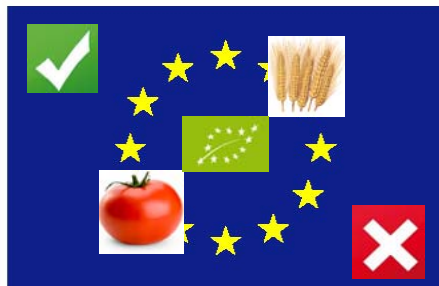


# AuthenticFood

*- Fast methods for authentication of organic plant based foods*



Søren Husted  
Department of Agriculture and Ecology  
Faculty of Life Sciences  
University of Copenhagen  
Denmark



# Partners in CoreOrganic II

## ”AuthenticFood”

		Acronym	Organisation	Country	Contact person
1	Coordinator	KU-LIFE	University of Copenhagen, Faculty of Life Sciences	Denmark	Professor Doctor Søren Husted
2	Partner	AIAB	Italian Association of Organic Agriculture	Italy	Doctor Cristina Micheloni
3	Partner	FEM-IASMA	The Research and Innovation Centre (CRI) of the Edmund Mach Foundation	Italy	Doctor Federica Camin
4	Partner	FERA	Food & Environment Research Agency	United Kingdom	Doctor Simon Kelly
5	Partner	Food DTU	Technical University of Denmark	Denmark	Professor Doctor Erik Huusfeldt Larsen
6	Partner	EAF	Eurofins Analytics France	France	Director Michele Lees
7	Partner	ICT	Institute of Chemical Technology, Prague	Czech	Professor Doctor Jana Hajslova
8	Partner	RIKILT	Wageningen University and Research Centre	Netherlands	Doctor Saskia van Ruth
9	Partner	GL centre	University of Luxembourg, G. Lippmann Centre	Luxembourg	Doctor Cedric Guignard
10	Partner	Bioforsk	Bioforsk	Norway	Senior advisor Torfinn Torp
11	Partner	UniKa	University of Kassel, Organic Agriculture	Germany	PD, Doctor Johannes Kahl
12	Partner	ECOCERT SA	ECOCERT SA	France	Doctor Pierre Ott
13	Partner	UHEL	University of Helsinki, Ruralia Institute	Finland	Senior Planning Officer, M.Sc. Marjo Särkka-Tirkkonen
14	Partner	LIAE	Lithuanian Institute of Agrarian Economics	Lithuania	Head of division Virgilijus Skulskis
15	Partner	BIOS	BIOS	Italy	President Vittorio Crivello
16	Partner	DVFA	Danish Veterinary and Food Administration	Denmark	Head of section Erik Andersen



# Credibility in the Organic Market

- "Certification Does Not Protect Consumers"

Thursday 05 May 2011

## The Telegraph

HOME NEWS SPORT FINANCE COMMENT BLOG  
Motoring | Health | Property | Gardening | Food and Drink  
Wine Shop | Wine | Pub

Food and Drink News

### One sixth of 'fr food is fake

One in six farm shops offer "organic," "fresh customers, an investi

Photo: ALAMY

Company director jailed for selling fake organic food  
One Food Limited repackaged non-organic ingredients in £500,000 scam

### 88% of Organic Food is Fake

By Nathan Schwartzman Dec 03, 2007 9:59AM UTC

16 Comments and 0 Reactions

Tweet 0 Like

Original Article.

“Organic tofu,” “organic jam,” “organic olive oil.”

A study has found that the majority of 'organic' farm products sold in Korea are fake. The Korea Food Research Institute announced on the 29th that "88% of domestic organic farm products have been marked as organic by their manufacturers, not the government." Unlike in foreign countries, organic products in Korea do not need government certification, creating these abuses. Organic products are 2.82 times as expensive as their non-organic counterparts. Consumers are buying expensive "organic" products without knowing what they truly are.

# Objectives

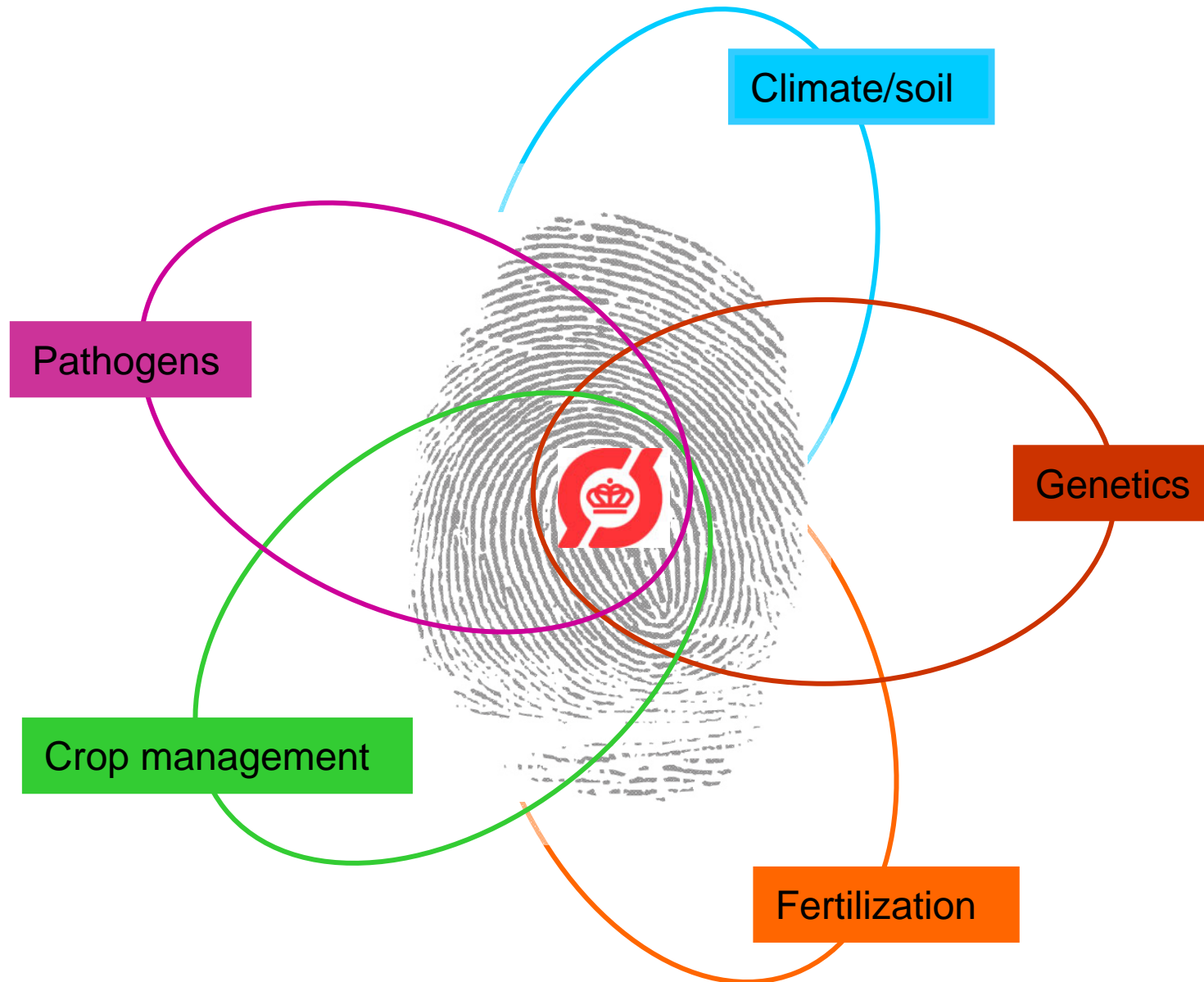
In order to document the authenticity of organic food products, a wide range of different analytical methods and protocols will be applied on samples, obtained both at the field and farm level and as processed plant based food products. The analytical methods have been selected according to the following basic criteria:

- i) previously documented in the scientific literature as promising tools for discrimination between organic and conventional samples
- ii) can potentially be developed into a fast screening procedure, and
- iii) the analytical costs per sample are low to moderate.

The results of the measurements will be evaluated and continuously discussed with a range of experienced control laboratories as well as inspection and certification bodies for their relevance in practical authentication of organic foods.



# The unique chemical fingerprint of organic plant products



# Scientific Idea



# Hypotheses

The following main hypotheses (h) will be tested:

*h1.* Organic plant samples can be authenticated at the field and farm levels under conditions where bias is introduced by differences caused by e.g. farming practise, geographical location, plant cultivar and growth season.

*h2.* Authentication of the organic origin is maintained in processed cereal and vegetable samples when data from suitable analytical methods are applied and combined.

*h3.* The validated methods can be implemented by relevant stakeholders such as inspection and certification bodies.



# Biological Cases





# Analytical Strategies

Ionomics

Stable Isotope Analysis

Metabolomic Fingerprinting:

Pesticides



# Expected results and "added value"

- Provide "proof-of-concept"
  - Identify bottlenecks in implementation
  - If successful: prepare for official CEN/AOAC Validation
- 
- Impossible for a single country
    - Analytical/Scientifically
    - Validation required at EU level
  - Elimination of geographical and environmental chemical imprints



# Thank you !



"Mess yourself up a little —  
the key to this business  
is *authenticity*."



