THE CONTENT OF THE MAIN CHEMICAL ELEMENTS IN THE FRUITS OF BLACKBERRIES

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Fresh blackberries are in high demand in the market due to their high taste. In addition, the cultivation of blackberries has a number of advantages compared to other berry crops: high yield, a small amount of diseases and pests, which allows you to grow according to the principles of organic farming, gives an attractive and useful berry dessert taste. Manufacturers are looking for large-fruited varieties of high dessert taste, resistant to adverse external conditions, suitable for longer storage [1,2].

In addition, fresh fruits are good for human health. Blackberry contains a complete set of nutrients and pharmacological substances, including: sucrose, glucose, fructose (up to 5%), lemon, wine, apple, salicylic and other organic acids, vitamins B, C, E, K, P, PP, provitamin A, minerals (salts of potassium, copper and manganese), phenolic and aromatic substances, pectin substances, proteins and various macro- and microelements [2]. The commercial quality of blackberry berries is determined by characteristic features – pulp consistency, juiciness, taste, aroma, chemical composition [1,3].

Variolation of blackberries took place during 2021-2023. on the experimental field of the Scientific Center of BNAU in accordance with the scientific topics of the Department of Genetics, Breeding and Seed Production of Agricultural Crops «Study

of the adaptive properties of berry crops in order to create genetic collections». The objects of research were 8 introduced varieties of blackberries: Arapaho, Black satin, Ruben, Smutstem, Thornfrey, Triple Crown, Columbia, Natchez. Plant layout 3,0 x 1,5 m. The content of dry soluble substances was measured using a refractometer, followed by recalculation of the content of ukri. Total acidity was measured with an Ezodo 6044A Ph-meter.

Qualitative indicators are determined by the appearance and taste properties of the products. According to the weight of the berry, the most attractive was the Triple Crown variety, the average weight of the berry of which was 8,02 g (Table 1). Small berries distinguished grade Thornfrey – 2,84 g. Weight of berries of other studied grades was within 3,75–7,54 g.

The taste of fresh berries depends on the harmony and balance of the content of sugars and organic acids. According to the results of studies, the highest sugar content was in Natchez berries (6,87%), a high rate was also obtained in the Triple crown, Smutstem and Arapaho varieties (5,80; 5,56 and 5,45%, respectively).

Table 1

Chemical and tasting indicators of blackberries (average 2021-2023)

Variety	Berry weight, g	Content of dry soluble substances,%	Sugar content,%	Total acidity,%	Tasting evaluation, point
Arapaho	4,56	9,43	5,45	3,28	7,0
Black satin	4,10	7,77	4,46	3,60	6,8
Ruben	3,75	8,41	4,87	3,25	8,4
Smutstem	3,83	9,63	5,56	3,35	8,9
Thornfree (k)	2,84	7,50	4,35	3,58	7,5
Triple crown	8,02	10,11	5,80	3,79	9,2
Colombia	7,12	9,56	4,97	3,30	7,2
Natchez	7,54	7,44	6,87	3,45	7,7

Examining the content of total acidity in blackberry berries, it was found that all varieties had approximately the same indicators in the range of 3,79–3,25%. The

highest organic acid content is characteristic of the Triple crown variety (3,79%), and the lowest – the Ruben variety (3,25%).

Conclusions. According to literature sources, blackberry varieties in the conditions of the Kyiv region have mediocre fruit taste [1,3]. Probably, for a greater accumulation of sugars, plants lack the total amount of active temperatures. As a result of our research, the Triple crown (9,2) and Smutstem (8,9) varieties, which were distinguished by their dessert taste and delicate fruit aroma, received a high tasting rating. Among blackberry varieties, Reuben, Natchez, and Thornfree varieties were distinguished by good berry taste (8,4–7,7 points).

References

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