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# THE NUTRITIONAL REGIME OF VEGETABLES GROWN IN LIGHT GRAY SOILS FORMED IN SOUTHERN FERGHANA IS THE EXAMPLE OF TOMATO PLANT

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**Ma'rufjonov Javohir**
*Student of Fergana State University*

**Abstract**

*This article is about the relationship between the currently developing vegetable growing and soil science, and information on the formation and nutrition of vegetable crops on light gray soils in the southern Fergana region is presented. In the example of a tomato plant.*

**Key words**

*plant, light gray, gray, soil, tomato, crop, nutrition, crop, fall plow, southern Fergana, region, marshy, fleshy, fruitful, fertile.*

## INTRODUCTION.

The decree of the President of our independent country "On the most important directions of deepening reforms in agriculture" is directly related to the improvement of the life of our people. It serves as an important factor in the implementation of the organizational structure of the agricultural production management system in accordance with the market requirements, the expansion of the independence of the producers of agricultural products, and their reliable legal protection.

The demand for vegetable crops is very high and they are grown everywhere in our country, including in the light gray soils formed in Southern Fergana. Vegetables are succulent, fleshy and tasty herbaceous plants that are eaten by humans.

Vegetables, as food, cannot satisfy the body's need for energy, but they are one of the main products that provide a certain amount of vitamins. They contain many types of drugs.

## RESULT AND DISCUSSION.

We can find more than 50 chemicals in vegetables. Vegetables contain essential and easily absorbed salts for the human body: sodium (Na), potassium (K), calcium

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(Ca), phosphorus (P), magnesium (Mg), iron (Fe), manganese (Mn), chlorine ( Cl), iodine (I) is present.

Organic acids, enzymes, essential oils and other aromatic substances contained in vegetables improve human appetite and improve the absorption of carbohydrates and fats.

Medicinal properties of vegetables have been known for a long time, and they normalize the activity of the nervous system and serve to prevent nervous and mental conditions. A number of vegetable plants (onions, tomatoes, peppers, garlic, radishes) contain phytoncides with bactericidal properties. Some vegetables are characterized by the ability to increase energy.

A healthy person's food should contain at least ¼ of the daily ration of various delicacies. It is advisable to eat about 300 grams of potatoes and 400 grams of other vegetables every day. According to the data, the average annual consumption of vegetables per capita is 146 kg of cabbage, cauliflower, 25-32 kg of tomatoes, 20 kg of potato products, 6-10 kg of onions. It is planned to increase the annual standard of vegetable products to 164 kg.

**Description of the soils of the research area**

Field experiments are carried out to study the effect of nitrogen feeding regime, planting rate, application period on the growth and development, yield and quality of vegetables. Researches were carried out in the light gray soils of Southern Fergana.

*Table 1*

**Agrochemical description of soils of the research area**

| Soil layer, cm | Hummus, % | General % | | | Active $P_2O_5$ mg/ga | Exchangeable $K_2O$ mg/ga |
|---|---|---|---|---|---|---|
| | | N | P | K | | |
| 0-30 | 1,208 | 0,107 | 0,139 | 1,79 | 27,4 | 178 |
| 30-60 | 1,154 | 0,098 | 0,127 | 1,63 | 10,11 | 154 |

The amount of humus in the soil layers is 1.208 – 1.154%, total nitrogen 0.107 – 0.098%, total phosphorus 0.139 – 0.127%, mobile phosphorus 27.4 – 10.11 mg/ha, total potassium 1 .79 – 1.63%, exchangeable potassium was 178 – 154 mg/ha, and cases of decrease of this amount were observed as it fell into the subsoil layer.

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Tomato is one of the most important and valuable vegetable crops. Its ripe fruit is extremely tasty and nutritious, contains and stores various vitamins, mineral salts, organic acids and carbohydrates. The biochemical composition of red tomato fruit is as follows (wet weight, %):

- Dry matter - 6.0-6.6
- Protein - 0.95-1.0
- Sugar - 4.0-5.0
- Oils - 0.2-0.3
- Cellulose - 0.8-0.9
- Ash - 0.6

Organic (apple, lemon) acids - 0.5 Vitamin C (ascorbic acid) - 19-35 mg. % Carotene (provitamin A) - 0.2-2 mg.% Thiamine (V^) - 0.3-1.6 mg.% Riboflavin (V2) - 1.5-6 mg.%

Currently, there are 4.4 million people in the world. planted per hectare, 123.7 mln. tons of gross crops are grown. China (31.6 million tons), USA (11.0 million tons), Turkey (9.7 million tons), Italy (7.8 million tons), India (7.6 mln. t), Egypt (7.6 mln. t) occupies the top places.

Among the vegetable crops in Uzbekistan, tomato is the most popular and the most widespread, it occupies the first place in terms of area and gross yield. Tomatoes make up 40-45% of the total area of vegetable crops. 80% of the produced crop is processed.

N.N. Balashev's long-term experience shows that when tomato seedlings grown in open fields in April-May in Uzbekistan are transported by plane to Western Siberia and the Urals, the cost of seedlings is less than that of seedlings grown in those places. It is 1.5-2.0 times cheaper than chat, it has good bearing capacity and high yield. Nutrient-rich, light loam, non-saline soil types are suitable. In particular, tomatoes grow well in meadow, meadow-gray and typical gray soils and provide a high yield.

Place in crop rotation. Alfalfa, green and leguminous vegetables, onions, garlic, turnip crops, cucumbers and cabbage are good predecessors. Tomatoes should not be planted after tomatoes or other crops belonging to the ituzum family, i.e. potatoes, peppers, beets, tobacco, and cotton, which are susceptible to diseases and pests that occur in tomato plants. Because tomato fruit is affected by bollworm like cotton. We can grow tomatoes in one field for two years and plant them after three years.

**CONCLUSION.**

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Tomato is a crop demanding soil fertility and fertilizers. It takes one of the first places among vegetable crops in terms of nutrient consumption in the soil. According to the information of the Scientific-Research Institute of Vegetable and Potato Crops and Potatoes of Uzbekistan (1987), 160-230 kg of pure nitrogen and 70-90 kg of pure phosphorus are used to obtain a tomato crop of 580-700 grams per hectare. Therefore, it is necessary to fertilize the tomato crop.

In Uzbekistan, we can get more effective results when organic and mineral fertilizers are added to tomatoes. 20-30 tons of manure, 1.5-2 s of potassium chloride, 2.3-2.5 s of amphos are applied before autumn plowing. In general, nitrogen 120-200, phosphorus - 140-150, potassium 90-100 kg per hectare in gray soils, nitrogen 140-150, phosphorus 140-150, potassium - 100 kg in meadow and meadow-swamp soils. is given.

On average, the yield of tomatoes in republic farms is around 200 s per hectare, and in advanced farms it is 300-400 s and more.

## REFERENCES:

1. A. Imomaliyev, A. Zikriyoyev "Biology of plants" Tashkent "Teacher" 1990.
2. A. Razumov "Canning fruits and vegetables at home". Tashkent "Mehnat" 1987.
3. A. Rasulov. Storage of vegetable, potato and potato crops. Tashkent 1995.
4. Atabayeva H.N., Rozmatov R. Advanced technologies of cultivation of field crops. Stone DAU. 2004.
5. Atabayeva H.N., Umarov E. Plant science. "National Encyclopedia of Uzbekistan" State Scientific Publishing House. Tashkent 2007.
6. V. Zuyev, A. Abdullayev - vegetable crops and their cultivation technology. Tashkent "Mehnat" 1997.
7. Ye. P. Shirikov, V. I. Polegiyev "Technology of storage and processing of production, production, production and standardization". Tashkent "Mehnat" 1991.
8. Zuyev.V, Vegetable crops and their cultivation technology. Tashkent 1997.
9. I. Boriyev, R. Rizayev "Biochemistry and technology of fruit - grape products" Tashkent "Mehnat" 1996.
10. I. M. Lichko "Technology pererabotki iroduksii rastekiyevodstva" Moscow "Kolos" 2000.
11. I. Y. Karimov, A. B. Boqiyev Tashkent "Mehnat" vegetable growing guide.

12. Sotiboldiyeva G, Marufjanov J, Solijonova D, Toshpolatova Y. Potassium fertilizer deposits and their importance. "Modern Science and Scientific Studies" pp. 91-93

13. Kuziyev. I. Tomatoes are a healing and inexpensive blessing. Tashkent 2012.

14. N. N. Balashev, G. O. Zeman - Vegetable farming. Tashkent "Mehnat" 1987.

15. N. Orazmatov, A. Abdullayev - Cultivation of vegetable crops in greenhouses and greenhouses. Fergana 2002.

16. U. Kh. Khalilova - Vegetable oil production technology. Tashkent "Uzbekistan" 1996.