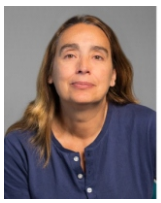
PHYTOCHEMISTRY & HEALTHY FOODS LAB (**LabFAS**)

Research Group on Quality, Safety, and Bioactivity of Plant-based Foods

FOOD SCIENCE AND TECHNOLOGY DEPARTMENT | **CEBAS-CSIC**

HUMAN RESOURCES



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1 Postdoctoral hired researcher | 4 Predoctoral fellows

RESEARCH LINES

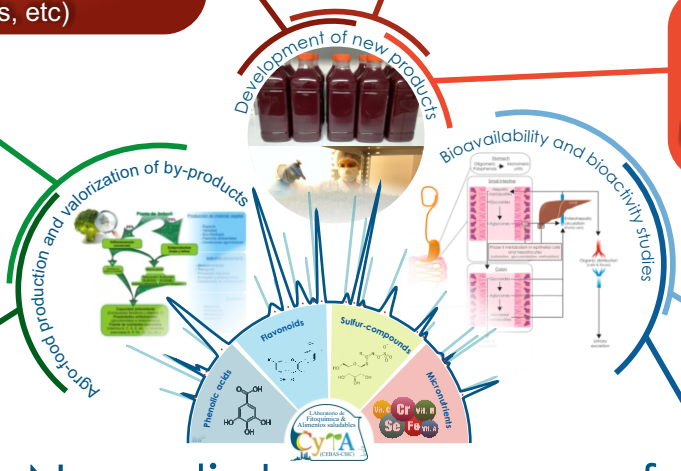
From Farm to Health | Integrated Studies

Development of New Foods (beverages or other processed foods; fresh sprouts; derived vegetable by-products) **with high content of bioactive compounds** (phenolic compounds, glucosinolates, vitaminas, minerals, etc)

Organoleptic and nutritive quality studies on fruits and vegetables for human consumption (direct consumption as fresh products; ingredients; processed food products)

Characterization of the phytochemical composition of plant-based foods. Design and development of new valorization strategies to take advantage of edible materials and by-products as sources of bioactive compounds

Determination of industrial and domestic processing conditions to preserve the bioactive compounds of plant-based foods (transport, storage, cooking methods)



Studies *in vitro* on the bioaccessibility, bioavailability, and bioloactivity (descriptive and mechanistic studies) of phytochemical compounds of plant-based foods

Optimization of agronomical conditions to improve food quality (growth factors, genetic resources, and technological issues)

Clinical assays for evaluating the bioavailability, metabolism, and biological activity of phytochemical constituents of foods *in vivo*

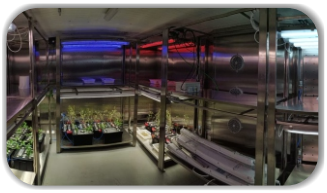
New dietary sources of bioavailable and bioactive **PHYTOCHEMICALS**

Benefits for health
(carbohydrate and lipid metabolism, inflammation and other chronic conditions)

INFRASTRUCTURES & KNOW-HOW - RESOURCES - COLLABORATIONS

Experimental Farm
("La Matanza", 33 Ha),
(greenhouses with hydroponic systems and controlled/uncontrolled growth conditions).

Analytical equipments
HPLC-DAD-ESI-MS;
HPLC-DADs, UHPLC-ESI-QqQ-MS/MS,
UHPLC-DAD-ESI-QTOF-MS/MS
HPLC-UV, EAA-ICP.
(http://www.cebas.csic.es/general_spain/metabolomica.html)



Controlled Growth Chambers
(environmental parameters) and **storage**.

Bioavailability, metabolism, and bioactivity labs and facilities according to the requirements of *in vitro* and *in vivo* studies, nutritional interventions, and clinical studies.

ACTIVE COLLABORATIONS with the Regional Health System, food industries and Societies, and other Research Institutions and Universities from all over the world.
CEBAS-CSIC+UPCT Associated Research Unit "Food Quality and Risk Assessment"
(https://www.upct.es/grupos-investigacion/centros/UACSA.php)