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DEVELOPMENT OF SCREENING AND MONITORING SYSTEMS FOR EMERGING DISEASES AND PREVENTION OF CROSS-BORDER EPIDEMICS IN THE CURRENT CONTEXT



Newsletter 5 - Stage 1: Sample Collection in the Southern Odesa Region

The southern Odesa region is not only a unique natural area but also a territory of heightened epizootic pressure. To address potential health risks, Partner 3 – Odesa State Agrarian University ensured the implementation of the first stage of two key components: sample collection and laboratory analysis.

These activities were carried out by specialized external institutions under the organizational responsibility of Partner 3, combining transparency, professional expertise, and strategic academic supervision.

Strategic Importance of the Region

The southern districts of Odesa region, including the Danube Delta, are:

- Situated at the intersection of major migratory bird routes
- Located close to international state borders

This geographic positioning makes the region particularly vulnerable to the cross-border introduction of infectious diseases. Diseases such as African swine fever and avian influenza can spread rapidly across countries, while zoonotic infections like leptospirosis and toxoplasmosis threaten both animals and humans. Systematic sample collection is therefore a critical step toward safeguarding regional and cross-border biosecurity.

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Scope and Methodology of Sampling

During the first stage, more than 400 biological and environmental samples were collected, ensuring a wide-ranging and multi-species approach.

Animal samples included:

- Domestic livestock: cattle, pigs, sheep
- Companion animals: cats and dogs
- Wild and domestic waterfowl

Environmental samples included:

- Water from natural reservoirs
- Animal feed
- Insect vectors

This strategy ensured that all potential sources of infectious agents in the ecosystem were systematically assessed.

Sampling activities were carried out by specialized external institutions, while Partner 3 maintained overall organizational and strategic responsibility, combining scientific expertise, transparency, and academic oversight.



Integration with Laboratory Analysis

Although this stage focused on field sampling, it was designed to feed directly into laboratory testing, which will include:

- PCR methods for molecular detection of pathogens
- ELISA methods for serological detection

By carefully planning sample collection in alignment with laboratory protocols, Partner 3 ensured that the results would be robust, accurate, and comparable across species and locations.

Key Achievements

- **Extensive coverage** of animal and environmental samples across southern Odesa region
- Establishment of a **comprehensive evidence base** for assessing epizootic threats
- Coordination between field experts, laboratories, and academic supervision
- Laying the groundwork for **cross-border disease monitoring and biosecurity measures**

Significance for Regional Biosecurity

The first stage of sampling not only provides an up-to-date picture of the epizootic situation in the southern Odesa region but also contributes to regional and international research initiatives. The evidence collected allows for:

- Planning subsequent monitoring stages
- Expanding analytical and diagnostic capacities
- Strengthening preventive measures against both animal and zoonotic diseases

By systematically collecting and organizing samples, Partner 3 has created the foundation for a controlled, science-based approach to managing epizootic risks in a region of high ecological and strategic importance.



The first stage of the project — comprehensive sample collection — has successfully established a solid foundation for monitoring epizootic risks in the southern Odesa region. By covering multiple animal species, environmental sources, and key ecological zones, Partner 3 ensured that the collected data provide a reliable, science-based picture of the region's current epizootic situation.

This systematic approach not only enhances regional biosecurity but also sets the stage for future cross-border research and collaboration, supporting early detection, prevention, and management of infectious diseases in the border area.



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