



**RÉPUBLIQUE  
FRANÇAISE**

*Liberté  
Égalité  
Fraternité*

### Management

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### Experimental Fields

- Evaluation and selection of animals adapted to the environment
- Livestock system management
- Multi-criteria evaluation of food resources

### Key Figures

- Engineers and managers: 3
- Technicians and administrative staff: 25

### Photos

- **Creole breed young bulls in experimentation** using the tethered grazing system, a precise tool for feeding protocols : individualized grazing areas ; precise evaluation of consumed biomass ; individualized feces collection, etc.  
©INRAE / Madly Moutoussamy
- **Herds of Creole goats.**  
Maintenance of local breeds: performance control, genetic improvement protocols integrating production and adaptation objectives to the tropical environment, optimizing the use of local breed traits, etc.  
©INRAE / Rémy Arquet
- **Pregnant sows (Large White and Creole breeds)** freely roaming (in compliance with the 2013 animal welfare regulations), in front of an Automatic Concentrate Dispenser (ACD), a high-throughput phenotypic data collection tool for evaluating the feeding behavior of the sows.  
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## Tropical Animal Experimentation Platform (PTEA)

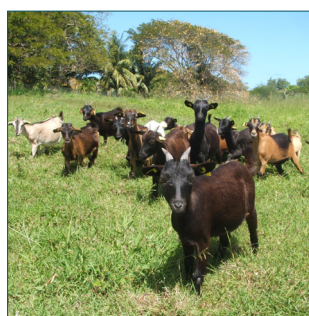
### Mission et objectives

The Tropical Animal Experimentation Platform (PTEA) conducts experiments on livestock in humid tropical environments and develops technological innovations for the agroecological transition of farming and food systems in the context of climate change.

### Research Themes

PTEA supports research within programs focused on:

- The adaptation of animals to the constraints of tropical environments: resistance to internal and external parasitism in ruminants, adaptation to heat in pigs (nutrition, reproduction, etc.).
- The multi-criteria evaluation of forage plant resources, both conventional and non-conventional (banana, cassava, sweet potato, shrub legumes, etc.), through the characterization of their nutritional, health, and environmental values.
- The zootechnical, agronomic, and environmental evaluation of farming systems (optimal stocking density, irrigation impact, species combination, crop-livestock systems, etc.).



Photos: @inrae

### Protection of Local and Endangered Breeds for Agriculture

PTEA serves as a conservatory for Creole animal genetic resources (such as Martinik sheep, cattle, goats, and pigs) that are endangered or at risk of being abandoned in agriculture. The platform provides relevant experimental models, maintaining them through nursery herds. It supplies biological samples to the CARARE Biological Resource Center (CRB) and distributes high-quality breeding stock to farmers.

### Expertise

PTEA offers a wide range of expertise in animal production and experimental methodologies:

- Reproduction (semen freezing, artificial insemination, ultrasound).
- Pasture management (floristic composition, biomass measurement, forage harvesting and preservation).
- Nutrition (intake, rumen/duodenum digestibility, degradation kinetics, methane emission).
- Parasitology (Famacha method, clinical index, integrated parasite management).
- Official scoring of Creole cattle, carcass quality assessment.
- Livestock systems for ruminants and monogastrics.
- Feed production (pelleted feed, complete ration blocks).
- Training modules (artificial insemination, feed production).
- Behavior monitoring through video surveillance.



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## Partnerships

PTEA mainly collaborates with INRAE research departments conducting studies in animal genetics, animal health, physiology, and farming systems, as well as with other institutional partners (CIRAD, CHU, UA, EPLEPPA, etc.). It cooperates with inter-professional associations (IGUAVIE, AMIV), the Chambers of Agriculture of the Antilles-Guyane, technical institutes (ITEL, IFIP), in connection with the Antilles-Guyane Livestock Reference Network and IT2, breeding organizations (UPRA, USOM, UPRA Creole Selection, Créole Sélection), livestock cooperatives, and local feed producers.

PTEA provides training modules for students in agricultural programs (Lycée, CFPA, CFPPA) and farmers. It supervises interns and doctoral students for experiments conducted within research projects by partner organizations.

### Glossary:

**AMIV:** Martinican Interprofessional Meat Association

**CFPPA:** Center for Vocational Training and Agricultural Promotion

**CHU:** University Hospital Center

**CIRAD:** Center for International Cooperation in Agricultural Research for Development

**CRB CARARE:** Caribbean Animal Genetic Resources Biological Resource Center

**EPLEPPA:** Local Public Establishment for Agricultural Education and Vocational Training

**IFIP:** French Pork Institute

**IGUAVIE:** Guadeloupean Interprofessional Association for Meat and Livestock

**IT2:** Tropical Technical Institute

**ITEL:** Livestock Technical Institute

**UA:** University of the Antilles

**UPRA:** National Unit for Breed Selection and Promotion

**USOM:** UPRA Martinik Sheep Selection

## Human Resources and Technical Facilities

The PTEA is located on two sites (Duclos and Gardel), which provide contrasting soil and climate conditions, along with modern livestock and experimental facilities:

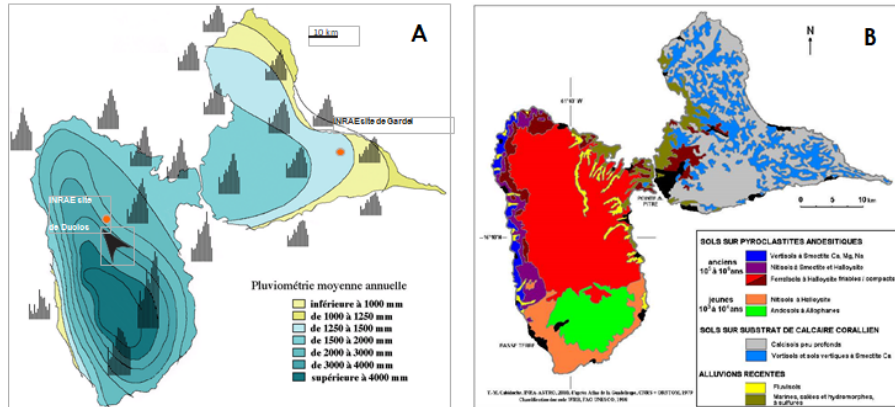


Figure 1 : (A) Mean annual rainfall, and (B) major soil groups in Guadeloupe.

### PTEA - Duclos site

Basse-Terre – PETIT BOURG

Volcanic chain, Ferrallitic soils.

Humid Zone: Annual rainfall of 2500 to 3500 mm

Exploited Area: 12 hectares of pastures

#### Permanent staff:

15 staff members, including 1 research engineer, 1 study engineer, 11 research technicians, and 2 technical assistants.

#### Infrastructure : 4000 m<sup>2</sup>

- ▶ A semi-open piggyery equipped with an automatic feeding system.
- ▶ Two buildings for small ruminants.

#### Livestock:

70 sows (90% Large White, 10% Creole)  
120 Martinik ewes, farming system: off-ground

### PTEA - Gardel site

Grande-Terre – LE MOULE

Limestone plateau, swelling clay vertisols.

Dry Zone: annual rainfall of 800 to 1200 mm.

Exploited Area: 50 hectares of pastures

#### Permanent staff:

13 staff members, including 1 study engineer, 9 research technicians, and 3 technical assistants.

#### Infrastructure: 3000 m<sup>2</sup>

- ▶ A free-stall barn for cattle.
- ▶ Three buildings for small ruminants.

#### Livestock:

72 Creole cows  
150 Creole goats  
50 Martinik ewes, farming system: pasture-based

### Experimental Tools :

1. Phenotyping in humid tropical environments (parasitology, thermal stress, etc.): Automatic Concentrate Dispensers (ACD) for individualized intake measurement, Controlled-environment building, Off-ground buildings (experimental infestation), Weighing automatons, Ultrasound (backfat thickness), Infrared thermometers, Climate data recording (ambient), Météo France-approved weather station,
2. Multi-criteria evaluation of food resources : innovative feed production workshop (drying greenhouses, ovens, grinders, multi-species digestibility balance cages), mobile ACD for methane emission evaluation,
3. Evaluation of Livestock Systems: Outdoor vs. controlled environment setups : pasture management, irrigation, herbometers,
4. Resource conservation and breeder dissemination: facilities for semen collection, processing, and storage (cattle, pigs, and goats),
5. Animal behavior study: video surveillance, accelerometers,
6. Surgery rooms, slaughter rooms, sample collection and processing rooms, positive cold rooms,
7. Effluent treatment station.

