

Our core capabilities

Fully equipped laboratories

We have a network of 13 laboratories with cutting-edge equipment in 10 Central and West Africa countries including:

- Molecular Virology Laboratory
- Plant Tissue Culture and Propagation Laboratory
- Nanopore sequencing services (sample preparation, library construction, sequencing and data delivery)
- Valorization of Symbiotic Microorganisms Laboratory
- Service Provision Laboratory (available to government agencies, the private sector, scientists and students in the region)

Experience and infrastructures for nationwide georeferenced field surveys

- Digital data collection tools

- Trained field personnel
- Experienced data/IT support team
- Experienced disease modeling team

Capacity building

- Experience in setting up diagnostic laboratories
- Experience in setting up demonstration plots as innovation hubs
- Farmers/seed multipliers training
- Extension officers training
- Policy makers training

Advocacy

With our national response plans against cassava viral diseases co-developed and adopted in 10 of our network countries, our governments are better prepared for rapid and appropriate responses to contain the spread of these pathogens.

Prepping for the future

WAVE RESEARCH is a forward-thinking research institution whose long-term vision is anchored in one fundamental conviction: sustainable resilience begins with people. By strategically investing in human capital – through rigorous training programmes, collaborative regional networks, and cutting-edge genomics initiatives – we are laying the groundwork for a generation of scientists equipped to safeguard Africa's agriculture into the future.

We contributed to setting up the International Certificate in Bioinformatics and Genomics (CIBiG),

which enables researchers to master the techniques involved in generating and analysing genomic data using biostatistics and integrative bioinformatics. Also, the West African Network of Bioinformaticians and Systems Administrators (RABIAS) was officially launched in Abidjan in December 2025. Designed as a structured framework for consultation, RABIAS aligns with WAVE RESEARCH's vision of strengthening regional capacities in bioinformatics and computing systems administration in a sustainable way.



Facts and figures

More than 20,209 farmers

seed multipliers and extension agents trained

13,955 field surveys

carried out

29,465 herbarium

leaf samples

318 clones

of complete begomovirus genomes

4,833 cassava accessions

collection in 14 countries

More than 479,100 people

reached through the leaflets distributed

13 biobanks

located in our target countries

25,850 DNA stocks

in long-term storage

650 reference

soil samples

150 postgraduate students

in Central and West Africa, including 14 PhD students specialising in socio-economics and 36 PhD students specialising in virology, biology, entomology and bioinformatics. The remainder hold Master's degrees

« We are WAVE RESEARCH, and we are strengthening the plant health ecosystems across Central and West Africa! »



www.wave-research.org

DISEASE-FREE CROPS
FOR FOOD AND INCOME SECURITY
FOR ALL IN AFRICA

From WAVE to WAVE RESEARCH

As the strategic continuation of a regional project that has proven its effectiveness in driving, coordinating and developing regional initiatives in the field of plant health, WAVE RESEARCH ensures the long-term sustainability of WAVE's achievements by strengthening partnerships, service provision and scaling plant and soil health innovations. WAVE is becoming WAVE RESEARCH, a non-profit research institution comprising a network of

innovation laboratories for plant health, anchored in universities and national research centres, governed by its member countries and structured to attract sustainable and diversified investment. WAVE RESEARCH is a leading institution for the prevention, monitoring and management of plant health risks in West and Central Africa, thereby contributing to food security, the resilience of agricultural systems and the region's economic development.

Vision

Disease-free crops for food and income security for all in Africa.

Mission

WAVE RESEARCH aims to catalyze sustainable protection and productivity of crops in West and Central Africa through improved understanding and coordinated management of disease threats. Our work bridges the plant health value chain to meet our vision, "disease-free crops for food and income security for all in Africa".

An innovative approach

In order to fulfil our mission, we use a holistic approach that spans research, outreach, data and evidence generation, policy advocacy, gender and systems capacity building - at local, national and regional levels.



A strong synergy

Through harmonized and coordinated activities since 2014, WAVE:

- Built a strong network of national agricultural research centers and national universities in 14 Central and West African countries (Benin, Burkina Faso, Cameroon, Central African Republic, Congo, Côte d'Ivoire, Democratic Republic of Congo, Gabon, Ghana, Guinea, Liberia, Nigeria, Sierra Leone, Togo) working in synergy with governments, national stakeholders, regional institutions and international partners;

- Designed a proven research for development model that can be easily and rapidly implemented in other countries;

- Built teams that are fully integrated into national systems, working alongside farmers, seed multipliers, policy makers and key stakeholders;

- Demonstrated in-depth ground knowledge, acquired through years of nationwide field surveys in our network countries and constant interaction with farmers and extension workers.

Key outcomes

WAVE RESEARCH's strength lies in its experienced African researchers. Driven by a shared passion to contribute to national development, they leverage indigenous/homegrown knowledge to collaboratively design and implement highly effective scalable plant health solutions. In our molecular biology, tissue culture and symbiotic micro-organism laboratories, WAVE RESEARCH identifies, maps and tracks plant diseases that limit agricultural productivity and threaten food security in Africa.

This has also allowed us to:

- Set up a comprehensive virus disease epidemiological database in Central and West Africa, useful for decision making;

- Optimize harmonized plant disease monitoring and testing protocols for nationwide disease surveillance;

- Make sensitive molecular plant disease testing capabilities readily available in 10 Central and West African countries;

- Characterize native symbiotic organisms useful for improving the agronomic performance of crops;

- Optimize protocols and enhance the capacity to bulk up healthy, high-performing planting materials and have them available for growers.

We are monitoring the evolution of plant diseases and contributing to forecasting their progression in Central and West Africa, to enable our countries to anticipate and manage these biological risks and strengthen the resilience of farmers in the face of climate change.

The participatory surveillance and early warning systems that we initiated and advocated have alerted countries of the incursion of dangerous plant pathogens into their territory.



We are strengthening the plant health ecosystems across Central and West Africa!