

Was werden wir in Zukunft essen?

Stefan Töpfl
Hochschule Osnabrück /
Deutsches Institut für
Lebensmitteltechnik e.V.



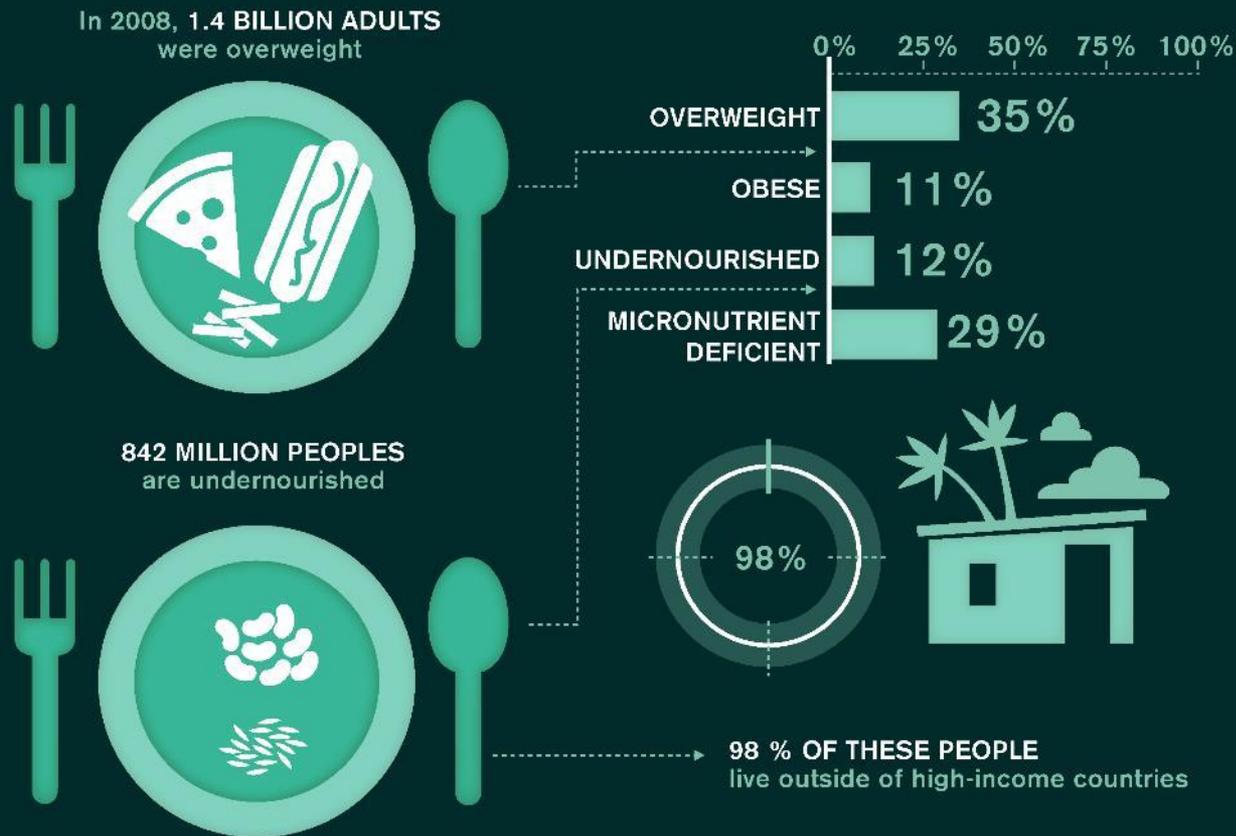
Lebensmittel der Zukunft (1976)



Louis de Funes (acting: Charles Duchemin) in *Brust oder Keule*



Herausforderung Nr. 1: Gesundheit und Hunger



Dietary Energy Availability

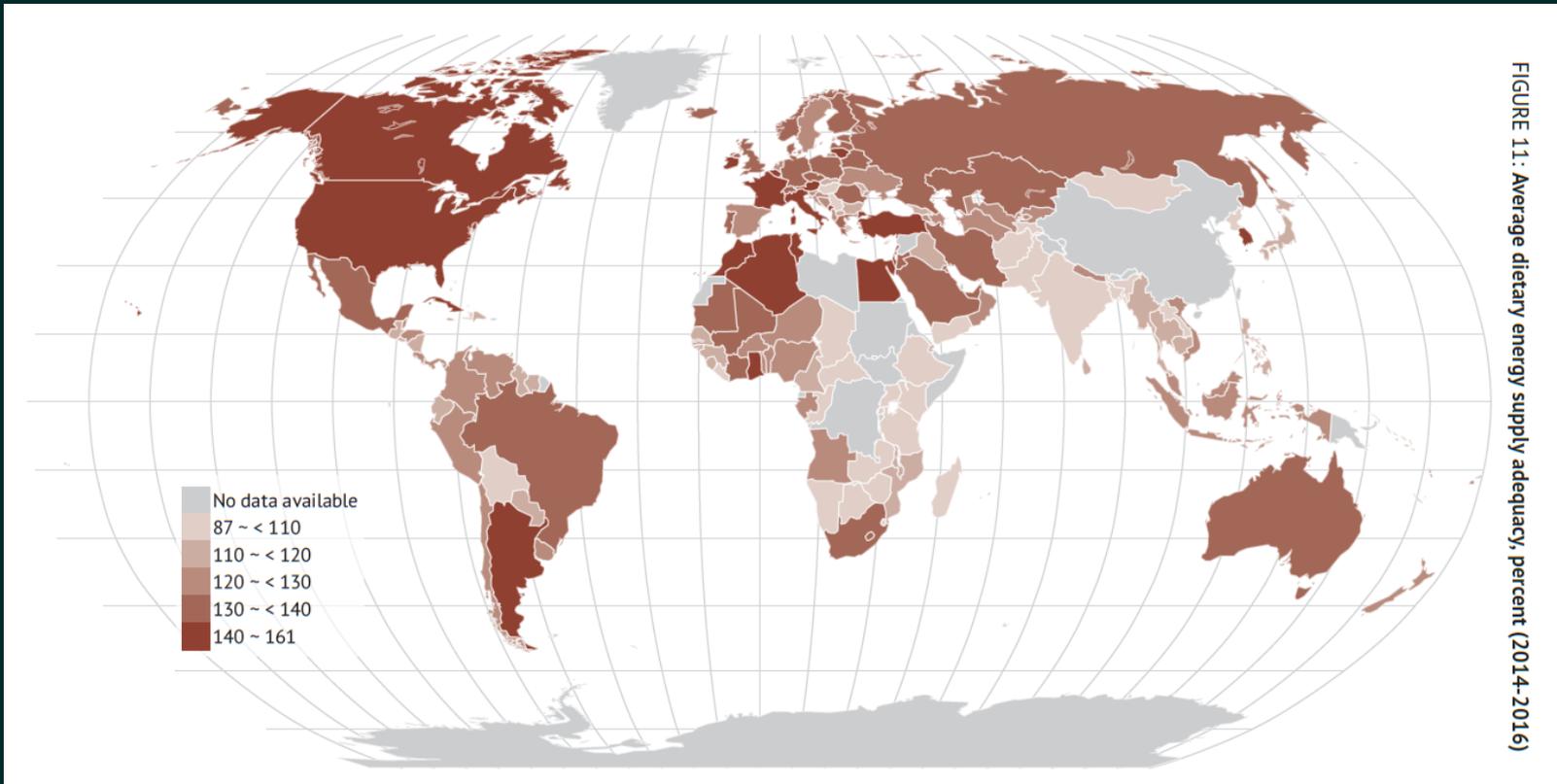
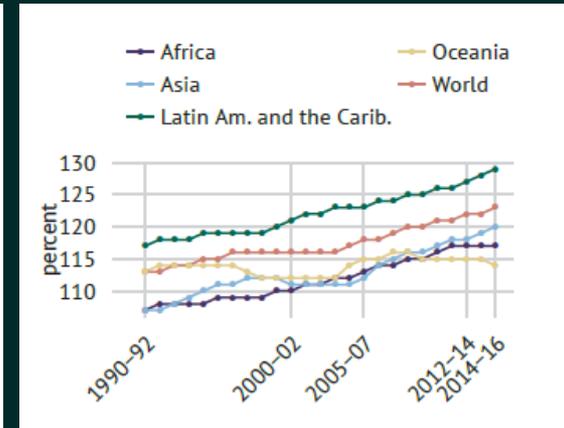
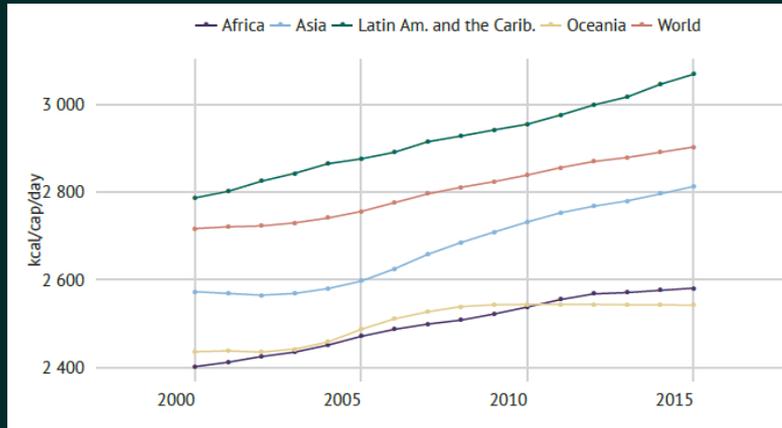
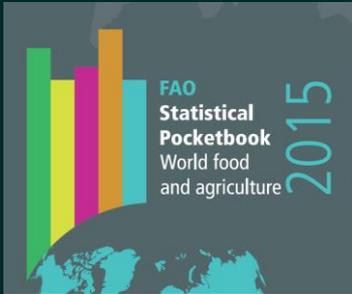
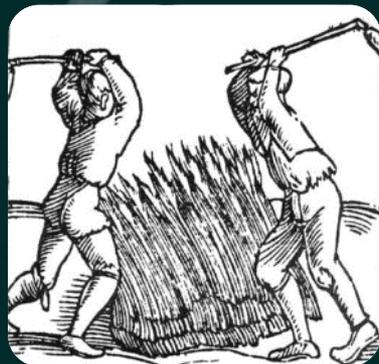
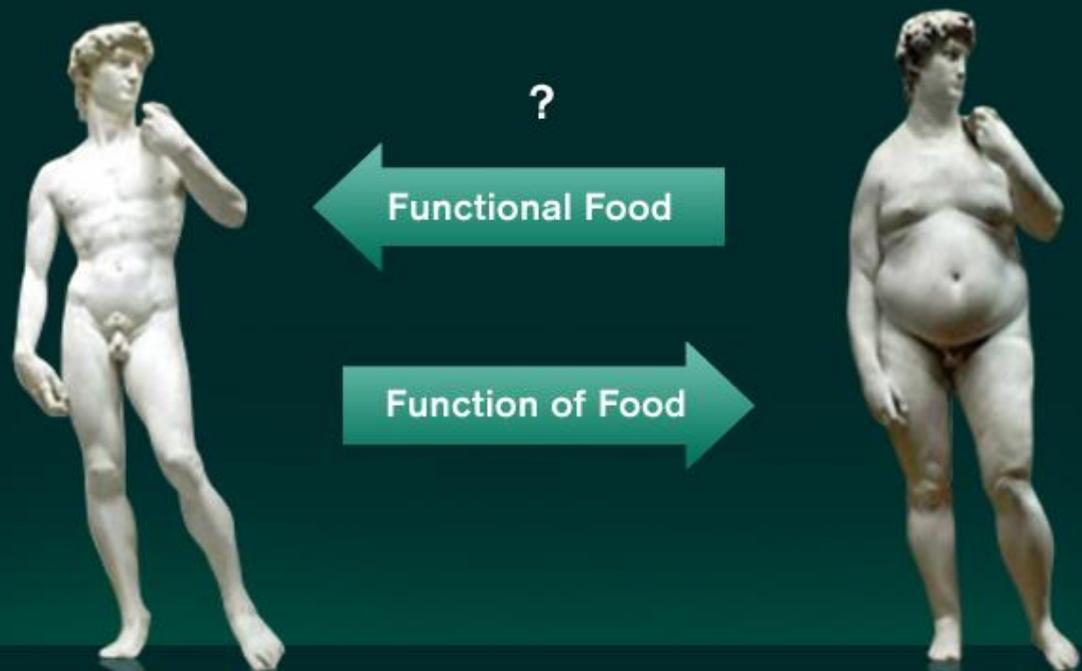


FIGURE 11: Average dietary energy supply adequacy, percent (2014-2016)

Homo sapiens



Herausforderung 2: Konsumententrends



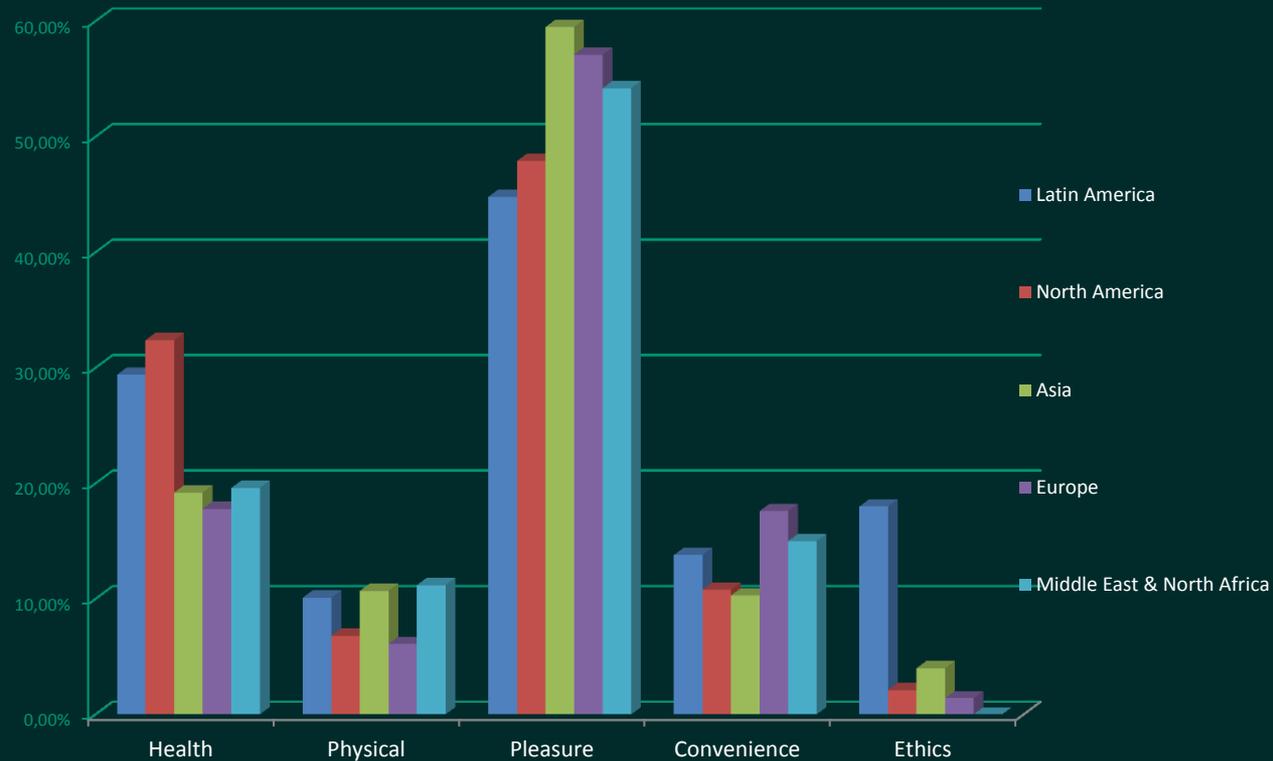
Trends:

Vegetarisch
Vegan
Paleo
Frei-von

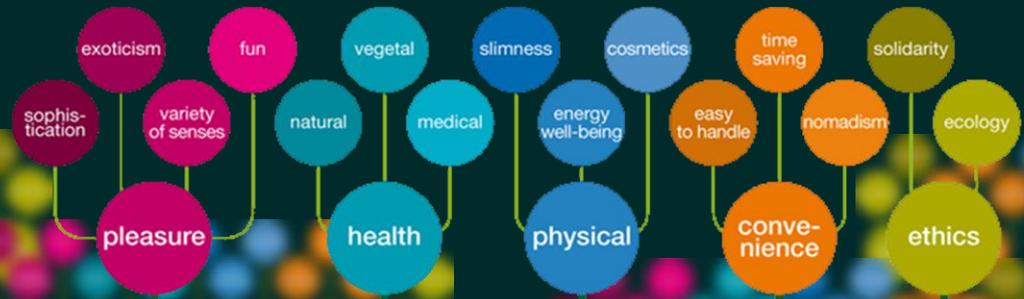
...

Vielfalt und
Verfügbarkeit

Marktdiversifikation



Source: XTC 2014



Innovation (?)



Start-ups sind die Laboratorien der Zukunft

- Veränderungen und Trends entstehen „außen“
- Junge Gründer und Branchenfremde nehmen Veränderungen, Lücken bzw. Schwächen des Systems häufig früher und besser wahr und experimentieren unbefangener
- Sie agieren flexibler und denken nicht in eingefahrenen Bahnen und sind oft näher an den gefühlten, aber nicht messbaren Bedürfnissen der Konsumenten dran.

SMALL PLAYERS, BIG IDEAS



Small companies, addressing niche markets with personal stories and innovative products, are transforming the industry.

SMALL INNOVATORS AMP UP ARTISAN SNACKS

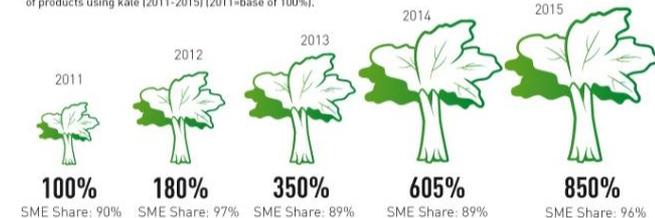
+9% ...increase in global savory/salty snacks product launches containing ancient grains and/or legumes (2015 vs. 2014).

U.S. CONSUMERS ARE OPEN TO BEERS FROM SMALL BRANDS



SMALLER PLAYERS CATAPULTED KALE INTO THE MAINSTREAM

Growth in the use of kale in new products & SME share of products using kale (2011-2015) (2011=base of 100%).



Due to its image as a **super veg**, kale has been on-trend the last few years. Small and medium companies (**SMEs**) have largely been behind its growth, launching products, such as **kale chips** and **kale juice drinks**.

SMALLER COMPANIES: DARING & DISRUPTIVE INNOVATION



Smashpop White Cheddar Popcorn Crisps (US). Popcorn crisps with a white cheddar mashup of popped corn, wholegrains and veggies.



Lesserevil Super Bites Crunchy Baked Nuggets: Roasted Red Pepper (US). "Packed with wholesome ingredients like white bean, brown rice, quinoa, lentils and chia."



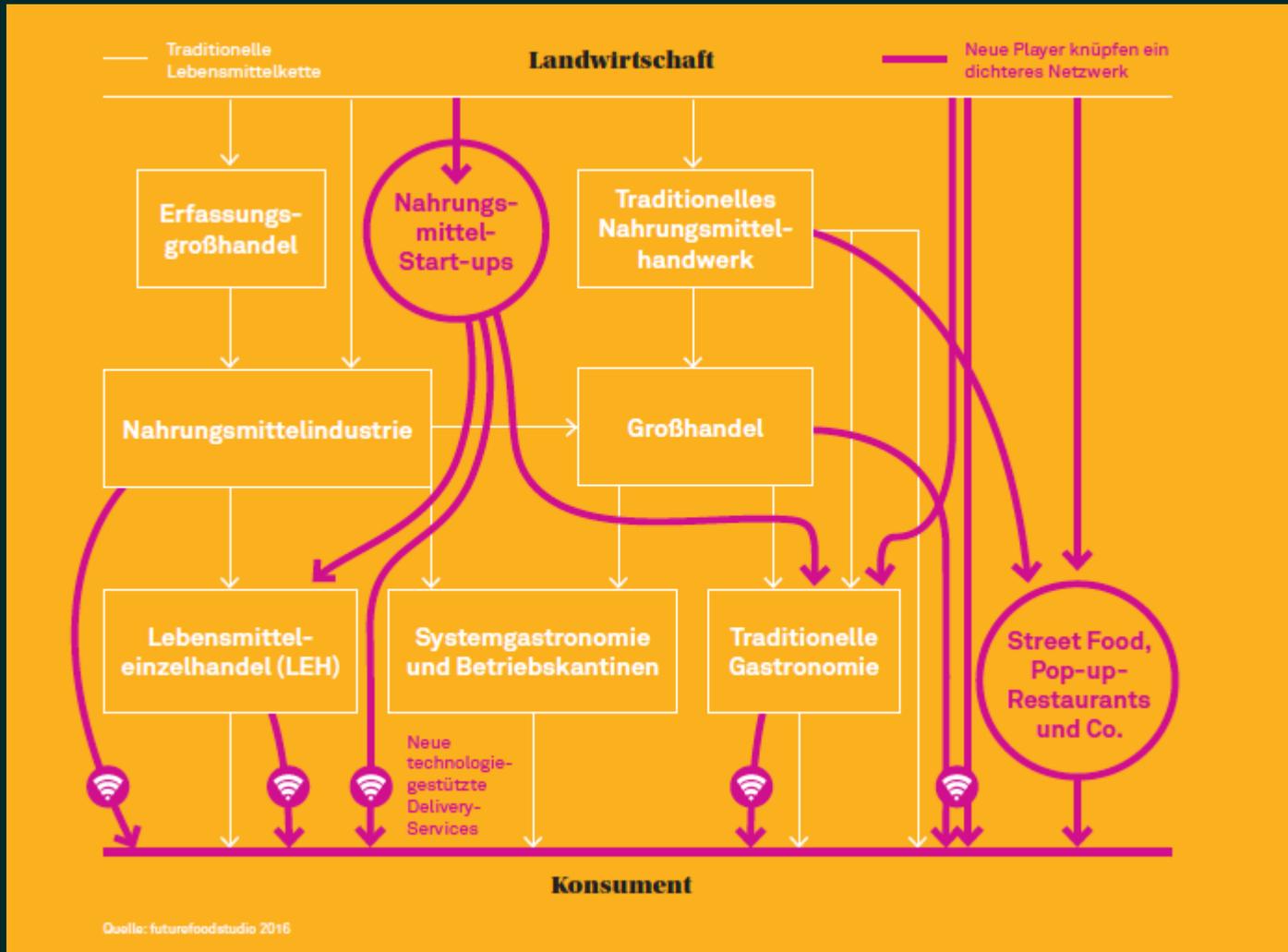
The Juice Lab Carrot Top Fruit Juice (Australia). Premium quality cold-pressed juice of carrot, Goulburn Valley pear, pineapple, paprika and black pepper.



Johnny Doodle Dark Chocolate With Nougat And Cardamon (Netherlands). Dark chocolate with 52% cocoa, pieces of nougat and a hint of cardamon.



The changing chain





Trends – und Gegentrends

- Flexitarier
- Sensual Food und Genuss
- Curated Food
- Regional, Brutal Lokal und Neo-Ökologie
- Erzählen was nicht drin ist
- Beyond Food als Gegentrend
- Re-Use und Sustainability
- Convenience 3.0
- Machzeiten, Küchenchefs = Supermodels



Flexitarian



FLEXITARIANS REIMAGINE MEAT

STRONG GROWTH AND POTENTIAL FOR MEAT SUBSTITUTES

Increasing demand from German consumers is driving rapid innovation in meat substitutes. With 120 million Americans eating meatless meals, this is a huge opportunity in the U.S. as well.

Key platforms for meat substitute patents (Jan 2014-Aug 2015)



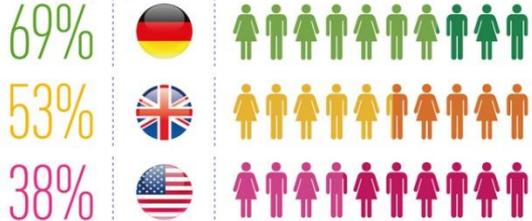
WHAT'S NEXT?



The US based company Impossible Foods offers a burger that has: "the look, feel, smell, sizzle, and most important, the taste of a great burger - but made from plants."

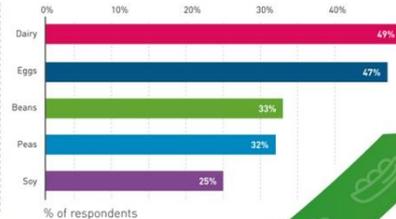
CATERING FOR A LARGER POPULATION: THE FLEXITARIAN

% of consumers that reported eating meatless meals once a week or more:



34% of German consumers say that they have reduced their meat intake over the last 2 years.

% of German consumers say they are interested/extremely interested in these foods & ingredients as alternatives for meat:



DIVERSIFICATION FOR MEAT SUBSTITUTES

Meat substitutes are now available in many formats for varied consumption occasions.



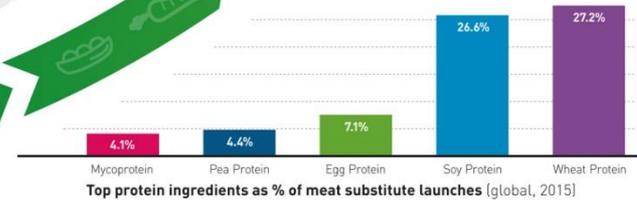
VEGETARIAN IS NO LONGER A NICHE

+24% ...average annual growth in meat substitute launches (global, 2011-2015).



OPPORTUNITIES FOR NEW INGREDIENTS

The majority of meat substitutes are still soy or wheat based. However, products are evolving with alternative ingredients such as egg, pea, ancient grains, nuts and even fruits.



PAST

Sensual Food und Genuss

Zalto SORTIMENT DESIGN EXPERTEN TRADITION PFLEGE KONTAKT
GLASPERFEKTION

„Ich habe nicht geglaubt, dass es auf dem Glasmarkt noch etwas Besseres geben könnte ... Dieses Glas ist es. Zudem hat es etwas Erotisches ...“
Francois Mauss, Präsident der „Grand Jury Européen“.

Das perfekte Glas:
zum Testergebnis >>

DENK`ART
Herzlich Willkommen in einer neuen Genusswelt . *weiter in Deutsch*
welcome to a new world of pleasure . *continue in english*

Kaffee, Wein,
Schokolade als Vorreiter

Genuss als Essprinzip
hat Potenzial, muss aber
prüfbar und begründbar
sein

VALRHONA
HOME PRODUCTS GOURMETS VALRHONA'S UNIQUENESS

Since 1922, Valrhona, supreme chocolate maker, has been making each taste a special

GRANDS CRUS FOR TASTING

A range of unique flavors : 16 Chocolate Grands Crus to taste.

- Grands Chocolats Gourmet Bars
- Grands Chocolats Bars
- Grands Chocolats Sticks
- Grands Crus Gift Boxes
- Estate Grown Chocolates

GRANDS CRUS FOR BAKING

The expert chocolate collection devoted to connoisseurs and chocolate lovers.

- Mini-Blocks for baking
- Bags of Beans - 1kg
- 1 kg Block - Le Noir 61%
- Celaya Hot Chocolate
- Pastry Ingredients

EQUIN The pure coated d Nibbl Gift t

Zalto, Valrohna, Innova Market Insights, 2016

THE INDULGENCE ALIBI

Health conscious consumers are being spoiled for choice with a wide variety of products offering permissible indulgence.

INDULGENT & PREMIUM IS STILL GOING STRONG

+5% ...increase in global product launch activity with an indulgent and premium positioning (2015 vs. 2014).

SNACKING GUILT IS A GLOBAL CONCERN

% of consumers who claim to: "usually/always feel guilty when I snack."

NEW HEALTH ANGLES APLENTY FOR CHOCOLATE

Global chocolate product launches with at least one health positioning, as percentage of total chocolate product launches.

HEALTHY INGREDIENTS: THE SAVIOR FOR SAVORY SNACKS?

Global savory/salty snacks product launches, selected ingredients growth (2015 vs. 2014)

+67% KALE	+22% FLAXSEED
+28% CHICKPEAS	+9% PUMPKIN SEEDS
+25% SEAWEED	+3% CHIA

NEW GENERATION SNACKS FOR PERMISSIBLE INDULGENCE

HALO
Almond

Ocean's Halo The Seaweed Strip With Almond Flavor (US). Bold and savory crispy roasted seaweed loaded with sliced almonds.

Natasha's Kale Crunchies
With Lemon And Pepper (Ireland).

Dried kale seasoned with sunflower seeds, lemon, spices and seaweed.

Govinda Apple And Chia Fruit Balls (Germany).

Fruit balls made from apples, buckwheat sprouts and chia seeds, with baobab powder and lemon oil.

TANKA
Buffalo Cranberry Bites And Blueberry Almond Trail Mix (US).

With pecans and pumpkin seeds.

Sensual Food und Genuss



ter
Services - L dil_lab

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NEWS CAFFEINE NATION

Now There's Packaged Water Specifically Formulated for Your Morning Coffee

by Chris Fuhrmeister Aug 3, 2016, 7:30p @ccfuhr | 2 COMMENTS

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Don't ruin that cup of joe with inferior water

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amazon BASE
*Bedingungen gelten

MOST READ

1

10 of the Rarest Fast Food Items in America

2

The Outback Special

3

Watch: A Boxed Lunch That Has People Lining Up at 6 a.m.

4

Millionaire Football Player Stiffs

Curated Food

Welcome (find a store) FIND A STORE ON SALE RECIPES SHO



HEALTHY EATING MEAL PLANS

Planning your meals ahead saves time and money — and your sanity. Don't worry. We'll get you started. Here are six Health Starts Here® complete-week meal plans for you to choose from, plus great time-saving tips.

ÜBER TRY FOODS



TRY FOODS HILFT IHREN PRODUKTE ZU FINDEN, DIE IHREN SCHMECKEN!
 Que Lebensmittel zu probieren ist ein wunderbares, sinnliches Erlebnis. Zu wissen, woher die Produkte kommen, wie sie hergestellt werden und wer die Menschen sind, die sich damit beschäftigen, bewirkt ein besseres Verständnis davon, was wir essen.
 Doch wie kamme ich an diese Informationen und wie erhalte ich eine Auswahl an hochwertigen Produkten? Hier werden die Probierkits von TRY FOODS an. Sie kombinieren ein kostenloses Probierlebnis mit einem informativen Zugang zum Produkt. Jedes TRY Set beschließt sich mit ausschließlich einem Lebensmittel und beinhaltet neben fünf Proben desselben ein ausführliches Booklet mit wesentlichen Informationen, praktischen Tipps und persönlichen Geschichten.
 Unser Ziel ist es, handwerklich hergestellte Lebensmittel vorzustellen und einen Einblick in die Welt hochwertiger Produkte zu verschaffen. Dazu begleitet dich TRY FOODS auf eine Entdeckungsjahre für namhafte und Zeit, das jeweilige Produkt richtig kennen zu lernen. Wir recherchieren, sprechen mit Experten, probieren und finden geeignete Produzenten.

MACHEN SIE EINFACH EINE VERKOSTUNG ZU HAUSE!

EINFACH SELBER KOCHEN

DIE NEUE ART ZU KOCHEN

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DAS KOCHHAUS-KONZEPT



UNSERE AKTUELLEN LIEBLINGSREZEPTE



HEALTHY COMFORT FOOD MEAL PLAN

ng for comfort food? Our versions of classic meals are loaded whole grains and colorful vegetables. From creamy stroganoff to brownies, you'll find all the flavors and textures you love — with imum of salt, sugar and extracted oils. Plus, this clever plan is ned to help you make the most of leftovers, so you can take



PLANT-ASTIC PLANT-BASED MEAL PLAN

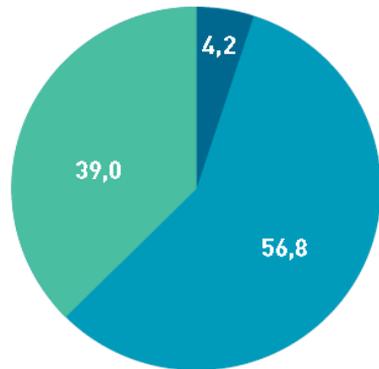
Whether you're a seasoned vegan or a confirmed carnivore, this plant-centric meal plan is sure to delight and satisfy. From hearty cauliflower steaks to spicy shiitake pho, our recipes celebrate versatile vegetables beyond the salad bowl!

Check out the [Plant-astic Plant-Based meal plan](#)

Überfluss und unüberschaubare Vielfalt



Bio, Regional, Brutal Lokal und Neo-Ökologie



- Organisch / Organic
- Regionale Herkunft / Regional origin
- Beides ist von gleicher Bedeutung / Both of equal importance

Unterschiede in...
Differentiation in...

Lieblings-
geschmack /
Favourite
tastes

Essgewohn-
heiten /
Eating habits

Produkte /
Products

Hersteller /
Producer

Auch die Einzelhändler befassen sich mit Regionalität · Retailers also deal with regionality

REWE Südwest will regionaler werden.
REWE Südwest wants to become more regional.

LZ 38, 19.09.2014, S.4/ Handel

Edeka, die neue regionale Marke.
Edeka, new regional brand.

LZ 39, 26.09.2014, S.1

Garden Farming, Brutal Lokal und Neo-Ökologie



Regional ist inflationär
verkommen – brutale
Zuspitzung

ICON
STILMAGAZIN

Wird das Deutschlands radikalstes Restaurant?

Von Lorraine Haist
Redakteurin

10.02.15

[Alle Artikel von mir](#) [Kontakt](#)

Das Berliner Restaurant "Nobelhart & Schmutzig" hat einen Hang zum Derben – und das Potenzial, Deutschland als internationale Food-Destination zu



ABOUT PRAISE DAN BARBER PRESS APPEARANCES

THE THIRD PLATE

FIELD NOTES ON THE FUTURE OF FOOD

PURCHASE

DAN BARBER is the Chef of Blue Hill, a restaurant in Manhattan's West Village, and Blue Hill at Stone Barns, located within the nonprofit farm and education center, Stone Barns Center for Food & Agriculture. His opinions on food and agricultural policy have appeared in the New York Times, along with many other publications. Barber has received multiple



Erzählen was nicht drin ist



Free from als Segen und Teil einer fortschrittlichen Weltanschauung
Immaterieller Mehrwert mit Aufpreisbereitschaft

Rewe, Arla, Innova Market Insights, 2016

FREE FROM FOR ALL



Most major cereal manufacturers now have gluten free lines, while lactose free NPD is shaking up the dairy category.

"LACTOSE FREE" CLAIMS ENJOY A SURGE IN NPD

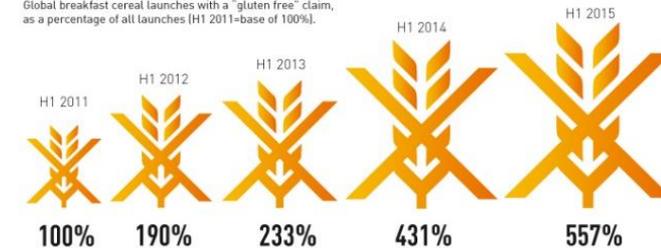
+35% ...increase in global dairy product launches tracked with a "lactose free" claim (2015 vs. 2014).

U.S. CONSUMERS ASSOCIATE GLUTEN FREE WITH HEALTH

29% ...of U.S. consumers say their primary reason for choosing gluten free products is "because they are healthier."

GLUTEN FREE GAINS FOR BREAKFAST CEREALS

Global breakfast cereal launches with a "gluten free" claim, as a percentage of all launches (H1 2011=base of 100%).



"OTHER" DAIRY ALTERNATIVES OFFER MORE CHOICE

+335% ...increase in non-soy dairy alternative launches tracked globally (H1 2015 vs. H1 2011).

BIG BRAND INNOVATION: A TOTAL FREE FOR ALL





Beyond Food



Techies und Veggies treiben das
Doublen von Lebensmitteln voran –
Ersatzprodukte werden Teil des
Mainstreams



Convenience 3.0





Konsumententrends

Bezug zur Lebensmittelverfahrenstechnik

- Ressourcen- & produktschonende Haltbarmachungsverfahren (Convenience, Gesundheit)
- Stabilisierungstechnologien (Regionalität, Saisonalität)

Produktschonende Haltbarmachung

Technologische Möglichkeiten



Alternative technologies for food processing → great potential to provide food with superior quality, while delivering comparable shelf-life

Only few commercialized so far:



High pressure processing
(HPP)

“cold pasteurisation”



Pulsed electric fields
(PEF)

very short treatment and
holding times

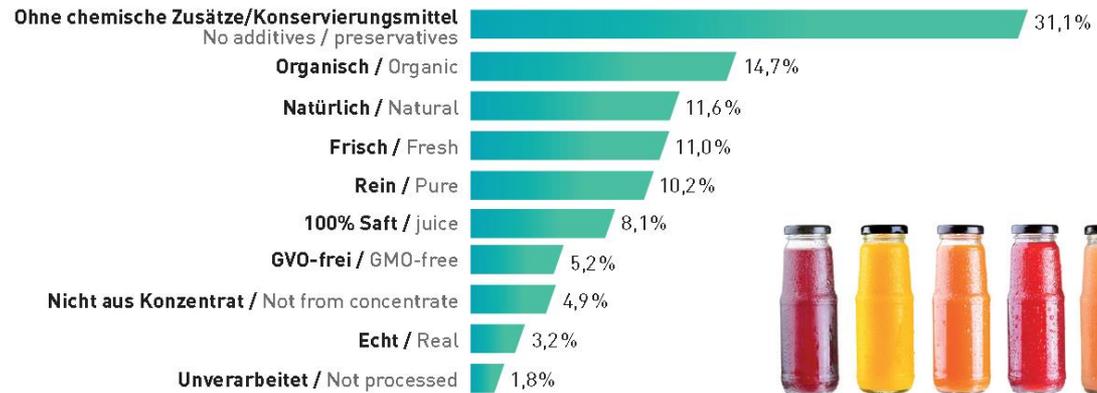
Cold press

Cool Juice

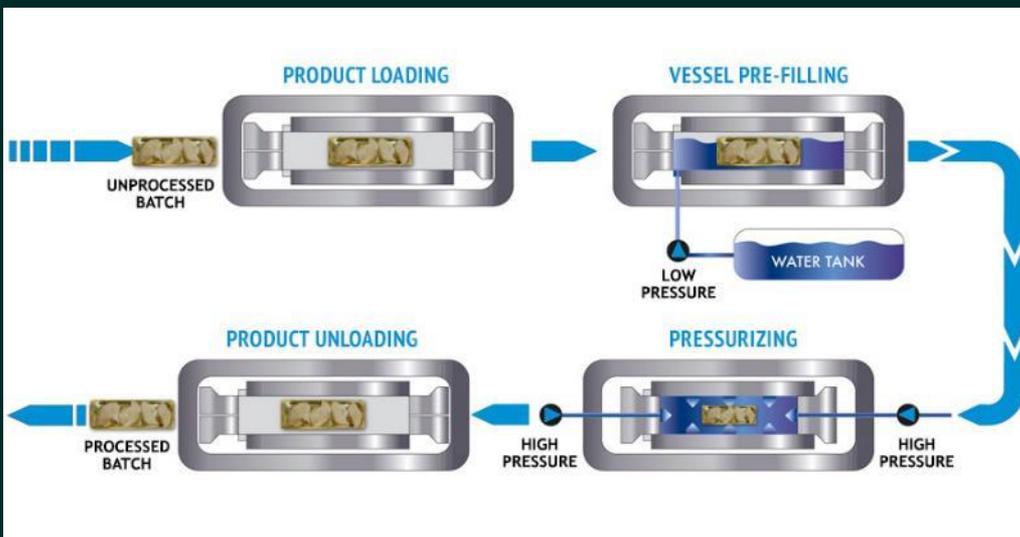
Hochdruckbehandlung



MARKTANTEILE VON FRUCHTSÄFTEN NACH CLAIM SHARE OF JUICE DRINK LAUNCHES PER CLAIM 2014



Quelle / Source: Innova Market Insights, 2015. Foto / Picture: IStock



Hochdruckbehandlung



Hiperbaric, Innova Market Insights, 2016

PROCESSING, THE NATURAL WAY



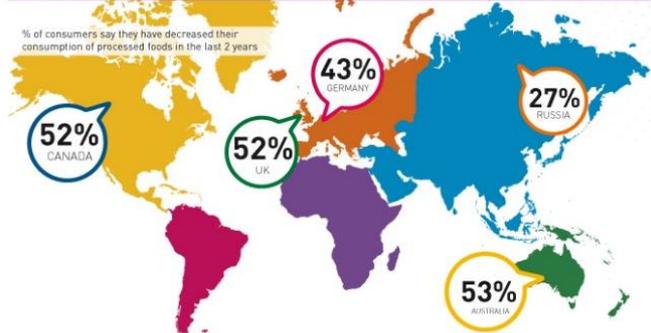
Age-old processing methods such as fermentation are enjoying a resurgence. Being natural, they are easier for consumers to understand.

BUBBLING NPD FOR FERMENTED NON-DAIRY DRINKS

+20%

...CAGR growth in global product launch activity for fermented non-dairy drinks (2011-2015).

STRONG RESISTANCE TO MODERN DAY PROCESSED FOODS



FERMENTED NPD IS INTENSIFYING

Global growth for selected fermented product launches (2015 vs. 2014)



COLD PRESSED: MODERN PROCESS WITH NATURAL APPEAL

+64%

...CAGR growth in global cold pressed juice launches (2011-2015). Almost 40% of global cold pressed juice launches tracked in 2015 had an organic positioning.

PICKLED/FERMENTED INGREDIENTS BRING MORE FLAVOR



Tesco Sauerkraut Slaw Deli Salad (UK). Shredded cabbage, carrot and onion in a cider vinegar dressing.



Annie Chuns Soup Bowl Miso (US). Cooked upon noodles with tofu and scallions in a rich blend of miso.



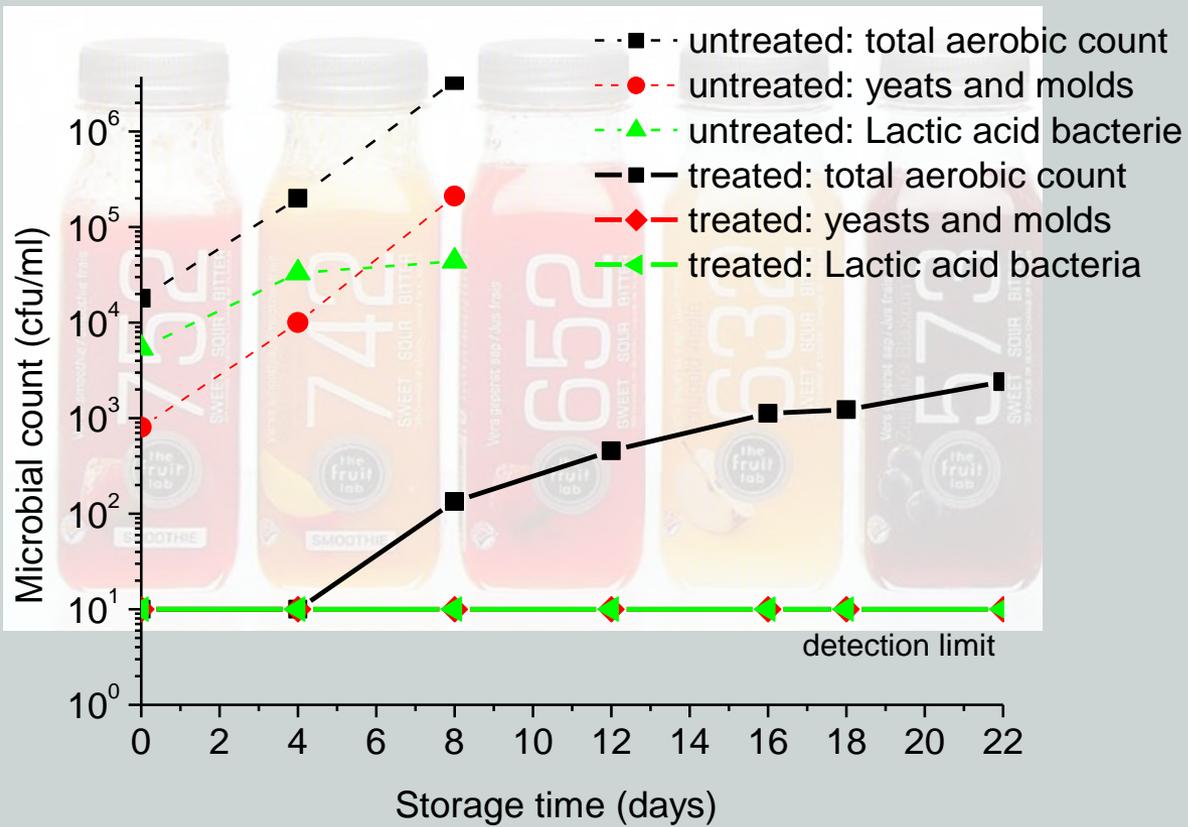
Carrefour Les Brasseries Porc Marengo Pork And Mashed Potato (France). Prepared marengo pork dish made with pickled tomatoes, white wine and garlic.



Tulkooff Spicy Kimchi Aoli With Cilantro, Garlic And Cabbage (USA). This signature Korean flavor has been carefully formulated into a unique smoky, slightly sweet and spicy aoli.



Gepulste elektrische Felder





Gepulste elektrische Felder

FRESHER TASTE, BETTER COLOUR AND
LONGER SHELF LIFE WITH ELEA COOLJUICE™



**Fresh
Green Juice**

3-4 days shelf life



**Thermally
Treated**

Colour loss
Lower nutritional value
Reduced quality

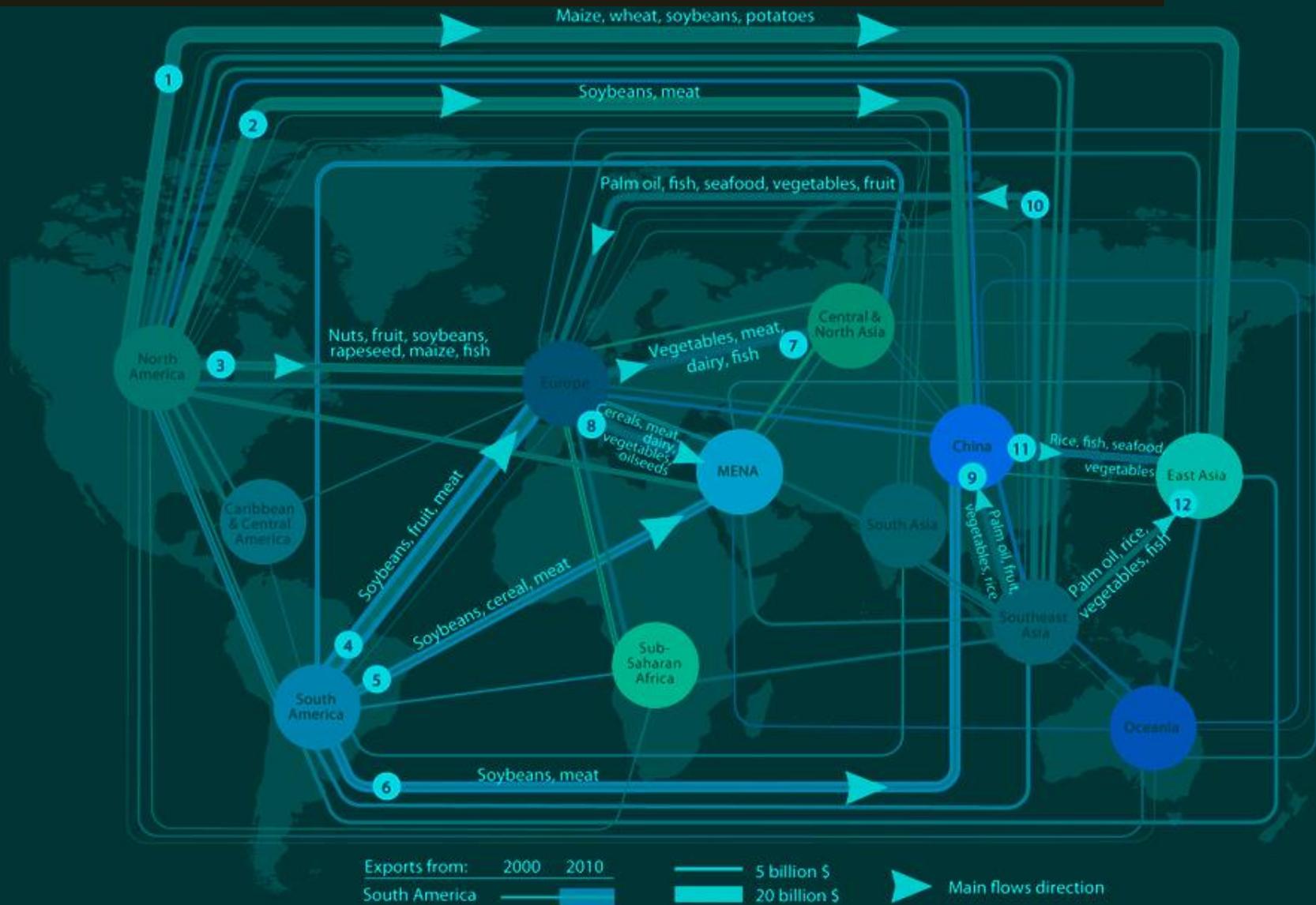


**PEF-treated
with Elea CoolJuice™**

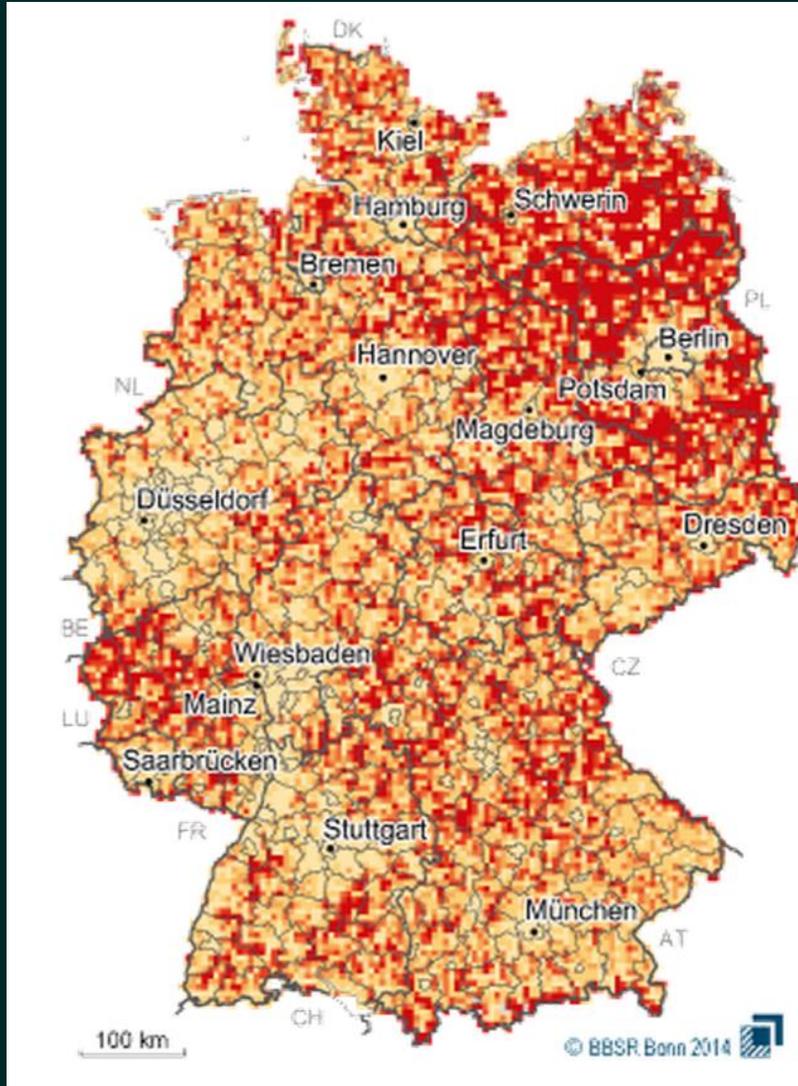
Fresh taste
Bright colour
Extended shelf life
Increased market reach
Low temperature processing
Retained nutritional value
Energy savings



Herausforderung Nr. 3: Urbanisierung, Logistik und Automatisierung



Distribution



Nahversorger

Einwohnerge-
Luftliniendi-
zum nächst-
oder Discou-

- 1.000
- 2.000 bis unter 3.000
- 3.000 bis unter 4.000
- 4.000 bis unter 5.000
- 5.000 und mehr

Min: 210m
Max: 14.900m

Datenbasis:
Laufende Raum-
beobachtung d-
Wer-zu-Wem-V-
Geometrische
5x5km Rasterzellen
Bei der Berechnung
wurden Gewässerflächen
aus dem ATKIS Basis
DLM als topographische
Barrieren berücksichtigt.
Bearbeitung: M. Burgdorf



Zentralisierung der Produktion



Dezentralisierung der Produktion



Transmitter Brewing Photo: Miguel Rivas

Brooklyn Brewery was just the beginning. Thanks to the rise of local microbreweries with on-site taprooms, it's possible to embark on the hops-and-malt-driven equivalent of a wine-tasting weekend in Napa without

**Die Lebensmittelproduktion kommt zurück zum Kunden:
Kleinskalige Produktionskonzepte
Beispiel: Mikrobrauereien in New York**

Produktionskonzepte der Dezentralisierung



Rooftop Vegie Production



Fassade Algae Cultivation



Factory in a container



Kitchen Garden

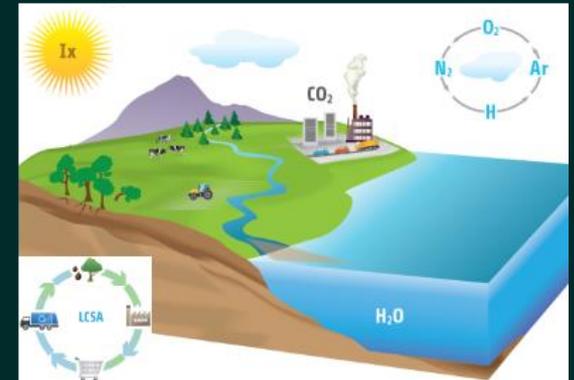


First Lady Michelle Obama harvests vegetables with students in the White House Kitchen Garden on the South Lawn, May 28, 2012. (Official White House Photo by Chuck Kennedy)

Urban Livestock



Life cycle assessment



Automatisierung



Gründe für eine Automatisierung

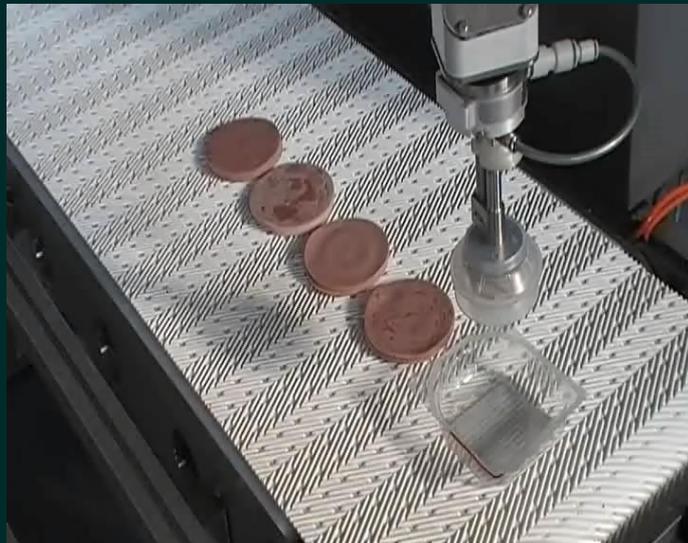
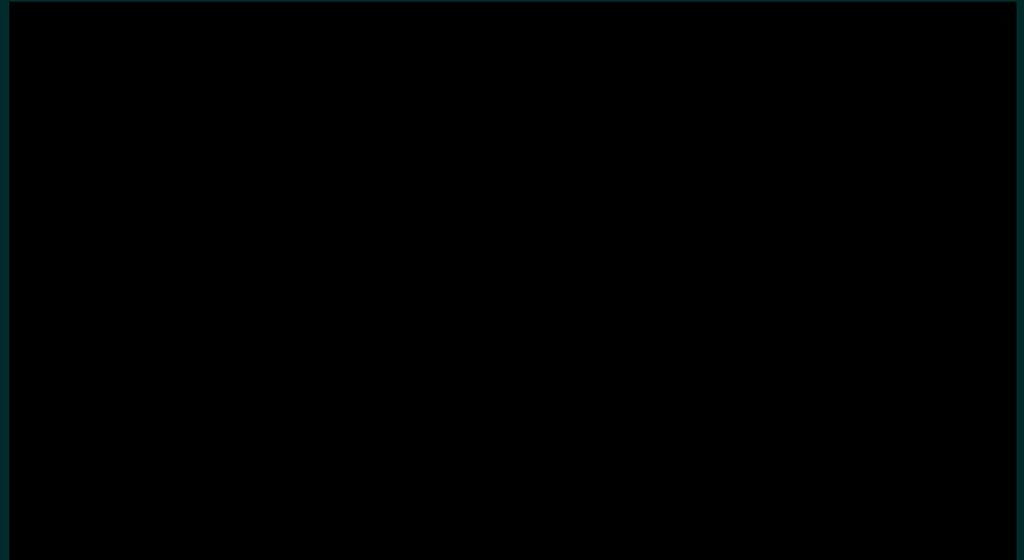
- Kosten
- Arbeitsbedingungen
- Hygiene

Bedarf:

Entwicklung lebensmitteltauglicher Greifer

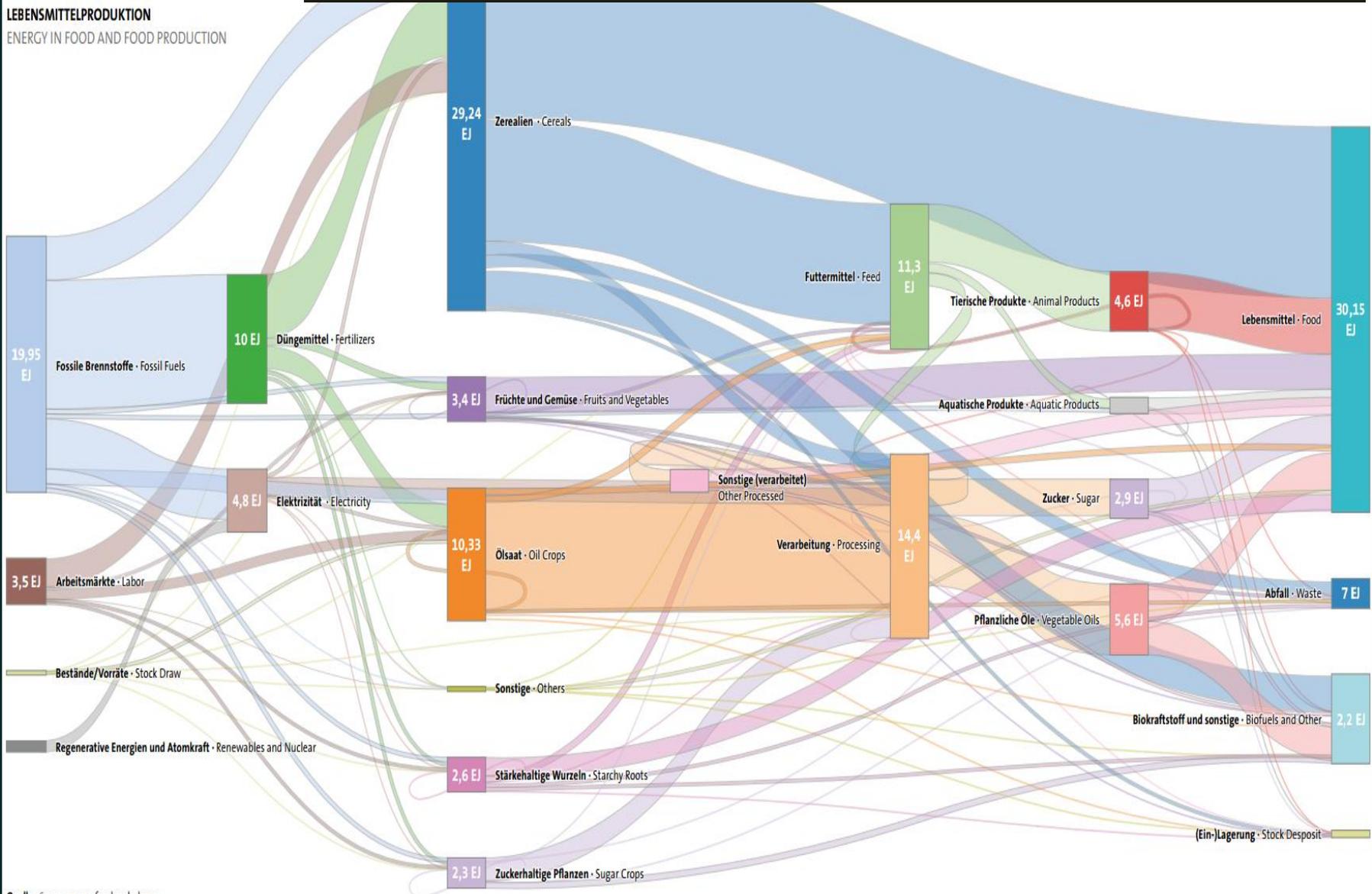


Greiferentwicklung

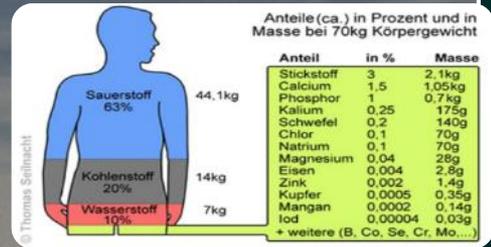


Herausforderung Nr. 4: Energie und Umwelt

Abbildung 5 • Figure 5
 ENERGIE IN LEBENSMITTELN UND IN DER
 LEBENSMITTELPRODUKTION
 ENERGY IN FOOD AND FOOD PRODUCTION



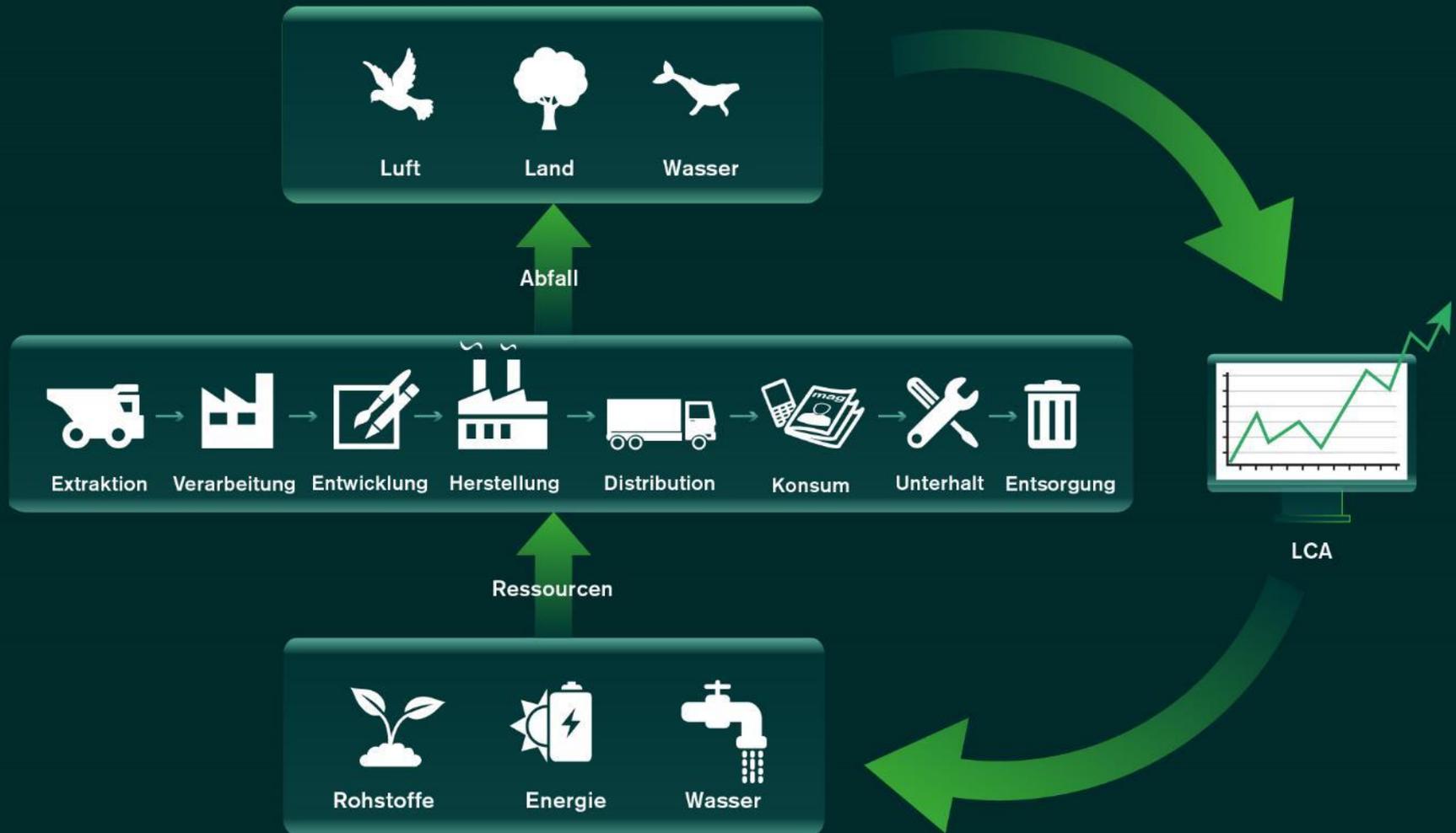
Landwirtschaft im 20. Jahrhundert





ÖKOBILANZIERUNG

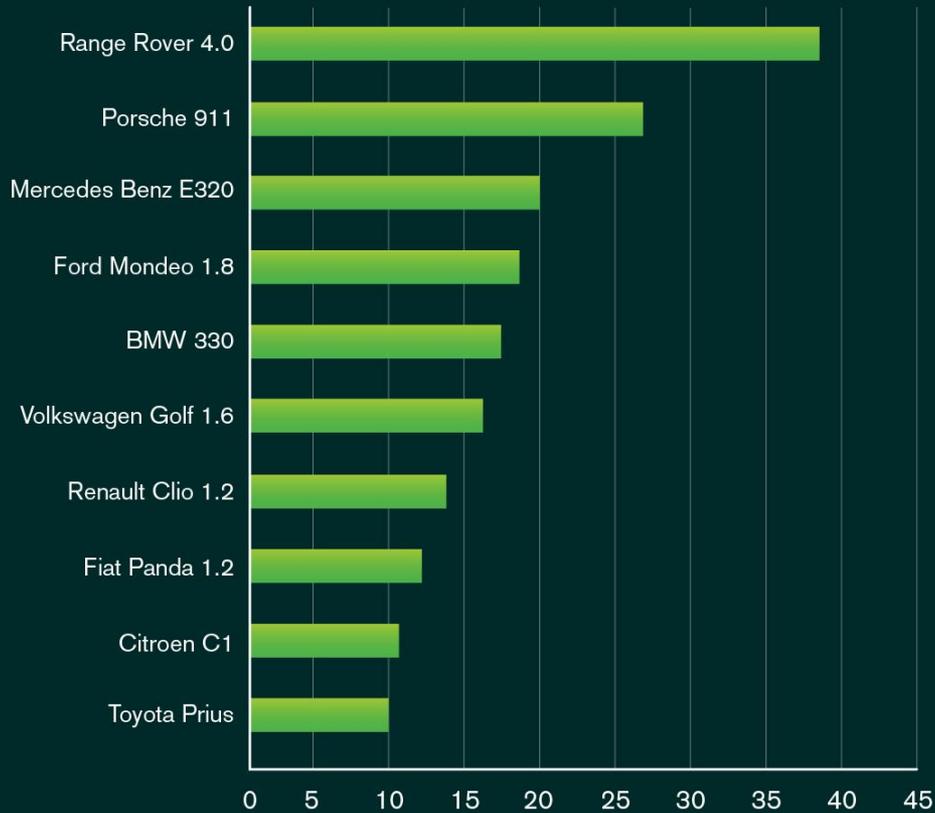
LIFE CYCLE ASSESSMENT IM ÜBERBLICK



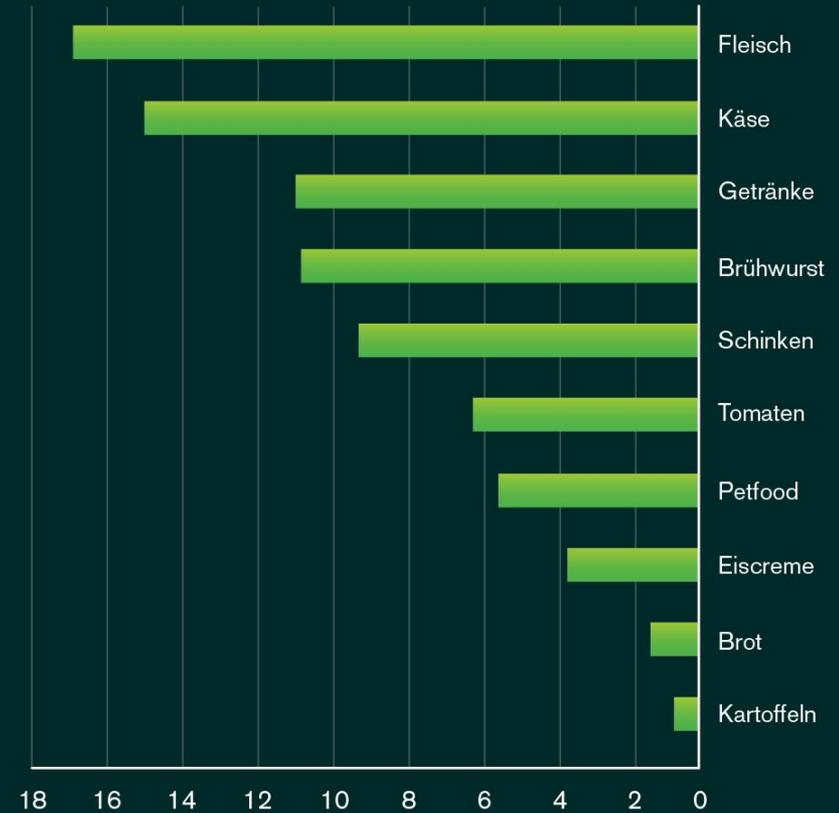


PKW VS. LEBENSMITTEL

CO₂



Treibhausgasemission in Kilogramm pro gefahrene 100 Kilometer (kg CO₂)

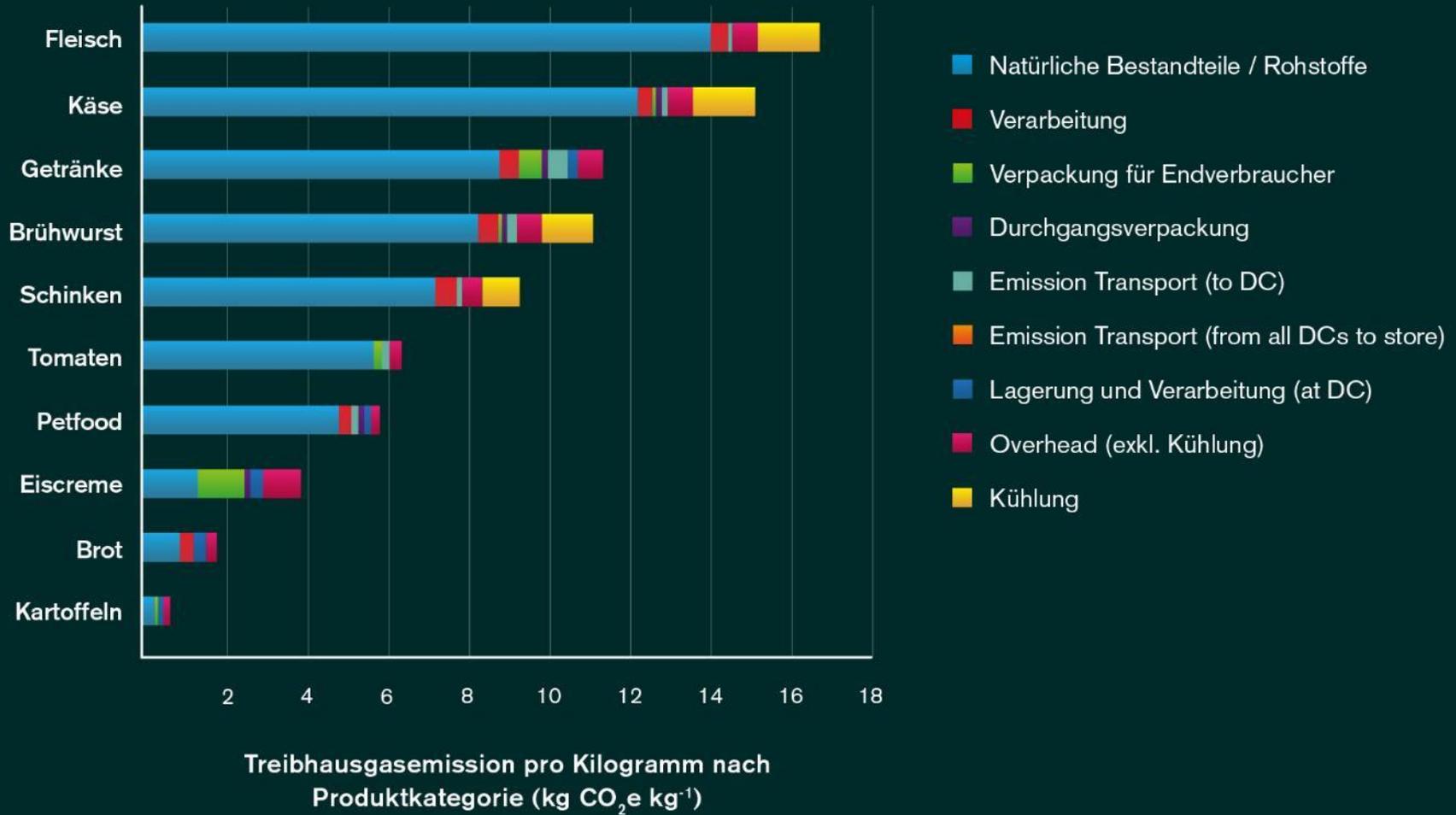


Treibhausgasemission pro Kilogramm nach Produktkategorie (kg CO₂e kg⁻¹)



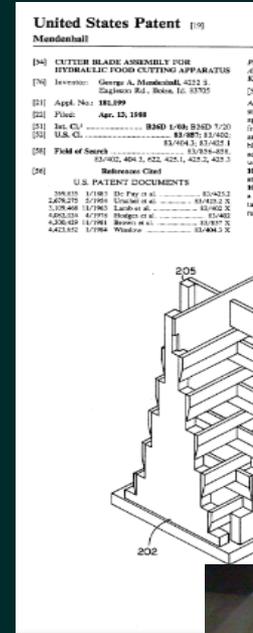
TREIBHAUSGASEMISSION

VERSCHIEDENE LEBENSMITTEL



Nachhaltigere Prozesse Kartoffelindustrie

Herstellung von Pommes Frites

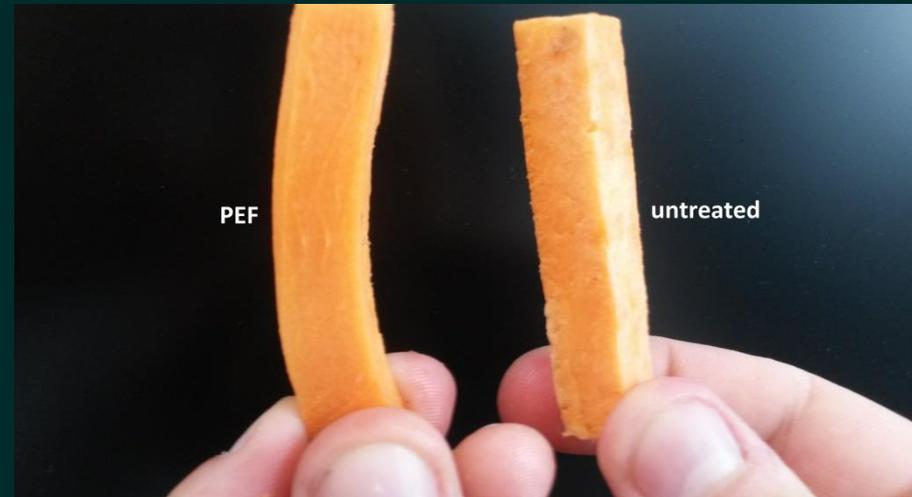
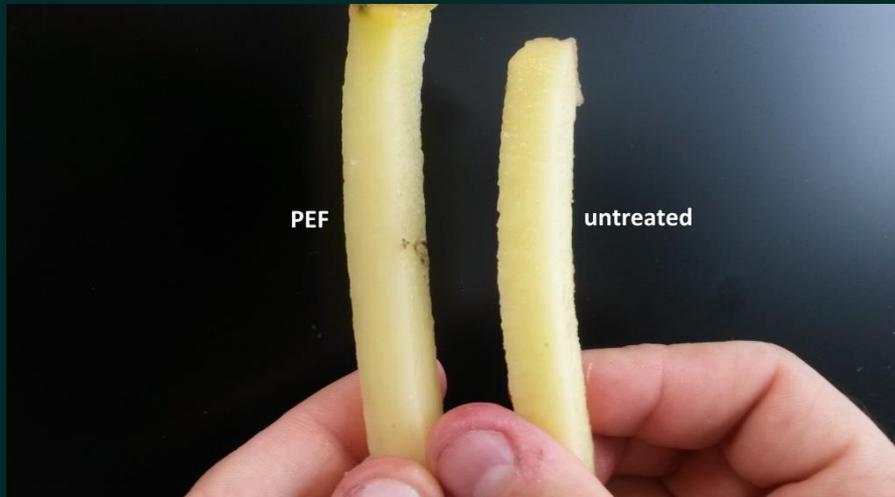
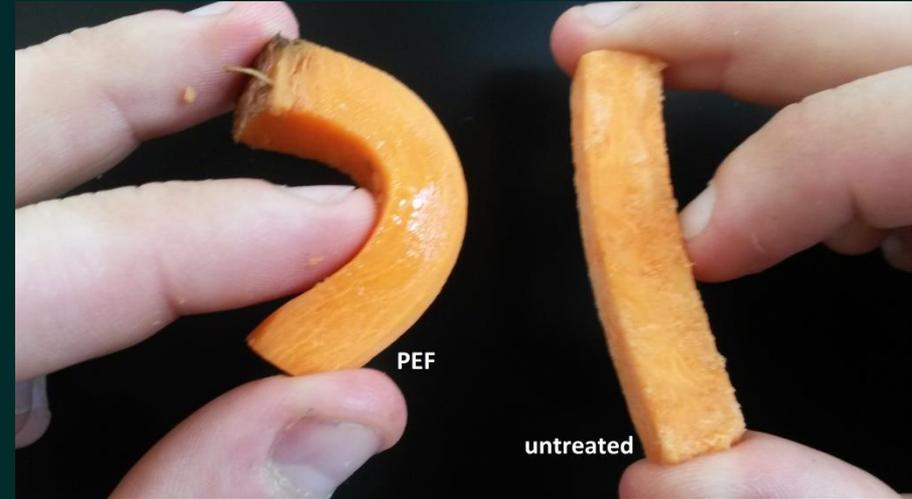
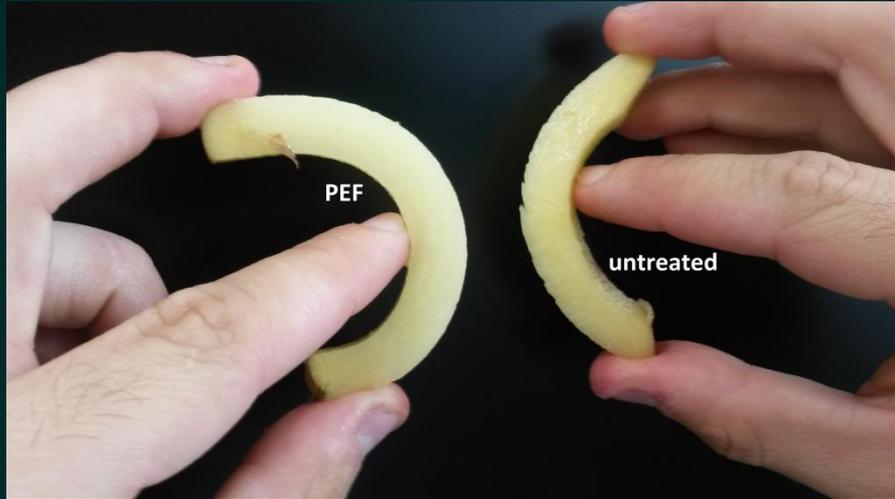


Standardverfahren 60°C, 30 min als
Vorbehandlung vor dem Schneiden



Nachhaltigere Prozesse

Elektroporation



Nachhaltigere Prozesse Kartoffelindustrie



Summary | **LambWeston**
SEEING POSSIBILITIES IN POTATOES



Seeing possibilities to
serve a sustainable world

Sustainability Report 2015-2016
Lamb Weston / Meijer

eston.eu/sustainability/water.html

Aus Firefox importiert | ZEUS WebServices - L | dil_lab

considerations are currently being reviewed. This is a critical step for the company, before we
Back to Sustainable Six
consider large-scale implementation at our other plants.



Pulsed Electric Field

In 2014/2015 we implemented a revolutionary new process technology at our Bergen op Zoom and Hollabrunn plants. This technology is called Pulsed Electric Field (PEF) and replaces the traditional 'preheating' of potatoes, meaning we can better prepare them to be cut efficiently into French fries, with less starch lost during cutting and less waste generated. The implementation of PEF has enabled us to save eight percent of our fresh water usage, or 70 million litres per year, in our Bergen op Zoom plant. It has also enabled us to reduce our energy use by five percent per year, and improve our frozen product recovery.



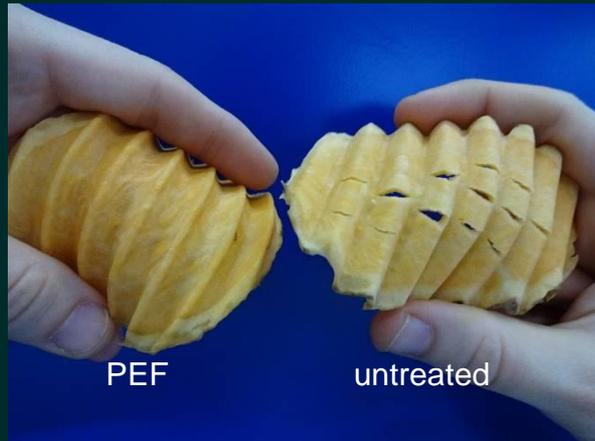
Outlook for 2017/2018

We have a number of goals going forward, which include:

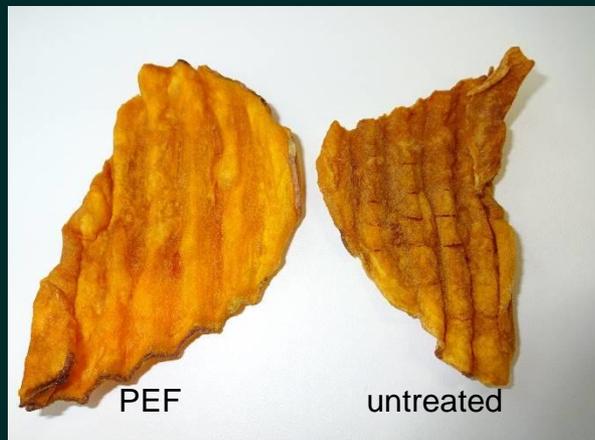


Nachhaltigere Prozesse

Produktentwicklung



Möglichkeit zur Herstellung von
Snackprodukten aus einer Vielzahl
von Rohwaren



Oil content



Nachhaltigere Prozesse

Produktentwicklung



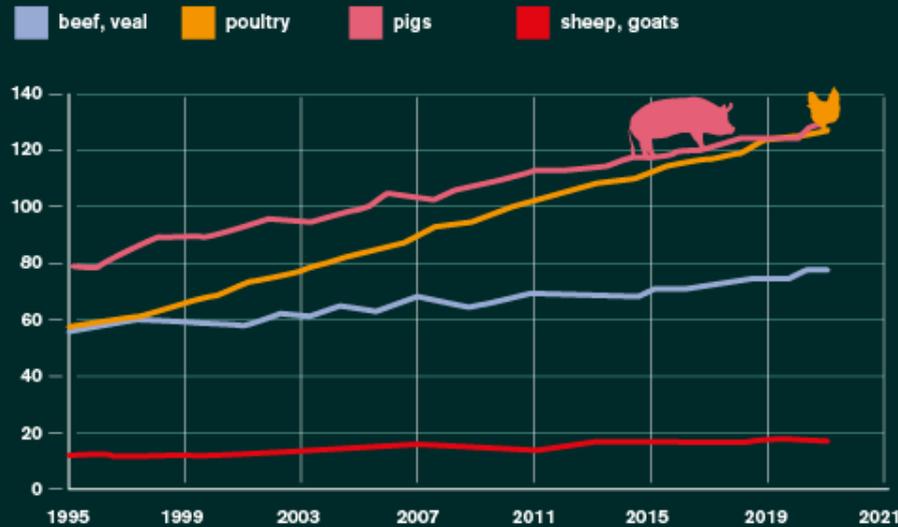
The untreated veggie chip samples above have all been taken directly from products available in the supermarket shelves



As you can see, PEF has a remarkable effect on many different food items. Sweet potatoes, carrots, beetroots and other vegetables pass through the Elea PEF system to become better chips and other snacks.



MEAT PRODUCTION, TREND AND FORECAST, IN MILLION TONNES



Source: OECD/FAO

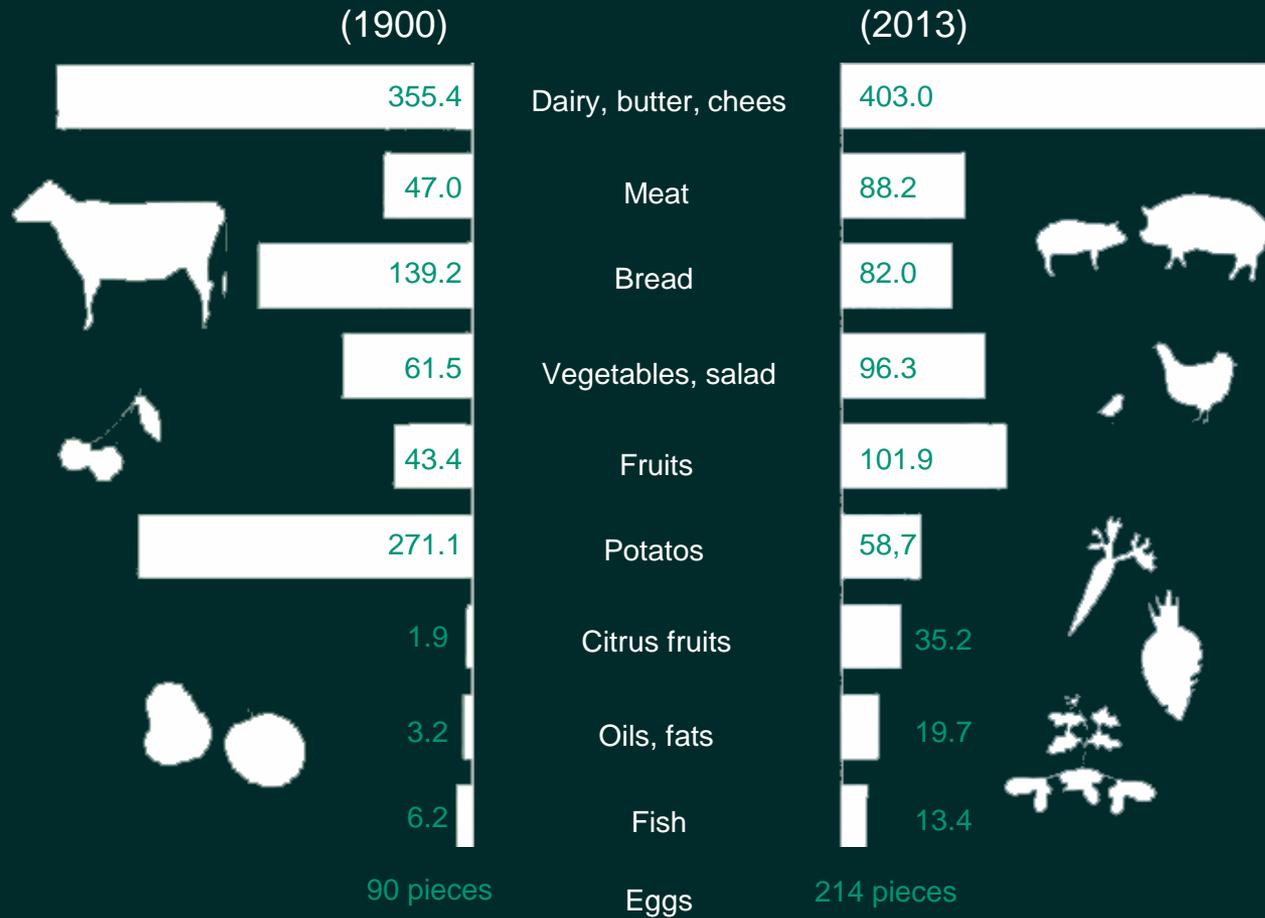
WORLD CONSUMPTION (mln. tonnes)

2011	WORLD	AFRICA	ASIA	AMERICAS	EUROPE	OCEANIA
Meat total	291	18	131	82	56	3
Pork	107	1	63	16	26	1
Poultry	99	6	40	37	16	1
Beef	64	6	18	28	11	1

Source: FAOSTAT, 2014

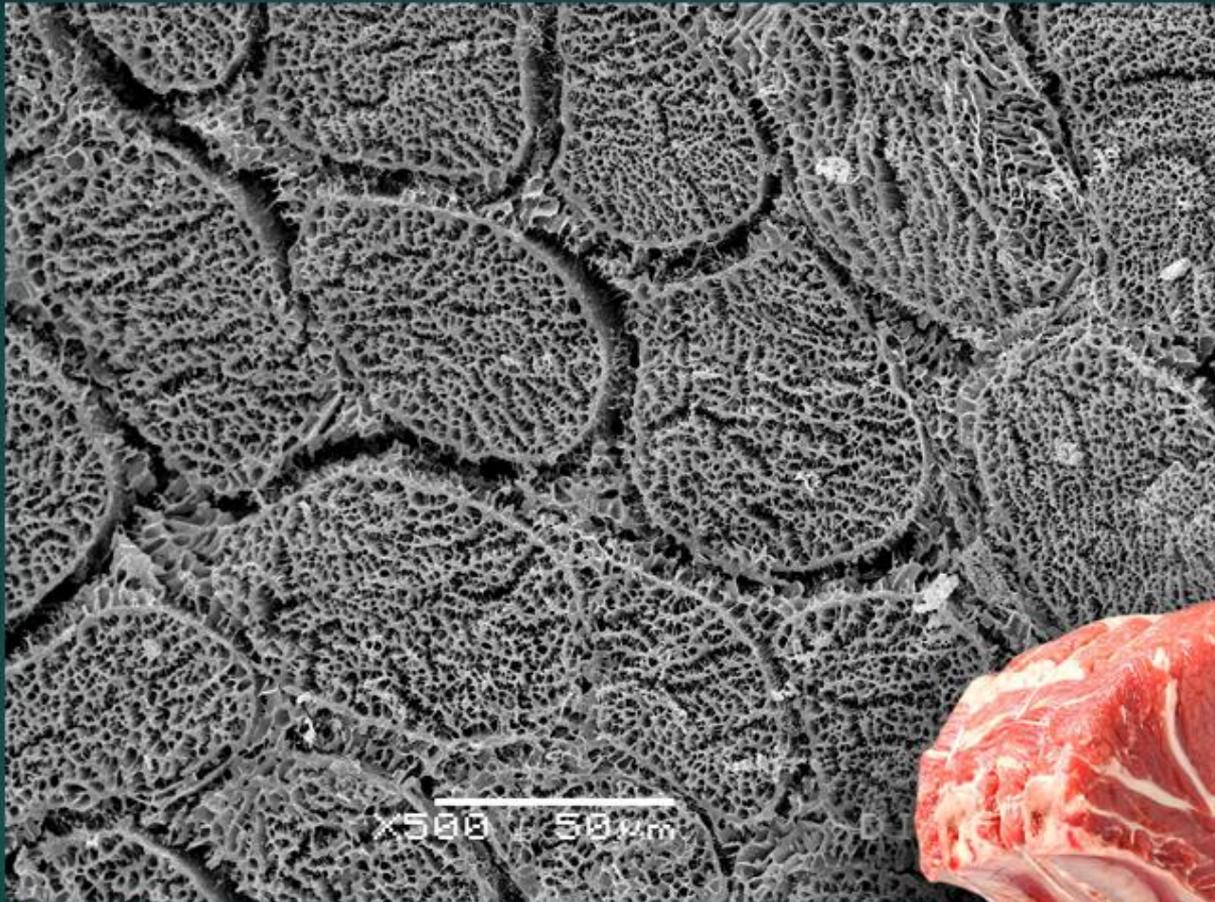


Pro-Kopf Konsum in Deutschland (in kg)



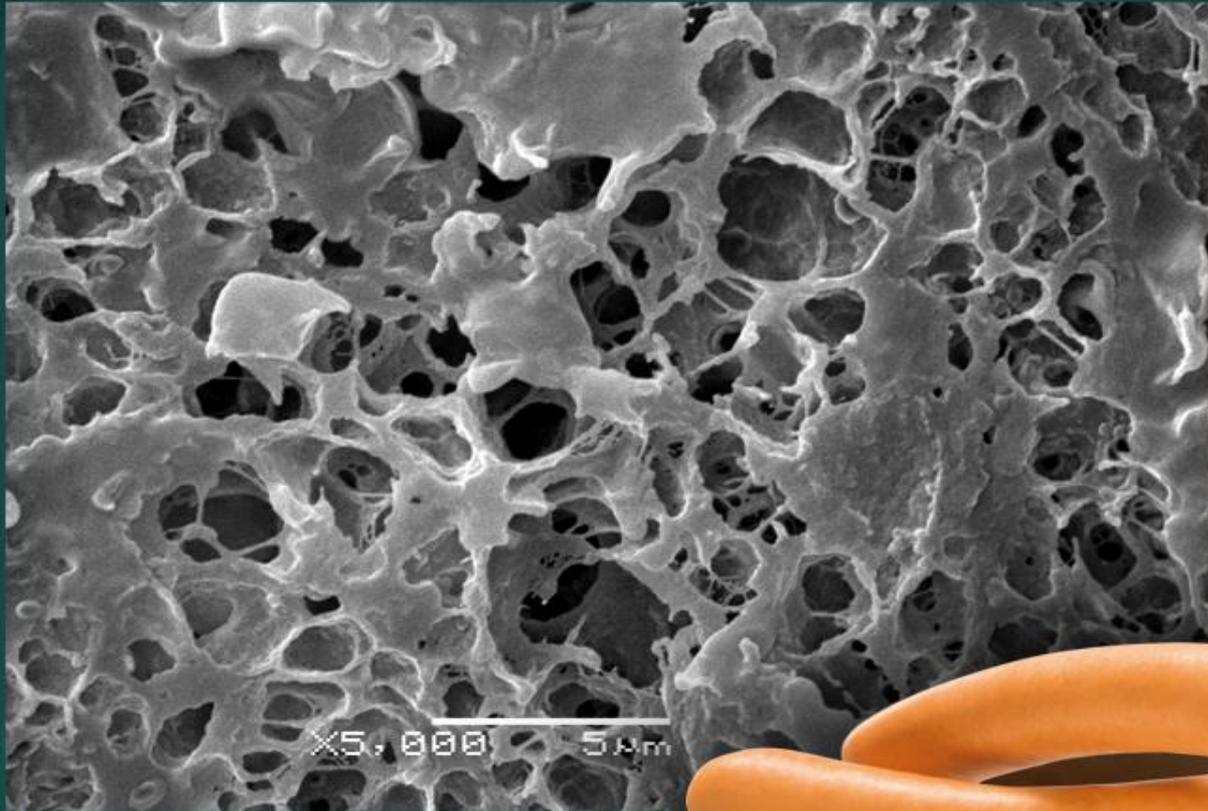


MEAT





SAUSAGE



X2,000 2 μm



Nassextrusion / High Moisture Extrusion

Herstellung fasriger Strukturen



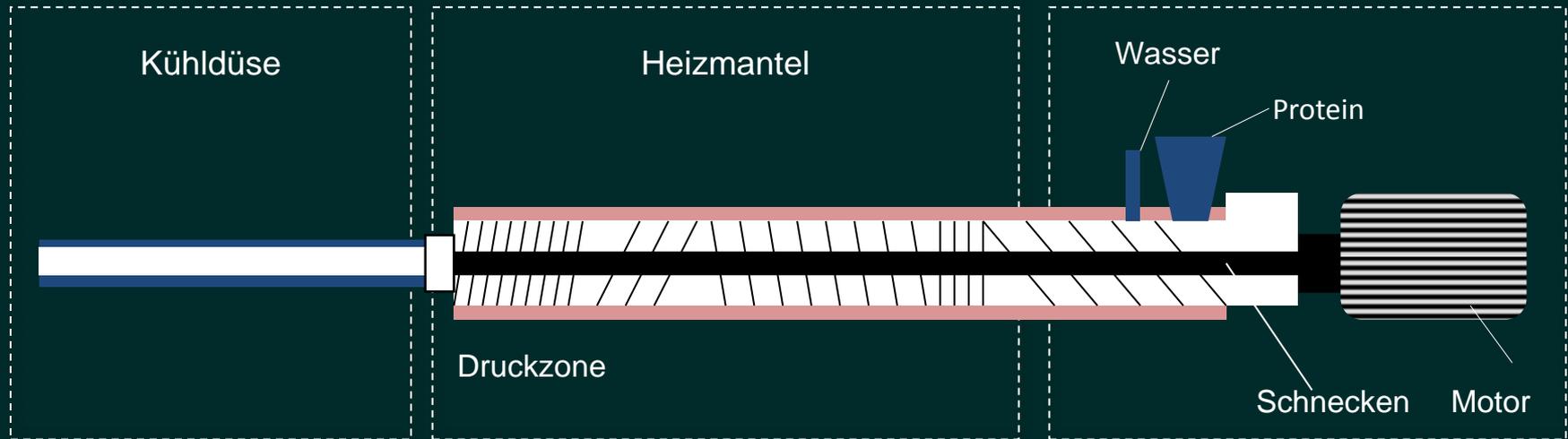
Extrusion

Nachbehandlung



Nassextrusion / High Moisture Extrusion

Prozess



Kühlen

Ausbildung von Schichten
und Fasern
Temperatur $T \approx 70 \text{ }^\circ\text{C}$

Schmelzen

$T \approx 170 \text{ }^\circ\text{C}$
Herstellen einer Eiweißschmelze

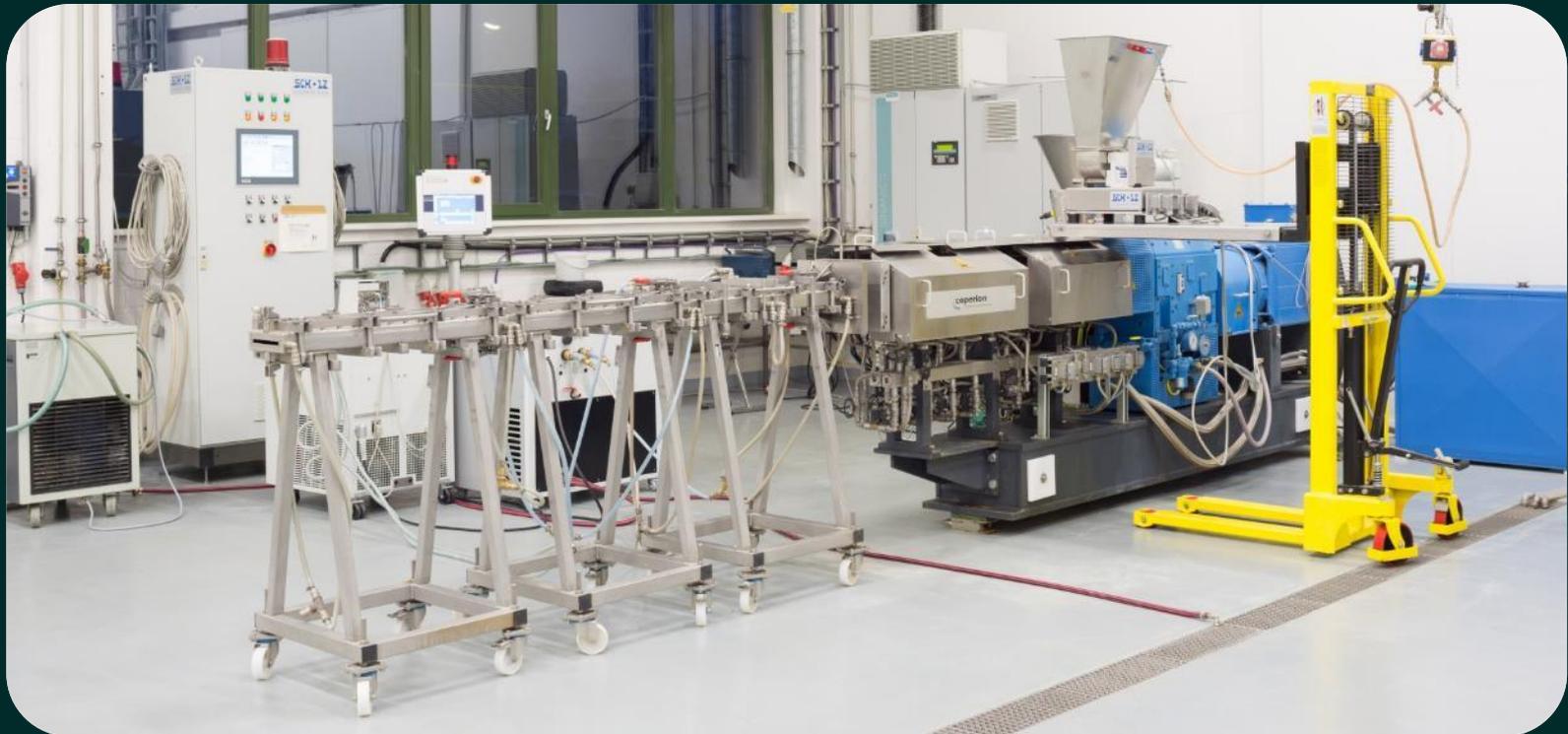
Rohmaterial

Mischung aus Protein und Wasser



Nassextrusion / High Moisture Extrusion

Produktionslinie 200 – 300 kg/h Halbfabrikat





Nassextrusion / High Moisture Extrusion

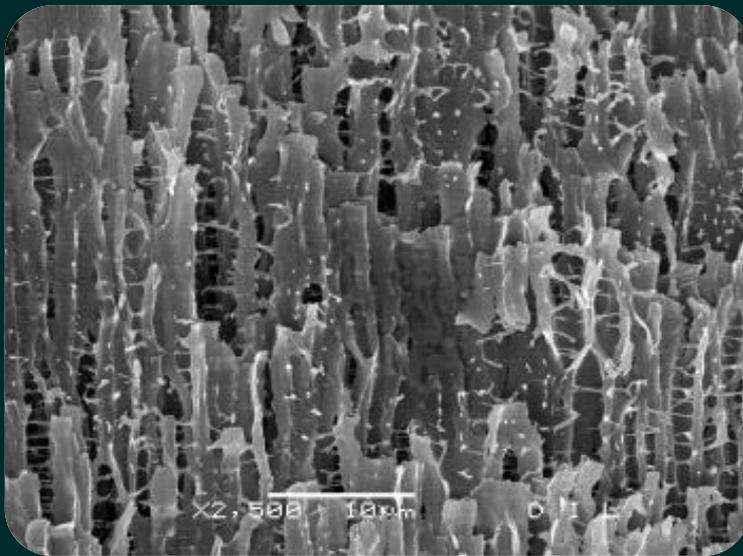
Möglichkeiten der Strukturgestaltung



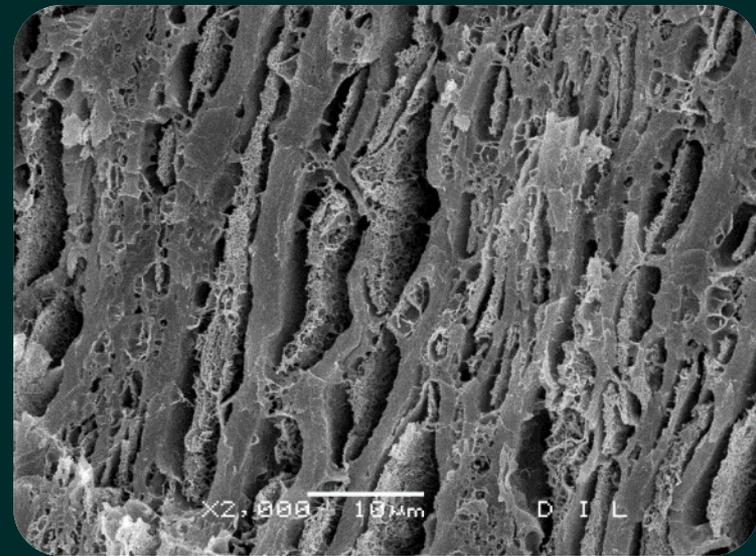


Nassextrusion / High Moisture Extrusion

Meat



Extruded soy protein



Herstellung von Faserstrukturen mit Fleischähnlicher Struktur

Pflanzliche Proteine: Soja, Erbse, Lupine, Weizen, Ackerbohne...



Nassextrusion / High Moisture Extrusion



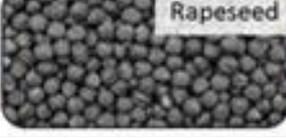
Sojaprotein



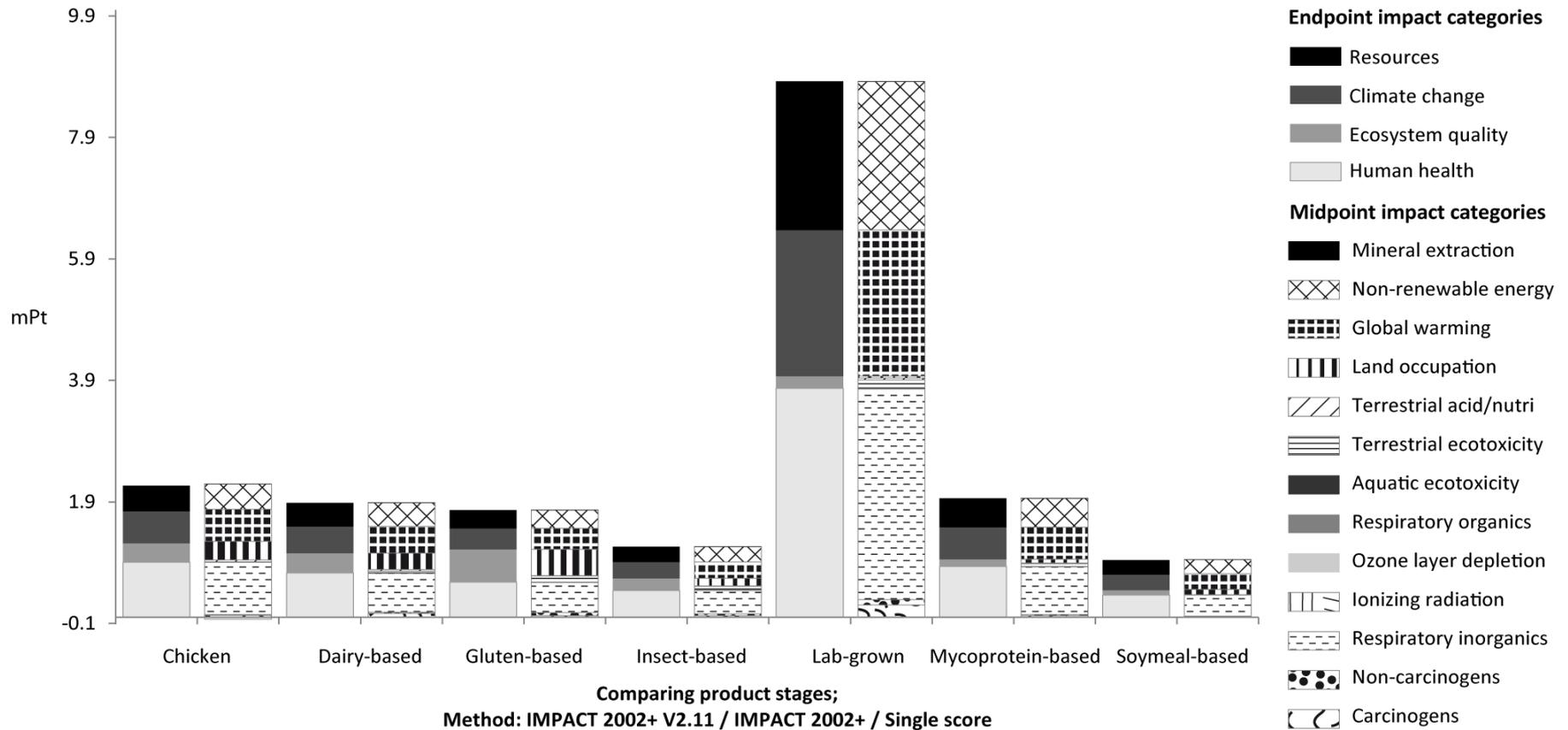
Erbсенprotein



Lupine

Established	Emerging	Upcoming
 Soybean	 Faba bean	 Quinoa
 Pea	 Chickpea	 Duckweed
 Lupine	 Lentil	 Sunflower
 Potato	 Marrowfat	 Green leaves
 Wheat	 Beans	 Microalgae
 Corn	 Rapeseed	 Insect

Meat substitutes comparison (1 kg)



Adapted from:
Smetana S. et al. 2015
DIL, 2014-2015

Insekten, Algen und Co. als Lebensmittel



Entomophagie

Insekten Ja – aber lieber als Burger



Bug Foundation, 2016



Hermetia



Soja



Spirulina



Produktbeispiele



Insekten, Algen und Co. als Futtermittel

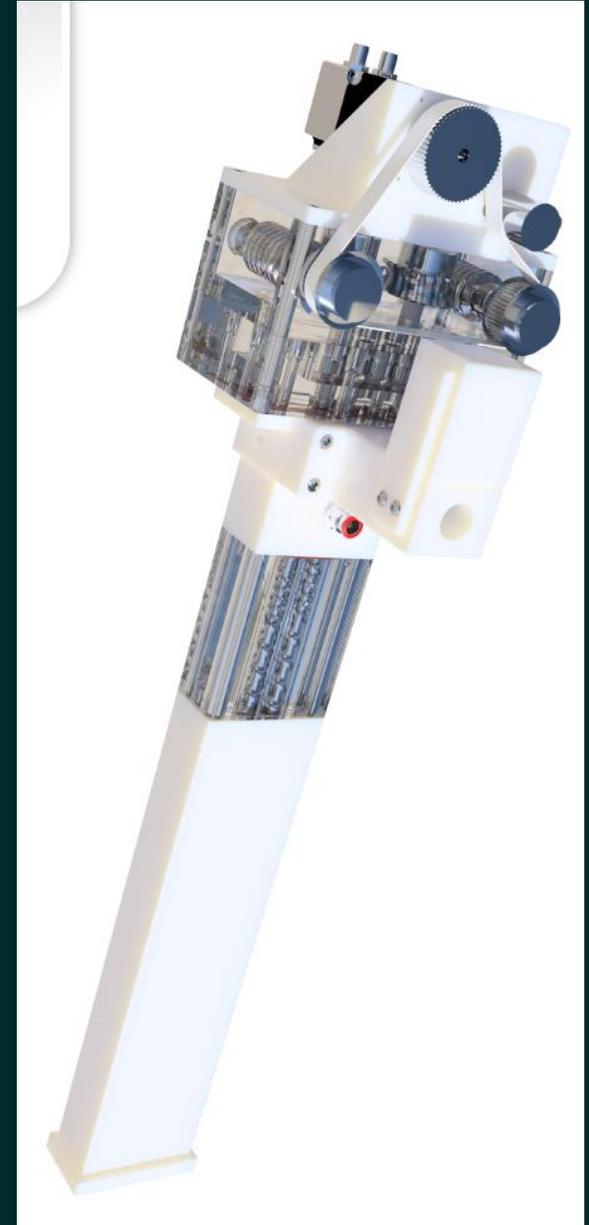
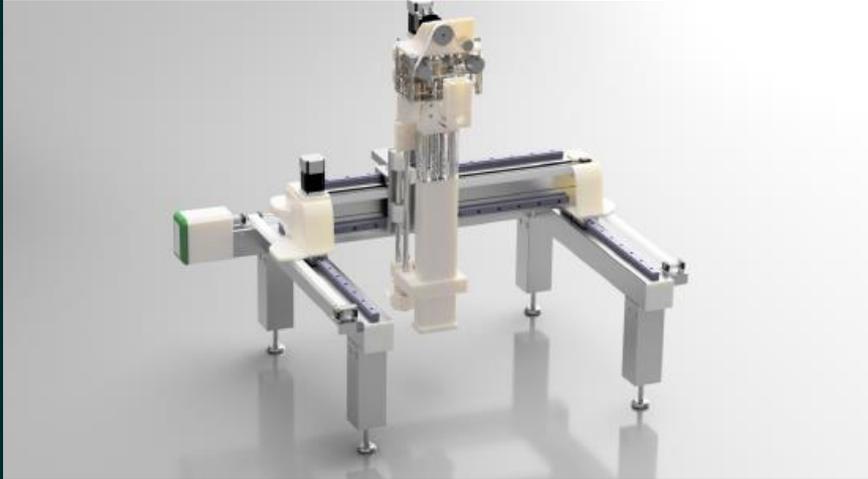


OER
eieren



Sojafreies Futtermittel

Food Production (2017)



3D Druck von Lebensmitteln

DIL Einheit auf Basis eines kleinskaligen Extruders

Today's Food Production (2017)





Kernthesen

Wunsch nach gesunden Lebensmitteln mit Genussfaktor –
erfordert schonende Technologien zur Verarbeitung

Dezentralisierung der Produktion erfordert Entwicklung
skalierbarer Technologien, erfüllt Wunsch nach regionaler
Erzeugung

Die Nachhaltigkeitsbewertung spielt eine zunehmende Rolle,
jedoch spielen auch andere Kriterien eine Rolle beim Kauf

Fleischalternativen gewinnen an Bedeutung, werden Fleisch
jedoch nicht verdrängen



Weitere Quellen

DIL – u.a. Jahresbericht 2016 , Broschüre Rethinking Food

Entomophagie

FAO

Innova Market Insights Database

LebensmittelPraxis

Lebensmittelwirtschaft e.V. – essbare Innovationen

Nestlé Zukunftsstudie

Protix

Wageningen UR

Zukunftsinstitut – Food Report 2017