

PHYTOCHEMISTRY & HEALTHY FOODS LAB (LAFSA)

FOOD SCIENCE AND TECHNOLOGY DEPARTMENT | CEBAS-CSIC



HUMAN RESOURCES



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Organoleptic and nutritive quality studies

fruits and vegetables for human

consumption (direct consumption as fresh

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RESEARCH LINES

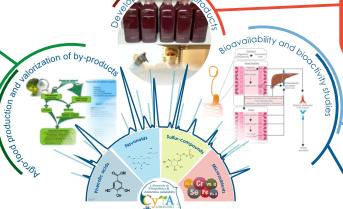
From Farm to Health | Integrated Studies

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

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

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



New dietary sources of bioavailable and bioactive PHYTOCHEMICALS

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

products; ingredients; processed food products)

Determination of industrial and domestic processing

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 bioactivity (descriptive and mechanistic studies) of phytochemical compounds of plant-based foods

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

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)