

Wildlife Monitoring for Highly and Low Pathogenic Avian Influenza in Ukraine
National Scientific Center “Institute of Experimental and Clinical Veterinary Medicine”

Borys T. Stegnyy,

Doctor of Sciences (Vet. Med.), professor, Academician UAAS, the Head of the Department of Avian Diseases and the Director of the National Scientific Center «Institute of Experimental and Clinical Veterinary Medicine»

Kharkov, Ukraine, e-mail: admin@vet.kharkov.ua

National Scientific Center “Institute of Experimental and Clinical veterinary Medicine” is the leading scientific institution in Ukraine in the field of veterinary medicine. It conducts scientific support of antiepidemiological measures on the prevention of highly pathogenic avian influenza spread in Ukraine. The main directions of work are: epidemiological monitoring, development of means for specific prophylaxis and diagnostics of this disease.



Taking into consideration that Ukraine is located at the intersection of transcontinental migration routes, that climatic conditions are favourable for rest and nesting of lots of birds, and also that wild birds are the natural reservoir and the source of influenza virus for poultry, study of influenza A (highly pathogenic and low pathogenic) circulation in the populations of wild migratory and nonmigratory water-fowl, coastal birds and sea birds is of great interest.

The main objects of the project: serological monitoring of wild birds, virological investigations, isolation of influenza viruses and study of their biological and molecular-genetic characteristics.

Scientists of the National Center have great experience of work with wild birds in the places of their mass accumulation. During 2001 – 2006 there were conducted investigations of wild birds in biosphere reserve “Askania Nova”, Black Sea biosphere reserve, regional park “Kinburnskaya kosa”, Dniestr delta (Nikolayev region), Odessa, places of mass accumulation of wild birds on the lake Sivash, on the territories of Kharkiv, Zaporizhya and Sumy regions. Totally, there was investigated 61 species of wild birds, which relate to different groups (water-fowl, coastal birds, synanthropic birds). As a result of this work there were isolated antibodies to influenza A virus, subtypes H1, H2, H3, H4, H5, H6, H7, H8, H9, including to highly pathogenic avian influenza virus H5N1 in water-fowl and coastal birds (mallards, cormorants).

Genome of influenza A virus was detected in water-fowl and coastal birds (cormorants, sandpipers) in Kherson region and in AR Crimea. Results of epidemiological monitoring showed, that wild birds in Ukraine are the reservoir of influenza virus, including highly pathogenic. We have determined the most suitable for permanent monitoring places of mass accumulation of wild birds during migration and nesting, the so-called “key points”. On the territory of Ukraine first of all such points are the Black Sea coast and the Azov Sea coast. For simplification of investigation of wild birds, we have developed the method of use of wild bird egg yolks in immunological reactions for the detection of antibodies to infectious diseases, including influenza. This method enabled to detect antibodies to influenza H5N1 virus in yolks of coastal birds in 2006 during the influenza outbreaks in Ukraine.

