European Journal of Agricultural and Rural Education (EJARE)
Available Online at: https://www.scholarzest.com
Vol. 5 No. 07 July 2024
ISSN: 2660-5643

SELECTION OF VARIETIES AND RANGES OF LENS (LENS CULINARIS) WITH HIGH GRAIN YIELD AND HIGH PROTEIN CONTENT

PhD. Jabarov Farrukh Odirovich
Southern Agricultural Research Institute

Article history:

Received: 6th May 2024
Accepted: 1st June 2024

Abstract:

There are more than 7 billion people on earth today, of which 3 billion live in hunger.Along with the amount of products grown for food, it is important for its diversity, ecological purity, and the richness of minerals useful for the human body and health.These beneficial substances are found in large quantities only in legumes, including lentils.Therefore, creating new varieties of lentils, increasing their productivity and grain quality is one of the urgent tasks.

Keywords: Lentil, yield, protein, southern region, selection, variety, ridge, return, template, phenological observation.

INTRODUCTION: The role and importance of the agricultural sector in ensuring the food security of the population on a global scale is increasing day by day. In particular, in our country, it is an urgent issue to use the available resources and opportunities to provide the population with guaranteed agricultural products, to further increase productivity and interest, and to introduce scientific achievements and modern approaches to the field.

Today, the effects of high temperature and water stress are attracting attention because they seriously threaten the productivity of leguminous crops, as they affect pollen viability, fertilization and pod set [1].

In the irrigated field of the Southern Agricultural Research Institute in the Karshi district, 20 varieties and varieties of lentil were planted in 3 rotations on an area of 2 m2 in the nursery of a competitive variety of lentil.

According to the results of the conducted research, it was observed that the germination period of lentil varieties and ridges in the nursery of competitive varieties was analyzed, according to returns, on average, it corresponded to the dates of March 5-7. It was observed that the number of sprouted plants of lentil varieties and ridges was 36-38 (90-95%). The number of sprouted plants in the model "Darmon" and "Sarbon" varieties is 37. It was found that the number of sprouted plants in 5 ridges is higher compared to the model varieties (Table 1).

Table 1

The growth period of lentil varieties and ridges in the competitive variety testing nursery (Karshi - 2022).

№	Nomi	Unibchiqish, sana	Unibchiqqano`simliklarsoni, dona	Shoxlanish, sana	G`uncha-lash, sana	Gullash, sana	Dukkakhosilbo`lish, sana	Pishish, sana	Pishishgachabo`lgankun
1	**Darmon (andoza)**	05.mar	37	06.apr	20.apr	29.apr	11.may	27.may	83
2	**Sarbon (andoza)**	06.mar	37	05.apr	20.apr	28.apr	10.may	27.may	82
3	KR20-LIEN-E-07	06.mar	37	06.apr	21.apr	28.apr	10.may	26.may	82
4	KR20-LIEN-E-08	06.mar	38	06.apr	20.apr	27.apr	09.may	27.may	82
5	KR20-LIEN-E-10	07.mar	38	06.apr	19.apr	28.apr	10.may	25.may	79
6	KR20-LIEN-E-11	07.mar	37	06.apr	21.apr	28.apr	10.may	28.may	82
7	KR20-LIEN-E-13	06.mar	37	05.apr	21.apr	28.apr	10.may	27.may	82
8	KR20-LIEN-E-18	07.mar	37	06.apr	21.apr	27.apr	09.may	24.may	78
9	KR20-LIEN-E-25	07.mar	37	06.apr	20.apr	27.apr	10.may	26.may	80
10	KR20-LIEN-L-01	07.mar	37	06.apr	21.apr	27.apr	10.may	27.may	82
11	KR20-LIEN-L-04	06.mar	37	06.apr	21.apr	29.apr	09.may	27.may	81
12	KR20-LIEN-L-06	05.mar	38	06.apr	21.apr	28.apr	10.may	27.may	83

13	KR20-LIEN-L-09	06.mar	37	06.apr	20.apr	28.apr	10.may	27.may	82
14	KR20-LIEN-L-10	06.mar	37	07.apr	19.apr	27.apr	09.may	26.may	81
15	KR20-LIEN-L-14	07.mar	37	05.apr	20.apr	28.apr	10.may	25.may	79
16	KR20-LIEN-L-16	06.mar	38	06.apr	21.apr	28.apr	10.may	28.may	83
17	KR20-LIEN-L-18	06.mar	38	05.apr	20.apr	28.apr	10.may	26.may	81
18	KR20-LIEN-L-22	07.mar	36	07.apr	20.apr	27.apr	09.may	26.may	81
19	KR20-LIEN-L-23	07.mar	37	06.apr	20.apr	27.apr	10.may	25.may	80
20	KR20-LIEN-L-25	06.mar	37	05.apr	20.apr	27.apr	10.may	27.may	81
O`rtachako`rsatkich		**06.mar**	**37**	**06.apr**	**20.apr**	**28.apr**	**10.may**	**26.may**	**81**
Minimumko`rsatkich		**05.mar**	**36**	**05.apr**	**19.apr**	**27.apr**	**09.may**	**24.may**	**78**
Maksimumko`rsatkich		**07.mar**	**38**	**07.apr**	**21.apr**	**29.apr**	**11.iyun**	**28.may**	**83**

According to the results of the conducted phenological observation, it was determined as a result of the phenological observations that the transition of the lentil varieties and ridges to the branching phase corresponded to April 5-7 on average.

When analyzing the budding phase according to the results of phenological observation of lentil varieties and ridges in the trial nursery of the competitive variety, on average, the returns included the days from April 19 to April 21. It was observed that the flowering phase lasted from April 27 to April 29 on average.

Temperatures above 32/20°C (max/min) during flowering and pod filling have negative effects on lentil growth from germination to grain filling, affecting yield and nutritional quality [2].

The pod formation phase of lentil varieties and ridges was observed on average from May 9 to May 11. It was found that the model produced early pods in 5 ridges compared to the varieties.

Effects of heat stress, mainly during the reproductive stage and seed development of plants, seriously threaten the viability of pollen, fertilization and productivity of leguminous crops [3].

According to the conducted studies, the ripening period of lentil varieties and ridges was determined from May 24 to May 28. The ripening phase was observed earlier in 9 ridges compared to the model varieties.

It was observed that the days until ripening, that is, the growing period of lentil varieties and ridges, lasted from 78 to 83 days. As a result of the research, it was found that the growth period of 10 rows is compared to the model varieties (Fig.1).

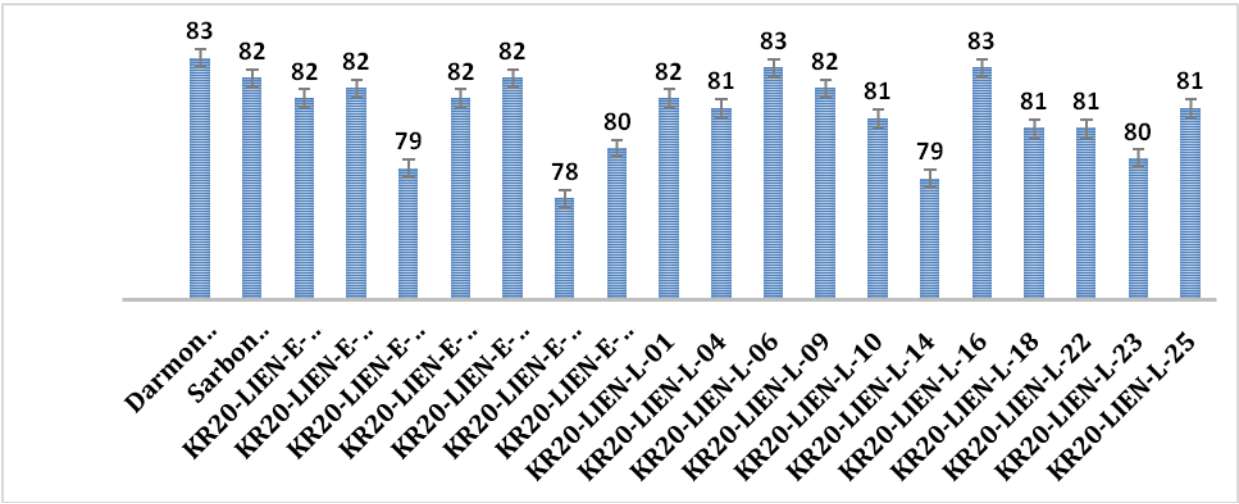

Figure 1. The day before ripening of lentil varieties and ridges. (Karshi - 2022.)

According to the results of biometric measurement of lentil varieties and ridges in the competitive variety testing nursery, it was determined that the average plant height is 29-55 cm. It was observed that the plant height index was higher in 10 ridges compared to the model varieties (Fig. 2).

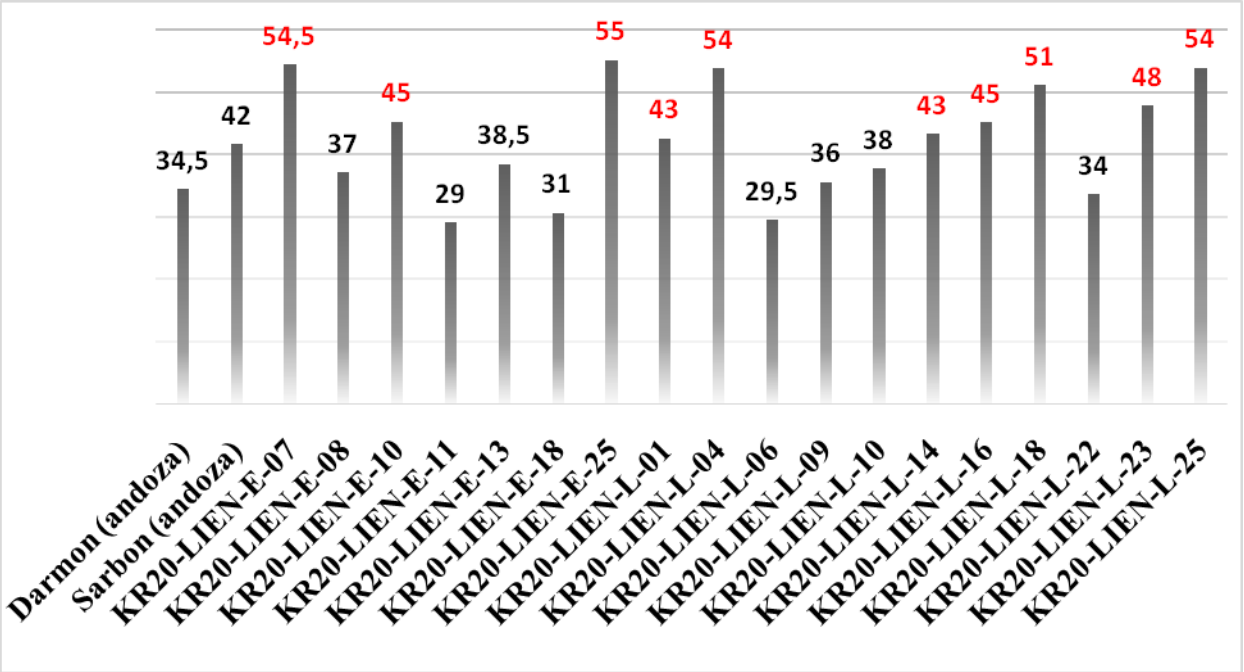

Figure 2. Lentil plant height, cm. (Karshi - 2022.)

According to the results of the conducted research, it was observed that the number of fully matured plants of lentil varieties and ridges is from 33 to 37 (82.5 - 92.5%) (Table 2).

LIST OF USED LITERATURE

1. Gaur , P . M. et al. High temperature tolerance in grain legumes. 2014. C-54-58.
2. Bhardwaj, A. et al. Heat Priming of Lentil (Lens culinarisMedik.) Seeds and Foliar Treatment with γ-Aminobutyric Acid (GABA) , Confers Protection to Reproductive Function and Yield Traits under HighTemperature Stress Environments. International Journal of Molecular Sciences vol. 22 (2021) .
3. Gaur vaboshq. , 2015). Gaur, P.M., Samineni, S., Krishnamurthy, L., Varshney, R.K, Kumar, S. and Ghanem, M.E. 2015. Hightemperature tolerance in grain legumes. LegumePerspect 7:23-24 .
4. Redden RJ, Hatfield JLP, Vara PV, Ebert AW, Yadav SS,O'Leary GJ. Temperature, climatechange, and globalfood security. In 'Temperature and plant development'. Vol. 1. (Eds KA Franklin, PA Wigge) pp. 181–202. (John Wiley & Sons: Hoboken, NJ, USA), 2014.