

ANSES, SPPAE SERVICE (PIG)
ANSES, SELEAC SERVICE (POULTRY, RABBIT)
ANSES, PVP UNIT (FISH)
ANSES, ANSES NANCY WILDLIFE
(FR)

<p>Research topics:</p>	<p>The ANSES laboratory of Ploufragan is specialized in poultry, rabbits, pigs, and farmed fish studies. It contributes to improve animal health and welfare as well as the quality of animal science related data. It studies pathogens responsible for major zoonotic diseases or with a strong economic impact, by the development of tools and methods for diagnosis and prevention in animals, the monitoring of the emergence of avian pig and fish diseases. It also acts as national reference laboratory for several OIE notifiable diseases and provides scientific and technical support to professional and veterinary sectors by assessing the risk associated with the consumption of food from poultry and pig industries. The agency is the international reference laboratory for Infectious Bursal Disease, Avian Influenza, Aujeszky's disease and rabies. It is also the NRL for classical swine fever, African swine fever and several fish diseases including viral hemorrhagic septicemia (VHS), infectious hematopoietic necrosis (IHN), koï herpes virus disease (KHVD), infectious salmon anemia (ISA) and Epizootic hematopoietic necrosis (EHN). With respect to wildlife, the following infectious diseases can be studied: animal rabies, alveolar echinococcosis, Lyme disease, tick-borne encephalitis and Hantavirus infections.</p>
<p>Activities and services currently offered by the infrastructure/installation:</p>	<p>a) Swine: Each animal facility includes quarantine and different separated blocks for animal experimentation, as well as necropsy rooms. Animals for experimentation (selected pig lines) can be obtained from controlled production units located on the site. The facilities include about 800 m² level 3 facilities for pigs. Access will be provided to research facilities involving pigs and pig diseases exclusively. Next to these animal experimental facilities, access will be granted to</p>

BSL3 laboratory facilities for the manipulation of various BSL2/3 swine pathogens such as classical and African swine fever or Aujeszky's disease.

b) Poultry: Facilities include quarantine and different rooms or isolators for animal experimentation as well as necropsy rooms. SPF animals (chickens, turkeys, or ducks) are produced on site. The facilities have the biosafety level 2 or 3 (BSL2 or BSL3):

à Containment rooms (BSL2, 8 x 25 m²) and isolators (BSL2, 9x 1.4m²) for bacterial and viral infections or vaccine challenges and Containment rooms (BSL2, 4 x 25 m²) for parasitological studies.

à Containment rooms (BSL3, 3 x 25 m²) and isolators (BSL3, 4x 1.4m²)

à Protected facilities for producing SPF chickens, turkeys and ducks (total 1000 breeders).

c) Fish: The approved fish facilities have been renovated in 2010. They include:

-8 tanks of 15m³ allowing the production of rainbow trout "virus free" but also the maintenance of other fish species (like sea bass, sea bream, ...);

-1 confined room dedicated to the reproduction of rainbow trout;

-5 experimental and confined rooms (3 large and 2 small) for research activities. Among these 5 experimental rooms, 3 are used exclusively for experimental infections with viral or bacterial agents and 2 for chemical expositions.

The experiments can be performed using thermo-regulated seawater or freshwater (open circuit) previously treated by sand filter (UV available).

The water treatment includes chlorination for water contaminated by infectious agents (an ozonating system is expected in the short term) and activated carbon to retain the pollutants.

Varied sizes of tanks are available (10L, 50L, 400L).

A large number of experimental infections with fish pathogens can be done inside this facilities for different applications:

	<p>- to better characterize viral diseases or to allow the evaluation of the performance of a diagnostic test;</p> <p>- to determine the level of virulence of different viral strains and to test recombinant viruses generated by reverse genetics;</p> <p>- to investigate the susceptibility/resistance of selected fish to pathogens;</p> <p>- to study the potential immuno-stimulating properties of feed additives.</p> <p>d) Wildlife: The facilities include BSL3 facilities (laboratory and animal housing), BSL2 facilities and external buildings for experiments that do not require biocontainment. The BSL3 facilities have been renovated in 2012 (wastewater decontamination and treatment) and in 2014 (air treatment and validation of BSL3 level). Each BSL3 facility has one 23 m² animal room that can be equipped with 18 individual cages (1.5 x 0.75 x 1m) and another room. In one facility the room is equipped to handle and manipulate animals, in the other one it is a laboratory. Outside buildings include a quarantine building (36 individual cages of 1 x 1.1 x 0.74 m), 2 other buildings with 82 cages each and a block of 4 cages 4 x 4 x 2.5m that can communicate. There are 2 necropsy rooms: one in BSL2 and one in BSL3; one experimentation room in BSL3 and one in BSL2 (with surgery and gaseous anesthesia equipment). Animals for experimentation can be obtained from private companies or, for species that are not bred, animals are trapped in the field after permission is granted by the respective authorities. Animal facilities are agreed for different species of wildlife; wild carnivorous, birds or rodents.</p>
<p>Description of the access to be provided under VetBioNet TNA call:</p>	<p>Access typically consists:</p> <p>Swine: Each experiment consists of:</p> <ul style="list-style-type: none"> • 4 isolated rooms in parallel • Each room housing 8 pigs • The duration of each experiment is 4 weeks, 1 week preparation, 2 weeks

experimentation and 1-week necropsy, decontamination. On average each user or user group is expected to stay 7 days at the infrastructure

- The duration can be extended depending on the type of infection model

Poultry: Each experiment consists of:

- Some isolated rooms or isolators in parallel
- The conditions provided in each room or isolator is depending on the age of animals and the design of experiments
- The duration of each experiment is 4 weeks, 1 week preparation, 2 weeks experimentation and 1-week necropsy and decontamination. On average each user or user group is expected to stay 7 days at the infrastructure
- The duration can be extended depending on the type of infection model

Fish:

- Possibility to use up to 8 tanks of a capacity of 400 L (1 large experimental room) or 16 tanks of a capacity of 50 L (1 large experimental room) or 20 tanks of a capacity of 10 L (1 little room) with thermoregulated freshwater or saltwater.
- Experiments can be carried out with different species (freshwater species like rainbow trout or carps, saltwater species like sea bass or sea bream) and sizes (from egg to genitor) of fish.
- The duration of each experiment is 8 weeks and includes 1 to 2 weeks of acclimatization, 2 to 3 weeks of preliminary test (sensitivity of the fish, level of mortality, etc.), 3 to 5 weeks of experimentation, and 1 week of decontamination. On average each user or user group is expected to stay one to 2 weeks at the infrastructure

	<ul style="list-style-type: none"> • The duration can be extended depending on the type of infectious model. <p><u>Wildlife:</u> Each experiment consists:</p> <ul style="list-style-type: none"> - 2 isolated rooms in parallel - Each room housing 18 or less animals depending on the species - The duration of each experiment is 8 weeks: 5 weeks of preparation (including capture of animals in the field), 2 weeks of experimentation and 1 week for necropsies and decontamination. - The duration of experimentation can be extended depending on the type of infectious model
<p>Animal species/pathogens that can be worked on in this infrastructure/installation:</p>	<p>The pathogens that can be studied are indicated above (Research topic). The animal species are as follow:</p> <ul style="list-style-type: none"> • Pigs • Poultry: chicken, turkey, duck • Fish: different species (freshwater species like rainbow trout or carps, saltwater ones like sea bass or sea bream) and sizes (from egg to genitor) of fish • Wildlife: different species (wild carnivorous, birds or rodents).
<p>Travel and subsistence costs:</p>	
<p>Infrastructure/installation ethical rules:</p>	<p>All the experimental procedures must comply with the 2010/63 EU Directive (approved by the local ethics committee and the French ministry of research).</p>