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## Italy

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### Italian Agricultural Research System Overview

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**Report Highlights:**

In Italy, there are three main players involved in the national agricultural research system: the Ministry of Agricultural, Food, and Forestry Policies; the Ministry of Education, University, and Research; the regions and the autonomous provinces of Trento and Bolzano. The Italian Council for Agricultural Research and Economics ([CREA](#) – in Italian) is the largest agricultural research institute formed in June 2015 by a merger between the National Agricultural Research Council (CRA) and the National Institute of Agricultural Economics (INEA).

## Italian Agricultural Research System Overview

In Italy, there are three main players involved in the national agricultural research system:

1. The Ministry of Agricultural, Food, and Forestry Policies;
2. The Ministry of Education, University, and Research;
3. The regions and the autonomous provinces of Trento and Bolzano.

To a lesser extent, the Ministries of Health, Economic Development, and Environment also engage in agricultural research activities. The National Agency for the Evaluation of Universities and Research Institutes ([ANVUR](#) – in Italian) is in charge of evaluating public funding programs aimed at enhancing research and innovation activities.

### 1. The Ministry of Agricultural, Food, and Forestry Policies ([MIPAAF](#) – in Italian)

MIPAAF's research office ([DISR IV](#) – in Italian) funds and supervises agricultural research projects carried out by national public research bodies, universities, and public/private organizations with statutory research purposes. Public research bodies include the Italian Council for Agricultural Research and Economics ([CREA](#) – in Italian), the National Rice Institute ([ENR](#) – in Italian), the Italian Institute for Services to the Agro-food Market ([ISMEA](#) – in Italian), and the Institute of Food Sciences ([ISA](#)).

CREA is Italy's largest agricultural research institute formed in June 2015 by a merger between the National Agricultural Research Council (CRA) and the National Institute of Agricultural Economics (INEA). CREA comprises 12 main research centers, 2,300 staff members, and 5,300 hectares of experimental farms. The twelve research centers focus respectively on: genomics and bioinformatics; agriculture and environment; seed quality and certification; engineering and agri-food processing; food and nutrition; bioeconomy; grains and oilseeds; fruit trees, citrus, and olives; viticulture and enology; horticulture and nursery; zootechny and aquaculture; forestry and wood production.

In February 2016, the Italian Minister of Agriculture Maurizio Martina stated his support for genome editing and cisgenesis by allocating €21 million in Italy's budget for a three-year sustainable agriculture research plan to be implemented by CREA. The research focuses on genome editing and cisgenesis for grapevines, olives, apples, citrus fruits, apricots, peaches, cherries, pineapples, tomatoes, wheat, and poplar. Minister Martina noted, "These techniques are much different from transgenesis (insertion of a gene from a different gene pool) and will allow Italy to produce crops resistant to climate change and diseases."

CREA is also a coordinating member of the International Wheat Genome Sequencing Consortium ([IWGSC](#)). Established in 2005 by a group of wheat growers, plant scientists, and public and private breeders, IWGSC aims at generating a high quality genome sequence of bread wheat publicly available, in order to lay a foundation for basic research that will enable breeders to develop improved varieties.

CREA is specifically working on the physical mapping of [wheat chromosome 5A](#). Moreover, Professors Luigi Cattivelli (CREA-genomics research center) and Roberto Tuberosa (University of Bologna) co-chair the [Expert Working Group on Durum Wheat Genomics and Breeding](#) within the [Wheat Initiative](#). Created in 2011, following endorsement from the G20 Agriculture Ministries, the Wheat Initiative intends to encourage and support the development of a vibrant global public-private research community by sharing resources, capabilities, data, and ideas to improve wheat productivity, quality, and sustainable production around the world. The combination of new varieties and agronomic practices will in turn allow farmers to improve and stabilize wheat yields in diverse production environments.

Professor Tuberosa also coordinates the Italian technological platform “[IT-Plants for the Future](#)” aimed at fostering cooperation among industry, university, public and private research centers, associations, and consortia, in support of the national plant research.

## **2. The Ministry of Education, Universities, and Research (MIUR – in Italian)**

MIUR finances agricultural research through the National Research Council ([CNR](#)) and universities - faculties of agriculture, veterinary medicine, life sciences, economic sciences, and medicine. CNR is Italy’s largest public research institute, comprising 7 departments, 109 institutes, and more than 8,000 staff members.

### **CNR – Department of Biology, Agriculture, and Food Science ([DiSBA](#) – in Italian)**

DiSBA research activities are grouped into three main projects:

- a) Plant, animal, and microbial genomics: research activities focus on genetic characterization of plants and microorganisms; plant development and cellular biology; biochemistry; plant-environment interactions; and animal genomics.
- b) Food: research activities focus on developing new diagnostic techniques and technologies to improve food quality and safety.
- c) Sustainable agriculture: research activities focus on the development of new applications fostering sustainability in crop and animal production through innovative and eco-friendly practices.

### **CNR - Institute of Agricultural Biology and Biotechnology (IBBA)**

Headquartered in Milan (Lombardia), IBBA operates through the [units](#) of Lodi (Padano Science and Technology Park - [PTP](#)), Pisa (University department of agriculture), and Rome (CNR research area).

PTP is a science and technology hub operating for over 10 years in the fields of agriculture and food, bio-economy, and life sciences. PTP cooperates with the faculties of veterinary medicine and agricultural science of the University of Milan, and public and private research organizations located in

Lodi, creating one of the main European centers for agricultural technology. PTP has developed more than 90 national and international research and development projects (including 11 draft genome sequences), provides services to over 150 companies, and has created a network that extends to 40 countries, reaching more than 500 research institutions and 650 businesses. PTP also supports the creation of new enterprises through its incubator and business accelerator Alimenta. There are approximately 46 new businesses currently supported by Alimenta.

### **3. The regions and the autonomous provinces of Trento and Bolzano**

The 20 Italian regions and the autonomous provinces of Trento and Bolzano plan and fund agricultural research programs tailored to local needs and contextual factors (Constitutional Law No. 3 of 10/18/2001).