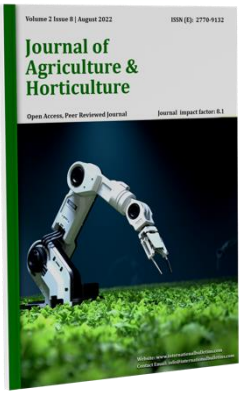

VEGETATIVE DEVELOPMENT OF SOYBEAN VARIETIES IN THE PLANTING METHODS AND TILLAGE BETWEEN ROWS

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Abstract. When "Nafis" and "Selekta-201" varieties of soybeans are cultivated in 60x8x2 and 60x8x2 schemes with a row spacing of 16-18 cm and a depth of 18-20 cm, the best stem height of soybeans is 112.2 - 114.5 cm in "Nafis" variety, 115.0 - 116.0 cm in the "Selekta-201" variety, 110.0 - 112.5 cm in the "Nafis" variety and 112.0 - 114.0 cm in the "Selekta-201" variety in the 70x8x2 scheme, 58.0 in the 60x8x2 scheme according to the number of pods on the stalk from 50.1 to 55.5 pcs in the "Selekta-201" variety, from 50.1 to 56.0 pcs in the "Nafis" variety in the 70x8x2 scheme, and from 50.1 to 55.0 pcs in the "Selekta 201" variety was determined.

Key words: *Soybean, Nafis, Selekta-201, vegetation, height of main stem, productivity, inter-row cultivation, 60x8x2 planting scheme, 70x8x2 planting scheme.*

Introduction. In the world today, as the main crop, leguminous grain crops are planted on an area of 91.6 million hectares, the average grain yield is 12.0 t/ha, and the total yield is 206.4 million tons. Vegetative growth and development of the soybean plant depends on the type of 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].

Sh.R.Ubaydullaev, M.Kh.Hakimova, S.Sh.Khodieva stated that tillage of the lands freed from winter wheat to a depth of 14-18 cm affects the entire vegetation period of the soybean, the average grain yield is 11.6 centners per hectare, the field is 16-18 it was 12.9 ts in the version plowed at a depth of cm [3].

According to O. Yakubjonov, S. Tursunov and Z. Muqimjonov, soybeans go through phases during the vegetation period, i.e., germination, the formation of three leaves, budding, flowering and fruiting, wax ripening and full ripening, and nutrients are divided into each phase of development. demand is different [4].

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=112m^2, from which 56 m^2 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=96m^2, of which 48m^2 is taken into account. It was placed on a total area of 0.6 hectares.

Results and Discussion. In our research conducted in 2020, as of August 1, it was observed that the height of the main stem of the variety "Uzbek-6" was 21.5 cm in the 1st option, while the height of the "Nafis" variety was also 21.5 cm in the 4th option, which was

processed to a height of 16-18 cm per row interval. In the option "Selekta-201" it was observed that it was 21.8 cm, and if we compare the number of joints of the plant in these options, it can be seen that there are 5.2 : 5.2 : 5.3 pieces.

In the varieties "Uzbek-6", "Nafis" and "Selekta-201" grown in the 70x8x2 scheme, the height of the main stem was 21.2 cm in the 2nd option, 21.6 cm in the 10th option and 21.4 cm in the 13th option, respectively. It was observed that the number of joints in these options was 5.1 : 5.2 : 5.3.

By September 1, when the height of the main stem was measured according to the 60x8x2 scheme, the "Uzbek-6" variety was 85.4 cm in the 1st option, the "Nafis" variety was 89.5 cm in the 4th option, and the "Selekta-201" variety was 89.6 cm in the 7th option. It was observed that the number of joints in these options was 12.0 : 14.3 : 14.0 pcs and the number of pods was 39.5 : 42.5 : 43.5 pcs.

In the varieties "Uzbek-6", "Nafis" and "Selekta-201" grown in the scheme of 70x8x2, the height of the main stem was the best indicators according to the varieties: 87.5 cm in the 2nd option, 89.1 cm in the 10th option and 89.7 cm in the 13th option. It was observed that the number of joints in these options was 13.5 : 13.5 : 14.0 pcs and the number of pods was 41.5 : 42.0 : 42.5 pcs.

As of October 1, the best indicators for the height of the main stem according to the 60x8x2 scheme are "Uzbek-6" variety 108.8 cm in the 1st option, "Nafis" variety 112.2 cm in the 4th option, "Selekta-201" variety 115.0 cm in the 7th option and it was observed that the number of pods was 56.5 : 59.1 : 50.1 according to the options.

According to the scheme of 70x8x2, the best indicators in terms of stem height are "Uzbek-6" variety 110.0 cm in the 2nd option, "Nafis" variety 112.5 cm in the 10th option, "Selekta-201" variety 113.0 cm in the 7th option and pods and it was observed that the number was 58.0 : 50.1 : 50.1 according to the options.

In our research on depth tillage for row spacing, the best stem height of varietie of soybean grown in the 60x8x2 scheme on October 1 was 114.5 cm in the "Nafis" variety in the 1st option, 116.0 cm in the 7th option in the varietiy "Selekta-201" variety, and 70x8x2 scheme it was 110.0 cm in the 10the option in the variety "Nafis" and 114.0 cm in the variety "Selekta-201" in the 13the option, and according to the number of pods on the stem, 59.5 pieces in the 4the option and 55.5 pieces in the 7the option were processed to a depth of 16-18 cm in the 60x8x2 scheme, 56.0 pieces in the 10th option and 55.0 pieces in our the 13th option, processed to a depth of 18-20 cm per row interval in the 70x8x2 scheme. The results of the 2020 study are in Table 1.

Table 1

Growth and development soybean plant (2020 year)

№	1.08		1.09			1.10		The number of grains in one pod, grain	Grain mass in one pod, g	Mass of 1000 grains, g
	Head stem height, cm	The number of joints, piece	Head stem height, cm	The number of joints, piece	Number of pods, pcs	Head stem height, cm	Number of pods, pcs			
1	21,5	5,2	85,4	12,0	39,5	108,8	57,5	2,3	0,35	120
2	21,2	5,1	87,5	13,5	41,5	110,0	58,0	2,2	0,37	121
3	20,0	5,0	89,0	14,0	41,0	104,6	58,4	2,3	0,36	121
4	21,5	5,2	89,5	14,3	42,5	112,2	59,1	2,7	0,38	123
5	20,5	5,0	88,0	13,0	40,5	100,5	49,0	2,1	0,32	120
6	21,2	5,1	87,5	13,5	41,0	101,5	46,5	2,3	0,34	120
7	21,8	5,3	89,6	14,0	43,5	115,0	50,1	2,4	0,31	122
8	20,4	5,1	87,0	13,0	41,5	103,5	49,0	2,1	0,32	121
9	20,3	5,0	88,0	13,0	40,5	109,5	49,0	2,1	0,32	120
10	21,6	5,2	89,1	13,5	42,0	112,5	50,1	2,4	0,31	123
11	21,3	5,0	87,3	12,5	40,0	100,5	46,5	2,3	0,34	121
12	21,5	5,2	85,5	12,0	39,5	102,0	49,5	2,4	0,30	120
13	21,4	5,3	89,7	14,0	42,5	113,0	50,1	2,4	0,31	122
14	21,1	5,1	86,1	13,5	40,0	108,5	46,5	2,3	0,34	120

Table 2

Growth and development soybean plant (2021 year)

№	1.08		1.09			1.10		The number of grains in one pod, grain	Grain mass in one pod, g	Mass of 1000 grains, g
	Head stem height, cm	The number of joints, piece	Head stem height, cm	The number of joints, piece	Number of pods, pcs	Head stem height, cm	Number of pods, pcs			
1	21,5	5,1	86,0	12,0	38,5	109,0	58,5	2,1	0,36	120
2	22,2	5,0	86,5	12,5	39,5	110,5	58,0	2,0	0,37	120
3	21,0	5,1	88,5	13,0	39,0	110,5	58,0	2,1	0,36	120
4	22,5	5,3	89,0	14,5	42,0	114,5	59,5	2,5	0,38	122
5	21,5	5,0	88,5	12,0	39,5	108,5	49,5	2,3	0,35	110
6	22,2	5,1	86,0	13,0	40,0	105,5	47,5	2,4	0,36	111
7	22,8	5,2	88,5	14,0	43,0	116,0	55,5	2,5	0,38	120
8	21,5	5,1	86,5	12,0	40,0	100,5	48,0	2,0	0,30	115
9	21,0	5,1	87,5	12,5	41,0	109,0	49,5	2,1	0,32	115
10	22,5	5,3	89,5	14,5	42,5	110,0	56,0	2,4	0,37	125
11	22,0	5,0	86,0	13,5	40,5	107,5	47,5	2,2	0,34	115
12	22,5	5,0	85,0	12,5	39,0	105,0	48,0	2,0	0,33	115
13	22,5	5,2	89,0	14,5	42,5	114,0	55,0	2,4	0,36	121
14	20,0	5,1	86,5	13,0	40,5	106,0	45,0	2,0	0,34	115

Table 3

Growth and development soybean plant (2022 year)

№ Bap	1.08		1.09			1.10		The number of grains in one pod, grain	Grain mass in one pod, g	Mass of 1000 grains, g
	Head stem height, cm	The number of joints, piece	Head stem height, cm	The number of joints, piece	Number of pods, pcs	Head stem height, cm	Number of pods, pcs			
1	20,5	4,5	80,0	12,0	38,5	105,5	55,5	2,2	0,34	119
2	21,0	4,0	82,0	12,5	38,5	110,0	56,0	2,2	0,35	120
3	21,0	5,0	82,5	12,0	40,0	110,5	56,0	2,1	0,34	120
4	21,5	5,0	85,0	13,5	41,0	114,5	58,0	2,5	0,37	122
5	21,0	4,0	82,0	13,0	39,0	105,5	54,0	2,0	0,32	118
6	21,0	4,5	82,5	13,0	40,0	106,5	56,5	2,2	0,34	118
7	21,0	5,5	85,5	14,0	42,5	115,5	52,0	2,5	0,34	121
8	21,5	5,0	82,0	13,0	41,0	105,5	55,0	2,2	0,30	119
9	21,5	4,5	82,0	12,0	40,5	110,0	54,0	2,2	0,32	118
10	22,5	5,0	85,0	13,0	42,5	112,5	52,0	2,4	0,35	122
11	22,0	4,5	82,0	12,0	40,5	105,5	50,5	2,4	0,32	120
12	21,5	4,5	82,5	12,5	40,0	110,0	50,5	2,2	0,33	120
13	22,5	5,0	84,0	14,0	42,0	112,0	50,1	2,4	0,34	122
14	21,5	4,5	82,0	13,0	39,0	104,5	52,5	2,2	0,33	120

Conclusion. If we summarize our work during the years of research, when planted in the 60x8x2 scheme and cultivated at a depth of 16-18 cm, the best stem height of the soybean is 112.2 - 114.5 cm in the "Nafis" variety, 115.0 – 116.0 cm in the "Selekta-201" variety, when planted in the 70x8x2 scheme and cultivated with a depth of 18-20 cm, in the "Nafis" variety, it was 110.0 - 112.5 cm and 112.0 - 114.0 cm in the "Selekta-201" variety, in the 60x8x2 scheme according to the number of pods on the stem from 58.0 to 59.5 pieces in the row spacing to a depth of 16-18 cm, from 50.1 to 55.5 pieces in the "Selecta-201" variety, from 50.1 to 56 pieces in the "Nafis" variety, when the row spacing is processed to a depth of 18-20 cm in the 70x8x2 scheme it was found that it is produced from 50.1 to 55.0 pcs in the "Selekta-201" variety.

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