

Place of Adjustment, Plantation Methods and Criteria Affected by Change of Height

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In this article, the influence of different planting methods and standards on the height of the field as a repeated crop is presented. It was determined that the resistance of the seeded cultivar "Saratovskaya-853" to ripening is 9 points when 3.0 million pieces are planted, 7 points when 3.5 million pieces are planted, and 5 points when 4.0 million pieces are planted.

Keyword: Tariq, Saratovsaya-853, seed, sowing method, rate, maturity, endurance, score.

Relevance of the Topic

Farm productivity is increasing thanks to investments in advanced machinery and "smart farming" technologies. According to the Food and Agriculture Organization of the United Nations, global food production must increase by 60 percent by 2050 to meet the demand of an expected 9 billion people. Along with more productive and efficient machinery, more sustainable farming practices and more efficient agricultural machinery will be needed.

One way to improve farm productivity is by getting smarter, more powerful, and less fuel-efficient tractors and combines with new machinery that can do more.

The level of study of the topic. Millet is the most important grain, food, fodder, reserve and insurance crop and is widespread. In addition to early ripening and drought resistance, it has a number of valuable biological and economic properties that distinguish it from other cereals. The main reason for the low yield of millet is, first of all, insufficient attention has been paid

to the study of regional cultivation technology in harmony with its biological characteristics [1]. Also, along with the rational use of fertilizers, it has a great impact on increasing crop yields and maintaining soil fertility [2].

It has been proven that 30 to 50% of energy consumption for soil cultivation and 20 to 35% of labor costs for crop cultivation are used [3]. In this case, saving resources plays an important role. One possible way to save resources could be to replace traditional plowing with a cheaper, no-till system. At the same time, it is necessary to study the combined effect of the main tillage method and different rates of fertilizers on crop yield in each soil-climate zone, including millet.

In this regard, it is an urgent task to study the influence of tillage methods and applied planting standards on millet productivity in light gray soils of Kashkadarya region.

The purpose of the study. In the irrigated lands of the southern region of the republic, in the areas freed from the harvest of autumn grain crops, on the basis of no-till technology, in the cultivation of millet as a repeated crop, the cultivation of seedlings at the level of demand, the production of abundant and high-quality crops, the development of agrotechnology of cultivation that ensures the increase of economic efficiency and profitability.

Research methods. Researches were conducted at the central experimental farm of the Southern Agricultural Research Institute. The amount of total NPK and mobile NPK in soil, plant and grain, protein, type, mass of 1000 grains were determined in the laboratories of the Southern Agricultural Research Institute.

Soil samples for analysis were taken according to the methods of "Metody agrokhimicheskikh, agrofizicheskikh i mikrobiologicheskikh issledovaniy v polivnykh khlopkovykh rayonakh" (1963).

Amount of humus according to the method of I.V. Tyurin (GOST-26213); nitrate nitrogen-ion selective method, GOST-13496-10; total nitrogen, phosphorus and potassium in one sample I.M. Maltseva, L.P. Gritsenko's method; mobile phosphorus in 1% ammonium carbonate solution by the method of B.P. Machigin; by the method of P.V. Protasov in an alternating potassium flame photocalorimeter; water-soluble salts and dry residue were determined by the generally accepted method, GOST-26423-85, using a potentiometer in pH aqueous absorption. In field conditions, soil density is 500 cm³ using a cylinder according to the Kaczynski method; calculation of mass by pycnometric method; soil porosity calculation method; water permeability of the soil was carried out by the Kaczynski method.

Field and laboratory experiments were carried out on the basis of the methodological manual of the All-Russian Research Institute of Plant Science (1985). Phenological observations and biometric analyzes were carried out according to the methodological manual of the State Commission for Testing Agricultural Crops (1989).

The study of plant growth and development was carried out by measuring the field fertility of seeds and the thickness of plants: during germination and before harvesting, in 0.5 m² areas, where constant observation is carried out, in 3 places located diagonally across the plot.

We determined the height of plant stems according to the scale of R.A.Udachin and I.Sh.Shakhmedov (1984). We determined the resistance of the plant to dormancy on a scale of 1-9 points: 1 point - the plants are not suitable for mowing at all, all the plants are dormant, 3 points - 75% of the plants are dormant, then mechanical mowing is very difficult, 5 points - 50% of the plants are dormant, 7 points - 25% of the plant lies down, but has the ability to stand up, 9 points - the plant does not lie down at all.

Research Results

Saratovskaya-853 variety of millet was planted in research. In the field experiments, 3 types of planting methods were used, i.e. plowing, row planting and no-till planting. The seed rate for millet was set at 3.0 million, 3.5 million and 4.0 million. The seeds were sown on June 17 in a Brazilian VENSE TUDO 14600 seed drill and watered to harvest. Full germination of seeds was observed on June 24-25.

In our field experiments, it was determined that the height of the tarik varies from 82.2 cm to 122.7 cm under the influence of various factors. The average height of the plant is 102.1 cm when the soil is plowed before planting and 3.0 million seeds are planted, and 115.3 cm when 3.5 million seeds are planted and 118.7 cm when 4.0 million seeds are planted. in the variant it was 118.7 cm (Fig. 1).

Also, before planting, the soil was plowed and the average height was 82.2 cm in the case of 3.0 million seeds, and 94.6 cm in the case of 3.5 million seeds, and 4.0 million seeds. it was determined to be 98.0 cm.

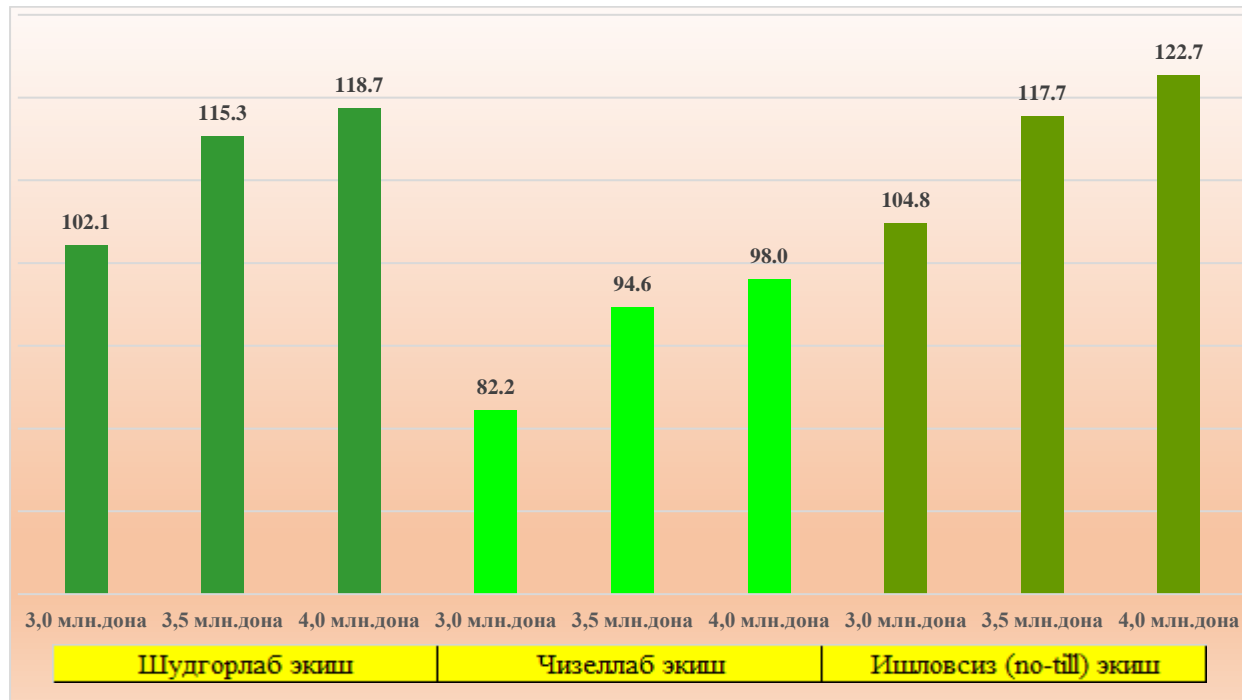


Fig. 1. Changes in plant height under the influence of sowing methods and criteria

In the modern, no-till planting method, the average height of 104.8 cm in the option planted with 3.0 million viable seeds, 117.7 cm in the option planted with 3.5 million viable seeds, 4.0

million. it was observed that it was 122.7 cm in the variant planted with a single germinating seed.

In conclusion, it was found that the highest indicator is the height of the plant when it is planted in the no-till method, and according to the planting standards, it is tall when it is planted at the expense of 4.0 million seeds.

This can be explained by the fact that the sparse planting of the plant causes its branching growth, increasing the level of branching, and the dense planting affects the mutual competition of plants for light, water, and nutrients during the growth periods of the plant.

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