

# AGRICULTURE - AGRI-FOOD

2009

**Agronomy is the science of understanding and improving the mechanisms at work in agriculture. Agronomy brings scientific knowledge and techniques to bear in the practice of agriculture. Its ultimate purpose is to ensure the quantity and quality of humanity's food supply.**

**Agri-food industries are France's second-largest employer, with more than 10,000 businesses active in the sector. The sector depends on many different professional skills and competencies and thus offers many choices for students. In the face of globalization, moreover, the sector is undergoing profound changes. Adjusting to new market structures within the European Union and staying competitive enough to win new international markets are two of the most serious challenges facing France's agri-food industry today.**

#### Fields :

Agriculture, organic agriculture, agri-food, agronomy, aquaculture, fisheries, viticulture.

Also see the following disciplinary profiles: Maritime activities and ocean sciences, Biology, Environment, Sustainable development.

#### Sectors of activity :

manufacturing, production, transformation, environmental protection, business, livestock, grapes and wine, farm crops, logistics, laboratories, others

At the same time, new trends are emerging. Today's consumers care deeply about food safety and the environment. Organic agriculture offers consumers an assurance of product quality. Balanced agriculture based on integrated pest management responds to global pressures for farming practices that go beyond regulatory compliance to ensure a positive impact on the environment and to reduce negative effects while preserving the profitability of agricultural operations.

Ocean fishing and aquaculture now fall within the European Union's common fisheries policy, which is designed to stimulate growth in sectors vital to coastal economies.

Viticulture, or grape-growing, is an important agricultural activity in France. Much of that activity is guided by oenology, the art and science of transforming grapes into wine through the process of vinification. Aspiring winemakers wishing to practice as professional oenologists must obtain the diplôme national d'œnologie (DNO), which requires four years of postsecondary study. The national diploma program in oenology is offered at five institutions: the Faculty of Oenology at the Université de Bordeaux, the Institut Jules-Guyot in Dijon, the Université Paul-Sabatier in Toulouse, the Université de Reims, and ENSA-Montpellier. University studies in oenology have a significant scientific component (biology, chemistry, physics).

## ORGANIZATION OF STUDIES IN FRANCE

Agriculture is an economic sector in flux. One constant amid the change is that the sector is recruiting growing numbers of young graduates. The Ecole d'agriculture de Grignon was founded in 1827. Now part of the AgroParisTech group, Grignon is one of the world's oldest higher schools of agriculture. Across France, a total of 13,000 students of agriculture are enrolled in more than 20 postsecondary institutions.

A wide range of short and long degree programs is available from the CAP to the master. In between, one finds the BTS (Brevet de technicien supérieur) and the DUT (Diplôme universitaire de technologie). At the BTS level, students interested in the agri-food field have their choice of many specializations, such as grains and cereals, biotechnologies, and much more.

**University students** climb the LMD ladder: licence, master, doctorate. Licence students who have majored in life and earth sciences are well prepared for further studies in agriculture and agri-food industries. Armed with their degree, licence recipients may enroll in graduate programs or programs leading to an engineering degree. Professional licence programs are intensive and practical—they prepare students quickly for professional work. Such programs are offered in a wide variety of fields, many in **lycées d'enseignement général et technologique agricole** (LEGTA, schools of general and technical agricultural education).

**The instituts universitaires professionnalisés** (IUP, university-based professional institutes) also provide professionally oriented programs. IUP degree programs require three years of study; internships are an important part of the curriculum. Students are admitted after completing two years of postsecondary study; they earn a level 2 master's degree.

Some **Engineering schools** offer programs in agriculture; others allow students to specialize in agriculture or agri-food areas in the second or third year of the three-year program leading to a level 2 degree equivalent to a European master. Two-year preparatory courses prepare secondary-school graduates for the entrance examinations of the national agricultural engineering schools. These courses, known as *prépas agro-Enita*, emphasize biology, chemistry, physics, and earth sciences.

## RESEARCH THEMES

### Environmental preservation and management of rural lands

Research in this area increases knowledge about the functioning of farm ecosystems and thus forms the basis for an ecologically sensitive agriculture that exploits the productive power of the land while protecting biodiversity.

### Food safety

Food is central to the well-being of human populations and an important public health issue. Agricultural researchers work to improve food quality, to protect consumers' health, and to understand food-related behaviors

### Competitive, high-quality processed products

Substantial research is devoted to diversifying the uses of agricultural products, increasing their value, and ensuring quality at every step in the food-supply chain, from farm to fork..

### Deeper knowledge of biological systems

The purpose of research in this area is to increase our knowledge of living systems, with particular reference to the organization, functioning, and evolution of genomes. Other research work focuses on the preservation and commercial applications of biological and genetic resources.

### Innovative and sustainable production systems

Sustainable development is the objective of much research into agricultural practices and production systems. Researchers look for practical applications of new ideas. They seek to develop production systems that integrate environmental protection, product quality, and profitability

### Public policy analysis

Environmental questions now have a clear place in global policy dialogues that involve a growing number of stakeholders. In this new arena, where research subjects often blend with social issues, researchers look for ways to improve stakeholders' organizations and approaches and to support the development of sound public policy.

## INTERNATIONAL STANDING

Over the past quarter-century agricultural production has doubled. France's farms have demonstrated their competitiveness. France is the leading agricultural producer in the European Union and the world's third-largest exporter of agricultural and food products.

(Source : Ministry of Agriculture 2008)

<http://agriculture.gouv.fr/sections/mediatheque/autres-editions/panorama-agriculture/view>

### Websites

- AFSSA (Agence française de sécurité sanitaire des aliments; French food safety agency)  
<http://www.afssa.fr/>
- AIRD (Agence inter-établissements de recherche pour le développement; interinstitutional agency for development research), a group of higher education and research institutions dedicated to the development of the countries of the South  
<http://www.aird.fr/>
- ACTIA (Association de coordination technique pour l'industrie agro-alimentaire; association for technical coordination in the agri-food industry), know-how concerning applied research projects and their diffusion, a network of 42 technical centers, applied research in refrigeration and other areas. Address: 16 rue Claude Bernard, F-75231 Paris Cedex 05, France, telephone: 01 44 08 86 20, e-mail: d.majou@actia-asso-eu (no Web site),  
no hay sitio Web, 16 rue Claude Bernard F-75231 Paris Cedex 05, 01 44 08 86 20, mail : d.majou@actia-asso-eu
- ANEFA (Association Nationale Emploi Formation en Agriculture; national association for agricultural employment and training)  
<http://www.anefa.org/>
- APECITA (Association pour l'emploi des cadres, ingénieurs et techniciens de l'agriculture et de l'agroalimentaire; association for the employment of managers, engineers, and technicians in agriculture and agri-food industries)  
<http://www.apecita.com/>
- CIRAD (Centre de coopération internationale en recherche agronomique; center for international cooperation in agronomic research), <http://www.cirad.fr>
- CEMAGREF (Centre national du machinisme agricole, du génie rural, des eaux

et des forêts; national center for agricultural machinery, rural engineering, and water and forest management)

<http://www.cemagref.fr/>

- Chlorofil, a Web space for professionals and organizations in French agricultural education

<http://www.chlorofil.fr/>

- FESIA (Fédération des écoles Supérieures d'Ingénieurs en Agriculture; federation of schools of agricultural engineering),

<http://www.fesia.org/>

- Educagri, an informational and promotional site maintained by France's public institutions of agricultural education

<http://www.educagri.fr/>

- FNSEA (Fédération nationale des syndicats d'exploitants agricoles; national federation of producers' cooperatives),

<http://www.fnsea.fr/sites/webfnsea/>

- Institut du porc (pork producers' council),

<http://www.itp.asso.fr/>

- IFREMER (Institut Français de Recherche pour l'Exploitation de la Mer; French institute for research into commercial uses of the oceans)

<http://www.ifremer.fr/>

- INRA (national institute for agronomic research),

<http://www.inra.fr/>

- Institut technique de l'aviculture (technical institute for poultry research)

<http://www.itavi.asso.fr>

- List of postsecondary institutions of agricultural education:

[http://www.portea.fr/fileadmin/user\\_upload/PDF/formations\\_Sup/Liste-etablissements.pdf](http://www.portea.fr/fileadmin/user_upload/PDF/formations_Sup/Liste-etablissements.pdf)

- Ministry of Agriculture and Fisheries

<http://agriculture.gouv.fr/>

- Ministry of Ecology, Energy, Sustainable Development, and Land Planning

<http://www.developpement-durable.gouv.fr/>

- Oenology in France

<http://www.oenologie.fr/>

- Clusters and competencies in the sciences and technologies of living systems and the environment,

<http://www.portea.fr/enseignement-agricole/enseignement-superieur-agricole/repartition-geographique-des-poles-de-competences.html>

- Portea, the Web portal of French agricultural education

<http://www.portea.fr/>

- n+i network for engineering education

<http://www.nplusi.com/>

- AgroParisTech network,

<http://www.agroparistech.fr/>

- Network of institutes of plant and animal studies

<http://www.acta.asso.fr/>

### Keywords

agriculture – agricultural – agri-food – agro-environmental – agronomy – animal – aquaculture – aquatic science – biodiversity – biology – business – coastal – commerce – commercialization – computer science – consumption – cultural preservation – development – ecology – economics – ecosystems – engineering – environment – exploitation – fishing – food – fruit – forest – forestry – geology – globalization – health – horticulture – industry – information science – land – livestock – living organisms – logistics – maintenance – management – marketing – meat – milk – mountains – nature – oenology – plant – policy – production – research – resources – rural – rural areas – sciences – sustainable – technician – technology – tourism – vegetables – vine – viticulture – water – wine – wood



Search for schools, majors, and degree programs on the CampusFrance website.

CampusFrance's online catalog contains information on every program in France—from the licence (bachelor) level to the doctorate.

[campusfrance.org](http://campusfrance.org) >academic programs and research opportunities in France

**Licence and master level** : Enter a field of study and academic level, and the search engine will tell you what degrees are offered and where.

<http://www.campusfrance.org/fr/d-catalogue/>

**Doctoral level** : search the directory of doctoral programs

<http://www.campusfrance.org/ecoledoc/index.htm>

**CampusBourse** : search the directory of scholarship programs:

<http://www.campusfrance.org/fr/d-catalogue/campusbourse/cfbourse/index.html>