WEB OF SCIENTIST: INTERNATIONAL SCIENTIFIC RESEARCH JOURNAL

ISSN: 2776-0979 Volume 2, Issue 4, April, 2021

INFLUENCE OF IRRIGATION WITH BLACK PLASTIC WRAP ON THE YIELD AND PRODUCTIVITY OF COTTON.

Bobomirzaev P.Kh.
Samarkand Institute of Veterinary Medicine, Doctor of Agricultural Sciences.

Turaev U.U.
Doctoral student TIIAMEBB.

Nasrullaev Z.I.
Student of TIIAMEBB.

Teshaev U.U.
Student of the TIIAMEBB.

Ibragimova A.U
Student of TIIAMEBB.

Abstract

Field experiments Cotton is grown on meadow-alluvial soils (87.7%), which make up the largest area of irrigated lands in the Bukhara region, and in conditions of a depth of groundwater of 1.5-2.0 m. Development and productivity have been studied. The farm soil is moderately saline. The irrigation scheme was determined by the criteria, timing and amount of irrigation, as well as the criteria of seasonal irrigation, depending on the level of soil moisture and specific climatic characteristics. In the experimental field sown with cotton, according to option 2, a black film was applied to the field with a moisture content of 70-80-65% in relation to the field moisture. The cotton yield was 15.0 kg / ha higher. traditional option 1.

Key words: soil, salinity, irrigation, water, irrigation criteria, black film, flexible hose, crop, cotton, wheat.

In the Bukhara region, 275.1 thousand hectares of irrigated land, including 109.6 thousand hectares of cotton, 65.6 hectares of grain, more than 21.0 thousand hectares of orchards and vineyards, 33.5 thousand hectares of other agricultural crops and 45.4 hectares of land for residential buildings. In 2019-2021, 800 hectares of cotton and grain fields will be irrigated annually in the region using flexible pipes instead of water-saving technologies, and 650 hectares of cotton fields will be covered with foil.

Considering that 20 sets of equipment are required to introduce film irrigation in Egat, this equipment was transferred to the regional private joint stock company "Kishlokhoyalikkimyo" and the mills. To introduce film irrigation "Egat" needs 42.0 tons of black film per year, which was provided by the regional Pakhtasanoat PJSC at the expense of farms.

Additional measures to ensure the unconditional implementation of the State Program of the Cabinet of Ministers of the Republic of Uzbekistan dated February 24, 2014 No. 39 "On improving the reclamation of irrigated lands and rational use of water resources for 2013-2017." In the Bukhara region, measures have been developed to ensure the implementation of the decree.

It was carried out in the irrigated fields of the educational and scientific center (uchkhoz) of the Bukhara branch of the Tashkent Institute of Irrigation and Agricultural Mechanization Engineers. The training center specializes in cotton growing, grain growing and horticulture. The farm soil is moderately saline. Field experiments showed that cotton was grown on meadow-alluvial soils (87.7%), which make up the largest area of irrigated lands in the region, and in conditions when the depth of groundwater is 1.5-2.0 m. Development and productivity have been studied. ... When studying the irrigation regimes, the norms, terms and number of irrigations were determined, as well as seasonal criteria for irrigation, depending on the established level of soil moisture and specific climatic parameters. Watering rates were measured with a Chipoletti water meter.

Table 1. Experimental system

№	Varianty	Watering procedure	Conducting agrotechnical activities
1	(Control)	Maintain industry-accepted irrigation practices.	Agrotechnical measures will be carried out in full.
2	Irrigation with black plastic wrap	Irrigation at soil moisture 70-80-65% of the maximum moisture capacity of the field before irrigation.	No agrotechnical activity
3	Spray each field with a polymer complex before watering.	Irrigation at soil moisture 70-80-65% of the maximum moisture capacity of the field before irrigation.	The agrotechnical event will be carried out in part.

At the early phase of cotton growth, that is, June 1, phenological observations showed that all experimental plots did not differ in the height of cotton, the number of growths and yield of branches, since during this period the influence of watering on cotton

growth and development was not felt. However, phenological observations on July 1 showed a change in the growth and development of cotton according to the variants of the experiment. During this period, the height of cotton was observed in variants 2 and 3, i.e. in a plot irrigated with black film and a plot irrigated with a polymer component, on average 71.6-70.9 cm, yield 9.2-9.5 cm. The average yield was 11.5-10.8. In the experiments, a relatively low result was observed in the control option 1 of observations, in which the average height of the cotton was 68.4 cm, the yield of branches was 7.2, the yield of elements was 8.3.

When analyzing the growth and development of a plant in experimental observations on August 1, according to option 1, the height of cotton was 87.5 cm, the number of branches of the crop was 12.6, and the elements of the crop were 15.4. The number of cocoons was 5.6. In the second variant of the experiment, i.e. in a field irrigated with black film, the length of cotton was 88.3 cm, the yield of branches was 13.5, the yield of elements was 16.6, etc. We can observe that the number of saks was 6.5. Option 3, irrigated with a polymer component, has a length of 88.1 cm, has 13.3 twigs, 16.3 twigs and 6.2 twigs. Determined that

When we observed the growth and development of cotton on September 1 during the research study, in option 1, the height of the cotton was 89.4 cm, while the total amount of cotton was 10.8. It was found to have reached one. In options 2 and 3, the cotton length was 94.5–91.5 cm, and the total number of pods was 12.3–12.0, while in observations 1–., And the number of holes in option 2 was 6.0 , in our version. 2 this value was 7.8, and in option 3 the number of openings was 6.6.

Figure 1.Phenological observations.

In our study, when studying the effect of irrigation on the thickness of seedlings, the thickness of seedlings in our option 1, which was irrigated with cotton in the traditional way, i.e. the method adopted in the farm amounted to 96.8-97.3 thousand / ha. the thickness of seedlings in our option 2, irrigated with a black film along the edge, is 5.8-6.0 thousand / ha more than in our option 1, and amounted to 102.6-103.3 thousand / ha. In the third variant of our research, it was found that the thickness of seedlings in a field irrigated by spraying a polymer complex in the field was 101.7-102.6 thousand / ha.

In our experiments on the 1st variant of cotton of the Bukhara-6 variety, grown under the conditions recommended for the farm, the cotton yield was 32.3; 31.6 and 31.5 c / ha, respectively, with an average of 31.8 c / ha.

According to our observations, the cotton harvest according to option 2, which was irrigated with black film, amounted to 46.6; 47.4 and 46.3 c / ha with an average yield of 46.8 c / ha, while in our 3rd option, the average yield was 42.3 c / ha; 41.9 and 41.2 c / ha, respectively, with an average yield of 10.3 c / ha higher than the control option.

In short, we can achieve effective results by placing a black film between rows of cotton, which is a modern, economical watering method. We know that the main land plots of the Bukhara region are based on artificial irrigation. The main source of water in the region is the Amu Darya. Pumping water from the water source to the field will be carried out by a two-stage pumping station with a total height of 110 meters. It can be seen that black film irrigation technology plays an important role in improving the efficiency of internal irrigation networks in arable land given the high cost and labor required to deliver one drop of water.

List of used literature

1. Azimbaev S. A., Artukmetov Z. A., Norkulov U. et al. Fundamentals of general agriculture and land reclamation, T., 2002.

2. Mirzazhonov K., Ablyakulov A., Bezborodov G., Akhmedov J. and others. Recommendations for water-saving and resource-saving agricultural technologies in the care of cotton. T. 2008 15b.

3. Methodology for conducting field experiments, Uzbek Research Institute of Cotton-2007, Methodological manual.

4. Mirzazhonov K.M. "Land reclamation in the regions of the republic and factors of their improvement" Cotton growing and grain growing Tashkent - 1999.
5. "Recommendations for a high grain harvest." Tashkent 1996.
6. Avliyokulov A.E. Irrigation of crop rotation. Mekhnat publishing house. Tashkent, 1988, p. 163-164.
7. Internet information.