



The Role of Cultivated Plants of the Family Solanaceae in Agriculture

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Abstract

The role of algae (Solanaceae) in the agriculture of our republic is great. Potatoes and tomatoes from cultivated plants belonging to the family Solanaceae occupy large areas around the world and in our republic. The weight and quality of the product obtained from them is also high. The average yield of tomatoes in the country is 253 ts/h, the average yield of potatoes is 198 ts/h.

Keywords: *Potatoes; Tomatoes; Ovaries; Family; Plant; Yield; Gross Yield; Food; Product*

Introduction

Agriculture is an important sector of the Uzbek economy. This sector will meet the demand of the country's population for food products, and the processing industry for raw materials. About 90% of food products are produced in the agricultural sector. Agriculture is a guaranteed market for products of a number of industries, such as agricultural machinery, chemical industry, as well as the supply of food products and raw materials to the processing market of the republic.

In the field of plant protection in the Republic, great importance is attached to the use of biological control methods that are harmless to the environment, humans and animals. At present, there are more than 800 bio-laboratories in the country, which play an important role in the biological protection of plants.

The Main Findings and Results

Among the agricultural crops, the family Solanaceae plays an important role. This is because many of the plants in this family are cultivated and play an important role in meeting the food needs of the population. Potato (*Solanum tuberosum*), tomato (*Lycopersicon esculentum*), pepper (*Capsicum*), and tobacco (*Nicotiana tabacum*) are the main representatives of the family of alfalfa grown in large areas. Worldwide, their arable land is 28 million hectares (Gritsay: 2001).

That is why many scientists have done research on tomatoes. According to J. Egorov and E. Gorelov, the main task of the farming system is to obtain high yields from each hectare of irrigated land, to enrich the soil with minerals and organic matter. At the same time, as the soil structure improves and the amount of humus in it increases, the soil's ability to absorb moisture increases. In the fields planted with intermediate crops, the tomato yield was 2-3% higher than the control (Egorov: 1969, p. 20-21).

S.I.Antonov (Antonov: 2000, p. 1) writes that potato is one of the best crops in agriculture. It can be used for a variety of purposes, is an environmentally friendly crop for the soil, along with giving a high starch-rich finish in a short period of time. This plant does not require much attention during growth and development. It is a type of crop that can produce good yields if it has moisture and nutrients.

According to A.A. Gortlevsky, V.M. Kuldyushkin and others, the volume of soil mass decreased from 1.47 g / cm³ to 1.25-1.30 cm³ when crop rotation was carried out, and the physical properties of the soil improved and productivity increased (Gortlevsky: 2001, p. 157).

According to the research conducted by M.M. Tashkuziev, I.A. Ziyamukhammedov, as a result of agro-technology used in the cultivation of potatoes and corn after winter wheat and the application of high amounts of organic fertilizers (40 t / ha), the amount of humus in the soil and subsoil for 4 years was 1, Found an increase of 1–1.2-fold (Toshkuziev: 2006, pp. 68-73).

According to R. Dorojko, V. Perederieva, O. Vlasova, past crops have a strong impact on tomato yield. According to them, when tomatoes are planted in a continuous area, the activity of microorganisms in the soil slows down. When tomatoes were planted instead of tomatoes, the yield of tomatoes was 163.6 quintals per hectare, while the yield of tomatoes after peas and alfalfa was 209.7-209.9 quintals per hectare (Dorozhko: 2000, pp. 20-21).

Based on the above data, we studied the yield, gross yield and the level of satisfaction of the needs of the population in the country, especially in Namangan region, belonging to the family of alfalfa (tomatoes and potatoes). These data are presented in Table 1, according to which Namangan region ranks first in the country in terms of tomato production. According to the table, the average yield of tomatoes in the country is 253 ts/h; the total yield is 405,000 tons. In Namangan region, the average yield of tomatoes is much higher than in the country, which is 262 ts/h. The gross harvest in the region amounted to 14,100 tons. Taking into account the needs of the population of the country in tomatoes and tomato products, the demand is 311,000 tons. It will be possible to sell products grown in excess of the needs of the population of the country to foreign countries. Tomato products grown in the country exceeded the demand by 96,000 tons; the satisfaction rate is 130.2%.

Table 1: The need for a tomato plant and its satisfaction

№	Average yield of tomatoes in the country		The average yield of tomatoes in Namangan region		The population's need for tomatoes, t	Satisfaction rate,%
	productivity, ts / ha	Gross yield, t / ha	productivity, ts / ha	Gross yield, t / ha		
1	253	405000	262	14100	311000	130,2

Potato is one of the most important agricultural crops belonging to the family Solanaceae. Potato is one of the staple food crops in many countries. That is why it is planted in large areas around the world. Among agricultural crops, katroshka occupies 3-4 places in terms of land area. The potato plant was brought to our republic from Russia in the 17th-18th centuries as a crop. It was brought to Russia from Europe to be grown as a flower. Now it is one of the staple foods of the Russian population.

In our country, potatoes are also grown on large areas and produce high quality crops (Table 2). According to these data, the demand for potatoes is not enough to grow them in our country. For example, the average yield of potatoes in the country is 198 ts /ha. This relatively low yield is directly related to weather conditions. Because the potato plant requires biologically less heat, the optimal temperature for it is 180S. In our country, the air temperature during the ripening of potatoes is 25-270C.

Table 2: Average yield of potatoes in the Republic and Namangan region

№	Average yield of potatoes in the country		The average yield of potatoes in Namangan region		The population's need for potatoes, t	Satisfaction rate,%
	productivity, ts / ha	Gross yield, t / ha	productivity, ts / ha	Gross yield, t / ha		
1	198	384000	206	34700	418500	79,8

The gross yield of potatoes in the country is 384,000 tons. Potato fields are mainly mountainous and foothill regions of the republic. Namangan region is also one of the leaders in the country in terms of potatoes. Its productivity in Namangan region averages 206 ts /ha, and the gross yield is 34,700 tons. However, it should be noted that the needs of the population of the republic in potatoes are not fully met by domestically grown products. For this reason, potatoes are imported from neighboring countries to meet the needs of the population of the republic. These are mainly the Russian Federation and the Kyrgyz Republic.

Conclusion

In conclusion, it can be said that the main crops in the agriculture of our republic are cultivated crops belonging to the family of alfalfa. Nevertheless, crop areas are being determined based on their biological properties. It is possible to grow potatoes in the required amount for the needs of the population of the republic, but the relatively low yield reduces the efficiency of irrigated lands. Due to the high yield of tomatoes in the open and protected areas of the country, there are plans to expand the area and expand exports.

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