

EFFECTS OF IRRIGATION REGULATIONS ON THE GROWTH AND DEVELOPMENT OF COTTON

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ABSTRACT

This article describes the results of a study conducted in the conditions of typical gray soils of Tashkent region. In the experiment, cotton variety "Navruz" was planted, and irrigation was carried out by laying black polyethylene film between the rows using pipes.

KEYWORDS: *Typical Gray Soil, Irrigation, Cotton Navruz Variety, Film, Flexible Pipe Yield.*

INTRODUCTION

One of the important measures in the system of agro-technologies of cotton cultivation is irrigation and feeding with mineral fertilizers and tillage. Saving available resources through minimal tillage of the soil, the source of mineral fertilizers and irrigation water resources is scarce today, and their rational use is becoming a requirement of the times.

Physical evaporation of soil moisture is reduced when mulching between rows of cotton, soil washing is prevented, water is not wasted through the ditches when water is distributed to the field through flexible artificial pipes.

The main purpose of the study

Under typical gray soil conditions, cotton is irrigated with a simple polyethylene and black polyethylene film between rows, fertilization of mineral fertilizers in different norms and proportions, ie the study of the effect of water-soluble application on plant growth and cotton yield.

Scientific novelty

For the first time in typical gray soils, the study of the effectiveness of fertilization of different norms of mineral fertilizers, as well as increasing the efficiency of irrigation water use and mineral fertilizers, as well as increasing the efficiency of irrigation, soil and soil fertility. to achieve a high and quality cotton crop as a result of the application of irrigation technology that reduces the leaching of nutrients from it.

Research results

All the factors studied in the study, including irrigation of cotton and feeding with mineral fertilizers in different norms and forms, have different effects on plant growth and development. In order to study the effect of different irrigation methods and the application of different annual norms of mineral fertilizers in water on the growth and development of cotton, phenological observations were made on 50 selected plants in June, July, August and early September in each variant and return.

The data obtained show that no significant difference was observed between the experimental options for plant growth and development in the phenological observations conducted in June.

According to phenological observations on plant growth and development in July, in the 1st variant of mineral fertilizers applied in the traditional way at a rate of 100%, the average plant height is 40.0 cm, yield 5.6 pieces, stem 5.2 pieces, with irrigation of mineral fertilizers In variant 2, which was used 100% in water, the average plant height was 41.1 cm, the yield was 6.4, and the stem was 5.7. In the 3rd variant, when mineral fertilizers were applied in film-coated fields with water dissolved in water at a rate of 100%, the average plant height was 44.8 cm, the yield was 7.2 and the yield was 6.1.

According to phenological observations on plant growth and development in July, in the 1st variant of mineral fertilizers applied in the traditional way at a rate of 100%, the average plant height is 40.0 cm, yield 5.6 pieces, stem 5.2 pieces, with irrigation of mineral fertilizers In variant 2, which was used 100% in water, the average plant height was 41.1 cm, the yield was 6.4, and the stem was 5.7. In the 3rd variant, when mineral fertilizers were applied in film-coated fields with water dissolved in water at a rate of 100%, the average plant height was 44.8 cm, the yield was 7.2 and the yield was 6.1.

This figure is 41.2-42.5 cm in height, yield 6.6-6.7 pieces, stem 6.5-4.9 pieces in 4-7 variants of mineral fertilizers applied in the traditional way at the rate of 75-50% per annum. In 5-8 variants used in 75-50% annual norms, dissolved in water with irrigation of mineral fertilizers, the average plant height is 42.5-43.8 cm, the yield is 6.9-7.0, the stem is 6.5. 5.4 units.

In 6-9 variants, when mineral fertilizers are applied in the film-coated fields with water dissolved in water at a rate of 75-50% per annum, the average plant height is 43.6-44.2 cm, the yield is 7.1-7.4, the stem is 7.4. 6.8 units.

As of September, the number of pods in the 1st variant, which was applied 100% of the traditional method of mineral fertilizers, was 4.7, of which 5.1 were opened, and the number of pods in the 2nd variant, which was applied 100% in the form of mineral fertilizers with irrigation, was 5.3, of which 5.2 were opened. In variant 3, when mineral fertilizers were applied in film-coated furrows with water dissolved in water at a rate of 100%, the number of buckets

was 8.8, of which 7.7 were opened. This figure is 4.8-4.4 pieces in 4-7 variants of mineral fertilizers used in the traditional way at the rate of 75-50% per annum, of which 4.2-4.8 pieces are opened, 75-50 when dissolved in water with mineral fertilizers % In the 5-8 variants used in the annual norms, the number of cocoons was found to be 4.5-5.4, of which 5.9-4.8 were opened.

It was found that the number of cocoons was 6.6-6.3, of which 5.4-5.9 were opened in 6-9 variants, which were applied at a rate of 75-50% per annum, dissolved in water, along with irrigation of mineral fertilizers in film-covered areas.

CONCLUSION

Based on the results of research conducted in 2016-2018 to study the effectiveness of fertilization of cotton in the conditions of typical gray soils of Tashkent region by mulching cotton with ordinary polyethylene and black polyethylene film between rows and dissolving various norms of annual mineral water in water:

An additional 3.2-6.4 quintals of cotton per hectare was obtained in 2-3 variants given by the method of fertigation dissolved in water compared to variant 1, which was fed with mineral fertilizers in the traditional way at a rate of 100% per annum.

Average 2.5-4.9 and 5.4-6.9 centners per hectare in 5-8 and 6-9 variants given by water-soluble fertilization method compared to 4-7 variants fed 75-50% of the annual norm with mineral fertilizers. to achieve an additional cotton harvest.

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