



Improving the quality and safety of food products, improving technologies to reduce the negative effects on the environment

Tuxtarov B.E¹.

Abdumuminova R.N².

EMAIL :

Received 26th December 2020,

Accepted 17th January 2021,

Online 06th February 2021

^{1,2}Samarkand State Medical Institute
Department of General Hygiene and
Ecology, Uzbekistan

ABSTRACT: Today, the organic product is a world trend. Europe in the US, Japan, Turkey, Germany, the Netherlands and other countries in 2015 in 179 countries 50,9 million. this figure is 71,5 million in 2019 when Ga grown organic products on the field. Ga NI is organizing. Also, in 2019, the trade turnover in international markets for organic agriculture amounted to 96.7 billion euros and amounted to 71.5 million euros.

KEYWORDS: negative effects, cultivation of organic products, mineral fertilizers, technology.

INTRODUCTION

GA was engaged in this type of activity, producing 2.8 million on the field. It is urgent to improve the technology of quality fruit and vegetable cultivation in developed countries around the world, to increase the effectiveness of the application of biological fertilizers, to strengthen the possibility of healthy eating by using organic products grown using biopreparations, which are an alternative to pesticides, to increase the quality and safety of food products, to ensure the reduction of adverse. According to the experts' assessment, the world organic products market has grown from an average of 15 percent a year over the last 5 years, and in 2022 the trade turnover is projected to be 212 billion US dollars (20 percent of the total volume of World agricultural production). As a result of this practical work, the population's chances of healthy eating are strengthened, the quality and safety of food products are increased and their negative impact on the environment is reduced. By using biological fertilizers (siderites), which are an alternative to mineral fertilizers in the development of the cultivation of organic products, fertility and other quality indicators of the soil are improved and added to the provision of Biological Diversity in nature.

The cultivation of organic products is a holistic production management system, which avoids the use of synthetic fertilizers, pesticides and genetically modified organisms, minimizes the pollution of air, soil and water, ensures systematic attachment in the ecosystem and optimizes productivity. The

provision of mankind with full-fledged and environmentally safe food is one of the most pressing problems of our time. And the calmness of our planet, state and region is an important indicator of the quality of life of Man and civilization as a whole.

Quality nutrition is one of the important factors that determine the health of the population. A healthy diet is one that promotes the strengthening of a person's health and the reduction of diseases, promotes his growth, normal maturation and vital activity. Any violation of the balance in the structure of the diet has a negative impact on human health, and also is one of the main factors of a decrease in the quality of life.

As you know, the role of organic products in quality nutrition is great. Healthy soil, the atmosphere of the atmosphere, the product grown in clean water is certainly one of the indicators of organicity. But in order to increase productivity, the improper application of mineral fertilizers to the soil affects the organic character of the vegetables grown, which affects its ecological and hygienic properties. In this regard, it should be said that vegetable crops differ from other crops in their demand for nutrients and fertilizers in the soil. This is due to the fact that their vegetation period is short, during this period they absorb a lot of nutrients from the soil, in which they absorb mainly nitrogen, potassium and less phosphorus. For this reason, the content of vegetables can lead to the fact that the amount of nitrates increases from the norm and as a result of their daily intake, various disappointments develop.

In solving this problem, of course, it is important to use technology based on the cultivation of organic products. One such technology is siderat fertilizers, which are an alternative to mineral fertilizers, it absorbs nutrients and accumulates them in biomass in parts that vegetables in the lowest layers of the soil can not absorb. It is also of great importance in ensuring the biodiversity of the ecological system. After this biomass is expelled into the soil, the rapid course of the mineralization process in return the healthy nature of the soil is much restored. Products grown on such healthy soil are guaranteed to be of good quality.

Purpose of the study. Strengthening the possibility of healthy nutrition through the cultivation of organic products on the basis of biological fertilizers, improving the quality and safety of food products, improving the technology of reducing adverse effects on the environment.

Research methods. The experiments were conducted on the basis of methodological guidelines and scientific recommendations such as "Methods of agrochemical analyses of soils and plants" (1979), "Methods of state agricultural crop testing" (1983). Biochemical analysis of vegetable composition on the method presented in the method guide "Methods of biochemical research of plants" published under the editorship of Ermakova, the amount of nitrate contained in the fruit Soeks nitrate-Tester - 2 (2009 y.) in the instrument, the confectionery was carried out by a refractometer, the acidity was titrated, and the dry matter was carried out in the Bertrand method. The amount of humus in the tillage layer I.V.Tyurin, gross nitrogen, phosphorus, potassium I.M.Maltsev and L.P.Gritsenko, interchangeable potassium flame photometer, nitrate nitrogen in the methods of Granvald-Lyaju, as well as mobile phosphorus B.P.

Made in Machigin style. The results obtained. The experiment was conducted in 2014-2016 in the foothills of the Zarafshan oasis. Horticulture, viticulture and winemaking named after M. Mirzaev was carried out at the Samarkand Experimental Station ITI. In the experiment, mineral fertilizers and

alternative biological (siderate) fertilizers were used. Their gross and mobile amounts in the soil composition were also analyzed and the data in Table 1 were obtained.

Table 1

The amount of nutrients in the soil after mineral and biological fertilizers in the experiment

Options	Humus%	Gross %			Movable form, mg/kg		
		N	P	K	N-NO ₃	P ₂ O ₅	K ₂ O
Before the experiment	0,80	0,08	0,08	1,25	6,50	25,4	262,6
Mineral fertilizers (FON+N ₁₂₀)	0,81	0,16	0,10	1,26	8,62	25,9	274,5
Biological fertilizers (siderates)	0,84	0,18	0,13	1,30	8,75	31,3	281,3

In this presented table, it was found that the amount of humus before the experiment was 0,80%, while in the biological fertilizer option it was known that for three years it increased to 0,84%. The amount of gross nitrogen, phosphorus and potassium is 0,08% before the experiment, in the option of mineral fertilizer after the experiment 0.16-0.10-1.26 by%, their action forms were also found to have increased to 8.62, 25.59, 274.5 mg/kg. Compared to the control (before the experiment), it was found that the content of nitrogen, phosphorus, potassium was higher by 0.08, 0.02, 0.01%. In the variant fed with biological fertilizers, the gross percentage of nitrogen, phosphorus, potassium from the nutrients contained in the soil 0.14-0.16-1.30 it was noted that this figure increased to 0.1, 0.05, 0.05% of the gross weight in relation to the pre-experiment and 2.25, 5.9, 18.9 mg/kg of the total weight in terms of movement, while the moving form was 8.75, 31.3, 291.3 mg/kg. When we compared these indicators to mineral fertilizers option, it was found that the gross percentage was higher at 0.02, 0.03, 0.04% while the moving form was higher at 0.13, 5.4, 6.8 mg/kg. Also, in the variant fertilized with mineral fertilizers, there was a rapid assimilation of minerals in the soil, as well as excessive accumulation of the norm in the composition of vegetables. It was also found that when chemical analysis of vegetable composition, more nitrate was collected in the variant fed with mineral fertilizer than biological fertilizer.

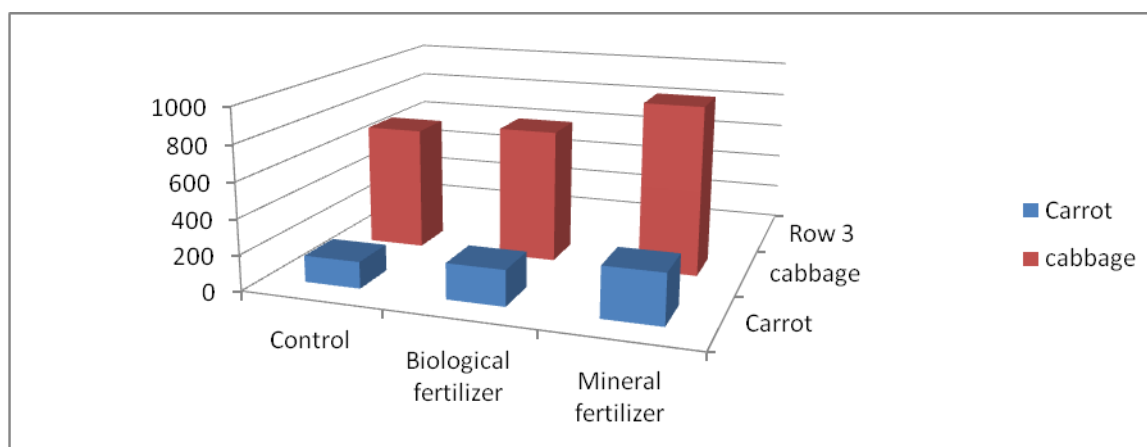
The quality of the composition of vegetables is one of the factors determining health indicators. Fruits and vegetables provide the human body with its own healing properties, aroma, taste, the need for vitamins. But now, in order to increase the yield of fruits and vegetables, mineral fertilizers are also adversely affected by the amount of nitrate contained in the fruit due to excessive use of the norm.

In the experiment, a fertilized variant with biological fertilizers contained 200-750 mg/kg of nitrate in carrots and cabbage stalks planted in the garden row, while in the variant fed with mineral fertilizers this figure was 280,5-950.3 mg/kg. It turned out that the permissible amount of nitrate for

Carrots is 250 mg/kg, and for the head cabbage 900 mg/kg it was determined that from the required norm 30,5-50,3 mg/kg of excess nitrate was collected (1 picture).

Picture 1

The effect of fertilizer types on the amount of nitrate contained in peach fruit



Currently, attention is paid to food safety in World Health, due to the abundance of nitrates in the composition of fruits and vegetables, nitrates poisoning is noted. The excessive accumulation of nitrates in the nutrient solution leads to a decrease in its nutritional value: vitamins, carbohydrates, amino acids are reduced, the mineral content of the product changes. Uzbek scientist Botaev J.I. nitrates were determined by the daily norm at 250 mg. Some literature says that the intake of nitrates into the human body should not exceed the amount of 600 mg per day. On average, 60 mg per body weight of 222 kg is considered the Daily nitrate norm.

The main carriers of nitrate to the body are vegetables, potatoes, melons, fruits and berries. Among them, the maximum level of nitrates is noted in leafy soups, beets and white cabbage in the morning (summer varieties). An increase in the amount of nitrites in the body leads to a significant violation of health (first of all in children and the elderly). Absorption of nitrates occurs mainly in Uranium. For 8 hours with a rash, up to 90% nitrates decompose. Clinical signs of poisoning with nitrates appear 1 - 6 hours after they get into the body, and the liver becomes enlarged and aching when palpating, characterized by a mixed dyspeptic disorder of the subcutaneous nature of the sclera. Also on the part of the nervous system, symptoms of changes – general malaise, strong headaches in the pelvis, drowsiness, dizziness, darkening of the eye area, impaired coordination of movements can be observed. The vasodilating effect of nitrates leads to a decrease in arterial blood pressure, sinus arrhythmia, pain in the chest, shortness of breath.

Conclusion. The increasing population in the world also leads to an increase in the demand for food. And quality food is a pledge of Health. Based on the above information, we can conclude that an organic product is not only a guarantee of our health, but also means ensuring the genetic diversity of the environment, maintaining and increasing the long – term fertility of the soil, as well as a full-fledged, quality product. Mineral fertilizers adversely affect the quality indicators of fruits and vegetables, affecting not only the amount of nitrate in the product, but also the vitamins contained in it,

organic acids, excipients, proteins and carbohydrates. Eating without analyzing the amount of nitrates contained in fruits and vegetables is dangerous for our health. And not increasing them from the daily norm guarantees our health. And the presence of sugar, acid and vitamins, as well as other biologically active substances contained in fruits and vegetables, consumed daily, can be called a quality diet. The regulation of the norm of the daily intake of nitrates into the body is one of the factors that every person should observe. Let's also introduce the concept of "organic product" into our lives and be healthy.

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