International Journal of Biological Engineering and Agriculture
ISSN: 2833-5376
Volume 03 Number 01 (January) 2024
Impact Factor: 9.51
SJIF (2023): 3.916

www.inter-publishing.com

Optimum Seedling Thickness of Soybean Varieties of Different Planting Methods and Tillage between Rows

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ABSTRACT

As a result of cultivation of "Nafis" and "Selekta 201" varieties of soybeans in the 60x8x2 scheme, 16-18 cm deep between the rows and 18-20 cm deep between the rows in the 70x8x2 scheme, the optimal seedling thickness is determined to be 320-334 and 361-379 plants per hectare, improving the water permeability of the soil, it was found that the porosity, volume mass and the amount of humus in the driving and sub-driving layers were improved.

KEYWORDS: Soybean, "Nafis", "Selekta-201", vegetation, seedling thickness, water permeability, inter-row cultivation, 60x8x2 planting scheme, 70x8x2 planting scheme.

Introduction. As a repeated crop, it is possible to obtain a high yield from the soybean plant, to achieve an optimal seedling thickness, and to achieve a high yield with proper and timely implementation of agrotechnical measures.

Vegetative growth and development of soybean plant depends on the variety of the crop, the soil and climatic conditions of the place where the plant is planted, as well as the timely implementation of proper agrotechnological measures in care [2].

According to B. Khalikov and F. Namozov, in the soil and climate conditions of our Republic, it is possible to plant agricultural crops throughout the year and get two or three harvests [1].

N.G.Yodgorov, K.H.Torakulovs stated that in the options planted on 5.07 as a repeated crop, the yield is in the range of 15.8-22.1 ts/hectare, the highest yield is 22.1 ts/ha, seedling thickness is 300,000 plants per hectare, the most low yield of 15.8 t/ha was observed in the option with 200,000 plants per hectare [3].

According to the research results of E.I.Ratner, it was noted that ensuring the participation of phosphorus fertilizers in nitrogen accumulation of leguminous bacteria in this process, planting the plant in early periods and paying close attention to seedling thickness will give positive results [4].

According to the research results of U.Mahmudov and B.Khalikov, in the conditions of light colored gray soils of Kashkadarya region, the seedling thickness decreased from 4,000 to 12,500 pieces per hectare with the increase of planting standards in the soybean plant cultivated as a repeated crop. 37-40 days after planting, and 52-57 days after pod formation. It was noted that humus, nitrogen, phosphorus and potassium increased significantly in both 0-30 and 30-50 cm layers of the soil with the increase in soybean planting rates. In the studies, in the 15th-16th options, where the sowing rate of soybeans is 300 and 350 thousand pieces per hectare from June 5 to June 15, the agrochemical indicators of the soil are humus 0.03%, nitrogen 0.036% to 0.04%, phosphorus 0.020% to 0.010% compared to the beginning of the period. %, increased potassium by 0.04%, nitrate nitrogen by 0.2-0.4 mg/kg, mobile phosphorus by 0.4-1.2 mg/kg, tt was found that it decreased to exchangeable potassium by 0.1-0.5 mg/kg [5, 6.].

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Materials and Methods. The experiment consists of 14 options and is carried out in one layer in 3 repetitions. The row spacing is 70 cm, the row length is 40 m, the area of each option is (0.7m*4)*40=2.80*40=112m2, from which 56 m2 is taken into account, the row spacing is 60 cm, the row length is 40 m, the area of each option is (0.6m*4)*40=2.40*40=96m2, of which 48m2 is taken into account. It was placed on a total area of 0.6 hectares.

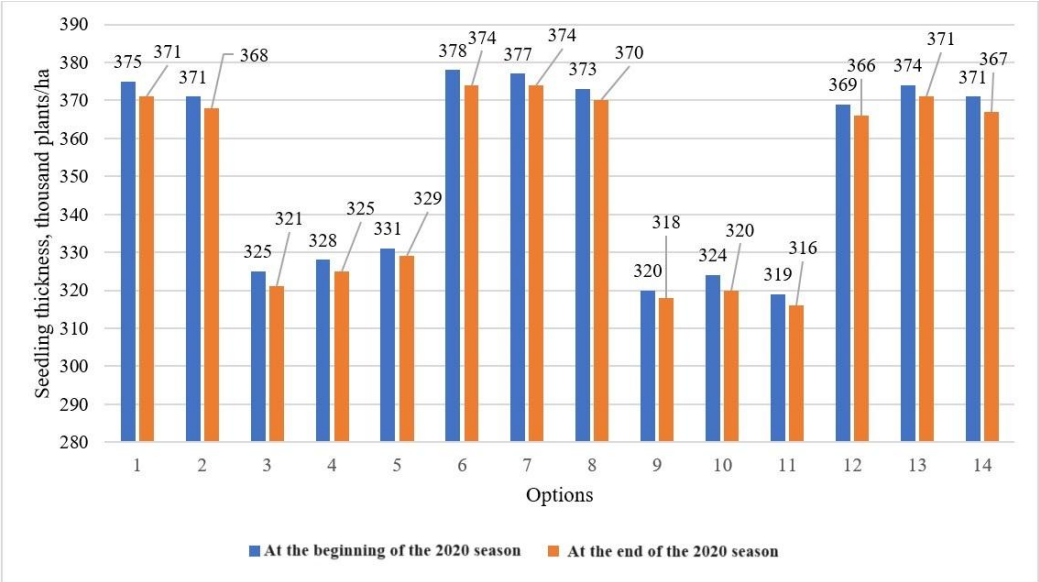
Results and Discussion. In the course of our research, it was observed that in the control option maintained in the 60x8x2 scheme on June 26, 2020, the thickness of seedlings was 375 thousand plants/ha at the beginning of the season, and 371 thousand plants/ha at the end of the period. It was observed that in the control option with 70x8x2 scheme, the thickness of seedlings was 371,000 plants/ha at the beginning of the season, and 368,000 plants/ha at the end of the period.

In the 60x8x2 scheme and 12-14cm depth between the rows, in the "Nafis" variety of soybean, in the 3rd option, the seedling thickness was 325,000 plants/ha at the beginning of the season and 321,000 plants/ha at the end of the operation period, "Selekta 201" variety in the 6th option was 378,000 plants/ha at the beginning of the season. It was observed that at the end of the effective period, it was 374 thousand plants/ha. The 70x8x2 scheme of the "Nafis" variety maintained in the 10th option was 324,000 plants/ha at the beginning of the season, and 320,000 plants/ha at the end of the operation period. and it was observed that it was 371 thousand plants.

In the future, it is a process directly related to the growth and development of the soybean plant, the collection of crops and the obtained seedlings.

After the soybean sprouts fully matured, 17-25 soybean plants were left in 16.6 pagonameters in the 60x8x2 scheme, and 17-25 soybean plants were left in 14.3 pagonameters in the 70x8x2 scheme.

In the 60x8x2 and 70x8x2 schemes, the number of plants decreased from the beginning of the season to the end of the season by an average of 2-4 thousand plants/ha. One of the reasons for this is inter-row cultivation, daily temperature, relative air humidity, soil moisture and the influence of internal factors. can be Data (see Figures 1, 2, 3). The results of the research in 2020-2022 are shown in Figures 1, 2, 3.



Optimum seedling thickness of soybean varieties of different planting methods and tillage between rows (2020)

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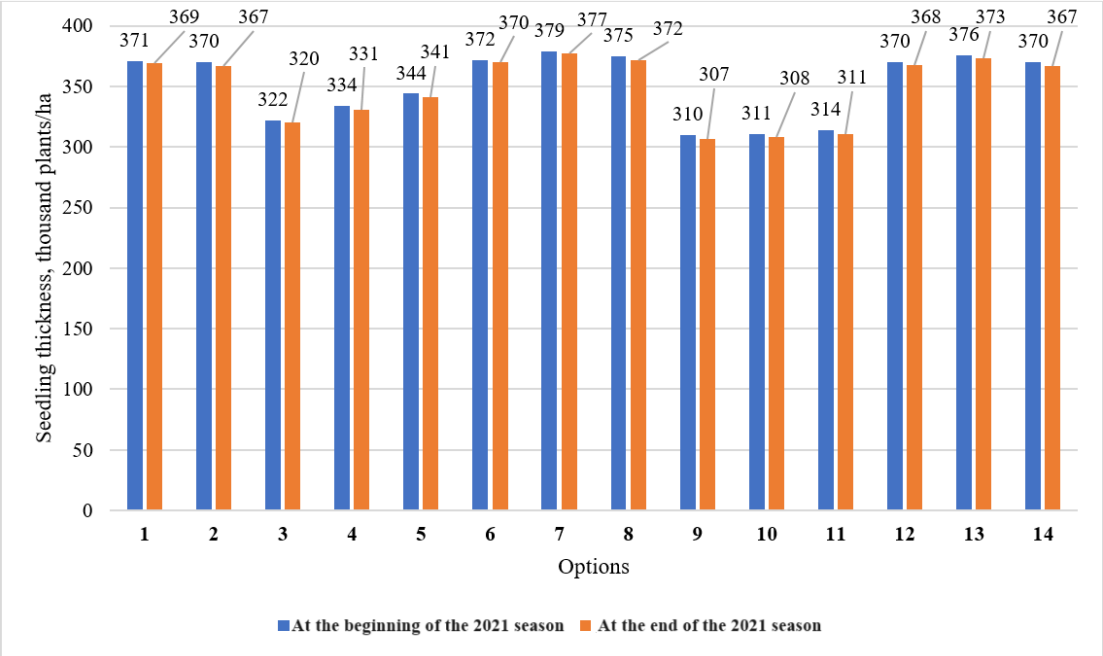
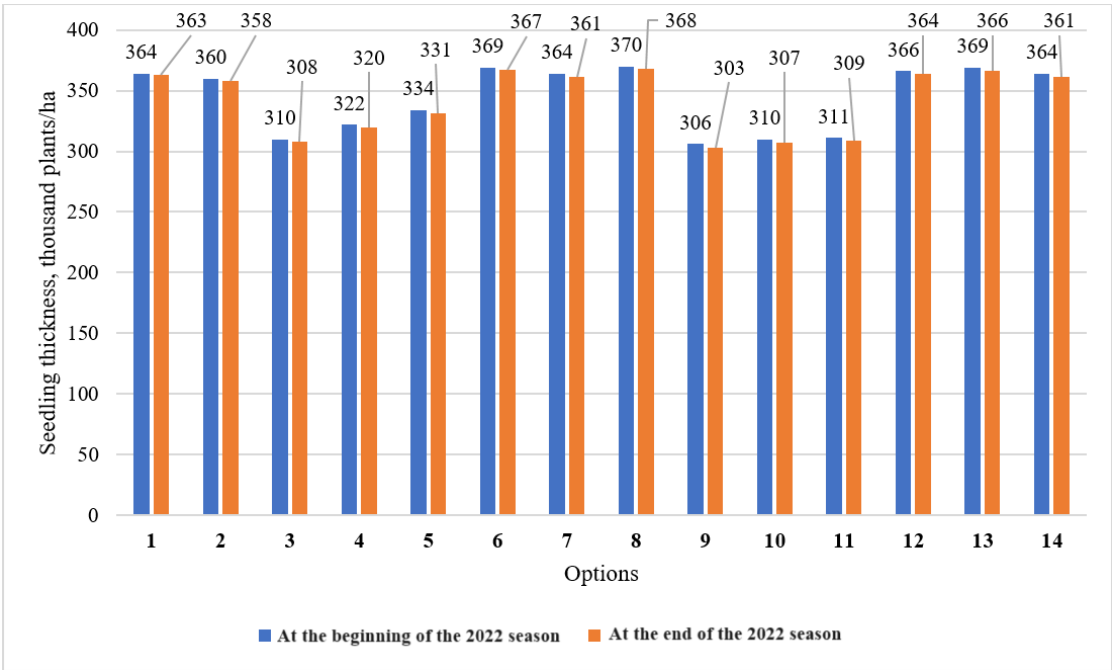


Optimum seedling thickness of soybean varieties of different planting methods and tillage between rows (2021)



Optimum seedling thickness of soybean varieties of different planting methods and tillage between rows (2022)

Conclusion. Our 3-year research has shown that the optimal seedling thickness is achieved in the first variety and scheme and in depth processing in the treatment of soybean varieties "Nafis" and "Selekta 201" at a depth of 16-18 cm between the rows in the 60x8x2 scheme and 18-20 cm between the rows in the 70x8x2 scheme. As a result of setting 320-334 plants and 361-379 plants per hectare in the second variety, it is possible to observe improvement of soil water permeability, porosity, volume mass and humus content in plowed and under-plowed layers.

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