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The Number of Grains, The Number of Seeds in the Grains, The Mass and the Weight of 1000 Grains in the Peanut Plant

Mahmudov Utkir Haydarovich

Doctor of Philosophy in Agriculture, Southern Agricultural Research Institute

Khalikov Bakhodir

Doctor of Science in Agriculture, Professor, Southern Agricultural Research Institute

A B S T R A C T

This article describes the results obtained from the variants in which the number of legumes per bush is lower (180 and 230 thousand), with an increase in the planting norms of peanuts (280 and 330 thousand) in the light gray soils of Kashkadarya region.

A R T I C L E I N F O

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Relevance of the topic. At present, the world pays special attention to scientific research to increase the yield of peanuts. Research is needed to determine the timing and norms of sowing these crops, increase yields and grain quality, meet the demand of the population for oilseeds, determine the timing of sowing peanuts and provide norms for sowing seeds.

Research methods. Field and laboratory studies, plant biometric and phenological observations, and soil analysis were performed on the basis of methodological manuals such as “Methodology for State Variety Testing of Agricultural Crops”, "Methods of Agrochemical Analysis of Soils and Plants", "Methods of Agrophysical Research", "Methodology for Research with Leguminous Crops", "Basic Provisions for Determining the Economic Efficiency of Using the Results of Scientific Research Works, New Techniques and inventions, rationalization proposals", and statistical analysis of experimental results was performed using the B.A.Dospekhov method.

E-mail address: info@researchparks.org

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The results of the research. It is known that the number of pods of replanted peanuts, the number of grains in pods, the mass and weight of 1000 grains are affected by soil-climatic conditions, planting time and norms, as well as many other factors.

According to N.Yodgorov and K.Turakulov, in the conditions of irrigated light gray soils of Kashkadarya region, it is possible to plant more than 10 agricultural crops as a secondary crop after winter wheat and get high and abundant yields from them.

Research by M.Bell has studied the effect of planting times on the number of pods per plant, and found that late planting of peanut varieties shortens the ripening period, which in turn leads to a decrease in pods, resulting in lower yields.

According to the experimental data obtained in 2020, it was observed that the number of grains of peanuts, the number of seeds in the grains and the mass of 1000 seeds affected the plant planting norms and timing. According to the data obtained, the sowing rate of peanuts in the 1st sowing period was 180 and 230 thousand seeds per hectare, the number of pods per bush was 5.5 and 4.7 on August 15, 22.5 and 29.2 on September 1, 30.1 and 34.9 units on September 15, respectively, of which the number of ripe grains was 25.1 and 26.9, the number of unripe grains was 5 and 8, the number of seeds per plant was 64.0 and 54.6, the mass of seed per plant was 12,547 grams and 10,702 grams, the weight of 1000 seeds was 510.1 grams and 510.2 grams, respectively.

When sowing norms are increased to 280 and 330 thousand seeds per hectare, the number of pods per bush was 5.2 and 5.1 on August 15, 29.8 and 29.4 on September 1, 37.2 and 34.3 units on September 15, respectively, of which the number of ripe grains was 31.2 and 23.3, the number of unripe grains was 6 and 11, the mass of seed per plant was 9,632 grams and 7,971 grams, the weight of 1000 seeds was 510.8 grams and 510.6 grams, respectively. It can be seen that with the increase in sowing norms of peanut (280 and 330 thousand pieces), the number of grains per bush plant was 4.2-7.1 more than the variants with low planting norms (180 and 230 thousand pieces), but it was found that the number of grains per bush was 14.8-20.3 grains, the grain mass per plant was 3,025-5,287 grams, and the mass of 1000 grains was 0.4-0.7 grams less.

Similar patterns were observed in planting norms when peanuts were planted between 5 and 15 July, only the results were higher when peanuts were planted late and higher than those planted early. For example, the number of grains per bush was 2.6-10.3 in late sowing compared to early sowing, the number of seeds per bush was 4.2-4.5, the mass of seeds per bush was 1.199-1.484 grams, and the mass of 1000 grains was 0.4-0.7 grams more.

Table 1

The number of grains of peanuts, the number of seeds in the pod, and the mass of 1000 seeds, 2020

Option №	Crop types	Sowing dates	Sowing rate ha/thousand pieces	Number of grains per bush, pcs					Number of seeds per plant, pcs	Seed mass per plant, g	1000 seed weight, g
				August 15	September 1	September 15	Ripe	Unripe			
1	Peanut	June 25-July 7	180	5,5	22,5	30,1	25,1	5	64,0	12,547	510,1
2			230	4,7	29,2	34,9	26,9	8	54,6	10,702	510,2
3			280	5,2	29,8	37,2	31,2	6	49,2	9,632	510,8
4			330	5,1	29,4	34,3	23,3	11	40,7	7,971	510,6
5		July 5-July 15	180	5,2	29,5	34,5	28,5	6	68,2	13,359	510,5
6			230	4,7	29,3	37,5	30,5	7	59,1	11,577	510,5
7			280	5,5	34,5	47,5	39,5	8	52,6	10.210	515,2
8			330	5,1	32,4	40,0	30,0	10	42,7	8,304	514,2

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Conclusion. In the light gray soils of Kashkadarya region, with the increase in the sowing norms of peanuts (280 and 330 thousand pieces), the number of legumes per bush was 4.2-7.1 more than the variants with low sowing norms (180 and 230 thousand pieces), and it was found that the number of grains per bush was 15.4-16.7 grains, the grain mass per plant was 3.025-3.287 grams, and the grain mass per 1000 grains was 0.4-0.7 grams less.

It was observed that when peanuts were planted late, the results were higher than those planted early. For example, the number of legumes in a bush plant is 2.6-10.3 grains in late sowing compared to early sowing, the number of grains in a bush plant is 1.4-4.9 grains, the mass of grain in a bush plant is 0.199-0.484 grams, 1000 grains mass was found to be more than 0.4–4.7 g.

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