



## DETERMINATION OF THE DRYING DRYER'S DURABILITY OF NOKHAT NAV AND TERMINALS UNDER LABORATORY CONDITIONS

**Z.T. Bolkiev**

Head of the Laboratory of Genetics and Breeding of Leguminous Crops,  
Southern Agricultural Research Institute, Karshi

Article history:	Abstract:
<p><b>Received:</b> 20<sup>th</sup> July 2023</p> <p><b>Accepted:</b> 20<sup>th</sup> August 2023</p> <p><b>Published:</b> 24<sup>th</sup> September 2023</p>	<p>In this work, the drought resistance of chickpeas varieties and cultivars was assessed by germinating seeds of pea varieties and cultivars under high osmotic pressure in a 15% sucrose solution in laboratory conditions. In addition, information is presented on the impact of drought on grain legumes from external environmental factors, problems and their solutions.</p>
<p><b>Keywords:</b> Chickpeas, variety, ridge, drought, southern region, sucrose solution, root length, number of roots, template variety</p>	

According to the results of the authors' research, the biggest loss to plants will be from abiotic factors of the external environment (drought). In particular, it was observed that 15-60% of pea crops died due to drought, depending on the geographical regions [2].

Drought resistance was evaluated by germination of seeds of cultivars and cultivars under high osmotic pressure in 15% solution of sucrose in laboratory conditions.

When the drought resistance of varieties and ridges was studied in laboratory conditions, the number of seeds germinated in the control variant of the sample Obad variety was 96 percent.

70-80% germination was observed when grown in sucrose solution and it was found to be moderately drought resistant.

Currently, many developed countries are implementing healthy eating programs. On the basis of the program, it is aimed to increase consumption of vegetables and comprehensive use of their assortment in the maintenance of public health. A healthy diet also requires high-energy and protein-rich products, as well as biologically active substances. In many countries, foreign introduction programs of vegetables that contain biologically active substances and are non-traditional crops for this country are being implemented [1].

Compared to the model variety, the KR-20-LCAYT-RF-13 strain is 98% in the control variant, 84-90% in the sucrose solution, and the KR20-CIABN-49 strain is 96% in the control variant, 82-88% in the sucrose solution, the KR20-CICTN-33 strain 98% in control version, 93-95% in sucrose solution, KR-20-LCPYT-RF-5 line 96% in control version, 86-94% in sucrose solution, KR20-CIFWN-44 line in control version 98%, in sucrose solution 92-98 percent, the KR20-CICTN-01 strain was observed to germinate 100 percent in the control variant, 96-98 percent in the sucrose solution, and it was found that it showed a high result of drought resistance (Table 1). It was found that the number of roots was 1 in varieties and ridges.

1- table

Determining drought tolerance of chickpeas and cultivars under laboratory conditions. Karsh, 2023).

T/p	Nav va tizmalar nomi	Унган уруф, %		Илдиз сони, дона		Илдиз узунлиги, см		Муртак узунлиги, см	
		Lim	x	lim	x	lim	x	lim	x
1 н	Обод (андоза)		96	1	1	7,0-16,0	12,4	2,8-3,6	3,2
сах		70-82	76	1	1	0,6-2,5	1,8	0,2-0,5	0,3
2 н	KR-20-LCAYT-RF-2		96	1	1	7,1-15,8	11,5	2,6-3,5	3,05
Сах		66-70	68	1	1	0,5-2,2	1,4	0,2-0,4	0,3
3н	KR-20-LCAYT-RF-13		98	1	1	7,9-17,9	12,9	3,1-3,8	3,5
Сах		84-90	88	1	1	0,9-2,9	1,9	0,9-1,2	1,05
4н	KR-20-LCPYT-RF-14		94	1	1	4,5-12,4	8,4	1,6-2,9	2,2
Сах		72-80	76	1	1	0,3-1,9	1,1	0,3-0,6	0,5
5н	KR20-CIABN-49		96	1	1	7,5-17,4	12,5	2,9-3,7	3,3

Сах		82-88	85	1	1	0,7-3,3	2	0,7-1,6	1,1
6н	Лалмикор (ст)		94	1	1	6,3-14,8	10,5	1,3-2,1	1,7
Сах		66-74	70	1	1	0,3-1,7	1	0,4-0,8	0,6
7н	KR20-CIDTN-07		94	1	1	7,4-12,8	10,1	1,4-2,1	1,7
Сах		66-72	69	1	1	0,5-1,8	1,1	0,4-1,2	0,8
8н	KR20-CICTN-33		98	1	1	6,9-18,3	12,6	3,1-3,9	3,5
Сах		93-95	94	1	1	0,8-3,5	2,1	0,6-1,8	1,2
9н	KR-20-LCAYT-RF-12		92	1	1	6,3-11,9	9,1	1,2-1,9	1,5
Сах		70-78	74	1	1	0,5-1,7	1,1	0,3-0,6	0,4
10н	KR20-CIFWN-07		96	1	1	5,9-12,4	9,2	1,4-1,8	1,6
Сах		74-78	76	1	1	0,8-1,9	1,3	0,5-0,9	0,7
11 н	KR-20-LCPYT-RF-5		96	1	1	7,1-18,1	12,6	2,8-4,3	3,6
сах		86-94	90	1	1	0,9-3,1	2	0,5-2,8	1,6
12 н	KR20-CIEN-E-06		90	1	1	5,4-10,8	8,1	1,4-1,8	1,6
Сах		72-80	76	1	1	0,5-1,4	1	0,3-0,7	0,5
13н	KR20-CICTN-17		90	1	1	6,6-11,7	9,1	1,2-1,8	1,5
Сах		74-86	80	1	1	0,7-1,5	1,1	0,5-0,8	0,6
14н	KR-20-LCAYT-RF-7		96	1	1	5,7-10,8	8,2	1,5-1,9	1,7
Сах		68-72	70	1	1	0,4-1,8	1,1	0,3-0,7	0,5
15н	KR20-CICTN-11		86	1	1	5,9-10,2	8,05	0,9-2,1	1,5
Сах		66-68	67	1	1	0,7-1,6	1,1	0,2-0,9	0,5
16н	KR20-CIFWN-44		98	1	1	8,2-17,5	12,8	2,9-3,5	3,2
Сах		92-98	95	1	1	1,0-3,8	2,4	0,7-1,9	1,3
17н	KR20-CIEN-E-21		85	1	1	4,8-9,7	7,3	1,7-1,9	1,8
Сах		76-80	78	1	1	0,7-1,8	1,3	0,3-0,9	0,6
18н	Нурли куюш		92	1	1	5,6-12,8	9,2	1,7-2,2	1,9
Сах		78-84	81	1	1	0,9-2,1	1,5	0,4-0,7	0,6
19н	Лалмикор		90	1	1	6,7-7,2	8,4	1,8-2,1	1,9
Сах		76-80	78	1	1	0,9-1,9	1,4	0,7-0,8	0,8
20н	KR20-CICTN-01		100	1	1	8,5-17,9	13,2	3,1-4,6	3,8
Сах		96-98	97	1	1	1,3-4,2	2,7	1,0-2,9	1,9

Izox: 0-25% drought tolerant, 26-50% weakly tolerant, 51-75% moderately tolerant, and more than 76% drought tolerant.

according to the conducted studies, the optimal air temperature during the growth period of the pea crop is positive up to +10+300C, the decrease or increase of this air temperature during the flowering and grain formation of the plant leads to a decrease in productivity [3].

The average root length of the model Obad cultivar was 12.4 cm in the control variant, and 1.8 cm in the sucrose solution. Compared to the sample variety, the root length of the control variant in the KR-20-LCAYT-RF-13 range is 12.9 cm, and 1.9 cm in the sucrose solution. KR20-CIABN-49 has a root length of 12.5 cm in the control variant, 2 cm in sucrose solution, KR20-CICTN-33 has a root length of 12.6 cm in the control variant, 2.1 cm in sucrose solution, KR-20-LCAYT-RF- In line 5, the root length in the control version is 12.6 cm, in the sucrose solution 2 cm, in the line KR20-CIFWN-44, the root length is 12.8 cm, in the sucrose solution 2.4 cm, in the line KR20-CICTN-01 in the control version, 13.2 cm, sucrose 2.7 cm in the solution, it was observed that it showed a high result.

According to scientific research, the pea crop is considered a cool-loving plant and does not require heat. Due to the deep root system, it is resistant to drought. The soil structure develops well in a well-drained area. It does not develop in areas with high salinity and humidity [4].

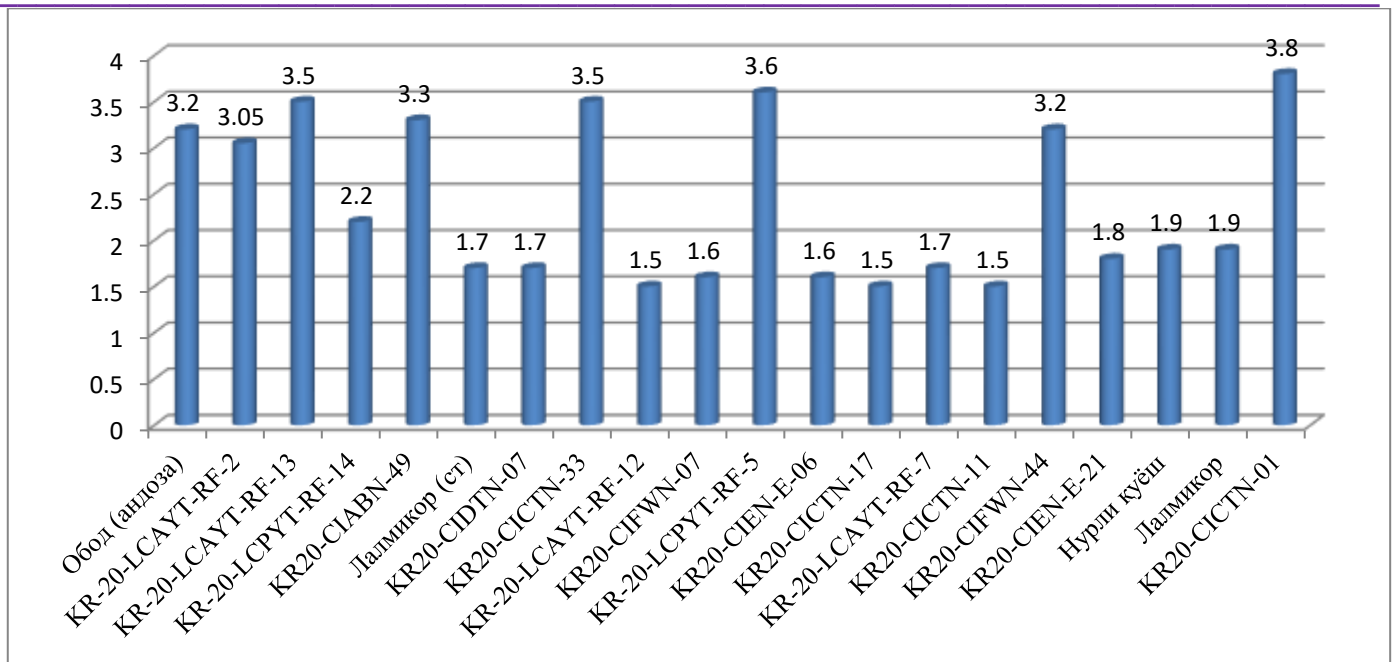


Figure 1: Shoot length of pea varieties and lines in normal water, cm (Karshi-2023 yr.).

When the shoot length of varieties and ridges was measured, it was observed that the model Obad variety grew by 2.8-3.6 cm in the control variant, and 0.2-0.5 cm when grown in sucrose solution. In the KR-20-LCAYT-RF-13 strain, the average shoot length was 3.5 cm in the control variant, and 1.05 cm in the sucrose solution. In the KR20-CIABN-49 line, the length of the shoot in the control variant was 3.3 cm on average, and this indicator was 1.1 cm in the sucrose solution (Fig. 1).

In the KR20-CIFWN-44 strain, the length of the shoot in the control variant is 3.2 cm on average, and 1.3 cm in the sucrose solution. It was noted that in the KR20-CICTN-01 line, the shoot length was 3.8 cm in the control version, 1.9 cm in the sucrose solution, and it showed a higher result compared to the model variety.

**LIST OF USED LITERATURE:**

1. Petzoldt L., Kroschewski B., Kautz T. Metabolic activity of *Hordeum vulgare*, *Brassica napus* and *vicia faba* in Worm and Root type Biopore S'heaths// Plant and Soil -2022-C-10
2. Harrison 1988; Stoddard et al. 2010; Salam et al. 2016; Watson et al. 2017
3. Stoddard FL, Nicholas AH, Rubiales D, Thomas J, VillegasFernández AM. 2010. Integrated pest management in faba bean. Field Crops Res. 115:308–318. 1016/j.fcr.2009.07.002
4. Bankina B, Bimšteine G, Neusa-Luca I, Roga A, Fridmanis D. 2017. Less known species of *Botrytis* spp. – the causal agents of faba bean chocolate spot. In: M. Kukwa, editor. Book of abstracts. XX symposium of Baltic mycologists and lichenologists. p. 27