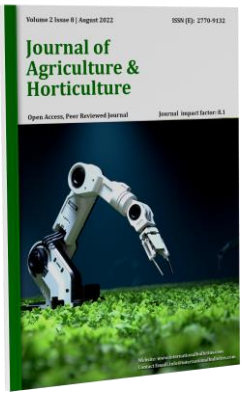

THE EFFECT OF AUTUMN WHEAT AND REPEAT CROPS ON THE AGROPHYSIC PROPERTIES OF THE SOIL

M.Tadjiev
Ph.D. Senior Researcher
K.M.Tadjiev
DSc. senior researcher
Thin cotton fibre research institute
https://doi.org/10.5281/zenodo.7984994

Annotation. Winter wheat repeated crops significantly affect the growth, development and yield of agricultural crops. As a result of the conducted research, it is shown that winter wheat and repeated oilseeds accumulating a huge amount of organic substances during the growing season positively affect the agrophysical properties of the soil, which contribute to the growth, development and increase of cotton yields in comparison with the control.

Keywords. Winter wheat, repeated crops, agrophysical properties of the soil, humidity, density, water permeability of cotton, soy, sunflower, sesame, safflower, ground pear, etc.

The government of the Republic pays special attention to the development of Agriculture. Autumn wheat and recurrent crops are the most pressing problem in ensuring food safety in our country. Since 2005-2010, grain independence has not been achieved in our country, but grain is also exported annually to neighboring countries Tajikistan, Iran and Afghanistan.

Repeated crops provide the population with a variety of food, livestock with nutritious fodder crops, make markets diverse the assortment of food products, enrich the soil with organic matter, increase soil fertility and Acorn yields.

Scientists from our homeland and foreign countries have also made clear and correct conclusions by conducting numerous research on the effective use of irrigated land.

Z.S.Tursunkhadzhaev, M.A.Sorokin, L.L.Toropkina [4,-b 56-57] has been noted to restore soil fertility of alfalfa, intermediate and recurrent crops in Acorn-alfalfa crop rotation systems, increasing Acorn yield.

B.M.Kholikov [6, - B.100] stated that the new crop crop crop systems and agricultural crop complex would improve the agrophysical, agrochemical condition of the soil and increase the acorn crop by 20-30% compared to control and reduce

K.M.Mirzajonov, Sh.Nurmatov, I. Xoshimov Sh.Sharipov [1, -B 52-54] seeding alfalfa in the system of soil reclamation, groundwater levels, and slow down, to reduce the amount of harmful salts in the soil are identified.

M.Nazarov, M. Isomitdinov and others [2, –b 23] short-term crops crop (navbatlab) in the process of planting crops enhance soil fertility and the harvest of cotton compared to control o'tmishdosh 20-25% observed to increase.

N.Urazmatov [5, -190 b] saline soil conditions in the fergana valley of crop planting in increasing the fertility of the soil and increase the harvest of cotton key, and repeated crop at the spacenoted that it would play an important role in the ersaid.

M.Tadjiev [3, 364 b.] the southern regions of our republic have proven that crop crop rotation, intermediate and repeated crops are the main factors in improving soil agrophysical, agrochemical, reclamation and microbiological conditions in arid soils and extreme climates.

B.Volger [7, - P. 143-146] in the conditions of European countries, the intermediate crop Rye is the most productive crop, and if it is fed with nitrogen crops, it has been observed that its yield increases by 20-35 percent, the soil structure improves, it is a good predecessor to the main crops.

The style and method of conducting research. In research, phenological observations were carried out following the methodical applications of" field experiments "(2007) and" Methodika polevix opitov s khlopchatnika " (1981). Methodology "state test of varieties of agricultural crops" (Moscow, Kolos, 1969) and productivity indicators B.A.Dospekhov (1966) was treated mathematically with his style.

The results of the survey. As a result of alternating (alternating) planting of autumn wheat and repeat crops in 1:1 or 1:2 systems of alternating planting, autumn wheat has accumulated 4.66 t ha^{-1} of angina and root residue in a 0-50 cm layer of soil, after autumn wheat, soybeans 3.25 t ha^{-1}, sunflower 3.88 t ha^{-1}, sesame 3.41 t ha^{-1}, peanuts 1.40 t ha^{-1}, poppy 3.54 t ha^{-1}, for one year, autumn wheat and sunflower were 8.41 t ha^{-1}, autumn wheat and peanuts were 5.96 t/ha, autumn wheat and sesame were 7.97 t ha^{-1}, and autumn wheat and Poppy were 6.64 t ha^{-1}, the fact that the soil leaves organic matter in a layer of 0-50 sm was determined by the studies we conducted.

From these studies it is evident that one crop in a field during the year was shown to accumulate 4.66 t ha^{-1} when autumn wheat was planted and twice as much organic matter (7.11-8.16 t ha^{-1}) in a 0-50 cm layer of soil when intermediate or repeated crops were planted in that field. The more organic matter is introduced into the soil, the better the agrophysical and agrochemical state of the soil, enriching the soil with humus and increasing moisture and water permeability in the soil. As a result, the density of the soil decreases and the porosity increases. The results of the study conducted showed a change in the agrophysical state of the soil when the Acorn is planted after autumn wheat and repeated crops (tables 1-2).

This table is known from the data as 12.1-13.6 percent in the soil moisture control field in the 0-30 cm layer of the soil, 13.5-16.2 percent in the 30-50 cm layer of the soil, 12.6-13.9 percent in the 0-30 cm layer in the experimental variants, 1.27-1.31 g/sm in the control sm^3 and soil water permeability control option for 6-hours revealed the law of soil moisture,water permeability and low soil density when planted in spring 520-524.5 m^3 and autumn 350.5-370.0 m^3, after acetic autumn wheat and repeated crops.

1-table

Impact of the soil on agrophysical properties when the Acorn is taken care of after various oil crops planted in autumn wheat and angina (2019, Experiment-2)

N	Before landing (March)				The end of the growing season (September)				Water conductivity	
	Humidity, %		Density, g/cm^3		Humidity, %		Density, g/cm^3		for 6 h, m^3 ha^{-1}	
	0-30	30-50	0-30	30-50	0-30	30-50	0-30	30-50	in the spring	in the fall
1	13,6	16,2	1.2 to7	1,31	15,1	17,4	1.34	1,43	524,5	350,5

2	13,7	16,3	1,26	1,30	15,2	17,5	1,34	1,44	609,0	358,0
3	13.9	16,6	of 1.25	1,30	15,4	18,9	1,31	1,42	649,0	407,0
4	13,8	16,5	1,26	1,29	15,2	17,6	1,32	1,43	636,6	361,7
5	13,8	16,6	1,26	1,29	14,9	17,9	1,32	1,42	630,1	375,8
6	13,8	16,6	of 1.25	1,30	15,4	18,5	1,30	1,40	655,0	415,0
7	13,8	16,5	1,26	1,30	15,7	17,7	1,31	1,40	620,0	364,4

2-table

The effect on the agrophysical properties of the soil when caring for Acorns after various oil crops planted in autumn wheat and angina (2020, Experiment-2)

N	Before landing (March)				The end of the growing season (September)				Water conductivity	
	Humidity, %		Density, g/cm^3		Humidity, %		Density, g/cm^3		to 6 hours for m^3 ha^{-1}	
	0-30	30-50	0-30	30-50	0-30	30-50	0-30	30-50	in the spring	in the fall,
1	12,1	13,5	1,27	1,33	15,4	17,9	1,34	1,43	524,5	350,5
2	12,3	13.9	1,28	1,32	15,4	17,8	1,33	1,43	604,4	348,0
3	12,6	14,9	1,26	1,30	15,5	18,8	1,30	1,41	649,0	407,0
4	12,7	14,6	1,26	1,32	15,5	18,2	1,31	1,42	636,6	361,7
5	12,3	14,5	1,26	1,30	15,5	18,3	1,32	1,42	630,1	375,8
6	12,4	14,6	1.25	1,30	15,6	18,5	1,30	1,40	655,0	415,0
7	12,4	14,3	1,26	1,31	15,7	18,3	1,32	1,40	620,0	364,4

Conclusion words in the humidity of the soil (0-50 cm layer 0,5-0,9-1,0 percent of the conductivity of the water in the spring 65-125 m^3 ha^{-1}) and high soil density while 0,04-0,03 g/cm^{3}were determined to be less than to control

References:

1.Mirzajanov K., Nurmatov Sh., Isaev S., Khoshimov I., Sharipov Sh. Melioriruyutshee znachenie luserni. J. "Agroilm" - agriculture in Uzbekistan. № 2. Tashkent. 2009. B 52-54

2.Nazarov M., Isomiddinov M., Mamadaliev G., Ganiev K. The influence of past crops on the cotton crop. J.Agriculture of Uzbekistan. № 2, 2009. - B 23

3.Tajiev M. Monograph: South sakhro region of Uzbekistan, soil fertility in extreme climatic conditions, the scientific basis for increasing the specificity of acorns, autumn wheat and the creation of a fodder base: Karshi “Nasaf” publishing house 2015 B.364, in 100 copies.

4.Tursunkhadzhaev Z.S., Balkunov A.S., Toropkina L.L. Scientific basis of crop rotation in Uzbekistan. Tashkent. 1987, - B 56-57

5.Urozmetov N. Scientific basis of crop rotation in conditions of saline soils of the Fergana Valley. Tashkent, 1992, - B 190

6.Halikov B.M. New crop rotation systems and soil fertility. Monograph. Tashkent, 2010. - B.100

7.Volger B. Nitratverfugfarkeit des Bodens in Abhangig keit von zwishenfruehtfau. Lard.W. Z. Rheinland. 1979. S 2617-2618. -P. 143-146.