

**Quality analysis of critical control points within the whole food chain and their impact on food quality, safety and health (QACCP)**

## QACCP

**How to assure safety, health and sensory qualities of organic products**

Consumer demand for healthy, safe and high quality food is increasing. Against this background, the demand for organic food has been rapidly growing. But health effects and sensory qualities of organic products need to be assured. The objective of this project is to improve product-related quality management in farming and processing.





The project "Quality analysis of critical control points within the whole food chain and their impact on food quality, safety and health (QACCP)" will investigate the optimization of production and processing of organic food. This will be done in order to improve food safety as well as nutritional quality and health promoting aspects. The work will be undertaken using a chain analysis approach, which addresses the links between "farm to fork" and backwards from "fork to farm". Carrots will be used as the model vegetable. Carrot is a common vegetable that is also processed, e.g. for baby food. Therefore the results for carrots will be relevant for other vegetables and for organic food in general.

The specific objectives are to:

- ▶ Identify and define critical and essential product quality parameters that can be used to optimize organic food quality
- ▶ Compare products from different farming practices (conventional and organic)
- ▶ Test the performance of the method "Quality Analysis Critical Control Point" (QACCP, similar to HACCP methodology, often used in the food industry)
- ▶ Test the impact of different processing techniques on product quality and safety
- ▶ Test the impact of organic food on health

### Challenges for the organic sector

A significant proportion of organic consumers believe that organic food has a better quality than non-organic. However, scientific data backing up this belief are extremely sparse.

In addition, the term "health", in relation to the benefits derived from high food quality, has a very broad and complex definition. There is a need for research to assess the relationships between organic food quality and potential nutritional and health benefits. This wider definition of health requires methods that assess more overall, wholesome aspects of food. The project will demonstrate ways in which this might be undertaken.

Organic production comprises the entire food chain. The increasing demand for more processed organic food, with characteristics like longer shelf life and convenience, will be a challenge. Only a few processing techniques are defined in the EU organic regulations and some consumers question whether certain processing methods currently being used conform to the organic principles.

Against this background, an analytical system to optimise the processes throughout the food chain needs to be established.





### **Analyses throughout the entire food chain**

Within the project, consumer and processor awareness, expectations and attitudes to organic processed vegetables (baby food) will be identified by means of focus groups and surveys.

Quality analyses will be carried out across different European enterprises. Carrot samples will be taken from both conventional and organic cultivation systems within well-defined field experiments that are designed to investigate the effect of different management practices on carrot quality. Samples will be processed in pilot plants using different techniques. Fresh samples, as well as samples from critical points during processing, will be analysed utilising a multi-method approach that includes safety and quality parameters. The impact on health will also be tested on different animal models.

The results will be evaluated in relation to questions from practice, and a quality definition will be published to show how carrots should be processed for optimal quality and safety.





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**Work packages**

In the project the following work packages will  
be conducted:

WP1 Project coordination

WP2 Consumer and processor research on the  
quality of processed vegetables, in parti-  
cular baby food

WP3 QACCP analyses: Quality-driven chain  
analysis

WP4 Sample Organisation

WP5 Assessment of food safety on fresh and  
processed carrots

WP6 Product quality

WP7 Impact on health

WP8 Quality definition

WP9 Implementation in the quality manage-  
ment system, recommendations and dis-  
semination

**Further information**

You will find further information at the project  
website <http://www.qaccp.coreportal.org>

The project is initiated as a result of the  
cooperation in CORE Organic. In this EU  
supported ERA Network, 11 European research  
funding organisations have launched a joint call,  
which intends to step up cooperation between  
national research activities in organic food and  
farming. Further information on CORE Organic  
can be obtained at [www.coreorganic.org](http://www.coreorganic.org).

By subscribing to the CORE Organic news you  
can follow the progress in the project.  
Subscription is possible via [www.coreorganic.org](http://www.coreorganic.org).

