

VALUABLE ECONOMIC TRAITS OF THE HEAD LETTUCE VARIETY SAMPLES RELATING TO THE GENUS LACTUCA SATIVA VAR. CAPITATA

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ABSTRACT:

The botanical species of lettuce (*Lactuca sativa* L.) belongs to the family Astraceae. Its *Lactuca sativa* L. species is divided into the following subspecies: *Lactuca sativa* var. *acephala* - Oak leaf lettuce varieties; *Lactuca sativa* var. *capitata* - the Butterhead lettuce varieties of different shapes (buttery leaves have an oily layer); *Lactuca sativa* var. *capitata* - the Crisphead lettuce varieties of different shapes (Iceberg or Cabbage); *Lactuca sativa* var. *romana* - the Romaine lettuce varieties, or *cos*, long-round-leafed head lettuce, hemispherical forms are also found; *Lactuca sativa* var. *Angustana* (spargelsalad, wosun) - the Celtus lettuce varieties (stem lettuce). *Lactuca sativa* var. *capitata*, among other lettuces, is a crop of great importance in human health and agriculture. In the conditions of the Republic of Uzbekistan it has not been long since the beginning of the cultivation of head lettuce. The technologies in agriculture used in the cultivation of head lettuce in the country are not fully scientifically based today, and research in this area is one of urgent tasks and expedient.

INTRODUCTION:

In recent years, comprehensive measures and organizational work are being implemented worldwide to ensure food security, fully meet the needs of population for

vegetable products and expand the range of vegetable products. As a result, in recent years, the introduction of new non-traditional vegetable crops has been achieved, and agro-technologies for their cultivation are being improved.

We have been conducting research since 2020 on the selection of varieties and hybrids of head lettuce (*Lactuca sativa* var. *capitata*) suitable for the cultivation in the condition of the Republic of Uzbekistan and the improvement of its cultivation technology in the Tashkent experimental plot of the Research Institute of vegetables, melons and potatoes.

In experiments, the head lettuce variety *Krupnokochanniy* that was included in State Register of agricultural crops allowed for planting in the territory of the Republic of Uzbekistan, and a total of more than 13 samples of lettuce varieties from foreign countries have been used.

At the same time, the varieties and hybrids imported from Russia (Great Likes 659, Sezon, Berlinskiy Zhyoltiy, Chudo 4 sezonov, Ice Queen, Ruskiy Bogatyr, Alabama, Batavia, Rada, Patriciy, Aburam), China (Jeil seed, Iceberg), Germany (Express F1) are being studied in the experiments by planting.

In the course of the study of variety samples of the head lettuce on the analysis of the conducted studies and determination of the preliminary results, their most important morphobiological traits were evaluated and divided into groups.

Measurements were carried out to determine the height of the plant, leaf length, leaf width, number of leaves and weight of cabbage.

As a result of early spring observations of the head lettuce for 2020-2021, the following indicators on the valuable economic traits of varieties and hybrids were recorded.

In the Krupnokochanniy control variety, the length of the leaves of head lettuce was recorded as 21.8 cm, while in the Ruskiy Bogatyr variety (22.2 cm), Express F1 (22.8 cm), Iceberg lettuce (22.0 cm) varieties and hybrids this indicator was higher. In 11 variety samples studied, the results equal with the control variant and relatively lower than the control, were recorded and ranged from 21.8 to 18.4 cm (Table 1).

Table-1. Valuable economic traits of variety samples of head lettuce

№	Variety samples	Preharvesting			
		Length of the leaf, cm	Width of the leaf, cm	Number of leaves	Weight of the cabbage, g
1	Krupnokochanniy (st)	21,8	22,8	16,8	300,0
2	Great Likes 659	18,6	21,2	13,8	189,0
3	Sezon	18,7	20,6	16,2	329,8
4	Berlinskiy Jyoltyy	19,3	19,9	15,4	200,0
5	Chudo 4 sezonov	18,4	22,2	16,6	330,0
6	Ice Queen	17,9	19,2	13,8	500,0
7	Ruskiy Bogatyr	22,2	22,8	17,2	500,0
8	Alabama	19,4	21,2	14,6	416,0
9	Batavia	21,8	22,2	15,0	526,0
10	Rada	21,4	22,8	15,2	476,0
11	Express F1	22,8	22,8	17,2	536,0
12	Patriciy	19,2	20,2	14,6	650,0
13	Jeil seed	19,6	22,2	14,0	470,8
14	Iceberg lettuce	22,0	22,8	17,0	530,0
15	Aburam	19,8	20,4	14,2	476,0

While the indicator on leaf width was recorded as 22.8 cm in Krupnokochanniy control variety, a higher result than control was not observed in other varieties. In the studied cultivars and hybrids, the width of the leaf

ranged between 22.8–19.2 cm, and no significant difference was observed among the cultivars.



Figure-1. The weight of cabbage of head lettuce

According to the analysis performed on the weight of the cabbage of had lettuce, the indicator in Krupnokochanniy control variety was found to be 300 g, the highest result 470-650 grams in this regard was recorded in Jeil seed, Ruskiy Bogatyr, Batavia, Rada, Express F1, Patriciy, Iceberg lettuce, Aburam, Ice Queen varieties and hybrids.

Among the studied hybrids, the lowest weight of cabbage of head lettuce was found during the analysis of weight in varieties Great Likes 659 (189 grams) and Berlinskiy Zhyoltyy (200 grams).

When preharvesting plant height in head lettuce varieties was analyzed, the indicator on this regard was 25,0 cm in Krupnokochanniy control variety, a higher result compared to the control were recorded in Sezon (25,7 cm), Ice Queen (26,0 cm), Ruskiy Bogatyr (27,9 cm), Batavia (28,8 cm), Express F1 (27,8 cm), Patriciy (29,0 cm), Iceberg lettuce (27,0 cm) varieties and hybrids. While a lower indicator on plant height compared to the control was determined in Great Likes 659 (18,6 cm), Berlinskiy Zhyoltyy (18,3 cm), Alabama (22,4 cm), Rada (24,4 cm), Aburam (24,8 cm) varieties and hybrids, an equal result

to the control was noted in Chudo 4 sezonov hybrid (table-2).

Table-2.

№	Variety samples	Preharvesting			
		Plant height, cm	Weight of leaves per plant, g	Root weight, g	A core length, cm
1	Krupnokochanniy (st)	25,0	180,0	17,4	3,5
2	Great Likes 659	18,6	120,0	15,8	3,0
3	Sezon	25,7	150,0	17,2	3,8
4	Berlinskiy Zhyoltiy	18,3	130,0	14,9	3,0
5	Chudo 4 sezonov	25,0	190,0	17,6	3,2
6	Ice Queen	26,0	200,0	18,0	4,0
7	Ruskiy Bogatyr	27,9	190,0	19,2	3,8
8	Alabama	22,4	160,0	17,6	3,0
9	Batavia	28,8	210,0	20,7	4,0
10	Rada	24,4	150,0	16,2	4,5
11	Express F1	27,8	180,0	20,9	3,0
12	Patriciy	29,0	210,0	21,0	4,0
13	Jeil seed	25,6	190,0	18,5	3,4
14	Iceberg lettuce	27,0	180,0	16,9	3,8
15	Aburam	24,8	140,0	17,2	3,0

In the Krupnokochanniy control variety, by weight of leaves per plant the indicator was 180.0 g, with a relatively high and equal result in Chudo 4 sezonov (190.0 g), Ice Queen (200.0 g), Ruskiy Bogatyr (190.0 g), Batavia (210.0 g), Patrisiy (210.0 g), Jeil seed (190.0 g), Express F1 (180.0 g), and compared to the control variety a lower indicator was found in Alabama, Rada, Aburam varieties and hybrids.

The root weight of the head lettuce was 17.4 g in the control variety, while highest indicators compared to the control variety were recorded in Batavia (20.7 g), Express F1 (20.9 g), Patrisiy (21.0 g) varieties and hybrids. The relatively lower rate than the control was observed in Great Likes 659 (15.8 g), Sezon (17.2 g), Berlinskiy Zhyoltiy (14.9 g), Chudo 4 sezonov (17.6 g), Ice Queen (18.0 g), Alabama (17.6 g), Rada (16.2 g), Jeil seed (18.5 g), Iceberg lettuce (16.9 g), Aburam (17.2 g) varieties and hybrids with the difference in the range of 2-3 g.

A core length of the plant was 3.5 cm in the control variety. A relatively high rate was found in Ice Queen (4.0 cm), Batavia (4.0 cm), Rada (4.5 cm), Patrisiy (4.0 cm) varieties and hybrids. The relatively lower rate than in the control was recorded in Great Likes 659, Sezon, Berlinskiy Zhyoltiy, Chudo 4 sezonov, Ruskiy Bogatyr, Alabama, Express F1, Jeil seed, Iceberg lettuce, Aburam varieties and hybrids.

CONCLUSION:

according to the analysis of studies conducted in 2020-2021 and preliminary results, the most important morphobiological traits of varietal samples of the head lettuce were evaluated and divided into groups. It was found that among the studied varieties and hybrids there was a difference in plant height, leaf length and width, number of leaves, cabbage weight and other indicators. The highest result in terms of yield was recorded in the Patrisiy variety and it made 650 grams.

REFERENCES:

- 1) Cultivation of lettuce. Book 20. Editors Sh.R. Aripova. 2021. Tashkent. (in Uzbek)
- 2) Catalog of regionized varieties of agricultural crops. 1986. (in Russian)
- 3) R.A.Komarova – Expanding an assortment of green crops in state farms of the Leningrad region, biol. All Russian Institute of Plant Growth, in 10/A, 1980, -Pp.50 – 52. (in Russian)
- 4) P.F.Kononkov, R.A.Komarova – Lettuce, as a green vegetable crop. Moscow – 1975. (in Russian)
- 5) Girenko M.M., Mukhanova Yu.I., Aims and methods of breeding green and spice vegetable crops. Bulletin of All Russian Institute of Plant Growth.-Ed.148.-L.1985. – Pp.17-19. (in Russian)
- 6) Wang Youbao, Huang Wei, Liu Dengyi Yingyong shengtai xuebao N 1, 2005, v.16. –

- Pp.189-192: Nitrite content of common vegetables in Wuhu city
- 7) International scientific-practical conference "Selection and seed production of vegetable crops in the XXI century", Moscow, July 24-27, 2000. -Pp. 336-337,422. (in Russian)
- 8) Bul. Univ. Esti. agr. Esi med. vet., Cluj-Napoca. Ser. Hort., 2004, v.61, -p.471
- 9) Bunin M.C. New vegetable crops in Russia [Text] / M.C.Bunin. - M: FSSI «Rosinformagroteh», 2002. - Pp. 21-48 (in Russian)
- 10) Bogolepov, G.G. Productivity of spinach at different times of sowing in open ground [Text] / G.G. Bogolepov // Problems of scientific support of vegetable growing in the South of Russia: materials of the International scientific and practical conference. - Krasnodar: Publishing house "EDVI", 2004. - Pp. 38-42. (in Russian)