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RESULTS OF PHENOLOGICAL OBSERVATION OF FIRST AND SECOND YEAR FAMILIES OF DURUM WHEAT VARIETIES.

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Abstract:

When increasing the productivity of agricultural crops, attention is paid to the quality of the seeds planted. It is known from the achievements of science and the experiences of advanced production that modern, properly organized seed production increases the yield of crops by 25-30 percent. At the same time, crop yields depend on the level of technology used and the correct selection of varieties. The additional yield produced by planting quality seeds is obtained at no cost and provides significant economic benefits.

Keywords: phenological observation, durum wheat varieties, family, southern region, drought, heat

As a result of planting seeds of certain varieties, over the years, they are mechanically mixed with seeds of other varieties and other crops that are difficult to separate. Biological mixing occurs as a result of the variety itself changing some signs and characteristics under the influence of the external environment. To prevent the deterioration of the quality of seeds of a variety, it is achieved by planting selected high-quality seeds of the same variety. This process is called seed replacement (varietal renewal) [1].

No significant differences were observed between the earing and tuberous phases of durum wheat varieties planted in the primary seed nursery. The tuber phase was observed on February 21-25 in Nafis, Musaffo and Hilal varieties, February 22-26 in Mingchinor, Langar varieties and February 23-28 in Zilal and Nasaf varieties.

Table 1
Results of phenological observation of durum wheat varieties planted in the first-year family trial nursery.

№	Varieties name	Number of families planted	Germination	Tumble	Tubing
1	Mingchinor	500	04.oct	08.dec	22-26.feb
2	Langar	500	04.oct	08.dec	22-26.feb
3	Nasaf	500	04.oct	08.dec	24-28.feb
4	Zilal	500	04.oct	08.dec	23-26.feb
5	Nafis	500	04.oct	08.dec	21-24.feb
6	Musaffo	500	04.oct	08.dec	21-25.feb
7	Hilal	500	04.oct	08.dec	21-25.feb

According to the results of phenological observations conducted in April, the transition of durum wheat to the first earing phase was noted in the Nasaf variety, compared to other varieties, on April 7-11, in the Musaffo and Nafis varieties on April 14-18, and in the remaining varieties on April 17-21.

The influence of environmental factors on the passage of plant phenophases is immense. During the germination and accumulation phase, if the humidity is sufficient or above the norm, and the air temperature is low, this phase will be prolonged. If the air temperature is low, the spike phase in plants is delayed, on the contrary, if the air temperature is high, it accelerates. Prolongation of the flowering phase in plants is a positive situation, in which the coefficient of flowering is high, side branches increase. Plants are particularly sensitive to air temperature and humidity levels during flowering and grain formation. High rainfall and low air temperatures prolong the flowering phase, resulting in incomplete pollination of the spikelets, reduced grain number or yield [2].

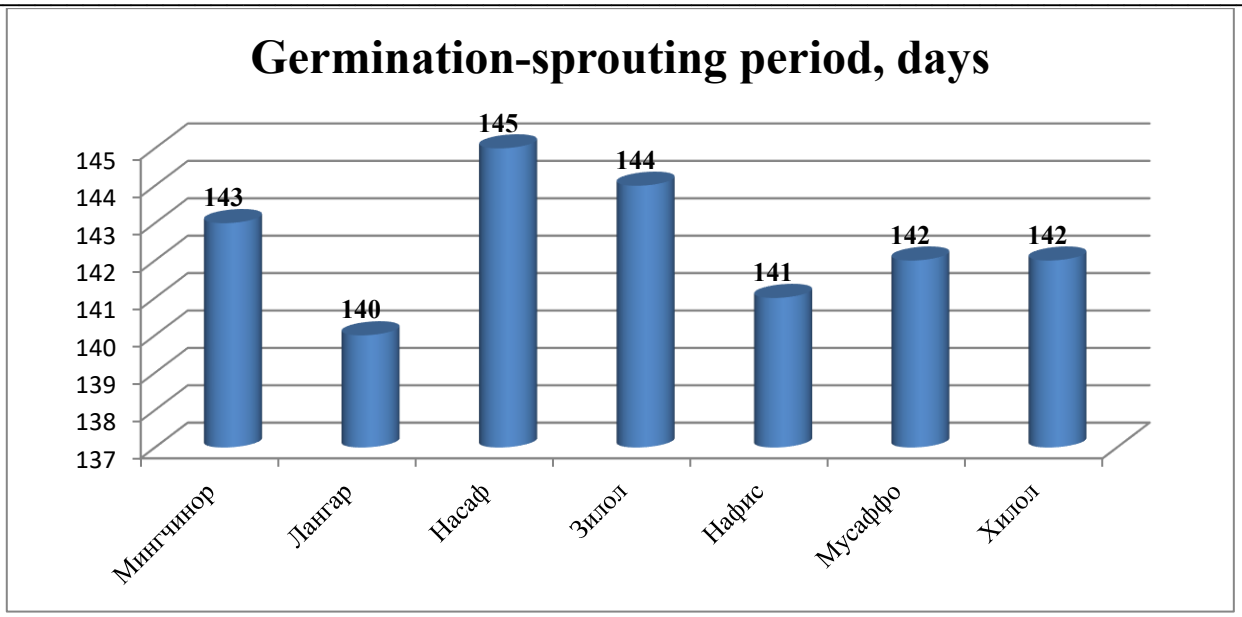

Figure 1: Germination-tillage period of durum wheat varieties planted in the first-year family trial nursery, days.

When analyzing the period of germination and sprouting of durum wheat varieties, it was found that Mingchinor variety 143 days, "Langar" variety 140 days, "Nasaf" variety 145 days, "Zilal" variety 144 days, "Nafis" variety 141 days, "Musaffo" variety 142 days and "Khilal" variety 142 days. (Table 1).

Table 2

Results of phenological observation of durum wheat varieties planted in the second year of family trial nursery.

№	Varieties name	Number of families planted	Germination	Tumble	Tubing	Spike
1	Mingchinor	500	04.oct	08.dec	22-26.feb	17-20.april
2	Langar	500	04.oct	08.dec	22-26.feb	17-20.april
3	Nasaf	500	04.oct	08.dec	24-28.feb	07-11.april
4	Zilal	500	04.oct	08.dec	23-26.feb	17-21.april
5	Nafis	500	04.oct	08.dec	21-24.feb	15-18.april
6	Musaffo	500	04.oct	08.dec	21-25.feb	14-17.april
7	Hilal	500	04.oct	08.dec	21-25.feb	17-20.april

According to the results of plant development observations, the milk ripening phase of the plants of the families planted in the first-year experimental nursery was recorded on May 5-7, the wax ripening phase on May 21-23, and full ripening on June 2-6.

The southern regions of our republic have a moderate climate for growing early and mid-early wheat varieties. In the climatic conditions of this region, early and mid-ripening varieties have normal grain formation, while in late-ripening varieties, due to the high temperature during grain formation, the grains are destroyed, as a result, the yield is reduced [3].

Table 3

Results of phenological monitoring of durum wheat varieties planted in the first-year family trial nursery.

№	Varieties name	Number of families planted	Milk ripening	Wax ripening	Full cooking	Number of families found unfit
1	Mingchinor	500	07.may	23.may	06.june	8
2	Langar	500	07.may	23.may	06.june	7
3	Nasaf	500	05.may	21.may	02.june	6
4	Zilal	500	07.may	23.may	06.june	6
5	Nafis	500	05.may	21.may	02.june	7
6	Musaffo	500	05.may	21.may	02.june	5
7	Hilal	500	07.may	23.may	06.june	4

According to the results of the assessment of the planted families during the earing and wax ripening phases, 8 families of the Mingchinor variety, 7 of the Langar variety, 6 of the Nasaf variety, 6 of the Zilol variety, 7 of the Nafis variety, 5 of the Musaffo variety, and 4 of the Hilal variety of durum wheat were found to be unsuitable and were harvested and discarded in the field.

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