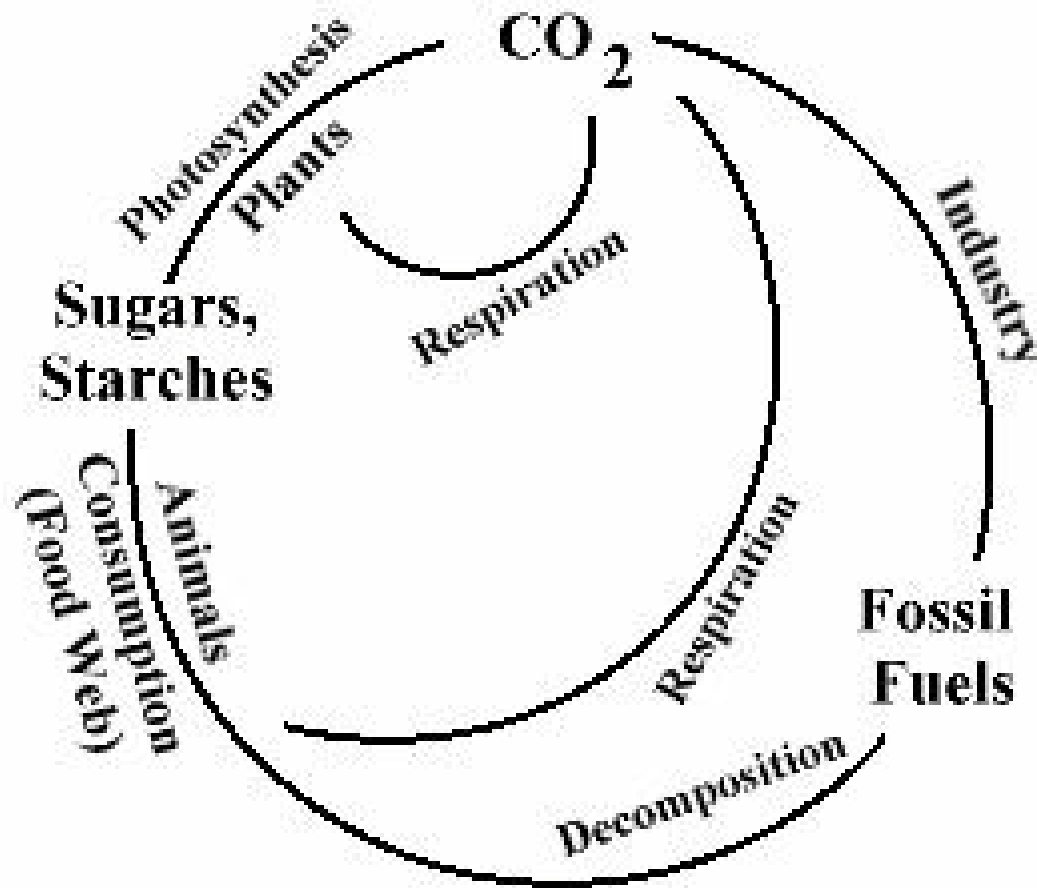


# How to eat healthy and environmentally friendly in the Nordic countries?

Elling Bere, Dr.Philos  
[elling.bere@uia.no](mailto:elling.bere@uia.no)



# Carbon Cycle

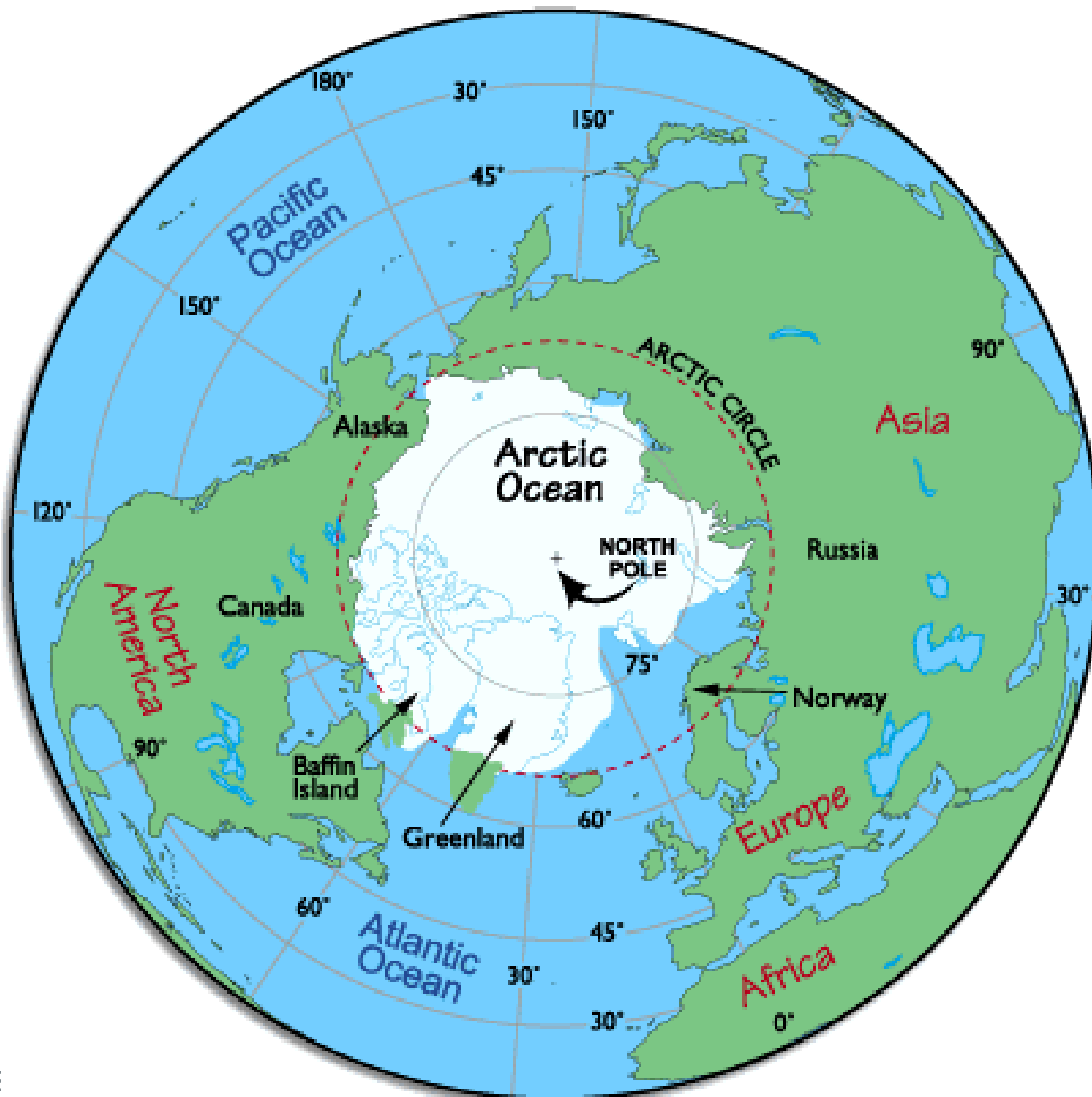


# Food and CO<sub>2</sub>

- Type
  - Animals vs. plants
- Production
  - Wild vs. organic vs. conventional
  - Outdoor vs. indoor (energy for heating)
- Transport
  - Under production/harvest
  - To the supermarket
  - From the supermarket

# Food and CO2

- Type
  - Animals vs. **plants**
- Production
  - **Wild** vs. **organic** vs. conventional
  - **Outdoor** vs. indoor (energy for heating)
- Transport
  - **As close to home as possible**



## Towards health-promoting and environmentally friendly regional diets – a Nordic example

Elling Bere<sup>1,\*</sup> and Johannes Brug<sup>2</sup>

<sup>1</sup>Faculty of Health and Sport, University of Agder, Serviceboks 422, 4604 Kristiansand, Norway:

<sup>2</sup>EMGO Institute, VU University Medical Center, Amsterdam, The Netherlands

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### Abstract

**Background:** Because most of the top determinants of the worldwide burden of disease are diet-related, the promotion of healthful diets is important for population health across the world. Furthermore, changes in eating habits may contribute to preservation of the environment.

**Objective:** In the present paper it is argued that the translation of health-promoting dietary recommendations into practical recommendations for healthful eating should be more tailored to regional circumstances. This will promote population health as well as help preserve cultural diversity in eating habits and contribute to more environmentally friendly eating. A regional Nordic diet, mimicking the Mediterranean diet to some extent, is presented as an example.

**Conclusion:** A theoretically health-enhancing Nordic diet is possible including six evidence-based ingredients: (i) native berries; (ii) cabbage; (iii) native fish and other seafood; (iv) wild (and pasture-fed) land-based animals; (v) rapeseed oil; and (vi) oat/barley/rye.

**Keywords**  
Health  
Environment  
Local diets  
Nordic diet  
Regional diets

Since most of the top determinants of the burden of disease are diet-related<sup>(1)</sup>, healthy diet promotion is important for population health across the world. Promoting healthy diets is therefore an important aspect of prevention policies in many countries, and the recommendations for healthful eating are very similar across countries<sup>(2)</sup>. In the present paper we argue that the translation of health-promoting dietary recommendations into practical recommendations for healthful eating should be more tailored to regional circumstances. Such regional tailoring of recommendations may help to preserve cultural diversity in eating habits.

dietary supplements, nutrient enrichment or fortification of foods, and the development of functional foods. This avenue has been fruitful in the past where the identification of specific essential nutrients, nutrient requirements, and enrichment, fortification or supplementation schemes have helped to eradicate a number of deficiency diseases in large parts of the world.

However, this nutrient-oriented avenue in general appears to be less effective in addressing the most important present-day nutrition-related health problems, which are related to over-consumption rather than defi-

# Criteria

1. Ability to be produced locally over large areas within the Nordic countries without usage of external energy e.g. for the production of greenhouses.
2. A tradition as a food source within the Nordic countries.
3. Possessing a better potential for health-enhancing effects than similar foods within the same food group.
4. Ability to be eaten as foods, not only in small amounts as dietary supplements (e.g. spices).

# Identified foods

(FRUITS) native berries

(VEGETABLES) cabbage

(FISH) native fish and other seafood

(MEATS) wild (and pasture-fed) land-based animals

(FATS) rapeseed oil

(GRAINS) oat/barley/rye

# Berries

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Wild berries

(blue-, cloud-, cowberries)

Most eaten  
fruits

(orange, banana, apple)

---

Antioxsidants

(mmol/100g)

30

2,9

Omega-3

(mg/J)

1,4

0,07

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Halvorsen et al., *J Nutr*, 2002

Bere, *Eur J Clin Nutr*, 2007

# Fruits eaten in Norway

- In 2002, the most eaten fruits in Norway were
  - apples (in 2004 79% of the apples were imported),
  - citrus fruits (all imported),
  - bananas (all imported),
  - pears (96% imported),
  - grapes (all imported),
  - kiwi (all imported),
  - pineapples (all imported),
  - strawberries (30% imported),
  - peaches/nectarines (all imported)
  - blueberries/cowberries/cranberries.
  
- **IMPORT: 93%**

# WHY?

- In Norwegian productive forests there is between 120 and 220 million kg of blueberries and cowberries
  - which alone is almost the recommended 2-a-day of fruits for all Norwegians
- In addition, there is considerable blueberry and cowberry production in non-productive forest and mountain areas
- And there are at least twenty-eight other edible wild berries in Norway

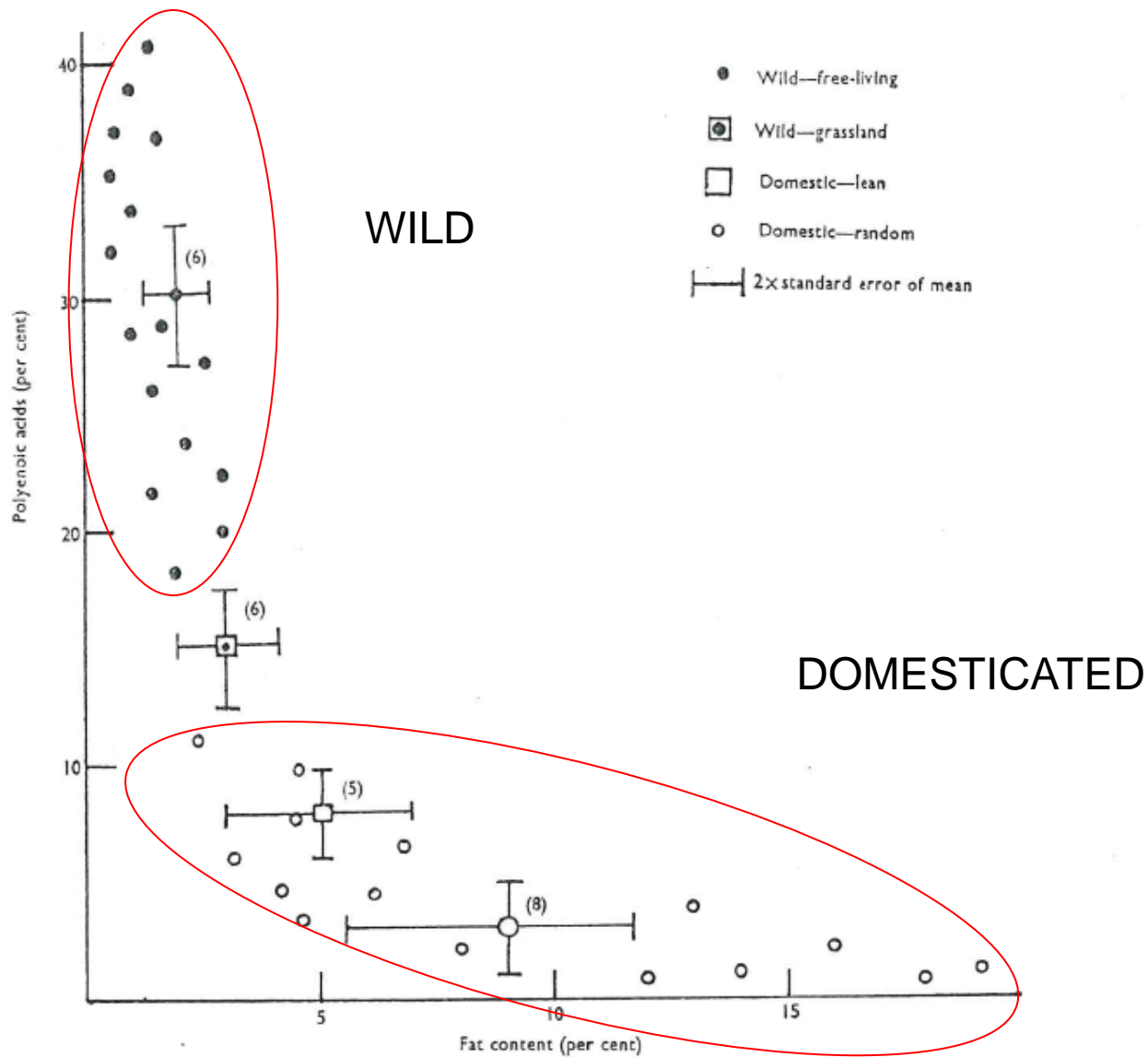


FIG. 1.—The above data include groups from individual sources which were averaged, together with samples collected from a variety of wild ruminant species, and from domestic meat on different occasions. The greater the fat content the lower is the polyenoic proportion. It is probable that the high amount of saturated and mono-unsaturated fatty acids in the high fat state represents a lipid infiltration, predominantly triglyceride (cf. Table I).

# SHEEP



# Challenge 1

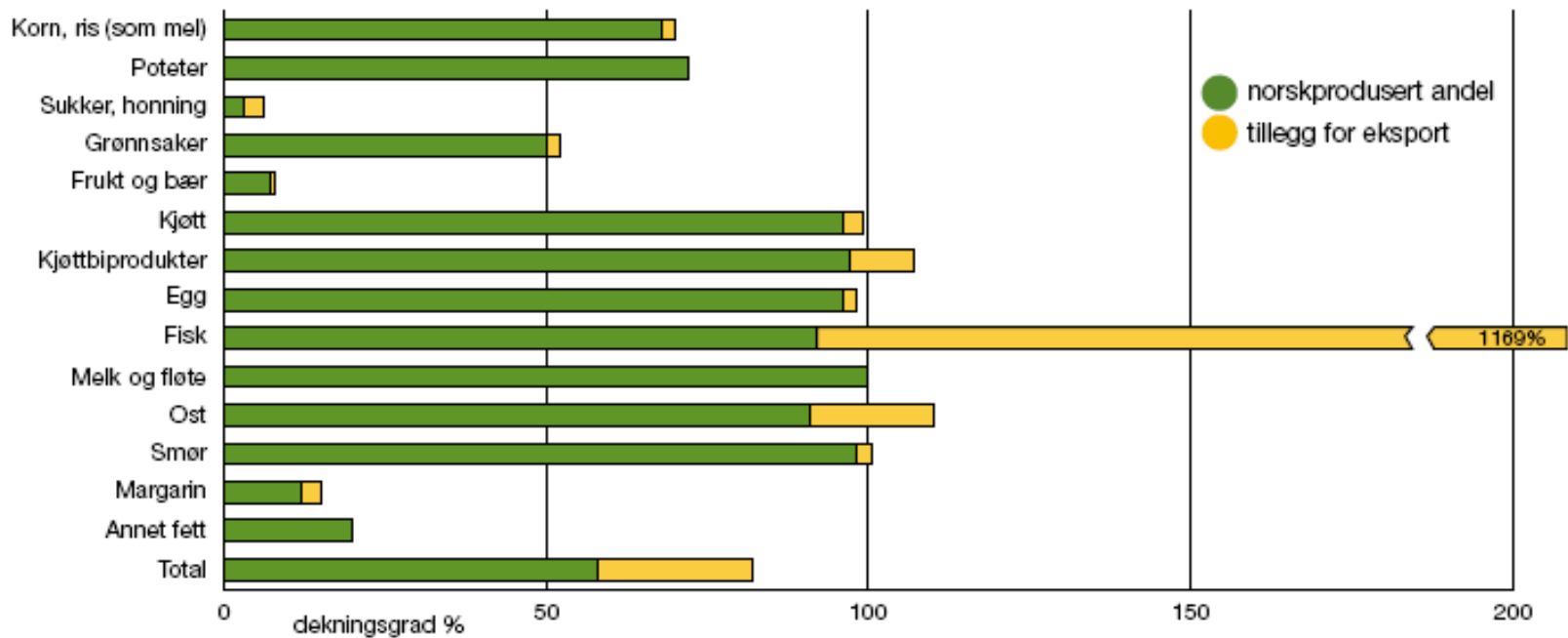
- How can we produce/harvest enough healthy animal foods (meat as well as fish) without expensing the environment?
- We probably can't – too many people...

# Eat more plants!

# Challenge 2

- Can all plant food we'll need be produced or harvested locally?

figur 16 Selvforsyningsgrad og dekningsgrad 2006, %.



# Usage of farm land in Norway

- Gras and pasture: 65%
- Grains (mainly to animal feed): 30%
- Only 0,7% of farm land is used to grow freeland vegetables

# How much vegetables are produced here?



Foto: M.O.Furuset [www.geiloibilder.com](http://www.geiloibilder.com)

The potential is great... (I)



The potential is great... (II)



# Challenge 3

- How can we get people to indeed eat these foods instead of the (sweet, fatty and salty) foods modern people have grown accustomed to?

# Motivation, ability and opportunity

(Rothschild, 1999)

- This foods should be highly available and accessible
- People should have the abilities to prepare palatable meals
- People should be motivated to eat these foods

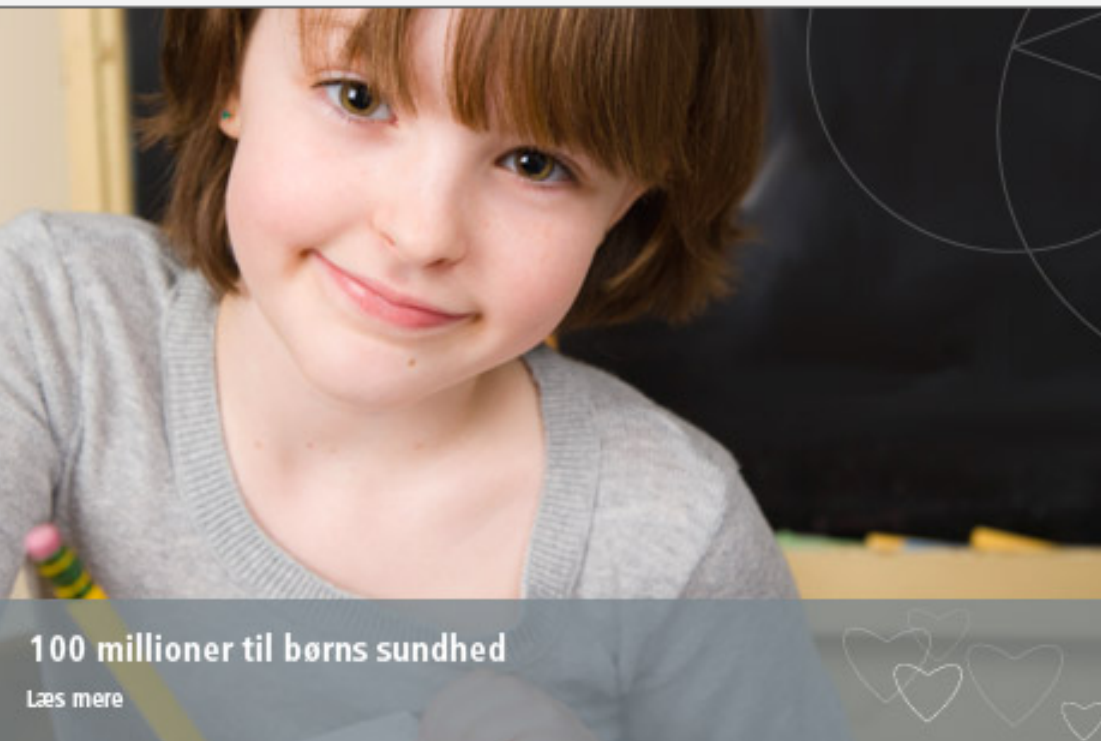


# Food of LIFE, OPUS - sundere mad, bedre liv, nyt nordisk køkken

## Det Biovidenskabelige Fakultet

WORK PACKAGES NYHEDER PRESSE KONFERENCE JUNI 2009 OM OPUS

Food of LIFE > Opus



100 millioner til børns sundhed

Læs mere

### OPUS Center

OPUS, "Optimal trivsel, udvikling og sundhed for danske børn gennem en sund ny nordisk kost", er et forskningsprojekt, der skal løbe over fem år (fra 2009-2013) og være med til at øge børnesundheden herhjemme.

Projektet er blevet til med støtte fra [Nordea-fonden](#).

NORDEA  
FONDEN

### Hvad er OPUS

**Hvad er OPUS?**  
Svar: OPUS Center  
[svaret](#)

**Hvem står bag OPUS?**  
Svar: Partnere  
[svaret](#)

**Hvad skal vi lære af OPUS?**  
Svar: Projekterne  
[svaret](#)

**Hvad er meningen med Nordiske Mad?**  
Svar: Det Nye  
[hele svaret](#)

### Nyheder

Flere nyheder

Miljøet lider under vores valg af mad

Symposium: Miljøeffekter af fødevarer og kostvalg

Konference: Kan fedme bekæmpes med velsmag som...

### Symposium og Konference juni 2009

D. 15. og 16. juni afholdt OPUS et symposium og en konference for at starte [WP1](#) op.

Læs mere om de to dage

### Der skal være sund mad i frokostpausen

Læs mere



# Gastronomy – Nordic Foods

- Kjøkkenmanifestet
  - [www.nordiskkoekken.dk](http://www.nordiskkoekken.dk)
- NOMA
  - [www.noma.dk](http://www.noma.dk)
- Matprogram på TV
  - New Scandinavian Cooking
    - [www.scandcook.com](http://www.scandcook.com)
  - Smaken av Norge
    - [www.tv2underholdning.no/smaken/](http://www.tv2underholdning.no/smaken/)
- Matmagasinet NORD
  - [www.matinorden.no/](http://www.matinorden.no/)
- Nordisk ministerråds satsning på ny nordisk mat
  - [www.nynordiskmad.org/](http://www.nynordiskmad.org/)

# New Nordic Diet

- As local foods as possible
- Seasonal foods
- More plants
- Less meat
- Wild and organic foods
- Sustainable seafood
- Harvest nature!
- Plant (fruit) trees!
- Grow your own vegetables!
  - At least herbs!
- Walk or cycle to get your food!