

IN FIGURES

Sources: French Ministry of Agriculture, Agri-food, and Forests <http://agreste.agriculture.gouv.fr>

- € 31.5 billion in value added to the French economy (2014)
- 15,788 companies in the agri-food industry (2014)
- 690,000 jobs in agri-food companies (2014)
- 138,000 retail jobs in delis and bakeries (2014)

INTERNATIONAL

Europe is the world's leading agricultural power in terms of production value and the share of the working population employed in agriculture.

France is the 8th agricultural power in terms of contribution to the value of global agricultural production. French agriculture is valued at 76 billion, far ahead of Germany (56 billion), Italy (49 million), and Spain (43 million). France is also a global leader in exports of wheat, seeds, alcohols, wines, and spirits.

Held every autumn in Paris, SIAL (international food salon) is the world's largest event devoted to agri-food innovation with over 6,500 presenters from 104 different countries.

RELATED FIELDS

• Agriculture • Agronomy • Food studies • Aquaculture • Biology • Chemistry • Ecology • Economics and management • Geography • Veterinary medicine • Enology • Health • Earth and space sciences • Shipping • Viticulture

RELATED SUBFIELDS

• Agro-ecology • Food • Animals • Biotechnologies • Climate change • Climate • Climate challenges • Sustainable development • Water • Eco-technologies • Livestock husbandry • Ecological footprint • Genetics • Water management • Horticulture • Hydrology • Sanitation • Environmental engineering • Natural habitats • Environmental protection • Quality control • Global warming • Aquatic sciences • Silviculture • Earth • Veterinary sciences

USEFUL LINKS

- ◆ Agreste (agricultural statistics, assessments, and outlooks): <http://agreste.agriculture.gouv.fr>
- ◆ Agroécologie - MOOC Agreenium-IAVFF: <https://www.france-universite-numerique-mooc.fr>
- ◆ APECITA (French association for managers, engineers, and technicians in the agricultural and agri-food industries): www.apecita.com
- ◆ CIRAD (agronomic research for development): www.cirad.fr
- ◆ Chlorofil: www.chlorofil.fr
- ◆ Agricultural education in France and list of BTS certificates in the agricultural sector: www.chlorofil.fr/diplomes-et-referentiels/formations-et-diplomes/btsa.html
- ◆ FNAB (French organic agriculture federation): www.fnab.org
- ◆ Fésia (4 private écoles d'ingénieurs in life sciences, agriculture, the agri-food industry, and the environment): www.fesia.org
- ◆ Training for jobs in agriculture, forestry, nature, and land management: www.educagri.fr
- ◆ IAVFF (French institute for agronomy, veterinary sciences, and forestry): www.agreenium.org
- ◆ INRA (French nation institute for agronomic research): www.inra.fr
- ◆ Ministry of Agriculture, Agri-food, and Forestry: <http://agriculture.gouv.fr/Enseignementagricole>
- ◆ Portal for the French agri-food industry: www.franceagroalimentaire.com
- ◆ GéCo-GLEN (European program): <http://glen-europe.org>
- ◆ SIAL (international food salon): www.sialparis.fr
- ◆ UNREP (national rural union for education and promotion): www.maformationagricole.com

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AGRI-FOOD

France's leading industrial sector, agri-food deals with the design, production, and marketing of food products deriving from agriculture, such as dairy products. Non-food crops are agricultural resources with other purposes, such as pharmaceutical, chemical, textile, or energy. These crops fall under specific branches of agro-industry.

France produces a wide variety of food products: gourmet foods, fruits and vegetables, sweets, prepared foods, cereals, dairy, meats and meat products, seafood, wines, beers, spirits, soft drinks, spring water, etc.

The agri-food industry is composed of 9 product families: meats, fish, fruits and vegetables, dairy products, grain and starch products, baked goods and pastas, other food industries (chocolates, sweets), animal feed, and beverages and alcohols.

The agri-food industry absorbs 70% of French agricultural production. Processing, conserving, and packaging food requires highly sophisticated technologies. Automated processes regulate output depending on the needs of the production chain. These require in-depth technical knowledge. Food safety is a critical component of all activities in the agri-food industry. Technological innovation and the growth of retail distribution have created a need for increasingly qualified personnel.

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AGRI-FOOD

LICENCE

LEVEL

BREVET DE TECHNICIEN SUPÉRIEUR

(SECONDARY DIPLOMA + 2 YEARS OF HIGHER EDUCATION) – L2

Two schools offer the **BTS in Quality Control in food industries and bio-industries**:

> École Nationale de l'Industrie Laitière Agroalimentaire - Lycée de l'Alimentation (LEGTA ENILIA) in Surgères: www.enilia.fr

> CFA Agroalimentaire in Poligny: www.enilia-ensmic.fr

The **BTS in Agriculture** offers several options that prepare students for specific jobs in the agri-food industry:

> **Food sciences and technologies**, with 4 concentrations: Food and technical processes; Cereal products; Dairy products; Meat and fish products.

> Agricultural, biological, and biotechnical analysis

> Technical-Commercial diplomas in the areas of **Wines and spirits and Food and beverage products**

Options in agricultural production are offered by numerous Lycées Agricoles in specific areas: Viticulture-Enology, Livestock, Agronomy: Plant products, Aquaculture

DIPLÔME D'ÉTUDES UNIVERSITAIRES SCIENTIFIQUES ET TECHNIQUES

(SECONDARY DIPLOMA + 2 YEARS OF HIGHER EDUCATION) – L2

Around 20 schools (IUT) offer the DUT in Biological engineering with the option Agri-food and biological industries.

LICENCES PROFESSIONNELLES

(SECONDARY DIPLOMA + 3 YEARS OF HIGHER EDUCATION) - L2 +1 YEAR

Programs are offered in the following broad areas:

> **Law, economics, and management** (agricultural and agri-food companies) and trade (agrifood and agro-supply, international agri-food business, international marketing of agricultural and agri-food products – fruits and vegetables, agri-food logistics and marketing, consulting for livestock co-ops), agri-food industry (promotion of certified local products), logistics (international supply chain management for agri-food products).

> **Sciences, technologies, and health in agronomy** (management of rural agricultural companies and sustainable rural development), livestock production (consulting, technical-commercial in animal nutrition), agri-food industry (industrial development of food products, additives and health foods, biotechnology and engineering of beverage procedures, food design and production, agri-food controls, research and development in industrialized culinary arts, cheese, culinary engineering, sanitation and safety, applied nutrition).

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MASTER

LEVEL

MASTER

(SECONDARY DIPLOMA + 5 YEARS OF HIGHER EDUCATION) – M2

Two programs offer a Master with the following concentrations (mentions et spécialités):

Sciences, technologies, health:

> **Agronomy-agri-food**: environmental management of ecosystems and tropical forests, environmental engineering, tropical agricultural systems and development management, innovative systems and techniques for sustainable agricultural development;

> **Integrative biology and agro-sciences**: sense perceptions and innovation in agri-food, food sciences and human nutrition;

> **Chemical engineering and agri-food**: bio-processes and marine biotechnologies, design and production of innovative food products;

> **Nutrition, food sciences and agri-food**: quality and risk control in the agri-food sector, quality control in agri-food and fisheries procedures, food safety, advanced food technologies, fermenting processes in agro-food (wine, beer, cheese), statistics, nutritional quality management, food products marketing, processing, industrial applications of agro-resources;

> Ecosystems, agro-systems, and sustainable development: crop production and **agri-food industries**;

> Environmental and natural resource management: **engineering of agri-food systems** in the Mediterranean region;

> Chemical and biological engineering: process engineering: agri-food environment.

Law, economics and management with concentrations available in:

> Law and management of agricultural and agri-food companies,

> European law and agri-food sectors,

> Marketing and sales in agri-food industries,

> Rural economics and strategy for agri-food companies

MASTER OF SCIENCE (MSc)

(SECONDARY DIPLOMA + 5 YEARS OF HIGHER EDUCATION) – M2

MSc degrees are offered by Écoles d'Ingénieurs:

> Aninam-man-food: transdisciplinary management of global health and nutritional safety: www.man-imal.fr/en/

> Agri-food engineering in Mediterranean and tropical regions: www.agroparistech.fr

Sustainable food manufacturing management:

www.isa-lille.com/programs/masters

EUROPEAN AND INTERNATIONAL MASTER

(SECONDARY DIPLOMA + 5 YEARS OF HIGHER EDUCATION) – M2

> Food Innovation and Product Design (FIPDES) AgroParisTech:

www.fipdes.eu

DIPLÔME D'INGÉNIEUR (ENGINEERING DEGREE) / MASTER

(SECONDARY DIPLOMA + 5 YEARS OF HIGHER EDUCATION) – M2

Below are French Écoles d'Ingénieurs offering engineering degrees accredited by the CTI (Commission des Titres d'Ingénieur). Some specialize in agri-food:

> AgroCampus Ouest: Institut National Supérieur des Sciences Agronomiques, Agroalimentaires, Horticoles et du Paysage www.agrocampus-ouest.fr

> AgroParisTech: Institut des Sciences et Industries du Vivant et de l'Environnement www.agroparistech.fr

> Agrosup Dijon: Institut National Supérieur des Sciences Agronomiques, de l'Alimentation et de l'Environnement www.agrosupdijon.fr

> Bordeaux Sciences Agro: École Nationale Supérieure des Sciences Agronomiques de Bordeaux-Aquitaine www.agro-bordeaux.fr

> INPT-ENSAT: École Nationale Supérieure Agronomique de Toulouse www.ensat.fr

> El Purpan: École d'Ingénieurs de Purpan www.purpan.fr

> ENSAIA: École Nationale Supérieure d'Agronomie et des Industries Alimentaires <http://ensaia.univ-lorraine.fr>

> ENVA: École Nationale Vétérinaire d'Alfort www.enva.fr

> ESA: École Supérieure d'Agriculture d'Angers www.groupe-esa.com

> ESIB: École Supérieure d'Ingénieurs en Agroalimentaire de Bretagne - Université de Brest Atlantique www.univ-brest.fr/esib

> ISA Lille: Institut Supérieur d'Agriculture de Lille www.isa-lille.fr

> Institut Polytechnique LaSalle Beauvais www.lasalle-beauvais.fr

> ISARA-Lyon: Institut Supérieur d'Agriculture de Rhône-Alpes www.isara.fr

> Montpellier SupAgro: Institut National d'Études Supérieures Agronomiques de Montpellier www.supagro.fr

> ONIRIS: École Nationale Vétérinaire, Agroalimentaire et de l'Alimentation, Nantes Atlantique www.oniris-nantes.fr

> VetAgro Sup: Institut d'Enseignement Supérieur et de Recherche en Alimentation, Santé Animale, Sciences Agronomiques et de l'Environnement www.vetagro-sup.fr

> www.cti-commission.fr/-Liste-officielle-des-programmes