WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL
ISSN: 2776-0979 (Volume 2, Issue 9, Sep., 2021

DEVELOPMENT OF PROCEDURES FOR IRRIGATION OF CORN VARIETS AS MAIN CROPS

Isayeva Laylo Bakhtiyorovna
Doctoral Student, TIIAME Bukhara branch

Berdiyeva Nodira Baxodirovna
Master, TIIAME Bukhara branch

Nasrullayev Zavqiddin Ibrokhim ugli
Student, TIIAME Bukhara branch

Teshayev Ulugbek Utkir ugli
Student, TIIAME Bukhara branch

Abstract:
Corn is the most valuable, high-yielding cereal crop with food, fodder, technical and agrotechnical significance. Corn kernels are used as food. Its grains are very nutritious, containing an average of 10.6% fiber and 1.4% ash. However, the amount of protein in corn kernels is low. That is why corn is covered with bread by adding 25-30% wheat flour to it. Due to the high content of fat (4.3-5.0%) in corn kernels, it makes it ferment quickly. Grain husks are separated on special machines and the rest is used to make flour, because corn husks contain 25-40% of fat, which is used for cooking oil.

Keywords: Corn, high yield, fodder - fodder, nutritious, corn grain, corn flour.

INTRODUCTION

In order to meet the needs of the world's population in food products, industrial raw materials and feed for livestock, special attention is paid to the development of agricultural technologies for their cultivation, taking into account the biological properties of field crops, soil and climatic conditions. In terms of area, maize ranks third in the world after wheat and rice and first in the group of forage crops. Today the area under corn is 22.5 million in the United States, 20.6 million in China and 11.8 million in Brazil. ha. According to the FAO, the area under corn in the structure of crops is 23% higher than in the USA, 63% in Australia, 70% in Germany, 43% in France and 3.5% in Russia, with an average indicator. yield 7-10 t / ha [1].

Improving the balance of nutrients in the soil, obtaining high yields of grain and green mass, providing the population with food, industrial raw materials and animal feed by improving methods and procedures for irrigation in the cultivation of maize in the primary and secondary periods in the world. In this regard, studies of the effect of the use of new fertilizers based on phosphorites in combination with nitrogen and potassium mineral fertilizers on the growth, development and

productivity of corn and the development of an optimal technology for their application are relevant.

For the harvest of 2018, the country allocated 138.5 thousand hectares of land, including corn 1210.9 thousand tons. Today the average grain yield of corn in the country is 35-45 center's per hectare. However, this indicator can be increased in the future due to the use of advanced innovative technologies, wide use of available opportunities. Improvement of existing agrotechnologies in corn cultivation, optimization of irrigation methods and drip irrigation regimes, which play an important role in the formation of yields, is of great theoretical and practical importance [2].

Objective of the study: to determine the effect of corn varieties HC-6010 and HC-6043 on the growth and development of corn as the main crop and to increase the yield of grain and forage crops using drip irrigation regimes in grassy soil conditions. alluvial soils of the Bukhara region.

Object of research: meadow alluvial soils of Bukhara region, drip irrigation regimes, the main crops are corn varieties NS-6010 and NS-6043.

Subject of research: meadow alluvial, the main crop is corn Varieties NS-6010 and NS-6043 are physical properties of soil, water demand, irrigation regimes, number of irrigations, seasonal irrigation norms, water consumption, its growth, development, grain and fodder yields and their impact on quality indicators.

Methods of research: Field, laboratory research, agrochemical analysis, biometric measurements, phonological observations, statistical analysis. The accuracy and reliability of the obtained data are analyzed by mathematical-statistical analysis using the generally accepted method of BA Dospekhov.

Scientific and practical significance of the research: The scientific significance of the research results lies in the development of theoretical foundations for obtaining water-saving modes of drip irrigation of corn varieties NS-6010 and NS-6043 as the main crop, the development of irrigation methods, quantity, timing, growth of corn, development., the quality of the harvest of grain and feed.

The practical significance of the study lies in the development of water-saving modes of drip irrigation in the cultivation of corn for grain and green fodder, the growth and development of the harvest of corn, grain and fodder and their impact on quality indicators.

Experimental system and methods of conducting

Field experiments are carried out on the field of the farm "Zamin ota" in Bukhara district, Bukhara region. According to the experimental system, field experiments were carried out in 12 variants and 3 returns. The area of each plot is 480 m2, length 100 m and width 4.8 m. The total area of the experimental field is 1.73 ha. Each section consists of 8 rows, the length of the ridge is 100 meters, the distance between

the rows is 60 cm, 2 rows on each side are protective rows (Table 1). Experimental options for drip irrigation of corn varieties NS-6010 and NS-6043 are given.

Table 1 EXPERIMENTAL SYSTEM

Options	Corn varieties	Irrigation methods	Irrigation regime in relation to BFMC
1	NS-6010	Irrigation furrow, (control)	65-65-70
2			
3			70-75-75
4	NS-6043		
5			75-80-80
6			
7	NS-6010	Drip irrigation	65-65-70
8			
9			70-75-75
10	NS-6043		
11			75-80-80
12			

Soil work during the experiment:

- the morphological structure of the soil is studied before the experiment. For this, soil was dug at a depth to the level of groundwater and the morphology of the soil was determined by genetic layers.
- soil water permeability was determined annually for all variants at the beginning and end of the test period.
- The boundary field of soil moisture capacity was determined at the beginning of the experiment by framing an area of 2x2 meters.
- soil moisture was determined by systematic thermostatic drying before irrigation. Soil samples were taken and analyzed for every 10 cm of the 1.0 m layer in 3 strokes in each variant.
- In determining the timing and norms of irrigation, according to the experimental scheme, the difference between the moisture content of the soil before irrigation was calculated according to the formula SN Ryjov.
- The amount of water supplied to the experimental field was calculated using Chipoletti (VCh-50) water meters and a sensor for drip irrigation.
- changes in groundwater level are set in the experimental area.It was detected using 3 observation wells. The pipes were 40 mm in diameter and installed to a depth of 2.5 m. The lower 1.2-meter section of the pipes consists of galvanized holes, which

are lined with a filter (kapron material). Groundwater levels were measured once every 10 days.

- The level of mineralization of groundwater in all monitoring wells was determined before and after the completion of saline leaching and at the end of the growth period, as well as the amount of dry residue, chlorine ions and sulfate.
- At the beginning of the study, at the beginning and end of the growing season to determine the salt regime of the soil, soil samples were taken for each field and variant, the amount of dry residue, chlorine ion and sulfate was determined, (0-30; 30-50; 50-70 and 70 -100 cm.).
- The amount of humus in the soil layers 0-30, 30-50 cm before the experiment by the method of I.V.Tyurin, total amounts of nitrogen and phosphorus by the method of L.P.Gritsenko, I.M.Maltseva, by the method of nitrate nitrogen calorimeter, mobile phosphorus B. P.Machigin, and exchangeable potassium was determined by the method of P.V.Protasov.
- All agrochemical analyzes were carried out on the basis of "Methods of agrochemical analysis of soil and plants."

Work on phenological observations in the corn plant:

- Seed germination and seedling thickness at the end of the application period were determined for each variant and return.
- Corn height, number of leaves, yield elements on the 1st day of each month (May, June, July, August, September, October) on 75 plants (75 in each iteration) on the options, which are constantly monitored;
- Plants (75 plants) on which the weight of 1000 pieces of corn was constantly monitored;
- In the experiment, the yield was collected from 4 rows of each stalk, weighed, crushed, cleaned, and then weighed in terms of hectares;
- Quality indicators of corn grain were determined for all options and returns.

Irrigation, feeding and other agro-technical activities of the experimental field were carried out on the basis of the "Methods of conducting field experiments" (PSUEAITI 2007) of the Research Institute of Cotton Breeding, Seed Production and Agrotechnology.

Conclusion:

1. A field was selected for the experiment, its soil section was excavated and described by genetic layers, and morphological features were studied.
2. In order to study the volumetric mass of the soil of the field experiment area (common ground) in the spring at three points the volume mass of the soil is

determined from every 10 cm layer to the 0-100 cm layer. During the fall, this work was carried out on all variants of the experiment.

3. In the spring, the water permeability of the soil was determined at three points on the common bottom, and in the fall on all options.
4. Soil moisture was determined by systematic drying in a thermostat before irrigation in 3 turns in each variant on every 10 cm layers of 1.0 m layer.
5. 0-30 of the soil in order to determine the agrochemical characteristics of the soil; Samples were taken from 30-50 cm layers in an envelope method, and before the start of the experiment (in the spring) the total amount of humus I.V.Tyurin, nitrogen, phosphorus K.Gingburg, E.M.Sheglova and V.V.Vulfius, potassium Smith, nitrate nitrogen -canometric method or Granvald-Lyaju, mobile phosphorus B.P.Machigin, exchangeable potassium P.V.Protasov methods.
6. In order to determine the mobile nitrate, phosphorus and potassium in the soil, 0-50 cm of all options of experimentation in the autumn before and after flowering, mowing corn. The soil sample (0-30; 30-50 cm) was taken on two returns.
7. The level of mineralization of Sizot water was determined at the beginning of the validity period of corn and in autumn in all variants.
8. In order to determine the level and amount of soil salinity, the period of application of corn was determined at the beginning and in the fall on all options.
9. Phenological observations of corn: seed germination and seedling thickness in each turn, height of corn in each variant, yield branches, number of yield elements (May, June, July, August, September, October 1), weight of 1000 corn grains, grain yield, grain quality indicators were studied for all options and returns.
10. In the meadow alluvial soils of Bukhara region, river water was saved by using water-saving drip irrigation of the main crops NS-6010 and NS-6043, high and high-quality grain was obtained, the amount of water used for irrigation was reduced by 40-45%. 20-25 percent,

The efficiency of 1 m3 of water was increased and recommendations for farmers, farms and clusters suitable for soil and climatic conditions were developed.

Reference:

1. Исаева Л. Б., Саноев Х. А. У. ДИНАМИКА ВЛАЖНОСТИ ПОЧВЫ В КОРНЕВОМ СТВОЛЕ РАСТЕНИЯ //European science. – 2020. – №. 2-2 (51).
2. Кодиров З.З. и соавт. Искусственный интеллект, обеспечение информационной безопасности виртуальных роботов и широкое использование интеллектуальных систем // Американский журнал инженерии и технологий. - 2020. - Т. 2. - №. 08. - С. 28-38.
3. Inamova G. A., Kodirov Z. Z. RELEVANCE AND DEVELOPMENT OF DISTANCE LEARNING IN UZBEKISTAN //Theoretical & Applied Science. – 2020. – №. 7. – С. 60-62.
4. Nurov D. E. APPLICATION OF DRIP IRRIGATION TECHNOLOGY FOR COTTON GROWING IN CONDITIONS OF WATER SHORTAGE //The Way of Science. – 2014. – С. 24.
5. Муродов О. У. и др. ҚИШЛОҚ ХЎЖАЛИГИДА ТОМЧИЛАТИБ СУҒОРИШ ТЕХНОЛОГИЯЛАРИДАН ФОЙДАЛАНИШ САМАРАДОРЛИГИ //Science and Education. – 2020. – Т. 1. – №. 1. – С. 177-184.
6. Хамидов М.Х., Шукурлаев Х.И., Маматалиев А.Б., Қишлоқ хўжалиги гидротехника мелиорацияси –Тошкент.; Шарқ нашриёти, 2008 й.
7. Shamuratovich M. B. et al. SUBSTANTIATION OF COTTON IRRIGATION REGIME ON MEADOW-ALLUVIAL SOILS OF THE KHOREZM OASIS //Агропроцессинг. – 2019. – Т. 5. – №. 1.
8. Sherali o'g H. G. et al. IMPROVEMENT OF RECLAMATION CONDITION OF IRRIGATED SALINE SOILS IN DISTRICTS OF THE REPUBLIC OF KARAKALPAKSTAN //Агропроцессинг. – 2019. – Т. 4. – №. 1.