



# **Matvælastefna** – stefna að matargleði og bættri lýðheilsu innan marka náttúrunnar

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Háskóla Íslands og  
Landspítali-Háskólasjúkrahús



**HÁSKÓLI ÍSLANDS**

<http://www.gunnella.info/> <http://gunnellaiceland.blogspot.is/>



# Matur fyrir fjóra í eina viku árið 1900



Heimild: Reykvíska eldhúsið, matarsetur.is  
Byggt á fæðuframboði, Guðm. Jónsson

Laufey Steingrímsdóttir,  
Matur saga menning

# Matur fyrir fjóra í eina viku árið 2000

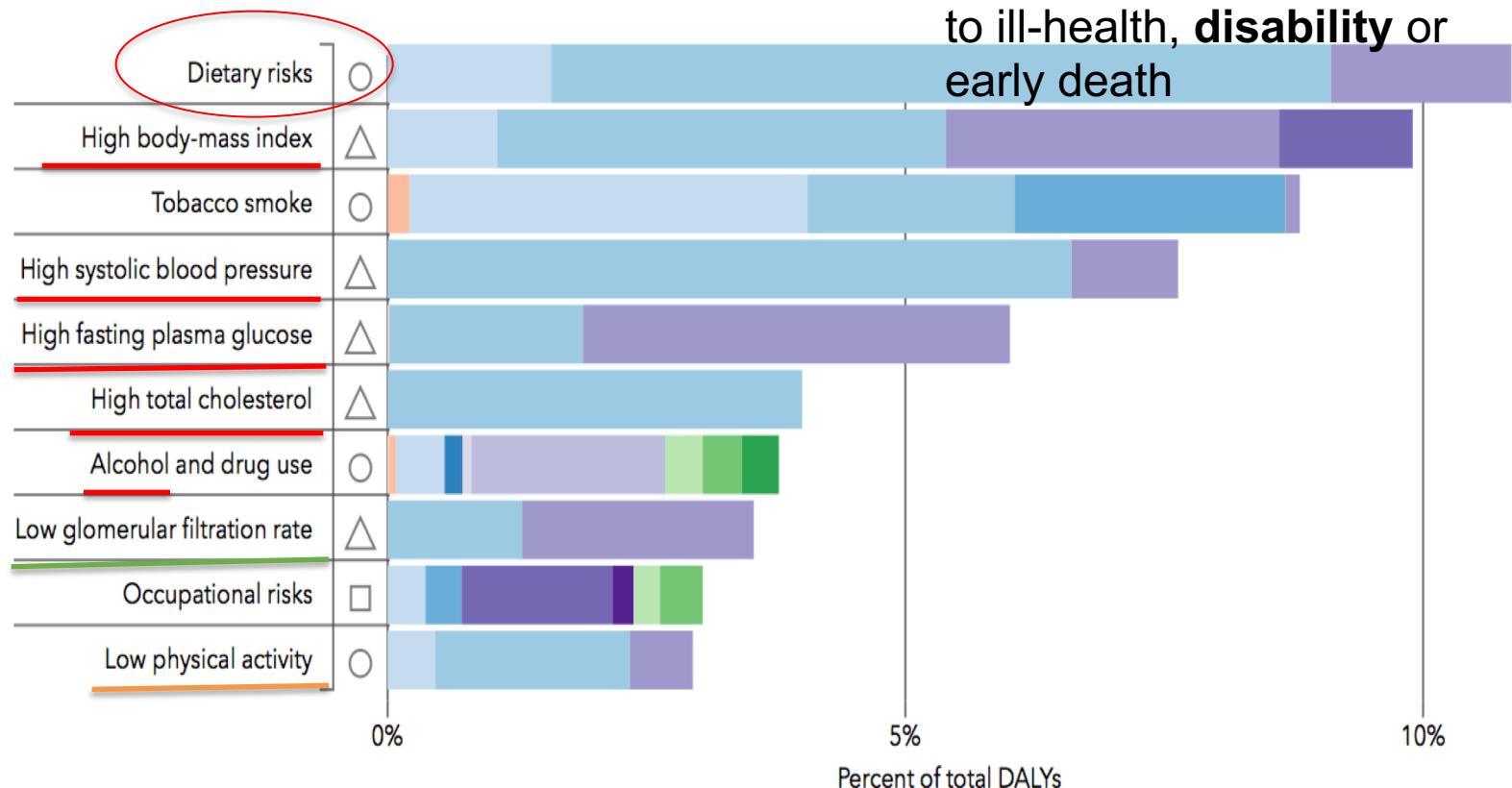


Heimild: Reykvíkska eldhúsið, matarsetur.is  
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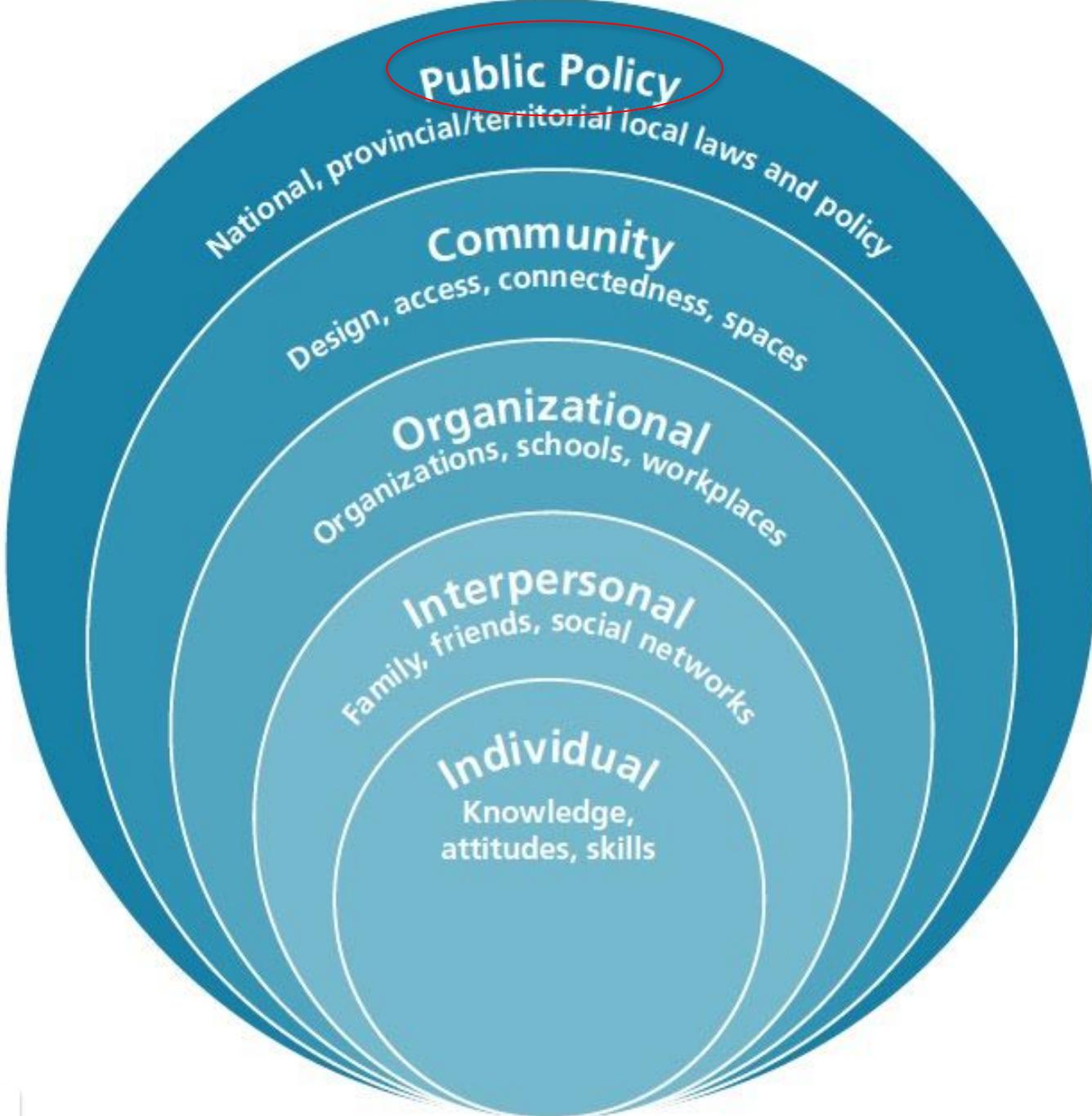
# BURDEN OF DISEASE ATTRIBUTABLE TO LEADING RISK FACTORS, 2013 , Iceland

- △ Metabolic risks
- Environmental/occupational risks
- Behavioral risks



The **disability-adjusted life year (DALY)** is a measure of overall disease burden, expressed as the number of **years** lost due to ill-health, **disability** or early death

# Á H R I F A H R I N G I R





# Verkefnisstjórn um mótun matvælastefnu fyrir Ísland

Í stjórnarsáttmála ríkisstjórnar Katrínar Jakobsdóttur kemur fram að Ísland á að vera leiðandi í framleiðslu á heilnænum landbúnaðarafurðum og tryggð verði áframhaldandi samkeppnishæfni sjávarútvegs á alþjóðlegum mörkuðum. Fram kemur einnig að nýta beri tækifæri sem byggjast á áhuga á matarmenningu með sjálfbærni og gæði að leiðarljósi, þróa á lífhagkerfið enn frekar og stuðla að nýsköpun og vörupróun til að auka virði afurða og byggðafestu.

Sjávarútvegs- og landbúnaðarráðherra hefur ákveðið að sett verði á fót verkefnisstjórn sem muni móta matvælastefnu fyrir Ísland. Tilgangur stefnunnar er að draga fram áherslur stjórnvalda, eins og þær birtast í stjórnarsáttmálanum, ásamt því að móta framtíðarsýn, markmið og tillögur að aðgerðaráætlun til að innleiða í íslenskt atvinnulíf og stjórnkerfi.

Verkefnið verður unnið á vettvangi Matarauðs Íslands í samvinnu við hlutaðeigandi aðila sem búa yfir sérstakri þekkingu á mismunandi sviðum er tengjast matvælastefnunni, auk hagsmunaðila og samtökum þeirra til að tryggja gæði og árangur vinnunar. Gert er ráð fyrir að verkefnisstjórn skili áfangaskýrslum til ráðherra á þriggja mánaða fresti. Þá skuli matvælastefna liggja fyrir við lok árs 2019.

# The Norwegian National Action Plan for a Healthier Diet involves:

- **Meal enjoyment, and a tasty and healthier diet:**

Healthy food is good for physical and mental health. A meal can create contentment through good flavours and good company.

- **Healthy and easy choices:** It should be easy to choose healthy, good and reasonably priced food. A sustainable and environmentally friendly diet is recommended.

- **Communication and knowledge:** The communication on food, diet and health aimed towards the public, should be clear, consistent and easily understood.

- **Food, meals and nutrition in health and care services:** Food is important throughout the course of our lives – for our quality of life, physical and mental health, and to help us to be active in our daily lives.

- **Research, development and innovation** should contribute to public health work and health care services of high quality. Knowledge is essential to reduce social inequalities in health and to enhance better public health.

## Norwegian National Action Plan for a Healthier Diet – an outline

Healthy diet, meal enjoyment and good health for everyone!



**Bent Høie**  
Minister of Health  
and Care Services

**Vidar Helgesen**  
Minister of Climate  
and Environment

**Per Sandberg**  
Minister of Fisheries

**Jon Georg Dale**  
Minister of Agriculture  
and Food

**Torbjørn Røe Isaksen**  
Minister of Education  
and Research

**Solveig Horne**  
Minister of Children  
and Equality

**Per-Willy Amundsen**  
Minister of Justice and  
Public Security

**Sylvi Listhaug**  
Minister of Immigration  
and Integration

# Matarstefna Reykjavíkurborgar 2018-22

Lögð fyrir borgarráð 30. apríl 2018



## Matur í Reykjavík

Út að borða

Matvöruverslanir og markaðir

Borgarbúskapur og landbúnaður

Matur í öðrum stefnum

## Máltíðir borgarinnar

Matur á skóla- og frístundasviði

Matur á velferðarsviði

Mötuneyti starfsfólks

## Framtíðarsýn

Yfirmarkmið A: Styttri og sýnilegri leið frá bóna til maga

Yfirmarkmið B: Sjálfbærni og gæði

Yfirmarkmið C: Aukið aðgengi að hollum mat

Yfirmarkmið D: Bætt matarmenning

Yfirmarkmið E: Betri nýting matar

# *Nordic Food Policy Lab*

## Sustainable food policies International partnerships

Twitter : @nordicfoodpol

madmol@norden.org

#nordicsolutions  
to global challenges

The overall aim of Nordic Food Policy Lab project is to encourage the use of Nordic policy solutions to help address the food issues identified as challenges in the UN Agenda 2030 Sustainable Development Goals. Nordic Food Policy Lab will establish opportunities to advocate for innovative policies encouraging consumers to choose more sustainable food.

[Zoom In](#)

# Solutions Menu

A Nordic guide to  
sustainable food policy



Nutrition

Culture

Meals

Waste

Sustainability

Næring

Menning

Máltíðir

Fæðusóun

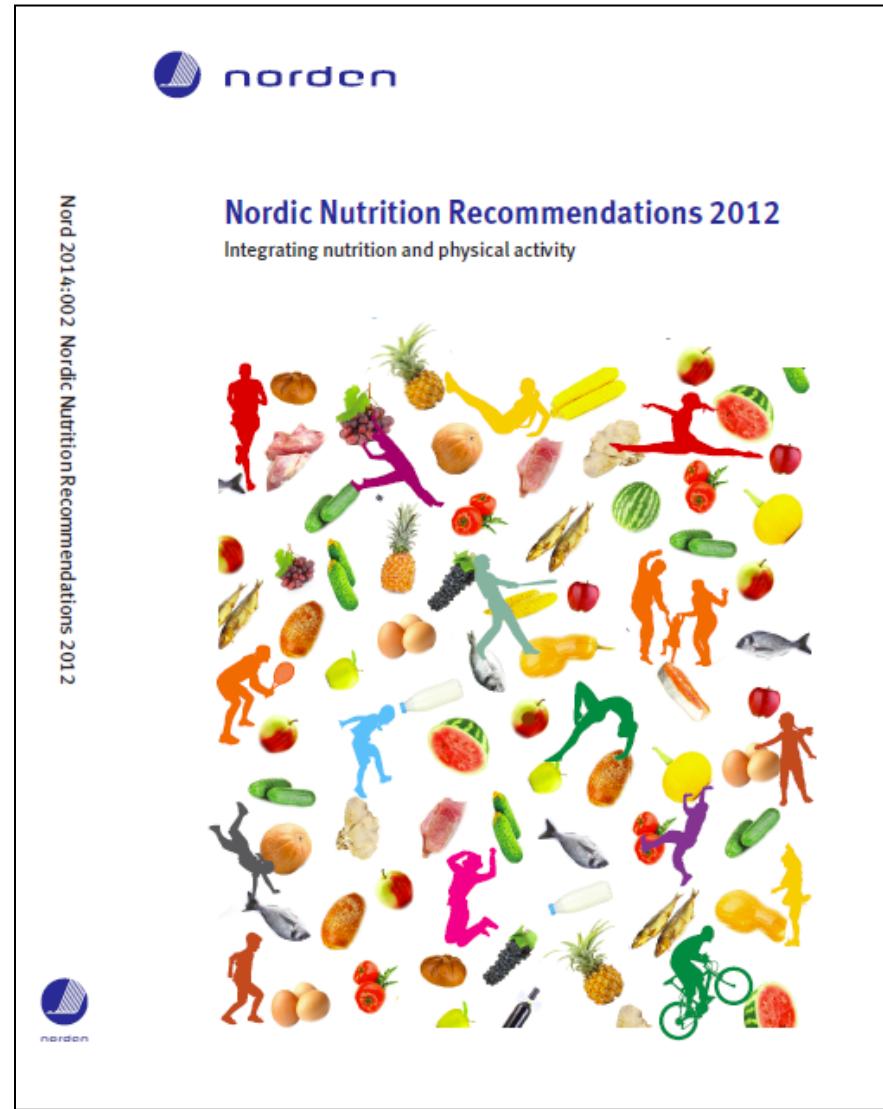
Sjálfbærni

<https://www.norden.org/en/nordic-food-policy-lab>

The Nordic countries collaborate in setting recommendations for nutrient intake by publishing the Nordic Nutrition Recommendations (NNR)

Indications to Food Based Dietary Guidelines were published as part of the NNR and in each country

## AIM: OPTIMAL NUTRITION STATUS SUPPORTING HEALTH

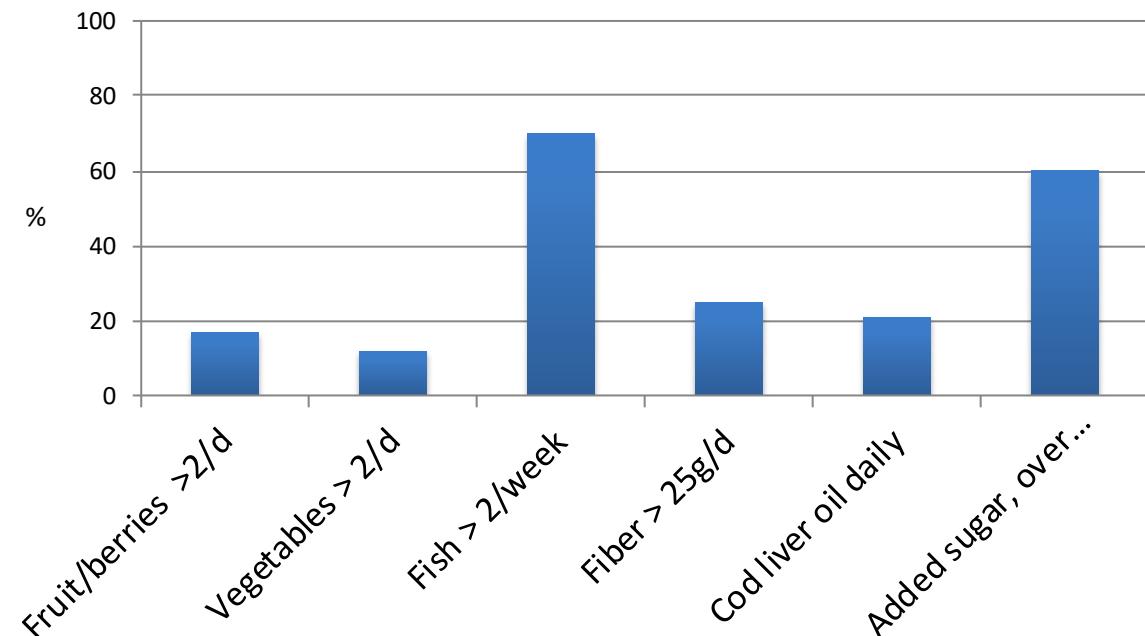


# The effect of healthy Nordic diet on cardio-metabolic markers: a systematic review and meta-analysis of randomized controlled clinical trials.

Ramezani-Jolfaie N<sup>1,2</sup>, Mohammadi M<sup>1,2</sup>, Salehi-Abargouei A<sup>3,4</sup>.

Author information

## Hversu stór hluti Íslendinga fylgir nýjum ráðleggingum um mataræði?



Landskönnun á mataræði 2011; 18-80y



FOODSCAPES  
ERRO 1964



**Matvælastefnur sem gerðar eru á silóum – þar sem ráðuneyti og undirstofnanir tala ekki við hvert annað - *heilbrigðis og velferðarráðuneyti, landbúnaðar, sjávarútvegs, umhverfis, utanríkis, fjármála, samgöngu, dómsmála osfrv.***

- er ein ástæða lélegs næringarástands í heiminum** og er áhrifaþáttur þegar kemur að fjölda langvinnra sjúkdóma sem fólk glímir við – er lýðheilsumál.
- Önnur afleiðing er það ástand í umhverfismálum sem við sjáum í dag.



## FCRN Blogs : Elin Roos

Community

Blogs

Interviews

Member snapshots

### Environmental concerns now in Sweden's newly launched dietary guidelines

Elin Roos



<https://helsedirektoratet.no/Lists/Publikasjoner/Attachments/1410/B%C3%A6rekraftig%20kosthold%20-vurdering%20av%20de%20norske%20kost%C3%A5dene%20i%20et%20b%C3%A6rekraftperspektiv%20IS-2678.pdf>



The Food Climate Research Network conducts, synthesises, and communicates research at the intersection of food, climate, and broader sustainability issues. Based at the University of Oxford, we work to inform and connect stakeholders with a common interest in understanding and building sustainable food systems.

### Bærekraftig kosthold

- vurdering av de norske kostrådene i et bærekraftperspektiv

# SUSTAINABLE DIETS AND BIODIVERSITY

DIRECTIONS AND SOLUTIONS  
FOR POLICY, RESEARCH AND ACTION



Sustainable diets are those diets with low environmental impacts which contribute to food and nutrition security and to healthy life for present and future generations. Sustainable diets are protective and respectful of biodiversity and ecosystems, culturally acceptable, accessible, economically fair and affordable; nutritionally adequate, safe and healthy; while optimizing natural and human resources.

*FAO, 2010, Sustainable Diets and Biodiversity.*

<http://www.fao.org/docrep/016/i3004e/i3004e.pdf>

Eldra: Food security: People are considered food secure when they have availability and adequate access at all times to sufficient, safe, nutritious food to maintain a healthy and active life. Three main elements: availability, access, utilization.

<https://www.wfp.org/node/359289>



Food and Agriculture Organization  
of the United Nations

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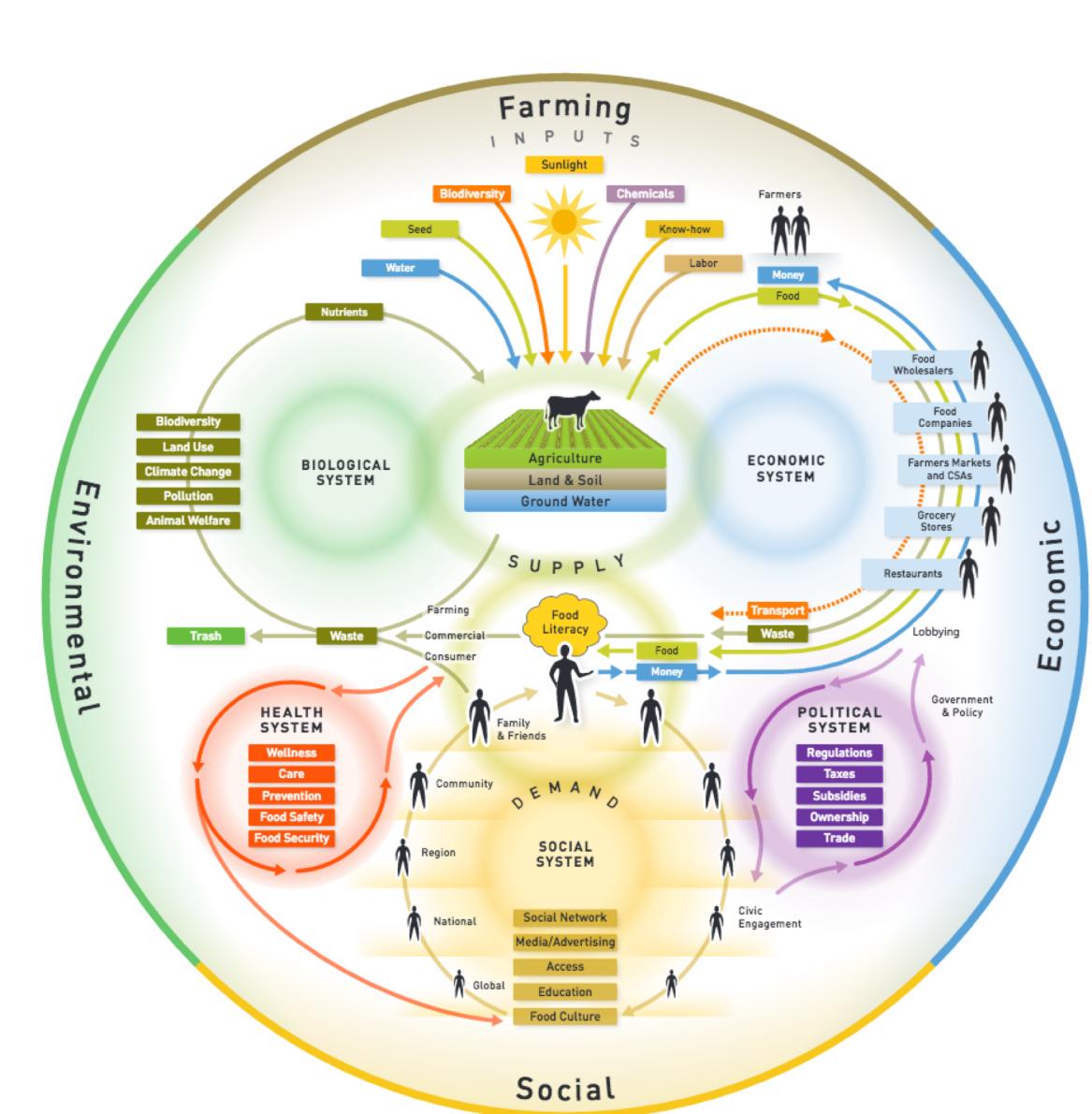
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Nutrition and Food Systems Division (ESN)

# Nutrition within Sustainable Food Systems



# EN

# NUTRITION IS ESSENTIAL FOR THE SUCCESS OF ALL THE SDGS

Optimal nutrition is essential for achieving several of the Sustainable Development Goals, and many SDGs impact nutrition security. Nutrition is hence linked to goals and indicators beyond Goal 2 which addresses hunger. A multisectoral nutrition security approach is necessary for success.



[http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/sdgs\\_advocacytoolkit\\_en.pdf](http://www.actioncontrelafaim.org/sites/default/files/publications/fichiers/sdgs_advocacytoolkit_en.pdf)

## Nutrition

[Nutrition home](#)[Nutrition topics](#)[Databases](#)[Publications](#)[Collaborating centres](#)[Regional offices](#)[About us](#)

### General Assembly proclaims the Decade of Action on Nutrition



1 April 2016 – The United Nations General Assembly today agreed a resolution proclaiming the UN Decade of Action on Nutrition from 2016 to 2025.

The resolution aims to trigger intensified action to end hunger and eradicate malnutrition worldwide, and ensure universal access to healthier and more sustainable diets – for all people, whoever they are and wherever they live. It calls on governments to set national nutrition targets for 2025 and milestones based on internationally agreed indicators.

[Read more about the resolution](#)

[http://www.who.int/nutrition/GA\\_decade\\_action/en/](http://www.who.int/nutrition/GA_decade_action/en/)

### Editors note:

Nearly 800 million people remain chronically undernourished and 159 million children under 5 years of age are stunted. Approximately 50 million children under 5 years are wasted, over two billion people suffer from micronutrient deficiencies and 1.9 billion people are affected by overweight of which over 600 million are obese. The prevalence of overweight and obesity is increasing in nearly all countries.

Food Composition  
Food Labeling  
Food Provisions  
Food in Retail  
Food Trade and Investment  
Leadership  
Governance  
Monitoring and Intelligence  
Funding and Resources  
Platforms for Interaction  
Health in all Policies



## Food Epi – Public Sector Policies and Actions in ICELAND

The **INFORMAS framework** consists of 10 modules - click on a module below to learn more...

Public sector policies and actions

Private sector policies and actions

Food composition

Food labelling

Food promotion

Food provision

Food retail

Food prices

Food trade & investment

Population diet

# Matarmenning og umhverfi með –

*Brazilian dietary guidelines*



- 1. Make natural or minimally processed foods the basis of your diet
- 2. Use oils, fats, salt, and sugar in small amounts when seasoning and cooking natural or minimally processed foods and to create culinary preparations
- 3. Limit consumption of processed foods
- 4. Avoid consumption of ultra-processed foods
- **5. Eat regularly and carefully in appropriate environments and, whenever possible, in company**
- 6. Shop in places that offer a variety of natural or minimally processed foods
- **7. Develop, exercise and share cooking skills**
- **8. Plan your time to make food and eating important in your life**
- 9. Out of home, prefer places that serve freshly made meals
- **10. Be wary of food advertising and marketing**







Takk fyrir



## Mosfellsbær

7m vs. 23m

Tafla 1: Greining á fæðuumhverfi, flokkun og fjarlægð (m) sölustaða frá FMos

Nafn	Flokkur	Fjarlægð/proximity (m)
Olís, Quisnos, Grill 66	Skyndibitastaður, sjoppa	230
Kjarnagrill	Skyndibitastaður og sjoppa	250
Mosfellsbakarí	Bakarí	340
Krónan	Stórmarkaður	360
Dominos Pizza	Skyndibitastaður	390
Snæland Video	Sjoppa,skyndibitastaður	410
Pósturinn	Sérverlsun/þjónustuaðili	420
N1 - Nesti	Bensínstöð- sjoppa	420
Subway	Skyndibitastaður	420
KFC	Skyndibitastaður	500
Bónus	Stórmarkaður	590
Daníelsbiti	Sjoppa	610
Magamál	Veitingastaður	620
		Hildur Björnsdóttir, Lýðheilsufærðingur

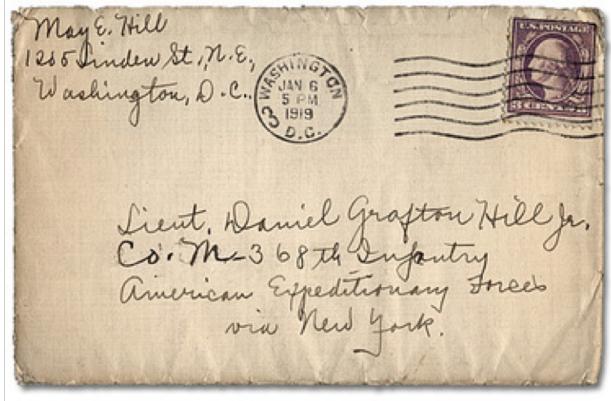
# Lögmál markaðarins

- Lögmál markaðarins um framboð og eftirspurn er svolítið erfitt þegar líkamar okkar eru að veði. *Það er offramboð á hitaeiningum í allsnægtarþjóðfélaginu og öll matvælafyrirtæki og matvælainnflutningsfyrirtæki vilja að við kaupum þeirra vörur og gera allt sem í þeirra valdi stendur til að selja okkur hana.*
- Í raun lúta líkamar okkar sínu eigin hagkerfi, orka inn orka út sem frabooðið ætti að taka einhvert tillit til (Íslendingar eru 330þús, ef framboð til hvers er gróflega 2500 kcal á dag þá þurfum við 825.000.000 kcal á dag – ekki meira).

# Þörf fyrir gos og sætindi í:

- 

- Apotekum
- Pósthúsinu
- Byggingavöruverslunum
- Sundstaðir og íþróttamannvirki
- Bío / leikhús
- Fleiri staðir?



# Ultra processed products frh.

- Flestar þessara afurða eru búnar til, auglýstar og seldar af stórum oft fjölbjóðlegum fyrirtækjum og eru mjög endingargóðar, bragðgóðar og tilbúnar til neyslu sem er markaðsfræðilega mikill kostur umfram fersk eða viðkvæm náttúruleg/grunn matvæli eða mat sem einungis er lítið/óverulega unninn.
- Framleiðsla og neysla þessara vara er vaxandi á heimsvísu.

# Ultra processed products

- Sé þessara afurða neytt í litlu magni ásamt öðrum næringarríkum orkuuppsprettum eru þessi matvæli meinlaus.
- Hins vegar **bragðast þau oft ákaflega vel** (fæst með mikilli fitu, sykri og salti, fallegu útliti og öðrum aukefnum), **nærvera þeirra er alltumlykjandi** og **háþróaðar og áreitnar markaðsaðferðir** (svo sem minna verð fyrir stærri skammt), hjálpa til við að gera hóflega neyslu af þessum vörum ólíklega og líklegra að ferskar eða lítið unnar vörur séu valdar burtu.
- Sömu þættir gera mikil unnar matvörur líklegar til að trufla saðningar mekanismann og leiða til of mikillar orkuinntöku og þannig offitu.

# Hvers vegna lítið gert?

- Normalisation of unhealthy commodities in many countries
- The financial and institutional relations many public health researchers, non-governmental organizations and national and international health agencies have with these companies
- **Little appreciation that the purpose of corporations is to maximize profits – not to be nice**
- These conflicts are largely unstudied in public health

# Niðurstaða

health



- Lög og reglugerðir (public regulation) og inngríp á markaði eru einu gagnreyndu aðferðirnar til að hindra skaða af völdum atvinnugreina sem stunda sölu á óheilsusamlegum verslunarvörum.
- AÐ samfélagið verði að vinna með stjórnvöldum sem ber skylda til og hefur krafta til að standa vörð um lýðheilsu (sjá panel 4)

# Staðan

- Í Ameríku og Evrópu – hafa mikið unnar matvöur að miklu leyti komið í staðin fyrir matvælahefðir og mynstur sem byggðust á lítið unnum og ferskum matvælum og matreiðsluaðferðum sem notuðu minna af fitu, sykri og salti. Saturated market
- Í suðri (Asía, Afríka og Suður-Ameríka) er það sama smám saman að gerast - þessar vörur breyta matvælahefðum og mynstrum sem eru samt meira viðeigandi félagslega/sögulega og eru umhverfisvænni. New non saturated market ATH Brazil

<https://www.stjornarradid.is/verkefni/utanrikismal/throunarsamvinna/heimsmarkmidin/>



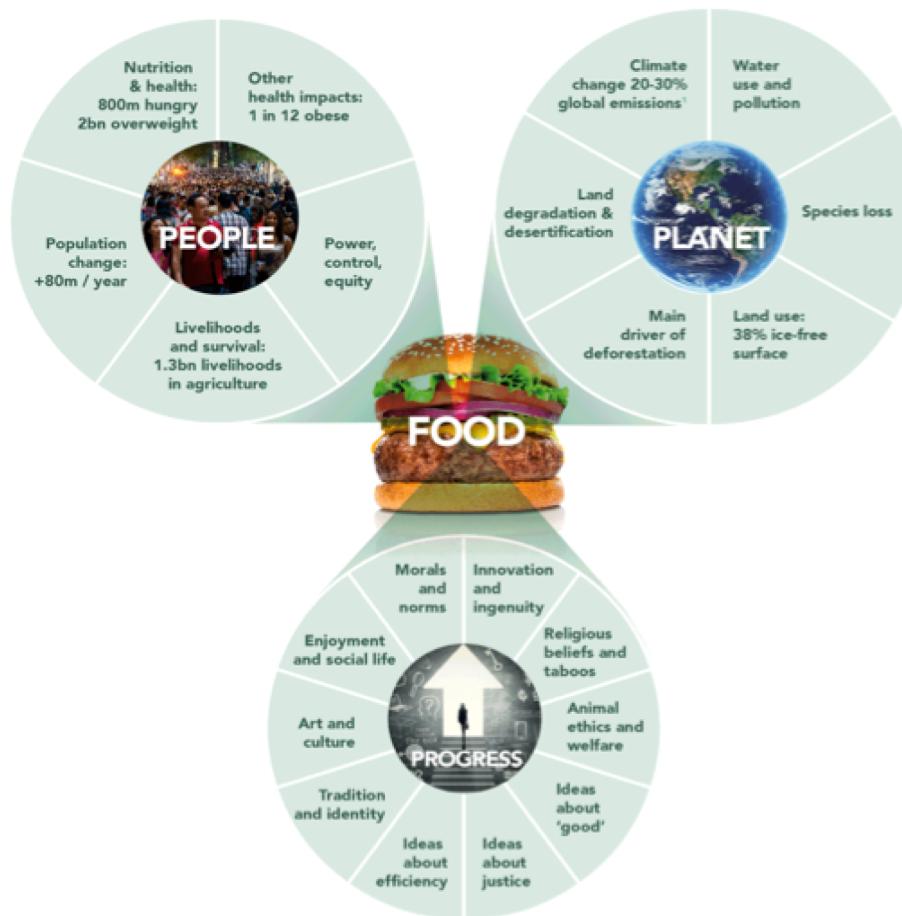
## Heimsmarkmið Sameinuðu þjóðanna - Sustainable Development Goals (SDG) frá 2015

<http://www.undp.org/content/undp/en/home/presscenter/pressreleases/2015/09/24/undp-welcomes-adoption-of-sustainable-development-goals-by-world-leaders.html>

# Nokkur dæmi

- Frakkar hafa sett lög sem banna stórmörkuðum að henda mat – það er ólöglegt, gefa mat ma til góðgerðamála.
- Aukning í ræktun á baunum td. í Svíþjóð um 55% frá 2011.
- Skattaívilhanir fyrir opnun grænmetismarkaða í mismunandi hverfum EÐA Grænmetisbíllinn; Brasilía
- Aquaculture Stewardship Council (ASC) – stærstu framleiðendur á laxi í heiminum taka höndum saman hvað varðar hollustu og umhverfismál.
- “Behind the Brands” (Oxfam) – gefur stærstu matvælafyrirtækjunum skor mv. M.a. Umhverfisáhrif, vatnsnotkun, gegnsæi, kjör starfsfólks, uppruni matar etc.

# Food and its impacts



# Food systems contribute 20-30% of global GHGs

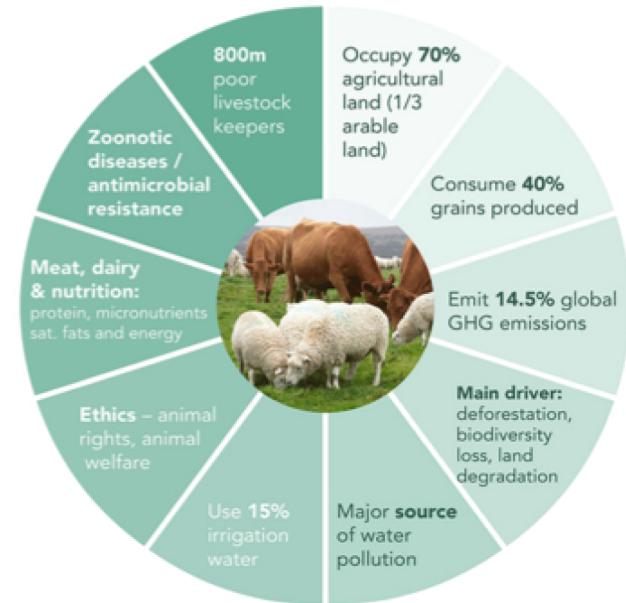
About 15-25% of global GHGs

**Agricultural production:**  
Indirect and direct emissions from agriculture & land-use change

About 5-10% global GHGs



Livestock at the heart of many env issues



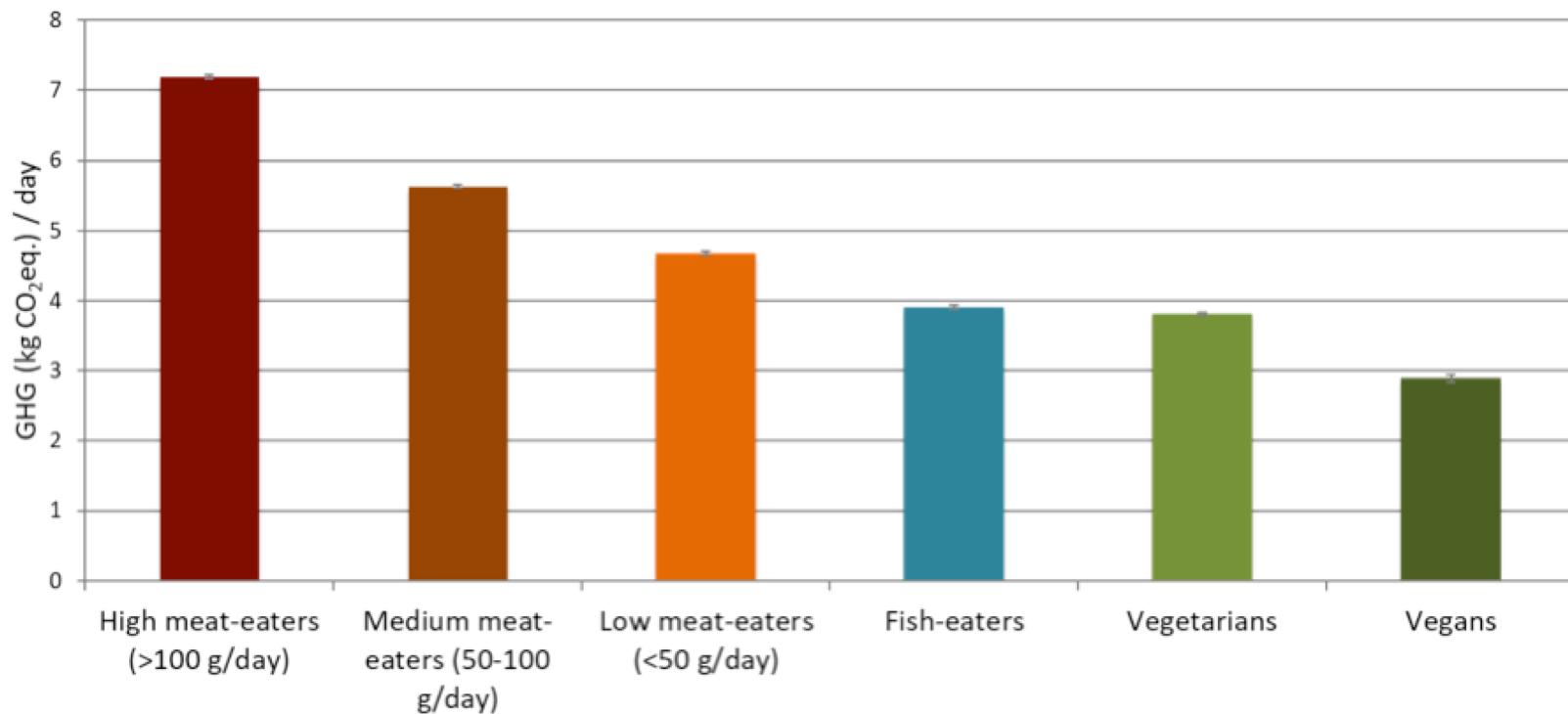
Credit: FCRN 2017

All food system GHGs

Credit: FCRN 2017



## Real life non-meat diets have lower GHGs than various meat-based diets



Scarborough, P., Appleby, P.N., Mizdrak, A., Briggs, A.D.M., Travis, R.C., Bradbury, K.E., and Key, T.J. (2014) Dietary greenhouse emissions of meat-eaters, fish-eaters, vegetarians and vegans in the UK. *Climatic Change*, 125(2), 179-192

Format: Abstract ▾

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Adv Nutr. 2017 Sep 15;8(5):780-788. doi: 10.3945/an.116.013995. Print 2017 Sep.

## Nutritional Sustainability: Aligning Priorities in Nutrition and Public Health with Agricultural Production.

Finley JW<sup>1</sup>, Dimick D<sup>2</sup>, Marshall E<sup>3</sup>, Nelson GC<sup>4</sup>, Mein JR<sup>5</sup>, Gustafson DL<sup>6</sup>.

### Author information

#### Abstract

Nutrition science-based dietary advice urges changes that may have a great impact on agricultural systems. For example, the 2016 Dietary Guidelines for Americans (DGA) recommends greatly increased fruit and vegetable consumption, but the present domestic production is insufficient to accommodate large-scale adoption of these guidelines. Increasing production to the extent needed to meet the DGA will necessitate changes in an already stressed agriculture and food system and will require nutrition and agriculture professionals to come together in open and collegial discourse. All involved need to understand the stress placed on the food system by increasing populations, changing diets, and changing environments, and recognize the major diet-based public health challenges. Furthermore, there is a need to understand the intricate interplay of the myriad parts of the food system and the vast amount of work necessary to make even small changes. New systems approaches are needed, especially at the research level, where nutrition, public health, agriculture, and the food industry work together to solve interconnected problems. Future well-being depends on a sustainable food system that continues to deliver optimal health with minimal impact on the environment.

<https://www.ncbi.nlm.nih.gov/pubmed/28916578>

ULTRA-PROCESSED  
PRODUCTS

ULTRA-PROCESSED  
PRODUCTS

SALT

SUGAR

SUGAR

WATER

Fresh skyr and  
yogurt

Vegetable oils,  
olive oil,  
spices and  
vegetable purée

Milk

Herbs

Fruits and berries

Fruits/fruit puree  
and dried fruits

Cafe,  
cacao, almonds,  
cocos, walnuts

Coconutmilk,  
walnut oil

Meat  
red, white

Vegetables

Nuts, seeds  
and peanuts

Walnut oil,  
sesam oil,  
sunflower oil  
and  
peanutbutter

Legumes

Legume puree

Whole grains

Cod liver oil

Minimally grinded whole grains /  
whole grain sour dough bread  
with whole kernels

Fish  
oily lean

WHEAT AND STARCH

ULTRA-PROCESSED  
PRODUCTS

ULTRA-PROCESSED  
PRODUCTS



# Næringarástand

**Lélegt næringarástand (malnutrition)** – mataræði þar sem næringarefni ýmist skortir eða eru í of miklu magni (eða eru í röngum hlutföllum)

**Vannæring (undernutrition)** – skortur á orku eða próteinum eða öðrum næringarefnum – matur af skornum skammti og af lélegum gæðum getur aukið tíðni sýkinga og krónískra sjúkdóma

**Ofnæring (overnutrition)** – of mikið af orku (orkugefandi næringarefnum) innbyrgt til að viðhalda jafnvægi, leiðir til ofþyngdar, truflana á efnaskiptum, ofnæring á einnig við um ofneyslu á öðrum næringarefnum



## Sustainability?

Increase	Exchange	Limit
Vegetables Pulses	Refined cereals → Wholegrain cereals	Processed meat Red meat
Fruits and berries	Butter → Vegetable oils Butter-based spreads → Veg. oil-based fat spreads	Beverages and foods with added sugar
Fish and seafood	High-fat dairy → Low-fat dairy	Salt
Nuts and seeds		Alcohol

# What are we aiming for



## Det Økologiske Spisemærke



1. Det Økologiske Spisemærke er en gratis statskontrolleret mærkningsordning for spisesteder (offentlige og private).
2. Mærket er et incitament til køkkener, som de kan bruge til at markedsfører sig som et økologisk spisested
3. Det Økologiske Spisemærke findes i tre udgaver; guld, sølv og bronze, der Viser andel af de indkøbte føde- og drikkevarer på spisestedet, der er økologiske :



**VI ER MED PÅ MÆRKERNE**

Her bruger vi 60-90 % økologiske råvarer

[www.økologisk-spisemærke.dk](http://www.økologisk-spisemærke.dk)

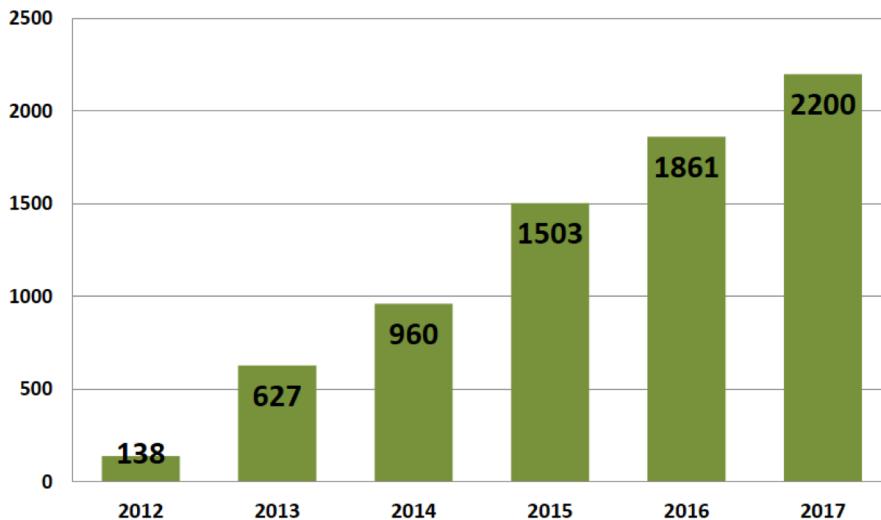




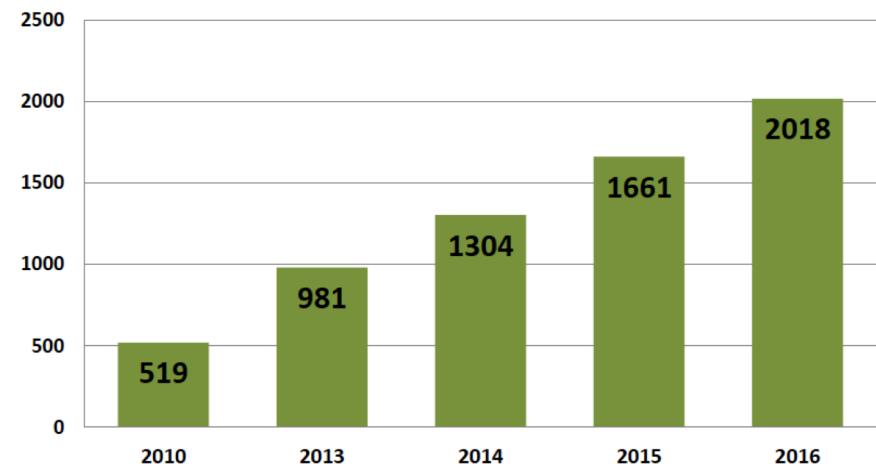
1. Det Økologiske Spisemærke er en gratis statskontrolleret mærkningsordning for spisesteder (offentlige og private).

## Resultater – Økologisk Food Service (salg til spisesteder) og antal spisesteder med de økologiske spisemærker:

Antal økologiske spisemærker  
2012-2017



Omsætning i økologisk foodservice (mio. kr.) 2010-2016

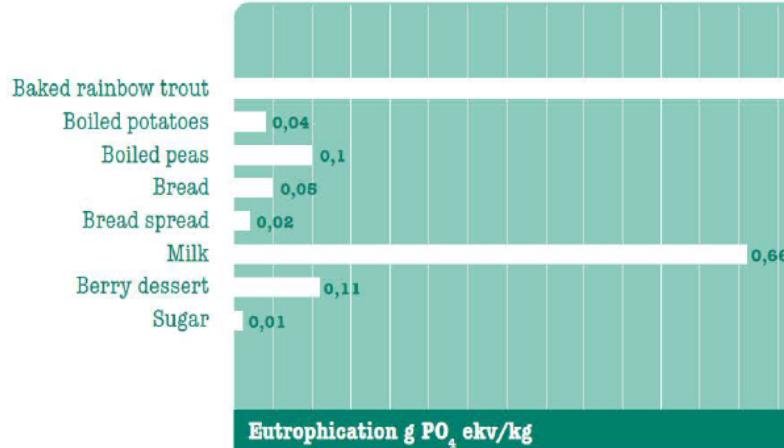
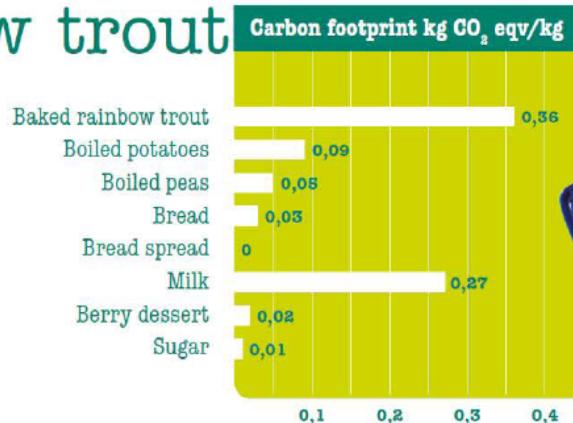




## Baked rainbow trout

630 kcal

Baked rainbow trout 200 g  
 Boiled potatoes 150 g  
 Boiled peas 65 g  
 Milk 2 dl  
 Bread 30 g  
 Bread spread 6 g  
 Berry dessert 150 g  
 Sugar 10 g



CO<sub>2</sub>  
0,84

PO<sub>4</sub>  
2,89





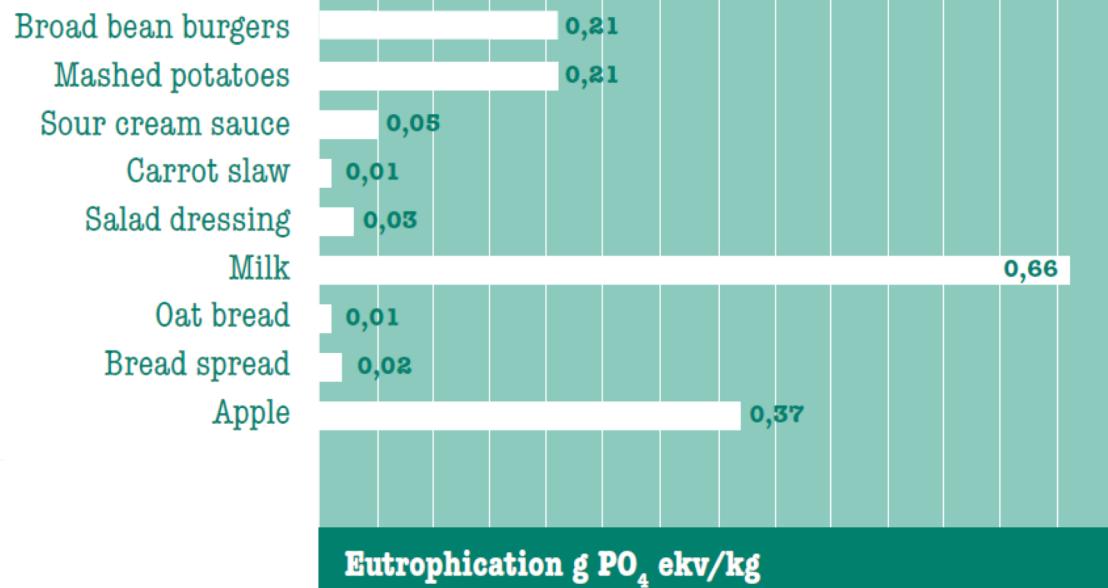
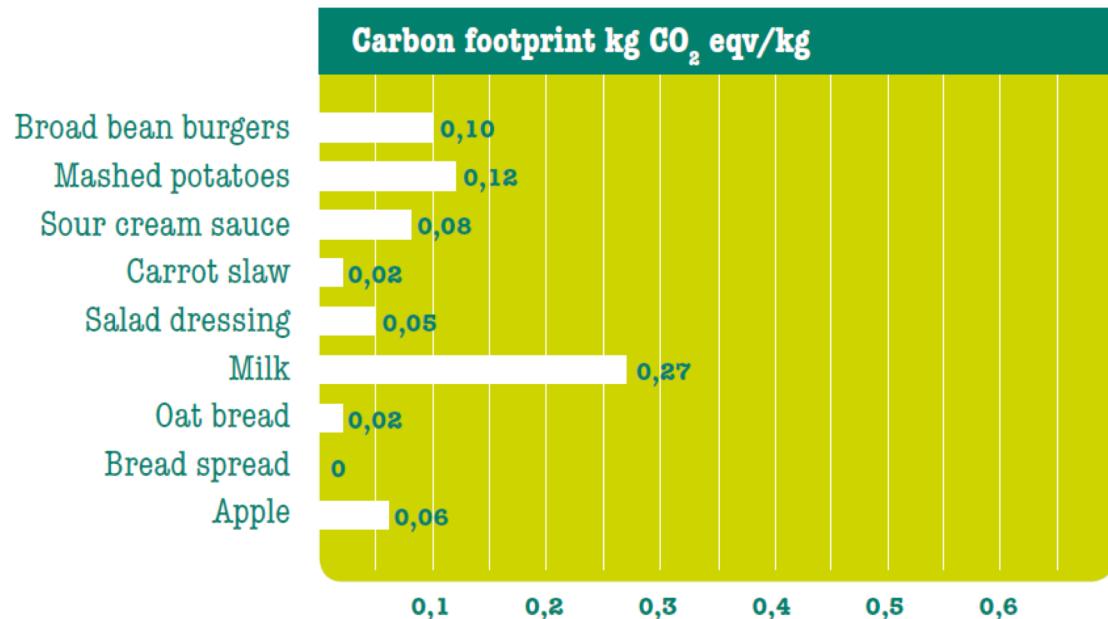
EUROPEAN UNION  
EUROPEAN REGIONAL DEVELOPMENT FUND  
**INVESTING IN YOUR FUTURE**



CENTRAL BALTIK  
INTERREG IV A  
PROGRAMME  
2007-2013



**FOODWEB**



luonnonvarakeskus

**Luke**  
LUONNONVARAKESKUS



In a study published in Environmental Research Letters, an international team of 14 have identified ways the global food system can be 'rewired'. To do that they looked at how food production has influenced human health and the biosphere since the 1960's until today. Photo: Flickr/MarPa87

## SUSTAINABLE FOOD

# Eight ways to rewire the world's food system

The starting point for a rethink on how we produce our food

<http://www.stockholmresilience.org/research/research-news/2017-10-19-eight-ways-to-rewire-the-worlds-food-system.html>

# Eight action points

Gordon and her co-authors identify eight "entry points" for a more healthy and sustainable food system:

## 1. Create nutrient-rich landscapes:

This includes selecting crop varieties, fish and livestock based on their nutritional content. To strengthen this, new metrics are being developed that account for the nutritional yields of crops and production systems, which are similar to nutritional facts labels, but adapted for production units.

## 2. Cut waste and change diets:

Solutions such as cutting post-harvest losses and shifting dietary patterns can reduce pressure on natural resources. More resource efficient estimates have shown that we could potentially provide enough calories to meet the basic needs of an additional four billion people if the current crop production used for animal feed and other non-food uses (including biofuels) were targeted for direct consumption.

## 3. Reduce antimicrobial use:

Intensification is a general trend in animal farming and it is urgent to find means that limit excessive use within the animal food production sector.

## 4. Strengthen biodiversity and multifunctional landscapes:

We should better acknowledge and account for the many ecosystem services and social benefits that food producing systems deliver beyond food itself, such as pollination, water filtration, and recreation.



## 5. Reconnect people to the biosphere:

The disconnect between the food production system and consumers calls for initiatives that can reconnect individuals and communities to food, facilitating a broader engagement with food systems in healthy and sustainable ways.

## 6. Enhance transparency between producers and consumers:

There is a need to improve our capacity to trace the impacts of food production across the supply chain. Third-party certifications, product standards, and ecolabelling are important but trust is still a concern and we cannot overly rely on certifications or similar wallet cards.

## 7. Influence consumer decisions:

Although there is accumulating evidence on what constitutes healthy and sustainable dietary patterns, we urgently need better knowledge about what enables people to adopt these.

## 8. Mobilize key actors to become biosphere stewards:

Even though these actors have the power to create strong incentives for local action to reconnect development to the biosphere, they are sometimes unaware of their own potential to foster positive change.

Based on these action points, the authors conclude, "We need to rewire different parts of food systems, to enhance information flows between consumers and producers at different scales, influence food-system decision

# What is optimal nutritional status?

When the supply of nutrients is in accordance with needs

Nutrients: energy-generating nutrients (protein, fat, carbohydrates), vitamins and minerals as well as other substances in food important for health ex. polyphenols etc.

**Important for both current and later physical and mental health  
- how you feel from day to day**

The nutritional status of individuals is determined by both internal and external factors.



**Good nutritional status is about balance**

# THE COMMISSION



The EAT-Lancet Commission on Food, Planet, Health brings together 20 world-leading scientists from across the globe to reach a scientific consensus that defines a healthy *and* sustainable diet.

<https://foodplanethealth.org/the-commission/>

<https://foodplanethealth.org/news/achieving-the-sustainable-development-goals-through-food-a-cheat-sheet/>



UMHVERFISSTOFNUN  
MATARSOUN.IS

# 10 HÚSRÁÐ GEGN MATARSÓUN



## 1. SKIPULEGÐU INNKAUPIN

Gerðu mataráætlanir og innkaupalistu með matinn í ísskápnum og skápunum í huga.



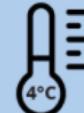
## 2. ATHUGAÐU DAGSETNINGAR

Lærðu muninn á „síðasti notkunardagur“ og „best fyrir“ dagsetningum.



## 3. HAFÐU FJÁRMÁLIN Í HUGA

Mundu að mat sem er hent er í raun peningi kastað á glæ.



## 4. STILLTU ÍSSKÁPINN RÉTT

Gakktu úr skugga um að hitastigið í ísskápnum sé rétt stillt.



## 5. GEYMDU MATINN Á RÉTTAN HÁTT

Merktu hvenær þú opnaðir vörur svo þú attir þig á hvað þær eru orðnar gamlar.



## 6. SKIPULEGÐU ÍSSKÁPINN

Raðaðu elstu vörurnum fremst til að nota það elsta fyrst.



## 7. ELDADU RÉTT MAGN

Notaðu minni diskra og minnkaðu þar með bæði matarsóun og of stóra skammta.



## 8. NOTAÐU AFGANGANA

Gakktu vel frá afgöngum og borðaðu daginn eftir.

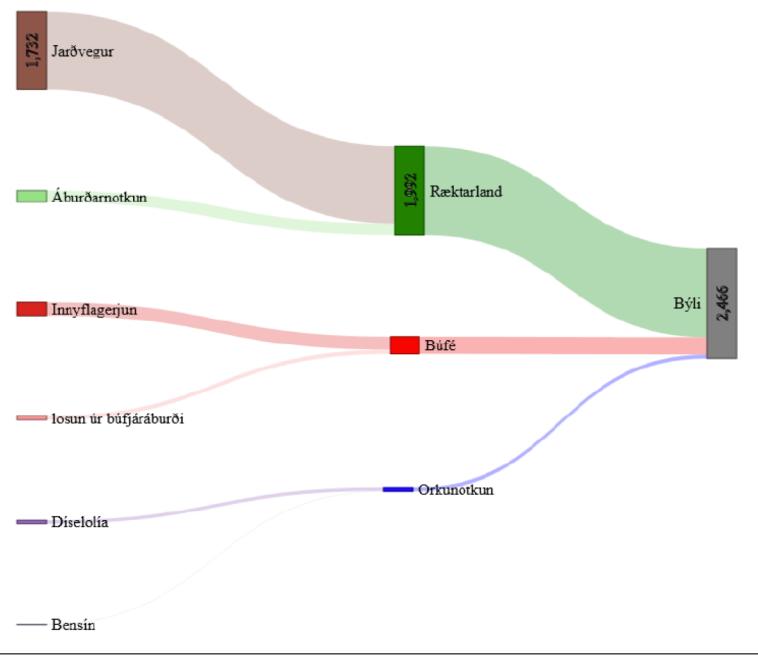


## 9. NOTAÐU FRYSTIÐN

Ýmiskonar afganga má frysta og nota síðar, t.d. umframmat, ávexti, grænmeti, rjóma og kryddjurtir.

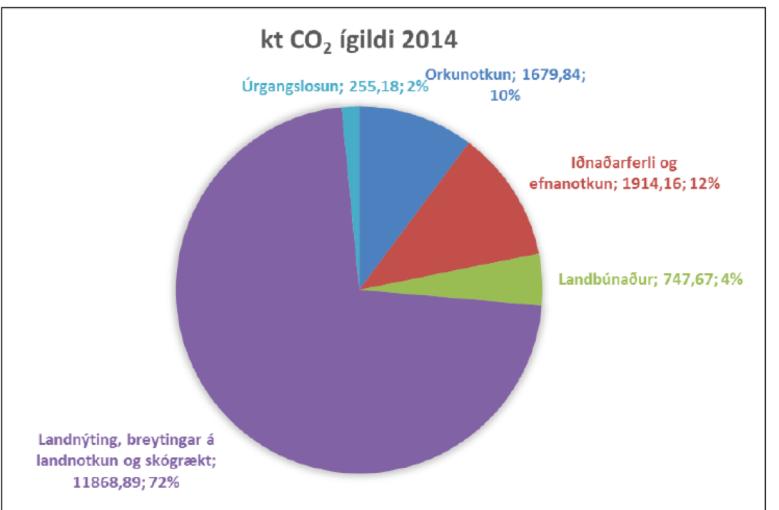


## 10. BÚÐU TIL MOLTU



Mynd 7. Vægi einstakra losunar þáttu í heildarlosun innan býlis. Hæð hverrar súlu er í réttu hlutfalli við losun í kt CO<sub>2</sub> ígildum á ári. Tölur sem ekki koma fram á mynd má sjá í töflu 22. (Ath: (,) skilur að þúsund)

## Greining á losun gróðurhúsalofttegunda frá íslenskum landbúnaði



Jón Guðmundsson  
Landbúnaðarháskóla Íslands  
Október 2016





# Ráðstefna um kolefnisbindingu



DÖFINI MARKAÐSSJÓÐUR FORSÍÐA SAMTÓKIN FRÉTTIR FUNDARGERÐIR TENGLAR MYNDIR

leit...

UNDIRSIÐUR

Smalinn

Fréttabréf LS

Myndir fyrir fjölmöla



Forsíða > Fréttir > Kolefnisjöfnun íslenskrar sauðfjárræktar

## KOLEFNISSJÖFNUN ÍSLENSKRAR SAUÐFJÁRRÆKTAR

| 26. október 2017.

Losun gróðurhúsalofttegunda  
frá sauðfjárbúum á Íslandi  
og aðgerðir til að draga úr losun



FORSÍÐA UM ENVIRONICE ÞJÓNUSTA VERKEFNI FRÉTTIR ENGLISH



<http://www.saudfe.is/>

# Kolefnisspor garðyrkjunnar



# Ecosystem Dependence of Healthy Localities, Food and People

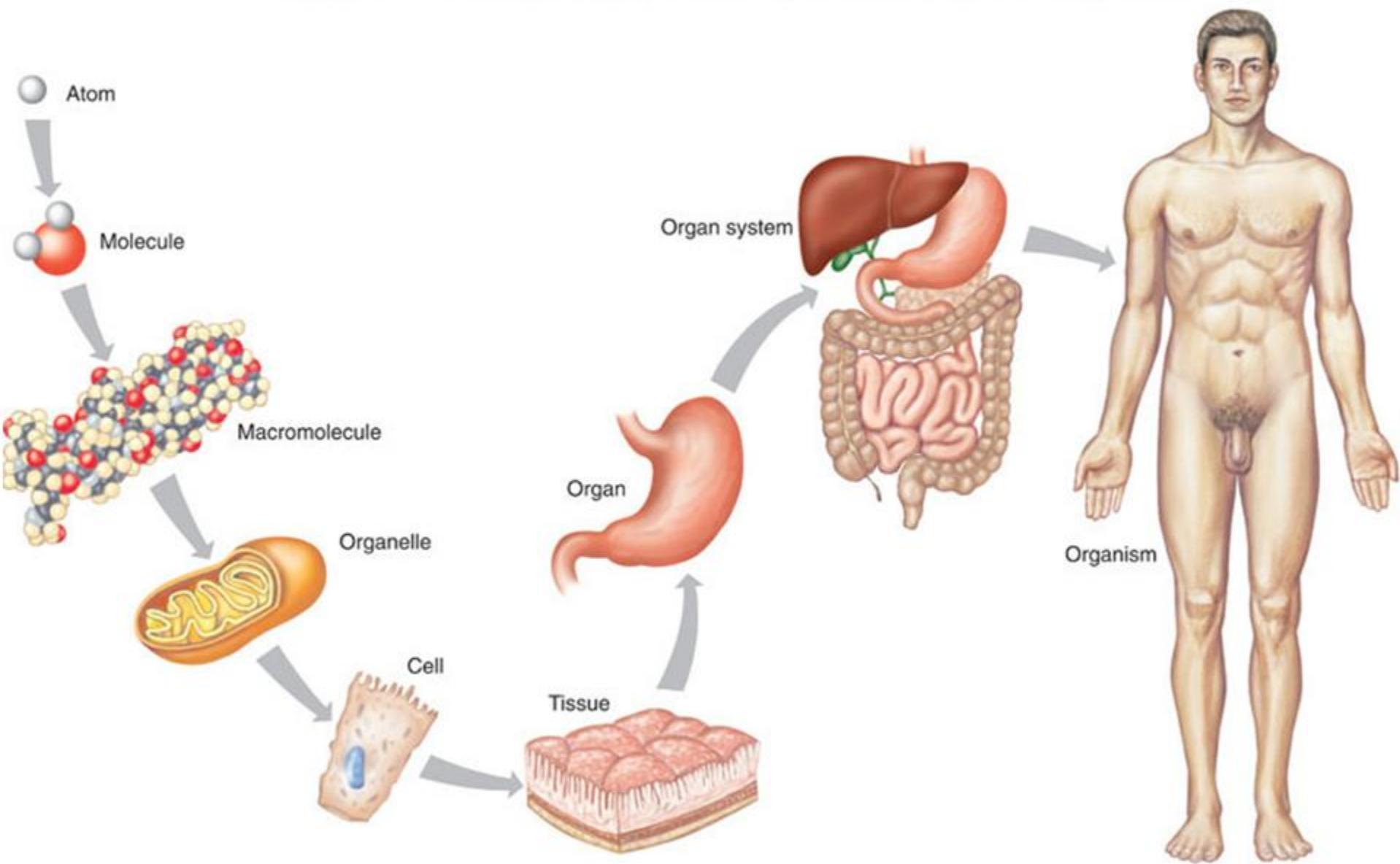
- “We are **ecological creatures** and depend on our locality, community and household for our health status. Our genome is shared with our environment and our evolution is one which is ecological and intergenerational.
- We cannot expect that our health will be optimal unless our **biology, food system, surroundings and social affairs are concordant**.
- For these reasons alone, our priorities, livelihoods and relationships must be environmentally attentive.
- **Ecosystem damage and loss is the gravest threat to our health and survival.”**

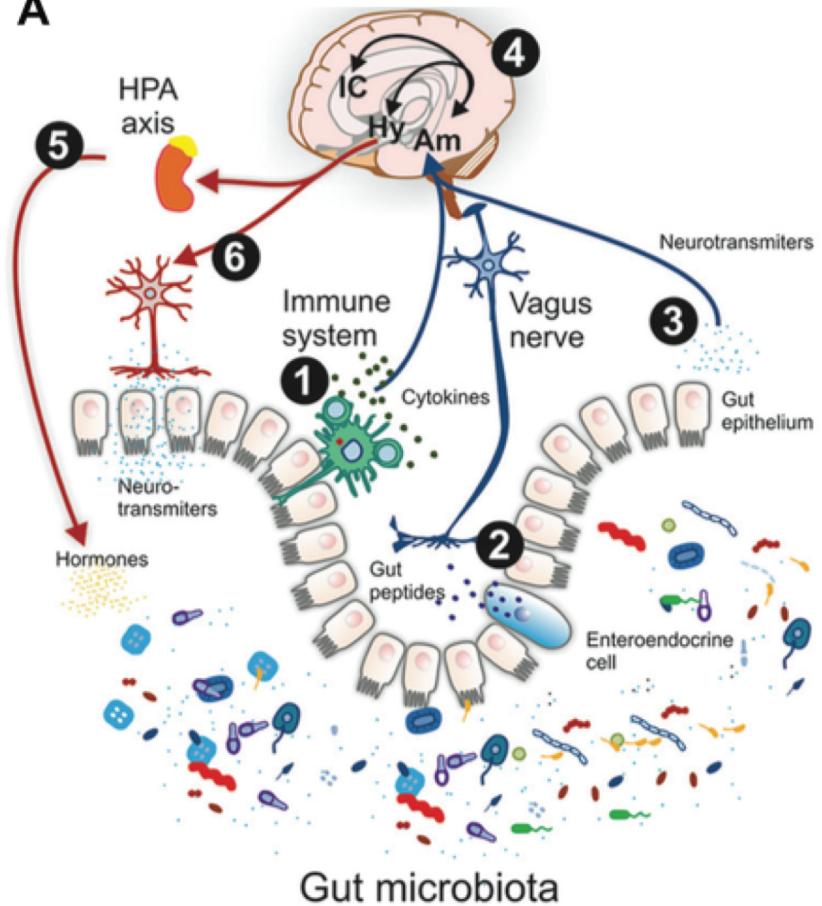
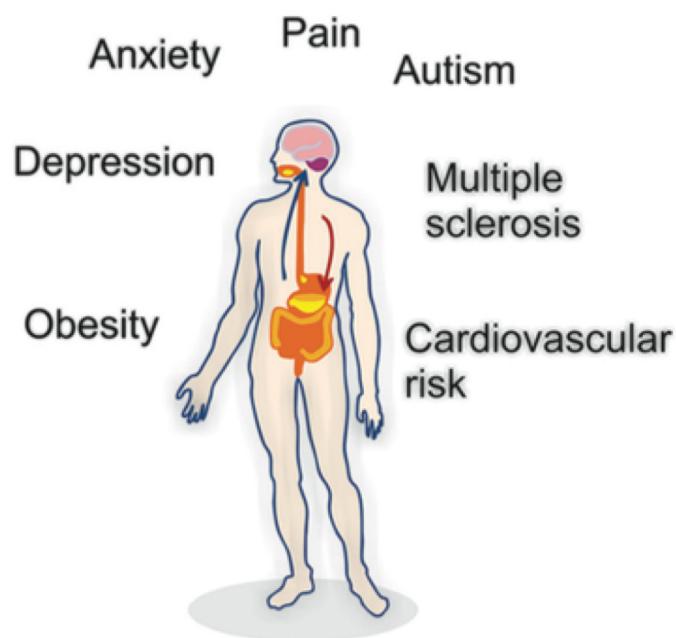
Your health is woven into the health  
of mother earth



Ecological  
creatures,  
Whalqvist M

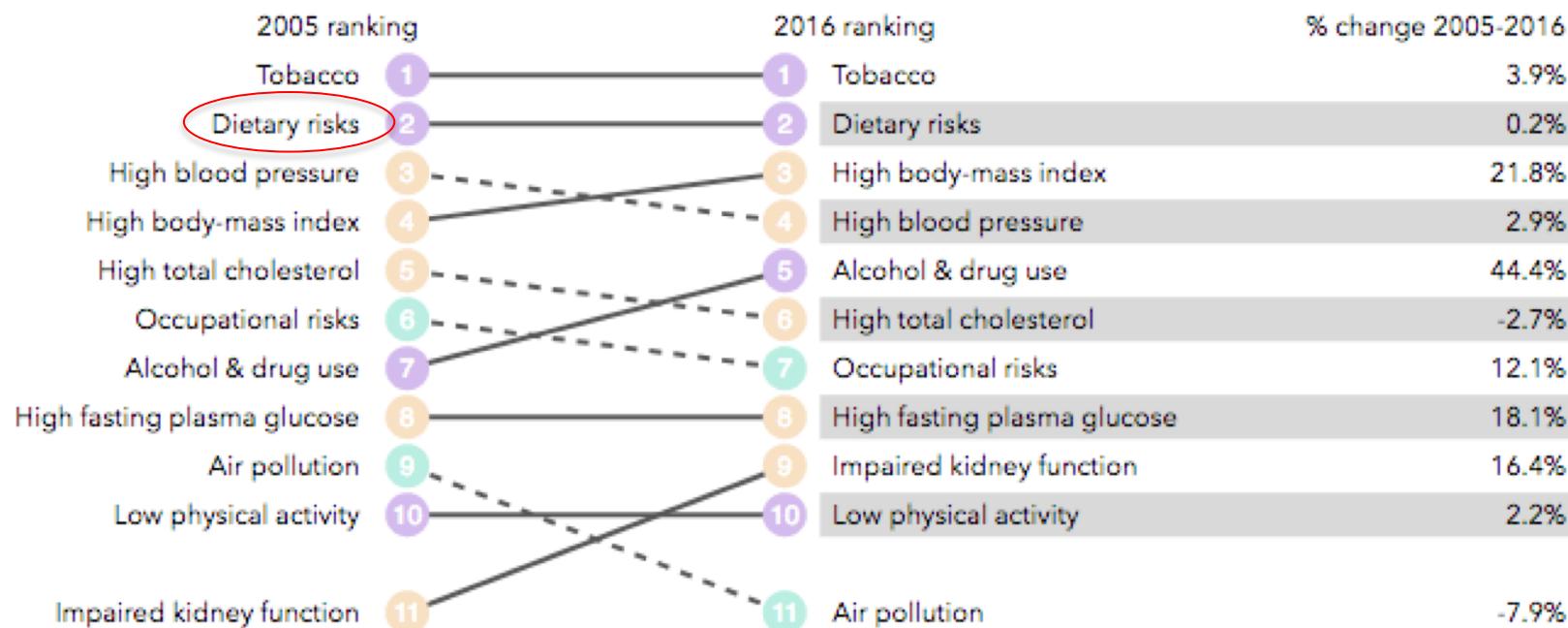
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**A****B**

# What risk factors drive the most death and disability combined?

- Metabolic risks
- Environmental/occupational risks
- Behavioral risks



Top 10 risks contributing to DALYs in 2016 and percent change, 2005-2016, all ages, number



# Comparison



- **Mediterranean diet**
  - Vegetables and fruits
  - **Olive oil**
  - Seafood all types
  - Optimal amount of meat and **red wine**
  - Beans and nuts
  - Whole grains
  - Low intake of sugar and other heavily processed food
  - Yogurth and cheese
- **Nordic diet - FBDG**
  - Vegetables and fruits/berries
  - **Rapeseed oil**
  - Seafood all types
  - Optimal amount of meat
  - Beans and nuts
  - Whole grains
  - Low intake of sugar and other heavily processed food
  - Milk products and cheese
  - **Cod liver oil**



# Food based dietary guidelines aimed protect the environment - Sweden

- Prefer the foods of the season - local foods
- Prefer less industry prepared foods than highly prepared
- Decrease the amount of meat in the diet - Increase vegetables
- Eat less and decrease the waste of food
- Guidelines regarding what type of fat, sustainable fish products (WWF), eat potatoes rather than rice, ecolabelled vegetables recommended, not too much milk/meat, sugar is unnecessary climate impact etc.



## SUSTAINABLE BIG PICTURE

When it comes to food, it's easy to concentrate on individual nutrients or foods to the exclusion of everything else. But all aspects are interlinked, so it's important to maintain a holistic approach.



# Food Based Dietary Guidelines in Iceland



**Embætti  
landlæknis**  
Directorate of Health

# Ráðleggingar um mataræði

FYRIR FULLORÐNA OG BÖRN FRÁ TVEGGJA ÁRA ALDRI



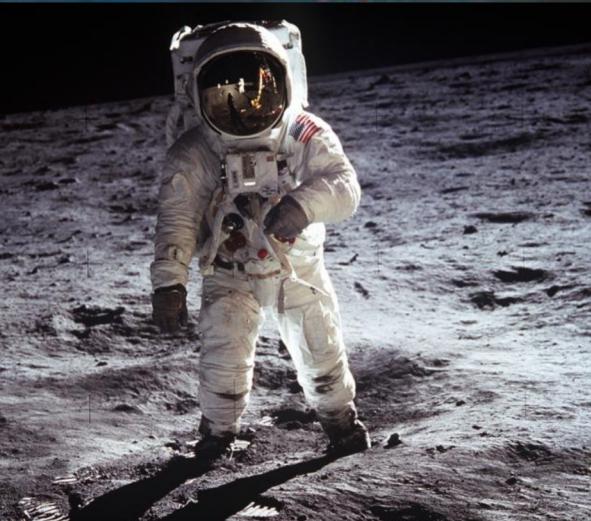
Ein af málitumum  
setti að vera fér til  
fiskur t.d. lax, bleikja  
íða eða makrill.

Géð uppsprett  
hollari fitu er  
fér til fiskur, lýsi,  
jurtaölur, hneturn,  
fræ og láperun.

# KEEP THE GOOD HABITS



Despite changes in food environment it is important to stand firm guard already good habits incorporated into the societies such as - commensality, eating together as social practice among families, friends and colleagues, - defining cooking skills as a cultural heritage that needs to be passed on to the next generation for great culinary experiences and the - close connection between people and nature.

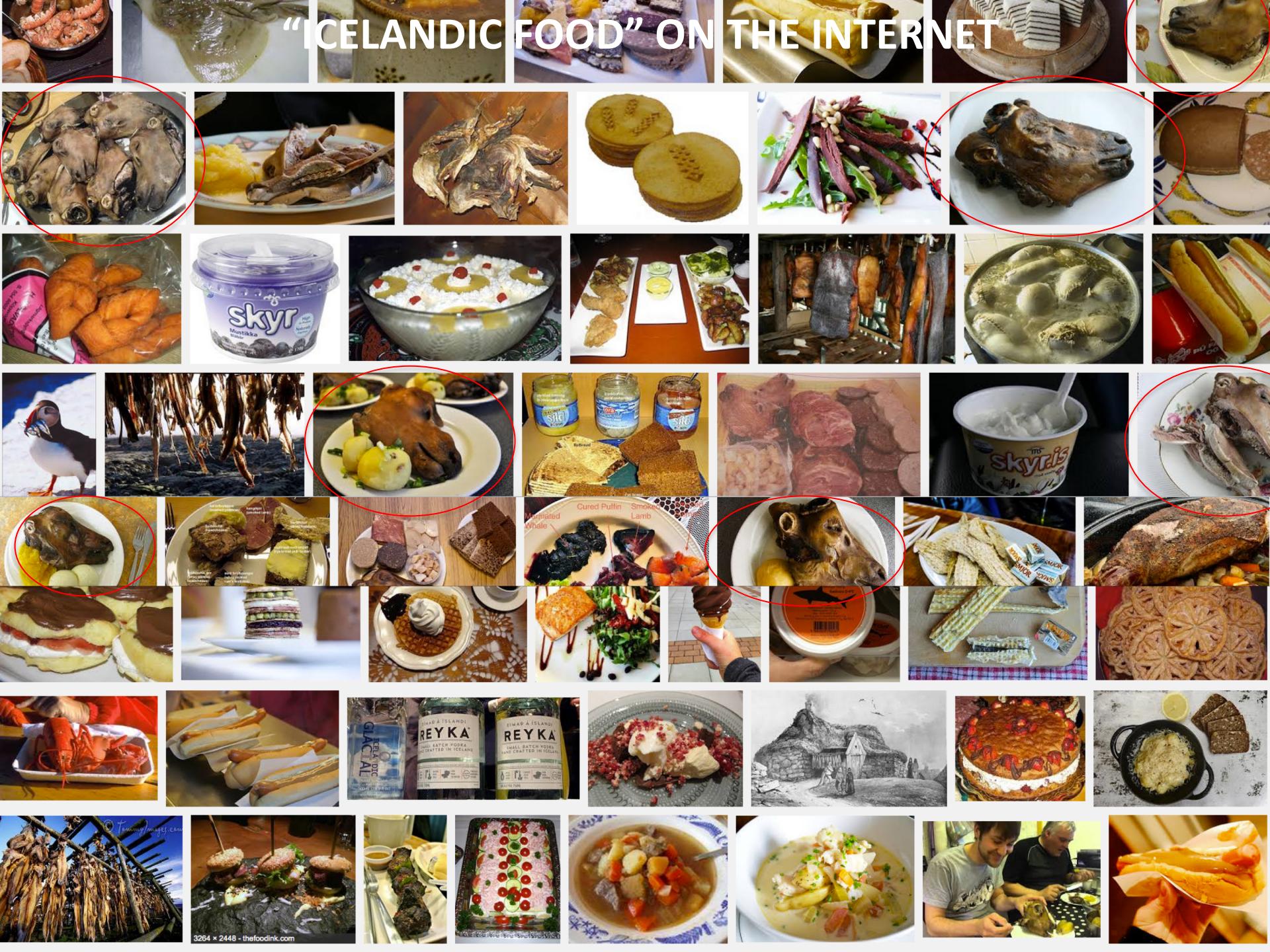




# The Icelandic Food Circle



# "ICELANDIC FOOD" ON THE INTERNET



# FOOD COMPOSITION

## A: Additives/ aroma

### Innsatsfaktorer food prod.:

- Pesticides
- Medication (animal)
- Migrating subst. from packaging

## B: Contaminants

Toxins from mold

- algae toxins
- pollutants
  - metals/ halogenated substances

## C: Stoffer fra bearbeiding varmebehandling

- Heterocyclic amines
- Akrylamid
- HMF (Hydroxymethylfurfural)
- PAH (*Polycyclic aromatic hydrocarbons*)

### Fermentation

- Uretan

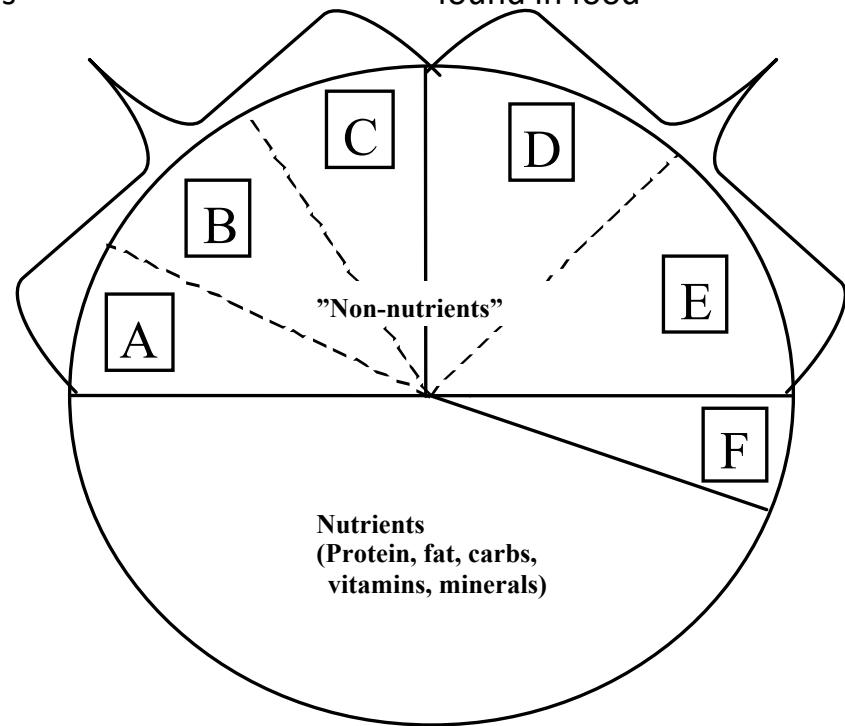
## D: Industrial change

Hardening of fat

- Trans fatty acids

Substances that are not in food from natural causes

Toxins and biological active substances that are naturally found in food



## E. Natural toxins

## F. Naturlige, positive 'ikke næringsstoffer' "Neutraceuticals"

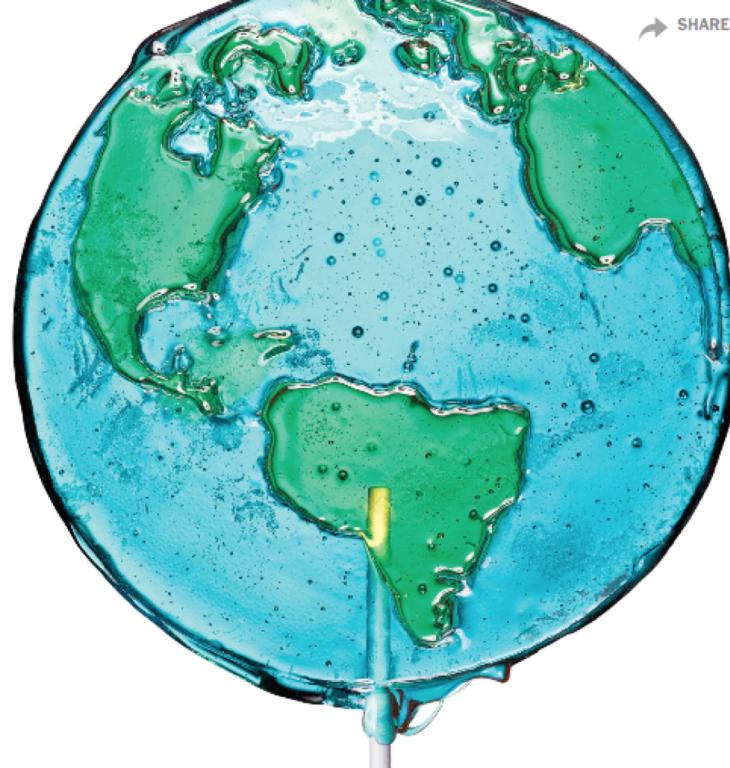
- flavonoider / plantefenoler
- karotenoider
- plantesteroler

# CANDY CRUSH

*Candy is controversial. Scouring the globe in search of the sweet stuff reveals just how different our palates are — and how much we have in common.*

By MARY H. K. CHOI

Photo Illustration by MASSIMO GAMMACURTA



<https://www.nytimes.com/interactive/2018/10/24/magazine/candy-colombia-bon-bon-bum.html?action=click&module=Top%20Stories&pgtype=Homepage>

## SWEET HOME

*Nations have flags and anthems — but they also have their defining treats.*

# GLOBAL WARMING OF 1.5 °C



AN IPCC SPECIAL REPORT ON THE IMPACTS OF GLOBAL WARMING OF 1.5 °C  
ABOVE PRE-INDUSTRIAL LEVELS AND RELATED GLOBAL GREENHOUSE GAS  
EMISSION PATHWAYS, IN THE CONTEXT OF STRENGTHENING THE GLOBAL  
RESPONSE TO THE THREAT OF CLIMATE CHANGE, SUSTAINABLE DEVELOPMENT,  
AND EFFORTS TO ERADICATE POVERTY

Tækni & vísindur | MBL | 8.10.2018 | 9:46 | Úppstar 10:33

„Bregðist við núna, fábjánar“

SAMSUNG



# ipcc

INTERGOVERNMENTAL PANEL ON  
climate change



WMO



UNEP