



# THE DEPENDENCE OF THE GROWING OF ECOLOGICALLY CLEAN AND QUALITY WHEAT GRAIN ON THE PLANTING PERIOD AND NUTRITION STANDARDS

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Article history:		Abstract:
<b>Received:</b>	24 <sup>th</sup> September 2023	It is observed that varieties of winter wheat with high protein content in the conditions of other regions are low when grown in the conditions of irrigated lands of our country.
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Currently, our country has achieved grain independence and started the period of solving the problems of quality grain cultivation. Because, in the cultivation of grains, there are problems related to the fact that they do not give the expected results according to the characteristics of the varieties.

It is observed that varieties of winter wheat with high protein content in the conditions of other regions are low when grown in the conditions of irrigated lands of our country.

However, it has been found that wheat grain protein content and other grain quality indicators can be improved in irrigated lands. Excess moisture in irrigated lands causes a decrease in the amount of nitrogen, which determines the protein content of grain, as a result of a decrease in the concentration of soil solution. That's why, when determining the standards of feeding wheat and other grain crops, the amount of nitrogen is determined to be two times more than phosphorus, and three times more than potassium [2, 4, 5, 6, 7].

However, the amount of protein and other substances that determine the quality of wheat grain depends on the genetic characteristics of the varieties, the sowing period, the soil-climatic conditions of the regions, and the feeding standards [4, 5].

That's why winter wheat was planted in different periods in the fall in the conditions of light ice soils of Kashkadarya region and fed with the recommended (N180P90K60), increased (N210P110K70) and reduced (N150P70K50) standards of mineral fertilizers. ).

**Table**  
**Dependence of wheat grain quality indicators on planting dates and feeding standards**

No	Fertilizer standards and proportions are based on pure substance, kg/ha	Glassiness of grain, %	Protein, %	Gluten, %
When planted at 15.X				
1	When NPK is not applied (st)	65	12.9	27.0
2	N150P70K50	67	13.1	27.8
3	N180P90K60	69	13.4	28.2
4	N210P110K70	74	13.9	28.8
When planted in 1.XI				
5	When NPK is not applied (st)	64	12.6	25.8
6	N150P70K50	66	12.9	26.6
7	N180P90K60	69	13.1	27.7
8	N210P110K70	72	13.5	28.0
When planted in 15.XI				
9	When NPK is not applied (st)	60	12.3	25.5
10	N150P70K50	63	12.6	26.1
11	N180P90K60	67	12.8	26.9
12	N210P110K70	71	13.3	27.2

The experiments were conducted in 2015-2017 at the "Saipov Shakhboz" farm in the Koson district, located in the region of light ice soils of the Kashkadarya region.

Experiments were conducted in four rows on one level, the size of experimental fields was 180 m<sup>2</sup>, and calculation fields were 100 m<sup>2</sup>, the width of the field was 7.2 meters, the length was 25 meters.

The experiments were conducted using the methods of "Metodika Gosudarstvennogo sortoispytaniya selskohozyaystvennyx kultur" (1971), "Metodika polevogo opyta" (1985) by B.A. Dosphehov.

The degree of vitreousness of grain was determined according to GOST-9353-84, the protein content of grain was determined according to the K'eldal method, and gluten according to GOST-13586-1-68.

According to the research results, winter wheat was planted in the middle of October (15.X) in the conditions of the experimental region, and the recommended (N180P90K60) rates of mineral fertilizers were increased (N210P110K70) and decreased (N150P70K50) at the rate of N30P20K10 kg/ha, compared to the control option without NPK application. of vitreous degree NPK was observed to increase by 9% depending on the standards used. However, the degree of glassiness of the grain was 74% when it was planted in the middle of October (15.X), compared to 1-2% when it was planted at the beginning of November (1.XI); compared to the one planted in the middle of November, it was observed to be 3-5% higher. This situation requires planting winter wheat in the middle of October (15.X) and applying recommended (N180P90K60) and increased (N210P110K70) rates of mineral fertilizers.

It has been shown that grains with a high degree of vitreous content also have a high content of protein and gluten. Because, when the seeds of winter wheat are sown in the middle of October (15.X), the recommended rate of mineral fertilizers (N180P90K60) is increased (N210P110K70) and reduced (N150P70K50), the amount of protein in the grain is 12.9-13, in proportion to the increase in mineral fertilizers. It was observed to increase up to 9%. In all planting periods, when NPK was applied more (N210P110K70) and less (N150P70K50) than the recommended rate (N180P90K60), the protein content increased by 0.9-1.0% compared to the control variant without NPK application. When winter wheat seeds are sown in the middle of October (15.X) and fed with mineral fertilizers in excess of the recommended (N180P90K60) rate (N210P110K70) compared to when the sowing dates are delayed by one month, that is, when they are sown in the middle of November (15.XI) and fed with the same rate it was observed that the content of protein content was high up to 0.9%.

The gluten content of grain also increased from 27.0% to 28.8% compared to the control option without NPK when planted in mid-October (15.X) and fed with increased (N210P110K70) and reduced (N150P70K50) recommended rates of mineral fertilizers (N180P90K60). was observed. When winter wheat seeds were sown in the middle of October (15.X) and fed (N210P110K70) more than the recommended norm (N180P90K60) of mineral fertilizers, the content of grain gluten was 1.6 compared to when it was sown in the middle of November (15.XI) and fed with the same norm. It was observed to be as high as %.

Therefore, when winter wheat seed grain is sown in mid-October (15.X) and NPK recommended (N180P90K60) and increased (N210P110K70) standards are applied, grain protein content increases in irrigated land.

Regarding the amount of gluten in the wheat grain, there was a repetition of the laws observed in terms of the glassiness and protein content of the grain when it was planted at different times and fed at different rates.

The results of the tests showed that the amount of protein in proportion to the glassiness of the grain and the amount of gluten depends on the amount of mineral fertilizers when the recommended (N180P90K60) and recommended rates of mineral fertilizers are applied with increased (N210P110K70) and reduced (N150P70K50) winter wheat in the conditions of the light gray soil region of Kashkadarya region. from 0.3 percent separately showed that it will increase to 0.7 percent. At the same time, when mineral fertilizers are used in the mentioned norms, it is observed that NPK increases up to 1% compared to the control variant where NPK is not used, and optimal planting period and rate can be one of the decisive factors in the improvement of quality indicators of wheat grain in regional conditions.

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