

INTERNATIONAL SCIENTIFIC SYMPOSIUM

BIODIVERSITY AND SUSTAINABLE DIETS

UNITED AGAINST HUNGER

3 - 5 November 2010, Green Room, FAO
Headquarters, Rome



Consiglio Nazionale delle Ricerche





Mediterranean diet: an integrated view

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Two extremes of Malnutrition

Food shortage (undernourished)

Food excess (obese)

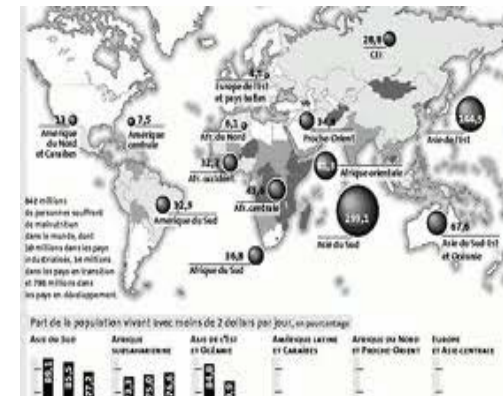
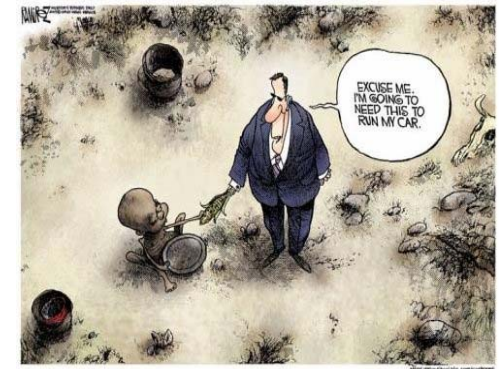


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Food shortage and Obesity

More than 900 million of hungry people worldwide

1 billion of overweight people.
300 million of these are obese



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ECONOMICAL, SOCIAL AND CULTURAL ISSUES

poverty

**low cost food
without identity**

**nutritionally
unbalanced food**

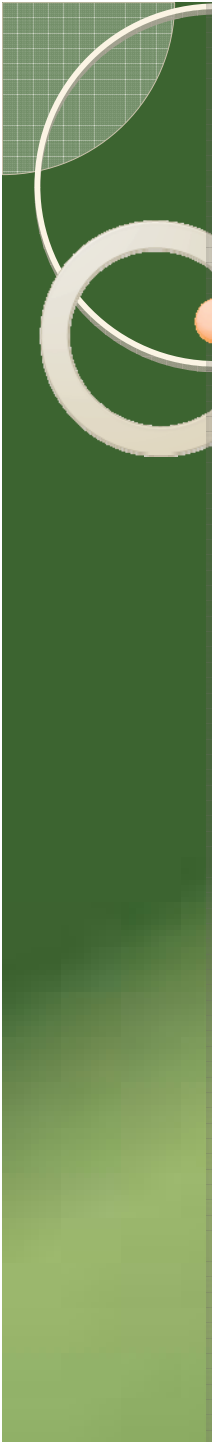
**missing of knowledge on how
food is produced and prepared**

GENERAL LACK OF FOOD VALUE AWARENESS



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**IT'S A VERY COMPLEX ISSUE
INVOLVING**

SINGLE AND GROUP BEHAVIOR



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SEARCH FOR A HEALTHY AND SATISFACTORY LIFESTYLE

It involves a vision of food no longer limited only to its composition in nutrients

In other words, it must be recognized the close connection of food with

SPACE AND TIME



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RELATIONSHIP BETWEEN FOOD AND ENVIRONMENT

There is also a close connection with the environment:

- Production methods,
- Food transport and storage,
- Natural resources exploitation,
- Biodiversity implication



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SUSTAINABLE DIET

All of these concepts lead to the notion of sustainable diet

- **consider food with a proper specific identity and well balanced in term of nutrients**
- **follow healthy lifestyle and moderate eating habits**
- **reassign to the food its close linkage with the seasonality**
- **think the environmental impact of food in all its life cycle**



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SUSTAINABLE DIET

**Mediterranean diet
fully meets
requirements of a
sustainable diet**



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MEDITERRANEAN DIET

- **Counteracts** food **homologation** and gives value to diversity and to traditions and local cultures.

Promotes the use of **indigenous natural resources** and the "compatibility" among well-being - in its broadest sense -, nutritional needs and environmental protection.

Supports seasonal food consumption and biodiversity.



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MEDITERRANEAN DIET

- **directly derives** from the culture, traditions, history, social relationships and spatial features of the nations bordering the Mediterranean Sea;
- **strongly affects** the lifestyle of these peoples



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MEDITERRANEAN DIET

The threats to the Mediterranean diet include:

- **economic factors:** imported products with lower price but also with lower quality
- **cultural factors:** a limited propensity of consumers to prefer **seasonal product**, rather than ones out of season



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MEDITERRANEAN DIET

Remedies:

- educational **campaigns in schools**
- promotion of **consumer awareness**
- to give value to the **cultural identity of food**



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THE ROLE OF RESEARCH

The researchers community is called to analyze the characteristics of the Mediterranean diet and **to give scientific evidences**



To develop new assessment methods able to **link the concept of quality** - in its broadest sense - **and the systemic approach of sustainability.**



This calls for a variety of theoretical concepts (**ecological economics, sciences of sustainability, social sciences, sciences of complexity**), as well as an interdisciplinary approach that **combines basic and applied sciences such as agronomy, natural sciences, ecology, biology, food science, biochemistry.**



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COMMITMENT OF CNR

○ To carry out further **researches on the intrinsic qualities and the concept of sustainability in the Mediterranean diet.**

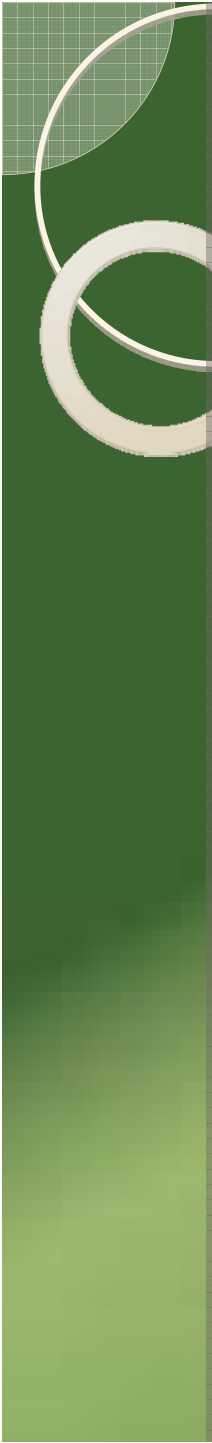


The scientific network of the CNR's Agro-Food Department can contribute to effectively respond the research demand in this field.

The research activities may be fully developed in **two strategic areas considered by the Department: the area "Food" and the area "Sustainable Agriculture"**, and carried out in **20 research institutes widespread in the country.**



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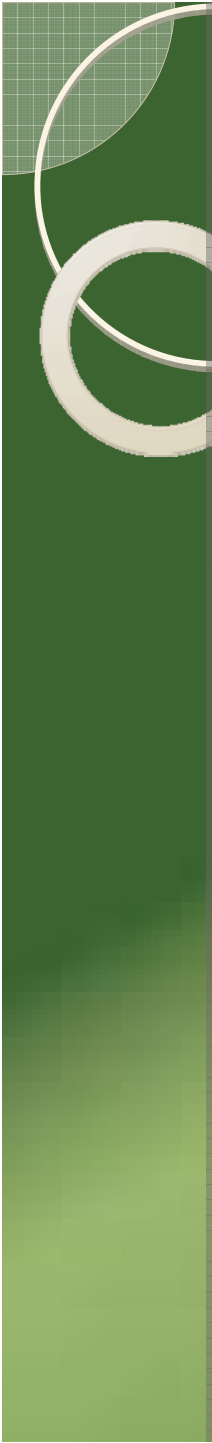
FOOD

main challenges and research demand

Interest for typical products, closely linked to local territorial realities.

Particular attention to certain **functional substances** in this foods (e.g. antioxidant) considered protective factors for human health.





FOOD

main investigation sectors

Diagnostic methodologies, including micro and nano-technologies (biochip, nanochip “multi-array”, biosensors) for detecting and controlling food quality



FOOD

main investigation sectors

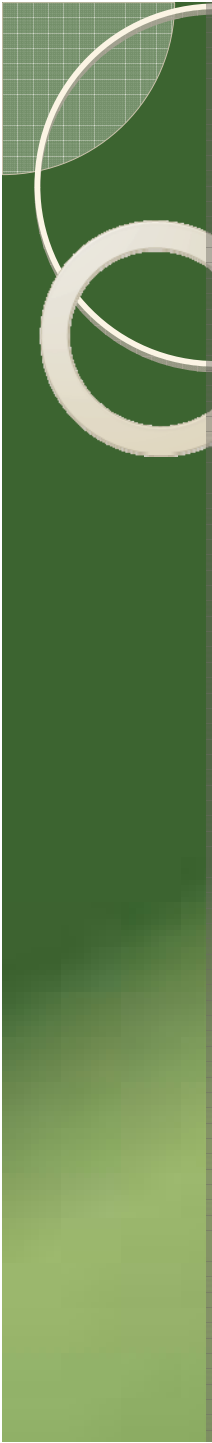
Identification and characterization of micro-organisms heightening **nutraceutical value of food** (probiotics)



FOOD main investigation sectors

Relationship between diet and health with reference to the occurrence of diseases related to food (food intolerances, obesity, diabetes).





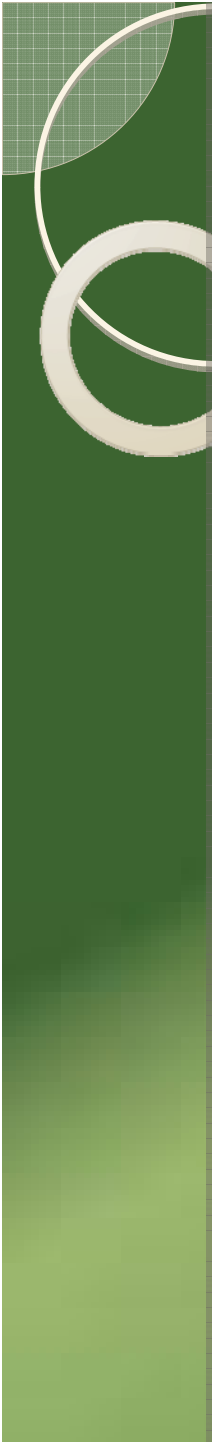
FOOD

potentiality of the CNR's research offer

Different CNR institutes operate in this area.

Multidisciplinary approaches are carried out, based on knowledge in the field of chemistry, physics and molecular biology.





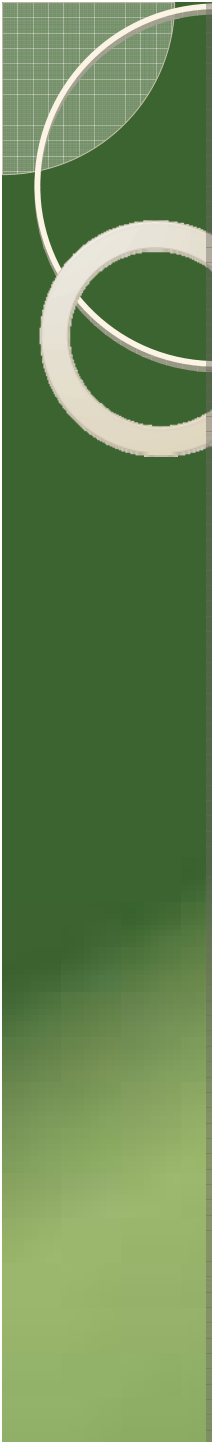
FOOD

potentiality of the CNR's research offer

9 projects, currently active in this area, have been **financed by the European Commission**. For three of them, CNR researchers/institutes are Coordinators



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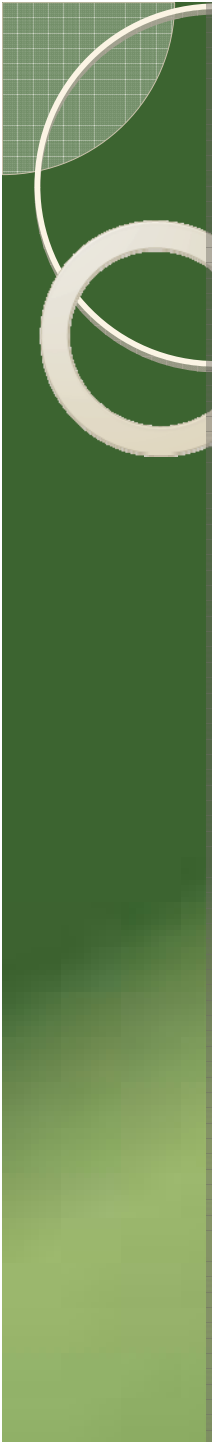
SUSTAINABLE AGRICULTURE

main challenges and research demand

The agricultural system is called upon to **increase production and quality of food in the Mediterranean area in a sustainable way** (environmental protection, biodiversity conservation, assuring adequate incomes to the farmers).

At the same time, **the effects of climate change**, already happened or expected, create series turbulence in the prices of agricultural products, forcing the **agricultural system to be constantly up-to-date and more flexible**.



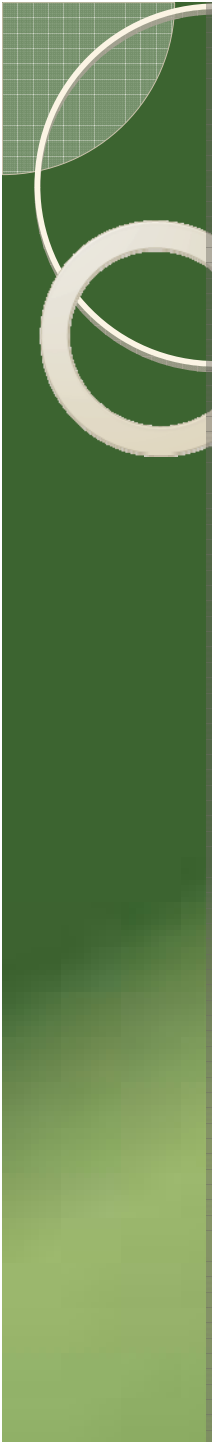


SUSTAINABLE AGRICULTURE

main investigation sectors

genetic resources for selecting **autochthonous germoplasm** showing good agronomic and qualitative characteristics (including low input needs and resistance to diseases).



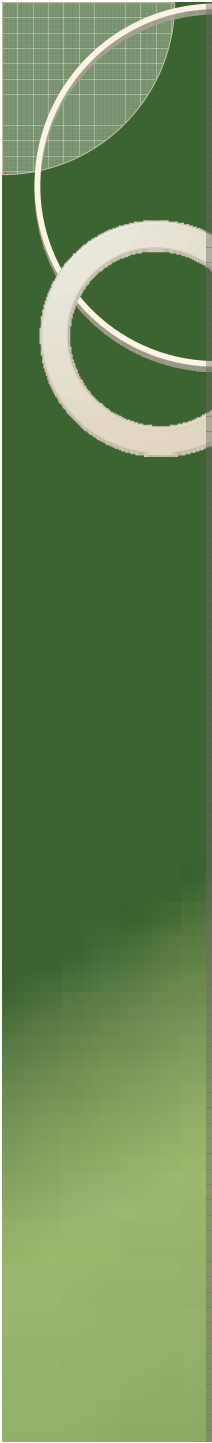


SUSTAINABLE AGRICULTURE

main investigation sectors

Relationship between the expected **climate change**, production and quality of agrarian systems. **Identification of strategies of adaptation and mitigation in cooperation with disadvantaged rural areas in the world**





SUSTAINABLE AGRICULTURE potentiality of the CNR's research offer

The CNR institutes, operating in this area, hold a **rich collections of Mediterranean genetic resources including plant, animal, and micro-organism**. Joint projects with regional authorities are carried out.





Mediterranean diet: an integrated view

THANK YOU FOR YOUR KIND ATTENTION

**Mauro Gamboni
CNR - DAA**



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