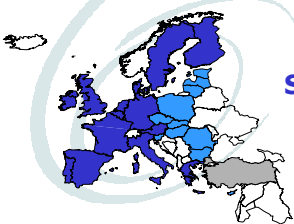

 **INTEGRATED PROJECT**

Improving quality and safety and reduction of cost in the European organic and 'low input' food supply chains

**QualityLowInputFood**  
Website: [www.qlif.org](http://www qlif.org)

**The Sixth Framework Programme**  
European Commission  
Research DG

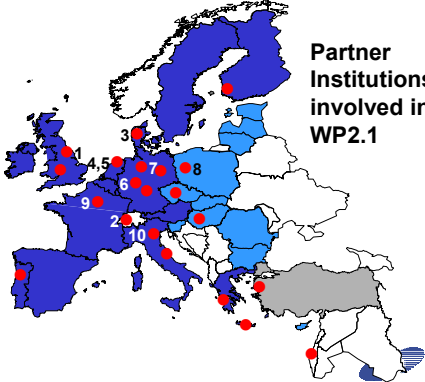



 **QualityLowInputFood**

**Partner Institutions involved in WP2.1**


1. UNEW, UK
2. FiBL, CH
3. DIAS, DK
4. WUR, NL
5. LBI, NL
6. IOL, D
7. KU, D
8. WAU, POL
9. INRA, F
10. BU, I


24 additional partners




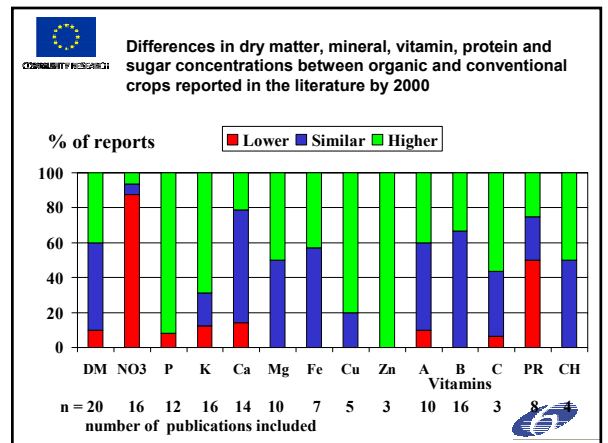
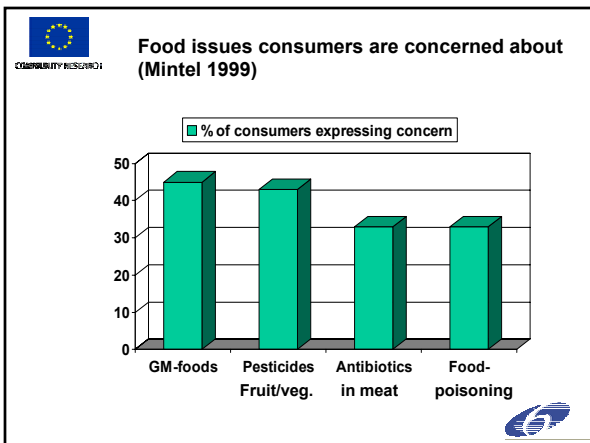
 **QualityLowInputFood Objectives**

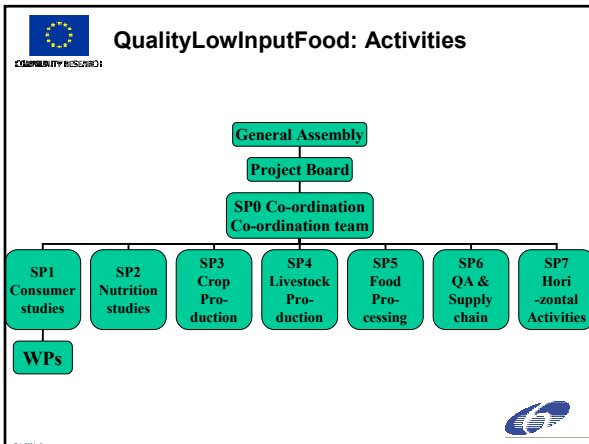
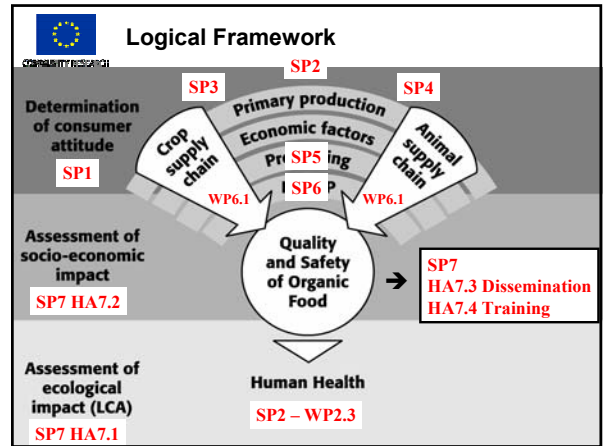
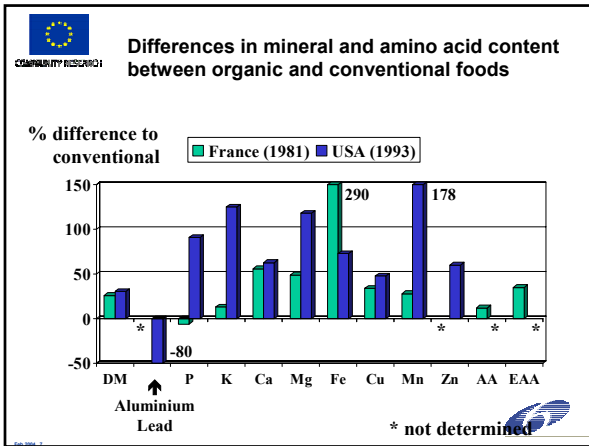
- **Objective 1** To quantify and improve **nutritional** (and sensory) **quality characteristics** of organic and other "low input" foods in line with **consumer expectations**.
- **Objective 2**. To **increase the cost-efficiency** all along the organic and other "low input" food chains, while improving or **maintaining food quality**.
- **Objective 3**. To contribute to **minimising food safety risks** all along the food chain (including the stages of production, processing, distribution and consumer food handling).
- **Objective 4**. To contribute to **reducing environmental impact** and fossil energy use in organic and "low input" farming.



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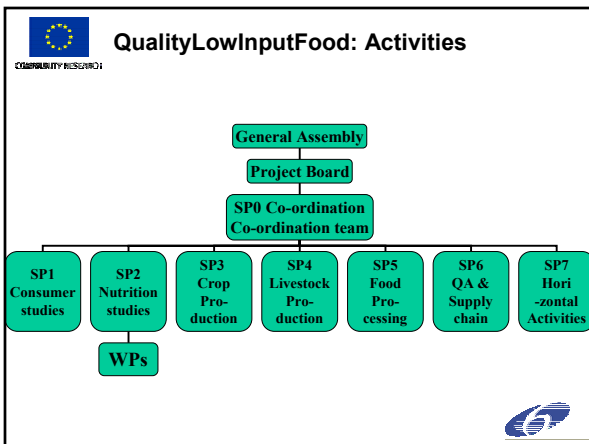
**SUBPROJECT 1. Consumer expectations and attitudes towards organic/low input food quality and safety (UNEW; SP-Coordinator)**

**WP1.1 determine consumer perceptions, expectations and attitudes about quality & safety of organic and low input foods**

- Review and reanalyses of existing data sets
- Questionnaire based quantitative consumer surveys .

**WP1.2 determine actual consumer buying patterns and behaviour (evolution of decision making process)**

- semi-quantitative/semi-structured interviews,
- consumer choice experiments and/or
- supermarket "loyalty card" based buying-pattern analyses.




**SUBPROJECT 2. Effect of organic/"low input" production methods on food quality & safety and human health**

**WP 2.1. Effect of crop management practices (organic, "low input" and conventional) on nutritional composition and sensory quality of food crops**

**WP 2.2 Effect of livestock management practices (organic, "low input" and conventional) on the nutritional composition and sensory quality and safety of meat and dairy products**


**WP 2.3 Effect of consumption of feeds/foods from different production systems (organic vs. conventional) on health (animal models only)**


 **WP 2.1. Effect of crop management practices (organic, “low input” and conventional) on the nutritional quality of food crops**

Crops: wheat, potato, cabbage, onion and lettuce

Crop Management	Crop protection	Crop fertilisation	Rotations
1. Conventional	Conv.	Conv.	2
2. Low Input 1	Conv.	Org.	2
3. Low Input 2	Org.	Conv.	2
4. Organic	Org.	Org.	2

Assessments: minerals, vitamins, pesticide residues, characteristic secondary metabolites and/or mycotoxins, crop yield and health analyses and soil physical, chemical and biological analyses





 **WP 2.2 Effect of livestock management practices (organic, “low input” and conventional) on the nutritional quality and safety of foods**

**WP2.2.1 Effect of dairy management practices/diets (organic, “low input” & conventional) on the nutritional quality and shelf life of milk**

**WP2.2.2 Effect of dairy management practices/diets on production efficiency, milk quality and **herd health status****

**WP2.2.3 Effect of pig management practices (conventional, “low input” & organic) and transport on the risk of pathogen shedding at slaughter.**




 **WP 2.2 Effect of livestock management practices (organic, “low input” and conventional) on the nutritional quality and safety of foods**


**WP2.2.1 Effect of dairy management practices (organic, “low input” & conventional) and dairy diets on the nutritional quality and shelf life of milk (survey)**

**Production systems UK**

1. Grazing only	spring calving	organic	S-Wales
2. “	“	convent.	S-Wales
3. Grazing + HES	all year round	convent.	S-Wales
4. Grazing + LES	“	organic	N-Engl.
5. Grazing + HES	“	convent.	N-Engl.

Assessments: FA-composition (CLA), Vitamin E (stereoisomers of  $\alpha$ -tocopherol),  $\beta$ -carotene, lutein, zeaxanthin and copper, antioxidative stability and flavour




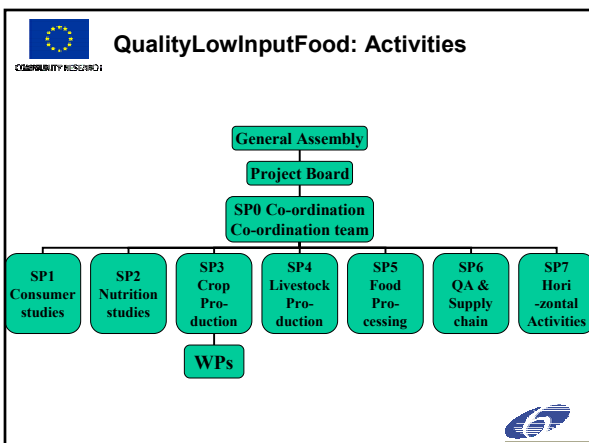
 **WP2.3. Effect of organic food consumption on livestock and human health**


**WP2.3.1 Animal model study: Effect of Chloro-Choline-Chloride (CCC) treatments of feed wheat on pig reproductive performance (UNEW)**

**WP2.3.2 Dietary Intervention study: Effect of organic vs. conventional food based diets on immune status in rats**

**Target:**

- WP2.3.3 Cohort study of effect of organic vs. conventional food based diets on human health parameters (long term impacts)**

 **SUBPROJECT 3. Improve quality & safety and reduce cost in organic and “low input” crop production systems**


**WP3.1 Strategies to optimise soil quality characteristics**  
– mineralisation capacity and disease suppressiveness

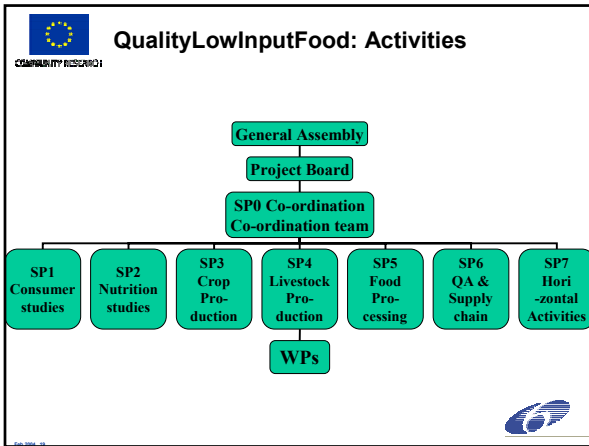
**WP3.2 Strategies for the control of seed borne diseases**  
– seed treatments (curing solutions/AAAs, BCA, elicitors)  
– Agronomic methods to prevent disease development  
– Interactions with pest control (companion plants, beetle banks)


**WP3.3 Precision fertility management systems improve production efficiency/reduce costs and**  
– reduce crop susceptibility to diseases and pests  
– maintaining or improving nutritional and sensory quality of crops

**WP3.4 Strategies to prevent enteric pathogen contamination of lettuce crops fertilised with manure**

**WP3.5 Integrated preventative crop protection systems**  
– variety selection x fertility (irrigation) management systems  
– alternative treatments (e.g. elicitors, biological control, mechanical) to replace pesticides in organic and “low input” systems





 **SUBPROJECT 4.**  
 Improve quality and safety and reduce cost in organic & “low input” livestock production

**WP4.1&4.2 Controlling endo- and ectoparasites (& bacterial zoonoses) of pigs and poultry**

- 4.1 management strategies (e.g. litter/run management, rodent control)
- 4.2 alternative treatments (herbal remedies, plant extracts etc.)

**WP4.3 Controlling gastrointestinal diseases in the pig**


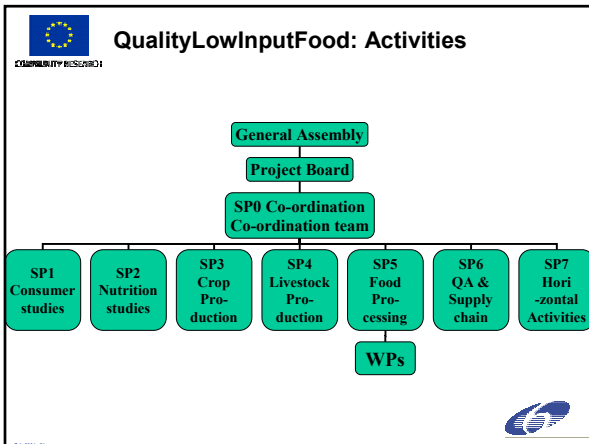
- Acid Activated Antimicrobial feed additives (stomach level)
- Probiotics/nutribiotics


**WP4.4 Improve sensory quality (reduction of cost & food safety) of pork**

- alternative protein crops
- breed selection x diet interactions
- replacement amino-acid supplements.

**WP4.5 Efficient farm/farmer group specific mastitis prevention plans.**

**WP4.6 Bovine feeding regimes which improve microbiological safety (production efficiency and/or sensory quality) of milk (and beef)**

 **SUBPROJECT 5.**  
 Framework “minimum” and “low input” processing strategies, which ensure food quality and safety


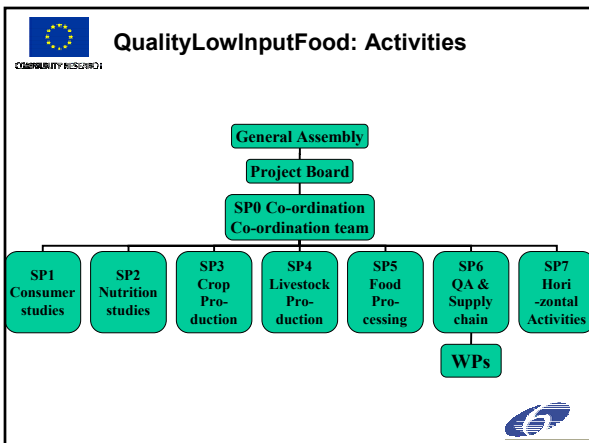
**WP5.1 Consolidated framework/Code of practice for “minimum” and “added value” processing strategies in organic and “low input” food production and processing (food quality and safety focused)**

- Literature review/desk study
- Delphi surveys of processing experts
- Commodities covered: milk, meat, cereals, fruit/vegetable

**WP5.2 Case study 1. Assessment of chlorine replacement strategies for fresh cut vegetable**

- Ozone, organic acids, essential oils (etc.)
- Commodities: lettuce, dried fruit and vegetables

**WP5.3 . Case study 2. Assessment of processing technologies which improve the nutritional composition of dairy products**

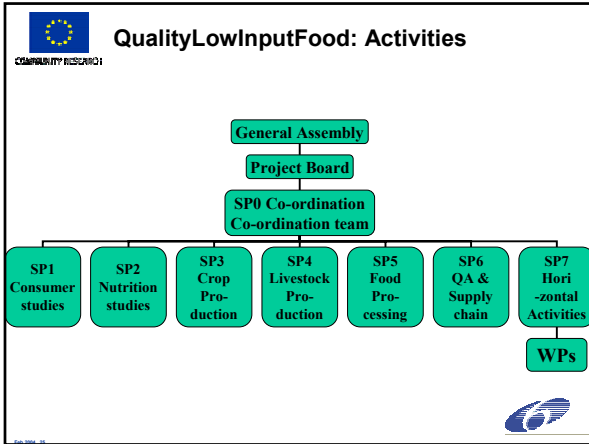
 **SUBPROJECT 6.**  
 Strategies to improve quality and safety and reduce costs along the food supply chain


**WP6.1 Analysis of structures, conduct and performance of supply chains for organic foods in Europe**

**WP6.2 HACCP manuals and training schemes for organic food production and processing systems**

- Consultation of a network/database of quality assurance specialists
- Preparation of quality and safety focused commodity specific (poultry, pork, dairy, milk, cereals, field vegetables) HACCP manuals.
- Develop and deliver HACCP-courses based on the HACCP manuals





 **SUBPROJECT 7. Horizontal Activities**  
COMMUNITY RESEARCH

**WP7.1 Environmental and sustainability audits**


- NO<sub>3</sub> leaching; P-run-off; energy use

**WP7.2 Cost benefit analyses and socio-economic impact assessment**

**WP7.3 Dissemination and technology transfer**

- Website ([www.qlif.org](http://www.qlif.org))
- Annual Congress for producers, farmers and other stakeholder

**WP7.4 Training of graduate and postgraduate researchers**



 COMMUNITY RESEARCH

**Thank you very much**

