5. Shirokova, V. A., Khutorova, A. O., Gurov, A. F., Shirokov, R. S., & Yurova, Y. D. Environmental monitoringof small rivers of the moscow region (On the example of the river osetr). // International Multidisciplinary Scientific GeoConference: SGEM: Surveying Geology & mining Ecology Management. – 2018. – No. 18. – 355-362.

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COMPREHENSIVE ASSESSMENT OF ECONOMICALLY USEFUL SIGNS OF SPRING WHEAT IN THE CONDITIONS OF THE CENTRAL REGION OF THE RUSSIAN FEDERATION

Sara Saqer - 1st year postgraduate student, Faculty of Agronomy and biotechnology, *RSAU – MTAA*, Lvvictoria740@gmail.com
***Language supervisor**: **Fomina T.N.**, associate professor, the department of Foreign Languages and the Russian language, RSAU – MTAA, tfomina67@mail.ru*

***Abstract**: One of the main criteria for implementation in the production of cereal crops is the factor of environmental and economic efficiency. To successfully create varieties combining high productivity with resistance to biotic and abiotic factors, it is necessary to study the genetic sources of valuable biological, technological properties, and economic characteristics, natural and climatic conditions, and their interaction in specific environmental conditions.*
***Keywords:** Determining, Phenological, Indexes.*

The purpose of the study Identification of genetic sources of valuable biological, technological properties and economic characteristics of soft spring wheat in the conditions of the Central region of the Russian Federation will be done through:

1. Field assessment of the wheat collection, including:
- Phenological observations;
- Lodging resistance;
- Resistance to major diseases on natural infectious backgrounds.

2. Analysis of grain yield and its structure.
3. Determining Potential Productivity.
4. Assessment of drought tolerance of wheat by laboratory methods.
5. Assessment of the resistance of wheat to salinity by laboratory methods.
6. Assessment of the physical and baking qualities of wheat grain 1000 grain weight Glassy Protein and Gluten Laboratory baking only for the best samples.
7. Assessment of adaptability using indexes.
8. Comparison of different methods for evaluating the collection of economic useful signs (traditional and index method).
9. Isolation of genetic sources of economic traits of wheat.

Methods:

1. Collection of spring wheat varieties of different ecological and geographical origin:

- Varieties of Russian selection (15 pcs.);
- Varietal selection CYMMIT (Mexico) (15 pcs.);
- Varieties of Canadian selection (15 pcs.).

2. Standards - varieties Zlata and Esther (MosNIIISH "Nemchinovka").

3. Field experiments - at the Field Experimental and Selection Station. The plot area is 1 m2, 3-fold repetition, systematic placement.

4. Conduct field assessments in accordance with the State Variety Testing Methodology.

5. Evaluation of potential productivity - by the method of tweezing.

6. The laboratory method for assessing drought tolerance is the ability of seeds to germinate on a 5% sucrose solution compared to control (distilled water) using the roll method (GOST 12038-84). Germination is carried out in a thermostat at a temperature of 21 ° C for 5 days.

7. Assessment of salt tolerance of seeds of spring wheat varieties by laboratory method of seedlings:

8. Experience No. 1: with chloride salinity (according to the method of G.V. Udovenko, 1970) Scheme of experience:

1) Control - distilled water.
2) Saline solution of 1.0%.
3) Saline solution of 1.5%.
4) Saline solution of 1.8%.

9. In order to study the effect of chloride salinity on the growth and development of the root system and shoots, seeds were germinated in Petri dishes. Sample size: 50 seeds in triplicate for each variant. The experiment was laid for 5, 10, 15 days. The length and mass of the germinal roots and shoots were determined.

10. Experience No. 2: with sulfate salinity (Na2SO4).

11. The methodology, experimental design, varieties and numbers of spring soft wheat are the same as in experiment No. 1.

Expected results: It is planned to allocate the genetic sources of economically useful traits for creating new varieties of spring wheat for the central part of Russia. Identify spring wheat samples with high drought and salt tolerance suitable for use in Syria. Compare different methods of allocating the best varieties of spring wheat with a set of economically useful traits.

References

1. Prishchepov, A. V., Ponkina, E., Sun, Z., & Müller, D. Revealing the determinants of wheat yields in the Siberian breadbasket of Russia with Bayesian networks. // Land Use Policy. – 2019. – No. 80. – P. 21-31.

2. Elbasyoni, I. S., Morsy, S. M., Ramamurthy, R. K., & Nassar, A. M. Identification of genomic regions contributing to protein accumulation in wheat under well-watered and water deficit growth conditions. // Plants. – 2018. – No. 7(3). – P. 56.

3. Letyago, Y. A., & Belkina, R. I. Technological Properties of Grain Varieties of Strong and Valuable Wheat in the Northern Forest-steppe of the Tyumen Region. // KnE Life Sciences. – 2019. – P. 1023-1037.

4. Voronov, S., & Davydova, N. (2019, December). Source material for accelerated breeding of new commercial varieties of spring soft wheat. In IOP Conference Series: Earth and Environmental Science (Vol. 403, No. 1, p. 012047). IOP Publishing.

5. Ivanova, I., & Ilina, S. (2020, January). Variability of morphological features of spring soft wheat Moskovskaya 35. In IOP Conference Series: Earth and Environmental Science (Vol. 433, No. 1, p. 012016). IOP Publishing.

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CROP MODELING AND USE OF INFORMATION AND COMMUNICATION TECHNOLOGIES IN AGRICULTURE

***Soldatov Pavel D.**, postgraduate student of the Department of Land Reclamation and Construction Machinery,* RSAU – MTAA, *pavsoldatov@gmail.com*
***Viktor I. Balabanov**, DSc (Eng), Professor, Head of the Department of Land Reclamation and Construction Machinery,* RSAU – MTAA, *vbalabanov@rgau-msha.ru*
***Aleksei Yu. Alipichev,** PhD (Ed), Associate Professor of the Department of Russian and Foreign Languages,* RSAU – MTAA, *alipichev@rgau-msha.ru*

Abstract: *In view of farm informatization, the authors offer an overview of information and communication technologies (ICT) and crop modeling systems used in agriculture, describe their operating principles, and present the comparative advantages. The paper concludes that the use of ICT and crop modeling tools opens up great prospects for the future of agriculture.*

Keywords: *information and communication technologies (ICT), informatization, mechanization, agriculture, unmanned aerial vehicles (UAVs), productivity.*

At present, with the development of information technologies, mass informatization, introduction of new technologies, the Internet is being used in almost all spheres, and agriculture does not remain on the sidelines. The introduction of new technologies in agriculture opens up huge prospects, such as crop forecasting, 3D mapping, satellite monitoring, and many others. Also, one of the directions of further informatization is the use of information and communication technologies (ICT).

First, we need to understand what the term "ICT" means. It is often confused with IT – technology, but it is not exactly the same thing. The term "ICT" emphasizes the work with information and unified communications, such as telephony, the Internet, and others. There is a great emphasis on the exchange of information