

CONSUMPTION BY ARTICHOKE PRICKLY PLANT OF VARIOUS FORMS OF NITROGEN FERTILIZERS AND THEIR IMPORTANCE IN OBTAINING ENVIRONMENTALLY FRIENDLY PRODUCTS

Abzalova N.A., Inagamaov S.Y., Pirakhunova F.N., Abzalov A.A.
Tashkent pharmaceutical institute, Tashkent city, Uzbekistan
akmal.38@yandex.ru

The results of the research point out to definite advantage of using the slow-acting carbamide-formaldehyde fertilizer (CFF) than the urea and ammonium nitrate at decreasing the pollution of environment by remains of artificial manure harmful for organism. It was ascertained, that the use of slow-acting CFF is especially important in the conditions of salty soils with close laying of ground waters, where the considerable losses of nitrogen in the result of nitrates alkaliness into the ground waters, trace place. It was revealed, that the great content of nitrates in the soil at carrying in the nitrogenous fertilizers like ammonium nitrate and urea causes the considerable losses of given element of feeding, parameters of which have the great extent. As a result, the number of problems of environment pollution take place, as the most danger is the great accumulation of nitrates in the soil.

Introduction: It is known that as a result of denitrification and a number of other chemical reactions, there is a huge loss of nitrogen in the form of its incomplete oxides, which penetrate into the atmosphere and pollute the environment with all the negative consequences that follow. In this regard, the development of the scientific basis of the beneficial effects of nitrogen on agricultural and medicinal plants, and the reduction of environmental pollution by the remains of mineral fertilizers that are harmful to the body is of great scientific and practical importance [1, 2].

Methods of research. The effectiveness of the use of urea and carbamide-formaldehyde fertilizers (CFU) on the typical non-saline sierozem of Samarkand, Tashkent and light medium saline sierozem of the Syrdarya regions of the Republic of Uzbekistan was studied.

Vegetative and field experiments were carried out. The repetition of all the above types of experiments is fourfold. The area of the plot is 600 m² on a moderately saline light grey soil and 400 m² on a typical non-salted grey soil. The layout of artichoke prickly is 90x50x1 and 70x45x1, respectively.

Soils for the laying of vegetation experiments were taken from field experiments.

The results of the research. In all phases of development, the content of ammonia nitrogen in the soil is higher, and the nitrate content is less when urea formaldehyde fertilizer is applied to urea. Quantitative indicators of the content of ammonia and nitrate nitrogen depends on the phase of development. Higher rates of these nitrogen compounds are confined to the phases of budding and flowering, and then they decrease to a minimum in the seed ripening phase of the plant under study, the artichoke prickly. During the period of plant seeds ripening, the amount of residual nitrogen prevails significantly when urea is added to the plant than CFF. These data indicate that nitrification of ammonia nitrogen CFF is significantly less than urea nitrogen. As a result, the leaching of nitrates, especially in the conditions of saline soils with close groundwater deposition, occurs to a large extent when urea is introduced than CFF. Due to the higher content of ammonia nitrogen in the soil when introducing CFF, the residual nitrogen (unused by the plant) decreases in relation to urea, which ultimately increases the efficiency of nitrogen on plants and reduces losses. The total amount of residual inorganic nitrogen composed of nitrates and ammonia is noticeably higher when used under the studied urea plants than CFF.

In addition, a higher content of nitrates in the soil with the introduction of standard mineral fertilizers leads to significant losses of nitrogen, the size of which reaches significant values. As a result, there are a number of problems of pollution of our environment, since the greatest danger is the greater presence of nitrates in the soil. At the same time, nitrates are accumulated not only in the soil - soils, ground water, but above the permissible norm in food and feed and, therefore, enter humans and animals. In this regard, the use of the CFF for plant under study in saline light grey soil with close groundwater is particularly environmentally acceptable than standard mineral fertilizers.

Conclusion. The introduction of slow-acting urea-formaldehyde fertilizer under *Cynara scolymus* L. contributes to the reduction of environmental pollution by nitrates on typical non-saline sierozem, especially under conditions of saline light sierozem with close groundwater deposition than the addition of ammonia-nitrate forms of nitrogen. The consumption of CFF contributes to the reduction of pollution of both the atmosphere and the soil, as well as the environment and the production of environmentally friendly medicinal plant materials.

References

1. Kudeyarov V.N., Kudeyarova A.Yu. Environmental problems with the use of mineral fertilizers. Report VII delegate congress of the All-Union Society of Soil Science. Tashkent, October 9-13, 1985, Part 6, p. 235.
2. Tuev K.A. Microbiological processes of humus formation. M., Agropromizdat, 1989, p.37.