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CONTINUITY OF THE GROWTH PERIOD AND GRAIN PRODUCTION OF PEA VARIETIES AND RANGES

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Abstract:

This article analyzes the formation and development stages of varieties and rows in relation to standard varieties in the phases of the growth period of legumes, especially chickpea. In addition, biometric indicators of chickpea varieties and rows and most importantly, information on grain yield are presented.

Keywords: pea, variety, ridge, return, growth period, germination, branching, budding, podding, grain yield

Despite the rapid development of science and technology in the world, the food problem remains one of the most important global problems. Due to the sharp changes in the environmental situation, the area under agricultural production is decreasing year by year, while the population is increasing. Today, there are more than 7 billion people on Earth, of which 3 billion live in hunger.

According to research, the optimal air temperature for chickpeas during the growing season is +10+30°C, while a decrease or increase in this air temperature during flowering and grain production leads to a decrease in yield [2].

When analyzing the growth period and productivity indicators of leguminous grain crops planted in irrigated fields, the varieties and ridges grown in the competition nursery of the Pea, it was found that the germination and branching period was 15 days in the sample "Obad" variety, and 17 days in the "Lalmikor" variety. It was found that the number of ridges with a germination-branching period shorter than that of the model varieties was 7 (Fig. 1).

Figure 1: Germination-branching period in pea cultivars and rows, day.

When analyzing the germination-budding period of pea varieties and ridges, it was found that the germination-budding period was 40 days in the "Obad" variety, and 43 days in the "Lalmikor" variety.

It can be observed that the germination-budding period of the KR-20-LSAYT-RF-13, KR-20-LSPYT-RF-5, KR20-SISTN-17, and KR20-SISTN-37 lines, which have a short germination-budding period, ranges from 36 to 38 days, which is 4-5 days earlier than the standard varieties (Figure 2).

The second half of the growth period of chickpeas grown in the Lalmikor fields is spent in conditions of drought and increased heat. As a result of the increase in temperature, protein breakdown occurs in plant tissues, which occurs together with the accumulation of ammonia in the plant, as a result of which the plant withers. A sharp increase in temperature slows down the accumulation of dry matter in the plant and sharply reduces grain quality and yield. Thus, high temperatures affect the plant's developmental organs, which can lead to incomplete germination of the plant during flowering.[3].

Figure 2: Germination-budding period, days, in pea varieties and rows.

When analyzing the podding period of pea varieties and lines grown in the competition nursery, the average pod yield according to the returns was determined as a result of the analyzes that the germination-podding period was from 71 to 77 days corresponding to May 16-21.

One of the most important indicators of plant development: the formation of pods, is the fact that under the influence of heat, the development of peas is inhibited. For the development of the generative organ of peas, an average temperature of +20 + 28 ° C is required [1].

Figure 3: Germination-seeding period in pea varieties and ridges, day.

It was found that the germination-to-budding period of the Andoza variety "Obod" was 73 days, and that of the "Lalmikor" variety was 72 days. Among the Andoza varieties, the germination-to-budding period was shorter, and it was found that the KR-20-LSAYT-RF-2, KR20-SIFWN-07, and KR-20-LSAYT-RF-14 lines, which had a shorter germination-to-budding period, reached 71 days, 1-2 days earlier than the Andoza varieties (Figure 3).

As a result of the analysis, it was found that 10 ridges with a higher period of sprouting and podding than the sample varieties.

In Turkey, chickpea is considered a protein-rich crop, with an average protein content of 22-26%. Both cultivated and wild species of this crop are a source of food for humans and livestock. The plant lives in symbiosis with free-living, airborne bacteria in its root system, enriching the soil with nutrients [4].

When analyzing the growth period, one of the most important indicators of chickpea varieties and lines, it was found that the transition of plants to the full ripening phase occurred on average on June 1-7, and in the standard varieties "Obod" and "Lalmikor" the transition to the ripening phase was observed on June 5, and the growth period was 90 and 91 days, respectively (Figure 4).

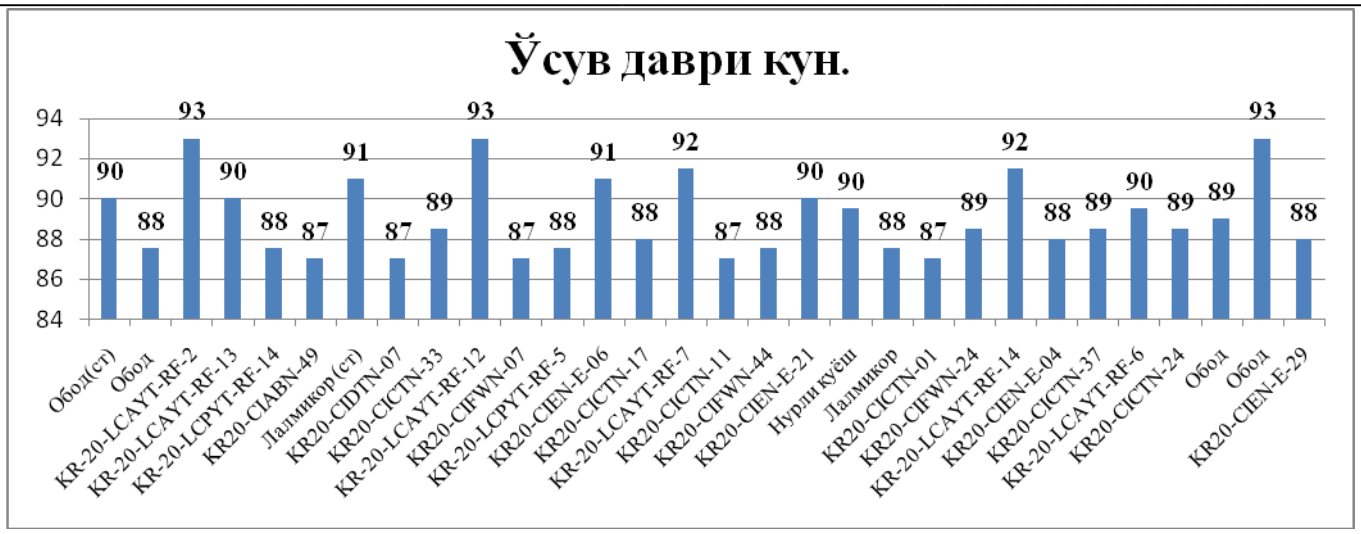

Figure 4: Growing period of pea varieties and rows, day.

The results of the analysis revealed that the growth period of the short-growing varieties KR-20-LSPYT-RF-14, KR20-SIABN-49, KR20-SIDTN-07, KR20-SIFN-07, KR20-SISTN-01, KR20-SIEN-E-04 was 87 to 88 days.

The number of grains per pod of pea cultivars and lines in the competitive nursery was analyzed and divided into single-grain, 2-grain and 3-grain pods.

It was found that the total number of pods in one plant in the model "Obad" variety is 75, 62 single-grain pods, 13 2-grain pods, and 3-grain pods were not found.

Table 1

The number of pods in one bush of pea varieties and rows, pcs.

№	Nomi	Bir tup o‘simlikda dukkaklar soni, dona			
		1 donli	2 donli	3 donli	Jami
1	**Обод(андоза)**	62	13		75
2	Обод	81	12		73
3	KR-20-LCAYT-RF-2	48	15		62
4	KR-20-LCAYT-RF-13	73	9		82
5	KR-20-LCPYT-RF-14	66	13	1	79
6	KR20-CIABN-49	73	12		85
7	**Лалмикор (андоза)**	70	14	1	80
8	KR20-CIDTN-07	74	13		87
9	KR20-CICTN-33	63	14		77
10	KR-20-LCAYT-RF-12	74	10		84
11	KR20-CIFWN-07	64	13		77
12	KR-20-LCPYT-RF-5	54	12		65
13	KR20-CIEN-E-06	67	13		79
14	KR20-CICTN-17	60	12		72
15	KR-20-LCAYT-RF-7	63	13	1	77
16	KR20-CICTN-11	67	11		78
17	KR20-CIFWN-44	71	14		85
18	KR20-CIEN-E-21	60	14		74
19	Нурликуёш	59	13		71
20	Лалмикор	73	9		82
21	KR20-CICTN-01	71	13	1	85
22	KR20-CIFWN-24	54	15		68
23	KR-20-LCAYT-RF-14	63	14		77
24	KR20-CIEN-E-04	74	10		84
25	KR20-CICTN-37	70	14		83
26	KR-20-LCAYT-RF-6	55	15		70
27	KR20-CICTN-24	71	12		83
28	Обод	68	11		79
29	Обод	75	13	1	88
30	KR20-CIEN-E-29	67	14		81
Engbalandko‘rsatkich		**81**	**15**	**1**	**93**
O‘rtachako‘rsatkich		**66**	**12**	**1**	**79**

Engpastko'rsatkich	**48**	**9**	**1**	**62**

It was found that the number of pods in one bush of the "Lalmikor" variety was 85, the number of one-grain pods was 70, the number of 2-grain pods was 14, and the number of 3-grain pods was 1 (Table 1).
As a result of the analysis, it was determined that the number of pods per plant in the rows KR20-SIDTN-07, KR-20-LSAYT-RF-13, KR20-SIABN-49, KR20-SIFN-44, KR20-SISTN-37, KR20-SIEN-E-29, which had the highest number of pods per plant, ranged from 81 to 88.

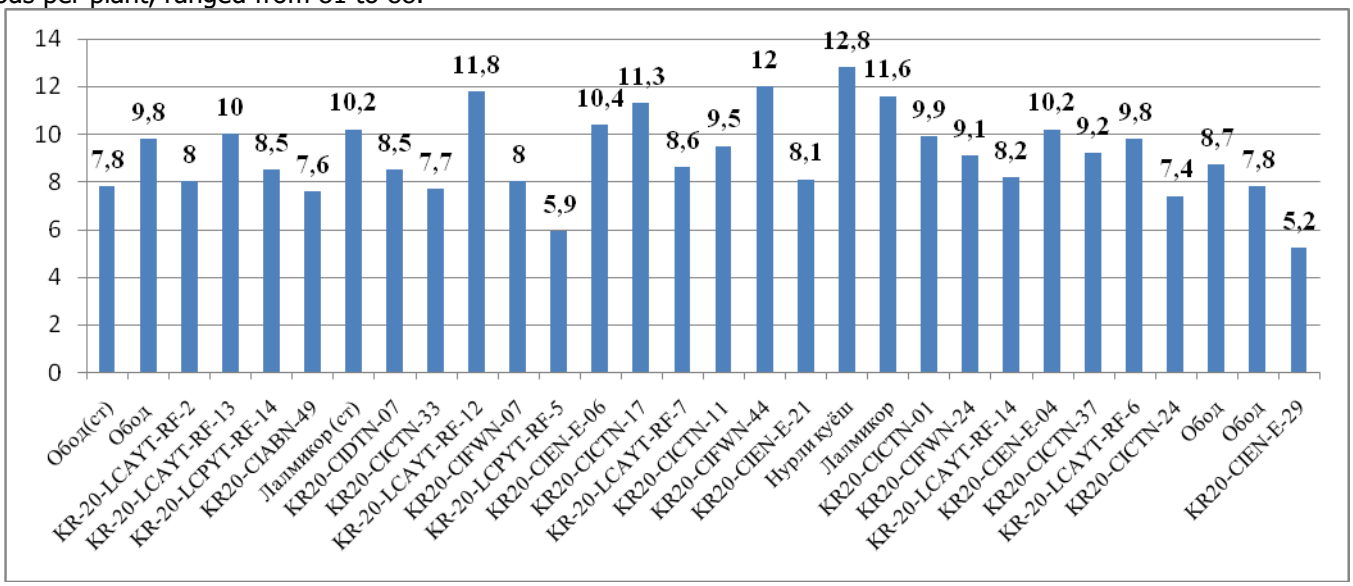

Figure 5: Grain yield of pea varieties and lines, ts/ha.

When determining the grain yield of chickpea varieties and lines, it was found that the average grain yield of the varieties varied from 5.2 to 12.8 c/ha. In this case, the grain yield of the standard variety "Obod" was 7.8 c/ha, and the "Lalmikor" variety was 10.2 c/ha, and the grain yield of the standard varieties was higher for KR-20-LSAYT-RF-12 11.8 c/ha, KR20-SIEN-E-06 10.4 c/ha, KR20-CISTN-17 11.3 c/ha, KR20-CIFWN-44 12 c/ha, and the Nurli Kuyosh variety 12.8 c/ha (Fig. 5).

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