

## LABORATORY STUDY OF EGGPLANT VARIETIES IN DROUGHT RESISTANCE

Ibrohimov Bahodir Akmal ugli\*; Normatov Turdimurot Bakhtiyor ugli\*\*

\* PhD,

Samarkand, UZBEKISTAN

\*\*Basic Doctoral Student,

Research Institute of Vegetables, Melons and Potatoes,  
UZBEKISTAN

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### ABSTRACT

*In this paper, 15 foreign and domestic varieties and hybrids were used in laboratory experiments for the initial assessment of the germination ability of eggplant seedlings and their resistance to variable high temperatures. In this case, seeds of each variety and hybrid are placed in 50 cups of petri dish in 4 turns in a special thermostat at 25°C, and after 5 days the seeds in the cup petri are turned into 1 thermostat (control), 2-3-4 turns into 2 thermostats. data on forgetfulness and tumor growth at high temperatures were placed.*

**KEYWORDS:** *Eggplant, Variety, Seed, Hybrid, Sample, Thermostat, Temperature, Forgetfulness, Tumor, Heat, Drought.*

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### INTRODUCTION

The role and importance of the agricultural sector in ensuring food security of the world's population is growing day by day. In particular, the rational use of available resources and opportunities in our country, the guaranteed supply of agricultural products to the population, further increase productivity and interest, the introduction of scientific advances and modern approaches in agriculture impose many tasks on scientists. the study of heat resistance of some varieties of eggplant from vegetable crops resistant to high temperatures and drought was identified as the main goal of our study.

### Research conditions and methods

The research was conducted in the laboratory of the Research Institute of Vegetables, Melons and Potatoes, based on methodological guidelines such as "Methods of conducting experiments in vegetables, melons and potatoes", "Methodological guidelines for the study and maintenance of the world collection of vegetable solanaceous crops", "Methodology of field experiment", "Methods of agrochemical analyzes of soils in Central Asia".

### Research results and their discussion

Primary assessment of heat resistance of eggplant seedlings by heating in the laboratory. In order to study the heat resistance of eggplant, 15 foreign and domestic varieties and hybrids were used in laboratory experiments. In this case, the seeds of each variety and hybrid were placed in 50 cups of petri dish and placed in a special thermostat at a temperature of 25°C for 4 turns. After 5

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days, the seeds in the germinated cup petri dish were placed in the 1st return thermostat (control), 2-3-4 return in the 2nd thermostat. Unripe, unripe seeds were removed from the cup petri dish (Table 1).

**TABLE 1 ABILITY TO GERMINATE EGGPLANT SEEDS (2020-2021)**

№	Variety and hybrid name	Seeds in a thermostat, pcs	The amount of sprouted seeds	
			things	%
1.	NC 10250	50	40	80
2.	NC 37309	50	49	98
3.	NC 39628	50	38	76
4.	NC 33363	50	43	86
5.	NC 10253	50	41	82
6.	NC 37780	50	49	98
7.	NC 39638	50	45	90
8.	NC 37762	50	48	96
9.	NC 39857	50	39	78
10.	NC 37318	50	44	88
11.	NC 37785	50	40	80
12.	NC 38046	50	41	82
13.	NC 37797	50	41	82
14.	Aurora	50	49	98
15.	Surkhan is beautiful	50	48	96

In the first control thermostat, the air temperature was increased by 1 ° C per day, and the number of tumors and tumor height in each variety were measured every 3 days. The tumors also grew rapidly to a temperature of 27 ° C, and their growth slowed considerably at subsequent successive temperatures. The best results in terms of fertility and growth height were observed in foreign hybrids NC 37309, NC 37780, NC 39638 and in the local Surkhan beauty variety (Table 2).

**TABLE 2 EVALUATE THE RESISTANCE OF EGGPLANT TO HIGH TEMPERATURES. (CONTROL)**

Variety and hybrid name		Options											
		25°C Control		26°C		27°C		28°C		29°C		30°C	
		quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm
1.	NC 10250	40	0,2	38	0,5	38	0,9	38	1,4	38	1,9	38	2,4
2.	NC 37309	49	0,5	46	0,9	46	1,5	46	2,3	46	2,9	46	3,1
3.	NC 39628	38	0,3	26	0,7	26	1	26	2,1	26	2,7	26	2,9

4.	NC 33363	43	0,3	41	0,6	41	1,1	41	2,2	41	2,6	41	2,9
5.	NC 10253	41	0,2	38	0,6	38	1	38	1,9	38	2,4	38	2,7
6.	NC 37780	49	0,4	46	1,1	45	1,7	45	2,5	45	3	45	3,2
7.	NC 39638	45	0,6	43	1,3	43	1,9	43	2,6	43	3,1	43	3,3
8.	NC 37762	48	0,5	42	1,2	42	1,8	42	2,4	42	2,9	42	3,1
9.	NC 39857	39	0,4	35	1	35	1,5	35	2,2	35	2,6	35	2,9
10	NC 37318	44	0,3	40	0,9	40	1,5	40	2,3	40	2,7	40	3
11	NC 37785	40	0,2	37	0,8	37	1,4	37	2	37	2,4	37	2,8
12	NC 38046	41	0,2	38	0,7	38	1,4	38	2,1	38	2,5	38	2,8
13	NC 37797	41	0,3	39	0,8	39	1,5	39	2,2	39	2,6	39	2,9
14	Aurora	49	0,4	47	0,9	45	1,6	45	2,3	45	2,7	45	3
15	Surkhan is beautiful	48	0,5	46	1,1	46	1,8	46	2,7	46	3,1	46	3,3

Varieties and hybrids isolated for the experiment and placed in thermostat 2 were first kept at 25°C for 3 days and then at 40°C for 6 hours, and the air temperature in the thermostat was increased by 1°C every 3 days. As a result, in foreign hybrids NC 37309, NC 37780, NC 39638 and seeds of local Surkhan gozali variety and NC 37318, NC 37785, NC 38046, Aurora varieties, the growth of tumors continued rapidly at 25°C for 3 days and 6 hours 40°C for 3 days. did. Tumor growth was observed in the indicated varieties of eggplant for 25 days at 25°C and 6 hours at a temperature of 41°C. At the same time, growth continued at 25°C for 3 days.

Local Aurora, Surkhan beautiful varieties and foreign varieties, hybrids of NC 39638, NC 37309, NC 37309 are 1.3 cm, 1.2 cm, 1.4 cm, 1.7 cm, 1.6 cm, respectively. Grew to 0.8 cm, 1.7 cm, 1.8 cm, 2.0 cm. Hybrids NC 39628, NC 33363, NC 10253 could not withstand the temperature of 44°C for 6 hours in variant 5. Native Aurora, Surkhan beautiful varieties and foreign hybrids NC 37780 NC 37309 NC 39638 tolerated a temperature of 44°C in variant 6, and the tumors died at a temperature of 45°C in 6 hours (Table 3).

**TABLE 3 PRIMARY ASSESSMENT OF EGGPLANT RESISTANCE TO VARIABLE HIGH TEMPERATURES (2020-2021)**

Variety and hybrid name		Вариантлар											
		40°C		41°C		42°C		43°C		44°C		45°C	
		quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm	quantity, piece	height, cm
1.	NC 10250	40	0,2	38	0,6	34	1,1	22	1,3	4	1,3	-	-
2.	NC 37309	49	0,4	46	0,9	41	2	29	2,3	18	2,3	-	-
3.	NC 39628	38	0,3	35	0,7	30	1,3	20	1,5	-	-	-	-
4.	NC 33363	43	0,3	41	0,6	37	1,2	24	1,4	8	1,4	-	-
5.	NC 10253	41	0,2	39	0,5	35	1,2	23	1,5	-	-	-	-
6.	NC 37780	49	0,5	47	0,9	41	2	28	2,2	16	2,2	-	-

7.	NC 39638	45	0,5	44	1,1	40	1,7	27	1,9	15	1,9	-	-
8.	NC 37762	48	0,3	46	0,8	39	1,4	24	1,6	11	1,6	-	-
9.	NC 39857	39	0,4	38	0,7	35	1,3	23	1,5	8	1,5	-	-
10.	NC 37318	44	0,3	42	0,7	38	1,4	21	1,6	-	-	-	-
11.	NC 37785	40	0,2	39	0,6	34	1,2	20	1,4	-	-	-	-
12.	NC 38046	41	0,2	40	0,5	35	1	21	1,2	-	-	-	-
13.	NC 37797	41	0,3	39	0,7	35	1,3	22	1,5	6	1,5	-	-
14.	Aurora	49	0,5	47	1	40	1,9	28	2,1	16	2,1	-	-
15.	Surkhan beautiful	48	0,4	46	0,9	40	1,8	29	2,1	18	2,1	-	-

So, based on years of experiments conducted on several reps, it has been proved that the above five hybrids of eggplant cannot withstand a temperature of 44°C. 10 varieties and hybrids are resistant to temperatures up to 44°C, and 5 of them showed good resistance to high temperatures. In general, seedlings of eggplant varieties and hybrids were found to die at a temperature of 45°C.

**Хулоса.** It was found that different varieties and hybrids of eggplant have different germination and tolerance to hot weather. All varieties and hybrids of eggplant tested were resistant to temperatures of 43°C.

NC 10250, NC 37309, NC 33363, NC 37780, NC 39638, NC 37762, NC 39857, NC 37797, Aurora, Surkhan beautiful cultivars and hybrids were found to be the most resistant to hot temperatures of 44°C according to research.

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