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INDICATORS OF GERMINATION DYNAMICS IN ANCIENT DOMESTIC WHEAT CULTIVARS

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Abstract. *This article provides valuable information about the dynamics of germination of these crops in order to study the important morpho-economic characteristics of promising varieties of ancient local wheat belonging to the group of grain crops.*

Key words: *phenological periods, flowering, earing, generative organ, wax ripening, milk ripening.*

ПОКАЗАТЕЛИ ДИНАМИКИ ВСХОЖЕСТИ ДРЕВНИХ ОТЕЧЕСТВЕННЫХ СОРТОВ ПШЕНИЦЫ.

Аннотация. *В статье представлены ценные сведения о динамике всхожести этих культур с целью изучения важных морфо-экономических характеристик перспективных сортов древней местной пшеницы, относящейся к группе зерновых культур.*

Ключевые слова: *фенологические периоды, цветение, колошение, генеративный орган, восковое созревание, молочное созревание.*

INTRODUCTION

The growing need of the population of our republic for grain and bakery products requires increasing grain production and improving its quality. Most of the world's population currently suffers from undernourishment. Protein deficiency in children is one of the most important problems in developing countries. In order to solve this problem, it is necessary to pay special attention to the cultivation of high-protein grains, to improve the nutritional quality, because these crops are cheap and available as protein material. The formation of a high and high-quality grain crop depends on many factors, including the genetic characteristics of the cultivated variety, soil-climatic conditions, previous crops, feeding and watering regimes. Year by year, the demand for flour and products made from it is increasing due to the increase in the population. High-yielding wheat varieties are essential for the production of high-quality flour. In the conditions of our region, it is very important to study the characteristics of winter wheat varieties, to adapt them to the region, especially to determine the effect of the watering procedure on the productivity of these varieties, and as a result, to achieve the maximum productivity of the varieties and use them in the national economy. Implementation of these processes requires knowledge of the physiological processes taking place in plants. These include features such as growth and development. The first main goal of conducting phenological observations is to further increase the wheat yield by determining which phases of the plant are most affected by diseases and in which phase the demand for water increases. The next goal is to study the main characteristics of which wheat is relatively productive, ripens quickly, and is less susceptible to diseases.

DISCUSSION AND RESULTS

It is known that plant growth means an increase in plant mass regardless of its organ, and development means the succession of periods of plant organogenesis. Growth and development in cereal crops can be in the following proportions: 1. Fast growth, slow development - in this case, the growth of leaves and root masses occurs, the formation of generative organs is slightly delayed, and the crop mass is small. will be grainy. 2. Slow growth and rapid development - in this case, the plant stops growing, although there is not enough root, leaf mass, and organic matter, but it passes through the stages of organogenesis quickly, as a result, spikes with low mass appear. and the yield will decrease. 3. Fast growth, fast development - in this case, a normal ratio is formed between the surface of the leaf plate and the mass of the plant, as well as the stages of organogenesis. In the same ratio, a mass of equal proportions is formed between the grain and the stem of plants. 4. Slow growth and slow development - in this case, a small mass of the plant is formed, and they ripen late [1].

The following phenological periods have been identified in grain crops: weeding, tillering, earing, earing (fertilization), flowering and ripening. If it is determined that 10% of the plant has passed into each new period, it means that the plant has fully passed into this period. The change of development periods is represented by the appearance of new organs in plants. The growth period of a plant includes the period of certain development phases, that is, it includes the periods of sowing-germination, germination-heading, earing-ripening. For the climatic conditions of Uzbekistan, the length of the growing season is short or average. The difference between spring and autumn wheat varieties in the length of the growing season is large. The duration of the growth period of spring wheat varieties is 70-80 days, in some varieties 120-130 days. In winter wheat varieties, it can be 180-220 days or more, taking into account the period of winter dormancy. This indicator also depends on the biological characteristics of the variety and the influence of external environmental factors.[2]

The duration of the growth period of winter wheat varieties is 145-190 days, excluding the winter rest period of winter wheat. Winter wheat does not completely stop growing in winter. It continues to grow when the air temperature rises, and stops growing when the air temperature drops. Therefore, the period between one development phase and the second phase of winter wheat is extended. In particular, the lengthening of the period between the phases is more observed in the tuber phase of wheat germination. The period from germination to tuberization is 35-40 days in spring wheat varieties under normal agrotechnical conditions, and 90-120 days in winter wheat. [3]

In order for the grain of winter wheat to germinate, it needs to absorb 45-47% of its weight of water. This process is especially important for autumn-sown wheat. Because, as a result of rapid weather changes in autumn, soil moisture can also change, and as a result, it can affect the germinating seeds. According to the data, wheat seeds have the ability to absorb moisture in the soil at the temperature at which ice melts. For example, at this temperature, when the soil moisture is 90%, during 15 hours, the seed absorbs 11% of moisture in relation to its mass.[4]

Based on the information presented above and other similar literature, the dynamics of germination of ancient local wheat was studied in the experiment. Local varieties of winter wheat were planted in 1-meter square areas in three rotations after the agrotechnical measures of autumn plowing, harrowing, harrowing and harrowing were carried out in the areas freed from previous

crops. The length of the field is 1 meter, the distance between the rows is 15 cm and the distance between the fields is 30 cm. Before planting, 200 kg of Ammophos fertilizer was applied to the field by hand. Nitrogen fertilizers were not given in order to prevent plants from overgrowing and lying down.

It was observed that the seeds of winter wheat, which absorbed the necessary moisture, began to germinate after receiving the necessary heat.

In our scientific research work, which was conducted to study the important economic characteristics of promising varieties of wheat, belonging to the group of grain crops, the data obtained from the results of observations to determine the dynamics of germination of these crops are presented in the following table.

Table 1

Growth period of wheat samples

№	Name	Planting date	Germination	Spike	Flowering	Plant height	End of vegetation
1.	Qizil bug`doy (Qog`a)	10.10.22	25.10.22	15.04.23	20.04.23	86.6	237
2.	Bahor bobo	10.10.22	25.10.22	14.04.23	19.04.23	60.5	232
3.	Qizil bug`doy (Qo`rg`oncha)	10.10.22	25.10.22	15.04.23	20.04.23	86.6	237
4.	Oq bug`doy (Qog`a)	10.10.22	23.10.22	10.04.23	15.04.23	112.5	228
5.	Oq bug`doy (Guldara)	10.10.22	23.10.22	10.04.23	15.04.23	105.5	237
6.	Tuyatish	10.10.22	25.10.22	14.04.23	19.04.23	83.1	237
7.	Surhak (Qiziltom)	10.10.22	25.10.22	14.04.23	20.04.23	89.4	237
8.	Grexkum (Guldara)	10.10.22	25.10.22	10.04.23	15.04.23	65.5	228
9.	Kal bug`doy (Qiziltom)	10.10.22	23.10.22	15.04.23	15.04.23	86.6	238
10.	Qizil sharq (Qog`a)	10.10.22	25.10.22	10.04.23	10.04.23	115.5	237
11.	Qora qiltiq	10.10.22	25.10.22	10.04.23	15.04.23	77.4	238
12.	Qizil boshoq	10.10.22	25.10.22	12.04.23	17.04.23	64.2	238
13.	Oq boshoq	10.10.22	25.10.22	12.04.23	17.04.23	65	248
14.	Qayroqtosh	10.10.22	25.10.22	15.04.23	20.04.23	86.6	237
15.	Qayroqtosh 2	10.10.22	25.10.22	15.04.23	20.04.23	86.4	235
16.	Qizil bug`doy	10.10.22	23.10.22	15.04.23	20.04.23	87.5	237
17.	Ilg`or	10.10.22	25.10.22	15.04.23	20.04.23	110.3	236
18.	Bardosh	10.10.22	25.10.22	15.04.23	20.04.23	86.3	236

19.	Paxlavon	10.10.22	25.10.22	15.04.23	20.04.23	90.3	237
20.	Oq marvarid	10.10.22	25.10.22	12.04.23	18.04.23	75.5	238
21.	Qayroqtosh	10.10.22	23.10.22	13.04.23	18.04.23	70.6	238
22.	Krassnadar 99	10.10.22	25.10.22	14.04.23	19.04.23	65.5	232
23.	Duragay (6.tuyatish & 9.kal bug`doy)	10.10.22	25.10.22	15.04.23	20.04.23	86.6	237

When analyzing the data in the table, it was observed that in the early days, the indicators of the germination rate of all ancient varieties of wheat were close to each other. In our scientific research conducted in field conditions, the main difference was observed in the spike phase. According to this, the "white wheat, red sharg, kazra kiltyk and grechkum" varieties were eared relatively earlier. Accordingly, flowering and ripening phases occurred earlier. According to the results at the end of the vegetation, the "Grekhkum" variety completed its full vegetation earlier in 228 days. Our variety "Aq Bosok" was the last to complete its vegetation in 248 days. "Grekhkum" variety gave good results in terms of productivity.

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