

Proceedings of International Educators Conference

Hosted online from Rome, Italy.

Date: 25th October - 2024

ISSN: 2835-396X

Website: econferenceseries.com

PRODUCTIVITY AND YIELD OF SEED TUBERS WHEN CULTIVATING EARLY POTATO VARIETIES WITH TUBERS AND SPROUTS IN THE CONDITIONS OF THE KASHKADARYA REGION

Ostonakulov T.E.

Shabarova N.N.

Shamsiyev A.A.

The article presents the results of evaluating the early potato varieties Gala, Arizona, Sylvana, Saviola, Evolution, Sifra, Bogizogon, Ultraeshim and Yangi O'zbekiston-Sayqal for the yield of seedlings and their survival rate when cultivating seed tubers of different sizes (30-50, 50-70 and 80-100 g). In addition, data are provided on field germination (survival), growth, top formation, duration of the growing season and yield when planting seed tubers and sprouts planted in each nest in 1, 2 and 3 pieces, as well as tubers without sprouts, treated in a 4% solution of ammophos and growth stimulants.

Keywords: varieties, seed tubers, weight (size), sprouts, growth stimulants, seedling yield, survival rate, field germination of tubers, yield, multiplication coefficient.

Introduction.

One of the main problems of potato growing in the Kashkadarya region is the lack of local varieties resistant to adverse conditions, the lack of seed material that meets the requirements for yield and planting qualities, as well as the lack of development of agro-technological measures to ensure high yields.

Potatoes are a crop that consumes the most (3.5-4.0 t/ha) seed material per unit area, and the share of seeds is 60-70% of the costs of growing the crop. Therefore, the efficient use of existing seed material, increasing the reproduction rate is considered an urgent task [1,2].

Today, when the reproduction rate is 4-5, growing potatoes from seedlings allows you to increase it with the efficient use of seed material. This requires special studies in each soil and climatic conditions, assessing crop varieties for plant yields, assessing their stability and productivity [3,4,5]. Taking this into account, we conducted a special field experiment in 2022-2024 in the conditions of irrigated pale gray soils of the Akmal Radzhabov state farm in the Karshi district of the Kashkadarya region.

The aim of the study is to grow a set of popular and newly created early and mid-early potato varieties from seed tubers of different weights, determine the yield and stability of the plant, obtain seedlings from seed tubers per unit area, to determine their yield and the yield of seed tubers.



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Materials and methods.

Potatoes of different early maturing varieties - Gala, Arizona, Ultraeshim, New Uzbekistan-Saikal, mid-season - varieties Silvana, Saviola, Evolution, Sifra, Bogizagon weighing 30-50, 50-70 and 80-100 grams 1 - reproduction. Seed tubers are selected and the yield of sprouts is determined. For this purpose, sprouted seed tubers were evenly collected in a film nursery on 15.02, 01.03 and 15.03, buried in peat 6-7 cm thick, germinated for 18-25 days and seedlings 12-15 cm long were prepared. According to varieties and seeds of different weights, 50 pcs. were planted, a total of 200 tubers in 4 replicates and the yield of seedlings was determined. They were torn off from the buds and buried in moist soil or sand for 5-10 days. The roots of the plants torn off from the tubers were strong, thick-stemmed, produced 4-5 leaves, and were distinguished by their stability.

Results of the study.

The yield of the potato varieties studied in the experiment varied significantly when planting seed tubers of different weights - 2.5-3.5 pcs per 100 g of tubers when planting. When planting seed tubers of all weights, the highest yield was shown by Evolution (2.4-3.2 pcs), Gala (2.3-2.9 pcs), Bogizogon (2.2-2.6 pcs), Silvana (2.1-2.6 pcs), Ultraeshim (2.6-3.5 pcs). pieces) were noted. For the other studied varieties, it was found that the yield of tumors was 2.0-2.3 units. Thus, to obtain a tumor, it is effective to use tubers weighing 50-70 grams, and the varieties separated from each tuber yield 2.5-2.8 pieces. In other words, seedlings obtained from 3.5-4.0 tons of seed tubers per hectare will be enough for transplanting to 1.2-1.4 hectares.

When seed nodules obtained from a tumor were planted in a solution of 4% amfos + 0.005% gibberellin + 0.02% succinic acid for 1-2 hours, the germination of the field accelerated and a comfortable stem was formed in one nodule. The studied varieties had a field productivity of 90.4-98.0%, the number of stems was 2.8-3.5 pcs. The highest field fertility (92.4-98.0%), stem formation (3.0-3.5 pcs.) were noted in the varieties Evolution, Gala, Silvana, Saviola, Arizona, Ultraeshim. When planting early potato varieties with sprouts of seed tubers, the field fertility is 91.6-98.6%, stems on one bush 3.0-3.7 grains, plant height 76-86 cm, bean weight 310-333 grams. The vegetation period is 78. It was 88 days. It was established that the sown tubers or shoots were significantly higher than the sown varieties (Table 1).



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Table 1 Field fertility, growth, yield and yield of seed tubers of potato varieties with seed tubers and sprouts planted at different sowing times and without them (2022-2024)

No	Variety name and origin	27-30 days after planting Permeability of the deposit (permeability), %	Number of stems from one bud, pcs.	Plant height, cm	Palaka weight, gr	Growing period, days	Productivity, t/ha
For 1 plant, tubers weighing 50-70 grams are planted as 90x20 cm seedlings on 15.02.							
1.	Gala, DE	97,4	3,2	82,2	310	78	28,6
2.	Evolution, NL	98,6	3,5	88,7	323	88	32,8
3.	Ultraeshim, UZ	96,1	3,4	85,0	322	87	31,2
50-70 gram tubers, from which the first growth was taken, are treated for 2 hours in a solution of 4% ammophos + 0.02% succinic acid + 0.005% gibberellin and after 15.02 they are planted in 90x20 cm seedlings.							
4.	Gala, DE	95,1	3,0	77,0	251	76	25,1
5.	Evolution, NL	98,0	3,3	81,0	258	86	28,1
6.	Ultraeshim, UZ	95,6	3,2	81,3	261	85	27,2
When planting plants 12-15 cm long, about 90x20 cm, 2 pieces per nest, in the period from 15.02.							
7.	Gala, DE	92,5	2	72,0	294	73	22,2
8.	Evolution, NL	95,5	2	74,0	302	81	26,1
9.	Ultraeshim, UZ	95,1	2	76,3	309	82	24,4

When planting 12-15 cm long plants in 90x20 cm 2 pcs. per nest, relatively favorable conditions were created for plant growth and crop formation, the yield was 21.7-24.2 tons per hectare. The above rules were repeated for the Ultraeshim and Evolution potato varieties, i.e. when planting the first sprouted tubers with 50-70 g of seeds, the yield was 31.2-32.8 t/ha, the marketable yield was 31.1-32.7 t/ha, net yield 27.8-29.4 t/ha, the increase coefficient was 8.4-8.9. When planting seed tubers, the yield is 24.5-24.7 t/ha, the commercial yield is 24.3-24.4 t/ha, the net yield is 21.0-21.1 t/ha, the multiplication factor is 6.3-6.4, and when planting seeds, tubers are sown with macrofertilizers and growth stimulants, the yield is high - 27.4-28.1 t/ha, the commercial yield is 27.2-28.0 t/ha, the net yield is 23.9-24.7 t/ha, the increase factor is 7.2-7.5.

Conclusions

In the conditions of irrigated pale gray soils of the Kashkadarya region, seedlings of potatoes of the Evolution, Gala, Saviola, Silvana, Arizona, Ultraeshim, New Uzbekistan-Saikal varieties were grown from seeds 3.5-4.0 t/ha on an area of 1.2-1.4 hectares, and by treating the tubers in a solution of 4% ammophos and growth stimulants for 1-2 hours and planting them in the field, it is possible to grow potatoes on an area of 2.2-2.4 hectares. Then the tubers planted with sprouts provided a yield of 28.6-32.8 t/ha by variety, 22.2-26.1 tons when planting seedlings of about



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70x20x2 cm and 24.4-31.2 tons of tubers without sprouts were planted in amphos. fertilizers and nutrients.

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