

The purpose of the research is the study of varieties of zucchini hybrids by the ability to accumulate nitrates in fruits.

The studies were carried out in 2019 on the basis of the Minsk Vegetable Factory RUAP, the Horizon and the Honey Aroma. The nitrate content in the fruits of a vegetable crop (zucchini) in different varieties and hybrids was estimated. The nitrate content was determined in the laboratory of EI «GGAU» and the control and toxicological laboratory of the State Institution «Grodno Regional State Inspectorate for Seed Production, Quarantine and Plant Protection».

According to our data, the lowest nitrate content was in Andergo variety and amounted to 908 mg/kg. Approximate indicators were in the varieties of Corus – 1143 mg/kg and Albin – 1211 mg/kg. The highest content was in varieties Russian spaghetti – 3043 mg/kg, Pineapple – 2840 mg/kg, Anchor – 2040 mg/kg.

A second study revealed a decrease in the content of nitrate nitrogen to 603-1171 mg/kg. The lowest nitrate content was in the varieties Asso, Angelina and Foran, respectively 542 mg/kg, 607 mg/kg and 622 mg/kg.

In order to obtain high-quality products in a stable manner, it is necessary to conduct research on the development of optimal technology for cultivating zucchini on an industrial scale to obtain zucchini fruits for baby food with an acceptable level of nitrate content (200 mg/kg).

LITERATURE

1. Gordeeva, A. P. Vegetable growing. Laboratory workshop: textbook / A. P. Gordeeva, G. I. Sarviro, M. V. Tsareva. – Minsk «IVC Ministry of Finance», 2012. – 246 p.
2. Polovtsian, I. B. Causes of accumulation and ways to reduce the excess amount of nitrates in cultivated plants // Young scientist. – 2019. – No. 23. – S. 154-157. – URL <https://moluch.ru/archive/261/60118/>. – Date of contact: 02.02.2020.
3. Skorina, V. V. Vegetable growing of the protected soil / V. V. Skorina. – Minsk: «Information and Information Center of the Ministry of Finance», 2017. – 260 p.

UDC 635.1/.7:631.544

SALAD VEGETABLE CROPS FOR GROWING MICROGREENS

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To meet the physiologically minimum consumption of vegetables and melons of more than 140-150 kg per year, according to the

recommendations of the Institute of Hygiene and Epidemiology of the Republic of Belarus and to reduce the share of imports in the structure of vegetables consumed in the country and the domestic market with high-quality salad products, new directions are being developed assortment of salad vegetables, a short growing season, with the aim of growing them both in open and protected ground. Such a direction in modern vegetable growing is microgreens [2].

The most commonly used species for the production of microgreen belong to different botanical families, including from the family *Asteraceae*, *Apiaceae*, *Alliaceae*, *Amaranthaceae* *Brassicaceae*, *Cucurbitaceae*, as well as *Poaceae*, *Fabaceae*.

Attention to these crops is explained by the fact that they contain, in addition to fiber, water-soluble vitamins with antioxidant properties, phytohormones, macro- and microelements, as well as biologically active substances that are not found in other vegetable products [1, 3].

Different microgreens contain a certain amount of vitamins and carotenoids. The total content of water-soluble vitamins varies over a wide range and amounts to mg%: for ascorbic acid – 9,8-141,6 and substances with antioxidant properties: beta-carotene – 0,7-11,1 mg%, lutein / zeaxanthin – 1,2-12,1 mg%, violaxanthin – 0,7-7,4 mg%, phyloquinone – 0,5-4,7 µg%, alpha-tocopherol – 4,2-83,4 mg%, gamma-tocopherol – 3,9-31,8 mg%.

In this regard, an analytical review of scientific research on the use of salad crops for growing them as microgreens was carried out. For example, romaine, arugula, and spinach salads contain a large amount of ascorbic and folic acid, vitamin C and iodine, which helps activate the immune system and improves digestion and normalizes homeostasis. In addition, arugula and corn salad prevent overweight. The leaves of batavia contain vitamins B, C, PP, phosphorus, magnesium, beta-carotene, which have a positive effect in the treatment of a number of diseases and are necessary for the prevention of «diseases of civilization».

Microgreens are a good source of potassium and calcium. In the micro-green spinach (*Spinacia oleracea*), the content of K is 398 mg / 100 g wet weight, Ca + 2 – 109, P – 51,8 and Mg + 2 – 23,6, Na + – 6.1 mg / 100 g raw masses. In spinel microgreen, fiber content is 0,49 g, protein is 1,8 g / 100 g wet weight, Fe is 5,9 mg / kg wet weight.

The early maturity of salad vegetable crops makes it possible to sow them at intervals of 7-15 days both in open ground in several terms – from the first half of April to the end of May, mid-ripening and late – from April to mid-June, and for autumn consumption – from the first half of July, to

provide the human diet with a vitamin-mineral complex, and in sheltered soil year-round [3]

Based on the foregoing, we consider it expedient to expand the assortment of salad crops and recommend that they be included in the production of microgreens as biologically active additives with regulatory metabolic properties.

LITERATURE

1. Kosyakova, L. N. The effectiveness of the introduction of innovative technologies in the production of salad crops // Electronic Scientific and Methodological Journal of Omsk State Agrarian University. – 2016. – Special issue No2. – RL <http://e-journal.omgau.ru/index.php/spetsvypusk-2/31-spets02/429-00178>.
2. Di Gioia F., Mininni C., Santamaria P. 2015. Ortaggi di Puglia, tra biodiversita e innovazione: il caso dei micro-ortaggi. In: Il Giardino Mediterraneo, Volume II, Edited by A. R. Somma. Mario Adda Editore, Bari, 158-164.
3. Skorina, V. V. Vegetable growing of the protected soil / V. V. Skorina. – Minsk: «Information and Information Center of the Ministry of Finance», 2017. – 260 p.