



GRAIN YIELD IN AUTUMN WHEAT PRODUCTION BASED ON ORGANIC FARMING

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Article history:		Abstract:
Received:	11 th August 2024	The article presents the results of research on growing winter wheat based on organic farming on sierozem soils of the Kashkadarya region. The yield of winter grain crops directly depends on the applied mineral or organic fertilizers. In the studies, the lowest grain yield (28.9 t/ha) was observed in the variant without fertilizing with mineral and organic fertilizers. 10 tons per hectare. from 30 tons. under the influence of organic fertilizers and various biostimulants, the grain yield changed to 35.8-47.3 t/ha. The highest grain yield was 54.5 t/ha in the variant (N180P90K60).
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THE DEGREE OF STUDY OF THE SUBJECT. Biological properties of soils are one of the most important indicators of mobilization of soil fertility reserves [1]. The favorable physical and chemical properties of the soil create good conditions for its biological activity. It is known that microorganisms perform an important function in the circulation of substances in the biosphere - they decompose and Mineralize organic substances in the soil and synthesize nitrogen compounds from air nitrogen [2, 3]. It has been found that the biological activity of the soil is directly related to moisture, temperature and its physicochemical properties, the amount of radiation energy that the soil receives from the number of microorganisms. The most powerful processes of decomposition of organic matter occur in the upper layer, where a large part of microorganisms, roots of plants and plant residues accumulate. So, mechanical cleaning measures have a significant impact on the biological activity of the soil [4, 5, 6]. The natural processes taking place in soils today cannot ensure further growth of agricultural crops.

RESEARCH OBJECTIVE. Development of The Agrotechnology of autumn wheat cultivation on the basis of organic farming in the conditions of irrigated light-colored peat soils of the southern region of the Republic.

RESEARCH METHODS. The research was carried out at the Central Experimental Farm of the Southern Agricultural Research Institute. In field experiments, various planting norms and mineral fertilizers were used in the cultivation of the "Diyar" and "Jahongir" varieties of sunflower. Soil samples for analysis were obtained according to the methods of " Методы агрохимических, агрофизических и микробиологических исследований в поливных хлопковых районах " (1963). Humus content I.V.Tyurine method (GOST-26213); nitrate nitrogen-ion selective method, GOST-13496-10; total nitrogen, phosphorus and potassium in a single sample I.M.Malseva, L.P. Gritsenko method; motile phosphorus in 1% ammonium carbonate solution B.P.Machigin method; p in alternating potassium flame photocalorimeter.V.In the Protasov method; water-soluble salts and dry residue in the generally accepted style, GOST-26423-85, PH was determined using a potentiometer in aqueous absorption. In field conditions, the density of the soil is 500 cm³ using a cylinder according to the Kachinsky method; the comparative mass is in the picnometric method; the porosity of the soil is in the calculation method; the water permeability of the soil is performed in the Kachinsky method. Field and laboratory experiments were carried out on the basis of the methodological Manual of the All-Russian Research Institute of Plant Sciences (1985). And phenological observations and biometric analysis were carried out according to the methodological Manual of the state commission for the testing of varieties of agricultural crops (1989).

In the studies, on the example of the Thanksgiving variety of autumn soft wheat, 10 tn, 15 tn, 20 tn, 25 tn and 30 tn of organic fertilizer (gung) per hectare were given, and during the growing season it was suspended with various biostimulants ("Gummigel", "Bioorganika" and "novoorganik") at the rate of 1 liter per hectare. On this basis, crop yields, grain quality and soil analysis are carried out, and the activities that should be carried out in organic farming are improved.

RESEARCH RESULTS. The main purpose of conducting any experiment is to focus on the maximum high and high-quality crop production from the crops being planted. According to the results of the carried out experiment, the yield of the Thanksgiving variety of autumn soft wheat was 28.9 centners in a variant in which control Hech was not given what fertilizers (Table 1).

10 tons of manure per hectare in the studies+biostimulator was 35.8 Centner higher in the applied variant or 6.9 Centner higher in the control variant, 32.8 Centner in the applied 15 tons of manure+biostimulator, or 9.3 Centner in the control variant, 2.4 Centner higher in the Applied 10 tons of manure+biostimulator, while the yield in the 20 tonne+biostimulator variant was 13.7 Centner tons of manure+6.8 centners compared to the option in which the biostimulator was applied, 15 tons of manure+ biostimulator was 4.4 Centner higher than the option used, while organic

fertilizers were applied 25 tons of manure+biostimulator per hectare, whereas in the variant the yield was 44.1 Centner, with 15.2, 8.3, 5.9, and 1.5 Centner higher than the one above, whereas in the case it was indicated that 30 tons of manure per hectare+tons of manure+11.5 centners compared to the option in which the biostimulator was applied, It was found to yield 9.1 centners per 15 tons of manure+biostimulant applied variant, 4.7 centners per 20 tons of manure+biostimulant applied variant, and 3.2 centners per 25 tons of manure+biostimulant applied variant.

Table 1.
The harvest of the Thanksgiving variety of autumn soft wheat

T/r	Options	Grain yield per returns, s / ga			
		1	2	3	medial
1	Control (without fertilizer)	29,8	27,5	29,5	28,9
2	30 tn/ga gung + 30 tn/ga gung + biostimulants	44,9	48,2	48,7	47,3
3	25 tn/ga gung + 30 tn/ga gung + biostimulants	45,4	41,9	45,0	44,1
4	20 tn/ga gung + 30 tn/ga gung + biostimulants	40,5	43,5	43,9	42,6
5	15 tn/ga gung + 30 tn/ga gung + biostimulants	39,3	36,3	39,0	38,2
6	10 tn/ga gung + 30 tn/ga gung + biostimulants	34,0	36,5	36,9	35,8
7	Default (N ₁₈₀ P ₉₀ K ₆₀)	56,1	51,8	55,6	54,5

In conclusion, it can be said that the grain yield of autumn bushy grain crops changes directly depending on the mineral or organic fertilizers provided. In studies, the variant not fed with mineral and organic fertilizers had the lowest grain yield (28.9 s/Ha). The grain yield changed from 10 tn to 30 tn per hectare under the influence of organic fertilizer and various biostimulants to 35.8-47.3 s/Ha. The highest grain yield was found to be 54.5 s/Ha in the andona (n180p90k60) Options.

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