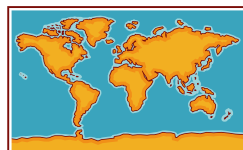


# Partnership

## ➤ Scientific

- France
  - Other regional INRA centres: Montpellier, Bordeaux...
  - CIRAD, IRD, ...
  - Universities of Avignon, Marseille, Montpellier....
- Europe :
  - Participation to the framework programmes (6<sup>th</sup> PCRD 8 projects)
  - Countries round the Mediterranean rim
  - Wageningen UR
- Chinese Academy of Sciences
- Asian Vegetable Research and Development Center



## ➤ Socio-economic

- Agricultural advice and development , technical centres : CTIFL, CTCPA, chambers of agriculture, regional experimental stations, CETA
- Seed Industry
- Phytosanitary industry
- Agrifood and Processing Industry
- Pole of competitiveness: Pôle Européen d'Innovation Fruits et Légumes



# Pole of Integrated Horticulture



Head of an Inra research network for integrated horticulture

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# The research questions :

In a context of crisis for the fruits and vegetables sector and a stagnation in their consumption, the pole aims at developing multidisciplinary research for the benefit of the fruits and vegetable sector and of public health within the framework of a sustainable agriculture. Research activities concern :

➤ **The characterisation, the elaboration and the preservation of quality:** The research aims at characterising the quality (both organoleptic and nutritional) of fruits and vegetables , elucidating its genetic determinism and providing tools for its management through cultural practices and its preservation after harvest.

➤ **The integrated production:** The objectives are (i) to understand the causality chain which links the cultural practices and the structures of agricultural landscapes to the functioning of horticultural systems, (ii) to conceive cultural systems and landscapes better adapted to integrated production, (iii) to develop knowledge and tools for non chemical pest control, (iv) to analyse the conditions and the trajectories for adoption of integrated strategies by the farmers.

➤ **The health benefits and the microbiological safety:** The objective is to understand the mechanisms by which some micronutrients (polyphenols and carotenoids) of fruits and vegetables are bioavailable in the bolus of food. In addition research activities are aimed at the assessment of microbiological risk for fresh and transformed fruits and vegetables.

The pole integrates different disciplines : systemic agronomy, ecophysiology, post-harvest physiology, food chemistry, microbiology, epidemiology, entomology, plant pathology, genetics, genomics, statistics and spatial dynamics.

# The actors :

PHI brings together 5 research Units (UR), 2 joint research units (UMR), 1 service unit (US) and 2 experimental units (UE). The pole has 300-350 permanent staff Inra and 30 permanent staff of the University of Avignon.

- UR Fruit and vegetable breeding and genetics - GAFL – *Department « Plant breeding and genetics »*
- UR Plants and cultural systems in horticulture - PSH – *Department « Environment and agronomy » and Department « Plant health and the environment »*
- UMR Safety and quality of foods of plant origin - SQPOV – *Department « Characterisation and development of processed agricultural products » and department « Microbiology and the food chain »*
- UR Plant pathology – *Department « Plant health and the environment »*
- UMR Human nutrition and lipids – NHL – *Department « Food and human nutrition »*
- UR Ecodevelopment – *Department « Science for action and sustainable development »*
- UR Biostatistics and spatial processes – *Department « Applied Mathematics and informatics »*
- US Agroclim – *Department « Environment and agronomy »*
- UE Experimental unit for integrated research on fruit trees (Domaine de Gotheron - *Department « Plant health and the environment »*
- UE Experimental unit for production systems in horticulture (Alenya) - *Department « Science for Action and Sustainable Development »*

Technical plateaux: Analysis of fruit quality, Molecular biology, Microbiological food safety, Microscopy – Experimental facilities: green houses, phytotrons, fields.

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