SIR Publishers
CENTER FOR INTERNATIONAL SCIENTIFIC PUBLICATIONS
JOURNAL OF AGRICULTURE AND LIFE SCIENCES
ISSN(Online): 2984-6706
SJIF Impact Factor |(2023): 5.988|
Volume-6, Issue-4, Published |20-11-2023|

UDC: 633.1:631.

# DO ALFALFA PLANTING TIMES AND METHODS AFFECT WHEAT GROWTH AND DEVELOPMENT?

https://doi.org/10.5281/zenodo.10199731

**Abdurakhmanov son of Abdukhaliljon Muhammedjon**
*is a student of Namangan State University*

## ANNOTATION

Germination of alfalfa seeds among wheat grass grown does not adversely affect its growth. As a result the difference in wheat harvest between the variants of sowing wheat seeds with alfalfa seeds and without.

It is important to choose a good predecessor crop to get a high and quality harvest from the crops. We have also given great importance to this in our experiments. In our experiment, alfalfa seeds were sown on wheat growing lawns at different times for co-cultivation of alfalfa with wheat. According to many scientists, alfalfa is beneficial for intercropping or co-planting and for subsequent cropping.

Researcher R.Virginia of the Research Institute of Plant Science in Bonn, Germany [7; 119-122-b, 5; 98-103-p.], according to the results of the experiment, 30-60 kg/ha of nitrogen is collected due to the crushing and decomposition of plant residues after growing intermediate crops and plowing in the tillage layer of the soil. The nutrition of the next main crop is improved. Intercrops grown at the same time create an important feed base for livestock and improve soil nutrient composition. It also prevents nutrients in the soil from being washed into the lower layers of the soil under the influence of autumn and winter rains.

In our studies, we verified that mineral fertilizers, mainly nitrogen fertilizers, are of great importance for the growth and high yield of sugar beet. For sugar beets in the form of sodium nitrate ($NaNO_3$), $N_{200}P_{150}K_{200}$ kg/ha is normally effective [4; 12-b]

In the conditions of gray-meadow soils of the Andijan region, planting sugar beet seeds as a re-crop, moistening the seeds up to 80-100%, encapsulating the seeds using a mixture of 75% vermicompost + 25% soil and applying mineral fertilizers $N_{200}P_{150}K_{200}$ allows you to get the maximum yield of 370.2 centner/ha of root crops [6; 122-126-b].

When plants such as amaranth and alfalfa are grown on light gray soils, it is appropriate to set the mineral fertilizer rates of N150R100K150 kg/ha. Also, the

SIR Publishers
CENTER FOR INTERNATIONAL SCIENTIFIC PUBLICATIONS
JOURNAL OF AGRICULTURE AND LIFE SCIENCES
ISSN(Online): 2984-6706
SJIF Impact Factor |(2023): 5.988|
Volume-6, Issue-4, Published |20-11-2023|

application of nitrogen fertilizers in the form of liquid manure at the rate of 30 kg/ha during the growing season of the plant ensures that the soil has the necessary amount of organic nutrients. [9; 7-12-b].

In order to increase the organic matter in the soil in order to obtain high and quality products from the plant, after harvesting the cotton crop, which is the main crop, rye and rapeseed were planted as siderate crops. In early spring, 380-400 t/ha of blue mass was thrown into the ground and plowed. As a result, it was observed that the amount of humus in the soil increased by 0.001%, and the total forms of nutrients increased by 0.001-0.002%. [8; 741-746-b].

Our experiment consisted of 4 returns out of 13 options, the total area of which was 1248 m², and the area of consideration was 1050 m² (Table 1). In the first version of the experiment, wheat was grown in its pure form (without alfalfa), and in the remaining versions, alfalfa seeds were planted in wheat at different times. Field and production experiments and laboratory analyzes were carried out based on the following methodological guidelines. "Metodika polevyx opytov s khlopchatnikom" [2] and "Metodika polevyx opytov po izucheniyu agrotekhnicheskih priemov po vozdelyvaniyu kukuruzy" [3; p. 278] was carried out in accordance with the manuals. Clarification of the data obtained from the experiment on productivity, correlation between the results and the factors used was carried out based on the manual of B. Dospehov "Metodika polevogo opyta" [1].

In this paper, the calcium and micro- and macronutrients in chicken eggshell are used as various fertilizers and bioactive compounds to be widely distributed on the earth in finding high-performance fertilizers for the cultivation of fodder and medicinal plants such as alfalfa and amaranth, in medicine. and it is reported to have been used in the cultivation of Amaranth as a unique raw material in agro fields. [10; 321-325-b].

**Table 1**

**Test options and procedure.**

| Opt. | Timings and methods of ting wheat | Time and methods of planting alfalfa | Bedapoya ying periods |
|---|---|---|---|
| 1 | After the 2nd cotton est (September 20-25), on is planted between the s. | - | It is left in a ved state. |
| 2 | | In autumn (September 20-25), cotton is n between rows of wheat | In autumn vember 15-20) |
| 3 | | In the spring, (March 5-10), it is planted veen the rows in the fall and sprinkled the budding wheat sprouts. | |

SIR Publishers
CENTER FOR INTERNATIONAL SCIENTIFIC PUBLICATIONS
JOURNAL OF AGRICULTURE AND LIFE SCIENCES
ISSN(Online): 2984-6706
SJIF Impact Factor |(2023): 5.988|
Volume-6, Issue-4, Published |20-11-2023|

| | | | |
|---|---|---|---|
| 4 | | In the spring (March 15-20) it is planted een the rows and sprinkled into uting wheat sprouts. | |
| 5 | | As in option 2 | In spring rch 15-20) |
| 6 | | As in option 3 | |
| 7 | | As in option 4 | |
| 8 | After the 1st cotton est (September 10-15), n is planted between the s. | In the fall (September 10-15), cotton is between the rows and wheat is ted. | |
| 9 | | As in option 8 | In autumn vember 15-20) |
| 10 | In the fall, the gozapoya llected and planted in the field (on November 5- | In the spring, (March 5-10) in the fall, it anted in an open field and sprinkled into budding wheat sprouts. | |
| 11 | | In the spring, (March 15-20), it is ted in the open field in the fall, and it is nkled into the budding wheat sprouts. | |
| 12 | | As in option 10 | In spring rch 15-20) |
| 3 | | As in option 11 | |

It should be noted that in the experiment, we also set different periods of plowing alfalfa. We studied the effect of the above planned implementation (planting alfalfa seeds at different times) on the growth development of the wheat plant grown in partnership. According to it, indicators such as stem height, number of productive stems, weight of grains in one spike, mass of 1000 grains were studied according to variants. According to Table 2, the above indicators were almost close to each other in all options. This is because the alfalfa seeds were planted in the wheat and the alfalfa did not harm the wheat at all.

**Table 2**

**Effect of alfalfa planting dates on wheat growth and development.**

| opt. | Stem ht, cm | The number of stems, | | Grain weight e spike, gr. | Weight of grains, gr. | Biological l, ts/ha |
|---|---|---|---|---|---|---|
| | | Total ber | Productive | | | |
| 1 | 81 | 5 | 1,3 | 1,4 | 32 | 57 |
| 2 | 80 | 5 | 1,3 | 1,3 | 31 | 56 |
| 3 | 82 | 6 | 1,2 | 1,2 | 33 | 58 |
| 4 | 83 | 5 | 1,4 | 1,4 | 31 | 57 |
| 5 | 81 | 6 | 1,3 | 1,3 | 32 | 60 |

SIR Publishers
CENTER FOR INTERNATIONAL SCIENTIFIC PUBLICATIONS
JOURNAL OF AGRICULTURE AND LIFE SCIENCES
ISSN(Online): 2984-6706
SJIF Impact Factor |(2023): 5.988|
Volume-6, Issue-4, Published |20-11-2023|

| | | | | | | |
|---|---|---|---|---|---|---|
| 6 | 79 | 5 | 1,4 | 1,4 | 32 | 59 |
| 7 | 84 | 5 | 1,4 | 1,3 | 31 | 61 |
| 8 | 84 | 6 | 1,5 | 1,4 | 33 | 60 |
| 9 | 79 | 5 | 1,3 | 1,3 | 31 | 59 |
| 10 | 78 | 6 | 1,4 | 1,4 | 32 | 58 |
| 11 | 82 | 7 | 1,3 | 1,3 | 33 | 61 |
| 12 | 80 | 5 | 1,4 | 1,4 | 32 | 60 |
| 13 | 81 | 6 | 1,3 | 1,3 | 33 | 61 |

The height of the wheat stem was 81 cm in the control variant without alfalfa, while it was 78-80 cm in the co-cultured variants with alfalfa. There was no significant change in the total number of wheat and productive stalks (5 and 1.3 in the control, and 5-7 and 1.2-1.4 in the studied variants, respectively). Regarding the remaining parts of wheat, the above law was preserved, that is, compared to the control option, where the wheat itself was grown in a pure form, almost similar data were obtained in the studied variants. However, when we looked at the biological yield, it was observed that the yield of the control variant was much higher than the other variants. This is probably due to the thickness of the seedling. When wheat was sown between cotton rows in the fall, most of the seeds fell into the egates taken for cotton, so there was a difference in their growth development.

In conclusion, plowing wheat in autumn in the last ten days of November, planting wheat, and sowing alfalfa seeds in wheat fields in early spring in the first ten days of March did not have a negative effect on the development of wheat growth. This ensures high and quality grain yield from wheat.

## LIST OF USED LITERATURE:

**1.** Доспехов В.А. «Методика полевого опыта.» изд. Агропромиздат, М. 5-е доп. и перероб. 1985.

**2.** Методика полевых и вегетационных опытов с хлопчатником Ташкент, СоюзНИХИ,1973.

**3.** Методика полевых опытов по изучению агротехнических приемов по возделыванию кукурузы.- Москва, 1984, -С 278 .

**4.** Сулейманов И. Ж. Влияние норм минеральных удобрений на потребление питательных веществ сахарной свеклы в онтогенезе //Сахар, свекла.–2005. – 2005. – Т. 2. – С. 12.

**5.** Jamoldinovich S. I. INFLUENCE OF MINERAL FERTILIZERS ON THE YIELD OF SUGAR BEET RE-SOWING //Finland International Scientific

Journal of Education, Social Science & Humanities. – 2023. – T. 11. – №. 3. – C. 98-103.

**6.** Sulaymonov I. J., Ergashev D. INFLUENCE OF FORM AND NORMS OF NITROGEN FERTILIZERS ON THE DEVELOPMENT OF PAVORNO SUGAR BEET //Scientific and Technical Journal of Namangan Institute of Engineering and Technology. – 2020. – T. 2. – №. 9. – C. 122-126.

**7.** Virginia R., Bernard R. Crop rotation effect population densistens of ektoparatik nematodes. Journal of Nematologiyvol №2. 1971. pp 119-122.

**8.** Omonillo o‘g‘li X. A. AGROCHEMICAL INDICATORS OF THE SOIL DEPENDING ON THE STANDARDS OF MINERAL FERTILIZERS //Finland International Scientific Journal of Education, Social Science & Humanities. – 2023. – T. 11. – №. 1. – C. 741-746.

**9.** Khabibullaev A. O. EFFECT OF MINERAL FERTILISERS APPLIED TO AMARANT PLANTS ON NITROGEN DYNAMICS IN THE SOIL //SCIENTIFIC ASPECTS AND TRENDS IN THE FIELD OF SCIENTIFIC RESEARCH. – 2023. – T. 1. – №. 10. – C. 7-12.

**10.** Omonilloyevich, Fayziyev Xayrullaxon, and Xabibullayev Abdullazizxon Omonillo o‘g‘li. "FERTILIZERS USED IN CULTIVATION OF MEDICINAL AMARANTH PLANT AND NATURAL SOURCES ENRICHED WITH COMPOUNDS OBTAINED FROM CHICKEN EGG SHELLS AS NATURAL BIOACTIVE FERTILIZER." *Finland International Scientific Journal of Education, Social Science & Humanities* 11.1 (2023): 321-325.