

SPROUTING INDICATORS OF "ARAL" WINTER WHEAT SEED UNDER DIFFERENT SOIL CONDITIONS IN KHOREZM PROVINCE.

Baltayev Fozil, Researcher

Salayev Ulug`bek G`ayratovich, Teacher of UrSU

Abstract: The yield of wheat also depends on the germination of its seeds, that is, the number of seedlings per 1 m² of land. Seed germination depends on many factors, one of which is the soil composition and the flatness of the field.

Key words: Wheat, seed, variety, germination, yield, grain crop, feed.

Introduction. Among agricultural crops, winter wheat is the main grain grown on dryland and irrigated lands and remains one of the most important sources of food in the world, and at the same time it is distinguished by high grain protein and low productivity. Salinity has affected 20% of cultivated land and is increasing due to climate and anthropological changes (Arora, 2019). As a result of such effects, productivity is lost by 50% (Acquaah, 2007). By 2050, taking into account the increase in population, it is planned to reach 70% of food supply for global food security (FAO, 2009). Soil salinity remains one of the main problems in world agriculture. As a result of the research of scientific researchers, the knowledge and technologies of salinity resistance are increasing. However, the resistance of different plants is different due to the different complexity of their morphological and protective components. It is difficult to differentiate the salinity tolerance of plants belonging to the same species. The decrease in the growth rate of plants depends on the period of living in a saline environment. A significant decrease in growth rate under the influence of short-term salinity has different results in other plants of this species. For example, durum wheat was more sensitive to salinity than whole wheat bread (Francois et al., 1986). Durum and bread wheat, barley and triticale cultivars were not affected by short-term salinity (Munns et al. 1995). In Munns et al.'s (1995) experiments, no difference was noticed in the rate of leaf spreading in the first 10 days of salinity exposure of all plants. Long-term salinity tolerance of plants during the growing season varies among plant species and growing seasons (Zeng et al., 2002; Akbari et al., 2007). The best way to utilize saline soil is to select and develop salt tolerant crop species and cultivars (Ghoulam and Fares, 2001; Ashraf et al., 2012). The response of plants to salinity is mainly manifested in morphological, physiological, biochemical and molecular changes. For example, salinity stress causes osmotic stress, ion toxicity, and nutrient imbalances (Jones and Gorham, 2002), which reduce growth and alter cellular

metabolite levels (Rhodes et al., 2002). The sensitivity of plants to salinity can be determined by various methods in field and laboratory experiments.

Practical significance of research. In the different soil and climatic conditions of our republic, it is important to collect the required seeds from each hectare of winter wheat crops. In this, the effect of winter wheat on the volume weight of the soil is determined.

Research object and methods. Studies on determining the effect of soil volume weight on seed germination were conducted in the fields of "Mamasalay", "Sultan Tarnov" and "Merodbek" farms of Khorezm region. The research area is 120 meters above sea level, and according to its geographical location, it is located between latitudes 40°-31° and 42° north and longitudes 60°-62° east. The soil cover is a light loamy soil with a low supply of humus and nutrients. The water level of Sizot is 1-1.5 meters, the climate is sharply continental, and the area is surrounded by sand, so the temperature rises to +43°+45°C in summer. The climate is sharply continental, and the difference between the maximum and minimum temperatures is 78°. Due to the fact that the area is surrounded by sand, the temperature rises to +43°+45°C in summer. In winter, the lowest temperature is -30°-33° C. Here, hot summer and cold winter, sudden changes in weather during the day, low rainfall and dry air are the main features of the region's climate. (Urganch weather station data). Planting of field crops in the crop rotation system and determination of germination were carried out in the generally accepted methods. The statistical analysis of the data was carried out using WinQSB-2.0 and Microsoft Excel according to the method of B.A. Dospehov "Metody polevego opyta".

Obtained results and conclusions. Experiments on winter wheat variety "Aral" were conducted in three farms of Khorezm region with different conditions, and it was observed that seed germination was different in different parts of the field (table 1).

1–table

№	Murodbek f/x	Sulton Tarnov f/x	Mamasalay f/x	variety name
1	207	290	260	Aral
2	172	304	258	Aral
3	334	213	208	Aral
4	176	186	285	Aral
5	196	221	198	Aral
6	126	190	203	Aral

7	146	174	267	Aral
8	82	142	202	Aral
9	125	234	565	Aral
10	299	122	334	Aral
11	246	133	193	Aral
12	214	232	336	Aral
13	251	106	232	Aral
14	221	125	182	Aral
15	235	211	557	Aral
16	239	137	128	Aral
17	261	135	120	Aral
18	227	173	146	Aral
Max.	334	304	565	
Average	209	185	260	
Min.	82	106	120	

Calculations in each experimental field were carried out in 18 repetitions. From the obtained results, it can be seen that the minimum number of seedlings per 1 m² is 82, and the maximum number of seedlings per 1 m² is 565. Observed at "Mamasalai" farm. Even though the least number of seedlings per 1 m² was observed at the "Murodbek" farm, the least number of seedlings was observed at the "Sultan Tarnov" farm according to the average indicator, i.e. 185.

The variety of the number of seedlings in such 1 m² area depends on several factors, the most important of which are the following:

- Unevenness of the cultivated area;
- Irrigation works have not been completed;
- Field soil condition, etc.

From the obtained results, it can be concluded that the flat germination of wheat depends on the type of soil, its composition, the flatness of the land, and the rules of irrigation..

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