evolution, Red Bullet, Romantika, and Mikado varieties was 0.2 of the control variety; 0.3; 0.5; 0.2; 0.7 times more was found.

In the next 20 varieties, Dizera, Sante, Arizona, Manitou, Kuvonch, Spunta, Adretta, Gala, Red scarlet, and Saviolla were tested in comparison with the control Pskom variety. It took 14-20 days for 10-75% germination of potato seedlings in the control Pskom variety, while Dizera, Arizona, Spunta, Gala, and Kuroda varieties germinated 1-2 days earlier than the control option. The germination of Adretta Manitou, Joy 1656 varieties was equal to the control variant.

In the next 30, Sneglazka, Arielle, Red scarlet, Tashkent ertagisi, Sarnav, Botant, Balatoni rossa, White lady, Demon, Balatoni sarga varieties were compared with the Pskom variety.

It took 13-21 days for 10-75% germination of potato seedlings in the control Pskom variety, while Sneglazka, Tashkent ertagisi, Botant, Balatoni rossa, White lady, Demon, Balatoni sarga varieties germinated 1-2 days earlier than the control option. Also, it was found that these varieties had 47.9 to 63.6 percent higher values than the control option in terms of weight and yield of tubers per bush.

Potato germination of Sarnav and red scarlet varieties was equal to the control option.

When the samples of the next Bozhigaon, №01, №02, №05, №9, and №12 varieties were compared with the Pskom variety, it took 15-23 days for 10-75% germination of potato seedlings in the Control Pskom variety, while the new №01, №02, germinated 1-2 days earlier than the control variant of lines №05, №9, №12. If the number of stems is 0.1 to 0.5 more, and the stem height is higher than 5.2 cm to 13.3 cm, the total yield is 58.2 than the control PSkom variety; 50.0; 54.5; 33.5; 58.2 percent higher than the control option was reflected in the experiments.

Conclusions

1. 36 samples of the potato collection are kept as a gene pool.

2. Compared with the local Pskom variety, Evolution, Red bullet, Romantika, Mikado, Simega, Arizona, Dizera, Arizona, Spunta, Gala, Kuroda, Sneglazka, Tashkent ertagisi, Botant, Balatoni rossa, White lady, Demon, Balatoni sarga and new The fact that germination, budding, and flowering of seedlings of lines №01, №02, №05, №9, №12 was 1-3 days earlier than the control option, the number of stems and the yield of the stem height were 40-50% higher than the control option was reflected in the experiments.

3. Early varieties were selected from the potato collection and used for breeding.

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