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HEAD WEIGHT AND YIELD INDICATORS OF LETTUCE VARIETIES AND G¹ HYBRIDS BELONGING TO TYPE CABBAGE LACTUCA SATIVA VAR. CAPITATA L.

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ABSTRACT

This article presents information on the 2020-2022 study of varieties and hybrids imported from foreign countries in the spring season of the head lettuce plant, cabbage head base and yield.

KEYWORDS

Lettuce, iceberg, variety, hybrid, cabbage weight, productivity.

INTRODUCTION

The botanical species of lettuce (*Lactuca sativa* L.) belongs to the Asteraceae family. Its species *Lactuca sativa* L. is divided into the following subspecies: *Lactuca sativa* var. *acephala* - single leaf varieties; *Lactuca sativa* var. *capitata* - varieties of lettuce with different appearance (the leaves have an oily layer); *Lactuca sativa* var. *sapitata* - cruciferous leaf, different types of lettuce (ice salad); *Lactuca sativa* var. *romana* (romaine salad - Roman salad) - head salad, head salad

with oblong-round leaves, half head forms are also found; *Lactuca sativa* var. *Angustana* (asparagus salad) [1; 2; 3; 4].

Vegetables include a group of green crops, particularly cultivated lettuce. Green vegetables are crops that are mainly eaten fresh. Among these lettuces, the main lettuce is *Lactuca sativa* var. *sapitata* is a crop of great importance in human health and agriculture [5; 6; 7; 8].

In the conditions of the Republic of Uzbekistan, it has not been long since the cultivation of lettuce began. Today, the agro-technologies used in the cultivation of head salad in the republic are not fully scientifically based, and conducting research in this regard is an urgent issue and it is desirable to conduct research.

In the world, in recent years, comprehensive measures and organizational activities have been carried out to ensure food safety of the population, to fully satisfy their needs for vegetable products, and to expand the assortment of vegetable products. As a result, in recent years, the introduction of non-traditional new vegetable crops has been achieved, and the agrotechnologies of their cultivation are being improved.

RESEARCH RESULTS

Experiments In the conditions of the Republic of Uzbekistan, the Tashkent experimental site of the Scientific Research Institute of Vegetables, Pulses and Potatoes has been conducting research on the selection of varieties and F1 hybrids of lettuce (*Lactuca sativa* var. *capitata* L.) and improving the elements of cultivation technology since 2020.

In the experiments, the main lettuce variety Krupnokochanniy and Barcelona F1, Madrid F1, included in the State Register of agricultural crops allowed to be planted on the territory of the Republic

of Uzbekistan, more than 10 samples of varieties imported from other foreign countries will serve.

Here, varieties and hybrids from Russia (Great Lakes 659, Russkiy bogatyr, Salat iceberg, Ays quin, Russkiy razmer, Alabama, Kolobok, Patriitsiy), Spain (Barcelona F1, Madrid F1) are being cultivated.

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

Plant height, leaf length, leaf width, number of leaves, weight of cabbage were measured.

During 2020-2022, as a result of observations of head salad in the spring period, the following indicators were recorded on the head weight and average 3-year productivity of samples of varieties and hybrids.

In the standard Krupnokochanniy Variety, this figure was equal to 492,3 grams.

A figure close to them (90,6-103,1%) was observed such varieties as Kolobok , Alabama . Large cabbage head weight (115,8–116,7%) compared to the standard Krupnokochanniy variety was observed in the varieties Patricia , Russky razmer , and the lower pointer to the standard was in the varieties Gray likes 659 , Russky Bogatir salad iceberg and Ays Kvin (45,0–79,5–77,5–63,0%) organized (Table 1).

Table 1

Cabbage head weight and yield of head salad varietal samples (2020-2022)

Variety samples	Cabbage head weight		Productivity, t/ha	Average 3 years	
	g.	in relation to the standard, %		x	in relation to

			2020	2021	2022		the standard, %
Krupnokochanniy (st)	492,3	100,0	21,6	20,4	22,3	21,4	100,0
Great Lakes 659	221,6	45,0	9,6	9,3	10,2	9,7	45,3
Patrician	570,0	115,8	24,9	24,3	25,3	24,8	115,9
Russky Bogatyr	391,6	79,5	16,8	16,4	16,9	16,7	77,9
Salad iceberg	381,6	77,5	17,1	16,0	16,4	16,5	77,0
Kolobok	453,6	92,1	19,7	18,8	19,2	19,2	89,7
Russky razmer	574,6	116,7	25,3	24,4	25,2	25,0	116,5
Eys Quin	310,3	63,0	13,4	12,8	14,0	13,4	62,5
Alabama	471,6	95,8	20,3	19,4	20,5	20,1	93,6
Barcelona F ₁ (st)	615,0	100,0	27,4	26,4	27,2	27,0	100,0
Salad Express F ₁	583,3	94,8	25,7	24,6	25,7	25,3	93,8
Robinson F ₁	729,3	118,6	31,9	31,1	31,6	31,5	116,8
Madrid F ₁	732,3	119,1	32,4	31,6	32,1	32,0	118,6

In the second standard Barcelona F₁ hybrid, the head weight of cabbage was equal to 615.0 g. Compared to him, the high pointer Robinson F₁, Madrid F₁ was determined in hybrids (118,6–119,1%), and the Salad Exrgess F₁ was a low indicator (94,8%) compared to the standard.

The average yield of varietal specimens by region was as follows in 2020: the average yield of 9 varieties of Russia is 18,7 tons per hectare; the average yield of Barcelona F₁, Salad Exrgess F₁, Robinson F₁, Madrid F₁ hybrids amounted to an average of 29,3 tons per hectare.

As you can see, the yield of hybrids compared to varieties has become somewhat higher.

The yield of 2021 was 20,4 t/ha in the standard variety Krupnokochanniy, and the indicator close to it (among±10%) was observed in the varieties Kolobok, Alabama. Low compared to the standard

Krupnokochanniy variety (9,3–16,4–16,0–12,8–yield (t/ha) was observed in the varieties Greyt likes 659, Russky Bogatyr, Salad iceberg, Ays Quin, high yield (24,3–24,4 t/ha) Patricia, Russky razmer. The second standard was the Robinson F₁, Madrid F₁ (31,1–31,6 t/ha), a higher coefficient compared to 26,4 t/in the Barcelona F₁ hybrid, and the lower Salad Exrgess F₁ compared to the standard was determined to 24,6 t/ha.

The yield in 2022 was 22,3 t/ha. The minimum and average compared to the standard variety(10,2–16,9 – 16,4–19,2–14,0–20,5 t/ha) the yield was in the varieties Grace likes 659, Russky Bogatyr, Salad iceberg, Kolobok, Ays Quin, Alabama. A high (25,3–25,2 t/ha) yield compared to the standard variety was observed in the varieties Patricia, Russky razmer.

The standard hybrid Barcelona F₁ with a capacity of 27,2 t/ha and higher compared to it Robinson F₁,

Madrid F1 (31,6 – 32,1 t/ha), and the low yield Salad Exrgess F1 was observed in a hybrid of 25,7 t/ha.

Three years (2020-2022) the average yield was 21,4 t/ha in the standard variety Krupnokochanniy and the hybrid standard Barcelona F1 27,0 t/ha. The yield relative to the standard variety (19,2-20,1 t/ha) was observed in the Kolobok, Alabama varieties and the salad Exrgess F1 hybrid, while the low yield was observed in varieties (9,7–16,7–16,5–19,2–13,4 t/ha) was observed in the varieties Grayt likes 659, Russky Bogatyr, salad iceberg, Kolobok, Ays Quin,. Higher yields of 116,8–118,6 percent compared to the standard Barcelona F1 hybrid were obtained in the Robinson F1, Madrid F1 hybrids.

CONCLUSION

According to the analysis and results of the tests carried out in 2020-2022, the highest result of the head cabbage weight and yield indicator in the varieties and hybrids of the head salad was 574,6 grams of weight, productivity (25,0 tons) in the Russky razmer variety. Madrid F1 was recorded in 732.3 g, yield (32,0 tons), hybrid, and the smallest cabbage head weight in varietal specimens was 221.6 grams at Greyt likes 659, while the yield was 9,7 tons.

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