

Applied research,
innovation
& **performance**



Cereals —

Maize and sorghum —

Potatoes —

Forage crops —

Flax —

Tobacco —

Cropping Systems —

ARVALIS

Institut du végétal

FOR EFFECTIVE AND SUSTAINABLE FORMS OF AGRICULTURE,
FROM THE PLANT TO THE END PRODUCT,
FROM THE CROP TO THE AGRICULTURAL AREA.








Effective and sustainable forms of agriculture



Food
Bio-based
materials
Energy



Responding to the challenges of a form of production that benefits farmers, consumers and society

ARVALIS - Institut du végétal is an applied agricultural research organisation dedicated to arable crops. Created by farmers and the agricultural sectors that fund it, it helps to improve the production of quality grain as well as raw food and non-food materials for national and international markets.

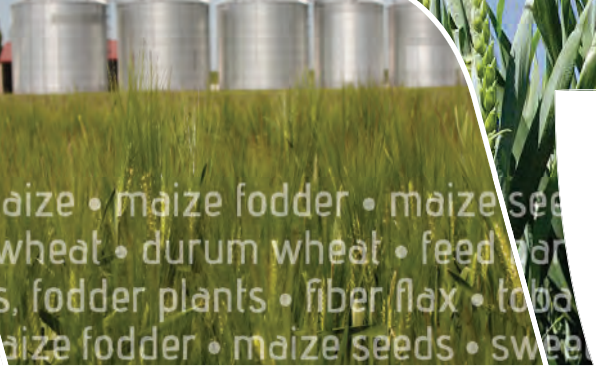
Being totally independent, ARVALIS dedicates its expertise to the emergence of production systems that combine economic competitiveness with adapting to market requirements and protecting the environment. Technological innovation is a crucial tool used to help producers and agribusinesses to respond to societal challenges

An institute funded and managed by farmers

Its board comprises 36 farmers and also involves public authority representatives. Its funding comes for the most part from professional sources (professional bodies, sectorial agreements). The rest is provided by public funding for research and by the sale of services (training, trials for third parties, expert assessments, etc.)

Leading R&D institute for arable crops in Europe

ARVALIS - Institut du végétal's 27 sites are spread throughout France and involve a total of 400 persons, including 300 engineers and technicians. Reflecting its scientific excellence, its activity is accredited by several organisations.



Innovation, technology and multi- performance



Increasing production

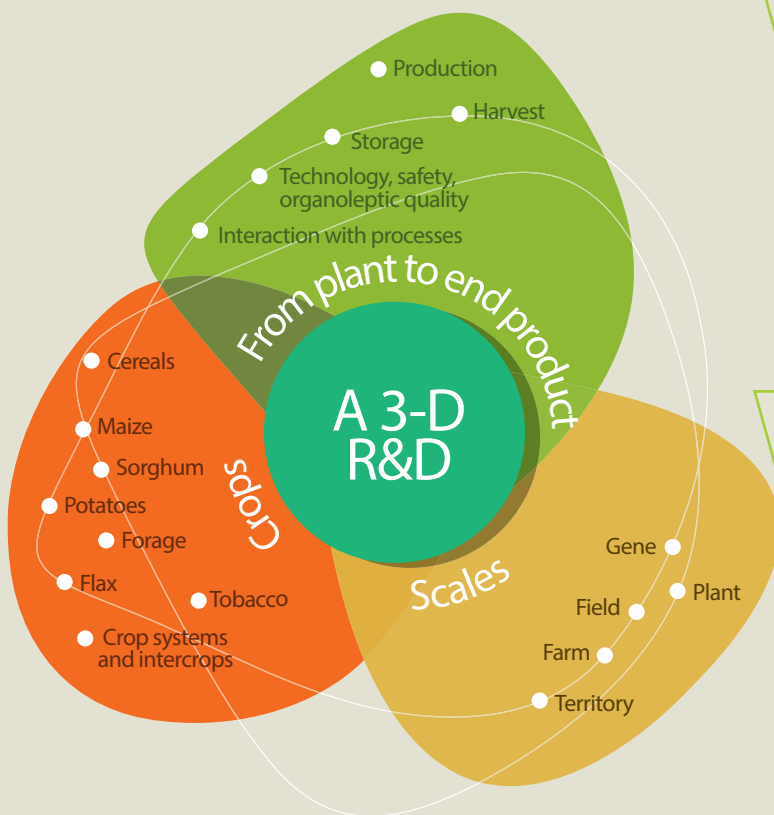
ARVALIS's work focuses on cereals, maize, sorghum, potatoes, forage crops, flax and tobacco. At farm level, those crops are rotated within production systems that include agronomically and environmentally useful cover crops. These are also part of ARVALIS's research work. Each crop and its corresponding industry sector is studied by the Institute in every aspect: technical practices, quality, production costs, organisation and markets.

Producing for all available markets


From field to processing, each production system is assessed and documented in order to ensure a level of physicochemical, nutritional, technological and safety quality meeting market requirements. The Institute focuses on all markets: human consumption, animal nutrition and non-food uses of bio-resources.

Responding to environmental challenges

ARVALIS studies crops at every level - genes, plants, field, farm, production area - and draws on numerous fields of expertise and partnerships. The scope of its research includes limiting environmental impacts and promoting sustainable use of resources (soil, energy, fertiliser, water). This helps to develop effective and sustainable agricultural practices.



Producing more and better



Acquiring knowledge, and assessing technical reference data



Thinking ahead in order to respond to future challenges

ARVALIS is conducting long-term experiments in order to fully understand and properly analyse biological processes that are at the heart of agronomic research. For instance, it has been studying the impact of ploughing and direct drilling on soil and crops for the past 40 years. Since 2013, the Institute has been concentrating on implementing a high-speed phenotyping platform (PhénoField®) which, linked to genomics, is helping to characterise varieties that are better suited to climate change. Set over an even longer term, its research into chemical ecology is identifying natural regulation phenomena between plants and their aggressors, in order to develop defence mechanisms that would mimic natural processes. Finally, digitally connected experimental farms and centres (Digifermes®) set up in 2016 in partnership with the IDELE, ITB and Terres Inovia technical institutes, will be used as demonstration and test bench facilities for innovative and start-up companies.

Assessing operational solutions

ARVALIS - Institut du végétal is designing and testing innovative solutions to optimise production factors and control costs:

- Assessment of inputs, varieties, plant protection and nutrition strategies;
- Development of cropping techniques designed to limit the use of chemicals (biocontrol, prophylactic measures, organic methods, etc.) and mineral fertilisers (integration of legumes etc.);
- Help with choosing equipment, organising labour, optimising productive and environmentally-friendly production systems (both conventional and organic);
- Measure of product quality;
- Analysis of production costs in France and in major producing countries.

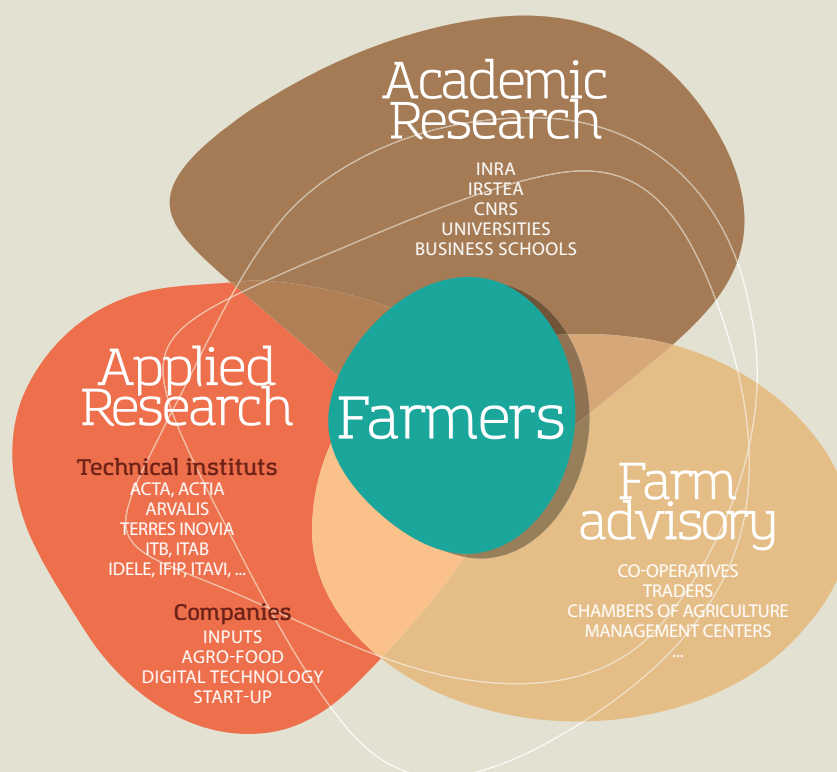
Agro-
ecology
Digital
technologies
Bio-economy



Public and private partnerships, French and international projects

In view of the multiple challenges facing agriculture, ARVALIS must bring together all the competencies able to help deliver multiperformance in the different agricultural sectors within its scope. With this aim in mind, it is organising numerous partnership agreements with academic research entities, and is putting research agreements in place with public authorities through ACTA and ACTIA, as well as directly with the technical institutes, advisory and development bodies, teaching establishments, local government entities and public authorities. ARVALIS is also forging robust international partnerships.

Agricultural R&D ecosystem



120

Research projects

Member of

15

Combined Technology
Networks

3

Mixed Technological
Units

7

Competitiveness
clusters

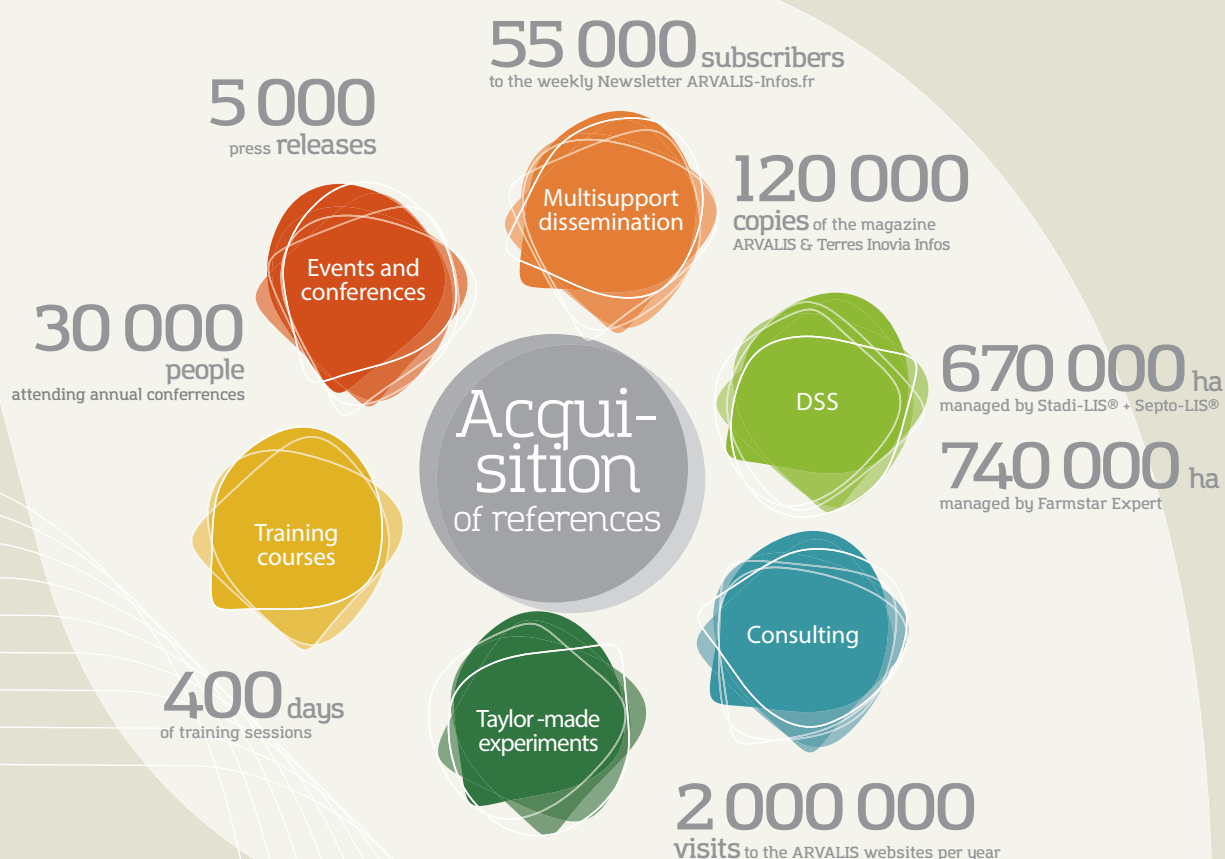
23

PhD

180

Scientific papers

Disseminating information and solutions



Large scale dissemination Technological progress

Farmers are constantly looking for simple, operational and economical solutions to manage their farm and produce consistent quality and quantity. To disseminate its results, ARVALIS utilises all available vectors and information technologies: technical meetings, scientific conferences, field events, publications, the press, the Internet, videos, social networks, digital apps, decision support tools, training, etc.

Transfer Services



Finding simple solutions to complicated issues

Agricultural technicians, as well as technicians involved in the distribution and development sectors are farmers' primary source of information. ARVALIS has established long-term and very close partnerships with those networks as well as with teaching establishments in order to promote innovation and support changes in practices.



Promoting solutions with benefits for all

ARVALIS helps to respond to major societal challenges. Recognised for its expertise and practical knowledge, the Institute has gained legitimacy and credibility with public authorities and opinion leaders. Its independent expertise is regarded as a reference by scientific leaders, the press, and French and European authorities' working groups. It provides objective data to ministerial and regional missions to inform public decision makers as regards to standardisation and regulatory strategies.

Reference
data
Independence

27 R&D sites at the heart of territories



- Head office
- Regional sites
- Agronomy
- Agricultural machinery
- Phenotyping site
- Agro-ecology platform
- Networks of Farmers - Researchers
- Instrumented fields for water quality
- Air quality device
- Mobile device of fogging
- Experimental networks of low volume sprayers
- Drip irrigation
- R&D smart farming
- Experimental digital farm
- R&D organic crops
- Agroforestry
- Grain processing platform
- Potato storage and R&D
- Pilot mill
- Monogastric facility
- Cattle (dairy / meat) facility
- Laboratories
- Climatic chambers
- Quality analysis unit
- Flax scutching process
- Biogas unit
- R&D tobacco



ARVALIS
Institut du végétal

3 rue Joseph et Marie Hackin - 75 116 - Paris
Tél. : +33 (0)1 44 31 10 00 - Fax : +33 (0)1 44 31 10 10
www.arvalisinstitutduvegetal.fr



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