



FEATURES OF GROWING ROMAINE LETTUCE AND YIELD INDICATORS OF VARIETAL SAMPLES.

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Abstract. This article analyzes the biochemical composition of samples of romaine lettuce, that is, the amount of dry matter, sugar, vitamin C and nitrates in its content, and the productivity indicators are presented.

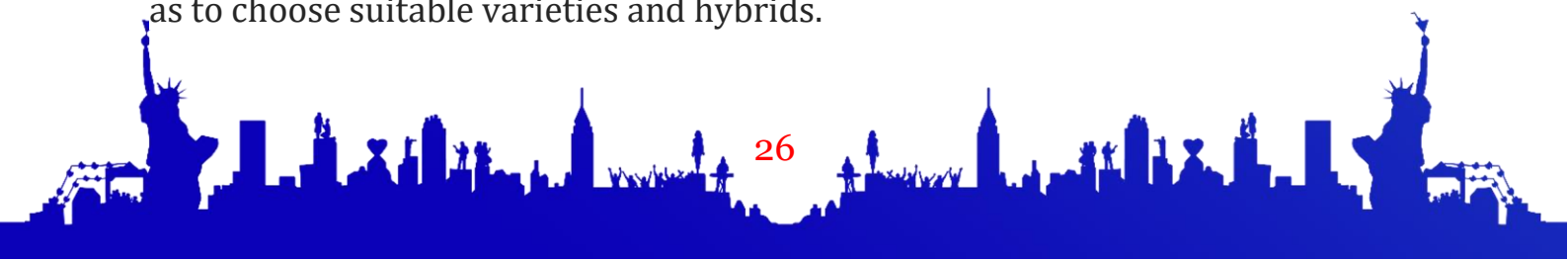
Abstract. В данной статье анализируется биохимический состав образцов салата Ромэн, то есть количество сухого вещества, сахара, витамина С и нитратов в его составе, а также представлены показатели урожайности.

Keywords. Green vegetables, Romaine lettuce, variety, leaf growth, head wrapping, lettuce head, biochemical composition, dry matter, mineral salts, sugar, vitamins, nitrates, productivity.

Ключевые слова. Зеленые овощи, салат Ромэн, сорт, рост листовой, белокочанная капуста, капустный салат, биохимический состав, сухие ингредиенты, минеральная соль, сахар, витамины, нитраты, урожайность.

Enter. Vegetables are of special importance for human health because they are absorbed without changes or loss of mineral salts and vitamins contained in them [1]. Vegetables are better and more fully assimilated by people and contribute to the better assimilation (fermentation) of meat, fish, and other products. In this case, green vegetables, such as salad, are important [3].

Salad from green vegetables is one of the rapidly developing crops in our Republic today. Large-scale scientific research is being conducted on the cultivation of different types and varieties of salad and the creation and introduction of new varieties. However, until now, the varieties and hybrids of romaine lettuce suitable for growing in the soil and climate conditions of our republic have not been created. Therefore, it is necessary to introduce newly created varieties and hybrids of romaine lettuce, study their growth and development, and determine the important elements of cultivation technology, i.e., the optimal planting period, planting scheme, and feeding standards, as well as to choose suitable varieties and hybrids.





The obtained results and their analysis. Romaine lettuce grows large, upright, and forms a loose head of lettuce within a large vertical stem of long leaves. The growing season of romaine lettuce lasts 70-100 days between varieties and hybrids. Lettuce is a cold-resistant plant, and 15-200°C and 12–150 °C at night is a comfortable temperatures for the growth of leaves and heads. The physiological minimum temperature for its growth is 50 °C [3].

Romaine lettuce is usually grown in the fall for winter use. This salad is grown from seedlings or directly from seeds. Romaine lettuce is transplanted with roots in November. Its large heads are distributed to consumers in the autumn. And the rest are buried in ertulas, nurseries or greenhouses for full cultivation and winter use. 8–10 kg is obtained per 1 m² of fully grown lettuce [2].

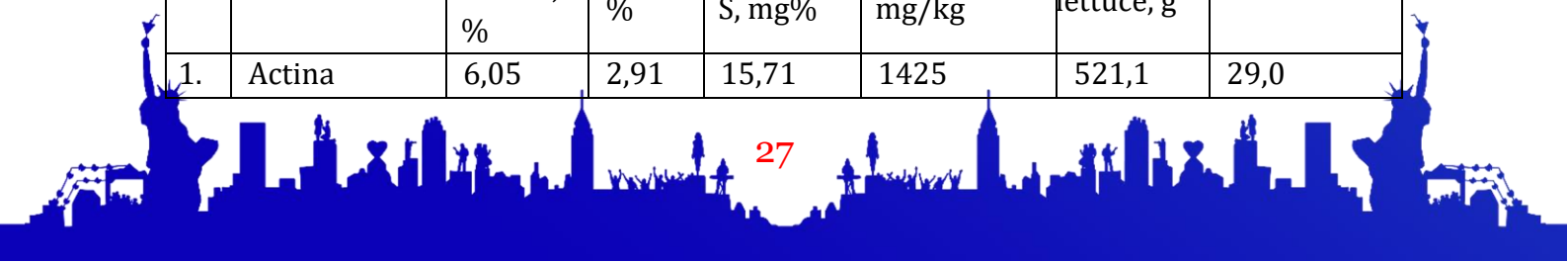
The head of romaine lettuce is widely used for food purposes; therefore, during our experiments, the biochemical composition of the varieties studied, that is, the amount of dry matter, sugar, vitamin C and nitrates in them, was analyzed (Table 1).

In the first year of our research, when the dry matter content of Romaine lettuce varieties was studied, its amount was 4.90–6.05% among variety samples. The highest indicator of dry matter storage is in Aktina (6.05), Batsio (6.04), the relatively high indicator Sladkiy Khrust (5.92), Ballon (5.91), and Maximus (5.86) in variety samples, and the lowest value was recorded in Quintus (4.96) and Dandy (4.90) variety samples. Also, the amount of sugar in samples of this variety increased from 2.61% to 2.95%. The highest rate of sugar content was recorded in the sample of the Batsio variety and was 2.95%. A relatively high result on sugar content was shown in Ballon (2.93%), Actina (2.91%), and Maximus (2.88%) variety samples. The high or low values of vitamin C retention in the samples of romaine lettuce determine its nutritional value. It was observed that the content of vitamin C in the studied variety samples was from 12.82 mg% to 15.71 mg%.

Table 1

Biochemical composition and yield indicators of romaine lettuce variety samples, 2023

№	Var samples	Biochemical composition				Weight of one head of lettuce, g	Average yield, t/ha
		dry matter, %	sugar, %	vitamins S, mg%	nitrates, mg/kg		
1.	Actina	6,05	2,91	15,71	1425	521,1	29,0





2.	Maximus	5,86	2,88	13,88	1485	405,9	26,2
3.	Ballon	5,91	2,93	14,18	1474	416,2	27,3
4.	Sweet crust	5,92	2,83	14,21	1460	498,8	28,2
5.	Dandy	4,90	2,61	12,82	1427	356,2	25,5
6.	Batsio	6,04	2,95	14,91	1438	537,1	30,9
7.	Kvintus	4,96	2,65	14,49	1459	381,4	26,0
	Σ	40,05	19,79	100,2	10168	3116,7	193,1
	Avarage (X)	5,66	2,82	14,31	1452,5	445,2	27,6

When the amount of nitrates in romaine lettuce was also studied, this indicator was 1425-1485 mg/kg among variety samples. In our experiments, the highest rate of nitrate storage was observed in Maximus (1485 mg/kg), Ballon (1474 mg/kg), and the lower rate in Aktina (1425 mg/kg), Dandi (1427 mg /kg) and Batsio (1438 mg/kg) were determined in samples of the variety. It was noted that Quintus (1459 mg/kg), Sladkiy Khrust (1460 mg/kg) variety samples occupied an intermediate position.

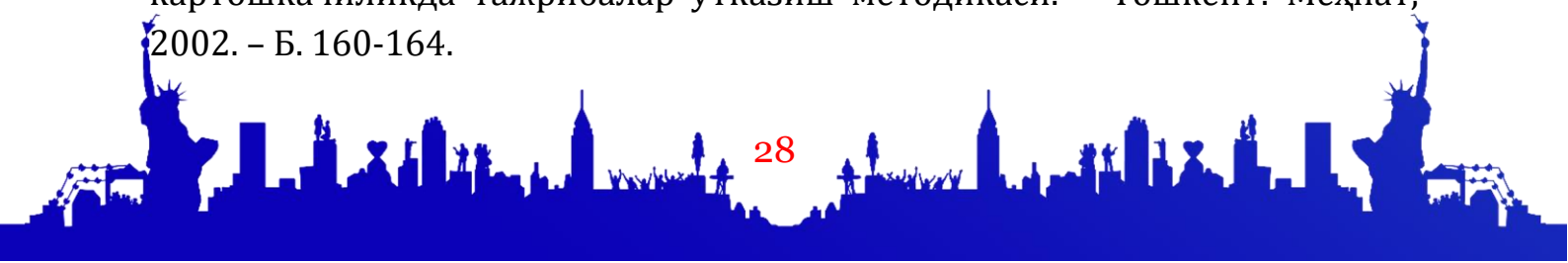
In the samples of romaine lettuce studied in the experiment, the indicators of the head of lettuce consisting of one ball of leaves on average were also analyzed. Also, the average weight of one head of lettuce was 381.4-537.1 grams between varieties. In our experiments, Sladkiy Khrust (498.8 g), Aktina (521.1 g) and Batsio (537.1 g) cultivars stood out for the highest weight of lettuce heads. In our research, the yield of romaine lettuce variety samples increased from 25.5 tons to 30.9 tons according to repetitions. The increase or decrease of productivity per hectare depends on the characteristics of the variety, and the highest yield was achieved in samples of the variety that formed a high-weight salad head.

Among the variety samples, the highest yield was observed in Sladkiy Khrust (28.2 t/ha), Aktina (29.0 t/ha) and Batsio (30.9 t/ha), while the lowest result was Dandi. (25.5 t/ha) and Quintus (26.0 t/ha) were recorded in samples of the variety.

Summary. So, cultivation of romaine lettuce varieties such as Sladkiy Khrust (28.2 t/ha), Aktina (29.0 t/ha) and Batsio (30.9 t/ha) in the conditions of gray meadow soils of Samarkand region providing 28.2-30.9 tons of harvest per hectare.

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