EFFECT OF SOWING DATES ON THE YIELD OF RE-PLANTED BEANS AND SOYBEANS VARIETIES

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ABSTRACT

In this article, field experiments on soybean and bean varieties grown as secondary crops were conducted in irrigated meadow-sierozem soils of the central part of Zarafshan valley. The highest yield was 23.6 c / ha, the yield of both varieties of beans decreased with the delay of sowing, the yield of Ravot decreased by 2.5 c / ha due to the delay of 15 days, the yield decreased by 3.0 c / ha due to the soybean variety yield was Arleta, Amigo, Sparta varieties 0.9; 1.0; 1.6 c / ha respectively. It was reported that the yield of beans and soybeans decreased due to delays in planting dates.

Keywords: ***secondary crop, variety, soybean, beans, sowing date, varietal characteristics, yield.***

INTRODUCTION

Resolution of the President of the Republic of Uzbekistan dated March 14, 2017 No PD-2832 "On measures to organize the sowing of soybeans and increase soybean production in the country in 2017-2021", June 1, 2017 "Placement of secondary crops in areas vacated by cereals in 2017" , Resolution "On measures for the timely supply of material and technical resources required for planting" and Decree No. PD-4947 of February 7, 2017 "On the Strategy for further development of the Republic of Uzbekistan" and other regulations related to this activity this dissertation research to some extent serves to carry out the tasks set out in the documents.

M.A.Gabilov, Umarova N.S, Abitov I.I, Effective use of irrigated lands in Uzbekistan recommended early planting of soybean varieties [3; pp. 11-13, 9; 96-p].

Yu.K.Kudzin, A.I.Dodorenko made recommendations on sowing legumes in winter wheat fields on irrigated lands of Ukraine to get two crops a year and increase soil fertility [4; 74-76-p.].

The main climatic factors that determine the possibility of replanting, sowing of autumn crops are the duration of the warm period after the harvest of cereals sown in the fall, the amount of precipitation, temperature, light.

The activity and activity of endogenous bacteria that live in the roots of legumes and absorb free nitrogen from the air is closely related to the life of the host plant and depends on the correct definition of norms [2; 433-p.].

The positive effect of repeated crops on the amount of nutrients in the soil has been studied in detail by T.E.Ostanakulov, N Khalilov [7; 115-p.].

One of the factors that significantly affect the growth and development of crops in plant science is the planting rate, duration, varietal characteristics. The main technological measures in the agro-technics of soybean and mungbean varieties are the selection of varieties, sowing dates, application of inoculants and their optimization in different soil and climatic conditions Kh.N.Atabaeva, Z.U. Umarov, H.Ch. Buriev, Baranov V.F. , Kochegura A.V, Mahmadyorov U.M, Nosirova M.D, Nosirova M.D, Soliyeva conducted research [1; 36-37 pp., 2; 433-pp., 5; 6-9-b., 6; pp 9-11, 8; 160-161-p.

EXPERIMENTAL CONDITIONS AND METHODOLOGY

Field experiments were conducted in the conditions of irrigated meadow sierozem soils of the training and experimental farm of the Samarkand Institute of Veterinary Medicine (former Samarkand Agricultural Institute) in the middle part of the Zarafshan valley, Akdarya district of Samarkand region.

Precipitation was around the multi-year norm in 2015-2016. Rainfall in the fall of 2017 and spring of 2018 was twice the multi-year norm. Repeated crop bean and soybean varieties came in handy during the years of

experimentation, only the short-term cold spell on October 7, 2018, caused significant frosts on plants planted on July 1 and 15.

In the experiment, the yield of winter wheat was determined in all variants by mowing from 3 points of the paddy field on an area of 1 m^2 and directly using combine harvesters. Yield control was brought to humidity and 100% purity, the data were analyzed mathematically and statistically according to B.A. Dospekhov.

Total and mobile NPK content in soil, NPK content in plant and grain Samarkand State University, Kashkadarya branch of the Research Institute of Cereals and Legumes.

Soil samples for analysis were obtained according to the methodology "Methods of agrochemical, agro-physical and microbiological research in polyvinyl cotton fields".

The amount of humus in the soil by the method of I.V.Tyurin, nitrate nitrogen-ion selective method, total nitrogen, phosphorus and potassium in one sample by the method of I.M.Malseva, L.P.Gritsenko; mobile phosphorus in 1% ammonium carbonate solution by B.P.Machigin method; by the method of P.V. Protasov on an exchangeable potassium flame photo-calorimeter; the amount of sugar in the plant by chromatographic (A.Pavlyushkina) and Saxlet method; The pH was determined using a potentiometer in the aqueous absorption.

EXPERIMENTAL RESULTS AND THEIR DISCUSSION

When the bean varieties were planted on June 15, the yield was 21.9 c / ha in the early ripening variety and 26.6 c / ha in the middle ripening variety. The productive variety yielded 4.7 c / ha more than the standard Ravot variety.

Table 1
Influence of sowing dates on replanted beans and soybean yields, c / ha (2016-2018)

№	Sowing date	Varieties	Yield			Average	Extra c/ha	
			2016	2017	2018		from the planting period	From varieties
1	15.06	Bean varieties						
		Ravot (st)	24,5	21,8	20,2	21,9	-	-
		Mahsuldor	30,6	25,7	23,6	26,6	-	4.7
		Soybean varieties						
		Orzu (st)		20,1	17,0	18,5	-	-
		Avanta		16,8	15,5	16,1	-	-2.4
		Arleta		20,3	18,4	19,3	-	0.8
		Amigo		18,7	16,5	17,6	-	-0.9
		Sparta		17,6	17,6	17,6	-	-0.9
2	1.07	Bean varieties						
		Ravot (st)	22,3	17,6	18,4	19,4	-2.5	-
		Mahsuldor	28,5	19,6	22,9	23,6	-3.0	4.2
		Soybean varieties						
		Orzu (st)	-	15,2	13,7	14,4	-1.5	-
		Avanta	-	15,3	13,9	14,6	-4.0	0.9
		Arleta	-	16,5	14,2	15,3	-4.0	0.9
		Amigo	-	15,8	15,1	15,4	-2.2	1.0
		Sparta	-	17,2	14,8	16,0	-1,6	1.6

3	16.07	Bean varieties						
		Ravot (st)	16,4	14,7	15,6	15,5	-6.4	-
		Mahsuldor	19,5	12,1	-	14,1	-12.5	-9,0
		Soybean varieties						
		Orzu (st)	-	10,7	9,8	10,2	-11.7	-
		Avanta	-	15,9	13,1	14,5	-8.6	4.3
		Arleta	-	14,6	12,6	13,6	-5.7	3.4
		Amigo	-	11,4	12,6	12,0	-5.8	1.8
		Sparta	-	12,0	11,1	11,5	-6.1	1.3

When soybean varieties were planted on 15 June, yields varied from 16.1 to 19.3c / ha, depending on varietal characteristics. The highest yield was 19.3 c / ha in the Arleta variety or 0.8 c / ha (4.4%) more than in the standard Orzu variety. All varieties imported from RF yielded less than the local standard Orzu variety.

Seed yield in Ravot variety was 19.4 c / ha. With the delay in planting, yields decreased in both varieties of beans. In the Orzu variety of soybean, the yield decreased by 4.1 c / ha. With a delay of 15 days in the sowing period, a decrease in yield was observed in all imported varieties. Due to the delay in sowing, the yield was 2.5 c / ha in Ravot and 3.0 c / ha in Mahsuldor variety. The additional yield obtained at the expense of the variety in comparison with the standard variety is only 0.9 in Arleta, Amigo, Sparta varieties, respectively; 1.0; 1.6 c / ha was observed.

Bean and soybean varieties were significantly reduced when planted on 16 July compared to those planted on 15 June due to delays in planting times. Due to the delay in sowing, the yield decreased in bean varieties to 6.4 and 12.5 c / ha, and in soybean varieties from 5.7 to 11.7 c / ha. Standard variety. The yield of early-maturing varieties imported from the Russian Federation was 1.3 to 4.3 c / ha higher than desired.

Thus, it was found that all studied varieties of beans and soybeans give the highest yields when planted on irrigated lands of the Zarafshan valley on June 15, sowing on July 15 sharply reduces yields. Late July 15 it is recommended to sow the varieties of beans “Ravot” and soybean “Avanta”.

CONCLUSION

1. As a result of late planting of bean and soybean varieties in the field from June 15 to July 15, the yield decreased. Yields in the “Mahsuldor” variety of beans were highest at 23.6 c / ha.

2. With the delay of sowing, the yield decreased in both varieties of beans. Due to the 15-day delay in sowing, the yield of Ravot variety decreased by 2.5 c / ha and the “Mahsuldor” variety by 3.0 c / ha.

3. Additional yield at the expense of soybean variety in comparison with standard variety is 0.9 in Arleta, Amigo, Sparta varieties, respectively; 1.0; 1.6 c / ha was observed. Due to the delay in sowing, the yield of bean and soybean varieties decreased.

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