
EFFECT OF FOLIAR FEEDING WITH LIQUID NITROGEN FERTILIZERS ON THE GROWTH AND DEVELOPMENT OF WINTER WHEAT

Saminov Avazbek Alimardon ogli

Basic doctoral student at Fergana State University

0009-0001-0366-238X

Abstract:

Min the head Liquid nitrogen fertilizer for the growth and development of winter wheatus use of standards and deadlines of winter wheat the effect of organic fertilizer, one of the urgent issues is to continue scientific research on obtaining high-quality grain crops by improving agrotechnologies of winter wheat cultivation in order to increase plant yield and grain quality. Therefore, the aim of winter wheat care is to achieve high-quality grain crops from winter wheat by effectively using liquid nitrogen fertilizers to increase yield and grain quality.

Keywords: Winter wheat, growth, development, liquid nitrogen fertilizer, leaf, application, rate, period, option, stem, height.

Introduction

Decree of the President of the Republic of Uzbekistan dated October 23, 2019 No. PF-5853 "On approval of the Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030"[1] and in the Decree No. PF-60 dated January 28, 2022 "On the Development Strategy of New Uzbekistan for 2022-2026"[2].

The priority direction is "development and implementation of a state policy on food security", which aims to improve the food consumption of the population. In implementing these tasks, it is important to expand the scope of scientific research aimed at cultivating high-quality and high-yielding grain products from winter wheat, which is grown in the soil and climatic conditions of our republic..

One of the urgent issues in increasing the yield and grain quality of winter wheat is to continue scientific research on obtaining high-quality grain yields by improving agrotechnologies for growing winter wheat varieties.



Therefore, it is important to carry out scientific research on obtaining high-quality grain yields based on studying the processes of feeding winter wheat with liquid nitrogen fertilizer using new agrotechnologies in winter wheat care.

Materials and methods

The experiment was conducted on the territory of the Fergana Scientific Experimental Station of the Research Institute of Grain and Legume Crops. The main goal was to conduct research on the development of agrotechnology for growing high-quality grain crops by studying the norms and terms of application of the newly developed “Uni-agro” and “KAS” liquid nitrogen fertilizers as suspensions in winter wheat care in the soil-climatic conditions of the Fergana region.

In the experiment, additional foliar feeding of winter wheat with a suspension of urea mineral fertilizer and liquid nitrogen fertilizers was carried out during the budding and tillering periods. For the experiment, urea mineral fertilizer was applied at the rate of 5 kg/ha during the budding period and 10 kg/ha during the tillering period, and liquid nitrogen fertilizers Uni-agro and KAS were applied as a suspension at the rate of 3-4-5 l/ha during the budding period and 5-7-9 l/ha during the tillering period.

When preparing the suspension, a working solution of water and the drug was prepared at a rate of 300 l/ha and sprayed.

It is generally accepted when conducting experiments Dospekhov BA "Methodology of Polevogo Opyta"[3] and The methods were based on the methods presented in the sources "Methods for conducting field experiments"[4].

In the western part of Fergana region autumn wheat for most acceptable selection of grain fields and plant character traits of, height, flour, little quality, relatively short, and on the spike moment of spill-resistant, spill-resistant durable, high yielding winter wheat acceptable varieties to choose based on experiences J. Hayonboyev, Z. Ismatullayev, J. Khamdamov, S. Toshmatov It was revealed as a result of experiments conducted on the side of the [5].

In the studies conducted by Abdualimov Sh.H. and Davronov QA, the role of physiologically active substances in the care of agricultural crops is very

significant in increasing seed germination and germination capacity, improving plant growth and development, and increasing resistance to drought, salinity, diseases, and pests, and they have a positive effect on the plant [6].

Result and discussion

The conducted studies revealed that there were no significant differences in the height of the plant stem in the varietal section during the period from germination to mowing and wintering of winter wheat, since the measures were carried out in the same way in all variants. However, during the period of budding and tillering after wintering, there were differences in the height of the plant stem when additional liquid nitrogen fertilizers were applied as a suspension to the plant leaves.

In practiceworkfrom lovepostpartum bleedingperiodin and during the periods of intubationusedliquid nitrogen fertilizers plantafter feeding through the leavesaccording to the development status in each phasephenological observation and itsanalysestake itwent. Winter wheatperiod of growth and developmentstem inheightInformation on changes in is presented in the table.

In the experiment, liquid nitrogen'g'dogs as a suspension'In the 1st control option, which is not usedwinterloveThe height of the plant stem after the periodbiometric measurements as a result On April 1staverage stem height 36.8cmto and May 1at average 77.3cmif it reaches,As of June 1average stem height 81.0cm reachedcarried outobservational analysesdetermined based on.

As a templateGo to option 2from loveIn the next period, i.e. during the budding period, apply 5 kg/ha of urea mineral fertilizer as a suspension on the plant leaves and 10 kg/ha during the budding period.as a suspensionwhen processed plant stem heightAccording to the April 1st ruleaverage 37.7cmreached and May 1atstem heightaverage 79.8cmif it is formed,ripening of the plantperiod June 1 according to the deadlinestem height84.4cmreached, compared to the control option for this periodnIt turned out that he grew 3.4 cm..



Table 1 The effect of the rates and timing of feeding winter wheat with liquid nitrogen fertilizers on stem growth. (2023))

No .	Experience options	Application standard		Plant height		
		Collection	Tubing	01.04	01.05	01.06
1	Control	-	-	36.8	77.3	81.0
2	Sample suspension (urea)	5 kg/ha	10 kg/ha	37.7	79.8	84.4
3	Uni-Agro	3 l/ha	5 l/ha	37.6	79.1	83.7
4		4 l/ha	7 l/ha	38.4	82.9	87.1
5		5 l/ha	9 l/ha	38.9	84.7	88.9
6	Cash	3 l/ha	5 l/ha	37.3	78.7	83.2
7		4 l/ha	7 l/ha	38.7	84.2	88.2
8		5 l/ha	9 l/ha	38.2	82.7	86.7

In the 3-4-5 variants treated with liquid nitrogen Uni-agro fertilizer taken for the experiment, it was determined that the average stem height of the plant on April 1 was 37.6-38.4-38.9 cm, and by May 1 this indicator reached 79.1-82.9-84.7 cm. In the 3-4-5 variants, the average stem height of the plant during the ripening period from June 1 to June 1 was 83.7-87.1-88.9 cm, and by June 1, the stem height was 2.7-6.1-7.9 cm higher than the control variant. In the 6-7-8 variants, where liquid nitrogen KAS fertilizer was applied, this indicator was 37.3-38.7-38.2 cm on average on April 1, and by May 1, the stem height reached an average of 78.7-84.2-82.7 cm, and the stem height on June 1 reached an average of 83.2-88.2-86.7 cm, which is 2.2-7.2-5.7 cm higher than the control variant. Thus, it was found that the use of Uni-agro and KAS fertilizers as a suspension on wheat leaves not only affects the growth and development of the plant, but also its height.

Conclusion

In conclusion, the experiment revealed that the newly developed Uni-agro and KAS liquid nitrogen fertilizers had a significant effect on the control variant compared to the untreated variant. Accordingly, the additional use of newly developed liquid nitrogen fertilizers as a suspension in winter wheat

care has a positive effect on the grain yield and quality indicators of winter wheat.

References

1. Decree of the President of the Republic of Uzbekistan dated October 23, 2019 No. PF-5853 "On approval of the Strategy for the Development of Agriculture of the Republic of Uzbekistan for 2020-2030".
2. Decree No. PF-60 of January 28, 2022 "On the Development Strategy of New Uzbekistan for 2022-2026".
3. Dospekhov BA "Metodika polevogo opyta". Moscow. Agropromizdat, 1985, 248-256
4. Nurmatov Sh., Mirzajonov K., Avliyokulov A., Bezborodov G.; Ahmedov J., Teshayev Sh., Holikov B., Niyozaliev B., Hasanova F., Mallabaev N., Tillabekov B., Ibragimov N., Abdualimov Sh., Shamsiev A., Isayev S. Methods of conducting field experiments. Tashkent. UzPITI.-2014.-175 p.
5. Hayonbayev J, Ismatullayev Z, Hamdamov J, Toshmatov S. Selection of winter soft wheat varieties specific to the conditions of the Fergana region. Agro sciencemagazine, issue 6, 2022, pp. 10-11.
6. Abdualimov Sh, Davronov, Q. (2022). The effect of liquid nitrogen fertilizer rates and suspension application on grain yield. Models and Methods in Modern Science, 1(18), 29-31.