

„Superfoods“ and Supplements – an Overview

Prof. Dr. Marc Birringer,
University of Applied Sciences, Fulda

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Hochschule Fulda
University of Applied Sciences



Superfoods and Supplements – an Overview

- Introduction
- Regulation vs. Marketing
- Examples
- Health Benefits vs. Risks
- Sustainability (Exotic vs. Regional)
- Conclusions

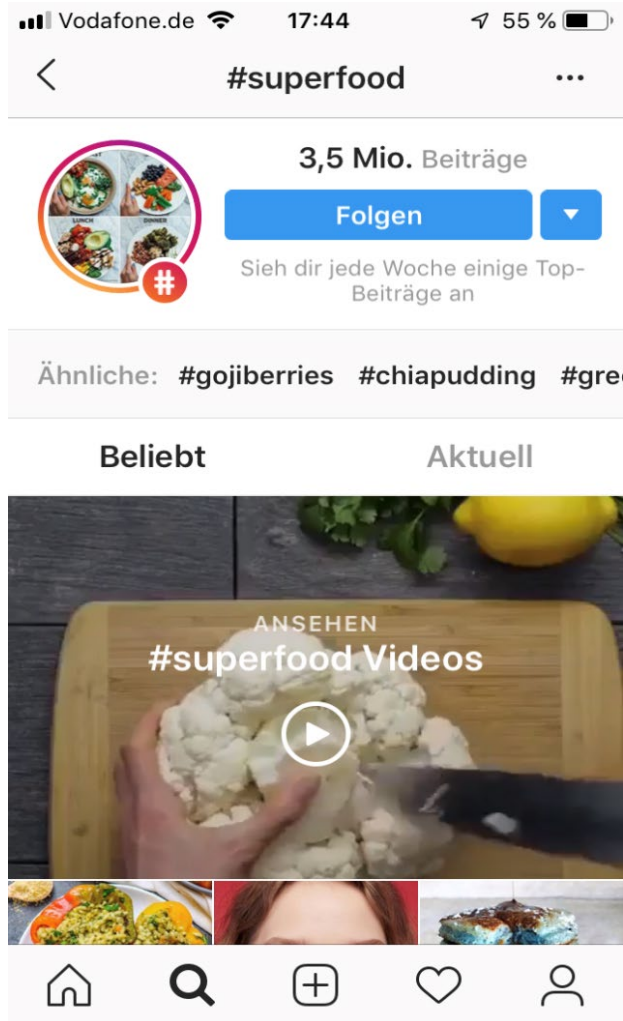
Definition of Superfood

“A nutrient-rich food considered to be especially beneficial for health and well-being.”

(Oxford Dictionary)

<http://www.oxforddictionaries.com/de/definition/englisch/superfood>

Media Hype - Instagram



Superfood	Instagram-Posts
#avocado	9,1 Mio.
#greentea	6,6 Mio.
#blueberry	4,3 Mio.
#matcha	4,1 Mio.
#kale	3,5 Mio.
#broccoli	2,9 Mio.
#chia	2,2 Mio.
#quinoa	2,2 Mio.
#pomegranate	1,5 Mio.
#acai	1,4 Mio.
#turmeric	787 Tsd.

Superfood	Instagram-Posts
#spargel	181 Tsd.
#ingwer	107 Tsd.
#leinöl, #leinsamen	9.481, 45,5 Tsd.
#sauerkirschen	6.027

#ginger cont. 16 Mio. posts

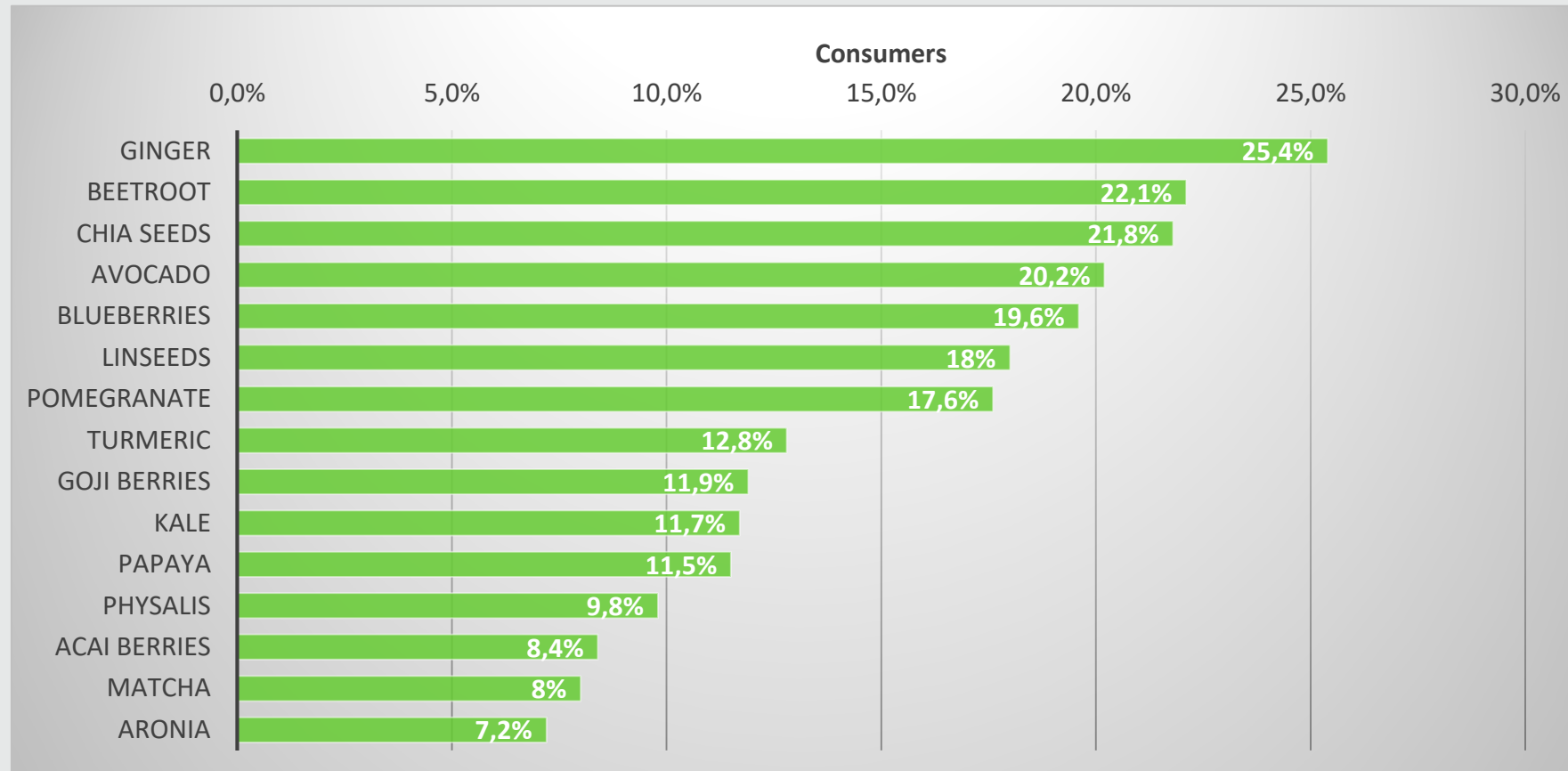
Consumer surveys on Superfoods

Survey on Food Trend Developments in Germany in 2016



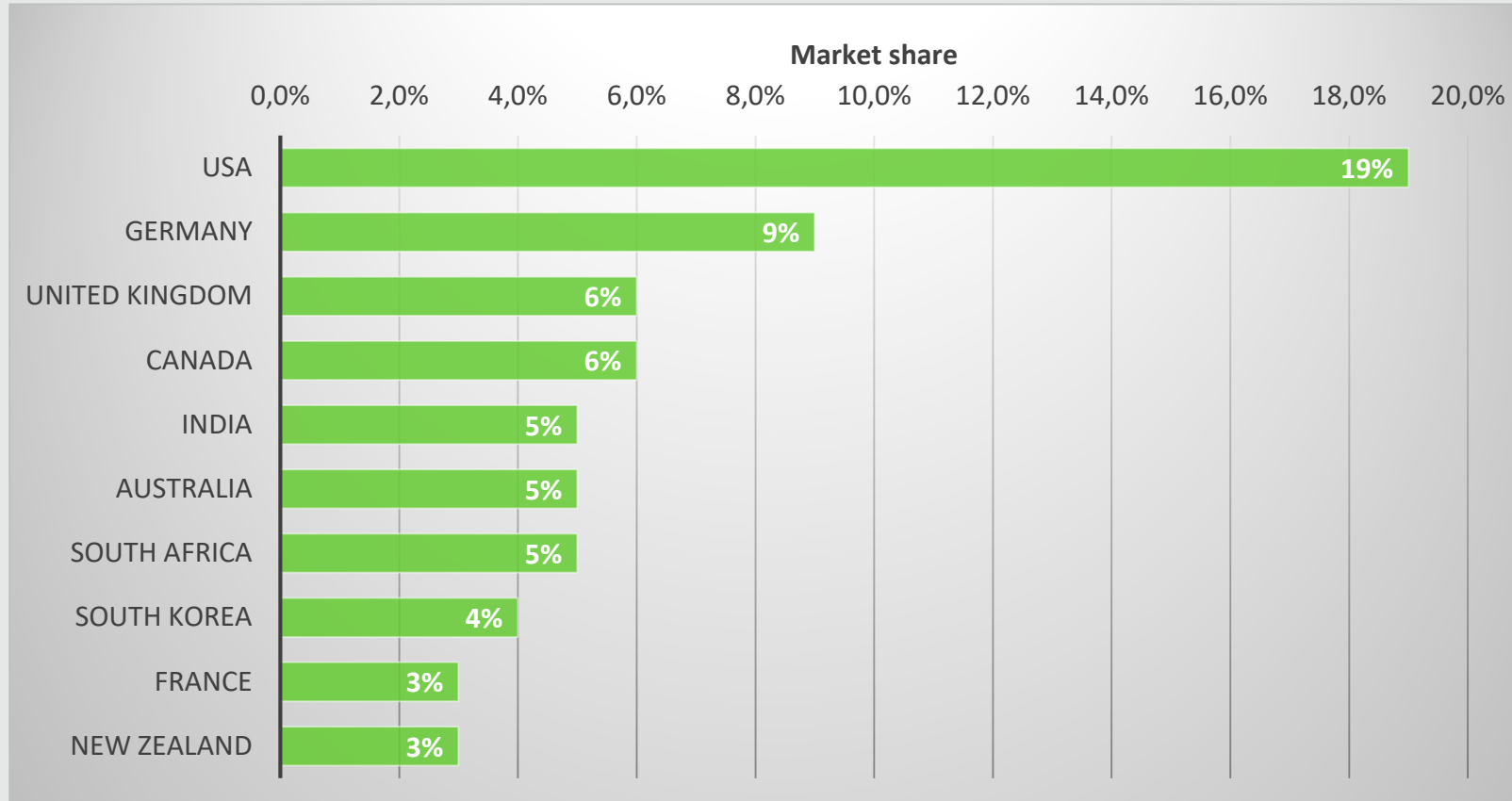
Source: Statista-Survey 2017

Consumer's choice on Superfoods?



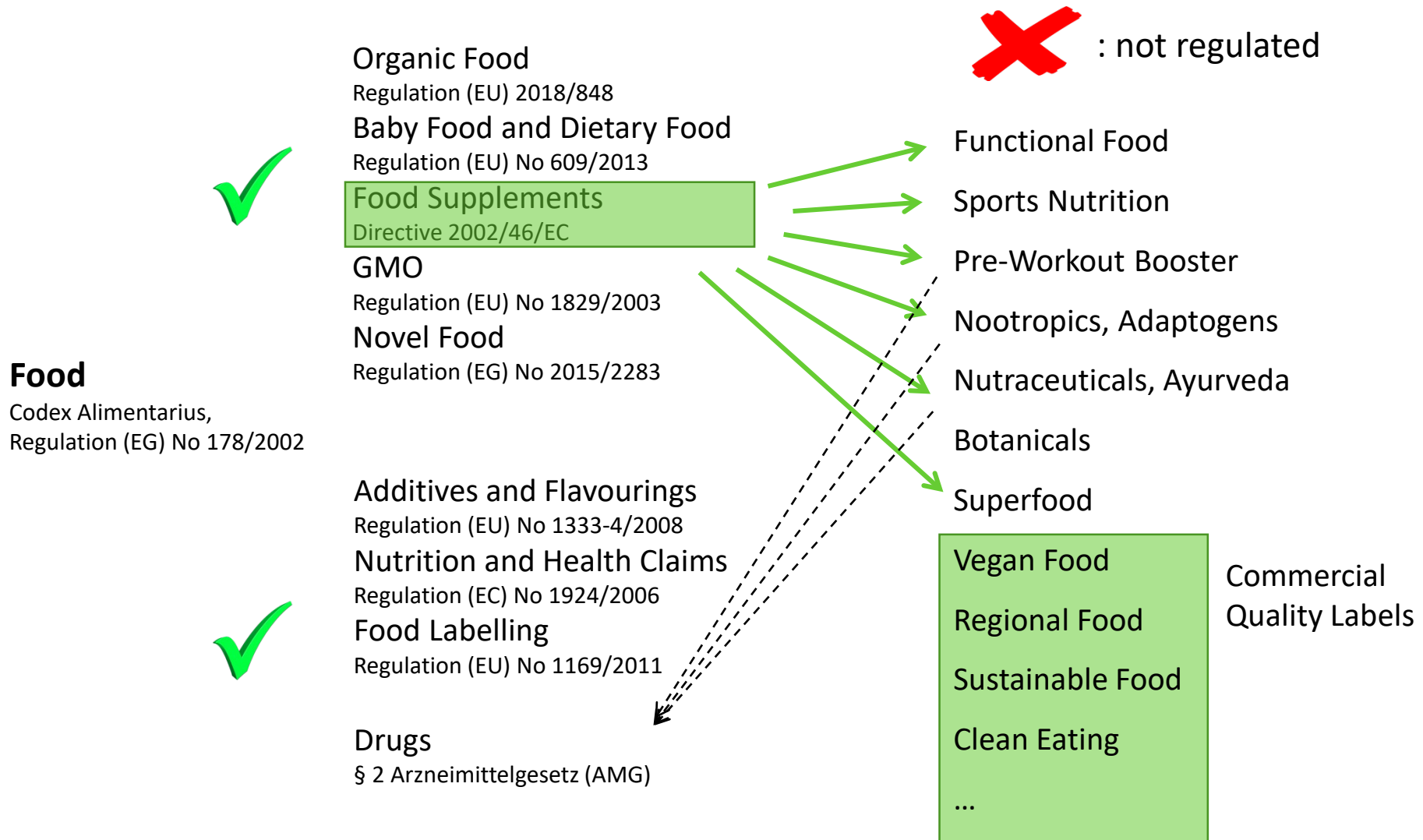
Source: Statista-Survey 2017

Global markets for Superfoods and Superdrinks in 2017

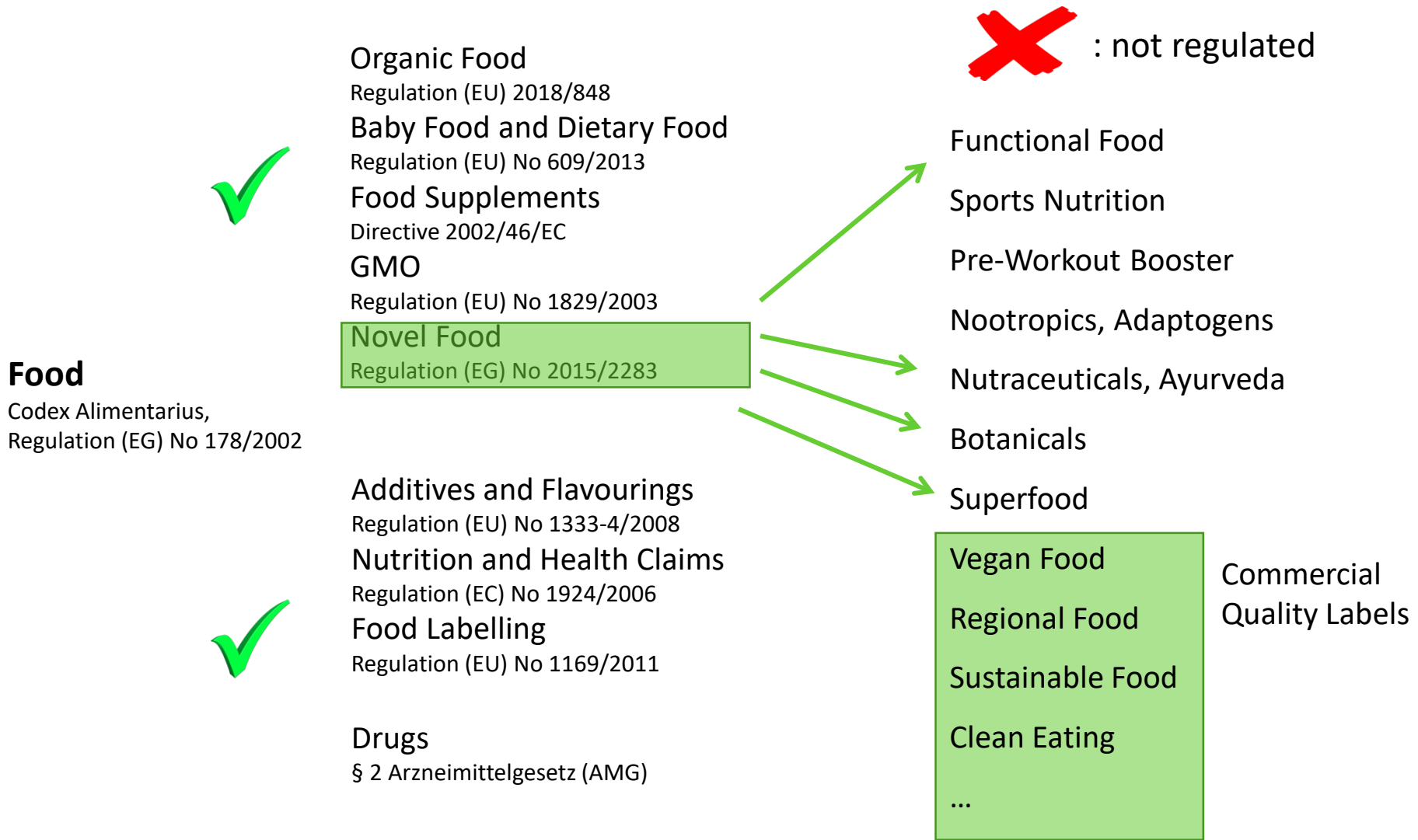


Source: Statista-Survey 2017

EU Food Law - Regulations



EU Food Law - Regulations



Examples of Superfoods - Food

Fruits



Acai



Goji



Blueberries



Physalis



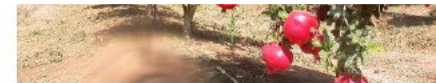
Avocado



Coconut



Cacao



Pomegranate

Examples of Superfoods - Food

Grains, Seeds and Roots



Chia



Quinoa



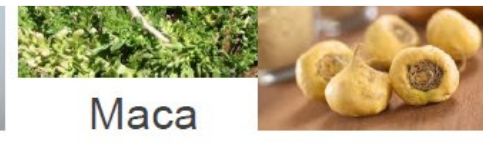
Linseed



Tigernut



Ginger



Maca

Examples of Superfoods - Food

Leaves



Spinach



Broccoli



Kale



Moringa



Green Tea



Wheatgrass

Examples of Superfoods - Supplements



34 € / 600 g



Green Mother Smoothie Powder The Original Superfood Formula Including Wheat Grass, Nettle, Marian Thistle, Brown Algae, Alfalfa, OPC & Other Superfoods in Raw Food Quality with Coenzyme Q10

Important information

Ingredients:

Weizengrasssaftpulver, Gekeimte Erbsen, Apfelfruchtsaftpulver, Spirulina, Akazienpulver, Spinatsaftpulver, Papayafruchtsaftpulver, Moringa Oleifera Blattsaftpulver, Ballaststoff: Guarkernmehl, Klettenwurzelpulver, Acerolafruchtsaftpulver (25% Vitamin C), Weintraubenkernextrakt (50% OPC), natürliches Aroma, Hagebuttenschaltenextrakt, Ananasfruchtsaftpulver, Luzernkrautsaftpulver, Tulsi-blattsaftpulver, Reishi-Pilzextrakt, Cordyceps-Extrakt, Grapefruit-Samenextrakt (45% Naringin), Shiitake-Pilzextrakt, Gerstengrasssaftpulver, Brennnesselblattsaftpulver, Mariendistelsamenextrakt (80 % Silymarin), Braunalgenextrakt, Grüner Tee-Extrakt, Süßholzwurzelextrakt, Chlorella, Bromelain, Papain, Brokkolisprossensaftpulver, Sonnenblumenlecithin, Ingwerwurzelstockextrakt, Coenzym Q10, Rosmarinblattsaftpulver, Löwenzahnblattpulver, Bockshornkleesamenextrakt, Süßungsmittel: Steviolglycoside, Lebende Darmbakterien.

Freeze dried powders

Alfalfa extract (Canavanine toxicity)

Milk thistle extract (Silychristin blocks thyroid hormone uptake)

Grapefruit extract (drug-drug interaction of naringin)

Examples of Superfoods - Supplements

AG1

ZUR UNTERSTÜTZUNG DER NÄHRSTOFFVERSORGUNG 75 Vitamine, Mineralstoffe, Botanicals, lebende Kulturen und	Vitamin C (ascorbic acid)	420mg	467%
	Vitamin E (as d-alpha tocopherol succinate)	83mg	553%
	Thiamin (Vitamin B1)(as thiamine hydrochloride)	3mg	250%
	Riboflavin (Vitamin B2)	2mg	154%
	Niacin (as nicotinic acid, nicotinamide)	20mg NE	125%
	Vitamin B6 (as pyridoxine hydrochloride)	3mg	176%
	Folate (as 5-MTHF)	680mcg DFE	170%
	Vitamin B12 (as methylcobalamin)	22mcg	917%
	Biotin (Vitamin B7)	330mcg	1100%
	Pantothenic acid (as calcium pantothenate)	4mg	80%

107 € / 360 g

Megadose supplement

Examples of Superfoods - Supplements

Unknown dosing of single extracts

AG1

eleuthero (*Eleutherococcus senticosus*) root extract (10:1), rosemary leaf extract (4:1), milk thistle seed extract (70:1), R,S alpha-lipoic acid, ashwagandha (*Withania somnifera*) root extract (5:1), dandelion whole plant dry concentrate (4:1), hawthorn berry extract (10:1), beta glucans, policosanol,

Withania somnifera (thyroid hormone interaction, abortion)

Milk thistle-extract (Silychristin blocks thyroid hormone uptake)

107 € / 360 g

Comparison of selected ingredients in exotic and local superfoods

Ingredient	Content
Fatty acids (SFA MUFA PUFA)	
Avocado raw (<i>Persea americana</i>)	2.13 g 9.8 g 1.82 g / 100 g ¹⁾
Walnuts (<i>Juglans regia</i>)	6.13 g 8.93 g 47.2 g / 100 g ¹⁾
Protein	
Quinoa uncooked (<i>Chenopodium quinoa</i>)	14.1 g / 100 g ¹⁾
Millet raw (<i>Panicum miliaceum</i> L.)	11 g / 100 g ¹⁾
Oats raw (<i>Avena sativa</i>)	13.2 g / 100 g ¹⁾
Vitamin C	
Goji berries dried (<i>Lycium barbarum</i> L.)	48.4 mg / 100 g ¹⁾
Black currants raw (<i>Ribes nigrum</i>)	181 mg / 100 g ¹⁾
Blackberries raw (<i>Rubus</i> spp.)	21 mg / 100 g ¹⁾



Comparison of selected ingredients in exotic and local superfoods

Ingredient	Content
Iron	
Quinoa uncooked (<i>Chenopodium quinoa</i>)	4.57 g / 100 g ¹⁾
Millet raw (<i>Panicum miliaceum L.</i>)	3.01 g / 100 g ¹⁾
Oats raw (<i>Avena sativa</i>)	4.25 g / 100 g ¹⁾
Folate	
Moringa leaves raw (<i>Moringa oleifera</i>)	40 µg / 100 g ¹⁾
Kale raw (<i>Brassica oleracea var. acephala</i>)	62 µg / 100 g ¹⁾
Anthocyanins (flavonoids; phytochemicals)	
Açaí berries raw (<i>Euterpe oleracea</i>)	111 mg / 100 g ²⁾
Blackberries pressed (<i>Rubus spp.</i>)	153 mg / 100 g ³⁾
Wild cherry (sweet cherry) raw (<i>Prunus avium</i>)*	2-463 mg / 100 g** ⁴⁾
Sources: 1) USDA; 2) Rufino et al. 2010; 3) Wang & Lin 2000; 4) Martini et al. 2017	
*different varieties ** cyanidin-3-glucoside-equivalent	

Exotic Superfoods vs. Regional Alternatives


Exotic	Regional	Ingredients	Health benefit	Studies
Chia seeds	Linseeds	Omega-3-fatty acids	Anti-inflammatory, CVD	Good evidence
Acai berries	Blackberries	Anthocyanins, Vitamin C	Blood sugar lowering, Dementia	Low evidence
Avocado	Walnuts	MUFA/PUFA, Vitamines B, E, K, C, Minerals	Anti-atherosclerotic, CVD	High evidence (for nuts)
Goji berries	Sea buckthorn	Vitamin C	Common cold	Low evidence
Quinoa	Millet, Oats	Proteines, Iron, Gluten free	Vegan diet	Good evidence

Contaminated Superfood

SUCHE  **DIE WELT**  **ABONNEMENT**




Home Politik Wirtschaft Geld Sport Wissen Panorama Feuilleton ICON Reise PS WELT Regional Meinung Videos Markt


Wissen > Superfood: "Öko-Test" findet Mückengift im Kakaopulver

WISSEN SUPERFOOD  01.04.16

"Öko-Test" findet Mückengift im Kakaopulver

Chiasamen, Gojibeeren oder Acaipulver: Diese Lebensmittel gelten als Gesundheitsgaranten. Nun hat das Verbrauchermagazin "Öko-Test" 22 gängige Produkte überprüft – und zwei Drittel durchfallen lassen.

21    3




ANZEIGE

Foto: ps (Jigety)

Kakao (links oben, im Uhrzeigersinn): Acaipulver, Chiasamen und Gojibeeren zählen zu den

MEISTGELESENE ARTIKEL

 **Niedrigzins**
Ahnungslosigkeit kostet die deutschen Sparer Milliarden

Contaminated Superfood

- Polycyclic aromatics
- Microbial contaminations (mould, *bacillus cereus*, enterobacteria)
- Mineral oils (MOAH)
- Pesticides
- Insecticides
- Heavy metals (cadmium, lead)
- Aflatoxins

Out of 21 superfoods (mainly organic)

1 x very good

1 x good

1 x satisfying

3 x sufficient

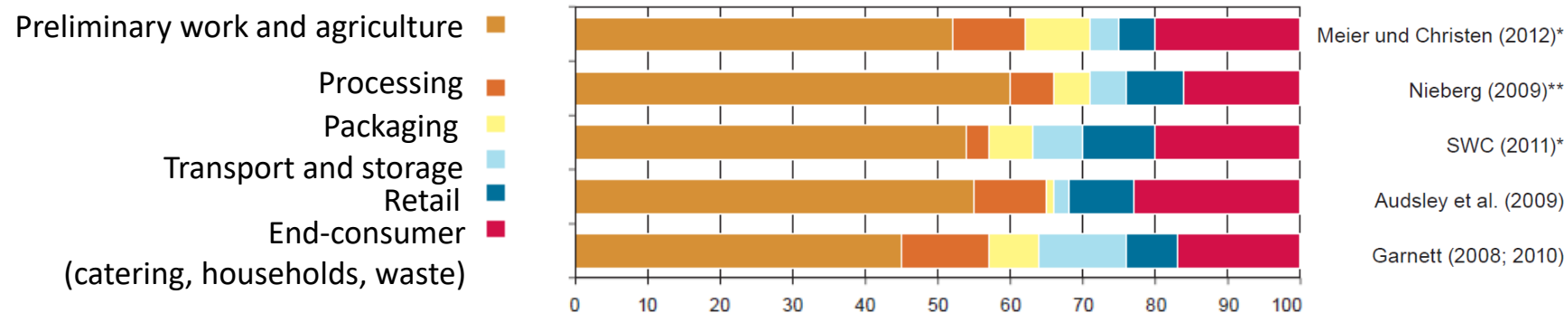
3 x poor

12 x inadequate with 2 market withdrawal

Source: Ökotest, April 2016

CO₂-Emissions of (Super-)food

- Agriculture accounts for 11 to 14 % of all greenhouse gases
- Emissions from industrial processing, packaging, storage and transport
- Emissions from storage, preparation and disposal in households

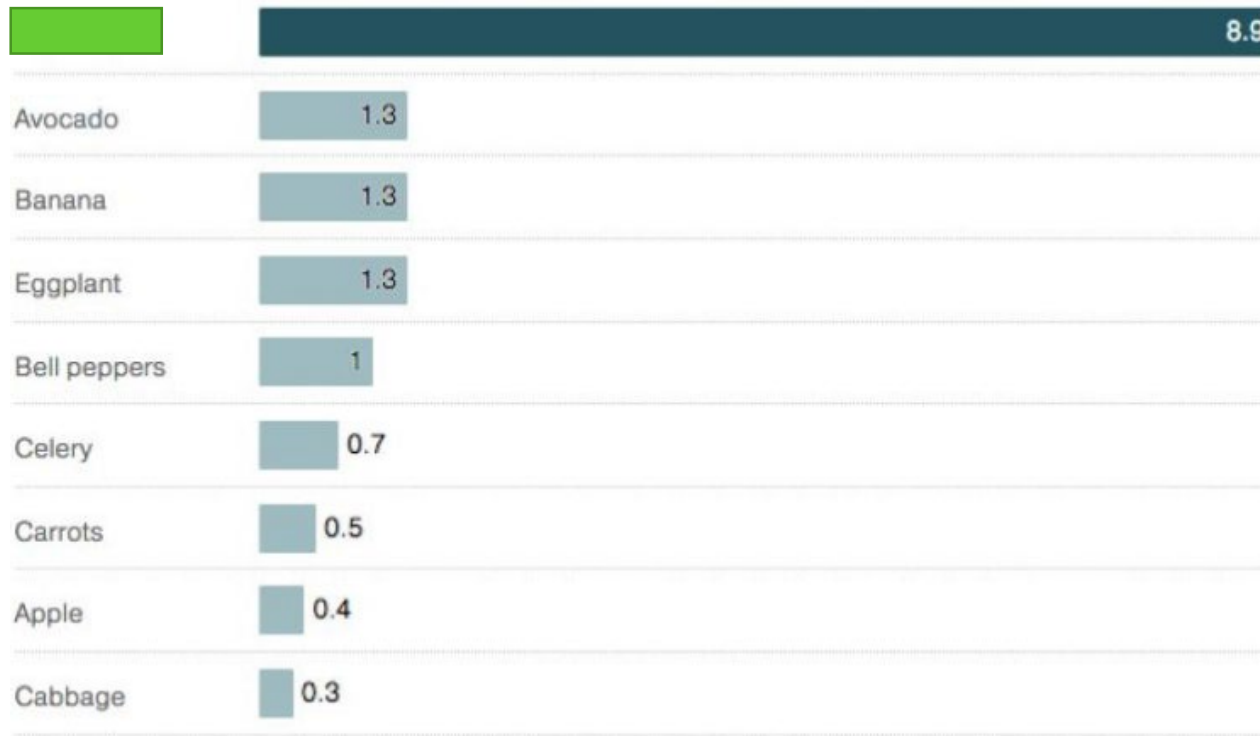


Source: WWF- Klimawandel auf dem Teller

CO₂-Emissions of (Super-)food

Carbon Emissions for Common Fruits and Vegetables

Data in kilograms of CO₂-equivalent per kilogram of food.

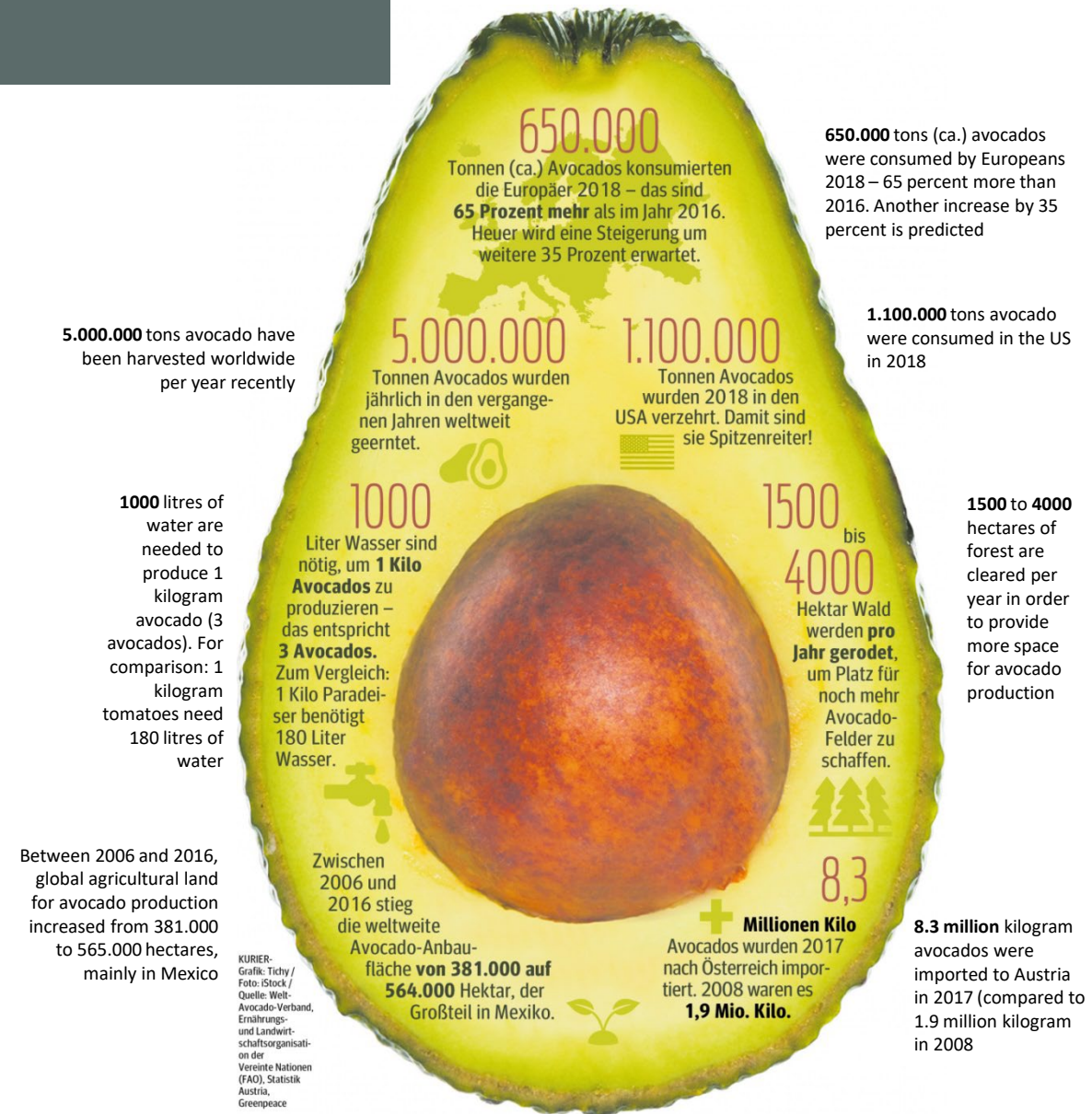


NG STAFF

SOURCE: HELLER, M.C. AND G.A. KEOLEIAN. 2014. GREENHOUSE GAS EMISSION ESTIMATES OF U.S. DIETARY CHOICES AND FOOD LOSS. *JOURNAL OF INDUSTRIAL ECOLOGY*

Sustainability

- Long transport routes
- High CO₂-emissions
- Deforestation
- Contamination with pesticides
- High water consumption
- Food Waste



Conclusion 1:

Consumers recognise superfoods as foodstuff with special (health related) properties.

However,

supplement suppliers „hijack“ the term to promote their products. „Get your Greens“

Conclusion 2:

Marketing with the term „Superfood(s)“ works well!

How can public health authorities or local farmers use the term to promote healthy (mostly plant based) and regional food?

Conclusion 3:

A more precise definition of „Superfoods“

„Superfood“ is a marketing term that is not regulated by food law(s) and describes (expensive) food and food supplements with (mostly) alleged health claims based on poor scientific evidence.

Thank you for your attention!!!

