Thematic laboratories

The RPS Centre is equipped with thematic laboratories of soil science and plant nutrition, water quality, air and soil chemistry, biochemistry, plant biology, microbiology, organic fertilizers and biomass, etc.

Rome:

Thermal Analysis Laboratory, Dr. *Maria Teresa dell'Abate*
Biochemistry Laboratory, *Dr. Anna Benedetti*
Laboratory of Molecular Biology, *Dr. Anna Benedetti*
Laboratory of Analytical Chemistry (1), *Dr. Maria Teresa dell'Abate*
Laboratory of Analytical Chemistry (2), *Dr. Francesco Alianiello*
Extraction and Preparative Chemistry Laboratory, *Dr. Rosa Francaviglia*
Preparative Chemistry Laboratory (1 st floor), *Dr. Elvira Rea*
Preparative Chemistry Laboratory (1 st floor), *Dr. Giampiero Diana*
Instrumental Laboratory, *Dr. Rita Aromolo*
Physics Laboratory, *Dr. Rosario Napoli*
Laboratory of Microscopy, *Dr. Alessandra Trinchera*
Laboratory of receipt, tracking and processing samples, *located at Campo Celimontano, Dr. Vincenzo Di Carlo*
Scales Laboratory, *Mrs. Margherita Falcucci*
Laboratory for processing and mapping of soil geographic databases, GIS systems, *Dr. Rosa Francaviglia.*

Experimental Area Tor Mancina:

Laboratories (No. 2) Nuclear Magnetic Resonance, *Dr. Massimiliano Valentini*
HPLC Laboratory, *Dr. Elvira Rea*
ICP Mass Laboratory, *Dr. Fabio Tittarelli*
Preparative Laboratory - small instruments, *Dr. Claudio Beni*
Soil Preparative Laboratory, *Dr. Stefano Canali*
Processing plant laboratory, *Dr. Rosa Francaviglia*
Storage materials laboratory, *Dr. Ulderico Neri*

Experimental Farm of Tor Mancina (Monterotondo) , *Dr. Ulderico Neri*
Pertained to the Experimental area, the CRA-RPS manages 56 ha of testing grounds in S. Leonardo.

Excellence

The Centre is equipped with instruments of excellence:

- cryo-scanning electron microscope (Cryo-SEM),
- nuclear magnetic resonance (NMR) and imaging (MRI) spectroscopy system,
- laboratory of molecular biology and microbial ecophysiology,
- differential thermal analyzer (DTA / TG) and thermal gravimetric analyzer (DSC / TG) coupled with mass spectrometer,
- lysimeter system to study water dynamics, nutrients and contaminants movements in the soil-plant system, the largest in Europe.

CRA
CONSIGLIO PER LA RICERCA E LA SPERIMENTAZIONE IN AGRICOLTURA

THE RESEARCH CENTRE FOR THE SOIL-PLANT SYSTEM

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The Agricultural Research Council (CRA) is a national organization for research and experimentation with scientific expertise in agriculture, agro-industry, fisheries and forestry. The CRA, established by Legislative Decree 454/99, has legal personality under the supervision of the Ministry of Agriculture and Forestry with scientific, managerial and financial autonomy.

About Us & Location

The Research Centre for the Soil-Plant System is located in Rome and two auxiliary Research Groups are situated in Gorizia and Turin. The Experimental Area of Tor Mancina (Monterotondo, Rome), pertained to the Centre, consists of a farm, an experimental area with a lysimeter system (the largest in Europe) and laboratories with advanced analytical instruments.
The staff comprises 60 permanent units: 27 researchers specialized in Agricultural Sciences (30%), Chemistry (22%), Biological Sciences (20%), Physics, Geology, Forestry Sciences, Statistics, Economics, 16 technicians, 17 administrative, plus 4 temporary units and 35 research grants and scholarships, for a total of 98 people.

The website of the CRA (http://entecra.it) lists the Centre production of scientific projects and publications.

Research Centre for the Soil-Plant System CRA-RPS: the mission

The RPS Research Centre areas deals with chemical, biochemical and physiological interactions among plant, microorganisms and soil.

Research activities focus on the improvement of plant growth and agricultural productions, studying physiological aspects of plant nutrition and the influence of soil quality.

Main topics include investigations on chemical fertilizers, animal and vegetable organic biomass, wastewater from industrial processes and from sewage treatments, focusing on their effects on the soil quality and fertility.

Specific research profiles cover:
- characterization, development and rational use of both traditional and newly developed fertilizers;
- development of innovative analytical methods to characterize complex matrices;
- setting of benchmarks and indicators of the agro-environmental quality;
- development of strategies to recover, maintain and optimize soil fertility.

Main Research Topics

Climate change and carbon sequestration
- cropping systems and agro-environmental modelling;
- models and scenarios of land use, desertification, climate change;
- emissions and deposition of volatile organic compounds and greenhouse gases in agro-forestry

Soil biodiversity and microbial genetic resources
- biological fertility;
- microbial ecology;
- soil microbial biodiversity;
- collection of soil microorganisms;

Soil and water resources
- digital mapping and soil hydrology applied to cropping systems and agroforestry;

Sustainable management of crops and low-impact cropping systems
- management techniques and soil fertility in organic farming;
- suitability and management of agro-ecosystems;
- soil quality indicators;

Plant nutrition, biogeochemical cycles of nutrients, technical means
(fertilizers, organic biomass recovery, compost, etc.)
- use and conversion of fertilizers, biomass waste, determining matrices components;
- characterization and utilization of fertilizers for environmental quality and food safety;

Agriculture and the environment (new CAP)
- modeling of agri-environmental indicators to support policies at national and regional levels;
- monitoring of agro-forest ecosystems;
- agriculture-environment connections and implementation of national and international legislation;
- effectiveness of the rules for the maintenance of Good Agricultural and Environmental Condition (standard CAP);

Biotechnological applications in the soil-plant system
(Bioremediation, phytoremediation, biofertilization, bioenergy, bioindicators and biomarkers, etc.):
- biofuels and biomass crops;
- biotechnology and innovative applications in agriculture (bio-electricity, bioenergy, biofuels, etc.);
- tracking and tracing of transgenes in the soil;

Plant physiology and agricultural production
- plant physiology in relation to nutritional parameters and innovative technologies to improve crop production.

The RPS Centre currently coordinates No 2 international projects and no 17 national projects, participates to n. 22 national and international projects and no 7 research projects in agreements with private entities.

Currently there are No 2028 scientific publications in the CRA-RPS database.