INTERNATIONAL JOURNAL FOR INNOVATIVE RESEARCH IN MULTIDISCIPLINARY FIELD ISSN: 2455-0620 Volume - 5, Issue - 9, Sept – 2019
Monthly, Peer-Reviewed, Refereed, Indexed Journal with IC Value: 86.87 Impact Factor: 6.497
Received Date: 15/09/2019 Acceptance Date: 26/09/2019 Publication Date: 30/09/2019

UDK 633.51: 631. 816 / .674

INFLUENCE OF WATER AND FERTILIZER NORMS ON FERTILITY OF ZARAFSHON AND UNQURGAN-1 COTTON PLANTS

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Abstract: *The disclosure article. The purpose of this research is to develop methods for increasing the productivity of cotton when considering organic fertilizers on typical serozem of Uzbekistan. In this regard, the purpose of our research was to: escalate the effect of manure application on soil fertility; identify changes in the growth and development of cotton when applying organic fertilizers; monitor the nutritional status of the plant through the phases of cotton development; to develop methods for increasing the productivity of cotton when using manure; to study the changes in the technological properties of fiber and the cc-identity of cotton seeds; determine the economic benefits of using manure in conjunction with mineral fertilizers.*

Key Words: *influence of norm water, fertilizers on fertility, cotton plants.*

1. INTRODUCTION:

The increase in raw cotton production will be achieved primarily by increasing soil fertility and the productivity of cotton, which is inextricably linked to the proper use of all economic resources, including the ability to use mineral and organic fertilizers. Further development of cotton growing, the main agricultural sector of the Republic of Uzbekistan, suggests an intensive nature. The increase in raw cotton production should come from the efficient use of all available resources - increasing yields, cultivating high-yield varieties and improving technological methods. Currently, the average yield of cotton fiber in the republic is 20.5 c / ha. Its growth, after the recession in the low 90s, is facilitated by the cultivation of new highly productive varieties, the rational use of mineral fertilizers, advanced agricultural techniques, and the differentiated distribution of varieties in soil and climatic zones.

2. LITERATURE REVIEW :

Manure is the oldest and most common organic fertilizer. According to AB Vyshinsky, it was used 3-4 thousand years ago in Chinese of Japan, Korea to improve soil fertility. Nomadic peoples returning to their former struts; They saw how well plants developed where those cattle had once stood. In ancient Rome, it was believed that in order to get good crops, you need to plow and fertilize. Manure was the focus of Russian agronomists. In 1779, Andrei Bolotov wrote (cited in Petersburg, 1967) "Without manure, the land does not produce a crop; there is little manure because there is little livestock, since there is little feed." A similar statement in 1788 was quoted by Ivan Komov (quoted from Petersburg, 1967) "Without the abundance of manure, it is impossible to have great success in agriculture."

In Central Asia, serious attention was paid to him at all the experimental stations of the SoyuzNIHI network. There is a detailed monograph by FASkryabin on this issue (1970).

The effect of manure on soil fertility and crop yields is manifold. It is a universal source of nutrition for plants and microorganisms. It contains all the substances they need. By the amount of basic nutrients, one ton of semi-overripe manure is equivalent to 5 kg of nitrogen, 3 kg of phosphorus (PgOg) and 6 kg of potassium (KgO). As an effect of equal amounts of NPK and manure on the crop, it has a definite advantage in favor of the latter. Manure is rich in aeolian substances and in many cases reduces soil acidity, replacing liming. At the same time, having a carboxyl (COOH) and amide (NHg) group in its composition, it enhances the buffer properties of the soil, increases its absorption capacity, and favorably affects the structure. Organic matter of manure serves as a source of normal microbiological activity in soil, which is an energy material for microorganisms. The carbonic acid formed on decomposition of EO3 is used in photosynthesis during root and air nutrition, and also promotes the transition of hard-to-reach soil nutrients to easily digestible ones (Petersburg, 1967). In addition, manure improves thermal regime, moisture capacity and water

permeability of the soil. The combination of manure with mineral fertilizers increases the digestibility and use of nutrients and especially phosphorus. In Her Jeremiah DN Pryanishnikov (1953) noted that a poor attitude to manure is an economical attitude to mineral fertilizers. The exceptional role of manure in agriculture was pointed out by academician VRVilliam (1954). It is believed that manure is not only a source of nutrients for plants, but mainly a reserve of organic matter in the soil.

3. MATERIALS AND METHODS:

The studies were carried out according to "Methodology of field and vegetation experiments with cotton under irrigation conditions" in four repetitions and "Methodology of field experiments with the basics of statistical processing of research results." Cotton care was carried out according to the agricultural techniques adopted at the farm. From fertilizers, urea (46% N), ammonium nitrate (34% N), superphosphate (14% P2O5), and potassium chloride (60% K2O) were added. Soil selection for agrochemical analyzes was carried out before laying the experiment, during the emergence phase of seedlings and at the end of the growing season of cotton. The humus content was determined by IV Tyurinu (1965), gross nitrogen - according to Keldal (1963), gross phosphorus - by wet ashing with per chloric acid according to Lorentz (1963), exchange potassium - according to PV Protasov (1963), mobile phosphorus - according to VM Machigin (1963). Technological properties of fiber - according to the method of SS Ivanova, LP Ladynina et al. (1972), oil content in seeds - according to the method of Rushkovsky (1957) in the Soxhlet apparatus. Plant samples were analyzed by accelerated combustion with perchloric acid (Meshcheryakov, 1963). Nitrogen was determined by Keldahl, phosphorus - colorimetrically, potassium - on a flame photometer.

Tashkent typical soil conditions studied Zarafshan kind of optimal cotton irrigation, soil moisture, compared with ChDNS 70-70-60%, the concentration of the cell juice in shading 8,8-9,0%, during the flowering-harvest 10,2-10 At normal irrigation of NPK 190-133-95 kg / ha during the period of 8% and 12.3-12,9% during ripening, 4 4, 1 -55, 4 c / ha, on average 5 1, 1 cent. / O'nqo'rg'on-1 kind of soil moisture, compared with ChDNS 70-75-60%, the concentration of the cell juice in shading 8,8-9,0%, during the flowering-harvest 10,2-1 1, 9 %, and the cooking time and 12.3-12, When irrigated at a rate of 9%, the NPC achieved a high yield of 50.1 cc / ha and an average of 42.5-55.0 c / ha with the standard 220-154-110 kg / ha.

One of the urgent issues is the improvement of the quality of cotton fiber produced in the country and the quality of its raw materials meeting the requirements of the domestic and foreign markets, the development and implementation of agrotechnical technologies on the example of regions, regions and districts. This is to solve such issues on the basis of taking into account the topic "Program" at the laboratory, field, production experience PSUEAITI mtu pre-watered fields of agriculture, groundwater levels are 8 meters deep, which is typical conditions of field experiments on soil 20 12 - 201 4 years have been provided.

The studies provided field experiments based on the methodological guidelines of the Institute (1981, 2007).

Table 1
Experiment t trace

V	Varieties of cotton	Pre-irrigation soil moisture content, in% to ChDNS	Fertilizer rate, kg / ha		
			N	$R_2 0_5$	$K_2 0$
1	S-6524	Control	200	140	100
2	Zero	65-65-60 VAT	190	133	95
3			220	154	110
4		70-70- 60 VAT	190	133	95
5			220	154	110
6		70-75-60 VAT	190	133	95
7			220	154	110
8	Onkurgan-1	65-65-60 VAT	190	133	95
9			220	154	110
10		70-70-60 VAT	190	133	95
11			220	154	110
12		70-75-60 VAT	190	133	95
13			220	154	110

Note: *HSCC - Cell Juice Concentration. In 2012-2014, the name of the Zarafshan cotton variety was "Akdarya-8".*

Experiment 13 options were placed in the same race in 3 repetitions. Each section has 8 rows width - 4.8 m, length 100 m, area 480 m ^{2,} including count area 240 m ^{2,} 4 rows, 2.4 m, length 100 m. Zoned and promising to crush the medium fiber, a stronghold Study n on-1-yielding varieties of cotton, two different norms of fertilizer N -190, P_2O_5 - 133, K_2O-95 and N -220, P_2O_5 -154, K_2O-110 kg / ha, three su cave, ChDNSga 65-65-60, 70-70-60, 70-75-60 % of this irrigation regimes q fledgling h analysis, etc. before watering The concentrations of cotton leaf juice from the growth point were obtained from the third and fourth leaves and analyzed by hand refractometry . The experimental system is presented in Table 1 [1].

Agrophysiology of experimental soil soils is one of the main factors determining soil fertility: mechanical composition, limited field moisture content (ChDNS), water permeability, volume weight, soil density, microbiological indicators and location of cotton plant roots June, July, August and September. Phenological observations of 1–3 months of the month depend on the growth and development of cotton. The crop's dependence on water and nutritional regimes and agrophysical characteristics of the soil was studied on the basis of variants and yielded high yields of the studied cotton varieties. Restricted field moisture content (ChDNS) 20 12 --2014 for 21 years at 0- 70 cm layer was 21, 8 - 21, 0 % and 0, 100 cm - 21, 4 -22.0%, S uv permeability The average six hours at the beginning of the season early in the spring, in the north- 14 1, 2, 6, 8-15 m ^{3} / ha, respectively.

Growth, accumulation and ripening of plants in all cotton complexes was, of course, directly related to water and nutritional norms and irrigation procedures. The effects of irrigation and feeding regimes on the growth and development of the cotton varieties studied in our studies were evident from the beginning of the season, especially at the end of the period. A vgust According to the observations from the beginning, to crush the height of the main stem of cotton varieties 73.5 -9 3, 4 cm had an O'nqo'rg'on-1, depending on the grade of cotton, which is water, food standards in accordance with 73,4-92,1 cm was formed. In early September, the number of clapping Zarafshan kind of 10,6-16,6 units, O'nqo'rg'on-1 grade 10,6-13,8 units collected. With pre-irrigated soil moisture at 70-75-60%, the height of cotton was slightly higher than that for irrigation at 70-70-60, 65-65-60%. The growth and development of the cotton, the yield, the yield, the timing of the shoots and their quality are mainly determined by the irrigation time, quantity, system, duration, cultivation water and seasonal irrigation rates. Proper timing of irrigation, and timely irrigation of crops, depending on the phases of development of cotton, is the most important guarantee of high yields. The sooner the cotton is watered before the flowering phase, the longer it will grow, the longer it will grow and shrivel, the more the roots will appear on the upper branches and branches of the cotton bush, which will slow the ripening. Proper irrigation of the cotton up to the flowering phase ensures its rhythm growth and development, as well as good root system development [1, 2].

The results of three years of research has shown that c order of the likes of irrigation, soil moisture storage, irrigation, regulations and standards in the program to be the result of seasonal irrigation amount. Different irrigation regimes and norms have in turn affected the biological characteristics and maturity of the cotton. Gafur root varieties over the years 65-65-60 % 1-2-2, 1-3-1 order of 5 times the drink. The pre-irrigation soil moisture variants range from 60.7 to 66.5%, manual refractometer readings are 9, 8-9, 9 % during the harvest, 11.3-11.4% during flowering and 12.4-12 during ripening., 6%. A watering 811-1150 m ^{3} / ha, during the season 4795-5140 m ^{3} / ha of water were watering, watering duration of 24-32 hours, range 17-25 days, 70-70-60 % of the 1-3-2 system irrigated 6 times. Pre-water soil moisture variants range in the range of 60.5-71.4%, manual refractometer readings are 8.8% at shale, 10.2-10.8% during flowering and 12.3-12.9% during ripening. Each irrigation 679-990 m ^{3} / ha, during the season 5100-5510 m ^{3} / ha of water were watering, watering duration of 19-32 hours, range 13-23 days. 70-75-60 % irrigated 7 times on 1-4-2 system. The pre-irrigated soil moisture varied within the variants of 61.5-76.4%, the manual refractometer readings varied by 9.0% at the grafting, 10.2-11, 9 % during flowering and 12.3% during ripening. Each irrigation 679-857 m ^{3} / ha, during the season 5274-5600 m ^{3} / ha of water. It was observed that the pre-irrigated soil moisture content was 70-75-60% higher than that of the ChDNS, with a slight increase in cotton varieties compared to other irrigation procedures, resulting in a delay in yield [3].

4. CONCLUSION:

Yield 20 12 -201 4 years Zarafshan , O'nqo'rg'on-1 standard varieties (S-6524) compared to the grade average of three years of 1.3 - 6 5 / ha has been observed, which created a lot of Zarafshan cotton kind of soil moisture, compared with ChDNS 70 -70 -60 % humidity, seasonal irrigation limits of 5110-5510 m ^{3} / ha of NPK 190-133-95 kg / ha is granted, the gross minimum 4 - in our version 44,1-55,4 centners of cotton O'nqo'rg'on-1 soil moisture than ChDNS 70-75 5 -60% humidity seasonal irrigation limits of 5274-5600 m ^{3} / ha of NPK fertilizers in the 220 -1 54 13 - 110 kg / ha is applied, gross yield acceptable - in the variant checking 42,5-55,0 centners, the street in front of the skin thickness 73,0-95,1 thousand hectares. These versions centners of cotton from the water used for consumption of cotton varieties Zarafshan 92,4-124,9 m ^{3} / ha, O'nqo'rg'on-1 is the sort of cotton 99,9-131,8 m ^{3} / ha of a cotton harvest weight an average of 4 years, 3 -5, 7 grams.

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