ISTITUTO ZOOPROFILATTICO SPERIMENTALE
DELLA LOMBARDIA E DELL'EMILIA ROMAGNA
"BRUNO UBERTINI"
ENTE SANITARIO DI DIRITTO PUBBLICO

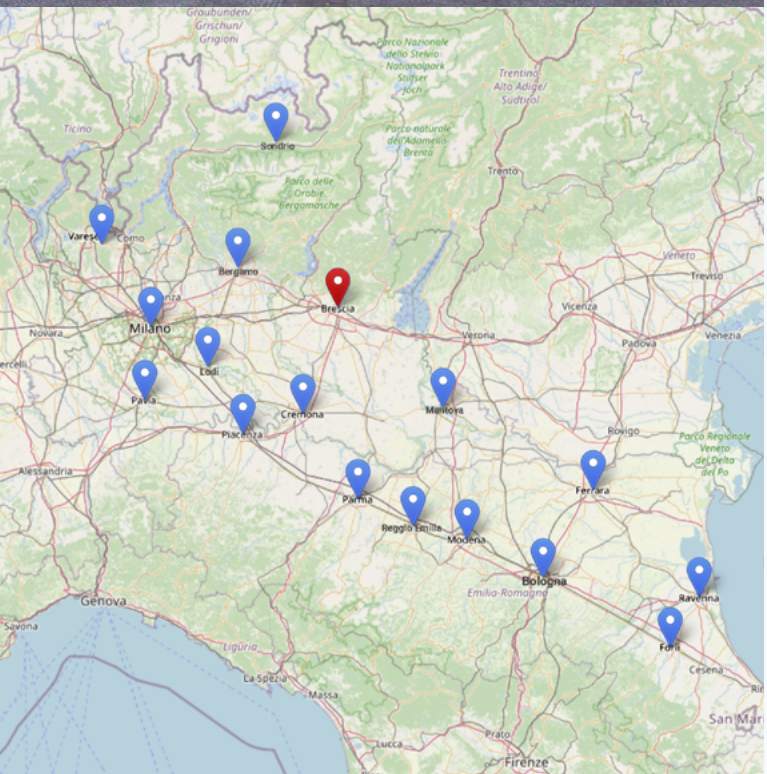
SERVICES CATALOGUE

ABOUT

We are a **veterinary public health** entity closely integrated with the Italian National Health Service operating since 1921.

Our mission is to operate in favour of the public health, the productions of the **agri-food sector**, and the **environment**, to contribute to the **socio-economic development** of the country.

We aim to promote the **global One Health** based on the close relationship between the health of **human beings, of animals, and of the environment** in which they live.



OUR NUMBERS

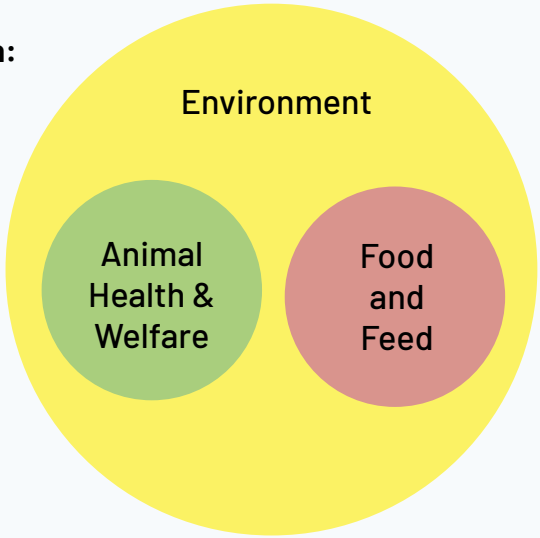
In addition to its headquarters in Brescia, the institution operates **17 territorial units** across Lombardy and Emilia Romagna. It hosts 33 prestigious Reference Centres and Laboratories at regional, national, and international levels, including collaborations with FAO, WOAH, and the EU. The organization boasts a portfolio of over **1,500 validated diagnostic methods**, underscoring its scientific expertise. Over the past six years, it has secured more than **10 million euros in research funding** from both national and international sources. Each year, the team contributes around 130 scientific publications, reflecting its commitment to advancing veterinary and public health research.

WHY PARTNER WITH US?

Excellence:

1. State of the art facilities and equipment for basic and applied research.
2. Improve diagnostics and production excellence through collaborations with other national and international research Institutes and Universities (veterinary and human medicine, chemistry, agroscience, biology).
3. Multidisciplinary approach through the integrated application of epidemiological and microbiological, entomological, biomolecular and chemical methods.

Areas of Research:



Quality:

1. Accreditation Number 0148L REV. 06 - ISO/IEC 17025:2017
2. Above 350 accreditated Chemical, Microbiology, Serological and Molecular Biology methods
3. Production of : Autogenous Vaccine, Cellular Culture and Bio-Banck, Diagnostic Kits and Training in Veterinary Public Health Certification – Certified ISO 9001: 2015

CORE ACTIVITIES

Animal Health & Welfare

Ensuring animal health involves diagnosing infectious diseases in both terrestrial and aquatic species. Advances in molecular biology and genomics help address challenges like antibiotic resistance. Promoting animal welfare through responsible husbandry, biosafety, and eco-sustainable practices is essential. High-quality production of vaccines and biological materials supports disease prevention. Together, these efforts safeguard animal well-being and public health.

Food and Feed

Molecular biology and genomics enhance the identification of foodborne diseases, while predictive microbiology supports Food Business Operators (FBOs) in ensuring safety. Genomic epidemiology aids in tracing outbreaks and understanding pathogen spread. Monitoring chemical contaminants remains vital to prevent health risks. The safety of food contact materials (FCM) is also closely evaluated. All these elements contribute to thorough risk assessment in the food and feed sectors.

Environment

Environmental monitoring supports the detection of vectorborne and parasitic diseases, as well as wildlife-related zoonoses. Entomology aids in identifying vectors and assessing their role in disease transmission.

Wastewater analysis reveals pathogens, AMR, and contaminants. Aquatic epidemiology tracks ecosystem health and emerging threats. Surveillance of natural toxins further protects both environmental and public health.

Animal Health, Welfare and Enviromental Research

EXPERTISE

- Sampling, including vectors' collection;
- Microbiological identification, typing, and characterization;
- Molecular epidemiology and genomics;
- Diagnostic assay development, validation and standardization;
- Molecular biology techniques;
- Protein and antibody analysis;
- Ichthyopathology and aquaculture;
- Cell culture and egg embryos viral isolation;
- Surveillance and epidemiology;
- Histopathology, including neoplastic disease diagnostics;
- Microbiome and phylogenetic analysis;
- Food pests, insect farming and forensic entomology;
- Development of animal welfare indicators and assessment check-lists;
- Vaccine production;
- Clinical biochemistry;
- Animal experimental trials design and management.

FOCUS AREA

- Leishmania/West Nile disease/ Fleboviruses;
- Fish diseases;
- Avian Influenza and avian pathology;
- Transmissible spongiform encephalopathies (TSE);
- Host - pathogen interface;
- Swine and cattle diseases;
- Salmonella and Klebsiella pathogenesis;
- Lagomorph viral diseases;
- Antimicrobial resistance.

Animal Health, Welfare and Enviromental Research

ENVIRONMENT

EQUIPMENT

- Sequencers (Sanger, NGS);
- PCR thermocyclers (end-point, realtime, digital);
- Automatic nucleic acid extractors;
- Automated capillary electrophoresis systems;
- MALDI-TOF;
- MIC semi-automatic reading;
- Incubators;
- Cryostats;
- Climate chambers.

LABORATORIES

Specialized compliant laboratories:

- BSL2;
- BSL3;
- Histopathology;
- Microbiology- Electron microscopy;
- Laser confocal microscopy;
- Monoclonal antibodies production and characterization;
- Diagnostic kits' development, validation and production;
- Synthetic peptides and molecules production.

Food, Feed, and Enviromental Research

EXPERTISE

- Molecular analysis for regulatory compliance;
- Microbial challenge test;
- Investigating the effects of new ingredients or technological treatments on the safety of food products;
- Validation of food processing;
- Food microbiology;
- Sequencing and metagenomics;
- Qualitative and quantitative molecular assays development;
- Modeling applied to food safety;
- GMO and TSE monitoring;
- Chemical analysis for contaminants;
- Mass spectrometry applied to contaminants
- detection and quantification;
- Development of methods for residues detection by mass spectrometry;
- Raman microscopy.

FOCUS AREA

- Foodborne viruses;
- Species identification;
- Allergens;
- Milk and dairy products;
- Traditional products;
- Natural toxins (bio-, plant-, bacterial-, algal-, myco-toxins);
- Organic contaminants (pesticides, POPs,
- PFOS/A, BfR);
- Heavy metals;
- Drug residues;
- FIA (additives, aromas, and enzymes).

Food Science and Safety Research

ENVIRONMENT

EQUIPMENT

- Illumina and Nanopore sequencing platform;
- Digital PCR System;
- Real-Time PCR systems;
- Automated systems for microbiology and nucleic acids extraction;
- Luminescence plate reader;
- Cold storage rooms;
- Curing chambers;
- Stuffing/Filling machine;
- Vacuum machines;
- LC-MS/MS (QQQ);
- GC-MS/MS (QQQ);
- LC-HRMS (Orbitrap);
- GC-HRMS (Orbitrap);
- ICP-MS/MS (QQQ);
- LC-ICP-MS/MS;
- LC/MS-Q-TOF;
- UHPLC;
- IC-LC;
- NIR;
- Raman microscope;
- Particle size analyzer;
- Slurry homogenizer;
- BactoScan;
- MilkoScan.

LABORATORIES

- BSL2;
- BSL3 (including experimental meat plant);
- Clean rooms for dioxins and heavy metals;
- Sample prep laboratory;
- Sequencing lab;
- Experimental dairy and meat processing plant;
- Domestic food handling simulator for microbiology and FCM;
- Decontamination lab and incinerator.

HOW TO GET INVOLVED? LET'S CONNECT

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HOW TO STAY UPDATED? FOLLOW US

Website: izsler.it

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