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EFFECT OF SOIL SALINITY ON COTTON LEAF DEVELOPMENT AND DEFOLIATION EFFICIENCY

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ABSTRACT:

It was found that the leaf plate of the Sultan cotton variety, which is grown in the conditions of weakly saline, moderately saline and non-saline soils of Andijan region, decreases as the level of soil salinity increases. UzDEF and FanDEF defoliants are applied to cotton at a rate of 5.0-6.0-7.0 l / ha compared to Liquid XMD 8.0 l / ha, in a weakly saline area - 6.0-7.0 l / ha, in moderately saline - 5.0- Defoliants were found to be more effective at 6.0 l / ha and 7.0 l / ha in the unsalted area.

KEYWORDS: Different saline soils, leaf level, UzDEF, FanDEF defoliants.

INTRODUCTION:

The green leaf is one of the main organs of plants. A green leaf is a "laboratory" through which photosynthesis produces organic matter.

Therefore, the size of the leaf surface directly affects the growth, development and yield of crops. The larger the leaf surface, the lower the yield. However, it should be noted that the cotton leaves must be formed in time, otherwise they will not be able to absorb the FAR coming from the sun, resulting in the cotton leaves being smaller or the leaf plate larger, scientifically called cotton buds. According to our work program, changes in leaf levels were studied when cotton leaf levels were uniformly fed to plants in “differently saline” soils and when agro-technical measures were taken.

There are data that clearly show the anatomical-morphological changes of cotton leaves in saline pressing. In particular, as noted by V.A. Burgi (1947), the size of cotton leaves growing in saline soils is greatly reduced, their number and number of petals are reduced, and the thickness of the leaf plate is significantly increased.

Many authors Sh.Teshaev, A.Uljabaev, Z.Jumabaev consider the thickening of the leaf plate as a clear sign of succulence (thick and wet water of cotton leaves growing in saline soils) caused by salinization of the soil. The leaf plate was found to thicken mainly due to the proliferation of aqueous tissue cloudy parenchyma.

MAIN PART:

In our experiments, the total level of cotton leaf was measured four times - on the 1st day of each month, i.e. from June to the first day of September. What we do know is that the cotton leaf plate grows larger due to plant development. The size of the leaf blade also depends on the characteristics of the cotton variety, the same variety has been studied in our experiment, but the soil conditions are three different. Correspondingly, it was found that the leaf plate of the cotton plant in the low salinity area was relatively large, and the leaf plate of the cotton plant in the low salinity area was higher than the leaf plate of the cotton plant in the saline area.

In our experiment, a total of 250 leaf plates were weighed on a weight scale of 50 out

of 5 variants in unsalted, weakly saline, moderately saline areas of the soil.

Figure 1: The process of drawing a leaf plate.

The results from the unsalted area showed that 250 leaf plates weighed 960 grams, with an average of 192 grams. The results from the weakly saline area were 1131 grams per 250 leaf plates, an average of 226.2 grams, and the results from the average saline area were 1174.0 grams per 250 leaf plates, an average of 234.8 grams.

Based on the above data, it was observed that as the salinity of the soil increased, the leaf plate thickened, and during our work, the concentration of leaf sap was also studied in our experiment.

At the same time, in areas where the concentration of leaf aphids in non-saline areas was irrigated before cotton flowering, the refractometer reading showed an average brix of 14%. In the weakly saline area, the brix showed 14.2%, while in the moderately saline area, the brix showed 16.1%. Syrup concentrations were continued after irrigation, with an average brix of 12.2% in the unsalted area, 12.7% in the weakly saline area, and 13.4% in the moderately saline area.

The rate of defoliants is reduced by 10-20% as soil salinity increases from weak to strong. The rate of defoliants in cotton in water-scarce areas should be increased by 10-15% compared to cotton grown under optimal irrigation regimes (Sh. Teshaev 2011).

According to F. Teshaev (2015), the abundance of leaves in the cotton stalks during the opening of the cocoons prevents the cotton field from blowing, causing an increase in moisture in the layer of air close to the ground. As a result, the cocoons become suffocated and delayed in opening, and in some cases, bacteria and fungi that rot the cocoons multiply, and the cases of rot of the cocoons are more frequent.

In our experiments in 2017-2019, the effect of defoliants on the opening of cotton leaf shedding in different saline areas After 14 days of defoliation in non-saline area LiquidXMD applied 8 l / ha of dried leaves 9.8%, semi-dried leaves 6.3%, shed gardens while the UzDEF defoliant reached 79.0-81.2-87.4% of the shed leaves in the variants used in the norms of 5.0-6.0-7.0 l / ha, and accordingly. in the bush the dried leaves reached 11.9-10.8-7.1%, and the semi-dried leaves 9.2-8.0-5.5%. Similar data were obtained in the variants using FanDEF defoliant 5.0-6.0-7.0 l / ha. The best results in leaf shedding were obtained from the variants applied to 7 l / ha, and the same results were obtained in the opening of the pods.

CONCLUSION:

In conclusion, it can be said that growing under favorable conditions was repeated. However, due to the increase in soil salinity, the leaf blade becomes thicker and rougher, and the leaves become smaller than a cotton leaf that grows under optimal conditions. In order to

quickly and quickly collect raw cotton in different saline areas of Andijan region, especially in weakly saline areas, UzDEF defoliants are 6.0-7.0 l / ha per hectare, 6.0 l / ha in moderately saline areas, and 7 in non-saline areas. , 0 l / ha, FanDEF defoliants 6.0 l / ha per hectare, 5.0-6.0 l / ha in moderately saline areas, and 7.0 l / ha in non-saline areas, give good results.

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