

Porcine epidemic diarrhoea: since May 2014, a category 1 disease*

Following the epizootics of porcine epidemic diarrhoea, caused by the PEDv virus, the Viral genetics and biosecurity unit began research in 2014 in order to develop specific detection methods for the virus and it participated in an expert group for two requests on the risk of introduction of PED into France.

A surveillance scheme has been set up throughout the country.

The unit is the national reference laboratory for PED and conducts differential diagnostics for suspected clinical cases of the disease.

The development of diagnostic tools for PEDv is also supported by a CoVetLab project involving five European partners (DTU-Vet, CVI, SVA, AHVLA and ANSES).

New high-throughput sequencing and analysis techniques: a platform in operation since 2014

In late 2013, the Ploufragan-Plouzané laboratory acquired a high-throughput sequencing platform in addition to transcriptomic analysis equipment. This included high-throughput sequencing equipment and a server for the analysis of sequencing data.

Practical implementation of the platform was carried out in the first half of 2014 with the signature of an organisation memo by ANSES's Director General in early July. Over the year, more than twenty projects were submitted to the platform. In late 2014, a second bioinformatics specialist was hired in order to reinforce the data processing capacity.

*Category 1 disease: a disease which justifies financial and human commitments by the State with regard to surveillance measures, and possibly control measures, on farms.

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Ploufragan/Plouzané Laboratory

On its two sites located in Brittany, the Ploufragan/Plouzané laboratory has a staff of approximately 200. It focuses on poultry, pigs and farmed fish.

The laboratory contributes to **improving animal health and welfare** and the **quality, and safety of foods** of animal origin, and the **safety of occupations in the poultry and swine sectors**.



Eight research units

- Mycoplasma - bacteriology
- Hygiene and quality of poultry and pork products
- Pig virology and immunology
- Viral genetics and biosafety
- Virology, immunology and parasitology in poultry and rabbits
- Epidemiology and welfare in poultry and rabbit farming
- Epidemiology and welfare in pigs
- Viral diseases in fish

Three experimental departments

- Avian breeding and experimentation
- Production of SPF pigs and experimentation
- Fish breeding and experimentation



Reference laboratory of the World Organisation for Animal Health (OIE)

- Gumboro disease
- Aujeszky's disease
- Avian metapneumoviruses

National Reference Laboratory (NRL)

- Newcastle disease
- Avian influenza
- Swine influenza
- Avian Salmonellosis
- *Salmonella* spp.
- *Campylobacter* spp.
- Avian botulism
- *Streptococcus suis*
- Avian mycoplasmosis
- Classical swine fever
- African swine fever
- Regulated diseases of fish

Main partners

- French Ministry of Agriculture - Directorate General for Food
- Brittany and Pays de la Loire regions
- Departmental councils of Côtes-d'Armor and Finistère
- European Union
- INRA, IRSTEA, INSERM, IFREMER, ONCFS, IPP, CIRAD, Universities, Veterinary colleges (in France and abroad)
- Technical centres and institutes (IFIP, ITAVI, etc.), Chamber of agriculture
- Interprofessional organisations (ARIP, CRP, CIDEF, UGPVB, SFAM, FFA, CITPPM, etc.)
- Industry, SMEs
- Zoopôle Développement biotechnology park
- International organisations such as EFSA, FSA, European Pharmacopoeia, EMEA, OIE, FAO, OMS, WHO, etc.
- International Scientific Societies such as ISAH, EAAP, ESVV, WVPA, WPSA, etc.



Main research programmes

- Adaptation of statistical methods to epidemiology
- Antimicrobial resistance and pharmaco-epidemiology
- Poultry and pig welfare
- Calicivirus in rabbits and hares
- *Campylobacter*, *Salmonella*, *Listeria*, *Yersinia*, *Clostridium*
- Immunology and immunotoxicology in fish
- Impact of environmental pollutants on animals
- Avian influenza, Gumboro disease and avian metapneumoviruses
- Influenza/flu syndromes in pigs
- Host/pathogen interactions
- Modelling of infectious diseases
- Enzootic respiratory diseases in pigs
- Parasitology in poultry
- Viral diseases in fish
- Swine fevers
- Vaccinology/vectorology
- Emerging animal diseases
- Occupational health in the poultry and swine sectors