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RULES OF USE OF NITROGEN FERTILIZERS AND THEIR DAMAGES

Annotation. This article explains that nitrogen fertilizers are important to all plants, but their amounts should be determined correctly, and applied at the recommended times depending on the properties of the fertilizers.

Keywords: mineral fertilizers, ammonium nitrate, nitrogen deficient, fruits, vegetables

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ПРАВИЛА ИСПОЛЬЗОВАНИЯ АЗОТНЫХ УДОБРЕНИЙ И ИХ ВРЕД

Аннотация. В этой статье объясняется, что азотные удобрения важны для всех растений, но их количество следует правильно определять и вносить в рекомендуемое время в зависимости от свойств удобрений.

Ключевые слова: минеральные удобрения, аммиачная селитра, дефицит азота, фрукты, овощи

Mineral fertilizers differ in high concentration of nutrients. The composition of mineral fertilizers is different. It is divided into complex and simple, depending on the composition of the necessary nutrients. Fertilizers should be applied sparingly by monitoring soil nutrient levels. In this case, there will be no harm from their chemical composition. Many gardeners know what mineral fertilizers are. They have inorganic properties that contain all the nutrients that plants need. Such additives and fertilizers help to increase soil fertility and produce good crops. Today, liquid mineral fertilizers used in small

gardens and garden plots are becoming popular. In addition, there are 3 important nutrients for plants - mineral fertilizers such as nitrogen, phosphorus, potassium. The use of mineral fertilizers requires a careful approach and can cause a lot of damage to the soil and plants in combination with organic substances (if the dosage is incorrect for use). Therefore, we will consider the ways of proper use of nitrogen mineral fertilizers and their harm, signs of nitrogen deficiency.

Nitrogen-critical crops In general, every crop needs nitrogen, but the application rate varies for specific crops. Taking this into account, all plants can be divided into categories of nitrogen requirements:

The first category - to activate growth and development, you can introduce plants that need to be fed with nitrogen before planting in the ground. For such crops, approximately 26-28 g of nitrogen are needed per square meter, calculated on the basis of ammonium nitrate. This category includes: potatoes, cabbage, bell pepper, eggplant, pumpkin and chamomile; from berries and fruits: plums, cherries, raspberries and wild strawberries; flowers include: lilies, roses, violets, carnations, and nasturtiums.

The second category - is crops that need nitrogen. Usually, only 18-19 g of nitrogen per square meter is enough for ammonium nitrate. Vegetable crops include: tomatoes, cucumbers, carrots, corn, beets and garlic; from berries and fruits: apple tree, currant, gooseberry; from flowers: all annual flowers and delphiniums are included.

The third category - these are plants that need nitrogen, which should not exceed 10-12 g per square meter, calculated according to ammonium nitrate. Vegetables in this category include: early ripening potatoes, radishes and onions; from fruits - pear; flowers include: bulbs, marigolds, adonis, saxifrage and daisies.

The fourth category - should not exceed 5-6 g in terms of ammonium nitrate. Vegetable crops: herbs and leguminous plants; from flowers - hashes, azaleas, erika, pushlan and cosmeias are included.

Do not forget that only appropriate doses of nitrogen fertilizers have a positive effect on the development and growth of various crops. Fertilization should be calculated according to the percentage of nitrogen in a certain fertilizer, as well as according to the type of soil, season and plant type. For example, when nitrogen is introduced into the soil in the fall, there is a risk that it will be washed into the groundwater. Therefore, spring is the best time for nitrogen fertilization. If you plan to fertilize the soil with high acidity, be sure to mix various components that neutralize the acidic effect of nitrogen - chalk, lime, dolomite flour. Thus, fertilizers are better absorbed and the soil is not acidified. For the people of the steppe zone and forest-steppe, where the soil is mainly dry, it is very important to apply nitrogen fertilizers periodically, without sharp interruptions, which affects the growth, development and productivity of plants. can do. 11-12 days after the snow melts, it is better to apply nitrogen fertilizers to chernozem soils. The first top is done with urea, and when the plants enter the active phase of the growing season, ammonium nitrate is added.

The consequences of nitrogen deficiency. We've covered this in part, but nitrogen deficiency doesn't just stop growth. In addition, often the leaves of the plant begin to have an atypical color, they turn yellow, and this is the first signal of fertilizer application. With a lack of nitrogen, in addition to the yellowing of the leaf blades, their tips gradually begin to dry.



Figure 1. Symptoms of nitrogen DEFICIENCY in Corn leaves



Figure 2. Symptoms of nitrogen deficiency in cucumber leaves.

Can nitrogen fertilizers be harmful? Yes, maybe there are too many of them. Usually, with an increase in nitrogen, the upper mass of plants begins to develop very actively, the shoots thicken, and the number of leaves increases. The green mass acquires atypical magnificence and softness, and flowering is weak or short or absent, so the ovary is not formed, and fruits and berries are not formed. If there is a lot of nitrogen, symptoms such as burning will appear on the leaves, in the future such leaves will die and fall off prematurely. Death of leaves sometimes leads to partial death of the root system, so nitrogen application should be normalized.

REFERENCES

1. Mezhlumyan, L. G., Khikmatullaev, I. L., Rakhimova, S. K., Narbutaeva, D. A., Yusupova, S. M., & Aripova, S. F. (2022). Amino-Acid Composition and Hypoglycemic Properties of Proteins from *Physalis alkekengi* and *P. angulata*. *Chemistry of Natural Compounds*, 58(1), 187-189.

2. Khikmatullaev, I. L., Boimatov, O. S., Yuldasheva, N. K., Azizova, D. S., Terent'eva, E. O., Rakhmanberdyeva, R. K., ... & Aripova, S. F. (2022). Constituent Composition of *Physalis angulata*. *Chemistry of Natural Compounds*, 58(4), 596-600.

3. Xikmatillayev, I. L., Matchanov, A. D., & Aripova, S. F. (2006). Study of elemental composition of *Physalis angulata* plant by ICP-MS method. *Биохимия и Биофизика*, 12.

4. Xikmatullayev, I. (2023). *Physalis angulata* o'simligi vitamin tarkibi taxlili. *Theoretical and Experimental Chemistry and Modern Problems of Chemical Technology*, 1(01). Retrieved from <https://ojs.qarshidu.uz/index.php/ch/article/view/74>

5. Г.М. Дусчанова, Арипова С.Ф, И. Хикматуллаев, Равшанова М.Х., & М.А. Исабекова. (2023). Анатомическое строение ассимилирующих органов *physalis angulata* l. произрастающего в условиях узбекистана. *Innovations in Technology and Science Education*, 2(8), 846–855. Retrieved from <https://humoscience.com/index.php/itse/article/view/652>

6. Хикматуллаев Иззатулло Лутфуллоевич, Матчанов Алимжон Давлатбоевич, Хўжаев Ваҳобжон Умарович, & Арипова Салима Фозиловна. (2023). Study Of Elemental Composition Of *Physalis Alkekengi* Plant By Icp-Ms Method. *Scientific Journal of the Fergana State University*, (1), 3. https://doi.org/10.56292/SJFSU/vol_iss1/a3

7. Xikmatullayev, Izzatullo Lutfulloyevich and Xo'jayev, Vahobjon Umarovich, *Physalis alkekengi* va *physalis angulata* o'simliklari fitokimyoviy tarkibi (Phytochemical Composition of *Physalis alkekengi* and *Physalis angulata* Plants) (November 21, 2020). ISSN 2181-0818, Available at SSRN: <https://ssrn.com/abstract=3741988> or <http://dx.doi.org/10.2139/ssrn.3741988>

8. Omonjonovich, N. B., & Kosimovna, K. S. Valijon o'g'li, VN, & Shukhratovich, AN (2022). on the modern interpretation of the history of chemistry. *Open Access Repository*, 8(12), 655-658.