

## Nickolay A. Ulupov (on 95<sup>th</sup> anniversary)



Nickolay Alekseevich Ulupov was born on 23 February 1928 in s. Glukhovo, Stavrovsky Raion, Vladimir Oblast. Since childhood he was engaged in agricultural works on a local collective farm. After school he entered the Vladimir Aviation Mechanical College, successfully graduated from it and got a job as an adjuster at a weaving factory in Lakinsk.

From 1949 to 1953 he served in the ranks of the Soviet Army, during 1951–1953 he served as an aircraft technician in the People's Republic of China (PRC) as part of the military contingent of the USSR under the command of three-times Hero of the Soviet Union A. I. Pokryshkin. In February 1951 he was awarded a commemorative medal for assistance to various special forces units of the People's Liberation Army of China by Chairman of the People's Republic of China Mao Zedong.

After demobilization from the Soviet Army he entered the Moscow Veterinary Academy and after graduation in 1959 he was assigned to the All Union Scientific Research Institute of Veterinary Virology and Microbiology (Pokrov) where he worked as a laboratory assistant and junior researcher.

In 1963–1966 he was a postgraduate student at All Union Scientific Research Institute of Veterinary Virology and Microbiology and in 1967 he defended his candidate degree thesis.

In 1967 he was competitively elected to the position of senior researcher at the All-Union Foot-and-Mouth Research Institute (Vladimir) where he conducted studies on the development of methods for FMD virus cultivation, purification from ballast proteins, inactivation in the manufacture of vaccines based on lapinized virus and biopreparation drying methods. He made an invaluable contribution to the development of production technology for inactivated vaccines based on lapinized FMD virus. He developed a bactericidal method of virus-containing

suspension purification for the preparation of sterile vaccines without sterilizing filtration. This manufacturing technology was implemented at the Sumy Biofactory, Tabakhmel Bioplant, Pokrov Biological Plant, Yurievetsvetbio-preparation Plant.

Nickolay A. Ulupov developed an original technique for inactivating the lapinized virus with formaldehyde using ammonium ions, as a result, the vaccine safety level increased significantly. He was the author of the invention on the use of an ethylenimine dimer (aminoethylethylenimine) for inactivation of the FMD virus in the manufacture of viral vaccines. The introduction of this new inactivant made it possible to develop safe, highly effective and competitive biologicals based on lapinized and cultured FMD viruses.

The results of Nickolay A. Ulupov's research were summarized in his doctoral thesis that was successfully defended in 1985. Its main focus was to improve methods of FMD virus reproduction, purification and inactivation. The method of purification from ballast proteins using flocculants developed by Nickolay Alekseevich made it possible to obtain sterile highly active preparations based on lapinized FMD virus of all serotypes.

Nickolay A. Ulupov published more than 100 scientific papers, he was an academic advisor and supervised five candidates of science in getting a degree who later pursued his research studies. He is the author of 25 patents of the Russian Federation.

Nickolay A. Ulupov passed away after a serious and prolonged illness in 2003. We cherish the memory of the outstanding man, innovator in biology, inventor and effective researcher who will remain in our hearts forever.

