

# The Effect of The Application of Liquid Nitrogen Fertilizers in Cotton Cultivation on The Increase of Cotton Yield Elements

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## Abstract:

Therefore, it is necessary to continue scientific research on the scientific basis of development of acceptable norms and periods of application of various chemical agents in each created cotton variety. The optimal recommendations for the production of cotton in the soil-climatic conditions of the Fergana region based on the study of the duration and norms of feeding cotton with liquid nitrogen fertilizers on the growth, development and productivity of the plant giving is the main goal of the research.

**Keywords:** Liquid fertilizer, harvest elements, wheat, grain, cob, crop branch, cotton, fertility, suspension, flower, complex fertilizer, mineral fertilizers nitrogenous fertilizers.

## Introduction

The most important condition for the rapid development of cotton production at the present time is the consistent intensification of cotton cultivation, one of its main directions is chemicalization. In order to consistently produce abundant and high-quality cotton crops, it is necessary to use chemicals wisely. Therefore, it is impossible to imagine modern cotton farming without mineral fertilizers, factors controlling plant growth, and chemical means for fighting against weeds and crop pests and diseases. Therefore, it is necessary to continue scientific research on the scientific basis of development of acceptable norms and periods of application of various chemical agents in each created cotton variety.

In order to fulfill the above-mentioned tasks and overcome the mentioned natural disadvantages, wide introduction of new modern techniques in agricultural production, improvement of farming culture in farms, application of short rotation planting system, cultivation of new high-yielding varieties, development of complex mechanization of field work and chemicalization of farming is one of the main factors.

In order to increase the productivity of cotton, based on the study and determination of the periods of application of liquid nitrogen fertilizers in plant nutrition, the productivity obtained from the cotton crop in the soil and climate of Fergana region is 4-5 s / indicates that increasing to is a major pressing issue.

The optimal recommendations for the production of cotton in the soil-climatic conditions of the Fergana region based on the study of the duration and norms of feeding cotton with liquid nitrogen fertilizers on the growth, development and productivity of the plant giving is the main goal of the research.

A literature review indicated that liquid fertilizers constitute the majority of nitrogen fertilizers used in the United States. In France, Germany, Denmark, Canada, England, Italy, Belgium, Mexico, Holland and other countries, this work has just started.

It should be noted that nitrogen fertilizers are the most demanded among all liquid



fertilizers. For example, in the USA as early as 1977, about 60.0% of the annual rate of liquid nitrogen fertilizers was applied.

In our experiments, Uni-agro fertilizer is used for foliar feeding of cotton .

" Uni-Agro " is a liquid nitrogen complex fertilizer produced by "Ferganazot" JSC.

" Uni-Agro " is a fertilizer composed of the elements most necessary for plant nutrition, which are important for the full development of plants.

Based on the results of the research, it should be noted that when treated with Uni-agro, the plant height is 1.5- 3,8 sm, the yield branches are 0.3-0.5 pieces, the combs are up to 2.6-2.7 pieces, it was observed that there were 0.4-1.0 grains more.

Table 1 . The effect of applying Uni-agro fertilizer during the cotton budding period on the shedding of the plant's crop nodules.

No	Experience options	Plant height , cm		Harvest horn , grain		Shona number , pcs		Flower number , pcs	Let 's go number , pcs
		1.07	1.08	1.07	1.08	1.07	1.08	05.07	1.08
1	Control	56.1	77.2	9.9	11.6	15.0	18.4	0.6	9.6
2	Suspension 1-3-5 kg/ ha , 3-5-7 kg/ ha	56.0	77.8	9.6	12.3	15.5	19.4	0.7	9.7
3	It is Agro 5 l/ ha , 10 l/ ha	55.4	78.3	10.1	11.9	15.7	19.2	0.7	9.3
4	Uni- Agro 10 l/ ha , 15 l/ ha	52.4	84.5	9.9	12.1	15.5	20.6	0.9	10.0
5	It is Agro 15l/ ha , 20 l/ ha	53.4	78.6	9.6	12.1	15.3	19.1	0.7	9.2
6.	It is Agro 20 l/ ha , 25 l/ ha	54.0	77.1	9.4	11.8	15.3	19.2	0.8	10.0

At the end of the growing season, similar data (1.08) were obtained 90,5 sm. It was 12.5 units. When treated with Uni-agro fertilizer during seeding and tillering, the length of cotton is 4.1 9,1 smhigher than the control, the number of branches is 1.0-1.4, the number of pods is 1.4 It was found that 2.0 units are more.

According to the data obtained from the field experiments during the research, we can observe that great positive results are achieved by feeding the plant with its leaves in the preservation of the crop nodes.

Table 2 application of Uni-agro fertilizer during the cotton budding period on the yield elements of the plant .

No	Experience options	I'm sick number , piece 1.09	From this opened , pieces , % 1.09	
			Piece	%
1.	Control	9.6 _	3.9	33.6
2.	Suspension 1-3-5 kg/ ha , 3-5-7 kg/ ha	10.5	4.8	50.4
3.	Uni- Agro 5 l/ ha , 10 l/ ha	8.4	3.7	44.0
4.	Uni- Agro 10 l/ ha , 15 l/ ha	11.0	4.5	40.9
5.	Uni- Agro 15l/ ha , 20l/ ha	11.1	4.0	36.0
6.	Uni- Agro 20 l/ ha , 25 l/ ha	11.7	3.7	31.6

This is case 1 5 In September, it was found that the number of cysts was 1.0-2.2 more than the control variant.

Based on the results of the above analysis, in addition to agrotechnical measures to prevent the shedding of cotton buds, it is necessary to feed the cotton with Uni - agro fertilizer through the leaves to achieve a high yield and efficiency. possible

In the experiment, Uni-agro had a specific effect on the cotton yield when cotton was treated during the ginning period.

The average annual cotton yield in the control option is 33.5 s /ha, Suspension (urea) 35, 0 and Uni - Agro 5-10-15-20 l/ha 3 5,7-3 7 , 0 -33, 8-32,4 s/ha ni , Super-KAS 5-10-15-20 l /ha was 35.4-35.6-34.9-34.3 s/ha .

## References

1. Davronov KA, Ibragimov OO, Karaboyev IT, Karimov Sh. Effektivnost primeneniya jhidkogo azotno-kalsiynogo udobreniya dlya preduprezhdeniya elementov urojaya // Jurnal. It 's a real problem sovremennoy science \_ Moscow. 2017 . No. 6 . S 1 39 - 143. (06.00.00., No. 6).
2. Davronov QA, Ibragimov O. (2017) The effectiveness of the use of liquid nitrogen fertilizer callicum to prevent the elements of the crop // International Scientific Journal Theoretical & Applied Science. SOI: 1.1/TAS DOI: 10.15863/TAS.
3. Davronov KA, Tukhtashev FE Izucheniye conditions and norms of application of liquid azotnykh udobreni pri vyrashchivani klopka v usloviyax poslednix pochv // Universum: tehicheskiye nauki: elektron. nauchn. Journal. 2021. 6(87). URL: <https://7universum.com/ru/tech/archive/item/12010>
4. Nazirova Rahnamohon Mukhtarovna, Usmonov Nodirjon Botiraliyevich, & Musayeva Iroda. (2022). Classification of Functional Products for Children's Food. Eurasian Journal of Engineering and Technology, 13, 36–39. Retrieved from <https://geniusjournals.org/index.php/ejet/article/view/2904>
5. Nazirova Rakhtamohon Mukhtarovna, Hursanaliyev Shohjaxon, & Usmonov Nodirjon Botiraliyevich. (2022). Apple Fruit Storage Technology. Eurasian Journal of Engineering and Technology, 13, 40–43. Retrieved from <https://geniusjournals.org/index.php/ejet/article/view/2905>
6. Nazirova Rakhtamohon Mukhtarovna, Makhmudov Nozimjon Nuriddin ugli, Usmonov Nodirjon Botiraliyevich. Technology of industrial storage of carrots. Web of Scientist: International Scientific Research Journal. Vol. 3 No. 6 (2022). pp 1455-1460. Retrieved from <https://wos.academiascience.org/index.php/wos/article/view/2068>
7. Nazirova Rakhtamohon Mukhtarovna, Aminjonov Hokimjon, Usmonov Nodirjon Botiraliyevich, Marufjonov Abdurakhmon Musinjon ugli. Production of alternative vegetable milk. Web of Scientist: International Scientific Research Journal. Vol. 3 No. 6 (2022). pp 1449-1454. Retrieved from <https://wos.academiascience.org/index.php/wos/article/view/2067>
8. Nazirova Rakhtamohon Mukhtarovna, Khodjimatom Javlon, Usmonov Nodirjon Botiraliyevich, Marufjonov Abdurakhmon Musinjon ugli. Complex processing of





- pumpkin fruit. Web of Scientist: International Scientific Research Journal. Vol. 3 No. 6 (2022). pp 1461-1466. Retrieved from <https://wos.academiascience.org/index.php/wos/article/view/2069>
9. Nazirova Rakhnamohon Mukhtarovna, Akhmadjonov Avazbek Akmaljon ugli, Usmonov Nodirjon Botiraliyevich. Rootstock growing technology. International journal of research in commerce, it, engineering and social sciences. Vol. 16 No. 5 (2022): May. pp 1-5. Retrieved from <http://www.gejournal.net/index.php/IJRCIESS/article/view/442>
  10. Мухтаровна, Н. Р., Ботиралиевич, У. Н., & Ёғли, М. А. М. (2021). Особенности Обработки Озоном Некоторых Видов Плодов И Овощей Для Их Долгосрочного Хранения. Central Asian Journal of Theoretical and Applied Science, 2(12), 384-388. Retrieved from <https://cajotas.centralasianstudies.org/index.php/CAJOTAS/article/view/367>
  11. Mukhtarovna, Nazirova R., et al. "Study of the Influence of Processing on the Safety of Fruit and Vegetable Raw Materials." European Journal of Agricultural and Rural Education, vol. 2, no. 6, 2021, pp. 43-45. Retrieved from <https://www.neliti.com/publications/378976/study-of-the-influence-of-processing-on-the-safety-of-fruit-and-vegetable-raw-ma#cite>
  12. Nazirova Rakhnamokhon Mukhtarovna, Tursunov Saidumar Islomjon ugli, & Usmonov Nodirjon Botiraliyevich. (2021). Solar drying of agricultural raw materials and types of solar dryers. European Journal of Research Development and Sustainability, 2(5), 128-131. Retrieved from <https://www.scholarzest.com/index.php/ejrd/article/view/824>
  13. Nazirova Rahnamokhon Mukhtarovna, Akramov Shokhrukh Shukhratjon ugli, & Usmonov Nodirjon Botiraliyevich. (2021). Role of sugar production waste in increasing the productivity of cattle. Euro-Asia Conferences, 1(1), 346–349. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/110>
  14. Nazirova Rahnamokhon Mukhtarovna, Akhmadjonova Marhabo Makhmudjonovna, & Usmonov Nodirjon Botiraliyevich. (2021). Analysis of factors determining the export potential of vine and wine growing in the republic of uzbekistan. Euro-Asia Conferences, 1(1), 313–315. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/99>
  15. Nazirova Rakhnamokhon Mukhtarovna, Holikov Muhridin Bahromjon ogli, & Usmonov Nodirjon Botiraliyevich. (2021). Innovative grain reception technologies change in grain quality during storage. Euro-Asia Conferences, 1(1), 255–257. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/79>
  16. Nazirova Rakhnamokhon Mukhtarovna, Tojimamatov Dilyor Dilmurod ogli, Kamolov Ziyodullo Valijon ogli, & Usmonov Nodirjon Botiraliyevich. (2021). Change in grain quality during storage. Euro-Asia Conferences, 1(1), 242–244. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/75>
  17. Nazirova Rakhnamokhon Mukhtarovna, Rahmonaliyeva Nilufar Nodirovna, & Usmonov Nodirjon Botiraliyevich. (2021). Influence of seedling storage methods on





- cotton yield. Euro-Asia Conferences, 1(1), 252–254. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/78>
18. Nazirova Rakhsamokhon Mukhtarovna, Otajonova Baxtigul Bakhtiyor qizi, & Usmonov Nodirjon Botiraliyevich. (2021). Change of grape quality parameters during long-term storage. Euro-Asia Conferences, 1(1), 245–247. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/76>
19. Nazirova Rakhsamokhon Mukhtarovna, Mahmudova Muhtasar Akhmadjon qizi, & Usmonov Nodirjon Botiraliyevich. (2021). Energy saving stone fruit drying technology. Euro-Asia Conferences, 1(1), 248–251. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/77>
20. Nazirova Rakhsamokhon Mukhtarovna, Akhmadjonova Marhabo Makhmudjonovna, & Usmonov Nodirjon Botiraliyevich. (2021). Analysis of factors determining the export potential of vine and wine growing in the republic of Uzbekistan. Euro-Asia Conferences, 1(1), 313–315. Retrieved from <http://papers.euroasiaconference.com/index.php/eac/article/view/99>
21. Nazirova R. M., Qahorov F.A., Usmonov N. B. Complex processing of pomegranate fruits. Asian journal of multidimensional research. 2021, Volume: 10, Issue: 5. pp. 144-149. Retrieved from <https://www.indianjournals.com/ijor.aspx?target=ijor:ajmr&volume=10&issue=5&article=020>
22. Mukhtarovna N. R., Alimardonugli S. A., Botiraliyevich U. N. Features of treatment of winter wheat seeds by different processors //International Engineering Journal For Research & Development. – 2021. – T. 6. – C. 3-3.
23. R.M.Nazirova, M.X.Xamrakulova, N.B.Usmonov. Moyli ekin urug‘larini saqlash va qayta ishlash texnologiyasi. O‘quv qo‘llanma. Фергана-Винница: ОО «Европейская научная платформа», 2021. – 236 с. <https://doi.org/10.36074/naz-xam-usm.monograph>
24. Усмонов, . Н. (2023). ЧЎЛ МИНТАҚАСИ ҚУМЛИ ТУПРОҚЛАРИ ШАРОИТИДА ҒЎЗАНИ ЕРЁНҒОҚ БИЛАН ҲАМКОР ЭКИШ ТЕХНОЛОГИЯСИ. Естественные науки в современном мире: теоретические и практические исследования, 2(4), 67–69. извлечено от <https://in-academy.uz/index.php/zdtf/article/view/13456>
25. Usmonova Ozodakhon Qakhramon qizi, & Usmonov Nodirjon Botiraliyevich. (2022). Theoretical Foundations of Studying the Term Concept in English-Uzbek Information Communication Technologies. Eurasian Journal of Humanities and Social Sciences, 14, 53–57. Retrieved from <https://geniusjournals.org/index.php/ejhss/article/view/2641>
26. Usmonov Nodirjon Botiraliyevich. (2022). EFFECT OF SEED GERMINATION OF INTERCROPPING COTTON AND PEANUT. E Conference Zone, 1–2. Retrieved from <http://www.econferencezone.org/index.php/ecz/article/view/1423>
27. Usmonov Nodirjon Botiraliyevich. (2022). Effect of Intercropping of Cotton and Peanut on Quantity and Quality of Soil Microorganisms. Eurasian Scientific



- Herald, 11, 12–15. Retrieved from <https://geniusjournals.org/index.php/esh/article/view/1990>
28. Usmonov Nodirjon Botiraliyevich. (2022). BENEFITS OF CO-PLANTING COTTON WITH PEANUTS. Conferencea, 90–92. Retrieved from <https://conferencea.org/index.php/conferences/article/view/1040>
29. Usmonov Nodirjon Botiraliyevich. (2022). EFFICIENCY OF CO-PLANTING OF COTTON AND PEANUTS IN SANDY SOILS OF THE DESERT REGION. Web of Scientist: International Scientific Research Journal, 3(7), 458–461. <https://wos.academiascience.org/index.php/wos/article/view/2228>
30. A.S.Abduraximov, N.B.Usmonov. Effectiveness of co-planting crops in sandy soils. Plant Cell Biotechnology and Molecular Biology (SCOPUS JOURNAL). 2020. 21(65&66). pp 1-9 <https://www.ikppress.org/index.php/PCBMB/article/view/5688>
31. Usmonov Nodirjon Botiraliyevich. (2023). Technology of Intensive Planting of Sunflower and Soybean for Grain in Sandy Soils. Web of Agriculture: Journal of Agriculture and Biological Sciences, 1(8), 21–24. Retrieved from <https://webofjournals.com/index.php/8/article/view/313>.