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THE INFLUENCE OF VARIOUS AGROTECHNICAL FACTORS ON 1000 GRAIN MASS OF WINTER RYE VARIETIES

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Abstract:

In the conditions of light gray soils of the Kashakadarya region, the influence of sowing dates and norms, norms of mineral fertilizers on 1000 grains of winter rye varieties was studied and analyzed.

Keywords: Rye, variety, sowing date, sowing norm, mineral fertilizer rate, mass of 1000 grains, *«Ns Savo» ва «Вахшская 116».*

The role of agricultural crops in meeting the population's need for food products is incomparable. Rye, one of such agricultural crops, plays an important role in satisfying the population's need for grain and food and products useful for human health. Rye is an important nutritional crop, and its grain is used in the production of bread flour. Rye bread is considered an expensive food product, it has high calories and great taste. Rye has high winter resistance and requires little maintenance compared to wheat. [1-5].

creation of new varieties of rye in our country, as well as the development of modern agrotechnologies for the cultivation of varieties brought from abroad based on the climatic conditions of different regions, the production of high-quality and high-quality crops will ultimately provide the population with useful food productsprovision is an important issue today.

Our research was carried out at the experimental site of the Southern Agricultural Scientific Research Institute in the Karshi District, in the territory of Yakasha Omonov. in the research, planting varieties of autumn rye "Ns Savo" and "Vakhshskaya 116" in early (01-05.10) and middle (20-25.10) periods, planting 4.0; 5.0 and 6.0 million units/ha of mineral fertilizers and one absolute control (without fertilizer) and two $N_{200}P_{100}K_{75}$; Autumn rye varieties of norms $N_{240}P_{120}K_{90}$ kg/haA significant effect on the mass of 1000 grains was revealed.according to the data, the weight of 1000 grains of autumn rye varieties changed from 18.7 g to 30.9 g under the influence of the above-mentioned factors. including, in the experiments, the weight of 1000 pieces of grain of autumn rye varieties planted in the early period (01-05.10) was 20.0-30.9 g, while these indicators were 18.7-27.6 g in the middle period (20-25.10) of sowing. did

in the studies, the highest index of 1000 grain mass of autumn rye varieties, early planting period, 4.0 mln. pieces/ha norm and N240P120K90 kg/ha norm of mineral fertilizers were used in the 3rd variant "Ns Savo" variety 30.9 g. , and the lowest values are in the middle period of planting, 6.0 per hectare in the 16th option, where the rate of million seeds and mineral fertilizers were not applied (control), the variety "Vakhshskaya 116" was found to be 18.7 g or 12.2 g less (Table 1).

according to the analysis, the increase in the planting rate (4.0, 5.0 and 6.0 million units/ha) led to a decrease in the mass of 1000 grains of autumn rye varieties inversely proportional to the planting rates. also, as a result of increasing the planting rate to 6 mln. pieces/ha, the plants were dormant, and the negative effect on the mass of 1000 pieces of grain increased even more.

in this case, the mass of 1000 grains of autumn rye varieties is 21.9-30.9 g, at the rate of 5.0 million pieces/ha, 21.0-28.1 g or 0.6-5.4 g, and at the rate of 6.0 million pieces/ha, 20.0-24.8 g or 2.0-6.1 g to 4.0 million pieces/ha was less than the normand when planting is carried out in the medium term, the mass of 1000 grains is 20.6-27.6, in accordance with the planting standards; 19.9-26.9; 18.7-24.0 g. compared to the norm of 4.0 million pieces/ha, at the rate of 5.0 million pieces/ha, the indicators are 0.5-0.9 g. It is 1.8-3.5 g less per hawas determined.

Table 1
Influence of various agrotechnical factors on the weight of 1000 grains of autumn rye varietie

№	Varieties	Planting rate	mineral fertilizer standards, kg/ha	Mass of 1000 grains, g	
				early period (01-05.10)	mid term (20-25.10)
1	"NS Savo"	4,0 млн.дона/га	control (no fertilizer)	22,7	21,3

2			$N_{200}P_{100}K_{75}$	28,7	26,0
3			$N_{240}P_{120}K_{90}$	30,9	27,6
4		5,0 млн.дона/га	control (no fertilizer)	21,7	20,7
5			$N_{200}P_{100}K_{75}$	28,1	25,1
6			$N_{240}P_{120}K_{90}$	25,5	26,9
7		6,0 млн.дона/га	control (no fertilizer)	20,7	19,6
8			$N_{200}P_{100}K_{75}$	24,1	23,1
9			$N_{240}P_{120}K_{90}$	24,8	24,0
10	"Vakhshskaya 116"	4,0 млн.дона/га	control (no fertilizer)	21,9	20,6
11			$N_{200}P_{100}K_{75}$	28,1	25,2
12			$N_{240}P_{120}K_{90}$	30,0	26,3
13		5,0 млн.дона/га	control (no fertilizer)	21,0	19,9
14			$N_{200}P_{100}K_{75}$	26,9	24,4
15			$N_{240}P_{120}K_{90}$	25,0	25,8
16		6,0 млн.дона/га	control (no fertilizer)	20,0	18,7
17			$N_{200}P_{100}K_{75}$	23,7	22,6
18			$N_{240}P_{120}K_{90}$	24,2	23,3

In our studies, mineral fertilizer ($N_{200}P_{100}K_{75}$; $N_{240}P_{120}K_{90}$ kg/ha) norms had a positive effect on the grain mass of 1000 units of autumn rye varieties. it was found that the mass of 1000 grains was significantly higher in the options with mineral fertilizer standards compared to the option in which mineral fertilizers were not applied at all (control).

for example, early planting period, according to the planting norms, in the variant where no mineral fertilizer was applied (control), the variety of autumn rye "Ns Savo" had a grain mass of 1000 grains 20.7-22.7 g, in the variant with the norm of mineral fertilizer $N_{200}P_{100}K_{75}$ kg/ha, the indicators were 24.1 -28.7 g., the rate of mineral fertilizer $N_{240}P_{120}K_{90}$ kg/haand when applied it was 24.8-30.9 g., these indicators are proportionately 19.6-21.3 in the middle period of planting; 23.1-26.0; It was 24.0-27.6 g. in this case, compared to the non-applied (control) variant, when the rate of mineral fertilizer $N_{200}P_{100}K_{75}$ kg/ha is used, the mass of 1000 grains is 3.4-6.3 g, when the rate of mineral fertilizer $N_{240}P_{120}K_{90}$ kg/ha is used, it is 3.7-8.2 g ., the results of this comparison are in the middle period of planting, mineral fertilizer3.5-4.7 and 4.5-6.2 g increased according to the standards.The results of the study were carried out on the variety of autumn rye "Vakhshskaya 116". .in this case, the mass of 1000 grains was 20.0-21.9 g in the case of the early planting period, according to the planting standards, in which mineral fertilizers were not applied (control), and in the case of the application of mineral fertilizers ($N_{200}P_{100}K_{75}$; $N_{240}P_{120}K_{90}$ kg/ha), the indicators were 23.7- 28.1 g and 24.2-30.0 g., the average time of planting is aboveindicators are 18.7-20.6, respectively; 22.6-25.2; 23.3-26.3; formed g.in this case, in the early period of planting 1000 grain mass, compared to the option without mineral fertilizer (control), when mineral fertilizer ($N_{200}P_{100}K_{75}$; $N_{240}P_{120}K_{90}$ kg/ha) norms are used, by 3.7-6.1 g and 4.0-8.0 g, it was found to be 3.8-4.6 g and 4.6-5.9 g more in the middle period of planting.

According to the results of the analysis, it was found that there is an influence of the biological properties of autumn rye varieties on the mass of 1000 grains. Among autumn rye varieties, "Ns Savo" variety showed superiority over "Vakhshskaya 116" variety in terms of 1000 grain mass in all options. that is, it was determined that the mass of 1000 grains was 0.4-1.2 g higher than that of "Vakhshskaya 116" variety.

Summing up from the results of the research, in the conditions of light gray soils of Kashkadarya region, the optimal sowing period (early 01-05.10) of autumn rye varieties "Ns Savo" and "Vakhshskaya 116", (5.0 million pieces/ha) and optimal mineral fertilizers ($N_{200}P_{100}K_{75}$ kg/ha) by feeding with high andan opportunity to obtain a quality grain crop is created.on the other hand, in exchange for increasing the planting rate to 6.0 million units/ha and the mineral fertilizer rate to $N_{240}P_{120}K_{90}$ kg/ha, grain quality and yield indicators will decrease due to the dormancy of autumn rye plants.

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