
THE USE OF PROMISING SOURCES IN WHEAT SELECTION

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Abstract:

Perennial wheat varieties have long become a problem, further improving the condition of eroded and degraded soils, creating the possibility of rational use of land coming without unproductive use. While soft wheat is affected by most diseases, perennial wheat is not affected. Perennial wheat can be planted once and harvested for several years (3-5 years). This saves a huge amount of resources and funds in production.

Keywords: perennial wheat, variety, climate, grain, drought, root, yield.

Fertile irrigated land has been widely used in the cultivation of agricultural crops and is prone to salinity, while unproductive land near silt water is becoming unsuitable for cultivation. The increase in these indicators is naturally closely related to the increase in human demand for food. About a third of the total arable area in the world was eroded by soil in the following years [1]. The introduction of the perennial wheat crop into production on the basis of application in research, further development of Agriculture and livestock, makes it possible to use this crop for various purposes, that is, for consumption from its grain, as a fodder crop from its blue and dry mass.

While perennial wheat varieties kept in the American University of Kansas gene pool have been observed to be viable for up to six years, perennial wheat varieties in other (Land Institute) regions have been found to retain their viability for many years [3].

Studies by Steve Clman and others have found that the yield of grain and fodder in perennial wheat increases in the second and third years [4].

Another of the most basic characteristics of perennial wheat is the extremely energetic underground root mass and the prevention of soil erosion at the expense of penetration at a depth of 3-3.5 m, the enrichment of the soil of the organic residue of the root mass and the high coefficient of use of water and food elements. This in turn is important in increasing the plant's ability to withstand heat, cold, and drought.

Global climate change shows the greater importance of scientific research on perennial wheat, since this type of crop is characterized by resistance to various factors of nature, including heat, drought, salinity and disease.

Soft wheat is considered susceptible to most diseases, while perennial wheat hardly has Diseases. Perennial wheat can be harvested several years (3-5 years) with one planting. This saves a huge amount of resources and funds in production [2].

In the natural climate of Uzbekistan, scientific research began on the study of the first maratoba perennial wheat. At the scientific research institute of Plant Genetic Resources, since 2016, more than 43 samples of perennial wheat have been brought and involved in research in cooperation with international scientific centers and the Institute of Soil Science of the United States of America.

Test work has revealed that perennial wheat specimens are extremely resistant to drought and heat. The main reason for this is that the root penetrates into the soil to a depth of 3.5 meters, which is extremely energetic. More than 95 percent of the total root mass is located at a depth of up to 1 meter. It is known that more than 95 percent of the total root mass of annual soft wheat settles mainly at a depth of 20 - 22 cm.

In the conditions of the Tashkent region, perennial wheat grew up to 3 - 4 times until November, after harvesting for cereals, forming a good, nutritious pasture. This makes it possible to use it as pasture until autumn.

Regrowth in the summer and autumn months up to 2-4 times, and the cultivation of the rainfield lands in the Mountain, Mountain Range, and Ridge regions, forest farms, and reserves further increase its importance as pasture. This condition, i.e., keeping the Earth's surface in a green state throughout the year, will certainly prevent water and wind erosion.

In the period when the extremely energetic perennial wheat root is to improve the soil structure in the degraded and reclamation-heavy fields of irrigated lands, it will be possible to use these lands in a pasture style.

In 2022, on an average of one hectare of saline land of the Republic of Karakalpakstan, perennial wheat is being harvested for grain and used as pasture, without irrigation, by re-transplanting a full seedling at the expense of moisture in the soil.

In connection with the study of many years of wheat research in the conditions of different regions, testing work began to be carried out in cooperation in the irrigated areas of the Republic of Karakalpakstan, Kashkadarya and Tashkent regions, and in the heavy areas of the soil of the rainfield areas of the Jizzakh region.

The grain of perennial wheat is small, the weight of 1000 grains is 16 - 18 grams, and the grain yield is 18 - 20 s/Ha. Overcoming these shortcomings of perennial wheat, the creation of new varieties is the most fundamental issue. Today there is extensive selection work in this direction.

The next task of breeding scientists is to create an annual variety of soft wheat, extremely resistant to heat, based on this perennial wheat. In this regard, extensive selection work has also begun, today interspecific hybrids have been carried out and the first hybrid generations have been created.

In the area under study, more than 95 percent of the total root mass of perennial wheat is located at a depth of 1.0 meters, while in one year of soft wheat, this indicator was found to be 20 - 22 cm, and in hybrid offspring - 45-60 cm. In 1000 units of this hybrid generation, the grain weight is 38 grams, the grain yield is 36 - 38 s/Ha, that is, the indicators of the main parameters of plants are closer to the indicator of annual soft wheat varieties.

Of course, the strong development of the mass of the root system is important in increasing the resistance to any stress factors. As you can see, with the hybridization of perennial and annual soft wheat varieties, there is an opportunity to create soft wheat varieties, the roots of which are vigorous, extremely resistant to heat and drought. The creation of such varieties is considered important in maintaining crop stability even in changing natural climates.

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