European Journal of Agricultural and Rural Education (EJARE)
Available Online at: https://www.scholarzest.com
Vol. 5 No. 01, January 2024
ISSN: 2660-5643

ANALYSIS OF DEVELOPMENT PHASES OF FIRST AND SECOND YEAR FAMILIES

PhD: Jabarov Farrux Odirovich
Southern Agricultural Research Institute
Head of the "Introduction of resource-efficient technologies" laboratory.

Article history:

Received: 26th November 2023
Accepted: 22th December 2023
Published: 26th December 2023

Abstract:

When increasing the yield 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 crop productivity by 25-30 percent. At the same time, the productivity of crops depends on the level of technology used, as well as on the correct selection of varieties. The additional yield produced by planting quality seeds is obtained at no cost and provides great economic benefits.

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

As a result of the planting of the seeds of the varieties, as the year goes by, the seeds of other varieties are mechanically mixed with the seeds of 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. It is achieved by planting selected high-quality seeds of the same variety in order to prevent the quality of the seeds from decreasing. This process is called seed replacement [1].

No significant difference was observed between tillering and tuberting phases of durum wheat cultivars planted in 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 plants of durum wheat cultivars planted in the family trial nursery in the first year.

№	Varieties name	Number of families planted	Germination	Tumble	Tubing
1	Мингчинор	500	04.окт	08.дек	22-26.фев
2	Лангар	500	04.окт	08.дек	22-26.фев
3	Насаф	500	04.окт	08.дек	24-28.фев
4	Зилол	500	04.окт	08.дек	23-26.фев
5	Нафис	500	04.окт	08.дек	21-24.фев
6	Мусаффо	500	04.окт	08.дек	21-25.фев
7	Хилол	500	04.окт	08.дек	21-25.фев

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

The effect of environmental factors on the transition of plant phenophases is immeasurable. Sufficient or above-average moisture during the budding phase of germination, and low temperatures will prolong this phase. 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 budding phase in plants is a positive situation, in which the budding coefficient is high, side branches increase. Especially in the process of flowering and grain formation in plants, air temperature and humidity are very sensitive. High precipitation and low temperature lead to prolongation of the flowering phase, and as a result, the pollination of spikes is not complete, the number of grains or productivity decreases [2].

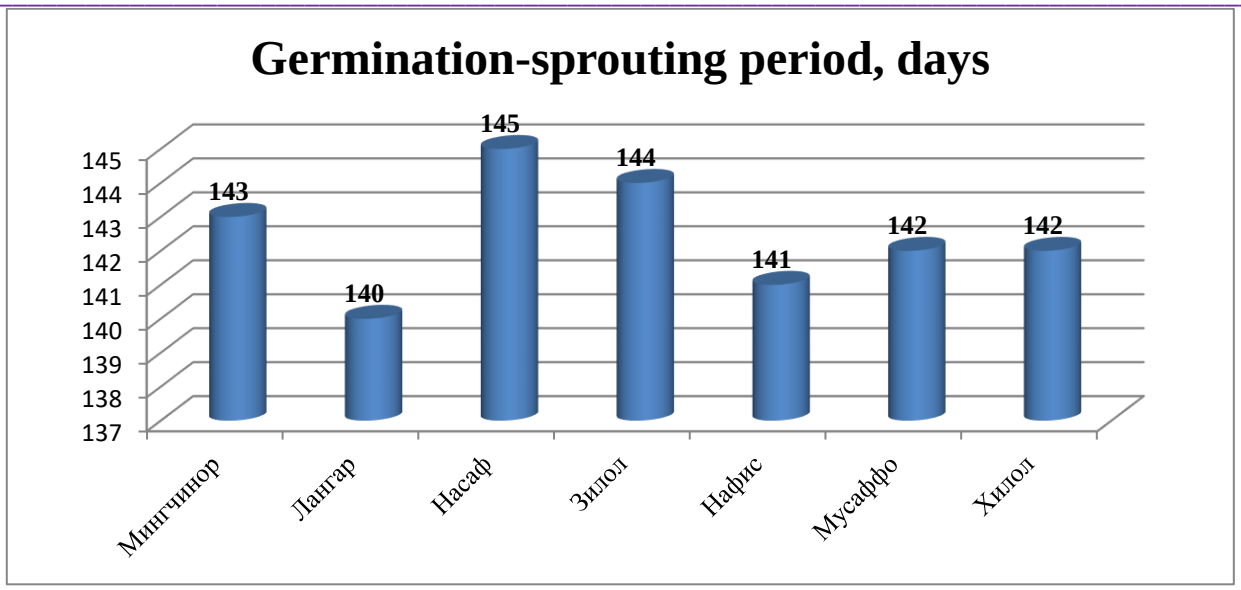

Fig. 1: Germination-sprouting period of plants of durum wheat varieties planted in the family trial nursery in the first year, day (vs. 2022-2023).

When analyzing the period of germination and sprouting of durum wheat varieties, it was 143 days for the Mingchinor variety, 140 days for the "Langar" variety, 145 days for the "Nasaf" variety, 144 days for the "Zilal" variety, 141 days for the "Nafis" variety, 142 days for the "Musaffo" variety and It was found that it was 142 days in "Khilal" variety (Table 2).

Table 2

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

№	Varieties name	Number of families planted	Germination	Tumble	Varieties name	Spike
1	Мингчинор	500	04.окт	08.дек	22-26.фев	17-20.апр
2	Лангар	500	04.окт	08.дек	22-26.фев	17-20.апр
3	Насаф	500	04.окт	08.дек	24-28.фев	07-11.апр
4	Зилол	500	04.окт	08.дек	23-26.фев	17-21.апр
5	Нафис	500	04.окт	08.дек	21-24.фев	15-18.апр
6	Мусаффо	500	04.окт	08.дек	21-25.фев	14-17.апр
7	Хилол	500	04.окт	08.дек	21-25.фев	17-20.апр

According to the results of observations of plant growth, the milk ripening phase of the first-year family plants planted in the family trial nursery was recorded on May 5-7, the wax ripening phase on May 21-23, and full ripening was recorded 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 observation of plants of durum wheat cultivars planted in the family trial nursery in the first year.

№	Varieties name	Number of families planted	Milk ripening	Wax ripening	Fully cooked	Number of families found invalid
1	Мингчинор	500	07.май	23.май	06.июн	8
2	Лангар	500	07.май	23.май	06.июн	7
3	Насаф	500	05.май	21.май	02.июн	6
4	Зилол	500	07.май	23.май	06.июн	6
5	Нафис	500	05.май	21.май	02.июн	7
6	Мусаффо	500	05.май	21.май	02.июн	5
7	Хилол	500	07.май	23.май	06.июн	4

According to the results of the evaluation of the plants of the planted family at the earing and wax ripening phases, 8 families from the Mingchinor variety, 7 from the Langar variety, 6 from the Nasaf variety, 6 from the Zilal variety, 7

from the Nafis variety, 5 from the Musaffo variety, and 4 from the Hilal variety of durum wheat are unsuitable. was found to be harvested in field conditions.

LIST OF REFERENCES USED.

1. Байгулов Г.К; Питоня А.А. Оценка сортов и гибридов пшеницы на устойчивост к ржавчине. В кн.: Материалы научно – метод. совета среднеазиатского селекцентра по зерновым. Зернобобовым и кормовым культурам. Ташкент. 1978. с. 50-59.
2. Баранникова З.Д. Критический период в онтогенезе злаков по отношению к температурным условиям. – В кн. «Физиолого- генетические оснивие повышение продуктивности зерновых култур». М.: Колос, 1975. с. 102-111.
3. Бекназаров Н. Селекция интенсивных сортов мягкой пшеницы в условиях равнинно-холмистой зоны богары Узбекистана. Авторефарат дисс. на соисканые ученой степени к.с/х.н. Ленинград, 1983. 17 с.
4. Беранек В, Гросс С, Гомоли В. Интенсивное производство зерна. / Пер. с чеш. З.К. Благовещенской. Москва. Агропромиздит. 1985. с. 28-32.