



INFLUENCE OF THE PHYSIOLOGICAL CALM OF WINTER WHEAT ON THE WHOLE RANGE OF SEEDS

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Article history:		Abstract:
Received:	14 th May 2024	The article presents information about the dependence of the period of physiological calm of varieties of soft wheat from the dry season. On this basis, the influence of physiological full ripening on the vines in different periods is reflected.
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Keywords: Winter wheat, seeds, bulk, variety, physiological rest.

The physiological maturation of wheat and other cereal seeds is important for agricultural seed production and the food industry.

The technological and seed quality of the grain collected directly from the field is not fully formed. At the time of harvesting, grain and seeds are technically mature, but not fully physiological, that is, the physiological state of the harvested grain depends on the biological characteristics of the culture and variety, the natural and climatic conditions of the region, Prior to harvesting, agricultural machinery used during harvesting, conditions of storage of grain or seeds and depends on a number of factors.

When a physiologically immature seed is planted in a field, it does not germinate, and if it does, it is very weak. If ground wheat grain is quickly ground into flour at the mill, bakery products and pastries from its flour, if it is solid wheat flour, pasta, vermicelli and pastry products will be of poor quality. Physiologically immature wheat grain does not have a significant adverse effect on the volume of flour yield, but leads to a decrease in its quality.

The physiological calm of the seeds is an important biological characteristic of plants. First, it allows to preserve seeds in unfavourable conditions, secondly, they germinate under optimal conditions and provide a high-quality crop (Ovcharov, Koshalev, 1978). The physiological peace of the seeds is divided by three groups. The seeds of some crops have a period of rest; others pass into rest and a third group is forced to enter a period of silence. They are accepted by the researcher as naturally inductive and mandatory (J.I. Harper 1957). According to I.G. Stron (1966) the period of physiological development of the seed is primary and secondary. The primary dormancy period is considered an adaptive trait formed during phylogeny, and a viable normal seed in the natural environment does not germinate or has low fertility. Secondary rest occurs in seeds under more adverse conditions and may or may not be physiological.

During full grain ripening complex biochemical processes occur. Many biochemical processes that begin in the grain plexus continue even during the ripening period. The bulk of seeds of not ripe grain is low. The seeds have not passed physiological rest, reduce germination, yield, preservation and quality of grain. Germination is an important indicator of the quality of cereals. The number of seeds to be planted is also determined by the germination of seeds.

On the basis of this, experiments were conducted in the laboratory «Determination of technological indicators of quality and physiology» of the Kashkadarya branch of the Research Institute of Grain and Legume Crops to determine the physiological maturation of grain and determine its influence on the fertility of seeds. At physiological ripening of wheat seeds germination was determined by GOST 12038-84. The analysis of wheat seeds produced the following results.

Results of determination of seed germination at different times during physiological processing of varieties. After 1 month of harvesting of wheat varieties the experiment was carried out on 8 varieties.

In this experience, we determined each month the germination of mature but still physiologically continuing seeds and noted the difference between the varieties studied.

According to the results of the laboratory analysis as of July 20, Xisorak and Shams varieties were 87%, Faravan and Gazgon 74%, Bunyodkor 76%, Turkistan 70%, Yaksart 52%. 60 days after harvesting Faravan 94%, Shams 93%, Bunyodkor, Turkistan, Xisorak and Yaksart 88%, Gazgon 83%.

Table-1
Physiological development of winter wheat varieties

№	Varieties	The timing of the seed, %			
		20.07	20.08	20.09	20.10
1	Yaksart	52	88	91	96
2	Gazgon	74	83	88	95

3	Turkistan	70	88	90	95
4	Bunyodkor	76	88	91	96
5	Faravan	74	94	98	98
6	Shams	87	93	98	98
7	Xisorak	87	88	95	96

Or, in comparison with the option after 30 days, it is noted that the varieties Shams and Xisorak it was 1-6% higher, and the varieties Gazgon, Turkistan, Bunyodkor, Faravan by 9-20% and Yaksart by 36%. According to the results of the experience of 20 September 90 days after harvesting Shams and Faravan were 98%, Xisorak 95%, Yaksart and Bunyodkor 91%, Turkistan 90% and Gazgon 88%. And there was a 2 to 8 percent increase in seed germination compared to the 60-day rest period. According to the experimental analysis on 20 October, it was noted that the difference between the varieties is small, and the germination of the varieties Faravan, Shams 98%, Yaksart, Xisorak, Bunyodkor 96%, Turkistan and Gazgon 95%.

Germination of seeds after 30 days of harvesting of varieties Shams, Xisorak made from 87%. Physiological maturation of the seeds of these varieties has been found to occur within a short period of time. According to the analysis, the seeds of most cereal varieties take 60-90 days to reach physiological maturation.

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