CORE organic

QACCP within the whole food chain and their impact on food quality, safety and health

Core Organic QACCP Nr. 1885

QACCP within the whole food chain and their impact on food quality, safety and health

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organicagriculturalsciences  U N I K A S S E L
Quality analysis of critical control points within the whole food chain

Production  Processing  Trade  Storage, Transport  Consumption

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Definition:

**HACCP**: Hazard Analysis Critical Control Points

→ A system which identifies, evaluates and controls hazards which are significant for food safety (Codex Alimentarius Food Hygiene Basic)

**QACCP** Quality Assurance Critical Control Points (Uni Wageningen NL)

**QACCP** Quality Analysis Critical Control Points (Core organic)

The concept and methodology was adapted to the following quality attributes

- Sensory
- Nutritional value
- Health influencing compounds
- Authenticity
Document consumer and processor expectation of organic food quality, in carrot baby food

Document the whole food chain and perform a QACCP

Measure the effects of CC points on the safety and quality of the products

Measure the health effect of selected CCPs

Define quality according to the findings

Implement the results and publish them
Hypotheses to be tested within the project CORE Organic QACCP

1. Carrots from organic and conventional farming systems can be differentiated in a field trial or by comparing carrots from neighbouring organic and conventional farms.

2. Organic cropping increases positive quality and health attributes and decrease negative effects on the safety of the carrots.

3. Along the organic production chain of carrot baby food critical steps according to quality, safety and health can be identified.

4. A Quality Analysis Of Critical Control Points (QACCP) can successfully be performed on carrot baby food and the effects of changes in selected critical control points can be determined.

5. The consumer response to the changes can be tested, in order to see if these changes are seen as improvements by consumers and if this affects their willingness-to-pay for the product.
QACCP – The samples

Commercial material

Farming Farm Pairs/I

Factorial Field Trial/DK

Processing SME (CH)

Processing Pilot Plant/FIN

Quality, safety and health measurements
Project Coordination WP 1

Consumer and Processors WP 2

QACCP WP 3

Sample organisation WP 4

Impact on Health WP 7

Quality definition WP 8

Implementation in QM WP 9

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organic agricultural sciences UNIKA S S E L
QACCP – results for development

Provisional results most interesting for the organic sector

QACCP as a tool to improve organic food quality

– Whole food chain approach
– Identification of critical quality points, improvement of the quality points and definition critical control points
– Definition of aspects and criteria for quality, safety and health
– Implementation of the QACCP in the existing HACCP concept
Quality Point (QP) Raw material
- Based on the differences of the use of raw material
- Request from the processors survey and the demand of the organic labels
  -> QP was analyzed in pilot plant as well in the industry (SME)

QP Heat load
- Heat load was measured in the pilot plant as well in the industry test
- Possible optimisation became apparent

QP sterilisation
- Literature study with advantages and disadvantages of the methods
Contribution to challenges in the organic sector

Definition of organic food quality – test of aspects, criteria and methods

Authenticity of organic products – test of criteria

Improvement of organic food quality – QACCP
New research questions from the project

Underline organic food and health claims

Analyse and evaluate production processes from field to fork in terms of these claims

Analyse and evaluate technologies in terms of “careful” processing
QACCP Project

- European network on organic food quality

- Field to fork approach to improve organic food quality

- Interdisciplinary team (consumer science, agriculture, food technology, nutrition, health)