

THE INFLUENCE OF DIFFERENT PLANT THICKNESS OF PORLOQ-1 COTTON VARIOUS ON DRY SUBSTANCE IN DEPENDING ON WATER-FOOD NORMS

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АННОТАЦИЯ

Тошкент вилоятининг типик бўз тупроқлари шароитида Порлоқ-1 ғўза навини агротехникасини ишлаб чиқишида суғориш олди тупроқ намлиги (тупроқнинг чекланган дала намлик сифими) ЧДНСга нисбатан 70-70-65% намлиқда суғорилганда, кўчат қалинлигини 80-90 минг туп/га қолдириб парваришланганда, бир туп ўсимликдаги пахта вазни 59,1 гр, пахта ҳосилдорлиги 49,4 ц/га, Сирдарё вилоятининг оч тусли бўз тупроқлари шароитида Порлоқ-1 ғўза навида, суғориш олди тупроқ намлиги ЧДНСга нисбатан 70-70-65% намлиқда, кўчат қалинлиги 100-110 минг туп/га, минерал ўғитлар меъёри $N_{260}P_{182}K_{130}$ кг/га қўлланилганда, бир туп ўсимликдаги пахта вазни 44,1 гр, пахта ҳосили 46,2 ц/га ни ташкил этган.

АННОТАЦИЯ

При разработке агротехники хлопчатника сорта Порлок-1 в типичных условиях серой почвы Ташкентской области пред поливная влажность почвы составляет 70-70-65% относительно ОВП (Ограниченнная влагоемкость поля), густота всходов 80-90 тыс. Кустов / га. 59,1 г, урожай хлопчатника 49,4 ц / га, в условиях светло-серых почв Сырдаринской области хлопчатник сорта Порлок-1 предполивная влажность почвы 70-70-65% относительно ОВП, всходы 100-110 тыс. Кустов. Норма минеральных удобрений $N_{260}P_{182}K_{130}$ ц / га, сырье хлопчатника на куст 44,1 г, урожай хлопка 46,2 ц / га.

ANNOTATION

In the development of agro-techniques of Porloq-1 cotton variety in the conditions of typical gray soils of Tashkent region, pre-irrigation soil moisture is 70-70-65% relative to LFMC (limited field moisture capacity), seedling density is 80-90 thousand bushes / ha. weight 59.1 g, cotton yield 49.4 ts / ha, in the conditions of light gray soils of Syrdarya region Porloq-1 cotton before irrigation soil moisture 70-70-65% relative to LFMC, seedlings 100-110 thousand bushes. When applying the norm of mineral fertilizers $N_{260}P_{182}K_{130}$ kg / ha, the raw material of cotton per bush was 44.1 g, the cotton yield amounted to 46.2 ts / ha.

Cotton varieties Porloq-1, Porlok-2, Porlok-3, Porlok-4, created by gene knockout in different soil and climatic conditions of the country, are cultivated with care, based on the biological properties of these cotton varieties, the optimal seedling thickness, water and nutrient standards on a scientific basis. One of the important tasks is to develop and on this basis to prepare recommendations and implement them.

Therefore, in order to scientifically develop optimal irrigation regimes, mineral fertilizer standards and seedling thickness for the cultivation of high-quality cotton of Porloq-1 cotton variety in 2014-2016 in the typical gray soils of Tashkent region, Syrdarya region. Field experiments were conducted in the experimental fields of the Research Institute of Seed and Cultivation Agrotechnologies (PSUEAITI) and in the Syrdarya ITS.

The first experimental field was carried out in the conditions of typical gray soils of Tashkent region in the cotton variety Porloq-1, 20 variants, 3 replicates, placed in one stage. When the row spacing was 60 sm, the total area of each plot

was 240 m² and the calculated 120 m². Pre-irrigation soil moisture is 65–65–60%, 70–70–65% relative to ChDNS, theoretical seedling thickness is 80–90; 100–110; 120–130 thousand bushes / ha, fertilizer standards N180, R126, K90; N220, R154, K110 and N260, R182, K130 kg / ha. 60–70% of phosphorus fertilizers, 50% of potassium under autumn plowing, 30% of nitrogen fertilizers, 3–4 leaves, 40% of potassium, the remaining 50% of potassium, 30% of nitrogen, the remaining 30% of phosphorus -40% was used during flowering and taking into account the nitrogen content of phosphorus fertilizers.

Theoretical seedling thickness 80–90; 100–110; 120–130 thousand bushes / ha were studied. After full germination of cotton seedlings, 5-6 cotton seedlings per meter 80-90 thousand bushes / ha, 6-7 seedlings 100-110 thousand bushes per meter, 7-8 seedlings 120-130 thousand bushes per meter delayed unification was performed.

The second experimental field was carried out in the conditions of light gray soils of Syrdarya region in the cotton variety Porloq-1, 20 variants, 3 back, placed in one tier. When the row spacing was 90 sm, the total area of each delyanka was 360 m² and the calculated 180 m². Pre-irrigation soil moisture is 65–65–60%, 70–70–65% relative to ChDNS, theoretical seedling thickness is 80–90; 100–110; 120–130 thousand bushes / ha, fertilizer standards N180, R126, K90; N220, R154, K110 and N260, R182, K130 kg / ha. 70% of phosphorus fertilizers, 50% of potassium with sowing, 30% of nitrogen fertilizers, 40–4% during the period of 3–4 leaves, the remaining 50% of potassium, 30% of nitrogen, the remaining 30% of phosphorus in the flowering phase and taking into account the nitrogen content of phosphorus fertilizers.

Theoretical seedling thickness 80–90; 100–110; 120–130 thousand bushes / ha were studied. After full germination of cotton seedlings, 7-8 cotton seedlings per meter 80-90 thousand bushes per hectare, 9-10 seedlings per 100-110 thousand bushes per meter, 11-12 seedlings 120-130 thousand bushes per meter delayed unification was performed. According to this, it is very important to create a seedling thickness that is optimal, that is, that the cotton can grow well. It is known that along with increasing the drought tolerance of cotton varieties, they need to accumulate more biomass and penetrate into the deeper layers of the soil for the plant's root system to make efficient use of water and dissolved nutrients. In addition, the timely and quality implementation of fertilization, softening and other agro-technical measures,

processing between rows of cotton will prevent unnecessary evaporation of moisture. Lack of moisture in the soil slows down the process of photosynthesis, resulting in the shedding of a certain part of the plant leaves from drying out, and thus reduces the consumption of water for transpiration. One of the water-physical indicators in irrigated areas is the limited field moisture capacity, which allows to determine the duration of irrigation of crops.

According to A.E. Avliyokulov, the limited field moisture capacity of the soil varies in different soils, depending on the mechanical composition of the soil, the amount of humus, decay, volume mass, porosity, and so on.

In the typical conditions of light gray soils of Tashkent region, Syrdarya region, in order to determine the amount of dry matter accumulated in the plant, depending on water-nutrient norms, the thickness of different seedlings of Porloq-1 cotton variety during the growing season, 3-4 chin leaves, combing, flowering, ripening Samples of delyanka-fragments were taken and determined by weighing their dry weight on the basis of the methodical manual (Tashkent-2007). The samples obtained were identified by dividing the growth and yield elements. Data given on dry mass accumulation are given depending on the irrigation and feeding regimes of the cotton variety. First of all, it should be noted that the accumulation of dry matter in cotton is directly related to its growth and development.

According to B.M Khalikov, depending on the location of the stalk on the cotton stalk, the germination capacity and germination of the seed decreased as it moved away from the main stem and increased. At the same time, the weight of raw cotton in a bunch of cotton has led to a decrease.

According to the results of the study, in the conditions of typical gray soils of Tashkent region in Porloq-1 cotton variety, pre-irrigation soil moisture when irrigated at 70-70-65% relative to ChDNS, mineral fertilizers N220, P154, K110 kg / ha, seedling thickness 80-90 thousand During the ripening period of cotton, the dry mass of one plant was determined, of which 59.1 g of raw cotton and 185.2 g of total weight. Pre-irrigation soil moisture is 65-65-60% relative to ChDNS, mineral fertilizer norm is N220; P140; K100 kg / ha, leaving the seedling thickness 80-90 thousand bushes / ha, during the ripening period of cotton, the raw material of cotton was 48.6 g, the total weight of one plant was 170.1 g. The highest dry mass accumulation of cotton in the experimental field, pre-irrigation soil moisture at 70-70-65% relative to ChDNS, seedling thickness 80-90 thousand bushes / ha, mineral fertilizers when applied mineral fertilizers N260, R182, K130 kg / ha 58.4 g, the total weight of a single plant was 197.7 g, which led to an increase in more dry mass in the vegetative organs of the plant with an increase in water-nutrient norms.

Thus, in Porloq-1 cotton variety, when the pre-irrigation soil moisture is irrigated at 70-70-65% relative to ChDNS, the norm of mineral fertilizers is increased to N260, P154, K110 kg / ha, seedling thickness is increased to 120-130 thousand bushes / ha. we can see from the data taken that the generative mass increases and decreases (Fig. 1).

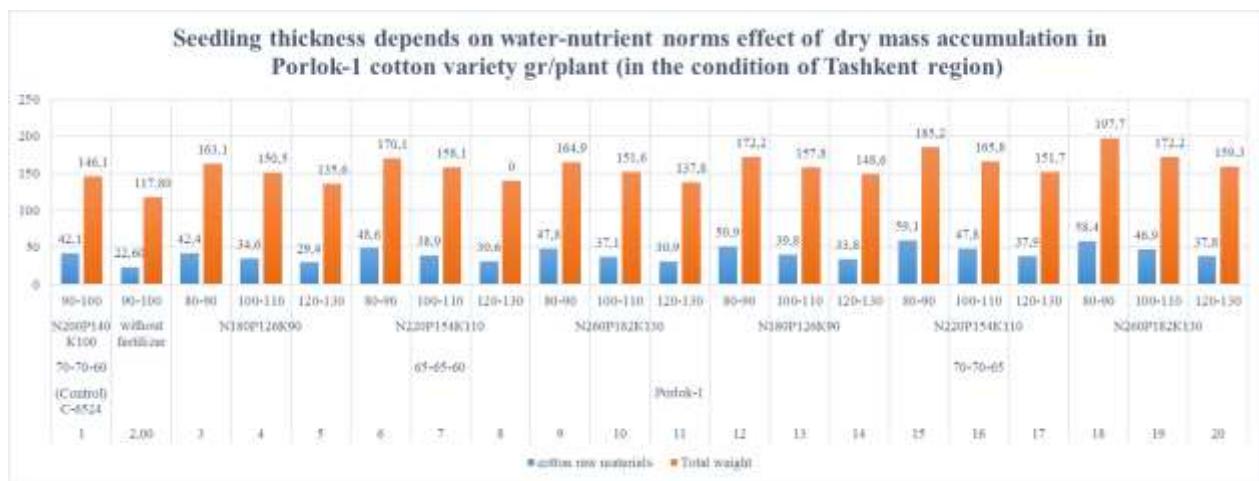


Figure 1.

When studying the effect of cotton varieties on dry mass accumulation in the conditions of grazing light gray soils of Syrdarya region, the maximum dry mass accumulation in Porlok-1 cotton variety was 80-90 thousand bushes / ha, pre-irrigation soil moisture was 70-70-65% compared to ChDNS when irrigated in moisture, the norm of mineral fertilizers N260, P182, K130 kg / ha, during the ripening period of cotton the raw material of cotton was 53.9 g, the total dry mass of one bush was 188.7 g.

In the control An-Boyovut-2 cotton variety, the average weight of raw cotton per plant was 42.9 g, the total dry mass was 149.8 g. In Porlok-1 cotton variety, when the soil moisture before irrigation is irrigated at 70-70-65% relative to ChDNS, the norm of mineral fertilizers is N260, P154, K110 kg / ha, leaving the seedling thickness at 80-90 thousand bushes / ha. The raw material was 53.9 g and the total weight was 188.7 g. When irrigation is carried out at a humidity of 65-65-60% relative to LFMC (limited field moisture capacity), seedling thickness 80-90 thousand bushes / ha, when mineral fertilizers N260, R182, K130 kg / ha are applied during the ripening period of cotton, cotton-raw material 42.6 g, one bush the total weight of the plant was 147.8 g. From the results obtained, it can be seen from the analysis (Fig. 2) that even the use of high-dose fertilizers is ineffective as a result of the decrease in irrigation norms with the increase of mineral fertilizer rates, and the economic importance of developing optimal agronomic techniques for cotton varieties.

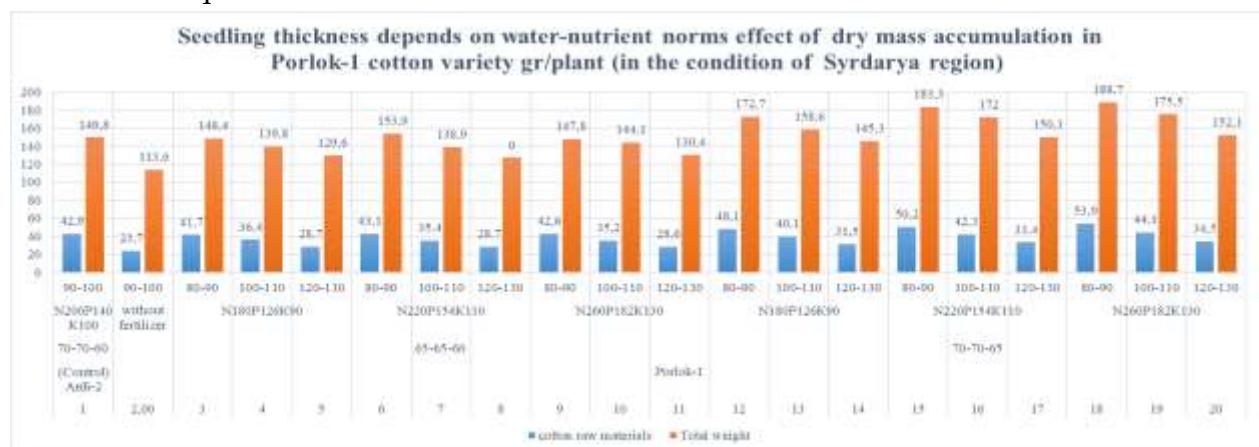


Figure 2.

In summary, as a result of research on the development of agro-techniques for cotton variety Porloq-1 in the typical gray soils of Tashkent region, the highest rate of cotton weight in a single cotton variety was obtained when the soil moisture was irrigated at 70-70-65% relative to ChDNS. The norm of mineral fertilizers was N220, P154, K110 kg / ha, leaving the thickness of seedlings at 80-90 thousand bushes / ha, raw cotton was 59.1 g, cotton yield was 49.4 ts / ha. In the conditions of light gray soils of Syrdarya region, when pre-irrigation soil moisture is irrigated at 70-70-65% relative to ChDNS, the norm of mineral fertilizers is N260, P182, K130 kg / ha, leaving the seedling thickness at 80-90 thousand bushes / ha. , if the raw cotton in one bush is 53.9 g, the total cotton yield is 45.6 ts / ha, this irrigation, at the rate of fertilizer, with an increase in seedling thickness of 100-110 thousand bushes / ha, the raw cotton in one bush Although 44.1 g, the total cotton yield increased by 0.6 ts / ha.

REFERENCES

- 1) Methods of conducting field experiments UzPITI. Tashkent, 2007.
- 2) A. E. Avliyoqulov. Prospects for agriculture in our country. 2013 is the year of Tashkent. Page 342.
- 3) Khalikov B.M, Mirzajonov Q.M, Avliyokulov.A.E and others. "Recommendations on agrotechnologies for the cultivation of abundant and high-quality cotton on farms." –Termiz 2013-B.3-11.