

## **The agricultural features of Nizhegorodskaya gubernia (province) in the XIX century**

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One of the main conditions for the sustainable development of any country is the food security of the population, based on the development of agriculture. This condition can be realized through the efficient use of the productive capacity of agriculture, and above all natural resources.

From 1882 to 1887 in the Nizhegorodskaya gubernia (province) complex physiographic (landscape) researches were conducted by V.V. Dokuchaev and his followers. This investigation was focused on studying the relationship between the soils and the environment, having no parallel either in Russia or abroad, and received evaluation of the soils was the first experience of such a scale and nature. Reports of the expedition were presented in 14 volumes on the natural science of the study, and 11 volumes of economic statistics. Natural science volume includes descriptions of irrigation and hydrography, geology, soil and vegetation in uyezds (districts). Economic volume represent a set of common data on the situation of the peasant economy, they contain information about the number of arable land, including fertilized, hayfields, forests, manure stocks, livestock, harvest volumes, proportions of cultivated crops.

The aim of this research was to study the list and structure of crops cultivated in the Nizhegorodskaya gubernia in the XIX century and their compliance with the soil and climatic conditions. From the materials of the expedition reports for the eight districts of the Nizhegorodskaya gubernia was compiled a list of crops and crop area information which was introduced in the GIS (MapInfo). Geographic information systems were used to visualize the collected material in the form of maps, cartograms and charts. For the conformity assessment of soil and climatic conditions of the studied area of selected crops a map "Agricultural zoning of Russia for optimal crop growing" by I.I. Karmanov and D.S. Bulgakov (National Soil Atlas, 2011) was applied.

According to this map the Nizhegorodskaya gubernia is located in three agro-climatic areas: (№9) European Southern taiga, sod-podzolic (humus soils of Opol'e), rye, barley, oat, potato and forage (corn silage), (number 11) North-steppe (ETP), gray forest soils with patches of chernozems, winter-wheat-rye, barley, oat, potato with corn silage, (№12) forest-steppe (ETP), leached and podzolized chernozems with gray forest soils, winter-wheat-rye, barley, oat, potato with sugar beet and corn for silage.

Analysis of digitized information on cultivated crops of Nizhegorodskaya gubernia in the XIX century and agro-climatic characteristics of areas has shown that the list of selected crops in general corresponds to the recommendations by present-day scientists, but has its own characteristics. In reporting materials there is no information about the cultivation of crops such as winter wheat, sugar beet and corn. Potatoes and barley are cultivated in small quantities, their place is taken lentil, millet and spelt, which in today's recommendations are not mentioned.