

How is food transformed into "superfood"?

BfR-Symposium "Super(?)foods and Supplements – Risky or Healthy?" (2022 06/30-07/01)

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Superfoods

(Plant-based) foods that inherently contain high levels of individual micronutrients, enzymes and phytochemicals.



A. Clausen

No distinctive definition of the term superfood, no legal regulation:

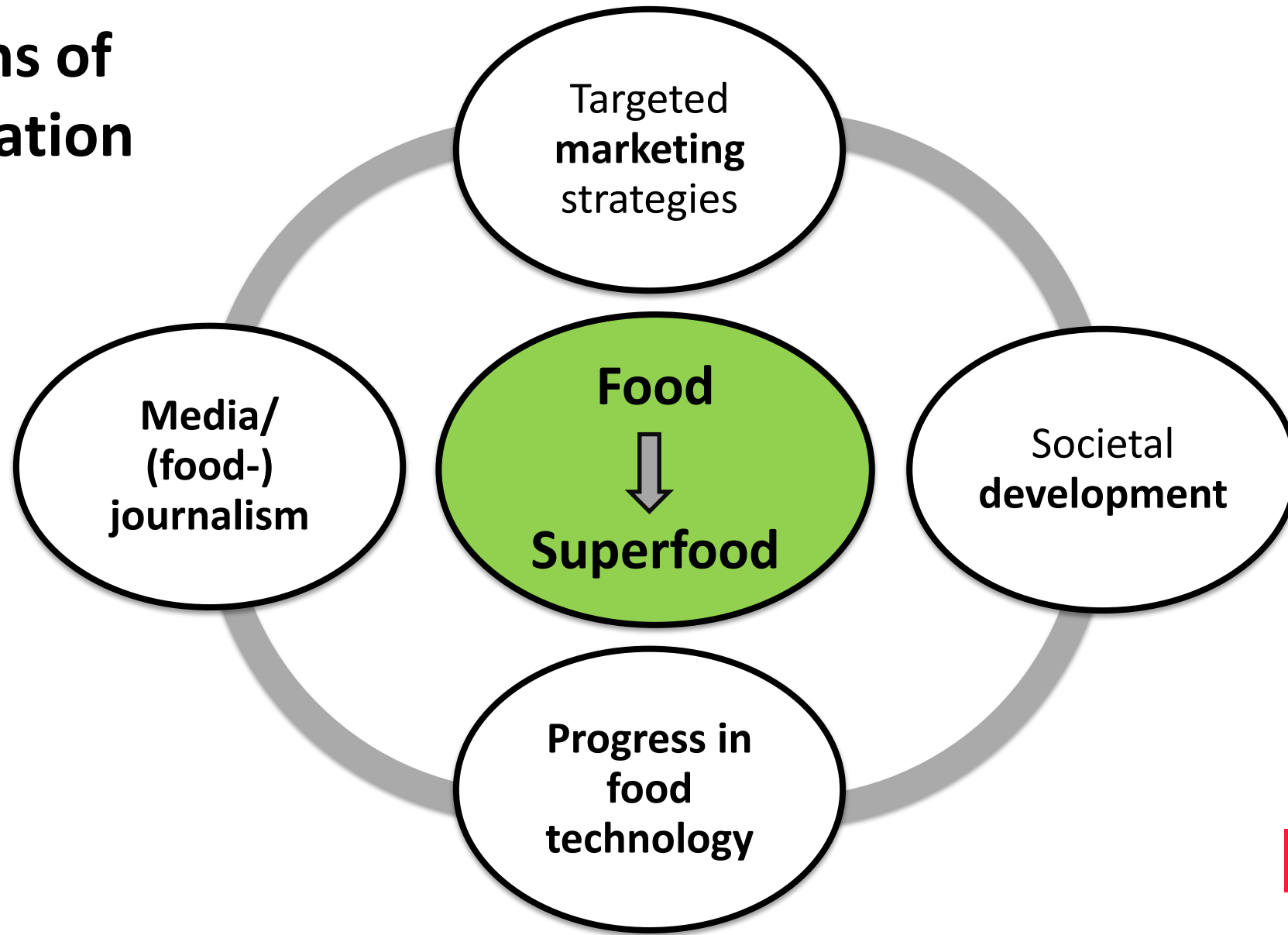
➡ no need for „transformation“

- **superfruits:** açai, chokeberry, goji, camu-camu, maqui, pomegranate
- **supergreens:** spirulina, chlorella, matcha, wheat and barley grass, moringa, nettle, kale, broccoli
- **superseeds:** chia, hemp, inca nut, pumpkin, flax
- **supergrains:** quinoa, canihua, amaranth, teff, corakorn/fonio (millets), freekeh

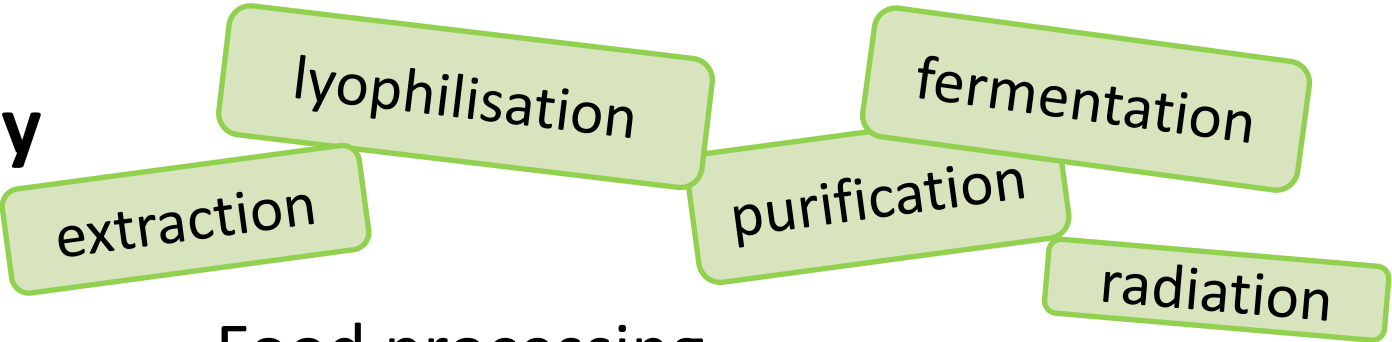


Iryna Ilieva/Pexels

Dimensions of transformation



Progress in food technology



Food production

- spirulina/arthrospira (A. platensis and A. maxima)
- blue-green microalgae, high in protein, trad. food in Mexico, Chad and Kenya
- -> aquaculture enables mass production!



Nouchkac/pixabay

Food processing

- açai: highly perishable fruit from South America
- global commercial use as freeze dried powder or frozen puree



Luis Echeverri Urrea / Fotolia



www.therainforestco.eu

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Food processing

- Adding perceived superfoods as ingredients

chia bread



A. Clausen

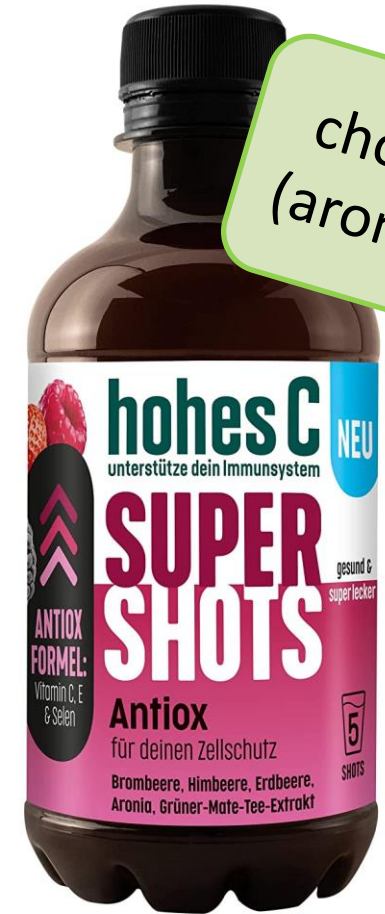
cereals



www.seitenbacher.de

38% whole grain
oats
16% Superfood
(goji berries,
pecans, chia,
acerola),....linseed,
beetroot, sea salt.

chokeberry
(aronia) juice



www.amazon.de

Food processing

Superfood-supplements

- „Inka Gold“, capsules with quinoa- and amaranthflour



www.vitaminexpress.org

Powders for beverage preparations (shakes, smoothies)

- rosehip powder
- turmeric (-> golden milk)
- barley grass



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Societal developments

- focus on healthy lifestyle
- awareness of health aspects of nutrition

natural

detox

phytochemicals

vitamins

omega-3

antioxidants

→ increasing demand for functional foods

→ superfoods as a smart way to improve diet (Magrath & Sanz 2020).

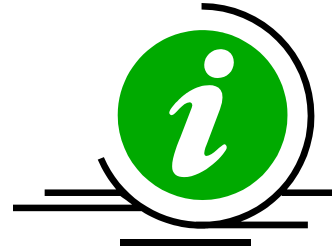
Superfood as an answer to today's lifestyle challenges:

- high performance, self-optimisation
- lack of time, stressful living
- eating specific foods as a way to express identity (Monterrosa et al. 2020, van der Heijden et al. 2021)
- fulfilling not only dietary but ethical concerns (Loyer, 2016)

Societal developments

Source and quality of information

- Internet is used by many people as a source of information.
- Influencers acting as nutrition experts



„Nutritional primitivism“ (Loyer & Knight 2018)

- *Tendency to idealize “primitive” food cultures as nutritional utopias*
- Response to a perceived crisis in Western health
- Social and environmental concerns about globalised and industrialised agri-food systems



Nutrition is a complex issue

- Focus on partial aspects of superfoods, broader information is faded out

Associated trends:

- Clean eating
- Plant based/vegan
- Raw food diets

Marketing

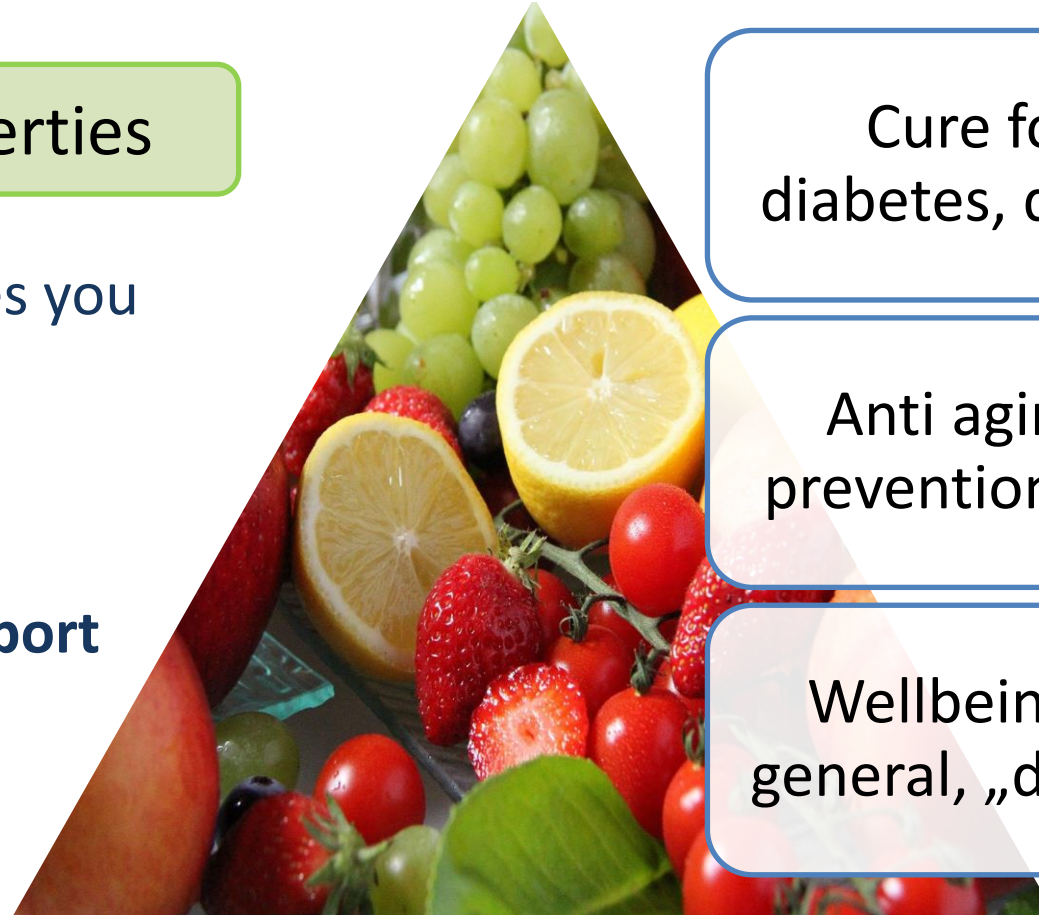
Characteristics of superfoods (Loyer, 2016)

- are thought to have extraordinary nutritional and/or medicinal values;
- are thought to be produced in a 'natural' way, i.e. with little or no technological intervention; and
- are associated with indigenous people and traditional production practices oftentimes in remote locations.

Marketing

Health-promoting properties

- “5 **cancer fighting** vegetables you should be eating”
- “These are the 16 **most beautifying** superfoods”
- “Three superfoods that **support brain function**”
(coconut, Bacopa monnieri, walnut)



Jacques David/Pixabay

Cure for cancer, diabetes, dementia etc.

Anti aging, disease prevention, weight loss

Wellbeing, health in general, „detox“, beauty

Marketing

Nutritional values

- Purported significantly higher content of valuable ingredients compared to "normal" foods
- Often lacking transparent evaluation basis apart from „contains high amount of ...“
- Usage of „alternative“ health criteria (ORAC)
- Relation to RDI?
- Bioavailability?
- Nutrient content after processing/importation?
- Promises: non-gmo, gluten free, „raw“ ...



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Marketing

Storytelling – playing with contrasts

Exotic plants from remote locations
vs.
rising popularity of native plants

Exciting novelty but traditional usage by ancient people

Traditional healing as a counter-design to non-holistic Western medicine

„Natural“ superfoods vs. ultra processed super-fast-food

“Chia, precious seeds of the Maya”



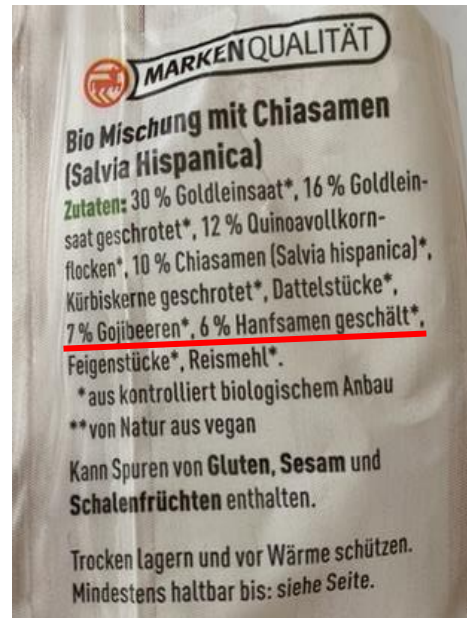
Marketing

Processed foods often contain only small amounts of the highlighted superfood ingredients:

10 % chia, 7 % goji, 6 % hemp seeds



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57 % dried dates, 10 % cocoa powder, 5 % cocoa nibs (2 grams per bar!)

	Durchschnittliche Nährwerte pro 100 g	pro Riegel (40 g)
Energie	1737 kJ/416 kcal	695 kJ/166 kcal
Fett	20 g	7,9 g
davon gesättigte Fettsäuren	4,7 g	1,9 g
Kohlenhydrate	43 g	17 g
davon Zucker	39 g	16 g
Eiweiß	10 g	4,2 g
Salz	0,07 g	0,03 g

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Marketing

"The minerals and trace elements contained in bone marrow support the immune system, digestion and joints."

"They also strengthen hair and nails and fight acne-promoting inflammation."



www.hugendubel.de

"Health elixir, healing drink and wrinkle killer out of the soup pot"

"Superfood Knochenbrühe" describes in detail the many beneficial effects of this miracle soup on health (...)."

Marketing

„Rich in:
calcium, iron
magnesium,
sodium &
chloride“



Original Superfoods Celtic Sea Salt Fine 400 Grams

★★★★★ (0)

Brand: [Original Superfoods](#)

Celtic sea salt fine is an exclusive table salt that is naturally rich in minerals.

€3.95

In stock

You will receive 3.95 points. 3.95 points = €0.12



www.unlimitedhealth.nl



Almost every food can be transformed into a superfood.

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Role of the media and food journalism

What contributes to „superfoodisation“?

- Headlines: aiming for the attention of the reader

Administering Natural Substance Spermidin Stopped Dementia

Press release FU Berlin No 247/2013

- Correlation vs. causation
- Uncritical transfer of results from laboratory animals or cell culture experiments to humans
- Overrating the impact of single nutrients/foods on health

HEALTH & MEDICINE
**Broccoli and Brussels
sprouts: Cancer foes**

The Harvard Gazette, 2019



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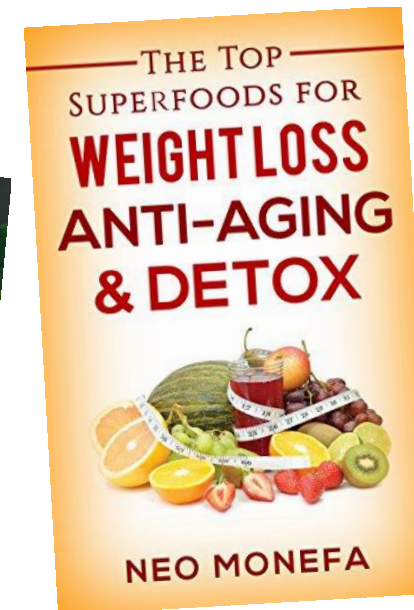
Role of the media and food journalism

- Social media influencers communicate nutritional trends in popular messages and with selective content (Rogers et al. 2021).
- Algorithms multiply the frequency of information on a certain topic -> strong impact

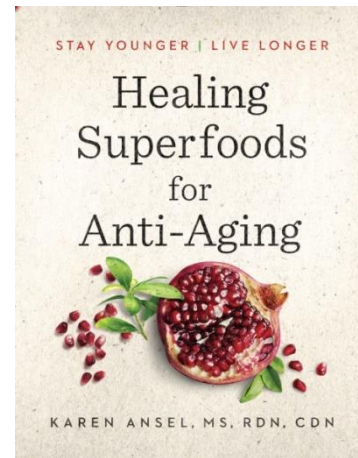
- „Supefood“-books
> 1000 results on amazon.de



www.hugendubel.de



www.amazon.co.uk



www.amazon.de

Exotic „super“foods and consumer protection

“Super”foods are justified in the countries of origin as food and source of nutrients for the population, but they are not needed here.

Widespread misuse of health and nutrition claims

Potential to harm consumers economically and healthwise



“Super”foods/supplements most frequently objected foods by the monitoring authorities

Comprehensive food monitoring is required!



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