RÉPUBLIQUE
FRANÇAISE
Liberté
Égalité
Fraternité

cirad
AGRICULTURAL RESEARCH
FOR DEVELOPMENT

French West Indies, French Guiana and Caribbean

CIRAD's regional office

170
staff
including
122
scientists
of which
52
researchers

14
research units
of the three scientific departments

1
platform in partnership for research and training
CaribVET

6
priority research topics
Agroecological transitions
Biodiversity
Climate change
Food systems
One Health
Territory-based approaches

8
tropical value chains
Banana and plantain
Cocoa
Coffee
Sugarcane
Dairy
Forest resources
Fruit and vegetables
Roots and tubers

More than 40 scientific fields

85
partner institutions
25
local
50
regional
10
international

50
projects per year:

58%
funded by overseas territorial authorities

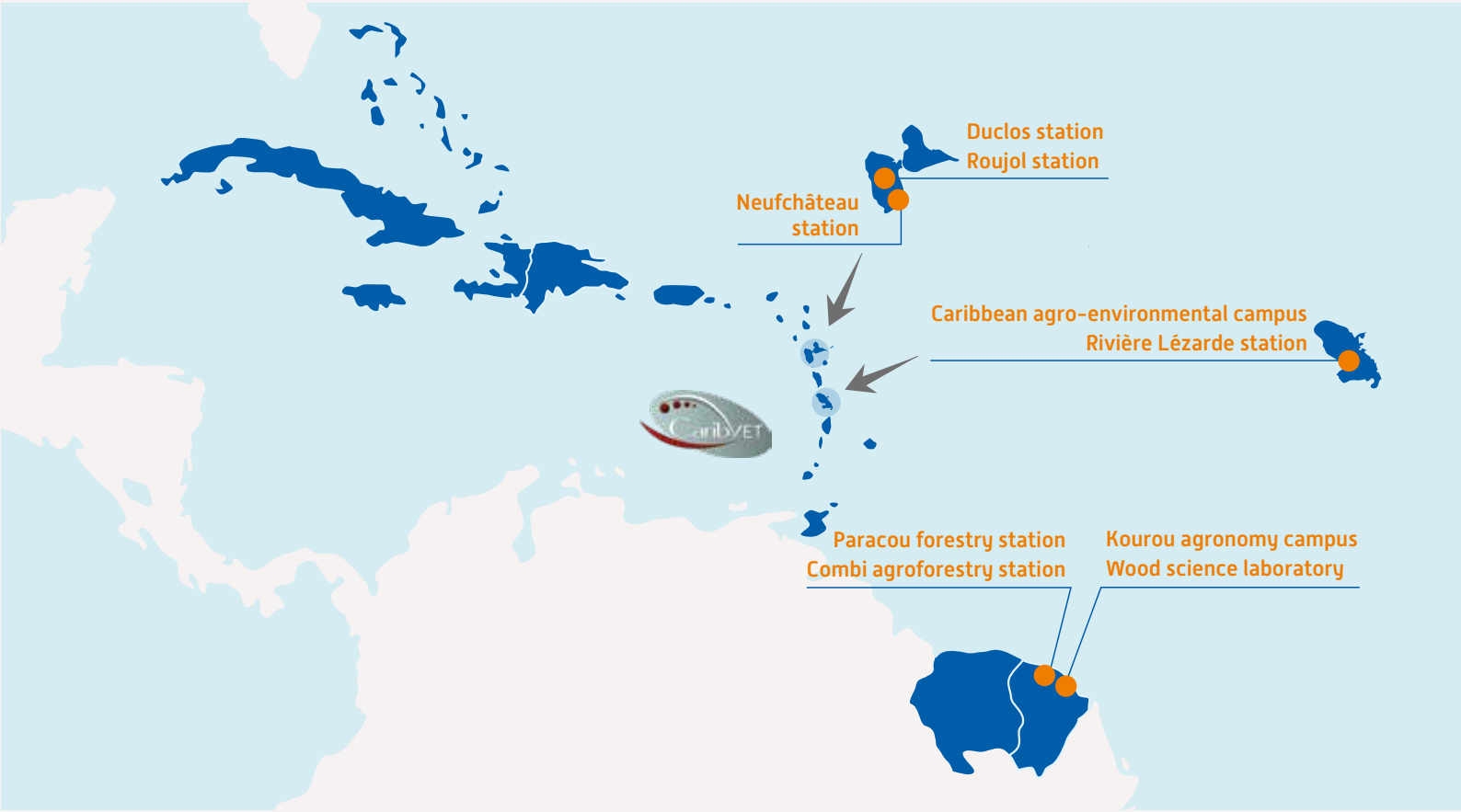
18%
by public research donors

18%
by public development donors

6%
by private donors

French West Indies, French Guiana and Caribbean

Experimental stations and research laboratories



Research infrastructures

- 1 plant breeding platform
- 1 platform for the co-design of agroecological systems
- 1 *in vitro* culture platform
- 1 BSL-2 laboratory
- 1 BSL-3 laboratory on animal diseases
- 2 soil biology laboratories
- 1 wood physics laboratory
- 1 wood collection
- 1 platform for long-term biodiversity and growth monitoring in the Amazon forest
- 1 biochemistry and molecular biology analytical platform
- 2 catchment areas equipped for pollution monitoring
- 1 mini-chocolate factory

M. Jannoyer, CIRAD

CIRAD has a long-standing commitment to fostering sustainable agriculture and food supplies in the French West Indies, French Guiana and the Caribbean by conducting research, supporting producers and providing training. With its partners, with the help of the local authorities in Guadeloupe, Martinique and French Guiana, along with French government and EU services, it works to boost the scientific influence of the region in the fields of agriculture, health and the environment.

An interdisciplinary approach in partnership

CIRAD

To help these territories cope with the multiple challenges they face – food security, climate change, environmental conservation, agricultural employment, health risks, etc – CIRAD's approach is interdisciplinary and in partnership.

CIRAD's regional office encompasses a very wide range of research disciplines, including agronomy, plant and animal health, epidemiology, modelling, physiology, genomics, ecology, etc. The complexity and multiplicity of the challenges specific to the region can be more effectively addressed by taking an interdisciplinarity approach.

The partnership dimension is also a major focus for CIRAD in the French West Indies, French Guiana and the Caribbean. Solving research issues together – from their conception to the end of the programming process, knowledge creation and capacity building – calls for several types of partnership. First of all, scientific partnerships given the collaborative research involved, technical partnerships (agricultural value chains or companies), subsequently associated with the joint construction of innovations, and lastly public partnerships with decision makers, so as to contribute to territorial development and scientific influence, and guide public policies.

CIRAD thus plays a special role in the region, acting as an interface between territories, researchers, agricultural professionals and decision makers.

A research-innovation-training continuum

CIRAD contributes to agricultural development in the French West Indies, French Guiana and Caribbean region through its scientific output, cooperation and training, be it academic or professional. This continuum is all the more important in that it gives rise to new vocations, new ways of farming (no pesticides, agroforestry, organic farming, etc) and new tools to manage health risks, forests and biodiversity.

Several projects are emblematic of CIRAD's role in the region. Among others, these include:

- The Caribbean agroecology training network: transition (REACT). This project received funding under the Interreg Caribbean programme, following a proposal from the Caribbean network of the general directorate for Education and Research and the local public establishment for agricultural education and professional training (EPLEFPA) in French Guiana, in partnership with CIRAD, the EPLEFPAs in the French West Indies, the University of French Guiana, and the Guianan Local Authorities.
- Involvement in the "Biology-Health" Master's degree at the University of the French West Indies as part of the research and training platform in partnership, (dP) CaribVET.
- Strong involvement in the "Ecology of Tropical Forests" Master's degree at the University of French Guiana.

In terms of research infrastructure, by managing and running three biological resource centres for food plants, CIRAD develops, assesses and integrates hybrid varieties with greater resilience to pests and diseases, and to environmental and climatic pressures in some agro-ecological cropping systems.

CIRAD

From local development to regional cooperation

The French West Indies, French Guiana and Caribbean regional office oversees the wide complementarity of operations and infrastructures or platforms found in Guadeloupe, Martinique and French Guiana, whilst having international scope and an impact on territorial development.

The Caribbean region encompasses wide diversity: diversity in the size, politics and challenges of its numerous States and territories. The situations encountered are therefore bound to be heterogeneous. For research, such proximity and complexity make them some of the most stimulating territories and ecosystems for innovation, with a large number of stakeholders (politicians, producers, other research and training organizations).

The regional office thus partakes in international dialogue with Latin America, but also with Europe or the United States, generating results that are original, being interdisciplinary and intercultural.

In the dP CaribVET platform (https://www.caribvet.net/) research contributes to improving the surveillance and control of animal diseases, by combining basic research and operational applications. This network has 48 members, including the veterinary services of 34 Caribbean countries or territories, six regional or international organizations, six universities or research organizations, one NGO and a political organization, CARICOM.

Research geared towards six priority research topics

AGROECOLOGICAL TRANSITIONS

Sustainable territories project

M. Jannoyer, CIRAD

The Sustainable Territories project aims to facilitate the agroecological transition in three French overseas departments: Guadeloupe, Martinique and Réunion. It centres on involving the stakeholders in those territories and aims to achieve changes in practices and farming systems on three levels: agricultural plot level for technical and agroecological levers, farm level to revive the resources and learning processes required for change, and lastly basin level to unify players and facilitate changes, mostly organizational and institutional. ■

Duration: December 2020 - May 2024
Funding: Ministry for Overseas France
Budget: € 2 million
Partner: INRAE

https://www.cirad.fr/dans-le-monde/cirad-dans-le-monde/projets/projet-territoires-durables

BIODIVERSITY

Biological resource centres

CIRAD, T. Lefrançois

The French West Indies, French Guiana and Caribbean regional office hosts three biological resource centres (BRC) designed to enrich collections through new accessions, preserve them under optimum conditions, and make them available to interested parties. ■

Tree Crop BRC. In French Guiana, the Tree Crop BRC houses CIRAD's coffee, cocoa and natural rubber collections.

http://florilege.arcad-project.org/fr/crb/plantes-perennes-guyane/crb-plantes-perennes-guyane

Tropical Plants BRC. In Guadeloupe and Martinique, this BRC houses CIRAD and INRAE collections of cultivated and related species: pineapple, banana, sugarcane, fruit trees and yam, plus an internationally recognized herbarium.

http://florilege.arcad-project.org/fr/crb/plantes-tropicales/crb-plantes-tropicales

Caribbean Microbes and Vectors BRC (MiVeC). In Guadeloupe, MiVeC stores the vectors and microorganisms responsible for reference/high stake animal diseases (heartwater, tick-borne diseases, West Nile fever, swine fevers, etc).

https://umr-astre.cirad.fr/en

CLIMATE CHANGE

ECOFOG research unit

J. Beauchêne, CIRAD

The aim of the ECOFOG joint research unit (UMR) is to combine various ecology and materials science approaches with a view to understanding the relations existing between the biodiversity and functioning of managed and non-managed tropical forest ecosystems, as a result of climatic and manmade pressures, and to encourage innovation in terms of forest resource use, given the vast biodiversity available, taking account of the constraints on use imposed by the humid, tropical environment.

The Unit offers a range of knowledge on tropical forest ecosystems that can be put to various uses, such as ecosystem management, or the role played by the tropical rainforest in French Guiana in the global carbon cycle.

It is also committed to sustainable development of the wood production sector. It establishes carbon balances and proposes simulation tools to support land-use planning policies. ■

http://www.ecofog.gf/

Regulatory bodies (apart from CIRAD):

- AgroParisTech
- French National Research Institute for Agriculture, Food and Environment (INRAE)
- French National Centre for Scientific Research (CNRS)
- University of French Guiana (UG)

Spotlight on our operations

FOOD SYSTEMS

A report on food self-sufficiency for overseas France

M. Jannoyer, CIRAD

A collective analysis commissioned by AFD, with funding from the Ministry for Overseas France, shed light on the way forward for an agricultural policy to provide food self-sufficiency by 2030. This entails the ability of the territories to sustainably provide a maximum of their populations' food requirements through their own production and resources. The study provided a factual account of the food self-sufficiency situation in each of the territories based on three aspects (production, food, public policies) and identified a maximum of levers to contribute to that aim, including some new agricultural models. ■

Marzin (J.) et al., *Étude sur les freins et leviers à l'autosuffisance alimentaire : vers de nouveaux modèles agricoles dans les départements et régions d'outre-mer,* Montpellier, CIRAD-AFD, 2021, 236 p.

https://www.cirad.fr/en/press-area/press-releases/2022/autosuffisance-alimentaire-outre-mer

ONE HEALTH

CaribGREEN

M. Jannoyer, CIRAD

CIRAD in the French West Indies and French Guiana advocates the One Health approach on a Caribbean scale. In particular, it is coordinating the CaribGREEN initiative seeking to establish a "Caribbean One Health research-innovation-training platform" designed to bring together the different scientific and technical communities working on animal, human, plant and environmental health in the Caribbean. The CaribGREEN project promotes agroecological practices and integrated health management in productive ecosystems with resilience to global change. The aim of the project is to establish a collaborative Caribbean agro-environment and health platform. ■

Operational area: Greater Caribbean (over thirty island and continental States and territories)
Duration: April 2022-April 2024
Funding: AFD
Budget: € 1.6 million

Partners: two regional animal and plant health networks (CaribVET and Caribbean Plant Health Directors, CPHD), Banana Board (Jamaica), Dominican Institute of Agricultural and Forestry Research (IDIAF, Dominican Republic), National Animal and Plant Health Centre (CENSA, Cuba)

TERRITORY-BASED APPROACHES

Observatory of Agricultural Pollution in the French West Indies (OPALE)

M. Jannoyer, CIRAD

The need for a clearer understanding of the mechanisms involved in water contamination via soil contamination led to the creation of two observation sites, one in Martinique, the other in Guadeloupe, in partnership with Ifremer, INRAE and IRD.

These observatories serve to characterize and monitor pollution of water resources by current and past agricultural activities, particularly pollution by chlordecone in the tropical volcanic context of the French West Indies. The OPALE initiative has helped to establish a sound basis in terms of:

– equipping catchment areas on both islands,

– understanding hydrological functioning, and hydrogeological zoning,

– diagnosing links between contamination by chlordecone and other pesticides, and the distribution of soils and their current or past agricultural uses. ■

Find out more: https://www.caec-carib.org/recherche/projets/opale • https://bit.ly/3CFEgD2

CIRAD is the French agricultural research and international cooperation organization working for the sustainable development of tropical and Mediterranean regions.

CIRAD works with its partners to build knowledge and solutions and invent resilient farming systems for a more sustainable, inclusive world. It mobilizes science, innovation and training in order to achieve the sustainable development goals. Its expertise supports the entire range of stakeholders, from producers to public policymakers, to foster biodiversity protection, agroecological transitions, food system sustainability, plant, animal and ecosystem health, and sustainable development of rural territories and their resilience to climate change.

CIRAD is a public establishment (EPIC) under the joint authority of the Ministry of Higher Education and Research and the Ministry for Europe and Foreign Affairs.

Working together for tomorrow's agriculture

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CIRAD is a founding member of:

MUSE MONTPELLIER UNIVERSITY OF EXCELLENCE

agreenium

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