Introducing
the French National Research Institute
for Agriculture, Food and Environment
2021
The French National Research Institute for Agriculture, Food and Environment (INRAE)

Our mission

came into being in January 2020, through the successful merger of the French National Institute for Agricultural Research (INRA) and the French National Research Institute of Science and Technology for the Environment and Agriculture (Irstea)
We operate under the joint authority of the French Ministry for Higher Education, Research and Innovation and the French Ministry for Agriculture and Food

Our mission is twofold

- to produce and share scientific knowledge contributing to solve major challenges in Europe and in the world concerning agriculture, food and the environment
- to build on our research in order to foster innovation, provide expertise, and lend support to public policy makers at international, European and national level

INRAE – a world leader in agriculture, food and the environment

Humanity and the Earth are facing global challenges that call for new research objectives. As a public research institute, serving the common good, INRAE is fully committed to carry out science dedicated to life, humans, and the Earth that uncovers solutions to our most pressing concerns.
Looking to 2030, we have defined our scientific priorities and objectives for the next decade.

Our roadmap: INRAE 2030

They arose from a collaborative, participative process that took place both internally and outside of our institution, welcoming contributions by international experts.
Responding to environmental challenges and their associated risks

Accelerating agroecological and food transitions while answering socioeconomic challenges

Building a bioeconomy based on the efficient circular use of resources

Promoting a holistic approach to health

Facilitating transitions by mobilizing data sciences and digital technologies

Placing science, innovation, and expertise at the centre of society-policy dialogue

Reinforcing our engagement with academic, European, and international partners

Establishing social and environmental responsibility as a common objective

INRAE 2030
Building a sustainable future through shared science and innovation
Our organisation

18 research centres with strong regional ties

202 Research units
43 Experimental units
22 Service units
14 research divisions

- Action & Transitions
  Christophe Soulard

- Agroecosystems
  Philippe Hinsinger

- Animal Genetics
  Edwige Quillet

- Animal Health
  Muriel Vayssier-Taussat

- Animal Physiology & Farming
  Françoise Medale

- Aquatic Ecosystems & Water Resources
  Mohamed Naaim

- Ecology & Biodiversity
  Catherine Bastien

- Economics & Social Sciences
  Pierre Dupraz

- Food, Bioproducts & Waste
  Michael O’Donohue

- Human Nutrition & Food Safety
  Lionel Bretillon

- Mathematics & Digital Technologies
  Hervé Monod

- Microbiology & the Food Chain
  Sylvie Dequin

- Plant Biology & Breeding
  Isabelle Litrico-Chiarelli

- Plant Health
  Marie-Hélène Ogliastro
Our key figures 2020
Our people

- 1,997 researchers
- 3,188 engineers
- 3,096 technicians
- 1,850 PhD candidates
- 2,029 interns

Our staff in 2020: 11,000+ people

- 51% female
- 49% male
- 75% tenured staff
- 25% contractual staff

Budget in 2020

€ 999,1 million

- 79.5% public service subsidy
- 20.5% own resources

Public service subsidy:

- €7 million in revenue from patents and licences
- €24 million in revenue from research contracts with socioeconomic partners

More on partnerships and innovation in 2020

- 15 innovation fields
- 450+ partners
- 380 new research contracts with socioeconomic partners
- 116 new disclosed inventions and value-added results
- 45 patent applications
- 69 new licenced patents, know-how, software & plant variety rights
- 212 start-ups created since 1999
Our contribution to global challenges

an integrated approach
INRAE is a leading research institution worldwide, ranking as the 4th organisation with the highest number of publications by quotation in agricultural sciences, the 4th in plant and animal sciences, the 10th in ecology and environment (Clarivate Analytics, 2009-2019 period).

The 2030 Agenda of the United Nations describes the global challenges we are facing with the 17 Sustainable Development Goals (SDGs).

INRAE is tackling 8 of them through its scientific contributions (Number of INRAE publications by SDG, using Elsevier 2019 mapping in SciVal, WoS 2013-2018 data)

“INRAE has a responsibility to tackle this century’s global challenges. With its integrated approach to agriculture, food and the environment, INRAE will be able to identify and develop solutions with multiple applications, which can, for example, facilitate the agroecological transition and the transition to healthier and more sustainable dietary regimes, while combatting climate change, land degradation, water scarcity and food insecurity.”

— Jean-François Soussana —
INRAE’s Vice-President of International Policy, member of the Intergovernmental Panel on Climate Change (IPCC)
International scientific cooperation

working together with international students and scientists to respond to global challenges
Our scientists are co-publishing with others in 110 countries around the world

Map of INRAE co-publications
(Web of Science Data, DipSo processing - DRI July 2021)

We are developing a set of instruments to structure international scientific cooperation, with more than 20 projects

- **LIA** - International associated laboratories where scientists from INRAE and its international counterparts work together to build long-term shared projects of excellence

- **2RI** - International research networks focused on specific themes

- **JLC** - Joint linkage calls funded to foster new professional relationships and the creation of collaborations, with a specific focus on young scientists

- **IRIs** - International Research Initiatives
International Research Initiatives (IRIs)

Bringing together the international scientific community on key issues and contributing to science-policy dialogue
We have the ambition to drive research initiatives bringing together national, European and international partners on priority themes contributing to the 2030 Agenda: the International Research Initiatives (IRIs). An IRI is a shared vision, a roadmap, a strategic research agenda shared by an international community of researchers and the facilitation of this community.

An IRI aims to

- Rally the international scientific community around major challenges and align research efforts on key issues;
- Favor comparative approaches to achieve better complementarity and consistency;
- Scale up scientific cooperation and production on key issues;
- Build up funding opportunities at national, European and international levels.

Current IRIs

- Soils and Climate Change
- Intestinal Microbiota and Health
- PREZODE (Preventing Zoonotic Disease Emergence)
- Agroecological crop protection
- Forest and agroforest adaptation to climate change
- Agroecological transitions for food systems facing water scarcity and climate change
Advancing European research
Our scientific strategy is aligned with European priorities (Green deal, Horizon Europe). We have developed a leadership in European networks through Joint Programmes Initiatives and public-private partnerships at European level such as the Animal Task Force.

Our institute is very active in a range of European projects, as a coordinator and a partner, and contributes to leading European research infrastructures.

- More than 300 European projects (H2020), coordinating 94
- 6 European infrastructures (ESFRI), coordinating 1 - IBISBA.EU
- 6 European infrastructure projects coordinated by INRAE - EPPN2020, AquaExcel 2020, VetBioNet, SmartCow, PigWeb, IBISBA 1.0

The 1st beneficiary of Horizon 2020 Societal Challenge 2 "Food Security, Sustainable Agriculture and Forestry, Marine, Maritime and Inland Water Research and the Bioeconomy" in 2019

A driving force for a European roadmap on pesticide-free agriculture, behind the initiative «Towards Chemical Pesticide-free Agriculture» - 34 European research institutes from 20 countries

We are involved in
INRAE’s research infrastructures (RIs) supply scientific communities with data production and processing services, along with support for training, innovation and the development of technology. The RIs are also linked, internally and externally, to form a support framework at national and European levels.
Research infrastructures cover major thematics areas of our institute: Environment, Forest & land use, Agriculture, Human nutrition & health, Bioeconomy

Environment

- **ICOS**
  Integrated Carbon Observation System
- **LIFE RI**
  Living In Freshwaters and Estuaries
- **AnaEE**
  Analysis and Experimentation on Ecosystems
- **IN-SYLVA-France**
  Adaptive Forest Management
- **OZCAR and RZA**
  Observation of Critical Zones and Drainage basins
- **Theia, PNDB, Dinamis**
  National data infrastructure for Earth system science

Resources, agronomy, phenotyping

- **RARé** (European)
  Agricultural and Environmental Biological Resources Centers
- **EMERG’IN**
  Emerging Infectious Animal and Zoonotic diseases
- **LiPh4SAS**
  Livestock Phenotyping for Sustainable AgroecoSystems

Nutrition, bioeconomy

- **PROBE**
  Platform for Profiling Properties of Food and Biobased Products
- **CALIS**
  Consumers/Food/Health
- **IBISBA** (European, coordinated by INRAE)
  Industrial Biotechnology Innovation and Synthetic Biology Acceleration

OMICS

- **IR Génomique**
  Genomics
- **BioinfOmics**
  Bioinformatics for Omics
- **MetaboHUB**
  metabolomics & fluxomics
At INRAE we place great emphasis on giving society the scientific and technical knowledge, providing expertise and policy support tools and methods needed to clarify, design, implement and evaluate public policies. Our expertise contributes to the development and implementation of international agreements, as well as to European Directives, national and local policies.
At international, European and national level, we provide support and expertise throughout the entire public policy lifecycle.

- **INRAE provides scientific expertise and support to multilateral institutions** (FAO, World Bank, CGIAR, UNEP)
  - Our international experts tell us more

- **We are involved in a number of international initiatives**, emanating from our contributions to major international events (UN Climate Change Conferences, UN Biodiversity Conferences, World Water Forums)
  - Jean-François Soussana about working for the Intergovernmental Panel on Climate Change (IPCC)

- **18 framework agreements signed with public non-academic partners**

- **21 collective scientific assessments, foresight studies, and advanced studies** over the last 5 years
  - Roles, impacts and services provided by European livestock production
  - Agrimonde-Terra: to explore what the future holds for food security and land use
  - Storing 4 per 1000 carbon in soils: the potential in France

- **10 sustainable operational activities** to support public policies
  - Epidemiological surveillance platform
We are committed to science accessible to all, focused on quality, transparency, and the replicability of results.

Open science

Innovative peer review processes from methodology to the findings of our research.

Digital infrastructures to manage and disseminate data and knowledge, in keeping with national and European policies.

Building long-term relationships with non-profit organisations based on trust.

Strong support given to participatory research.
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Join us:
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