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Russian outstanding scientist N.I. Vavilov and his contribution to Genetics development*Saratov State Medical University n.a. V.I. Razumovsky, Department of Foreign Languages***Abstract**

Saratov has been known as the center of research and scientific activity since the end of the 18-th century. Since 1909 when the Imperial Nikolaevsky University was founded in Saratov it has been one of the oldest and leading scientific educational centers in Russia. During the 20-th century scientific studies were carried out in different fields and there were many men who glorified Saratov and Russia all over the world: in medicine – S.I. Spasokukotsky, A.N. Bakulev, A.A. Bogomolets; in agronomy and soil science – N.M. Tulaikov, in optics and theoretical physics – E.F. Gross and D.I. Blokhintsev; in genetics and agriculture – N.I. Vavilov.

Key words: genetics, Russian scientist, N.I. Vavilov

Nikolai Ivanovich Vavilov was born in Moscow on 25 November, 1887 in a prominent textile manufacturing family. With his brother Sergei, (a physicist and later the President of Academy of Science of the USSR), his sisters – Alexandra (a physician) and Lidia (a microbiologist), he obtained his early education in Moscow. Following his father's wishes, N. Vavilov went to the Commercial School of Moscow and graduated it in 1906, later he entered Moscow Agricultural Institute which he graduated in 1910. Even in his early student years, N. Vavilov demonstrated a great scientific interest that determined his future focus of research work.

In 1910 N. Vavilov started working as a trainee at the Breeding Station of the Moscow Agricultural Institute and became involved in experimental research on plant immunity. At that period he completed and published his diploma work devoted to protecting agricultural plants from pests. In 1912 while leading practical seminars at Golytsin Higher Agricultural Courses for Women he delivered lectures on the problem of Genetics and its relations with Agronomy, he posed a new problem of interrelation between scientific theory and practice. He moved to St. Petersburg in 1912, where he was a probationary employee at the Bureau of Applied Botany under the Ministry of Agriculture. In 1913 N. Vavilov was sent to England to study wheat immunity. In 1916 he organized and carried out botanical and geographical expedition to Iran and the Pamirs [1, 2].

The next very important period of life for the young scientist was connected with Saratov. In 1917 he became the professor of agriculture, botany and genetics at the University of Saratov. The young professor was accompanied to Saratov by the graduates from Moscow Agricultural Institute, who assisted him in his field experiments. N. Vavilov's lectures were very popular among the students as they included plant breeding, genetics, modern plant production, history of agriculture and utilization of plant resources in plant introduction and breeding practice. In 1918 he founded Saratov Branch of the Bureau of Applied Botany, he carried out field experiments, planted over 12000 plots with various hybrid wheat and barleys, as well as the materials gathered while collecting missions. Noteworthy enough, these plantings were organized and made by the scientist in the spring and autumn of 1918. In the prevailing conditions of post-war destruction and depression N. Vavilov's work and optimism were of enormous importance. These plantings formed the basis for graduation papers of his students. N. Vavilov paid a lot of attention to various taxonomic aspects of wheat. The results of this work were reflected in a paper «On the understanding of bread wheats: (Taxonomic and geographical essay)». The research on cereal disease resistance was continued in Saratov as well. A great number of samples collected by N. Vavilov himself and received from other sources were tested against natural and artificial backgrounds. In 1918 professor summarized his works on plant protection problems in his publication «Immunity of Plants to Infectious Diseases» [3].

Thus, he discovered and formulated the Law of Homologous Series in Variation on which he gave a report at the Third All-Russia Plant Breeding Congress in 1920 in Saratov. This law states that closely related species, general and families reveal parallel variation of all the traits characteristic of them. The participants appreciated the Congress as a historical one and declared N. Vavilov to be «The Mendeleyev of Biology». The results of a comparatively brief exploration of cultivated flora of south eastern Russia together with other materials accumulated in over three years at Saratov enabled N. Vavilov to publish Field Crops of the South-east in 1922. In this paper he reviewed the field crops of the southeast from the point of view of a botanist, presented the results of a three year observe of multitude of crop varieties collected in various countries.

In 1921 he was the elected Head of the Bureau of Applied Botany and moved to Petrograd (St. Petersburg). From that moment N. Vavilov's life and work were closely connected with the world's largest crop research institute responsible for collecting the world plant diversity and studying it for the purposes of plant breeding. In 1922-1929 he headed the Institute of Experimental Agronomy in Leningrad (St. Petersburg). N. Vavilov was its first president during the period 1930-1935. He established research institutes all over the country and he was also the director of the Institute of Genetics (1930-1940) [4]. Nikolai Vavilov worked hard and loved his job, he was evidently a botanist, plant breeder, geographer and beyond all doubt he was an outstanding geneticist.

But being a symbol of the science glory at the same time his life could be considered as the symbol of a tragedy. Who could even imagine that twenty years later he would come to Saratov again but as a prisoner (the scientist suffered from scurvy and dystrophy) and tragically die in Saratov jail on January 26, 1943. Renowned Russian scientist Nikolai Ivanovich Vavilov, whose life and job were related to the problem of «feeding the world», died from starvation and was buried in a common prison grave.

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