

**EFFECT OF DOSES OF ORGANIC FERTILIZER NOVOGUMIN
APPLIED TO THE PLANT PHASEOLUS AUREUS ON THE
PRODUCTIVITY OF PHOTOSYNTHESIS.**

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**ВЛИЯНИЕ ДОЗ ОРГАНИЧЕСКОГО УДОБРЕНИЯ НОВОГУМИН,
ВНЕСЕННОГО ПОД РАСТЕНИЯ PHASEOLUS AUREUS, НА
ПРОДУКТИВНОСТЬ ФОТОСИНТЕЗА.**

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Abstract: When Navogumin organic fertilizers were applied to the replanted midge plant at different rates in the conditions of meadow peat soils of the Andijan region, it was noted that the photosynthetic productivity of the plant was higher compared to the variant in which organic fertilizers were not applied. In particular, the midge was higher in the variant with 4-liter irrigation during the 1st irrigation, and during the 2nd irrigation - up to 6-liter, compared to the variants that received leaf surface and photosynthetic productivity.

Keywords: Meadow-shrub soil, moss, novogumin organic fertilizer, flowering, legume, leaf surface, number of leaves, photosynthesis, productivity.

Аннотация: При внесении органических удобрений Навогумин на пересаженное растение галлицы в разных нормах в условиях лугово-торфяных почв Андижанской области отмечено, что фотосинтетическая продуктивность растения была выше по сравнению с вариантом, в котором органические удобрения не вносились. В частности, галлица была выше в

варианте с поливом 4 л при 1-м поливе, а при 2-м поливе - до 6 л, по сравнению с вариантами, получавшими листовую поверхность и фотосинтетическую продуктивность.

Ключевые слова: Лугово-кустарниковая почва, мох, органическое удобрение Новогумин, цветение, бобовое растение, листовая поверхность, количество листьев, фотосинтез, продуктивность.

Currently, population growth leads to an increase in demand for food. Particular importance is attached to the cultivation of crops rich in protein. Among protein-rich crops, attention is paid to the cultivation of leguminous crops. It is known that leguminous crops mainly include mung bean, peas, lentils, beans, soybeans, peanuts, chickpeas, lupines, peanuts and other crops. Legumes perform two main functions in agriculture.

In our experiment, in the meadow-gray soil conditions of the Andijan region, 4 options were implemented on 3 returns. In the experiment, the total area of one plot was 480 m², and the area of consideration was 240 m². In the experiment, 2 liters of novohumic fertilizer were added under the Mash plant, 300 ml of novohumic fertilizer were added to the seeds, 2 liters during the pruning and flowering phase, 4 liters during the 1st watering. Mash (*Phaseolus aureus*), and up to 6 liters during the 2nd watering. Before the start of the research, soil samples were taken and analyzed in the experimental field according to the methodology.



According to the analysis of the mechanical composition of the soil, the amount of different mechanical fractions differed from each other in the layers. It was noted that the amount of physical clay decreases in the lower layers. If in the water-bearing layer the amount of physical clay was 46.2 %, then in the B2 layer its amount was only 27.4 %. The total amount of humus in the arable layer was 0.60-0.75%, there was a tendency to decrease towards the lower layers. The soil of the experimental field is grassy gray soil, perennially arable. According to the mechanical composition, the composition is heavy, filtration waters are located at a depth of 0.5-1 meter. Drainage and physical properties of the soil are satisfactory, soil fertility is average.

According to the results of agrochemical analysis, it is clear that the soil of the experimental field is provided with a low humus content, mobile phosphorus and moderate potassium. Also, during the field experiments, the following methods were used: В.А.Доспехов - Methodology of field experiments (М.Агропромиздат, 1985) and - Methodology of conducting field experiments (UzPITI2007).



The effect of the organic fertilizer Novogumin on the growth and development of the Durдона variety of mosh in irrigated meadow sierozems was studied. We know that in the Andijan region, in conditions where the mechanical composition of meadow sierozems is heavy and the depth of seeping water is 0.5-1 meter, legumes such as mung bean, beans, and soybeans are grown after winter

wheat. The yield of agricultural crops directly depends on the photosynthetic activity of agricultural crops. The photosynthetic activity of agricultural crops is strongly influenced by the external environment. Photosynthetic activity measures include the number of leaves, leaf surface area, dry matter content, and photosynthesis productivity. The yield depends on the shape of the leaves.

Nutrition, along with other factors, has a direct impact on the formation and preservation of crop leaves. In our experience, combined fertilizing with other agrotechnical measures, especially organic fertilizers, has a positive effect on the process of leaf formation. Under favorable conditions, when growing Mung bean (*Phaseolus aureus*), the leaf surface of the plants develops well. But the number of leaves and the leaf surface of the plant varies depending on the agricultural technology of cultivation. The development of the first leaf of Mung bean (*Phaseolus aureus*) was observed after 14-16 days, and in the variants using Novogumin, this phase was extended.

The formation of the fourth true leaf was determined after 24-26 days in the control variant, and it was found that it was reduced to 7-8 days in the variants using 2 l/ha in the budding and flowering phase and 4 l/ha in the budding and flowering phase. ha with the 1st watering and 6 l/ha with the 2nd watering. In the control variant, the flowering period of Mung bean (*Phaseolus aureus*) was 62 days, while in the variants using Novogumin these figures were equal to 52-57 days. Thus, organic fertilizers forced the plants to shorten the vegetation period. The experiment established that at the beginning of the flowering period of the Mung bean (*Phaseolus aureus*) plant, the leaf surface was 6.9 thousand m²/ha in the control, 11 m²/ha in the 4th variant, and 17 m²/ha in the 5th variant. During the flowering period, these indicators increased significantly in the control variant and became equal to 17.6 m²/ha in the variants with the use of Novogumin and 20.3-26.8 thousand m²/ha.

The leaf surface area was 28.2 thousand m²/ha in the control variant in the bean formation phase, 29.9 thousand m²/ha when Novogumin was applied at 2 l/ha

in the tillering and flowering phases and 4 l/ha in the tillering and flowering phase. With the 1st watering and 6 l/ha with the 2nd watering. We observed an increase in the leaf surface by 32-34 thousand m²/ha in the variants used.

An increase in the leaf surface has a positive effect on the productivity of photosynthesis. In the experiment, the productivity of photosynthesis was 1.36-12.4 g/m² on the control variant of the moss plant from the tillering period to the warping phase, while on the variants this indicator was higher by 1.57-13.4 g/m². with the help of novohumin. When organic novohumin fertilizer was added to the moss plant planted as a repeat crop, an increase in the productivity of plant photosynthesis was observed.

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