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THE INFLUENCE OF NITROGEN FERTILIZER APPLICATION ON BIOMETRIC AND ECONOMIC INDICATORS ON LIGHT GRAY SOILS

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Abstract
Today it is necessary to maintain and increase soybean fertility, selective sowing of early-maturing and high-quality grain varieties, setting standards and terms for feeding soybean varieties with mineral fertilizers.

Keywords:soybean, variety, fertilizer, term, rate, yield, soil, fertility, economic biometrics, frame productivity, nitrogen, phosphorus, potassium.

Аннотация:
Бугунги кунда тупроқ унумдорлигини сақлаш ва ошириш, тезпишар ҳамда дон сифати даражаси юқори навларни танлаб экиш, соя навларини маъдан ўғитлар билан озиқлантириш меъёрлари ва муддатларини белгилаш талаб қилинади.
Калит сўзлар: Соя, нав, ўғит, муддат, меъёр, экин, тупроқ, унумдорлик, иқтисодий биометрик, хўжалик кўрсаткичлари, самарадорлик, азот, фосфор, калий.
Аннотация: Сегодня необходим поддерживать и повышать плодородие почвы, селективный посев раннеспелых и высококачественных сортов зерна, установление нормативов и сроков подкормки сортов сои минеральными удобрениями.

Ключевые слова: Сои, сорт, удобрение, срок, норма, урожай, почва, плодородие, хозяйственная биометрия, производительнось хозяйства, продуктивность, азот, фосфор, калий.

At present, due to the fact that the norms of feeding soybean varieties with mineral fertilizers, which are recommended for planting in different soil and climate conditions, have not been developed on a scientific basis, the cultivated soybean grain does not fully meet the industrial requirements. In this regard, today it is necessary to determine the norms and terms of feeding soybean varieties with mineral fertilizers in different soil-climatic conditions of the Republic, to study irrigation regimes, to scientifically substantiate the influence of factors on the growth and development of soybeans, on productivity and grain quality indicators, to develop agrarian technology of cultivation taking into account biological characteristics. is being born.

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Kh. Atabaeva, M. Sattarov. stated that mineral fertilizers and sulfur had an effect on the size of the soybean grain and grain yield, and the grain weight in the control variant was 126.6 grams.
When applying 1.2 kg/ha sulfur to mineral fertilizers in meadow-swamp soils, compared to the control, an additional 11.2-18.4 ts/ha yield was ensured [1].
According to D. Yormatova, it is very important to carry out selection works in cooperation with scientists to create new local soybean varieties and to develop soybean breeding. [2].
Z. M. Kushmetov, M. K. According to Hamroeva's data, the root system of soybean varieties is well developed in moderately saline soils, the tap root penetrates the soil to a depth of 1.5-2 meters, but the root mainly develops in the arable part of the soil and forms a lot of lateral roots. [3].
N.S. Umarov, Sh.U. Usmanova stated that the soil layers are typical for an oasis and are swamp-type soils. [4].
In our ongoing research, each variety is experimented with nitrogen fertilizer in 5 options: option 1 without nitrogen fertilizer, option 2 with pure nitrogen fertilizer at 60 kg/ha, option 3 with pure nitrogen fertilizer at 90 kg/ha, option 4 with pure nitrogen fertilizer 90 kg/ha, option 5 was studied against the background of pure nitrogen fertilizer in the amount of 150 kg/ha, pure phosphorus fertilizer in the amount of 90 kg/ha, and pure potash fertilizer in the amount of 60 kg/ha.

Table 1 Testing system.

No	Varieties	Options	Mineral fertilizers in pure form, kg/ha			Under plowing or planting, during land preparation before planting, kg/ha		During the cultivation period, kg/ha	Flowering during podding period, kg/ha
			N	P	K	P	K	N	N
1	Tomaris Man-60	1	0	90	60	90	60	0	0
		2	60	90	60	90	60	20	40
		3	90	90	60	90	60	30	60
		4	120	90	60	90	60	40	80
		5	150	90	60	90	60	50	100
2	Oyjamol	1	0	90	60	90	60	0	0
		2	60	90	60	90	60	20	40
		3	90	90	60	90	60	30	60
		4	120	90	60	90	60	40	80
		5	150	90	60	90	60	50	100
3	Selection-201	1	0	90	60	90	60	0	0
		2	60	90	60	90	60	20	40
		3	90	90	60	90	60	30	60
		4	120	90	60	90	60	40	80
		5	150	90	60	90	60	50	100
4	Amigo	1	0	90	60	90	60	0	0
		2	60	90	60	90	60	20	40
		3	90	90	60	90	60	30	60
		4	120	90	60	90	60	40	80
		5	150	90	60	90	60	50	100

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100 percent of the specified annual rate of mineral fertilizers, phosphorus and potassium fertilizers, were given under plowing or during the preparation of the land before planting. 30-35% of the specified annual amount of nitrogenous fertilizer is given in the stage of sowing of soybeans, and the remaining 65-70% in the phases of full flowering and podding.

Analysis and Results

It was conducted at the experimental site of the Southern Agricultural Research Institute. According to the results of field experiments, the main stem height of soybean varieties at the end of the growing season was 51.4 cm in the control variant without nitrogen fertilizer in the Tomaris Man-60 variety, and 69.9 cm in the 2 variants with 60 kg/ha of nitrogen fertilizer. 80.7 cm in 3 options with nitrogen fertilizer 90 kg/ha, 89 cm in 4 options with 120 kg/ha nitrogen fertilizer, 99.5 cm with 150 kg/ha nitrogen fertilizer, 10.4-14.4 in the first legume crop according to options was cm. With the increase of nitrogen fertilizer rate by options, the change in plant height was 48.1 cm higher than the control in 5 options. It was observed that there was a difference of 4 cm in the location of the first pod on the stem among the variants.

When analyzing the weight of 1000 grains of grain grown according to experimental options, the average weight of 1000 grains in the control option without nitrogen fertilizer was 120.4 grams, in 2 options with 60 kg/ha of nitrogen fertilizer, it was 124.5 grams, in 3 options with 90 kg/ha of nitrogen fertilizer, it was 126 ,2 grams, 129.8 grams in 4 options with 120 kg/ha of nitrogen fertilizer, 130.6 grams in 5 options with 150 kg/ha of nitrogen fertilizer. It was determined that the weight of 1000 grains was 4.1-10.2 grams more in the fertilized variants compared to the control variant without nitrogen fertilization.

In the Oyjamol variety, the average height was 56.3 cm in the control option without nitrogen fertilizer, 79.9 cm in 2 options with nitrogen fertilizer at 60 kg/ha, 89.1 cm in 3 options with nitrogen fertilizer at 90 kg/ha, and nitrogen fertilizer at 120 kg/ha 99.2 cm in 4 options, 103.4 cm when nitrogen fertilizer was given at 150 kg/ha, and the first legume was 10.1-15.4 cm according to options. As nitrogen fertilizer rate increased across options, the change in plant height was 47.1 cm higher than the control in option 5. A difference of 5.3 cm was observed between the variants in the location of the first pod on the stem.

When analyzing the weight of 1000 grains of grain grown according to experimental options, the average weight of 1000 grains in the control option without nitrogen fertilizer was 109.2 grams, in 2 options with 60 kg/ha of nitrogen fertilizer, it was 112.5 grams, in 3 options with 90 kg/ha of nitrogen fertilizer, it was 115 .7 grams, 117.6 grams in 4 options with 120 kg/ha of nitrogen fertilizer, 118.4 grams in 5 options with 150 kg/ha of nitrogen fertilizer. It was determined that the weight of 1000 grains was 3.3-9.4 grams more in the fertilized variants than the control variant without nitrogen fertilization.

In the Selekta-201 variety, the average height was 39.9 cm in the control option without nitrogen fertilizer, 56.9 cm in 2 options with nitrogen fertilizer 60 kg/ha, 59.2 cm in 3 options with nitrogen fertilizer 90 kg/ha, and nitrogen fertilizer 120 kg/ha. 61.6 cm in 4 variants, 66.3 cm when nitrogen fertilizer was given 150 kg/ha, the first leguminous area was 10.1-13.5 cm according to variants. With the increase of nitrogen fertilizer rate by options, the change in plant height was 26.4 cm higher than

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the control in 5 options. It was observed that there was a difference of 3.4 cm in the location of the first pod on the stem among the variants.

Table 2 Effect of rates and periods of feeding soybeans with mineral fertilizers on biometric and economic indicators of varieties.

T/r	Varieties name	Varyants	The height of the main stem, cm	Number of horns, pcs	Place of the first pod, cm	1 bush number of pods, pcs	The number of grains in one pod, grain	1000 grain weight, g
1	Tomaris Man-60	1	51.4	2.7	10.4	83.4	1.5	120.4
		2	69.9	3.5	11.6	138.3	1.6	124.5
		3	80.7	3.9	12.6	168.5	1.7	126.2
		4	89	4.3	13.4	179	1.8	129.8
		5	99.5	4.8	14.4	193.1	1.9	130.6
2	Oyjamol	1	56.3	2.9	10.1	78.2	1.6	109.2
		2	79.9	3.5	11.3	127.7	1.9	112.5
		3	89.1	3.6	12.8	149.5	2.1	115.7
		4	99.2	4.4	14	172.1	2.2	117.6
		5	103.4	5.4	15.4	197	2.3	118.4
3	Selection-201	1	39.9	1.6	10.1	55.6	1.9	143.2
		2	56.9	3.2	11.1	89.9	1.9	145.7
		3	59.2	3.6	11.8	102.3	2	148.1
		4	61.6	3.9	12.4	120.2	2.1	149.7
		5	66.3	4.6	13.5	130.4	2.2	152.2
4	Amigo	1	36.5	2.5	10.9	50.4	1.3	128.4
		2	54.5	4.7	12	81.3	1.6	129.6
		3	58	5.3	12.8	94.4	1.7	130.3
		4	60.2	5.6	9.6	112.2	1.8	131.5
		5	63.5	5.9	13.5	121.3	1.9	132.7

When analyzing the weight of 1000 grains of grain grown according to experimental options, the average weight of 1000 grains in the control option without nitrogen fertilizer was 143.2 grams, in 2 options with 60 kg/ha of nitrogen fertilizer 145.7 grams, in 3 options with 90 kg/ha of nitrogen fertilizer 148 ,1 gram, 120 kg/ha of nitrogen fertilizer was 149.7 grams in 4 options, 152.2 grams in 5 options where 150 kg/ha of nitrogen fertilizer was given. It was determined that the weight of 1000 grains was 2.5-8.5 grams more in the fertilized variants compared to the control variant without nitrogen fertilization.

Amigo cultivar averaged 36.5 cm in the control option without nitrogen fertilization, 54.5 cm in 2 options with 60 kg/ha nitrogen fertilizer, 58 cm in 3 options with 90 kg/ha nitrogen fertilizer, and 58 cm in 4 options with 120 kg/ha nitrogen fertilizer. 60.2 cm, 63.5 cm when nitrogen fertilizer was given at 150 kg/ha, the first leguminous area was 10.9-13.5 cm according to options. With the increase of nitrogen fertilizer rate in the options, the change in plant height was 27 cm higher than the control in 5

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options. A difference of 2.6 cm was observed between the variants in the location of the first pod on the stem.

When analyzing the weight of 1000 grains of grain grown according to experimental options, the average weight of 1000 grains in the control option without nitrogen fertilizer was 128.4 grams, in 2 options with 60 kg/ha of nitrogen fertilizer, it was 129.6 grams, in 3 options with 90 kg/ha of nitrogen fertilizer, it was 130 .3 grams, 131.5 grams in 4 options with 120 kg/ha of nitrogen fertilizer, 132.7 grams in 5 options with 150 kg/ha of nitrogen fertilizer. It was determined that the weight of 1000 grains was 1.2-4.3 grams more in the fertilized variants than the control variant without nitrogen fertilization.

Conclusion

In the conditions of the light gray soil of Kashkadarya region, compared to the varieties of soybeans brought from abroad, the varieties created in local conditions grew better in the soil and climate conditions of the region.

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