Make it green
Sustainable
Manufacturing
sustainablemanufacturing.eu

Maria Lindqvist,PhD

Launching the local version 09052022

Co-building a New Eco-Social World

The process of making a product

The Modern English word *manufacture* is likely derived from the Middle French *manufacture* ("process of making")

which itself originates from the Classical Latin *manū* ("hand") and Middle French *facture* ("making").

Compared to the rest of EU

Finland is not that good when it comes to circular material use

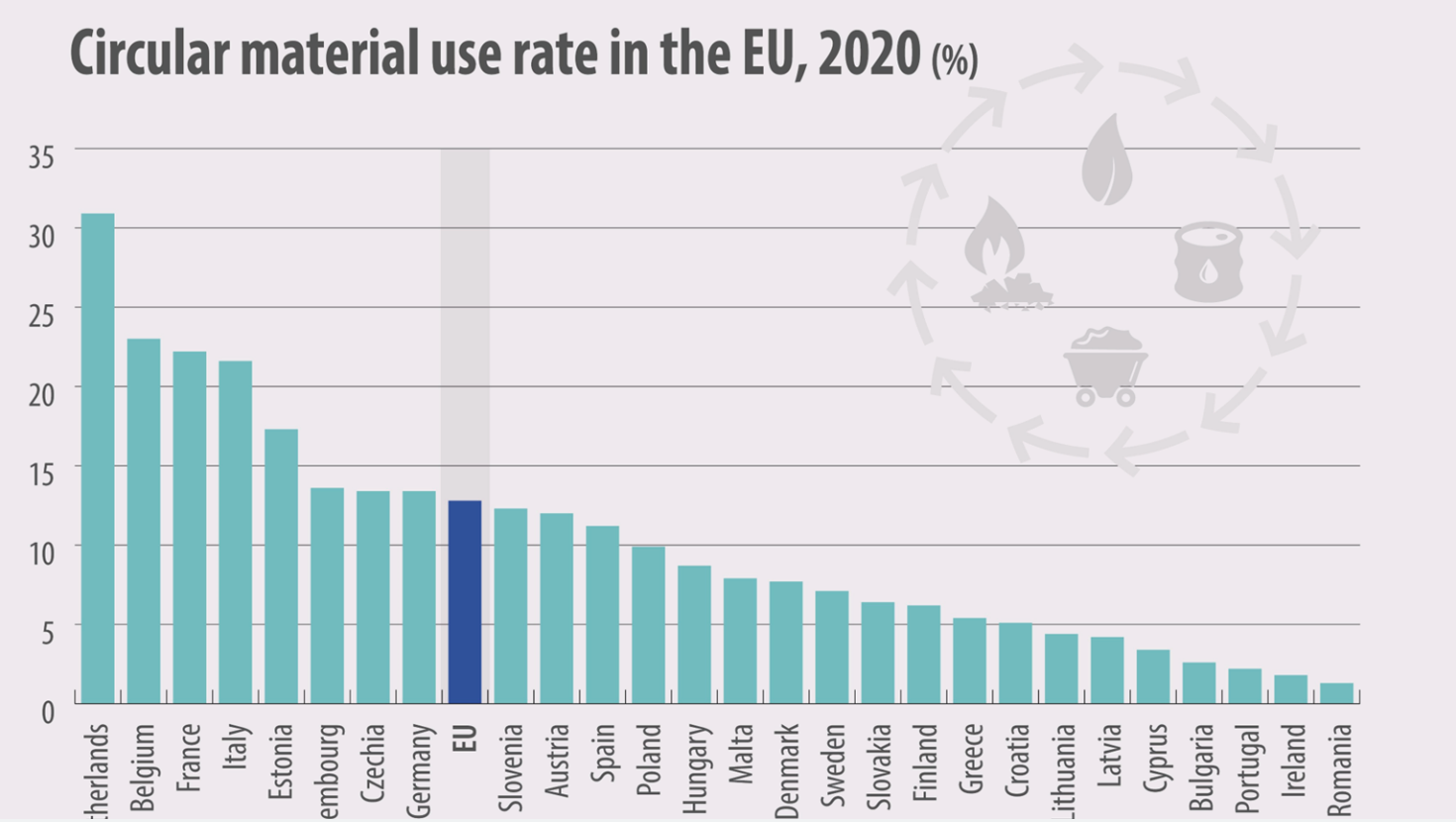
However not all material

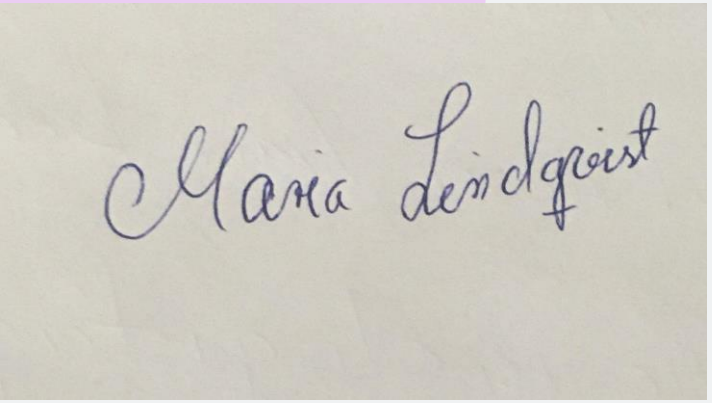
that is recycled in EU is toxic

free.We want to promote

toxic free circular material use

in Finland.





Maria Lindqvist,PhD Freelancer with qwn science magazine.Based in Sweden and Finland

Eveliina Jussila,mother of two boys under age 7, good in designing small projects regarding children, based in Finland

Andreas Lindqvist,knows all about video games,based in Finland

The course will be created in
English
Swedish
Finnish

Later on in italian,spanish and german.

Reason for making this course

Knowledge of manufacturing can be studied in combination

of many other science field however we have not found a course

that gives us updatet information in an easy accessable form so

we decided to make a MOOC course about manufacturing.

Manufacturing in Finland

In Finland, Manufacturing is the most important sector and accounts for 87 percent of total production.

The biggest segments within Manufacturing are:

chemicals (16 percent);

electrical and electronics (13 percent);

machinery and equipment (11 percent);

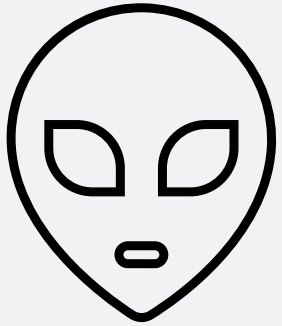
paper and paper products (9 percent);

fabricated metal products (8 percent);

and food products (7 percent).

Source:tradingeconomics.com

Manufacturing in Sweden



Manufacturing in Sweden is one of the reasons why Sweden is strong as a nation.

You either offer a product or a service.

Sweden as a nation is very good when it comes to offer different services

however when it comes to production on individual level it is yet

in its infancy and has great potential to grow. Hence one of our goals with

making this MOOC course

User group

We also give advise on using products. What products are good to use and what are dangerous and should be avoided

We are going to cover manufacturing both

for commercial reasons

and private reasons

Sustainability

1

WE will cover the sustainability of the product both material used

2

And the process of it and its impact on Agenda2030 goals.

Big manufacturing issue

Poison

Poison

Get smart

We advise you regarding poison stuff in different products

And what you could do if you want to make a product that is poison free

PFAS

Per- and polyfluoroalkyl substances

PFAS are widely used as they have unique desirable properties. For instance, they are stable under intense heat. Many of them also have surfactant properties and function, e.g., as water and grease repellents.

Some of the major industry sectors using PFAS include aerospace and defence, automotive, aviation, textiles, leather and apparel, construction and household products, electronics, fire-fighting, food processing, and medical articles

Why to avoid PFAS as a consumer

PFAS lower your immune respons which is bad news

for those who are fighting diseases like covid.

In the long run they can increase your chance for diseases like cancer or diabetes.

PFAS are also bad for the nervous system.

PFAS in lotions and makeup

WE ADVISE YOU ON PFAS IN LOTION AND MAKEUP

WHICH PRODUCTS CONTAIN PFAS=POISON AND WHICH DON'T.

Hygiene Products

MANY HYGIENE PRODUCTS CONTAIN STUFF THAT

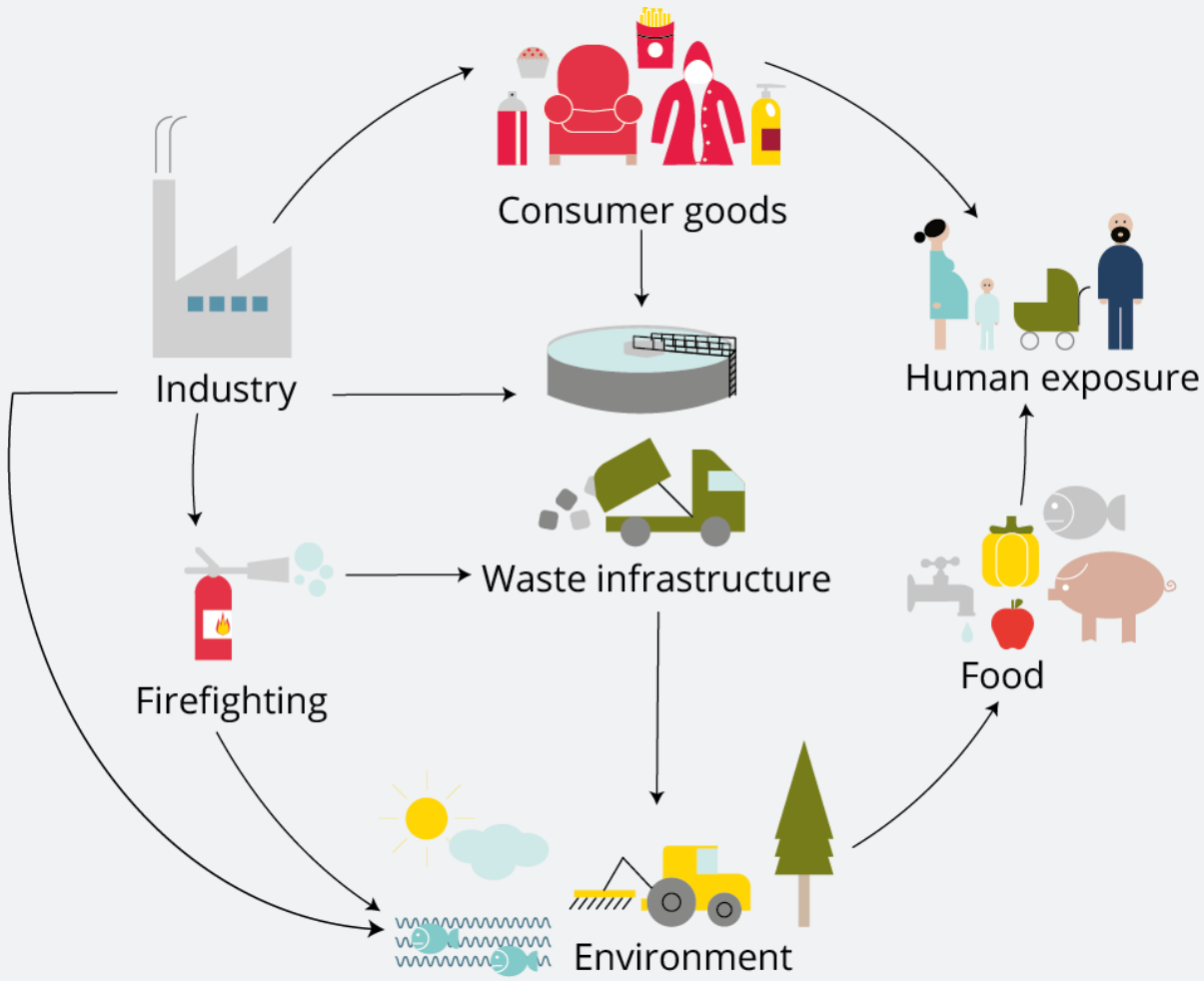
CAN IRRITATE AND GIVE ALLERGIC REACTIONS.

WE ADVISE WHAT TO AVOID AND HOW TO PRODUCE STUFF YOURSELF.

Good webinar about PFAS

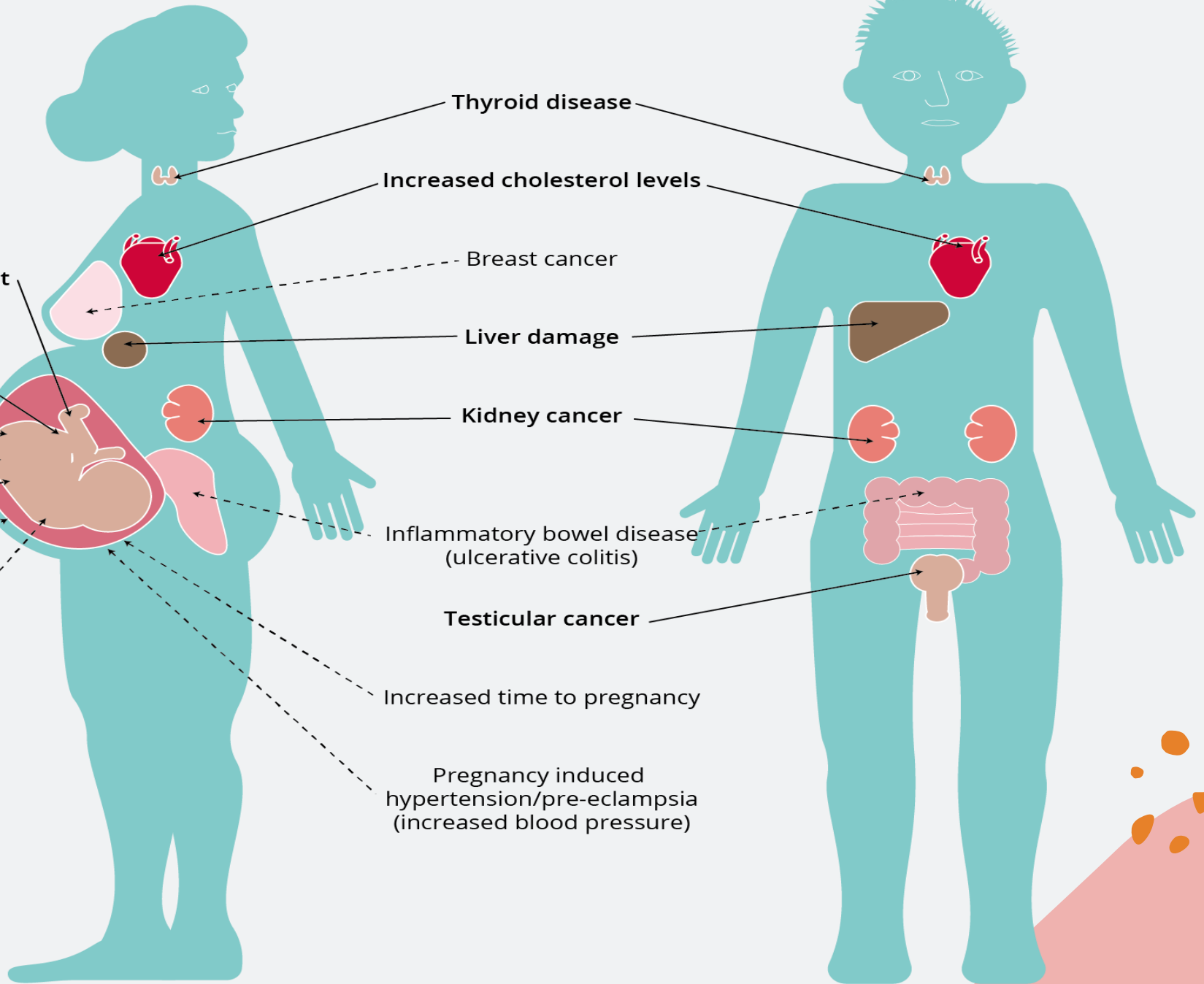
https://www.youtube.com/watch?v=HtYhAaj5WEg

Comprising more than 4 700 chemicals, per and polyfluorinated alkyl substances (PFAS) are a group of widely used, man-made chemicals that accumulate over time in humans and in the environment.
Source: https://www.eea.europa.eu/publications/emerging-chemical-risks-in-europe



High certainty

Lower certainty



A review of contamination of surface-, ground-, and drinking water in Sweden by perfluoroalkyl and polyfluoroalkyl substances (PFAS)

Marko Filipovic

ATV Jord og Grundvand – møde 10 oktober om PFAS

2017-10-10

PFAS

PLACENTA

Outcomes:
- Low birth weight
- Gestational diabetes
- Hypertensive disorders of pregnancy
  - Preeclampsia
  - Pregnancy induced hypertension

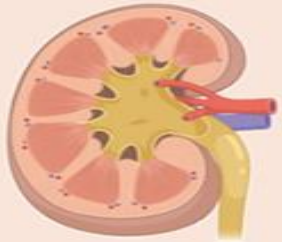
Mechanism(s):
- Disrupted vasculogenesis/angiogenesis
- Insufficient placentation
- Impaired transplacental transport

THYROID

Outcomes:
- Disrupted thyroid hormones (TH)
  - Increased TSH
  - Decreased T4

Mechanism(s):
- Increased TH metabolism in liver
- Reduced production of T4
- Reduced thyroid peroxidase activity
- Competitive binding to TH transport proteins

KIDNEY



Outcomes:
- Reduced glomerular filtration rate
- Chronic kidney disease
- Kidney cancer

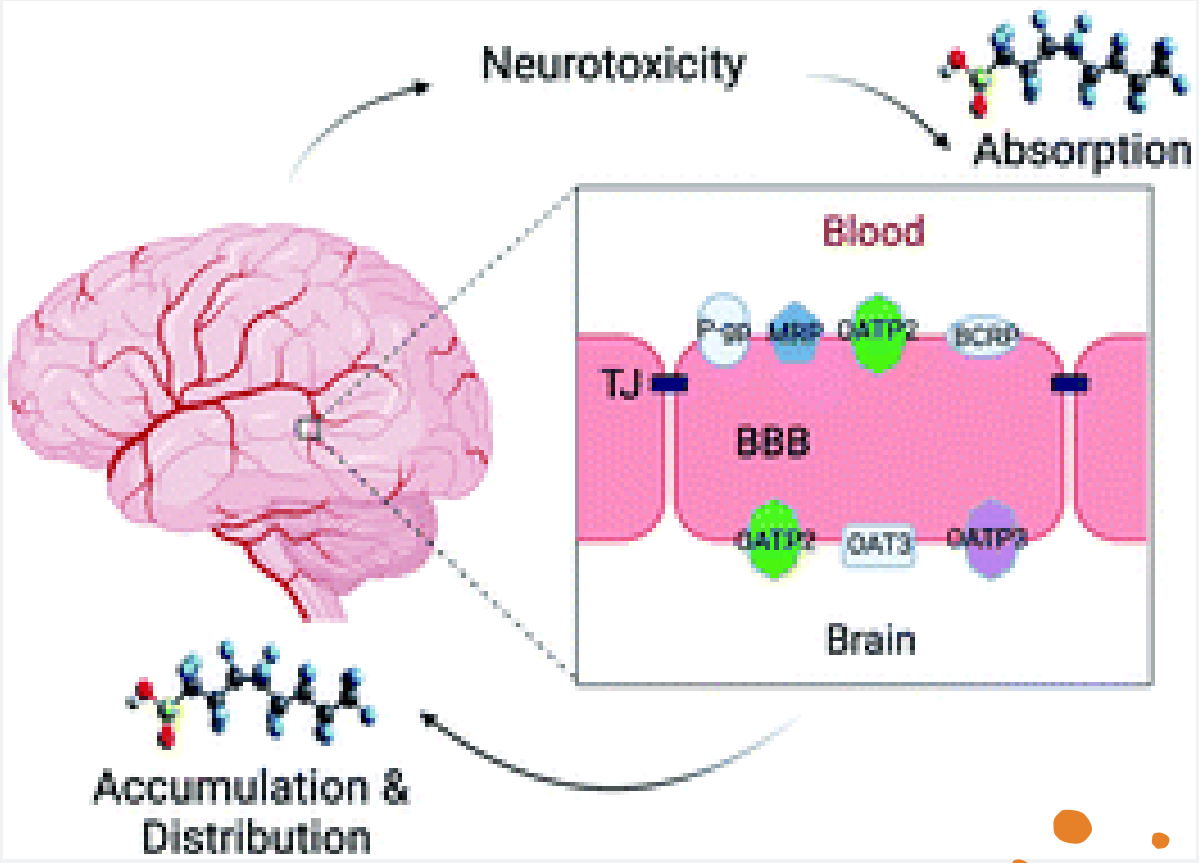
Mechanism(s):
- Efflux/reabsorption in proximal renal tubules (e.g. basolateral transport by OAT1 and OAT3, apical transport by OAT4)
- Oxidative stress

LIVER

Outcomes:
- Metabolic syndrome
  - Lipid dyshomeostasis
    - Elevated triglycerides
    - High cholesterol (LDL)

Mechanism(s):
- Lipid peroxidation
- Oxidative stress
- Apoptosis

Absorption, distribution, and toxicity of per- and polyfluoroalkyl substances (PFAS) in the brain
Passes BBB in animals, more studies in humans needed



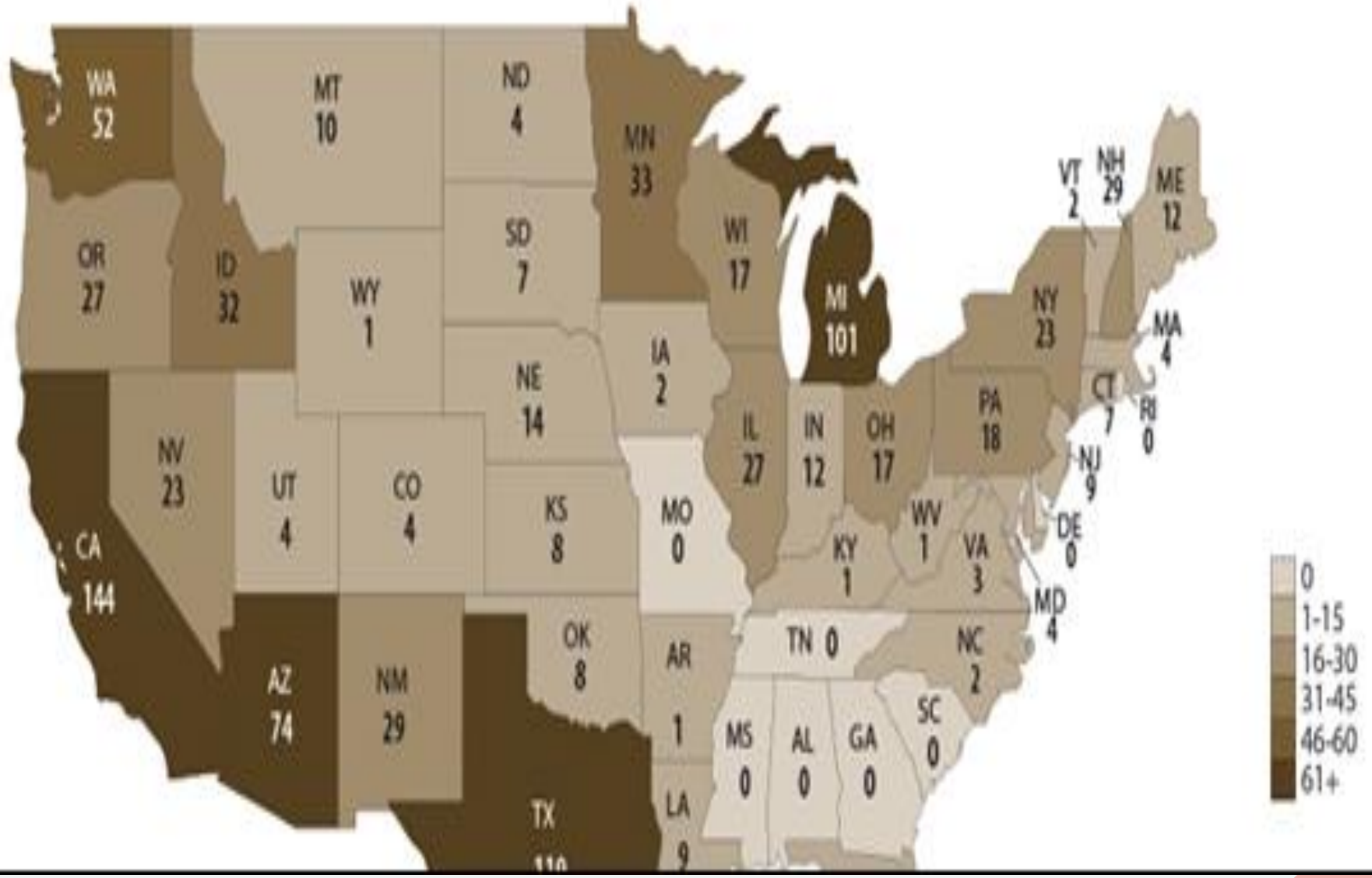
Toxic Chemicals in Fabric & Textiles

- **Pesticide residues**
  Linked to cancer
- **PFAS**
  Linked to cancer, endocrine disruption, developmental & reproductive harm
- **Synthetic fibers**
  Linked to endocrine disruption & contribute to plastic pollution

MADE SAFE


PFAS sources
Shampoo
Stain resistant products
Non-stick cookware
Photography
Paint
Fast food packaging
Pesticides
Firefighting foam

AN ELEMENTAL CONCERN: ARSENIC IN DRINKING WATER



Arsenic in food

COMMON SOURCES

Arsenic in Rice

A 2007 study found that rice grown in California and the southern United States (the two largest producers of rice in the U.S.) averaged 0.17 and 0.30 µg/g arsenic in rice, respectively. While the average American consumes 14 grams of rice per day, this obscures variability in rice consumption. Diets typical among Asian or Latinx households, individuals with Celiac's disease, and infants consume higher-than-average volumes of rice. The authors concluded that consuming above-average volumes of rice with just 0.10 µg/g ***inorganic*** arsenic in rice could exceed the equivalent of EPA's arsenic water standard.

Arsenic in Apples, Grapes, and Their Juices

Like rice, apples, grapes, and pears can be contaminated with arsenic from soil. In the first half of the 20th century, lead arsenate was the most used pesticide in North American fruit orchards. Fruits average less arsenic than root and leafy vegetables because arsenic tends to concentrate in the roots and leaves of plants.

Washing fruits and vegetables thoroughly can remove contaminated soils from surfaces and reduce arsenic exposure, however this will not reduce arsenic levels *within* the plant.

Got Milk? You Probably Got Fire Retardants, Too

"Forever chemicals," also known as PFAS, have been found in 43 states so far, turning up in milk, eggs, and fish.

Poison free agriculture

Protection of the ozone layer

These ozone-depleting substances were mostly introduced in the 1970s in a wide range of industrial and consumer applications, mainly refrigerators, air conditioners and fire extinguishers.

Products harming the ozone

Solution

Solutions

Solutions


SAFETY
TESTED


SAFETY TESTED
Passed test on Nordic test Lab
- Fire Secure

Safe products for children

Location of food poisoning among children

Among parents reporting their children had gotten sick from spoiled or contaminated food

Restaurant

68%

Home

31%

School

21%

Friend's house

14%

Potluck dinner

11%

Source: C.S. Mott Children's Hospital National Poll on Children's Health, 2018

DIGI EDU HACK 2021

9-10 NOVEMBER 2021
IN EUROPE AND
BEYOND

EUSPA

WHAT'S THE PURPOSE OF YOUR PITCH?

DigiSolutionBuonaNazione

Digital education for a sustainable world

The Good The Bad The Evil
IN

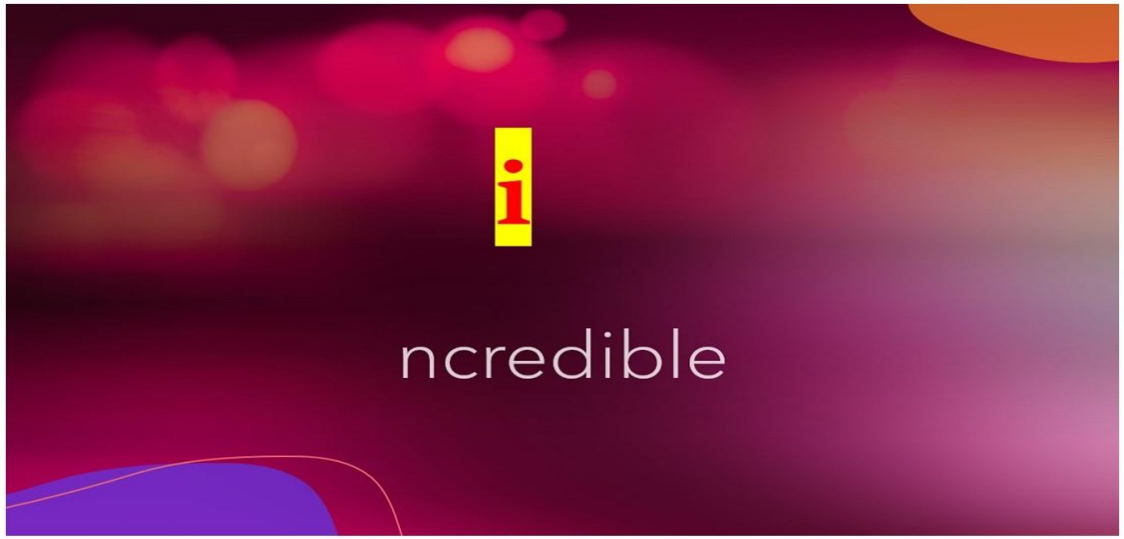
FOOD & AGRICULTURE

IN

ITALY AND BEYOND

Solution Always updated

Towards a transition into a PFAS-free environment



Our Phylosophy!
Why the world is a mess?
Mafia! Most producers know their products are poison!