



School milk

Economy, climate and health

MEJERIFORENINGEN Danish Dairy Board

Merete Myrup
Director of Dairy Nutrition
Danish Dairy Board

Economic aspects

Does the school milk scheme strengthen the EU agri-food sector?

In the short run:

- Small tonnage
- Administrative burden

In the long run:

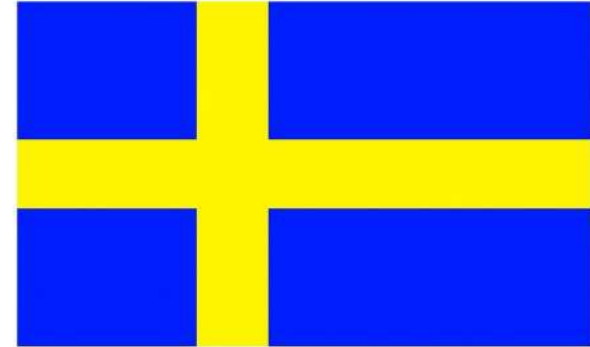
- Consumers of tomorrow
- Healthy eating habits
- Important nutrients



School lunch

Important documented effects:

- Higher lifetime income
 - Reduced socioeconomic inequalities in adulthood
 - Increased educational attainment
-
- Improved diet quality
 - Reduced BMI
 - Improved academic performance



Lundborg & Alex-Petersen, 2022. Long-term effects of childhood nutrition: evidence from a school lunch reform. *Review of Economic Studies* vol 89, 876-908.

Cohen et al. 2021. Universal school meals and association with student participation, attendance, academic performance, diet quality, food security and body mass index: a systematic Review, *Nutrients* vol 13, 911.

Insights from the Danish school milk model

- 70 % of Danish schools participate in the scheme which is managed by the Danish Dairy Board
- More than 24 % of Danish children (6-9 years) receive school milk every day
- Refrigerators and 'milk bags' are offered by the Danish Dairy Board
- EU subsidy is deducted automatically
- Documentation demanded is a big burden for the schools. Transfer of this task to the managing body (DDB) would ease the burden and make the scheme more attractive for the schools
- The EU-budget for school milk is fully used in DK and additional EU-funds would help to develop the scheme even further

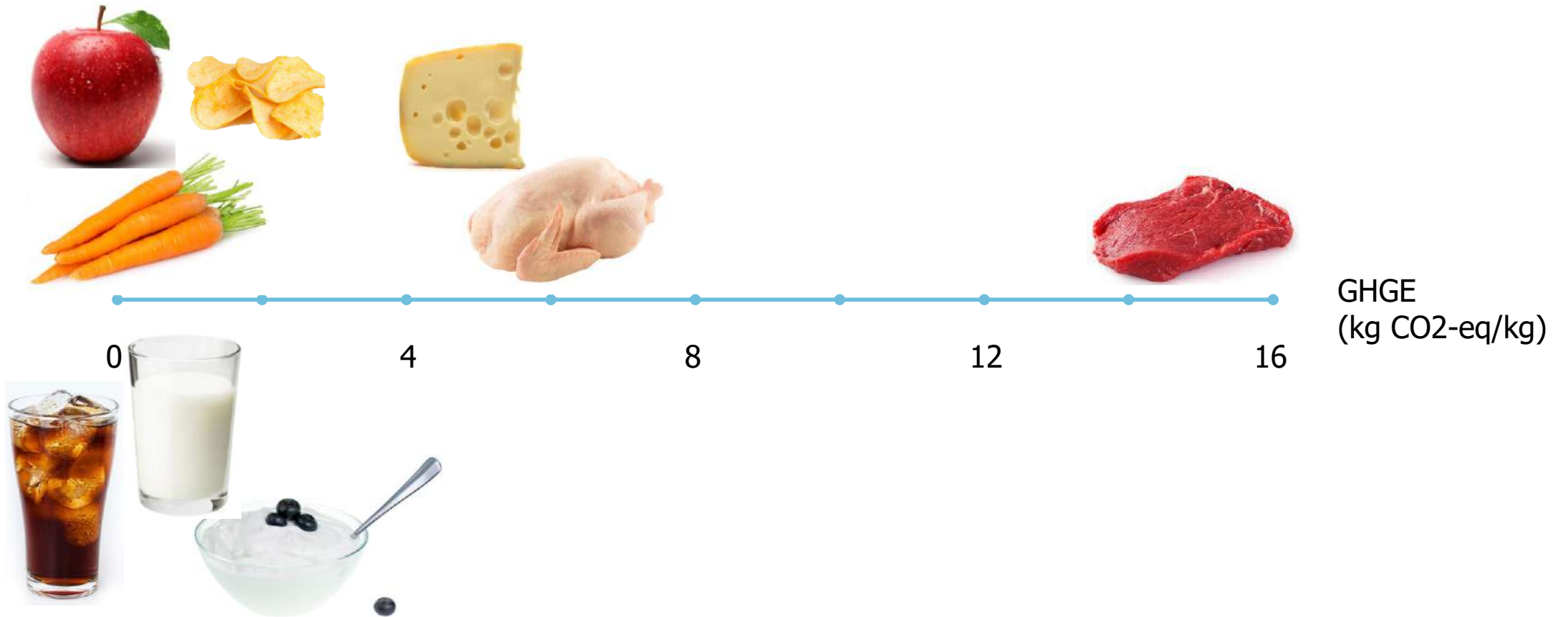




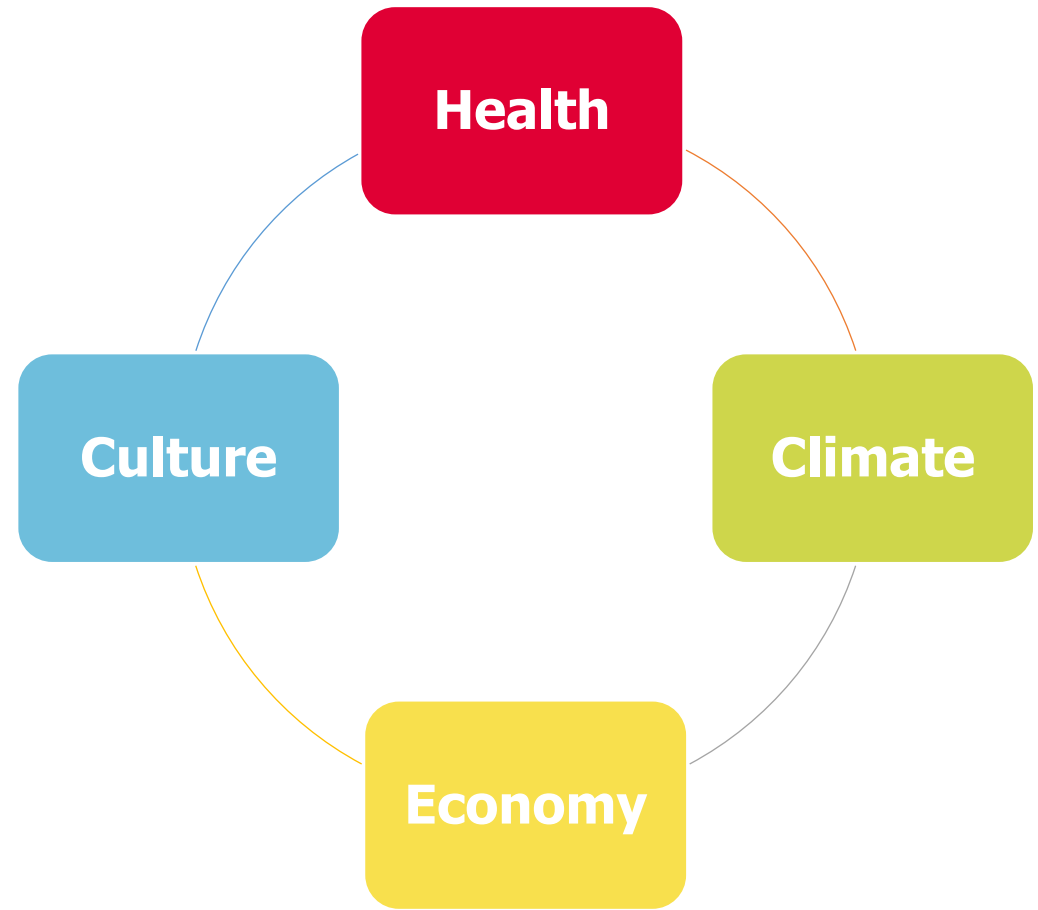
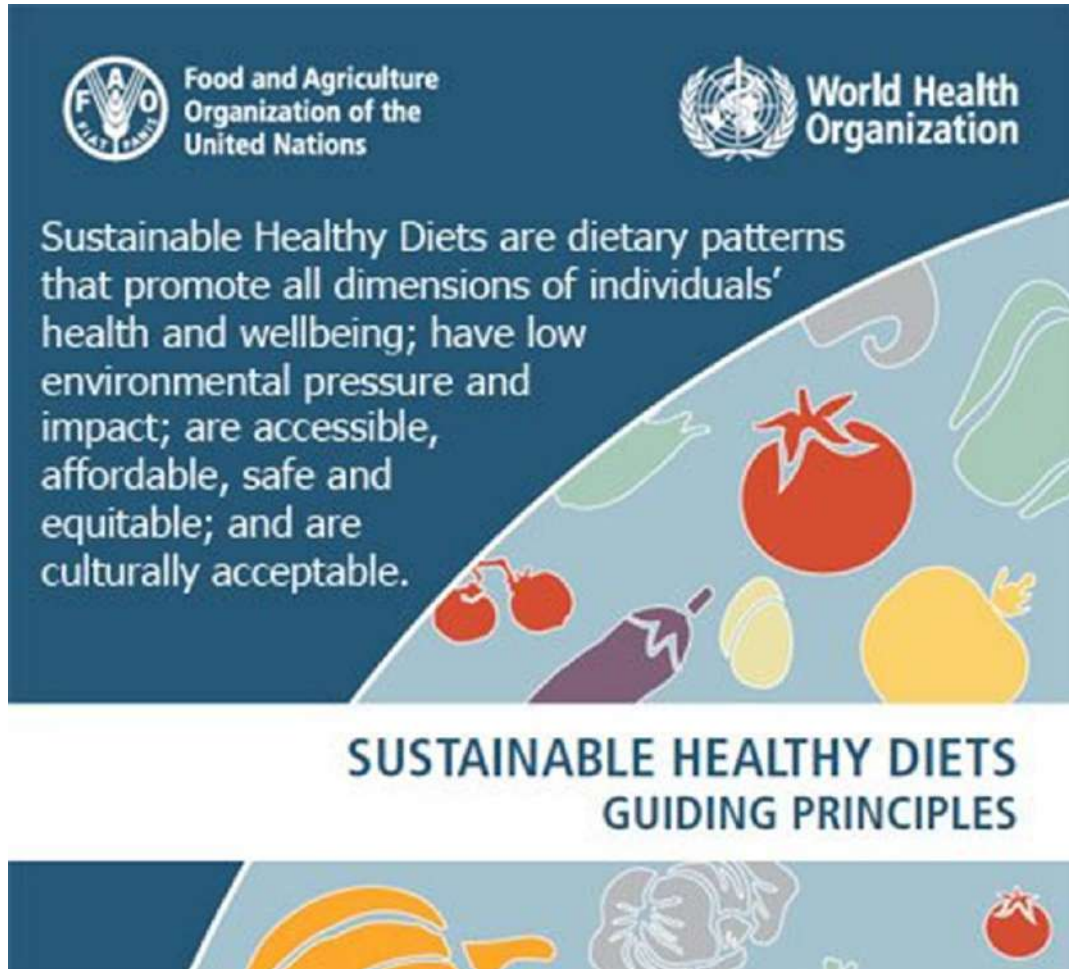
5 important reasons for including milk in the school lunch

1

Sustainability

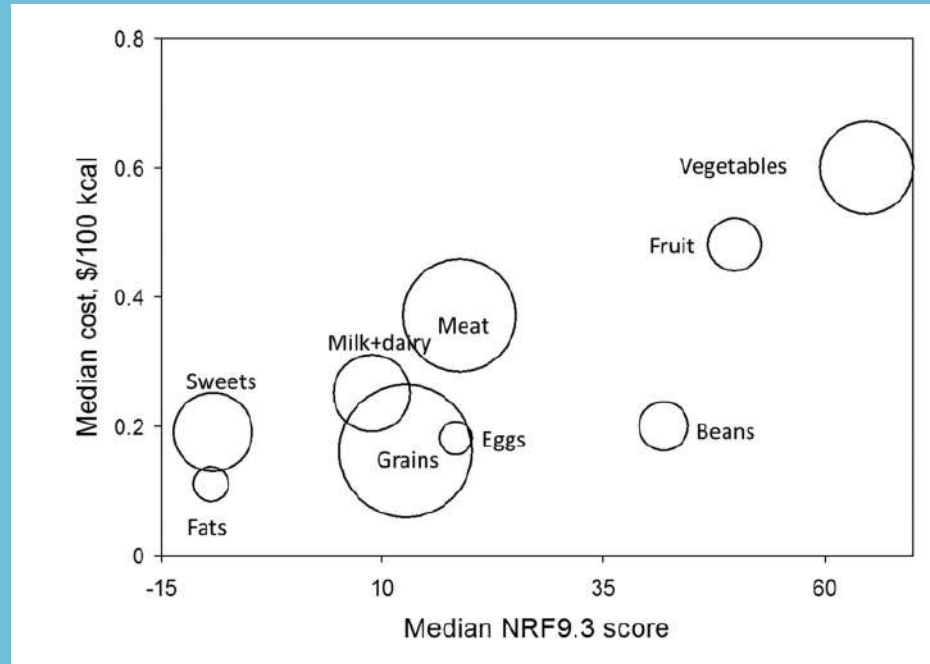


1 What is a sustainable diet ...



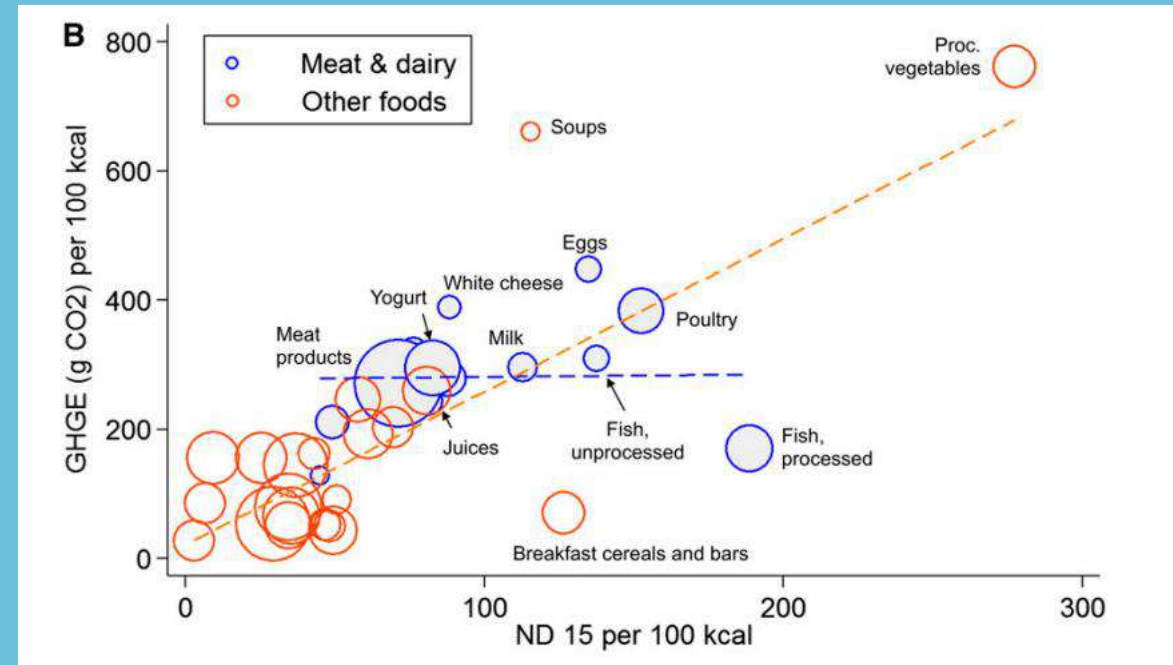
1

Milk is part of a sustainable diet



The relation between nutrient density and food price

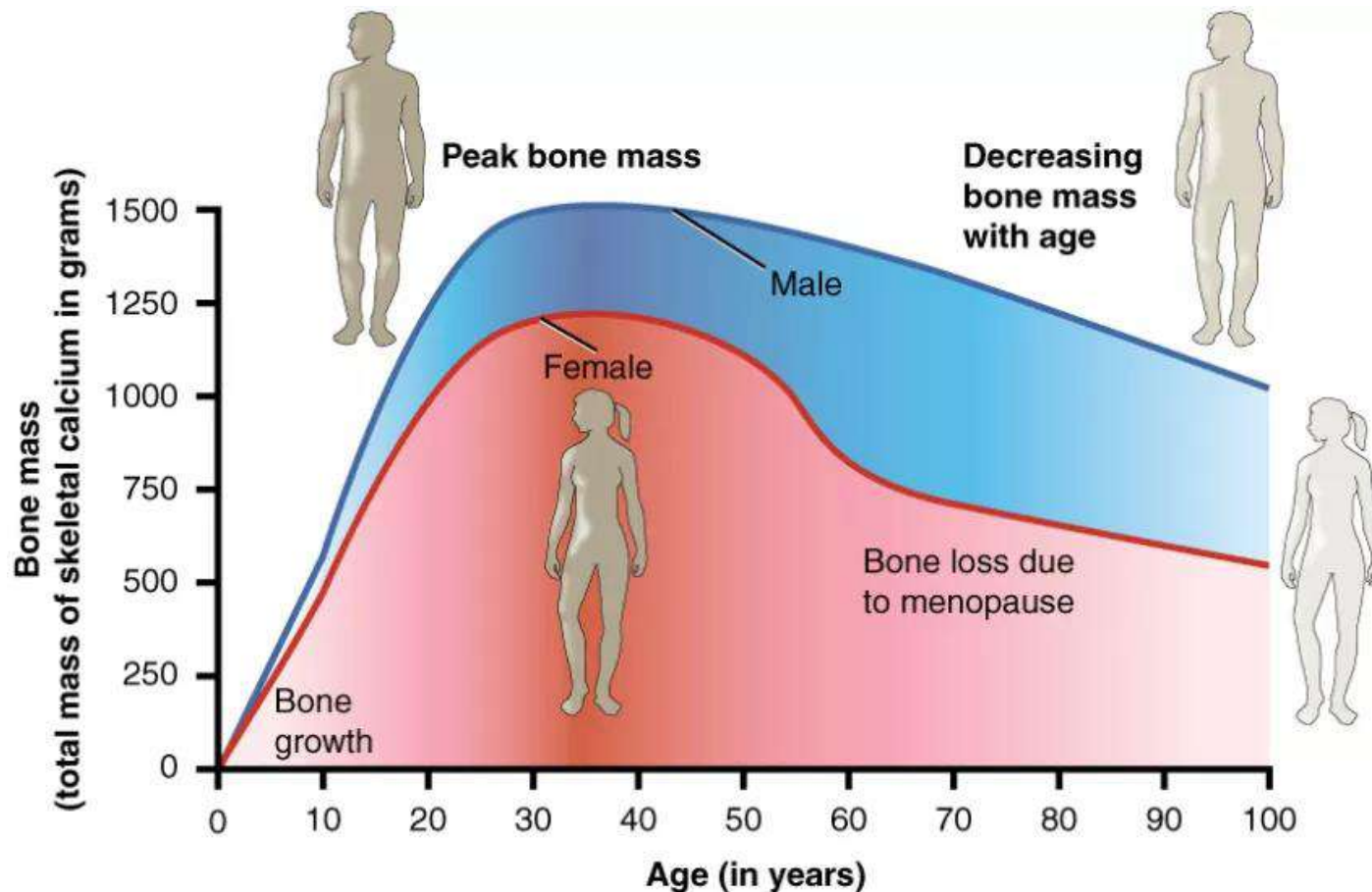
Source: Drewnowski et al. 2020



The relation between nutrient density and climate impact

Source: Drewnowski et al. 2015

2 Calcium is important for all age groups



2 Important nutrients in growth and development



- Milk contains highly bio-available calcium
- Iodine and vitamins B2 and B12
- Without milk children may fail to meet recommendations

3 Protein transition ...

... but we need to remember protein **quality**

Different protein quality of animal and vegetable foods

Animal proteins contain all necessary amino acids

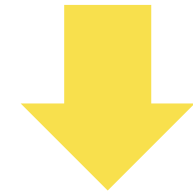
Vegetable proteins are short in different amino acids

- Beans, chickpeas etc - low in methionine
- Seeds, e.g. sesame – low in lysine
- Cereals, e.g. rice, wheat – low in lysine
- Nuts – low in methionine and lysine
- Corn – low in lysine and tryptophane

Missing amino acids may limit growth ...



ANIMAL PROTEIN



VEGETABLE PROTIN

3 Protein are important building blocks

- Muscles
- Bones
- Immune system
- Hormones and enzymes



Children need protein - and other nutrients – in high quality and with high bio-availability for growth and development

4

Milk vs other drinks in the cooler

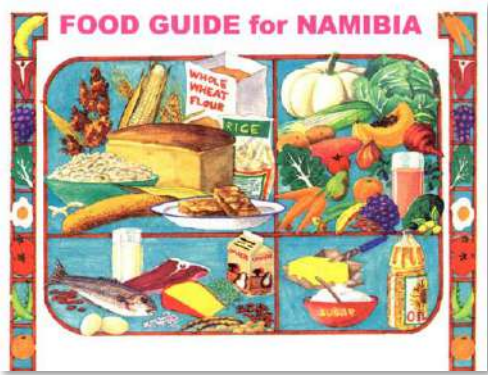
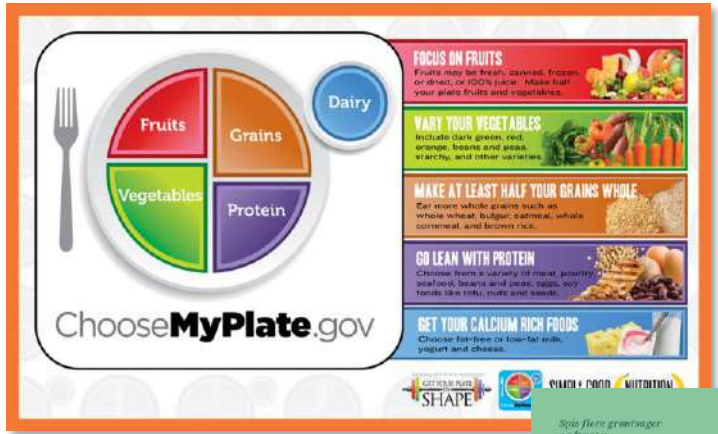
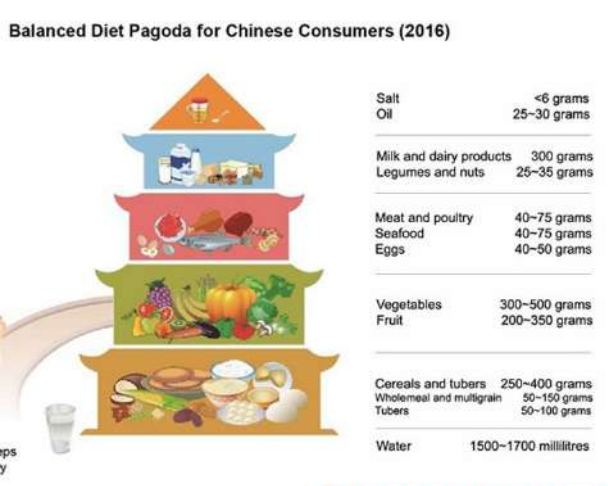
- We see a declining milk consumption in many countries
- Milk is replaced with water, plant based drinks and sugar sweetened drinks
- All of these have lower nutrient density compared to milk

We see a rise in childhood obesity coinciding with a decline in dairy consumption and an increase in sweetened nutrient-poor beverage Consumption.



Source: Malik et al 2006. Intake of sugar-sweetened beverages and weight gain: a systematic review. Am J Clin Nutr 84(2):274-88.

4 There is a reason why dairy are present in food-based dietary guidelines around the globe



5 Taste and food culture

- Milk and dairy products are part of our culture
- Milk improves the nutritional value of the school lunch
- A good lunch meal improves focus and learning
- ... and helps to establish good eating habits for life



Source: Cohen et al 2021. Universal school meals and associations with student participation, attendance, academic performance, diet quality, food security, and body mass index: A systematic review. *Nutrients* 13(3):911.

Take home messages

7 important reasons for school lunch and school milk

- 1** Long term economic benefits
- 2** Improved performance
- 3** Milk is sustainable
- 4** Calcium for bones
- 5** Protein for muscle
- 6** Milk > other drinks
- 7** Food culture

Thank you for your attention

