The American Journal of Engineering and Technology
(ISSN – 2689-0984
Published: March 30, 2021 | **Pages:** 65-69
Doi: https://doi.org/10.37547/tajet/Volume03Issue03-10

IMPACT FACTOR
2021: 5. 705
OCLC - 1121105677

Root System Development And Its Activity

Kimsanov Ibrohim Xayitmurotovich
PhD, Fergana Polytechnic Institute, Fergana, Uzbekistan

Mirzakarimova Gulshanoy Mirzaraxmat Qizi
Teacher, Fergana Polytechnic Institute, Fergana, Uzbekistan

Mamatqulov Orifjon Odiljon O'g'li
Teacher, Fergana Polytechnic Institute, Fergana, Uzbekistan

ABSTRACT

In this article, the root system of plants is shown, which performs a multifaceted function not only by the organs of absorption but also the synthesis of many vital plant compounds of nutrients. Studies under the conditions of lysimetric experiments have established that, regardless of the methods of watering, plants hatched without nitrogen with phosphorus-potassium nutrition are characterized by a significantly lower content of nutrients in the tissues.

KEYWORDS

Plant, lysimetric experiments, cotton, cultivation, watering.

INTRODUCTION

We determined the development of the root system of cotton and its activity in the flowering phase on the 6th day after watering and the introduction of nitrogen additions during its cultivation in narrow inter throw spaces, depending on the irrigation technology and methods of applying nitrogen fertilizers.

It can be seen from the data obtained that the application of phosphorus-potassium fertilizers without nitrogen fertilizers inhibits

The American Journal of Engineering and Technology
(ISSN – 2689-0984
Published: March 30, 2021 | **Pages:** 65-69
Doi: https://doi.org/10.37547/tajet/Volume03Issue03-10

IMPACT FACTOR
2021: 5. 705
OCLC - 1121105677

the accumulation of the mass of cotton roots [1-3]. Watering through the aisle in budding and flowering increases the growth of root biomass due to their greater accumulation in the unirrigated furrows. The introduction of nitrogen fertilizers against the background of phosphorus-potassium fertilizers contributes to a greater increase in the mass of kreni [4-7].

When watering and applying nitrogen fertilizers to each row, the indices of root biomass accumulation do not legally differ from the variant with nitrogen application. The development of the cotton root system depending on the irrigation technology and methods of applying nitrogen fertilizers, plant Field experiments, the average for 2017-2018.

Option number	Soil layer, cm						
	0-20		20-40		40-60		Total in layer 0-60
	Polev	not soil	Polev	not soil	Polev	not soil	
Resolution scheme 60 * 60 plants							
one	3.0	2.4	3.3	2.5	0.9	0.6	12.7
2	5.6	2.0	6.1	0.6	1.6	0.5	16.0
3	7.0	6.3	3.8	2.9	0.8	0.5	21.3
four	6.0	6.4	3.8	3.6	0.9	0.6	20.3
five	6.3	8.7	5.9	3.0	0.6	0.9	24.3
6	5.1	8.3	6.1	3.5	1.7	0.8	26.3
Resolution scheme 90 * II-I plants							
one	4.1	2.6	4.1	2.1	1.2	0.8	13.1
2	6.1	2.3	6.8	0.4	1.4	0.2	17.1
3	6.8	7.2	4.8	3.1	1.3	0.8	23.5
four	7.1	6.4	4.2	3.2	1.4	0.7	23.0
five	7.5	9.2	6.3	4.1	1.2	0.9	29.2
6	7.2	8.4	6.9	4.8	1.9	1.1	30.8

Cultivation of cotton with wide row spacing compared to narrow aisles contributes to the development of root mass in soil layers of 0-30 and 20-40 cm, and it changes markedly depending on the irrigation technology and the introduction of nitrogen fertilizer [8-11].

At the same time, in non-control variants with the introduction of phosphorus-potassium fertilizers, the accumulation of root mass occurs to a lesser extent than in plants grown with the application of nitrogen fertilizers against the background of potassium fertilizers.

MATERIALS AND METHODS

Irrigation through furrows in relation to irrigation in each row with the introduction of nitrogen fertilizers in the field or non-field furrows increase the root weight of one plant to 25% soil layer 0-60 sm. Such an increase in the biomass of the root system occurs due to its greater accumulation in non-field furrows.

The American Journal of Engineering and Technology
(ISSN – 2689-0984
Published: March 30, 2021 | **Pages:** 65-69
Doi: https://doi.org/10.37547/tajet/Volume03Issue03-10

IMPACT FACTOR
2021: 5. 705
OCLC - 1121105677

The energy of sap extraction and the flow of nitrogen into the plant with it were studied, depending on the irrigation technology and methods of applying nitrogen fertilizers when growing cotton in narrow and wide aisles.

From the data presented, it can be seen that no significant difference was observed in the release of the sap and the nitrogen content in plants of the control variants grown without nitrogen with watering through or each row. Regardless of the irrigation technology, nitrogen fertilizers contributed to a significant increase in the energy of sap extraction and increased the nitrogen content in it [12-14].

When watering and applying nitrogen to each furrow, in relation to the variant with its introduction through a row, the activity of the root system and the flow of nitrogen into the plant increased. Irrigation had a more positive effect on these indicators.

The energy of release of pasque T2 up to 3 p.m., mm and the content of nitrogen and it/mg/l/depending on the irrigation technology and methods of applying nitrogen fertilizers in the flowering phase of cotton/average for 2017-2018yy.

Option number	Cotton plant at narrow 60 * 16-1		Cotton plant at wide 90 * 11-1	
	Sap volume, mm in 3 hours	Nitrogen content, mg/l	Sap volume, mm in 3 hours	Nitrogen content, mg/l
1	8.0	201	11.0	270
2	8.9	204	12.3	280
3	18.2	560	23.4	680
4	12.5	683	25.6	702
5	23.0	660	31.3	811
6	26.6	710	32.3	850

Through row spacing with nitrogen application in non-irrigated, and especially in irrigated furrows.

Consequently, irrigation through a row with the introduction of nitrogen fertilizers into the irrigated furrows enhance the development of the root system and increase the supply of nitrogen to plants.

Content of NPK nutrients in cotton organs. Studies under the conditions of lysimetric experiments have established that, regardless of the methods of irrigation, plants grown without nitrogen with phosphorus-potassium nutrition are characterized by a significantly lower content of nutrients in tissues than

plants of variants with the introduction of nitrogen. As expected, the content of nutrients and organs of cotton grown in narrow aisles varies depending on the irrigation technology and the methods of applying nitrogen fertilizers.

High nitrogen content is typical for raw cotton, then leaves: with watering and adding nitrogen to each row, the content of this element increases significantly. When watering in each row and applying nitrogen through the furrow, the content of this element decreases slightly.

The American Journal of Engineering and Technology
(ISSN – 2689-0984
Published: March 30, 2021 | **Pages:** 65-69
Doi: https://doi.org/10.37547/tajet/Volume03Issue03-10

IMPACT FACTOR
2021: 5. 705
OCLC - 1121105677

The best indicators of nitrogen content, depending on the technology of irrigation and feeding with nitrogen, were noted in the stems and valves of cotton, but its content in the latter was less than in leaves and raw cotton.

The phosphorus content, as can be seen from the data of the same figure, in the leaves, especially in raw cotton, is high, and in the stems and valves, it is low. The phosphorus content in the organs of cotton largely depends on the technology of irrigation and the application of nitrogen fertilizers. When watering and feeding in each row and, especially, when watering through the furrow and applying nitrogen through or into each row, the phosphorus content in the organs of cotton increases.

The potassium content is higher in valves and stems and less in raw cotton and leaves. High content of this nutrient is typical for options with irrigation and application of nitrogen fertilizers to each furrow and, especially, when irrigating through the furrow and applying nitrogen to irrigated furrows.

The content of nitrogen and potassium in the organs of cotton grown under the conditions of field experiments with the placement of plants in narrow aisles is of the same type as in lysimetric experiments. In terms of the phosphorus content, the difference in this element in the organs is noticeably smoothed out: but all non-plants of the variants with watering and fertilizing in each row, especially when watering through the rad and applying to non-irrigated or irrigated furrows, contain more not only potassium but also phosphorus.

The same data as in lysimetric and field experiments, depending on the technology of irrigation and application of nitrogen fertilizers when growing cotton in wide aisles.

CONCLUSION

The results of our research have established that when growing cotton in narrow aisles, the amount of nitrates and phosphates in the leaf blades changes markedly depending on the irrigation technology and fertilization methods.

In the leaf plates of the plant, cut out without nitrogen with watering through the beard, the content of nitrates is noticeably lower than in the variants with nitrogen. A similar regularity and the content of nitrates is characteristic of nitrates with a polynomial in a row without the introduction of nitrogen fertilizers.

Regardless of the methods of watering, the introduction of nitrogen fertilization is associated with cutting an increase in the content of nitrates in the leaves of cotton. When irrigating through several options with the application,

The result of the study is the absorption and consumption of nitrogen by cotton, the dynamics of nitrates in the soil, the availability of plants depending on the technology of irrigation and the methods of applying nitrogen fertilizers.

REFERENCES

1. Kimsanov, I. Kh. (1996). The effectiveness of the methods of applying nitrogen fertilizers on cotton, depending on the irrigation technology in the conditions of serozem-oasis soils of the belt of typical serozem.

2. Khusanboy, E., Xayitmuratovich, KI, Tolibjonovich, RS, & Rustamboevna, AA (2020). Increasing the uniformity of cottonvaries andijan35 sown in theandijan reguon. PalArch's Journal of Archeology of Egypt/Egyptology, 17 (6), 3337-3339.

3. Rakhimov, AD, Kimsanov, IK, Mirkhamidova, NA, Abdumalikov, UZU, & Mirkhamidova, GM (2020). Change of fiber output depending on the place of formation of boxes in the limits of the hospital bush of type G. Hirsutum L. Journal of Critical Reviews, 7 (8), 1773-1777.

4. Egamov, Kh., Kimsanov, I. Kh., Rakhimov, A. D., & Zhuraev, A. N. (2020). Issues of breeding technique and combination ability of cotton varieties. apni. ru Editorial board, 15.

5. Marupov, A. (2020). Improvement of innovative mechanism for rational use of natural and land resources in uzbekistan. Збірник наукових праць ΛΌГОΣ, 100-101.

6. Yuldashev, G., & Marupov, A. A. (2019). Main ways to improve the efficiency of agricultural land use in the Fergana valley sample. Scientific Bulletin of Namangan State University, 1(8), 68-74.

7. Abdurakhmonova, N. K., Nazirova, R. M., & Mirsalimova, S. R. (2020). Phosphoric-potash fertilizers based on sulfuric acid processing of phosphorite flour and potassium chloride. Academicia: An International Multidisciplinary Research Journal, 10(10), 252-255.

8. Muxkharovna, N. R., Akhadovich, K. A., Mukhiddinovich, T. S., & Rakhmatjanovna, M. S. (2020). Investigation of solubility kinetics and interaction of stabilizing additives in production of complex fertilizers based on granular nitrate and stabilizing additives. Academicia: An International Multidisciplinary Research Journal, 10(5), 657-664.

9. Kholliye, A., Norboyeva, U., & Adizova, K. (2020). About the negative impact of salination on cotton. Збірник наукових праць ΛΌГОΣ, 50-52.

10. Kholliyev, A., Nazarova, F., & Norboyeva, N. (2021). Cotton resistance indicators in the conditions of water deficiency. Збірник наукових праць SCIENTIA.

11. Kholliyev, A., Boltayeva, Z., & Norboyeva, U. (2020). Cotton water exchange in water deficiency. Збірник наукових праць ΛΌГОΣ, 54-56.

12. Ergashovich, K. A., Azamatovna, B. Z., Toshtemirovna, N. U., & Rakhimovna, A. K. (2020). Ecophysiological effects of water deficiency on cotton varieties. Journal of Critical Reviews, 7(9), 244-246.

13. Holliev, A. E., & Safarov, K. S. (2015). Effect of different soil moisture on the physiology of water exchange and drought-resistant varieties (Gossypiym hirsutum L.) of cotton. Europaische Fachhochschule, (9), 7-9.

14. Ergashovich, K. A., Toshtemirovna, N. U., Rakhimovna, A. K., & Abdullayevna, F. F. (2020). Effects of Microelements on Drought Resistance of Cotton Plant. International Journal of Psychosocial Rehabilitation, 24(2).