ACADEMICIA
An International Multidisciplinary Research Journal
(Double Blind Refereed & Peer Reviewed Journal)

DOI: 10.5958/2249-7137.2021.02291.6

EFFECTS OF MINERAL AGRO ORES ON WINTER WHEAT GROWTH AND DEVELOPMENT

Ismaylov Uzakbay Embergenovich*; Elemesova Nargiza**

*Professor,
Doctor of Agricultural Sciences,
Karakalpakstan Institute of Agriculture and Agrotechnology,
UZBEKISTAN

**Doctoral student,
Karakalpakstan Institute of Agriculture and Agrotechnology,
UZBEKISTAN

ABSTRACT

The topic corresponds to the priorities of scientific research, as it is currently actual in the republic's agriculture, after finishing the research, past crops, which increase soil productivity and winter wheat yield, will be determined in the conditions of the Republic of Karakalpakstan at the first time. Carrying out agro-ameliorative measures for reduction of soil salinity, increase of soil fertility and productivity and quality of crops, development of efficiency of past crops and mineral agro-ores in increase of winter wheat yield, application of organic and siderate fertilizers to the soil - is the way to solve the problems.

KEYWORDS: *Winter Wheat, Soil, Fertility, Mineral Agro-Ores, Celadon Green, Past, Yield.*

INTRODUCTION

Due to the biological properties of winter wheat, it must be resistant to the effects of winter frosts. However, despite the fact that the climate of our country is sharply continental (summer is hot and cold), in autumn, winter and spring the weather changes very quickly and due to improper application of certain agro-technological processes, it can not grow or develop. Therefore, the protection of winter wheat from the negative effects of winter frosts should begin with the sowing of seeds. In order to protect the crop from the negative effects of winter frosts, it is advisable to select fast-ripening varieties resistant to winter frosts, sow them at the right time

and feed them properly. Winter wheat has a relative degree of frost resistance, and when agro-technological processes are used incorrectly, they can also die from the cold.

In order to eliminate the disadvantages of growing winter wheat and other crops, a computerized diagnostic program of feeding on the actual condition of farmland has been developed. Under this program, each farm will be provided with an agrochemical passport for feeding winter wheat and cotton. If it is followed we can not only reach to the planned yield but also increase soil productivity.

Grain yield produced from imported varieties such as Krasnodarskaya-99, Grom, Moskvich, Tanya, Starshina, Pamyat, Pervica, Nota, as well as from winter wheat varieties created under local conditions, such as Chillaki, Andijan-1, Andijan-2, Andijan-4, Bobur, Asr, Durdona, Matonat, Yaksart, Khazrati, Bashir, Omad in the main areas. The organization of the sowing season for this year's harvest in a cohesive way, the correct selection of varieties, ensured the achievement of high yields in the soil and climatic conditions of each region of the Republic. Timely implementation of advanced agro-technical measures has allowed to increase grain production, further improve its quality and consumer properties. The key to success was also the introduction of modern technologies in agriculture, the achievements of advanced farming techniques, the timely implementation of measures to fully establish the seed system. .

Methods of the research

Soil and climatic conditions of Khojayli district of the Central region of the Republic of Karakalpakstan, winter wheat, past crops were studied at the farm "Urazboy-ota". In our experiment, the varieties of winter wheat "Kroshka", mung bean "Durdona", soybean "Arzuv", sesame "Black Prince" are planted according to the sowing norms set in the recommendations.

Scientific research work is being carried out on the theme the selection of promising winter soft and hard wheat varieties, recommended for new plantings, creating scientific basis of agrotechnical elements of their local production taking into account the soil and climatic conditions of the country. Scientific research work is being carried out on yield of winter soft, hard wheat varieties are selected for each region based on the results of development and research of agronomic elements of cultivation of promising varieties with high grain quality indicators and their optimal sowing times and the implementation of fertilization standards.

Results of the research

After winter wheat, 12-21 quintals of root mass and plant residues remain in the soil, which has a positive effect on the increase of humus content, improvement of water and physical properties. After winter wheat, the field is empty in early July. Intermediate crops can then be planted to make better use of the land, or reclamation can be carried out with the application of organic fertilizers.1

There are 3080-3180 thousand plants of winter wheat per 1 hectare . In order for winter wheat to overwinter well, it needs to have a thick snow cover during the winter months. The winter months in Karakalpakstan will be dry and cold without snow. Therefore, wintering of winter wheat is very important.

When determining the height of the plant stem and spike biometric parameters, the following was found. Before harvesting, the plant height is 78-7-83.1 cm, the length of the spike is 9.1-9.0

cm, the number of spikes is 19.2-18.9, the number of grains in the spike is 41.2-40.7 grains, grain weight was 1.68-1.70 g, 1000 grains weighed 38.8-37.0 g.

When mung bean was sown for grain before winter wheat intermediate crop (mung bean) + 20 t / ha of manure + 1.0 t / ha of celadon green (var. 8-10), then winter wheat, itprovided a yield of 50.0-51.5 q / ha. This indicates that it was 10.0–11.5 q / ha higher than the control variant (var.1) in which winter wheat was sown after winter wheat.

When we determined the yield of winter wheat by variants, we found the following.

The average yield of the variants was 39.5-51.5 q / ha. The lowest rate is observed in variant 1, i.e. when winter wheat was sown after winter wheat (39.5 q / ha). In 2-4 variants when mung bean, sesame and soybean sown for grain before winter wheat it was 41.5-43.0 q / ha, in 5-7 variants when mung bean, sesame and soybean sown for grain before winter wheat, then 10 t / ha manure + 1.0 t / ha celadon green was used, it was 44.0-47.5 q / ha and in 8-10 variants when after harvesting mung bean, sesame, soybean, intermediate crop (mung bean) + 20 t / ha of manure + 1.0t / ha of celadon green was used it was 50.5-51.5 q / ha.

CONCLUSION

To scientifically substantiate the duration of sowing of past crops, the efficiency of crop structure in the system of crop rotation of local mineral agro-ores, organic fertilizers in order to obtain high yields of winter wheat and increase soil fertility in saline soil conditions of the Republic of Karakalpakstan is achieved.

REFERENCES:

1. İsmailov U.E., Sadikov E., Saipnazarov G. Short ration crop rotation in the conditions of Karakalpakstan. Nukus. 2015.
2. İsmailov U.E. The technology of using local mineral agro-ores in cotton. Scientific report on the project KXA-7-007-2015. Nukus. 2017.
3. Ismailova A. Influence of local agro-ores on cotton. Nukus. Miraziz-Nukus. 2018. p-68.
4. L.Mirzaev, D.Gafurov, D.Haydarova, "The effect of different standards of mineral fertilizers applied on winter wheat on the growth and yield of secondary crops" // Journal of Agriculture of Uzbekistan. Agroilim 2018. -№3 (53). p-29.
5. O.Botirov, I.Adashev, "The impact of winter wheat sowing methods on grain yield" // Journal of Agriculture of Uzbekistan. Agroilim 2018. - №4 (54). p-20-21.