

# THE USE OF SULFUR AS AN IMPORTANT FACTOR IN OBTAINING ECOLOGICAL PURE PRODUCT BELLADONNA

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Numerous researches have deduced that sulfur is part of such sulfur-containing as amino acids, cysteine and methionine, enzymes, proteins and other substances. Therefore, sulfur plays an important role in many metabolic processes, as in the synthesis of amino acids, proteins, fatty acids and carbohydrates, is also involved in the processes of photosynthesis, respiration, growth, development, etc.

It must be emphasized that the abundant food with sulfur also extinguishes the leaking of physiological and biochemical processes in the plant organism.

The above researchers also found out that the sulfur contented in the soil, the rate of height, development, type of plant and many other factors have a strong influence on the need of plants to fertilizing this element into the soil.

**Introduction.** It should be noted that the irrigated soils of the Republic of Uzbekistan are deficient in sulfur, mainly due to the change in the range and reduction of sulfur-containing mineral fertilizers.

Considering the above, we set out to study the distribution of sulfur in various organs and the utilization rate of its usage with belladonna, dulcamara, Indian stramonium and capsicum influence of this element in the absorption and consumption of nitrogen to sulfur, contributing to a decrease in nitrate content in tissues and increasing of obtaining ecological pure product belladonna.

**Research methods.** In connection with this, we laid down vegetation and field experiments, which we studied the changes in the sulfur content in the tissues of the above plants during the vegetative period and its effect on the content of protein, non-protein and nitrate nitrogen in the organs of these cultures.

The experiments were conducted at the experimental territory of the Tashkent Pharmaceutical Institute.

The sulfur content in the organs of the studied plants was determined by Aydinyan.

The increasing of ratio of used sulfur through the plants were studied by the "difference" method.

Heavy of Belladonna was sown on March 17, 2016 and March 24, 2017. At the rate of 8-10 kg / ha.

100 kg / ha of nitrogen, 80 kg / ha of phosphorus, 50 kg / ha of potassium and 20 t / ha of manure were fertilized under the belladonna. Carried out 10 watering on scheme 2-6-2.

The soil moisture of the vegetative vessels was maintained at the level of 75% PPV.

**The results of research.** We have found out that the sulfur content in various organs of the belladonna varies noticeably in depending on the age of the plants and their provision with this nutrient.

Research has established that the highest sulfur content is observed in the phases of budding and flowering, and it decreases sharply during the period of seeding.

A higher content of sulfur in the organs was noted with the fertilization of sulfur 25-30 kg / ha (or with a nitrogen-to-sulfur ratio of 1: 0.20-0.30).

A lower sulfur content was found in the control plants than in the experimental plants in various organs of the belladonna.

Research results indicated about the highest sulfur content in both the leaves and fruit trees than in the stems.

Research has shown that the total content of nitrogen in plant organs rises with the increasing doses of sulfur (or increasing the N: S ratio).

It should be emphasized that the total amount of the content of protein increases, and on the contrary non-protein nitrogen decreases while the nitrite content reduces in the leaves and other organs of belladonna. It has been established that in variants where the ratio of nitrogen to sulfur is 1: 0.25 and 1:30, the content of nitrate nitrogen in leaves and other organs of the belladonna decreases almost twice.

Since, according to the last two options the content of nitrate nitrogen as in typical sierozem and meadow soil are close to each other and from the point of view of economical efficiency we consider that the optimal ratio of nitrogen to sulfur for typical sierozem is 1: 0.20 and for meadow soils is 1: 0, 25.

**Conclusion.** Thus, the introduction of sulfur into the soil in optimal doses helps to reduce the content of nitrite nitrogen in plant tissues and respectively obtaining ecological pure products of this culture.

Research has shown that in field conditions the consumption (absorption) of sulfur at the end of the vegetation period of the belladonna changes from 3,791 to 6,490 kg / ha on typical soils and from 8,529 to 11,282 kg / ha of meadow soil in depending on the level of sulfur nutrition.

It should be noted that with an increasing the ratios of nitrogen to sulfur (N: S) is observed improving the consumption of sulfur by belladonna.

According to the results of our research, the optimal ratio of nitrogen to sulfur in typical sierozem can be considered equal to 1: 0.20 and for meadow soil is 1: 0.25.