

## INFLUENCE OF CULTURAL FERTILIZERS AND ADDITIONAL FEEDINGS ON THE PRODUCTION INDICATORS OF WINTER WHEAT VARIETIES

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### Annotation

Winter soft wheat varieties have a high demand for microelements and macroelements during the growth period, while the lack of these elements has a negative effect on wheat productivity. Of soft wheat in our experiments. Jasmine. variety  $N_{180}P_{90}K_{60}$  kg/ha feeding with a suspension of macro- and micro-fertilizers at the rate of 60 kg/ha increased the average number of productive stems by 2.5 pieces, the length of the spike by 4.3 cm, the number of spikes in the spike by 7.5, and the number of grains in the spike by 23.4 allowed.

**Keywords:** Jasmina, mineral fertilizers, macro and micro-fertilizers, additional feeding, productivity indicators, stalk length, number of grains in the spikes, weight, etc.

### Introduction

Wheat is one of the most important agricultural crops, and more than half of the world's population uses wheat products. It is important to ensure the constantly growing demand of the population of the republic for grain crops, including wheat. That is why obtaining a plentiful and high-quality wheat crop is one of the important issues of strategic importance.

The yield of spring wheat is largely determined by the number of productive plant stems, the development of spikes, the number of spikes in an spike and the number of grains in it. Therefore, in crop breeding, if this trait is evaluated as elements of productivity, when developing elements of crop cultivation technology, it focuses on the development and implementation of measures aimed at increasing the number of productive plant stems.

According to scientists, in order to compensate for the lack of macro- and microelements in the grain fields of our republic, it is necessary to increase the



plant's resistance to adverse conditions and ensure high yields in exchange for proper and timely plant care. winter wheat in autumn, winter and spring [4].

It has been determined that the lack of nitrogen from mineral fertilizers during the cultivation of winter soft wheat from grain crops adversely affects the productive growth of plants, the number of grains per spike and the size of the spike per 1000 grain mass. Nitrogen deficiency, especially in the second half of the growing season, slows down the accumulation of protein in grain and worsens the quality of bread. At the same time, there is evidence in the literature that excessive fertilization with nitrogen fertilizers leads to the formation of a powerful vegetative mass of plants and a violation of the ratio of the root system to the aboveground mass, an extension of the growth period, plant dormancy, and a decrease in their resistance to fungal diseases [3].

According to the studies, it was noted that the length of the thorn in the control variants was 10 cm, and in the pendant ones - 12 cm, that is, the length of the thorn was 2 cm longer than in the control. At the same time, it was found that the number of thorns in the spike, the number of grains in the spike and the mass of the control variant are 8-17% less than in the experimental ones. The grain yield was 41.8 t/ha in the control variant and 54.4 c/ha in the suspension spraying variant [5].

Foliar top dressing with micro-fertilizers applied to the crop has a significant impact on plant height, the number of spikes per 1 m<sup>2</sup>, the length of the spike, the number of ears per spike, the number of grains, the weight of 1000 grains, the yield of grain and straw [7].

It is known that the morphobiological characteristics of plants, including the length of the spike, the number of cobs and grains in it, are important for obtaining a high yield of winter wheat. As a result of their quantity, planting time, planting rate, improper organization of feeding from cultivation technology, the above productivity indicators decrease, causing a decrease in yield.

One of the topical issues of the industry is the development of elements of an effective technology for growing winter wheat, including scientifically based norms and methods of nutrition of agricultural crops, taking into account the biological characteristics of varieties in the conditions of the republic.



**The purpose of the research** - is to study the effect of fertilizing with mineral fertilizers and micronutrient fertilizers during the growth period, except for root crops, on the productivity of winter wheat.

**Objects and methods of research.** The object of the study was a new variety of winter wheat Jasmina.

Field experiments were carried out in 2020-2022 at the Farboma Sselect farm in the Zhomboy district of the Samarkand region. The soils of the experimental plot are irrigated, the depth of water infiltration is 3-3.5 m, meadow-gray, medium-sandy in texture. In the studies, each plot has an area of 50 m<sup>2</sup> and is arranged in one tier and 4 rows.

Observations, calculations and analyzes in scientific research "Methodology for conducting field experiments" (UzPITI, 2007), phenological observations and biometric analyzes Methodology of the State Commission for testing crop varieties (1989), reliability of yield indicators obtained on the basis of experimental options and repetitions of B. A. Dospekhov were determined according to the "Methodology of the field experiment" (1985).

Sowing was carried out in the second decade of October at the rate of 5.0 million/ha of fertile seeds. The annual rate of phosphorus and potash fertilizers was given before sowing. Nitrogen fertilizers were applied in the spring during the tillering and tillering phases.

In experiments based on recommendations (1994), ammophos (N-11%, P 0.46%), potassium chloride (60%) and ammonium nitrate (34%) were used. In addition, SEAWEED Ca + Mg, MIKROMIX and MONBAND NPK20-20-20 + TE micronutrient fertilizers enriched with micro- and macro-elements were used in the phases of budding, tuberization and ear of plants.

In our studies, fertilizer rates were carried out in such options as control (fertilizer), N<sub>180</sub>P<sub>90</sub>K<sub>60</sub>, N<sub>180</sub>P<sub>90</sub>K<sub>60</sub>+SEA ALGAE Ca+Mg, N<sub>180</sub>P<sub>90</sub>K<sub>60</sub>+MICROMIX, N<sub>180</sub>P<sub>90</sub>K<sub>60</sub>+MONBEND NPK 20-20-20+TE.

**Results and their analysis.** Studies have shown that feeding plants with a complex of macro- and micro-fertilizers, in addition to fertilizers, increases the productivity of the Jasmina variety.

For example, compared with the control (non-sowing) variant, in the variant where N<sub>180</sub>P<sub>90</sub>K<sub>60</sub> + SEA ALGAE Ca + Mg was used, the number of productive





stems increased by 2.5 times, the length of the ear by 4.2 cm, the number of spikes in the spike by 7.4 and the number of grains in the spike by 24.8. The same results were obtained on the other preparations  $N_{180}P_{90}K_{60}$ +MICROMIX,  $N_{180}P_{90}K_{60}$ +MONBAND NPK20-20-20+TE. The average number of productive stems was 5.1 in the variant using the generally accepted fertilizer rate  $N_{180}P_{90}K_{60}$  kg/ha. The length of the spike compared to the variant treated with MONBEND NPK20-20-20+TE preparations, the length of the spike, the number of thorns in the spike and the number of grains in the spike is on average 0.2 less (table).

**Table Influence of mineral fertilizers and foliar feeding on the yield of the winter wheat variety Jasmina.**

t/r	Options	Biometric indicators of the Jasmine variety			
		Number of productive stems	Spike length, cm	Number of spikelets in an spike, pcs / spike	The number of grains in the spike, pcs.
1	Control (no fertilizer)	2,6+-0,2	5,3+-0,3	10,2±0,6	24,0±1,3
2	$N_{180}P_{90}K_{60}$ - background (generally accepted norm)	5,1+-0,3	9,4+-0,6	17,5±1,1	47,2±2,6
3	$N_{180}P_{90}K_{60}$ +SEAWEED Ca+Mg	5,1+-0,4	9,5+-0,5	17,6±1,1	48,8±2,5
4	$N_{180}P_{90}K_{60}$ +MIKROMIX	5,1+-0,3	9,5+-0,6	17,6±1,9	47,5±2,6
5	$N_{180}P_{90}K_{60}$ +MONBAND NPK20-20-20+TE	5,1+-0,4	9,6+-0,6	17,7±1,1	47,4±2,8

### Conclusion

Working with preparations consisting of area + MONBAND NPK 20-20-20 + TE through additional leaves on the winter soft wheat variety Jasmina in the norm  $N_{180}P_{90}K_{60}$  kg/ha, makes it possible to increase the length of the spike of plants, the number of spikelets in the spike and the number of grains in one spike.

## References

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