

EFFECT OF MINERAL AND ORGANIC NUTRIENTS ON HOT PEPPER YIELD AND DIFFERENT SHOOT THICKNESS

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Abstract. A field experiment was conducted in order to determine whether it is possible to grow hot pepper under organic farming conditions in the saline soil of the central zone of the Republic of Karakalpakstan. In it, the effect of mineral, organic fertilizers and biostimulant on the yield of hot pepper was studied in different basic numbers (33.0, 50.0 and 66.0 thousand units). 49.7-55.6 c/ha and 63.1 c/ha when using organic fertilizers at the rate of 40 and 60 t/ha and an additional 2 l/ha of biostimulant provided to receive. In this case, the high indicator is observed when the base number is 50,000 units.

Key words: saline soils, organic farming, hot pepper, yield, number, mineral, organic fertilizers, biostimulant.

Introduction. Scientific research works on the development of pepper feeding technology in the conditions of saline soils of Karakalpakstan have not been carried out. Reducing the consumption of mineral fertilizers in feeding pepper, determining whether it is possible to grow products in organic farming, determining the application norms of organic fertilizers and the effect on the yield and growth of pepper, is of great importance in the current production.

Production of products under organic farming conditions has also been established in developed countries. It is of great importance to satisfy the people's demand for food and ensure food safety through the production of clean products.

Used methodological methods. The research was conducted in field and laboratory conditions, based on manuals.

The experiment consisted of 10 options, and in options 1-3 hot pepper was fed with mineral fertilizers in the amount of N100 P70 K50 kg/ha. It was fed only with organic fertilizer in the amount of 40 t/ha (var. 4-6) and organic fertilizer in the amount of 40 t/ha (var. 7-9) and an additional 2 l/ha biostimulant. Feeding with organic fertilizer in the amount of 60 t/ha and biostimulant in the amount of 2 l/ha (vari. 3) in each feeding mode, the basic number of hot pepper was 33.0, 55.0 and 66.0 thousand pieces.

The option field is 120, in three returns, the arrangement of options is in a systematic style.

Obtained results and their analysis. In recent years, growing food products under organic farming conditions, that is, providing people with ecologically clean products, is one of the important issues. We conducted a field experiment in 2022-2023 to study the cultivation of hot pepper variety "Said" in organic farming conditions in Nukus district of the Republic of Karakalpakstan in saline soil conditions. The mechanical composition of the soil of the experimental field is average, the level of salinity is average, the height of underground seepage is 1.6-2.0 m. Calculations and observations were made in order to determine the effect of the applied mineral and organic fertilizers and

additional biostimulants on the yield of hot pepper. Depending on the types of fertilizers used, the amount and methods of application, the yield of hot pepper was on average 44.5-63.1 q/ha. When applying mineral fertilizers N100 P70 K50 kg/ha (var. 1-3) with base numbers of 33.0, 50.0 and 66.0 thousand, base numbers of 33.0 and 66.0 thousand compared to last year, it was 4.2-5.9 q/ha more.

The yield is 46.0-51.9 q/ha when the original numbers of organic fertilizer are 33.0, 50.0 and 66.0 thousand units in the amount of 40 t/ha, and high productivity it was observed when the base number was 50.0 thousand, that is, it was 3.7 and 5.9 q/ha more than the base numbers were 33.0 and 66.0 thousand. When organic fertilizer was used in the amount of 40 t/ha (number 50 thousand), the yield was 1.5 q/ha more than when mineral fertilizer was used.

40 t/ha of organic fertilizer and 2 l/ha of biostimulant for additional foliar feeding were used in options 7-9 when the numbers were 33.0, 50.0 and 66.0 thousand pieces, the yield of hot pepper is 49.7-55.6 q/ha, in which the high yield is observed when the number is 50.0 thousand (55.6 q/ha), that is, the number is 33.0 and 66.0 more than 4.0 and 5.9 q/ha were obtained compared to a thousand pieces. It was 12.9 q/ha more than the control option where mineral fertilizer was used.

Hot pepper yield, q/ha

Variants	In 2022	In 2023	Average	Difference, ±	
				From mineral fertilizer	From biostimulant
1	47,5	45,0	46,2	00	
2	52,5	48,3	50,4	4,2	
3	45,5	43,5	44,5	-1,7	
4	49,0	47,5	48,2	2,0	00
5	54,1	49,8	51,9	5,7	00
6	47,0	45,0	46,0	-0,2	00
7	53,5	49,8	51,6	5,4	3,4
8	56,7	54,6	55,6	9,4	3,7
9	51,6	47,9	49,7	3,5	3,7
10	64,8	61,5	63,1	12,9	

Conclusion. It was found that additional feeding of hot pepper through leaf suspension during the growing season accelerated the development and flowering of pepper during the 5-6 leaf period.

In the soil-climatic conditions of the central region of the Republic of Karakalpakstan, on saline and low-productivity soils, hot pepper cultivation under organic farming conditions and to obtain a higher yield, organic fertilizer is added in the amount of 40 or 60 t/ha with additional biostimulant "Fitovak" should be used in the amount of 2 l/ha.

References:

1. Azimov B. The influence of planting schemes on the seed yield of hot pepper new varieties. "Agro science"-2017. #2 (46). - p. 15
2. Ibragimov M.Yu. Methods of cultivation of garden and farm products in the conditions of Karakalpakstan. Nukus. Karakalpakstan. 2009. -p. 166
3. B. Azimov., M. Yu. Ibragimov., B. B. Azimov. "Agrotechnology of Hot Pepper Cultivation in the Regions of the Republic of Karakalpakstan" (Methodical Guide). Nukus. Karakalpakstan. 2018. -p. 3
4. Sadikova S., Rakhmatov A., Rakhmanov J. Biological effectiveness of fungicides against phytophrotosis disease of hot pepper. "Agroilm"-2019. #6 (63). - p. 29