



Food system changes and circular economy in the food sector

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Agenda

- Policy & background
- Challenges and market trends
- Current EU initiatives
- Food sector & bioeconomy – example northeast Germany

EU strategies - background

- EU Farm to fork strategy
for a fair, healthy and environmentally-friendly food system
- EU Food 2030 policy
Research and innovation policy to make our food systems ready for the future.
- EU Circular Economy Fertilising Products Regulation
- EU protein strategy

UN sustainable development goals

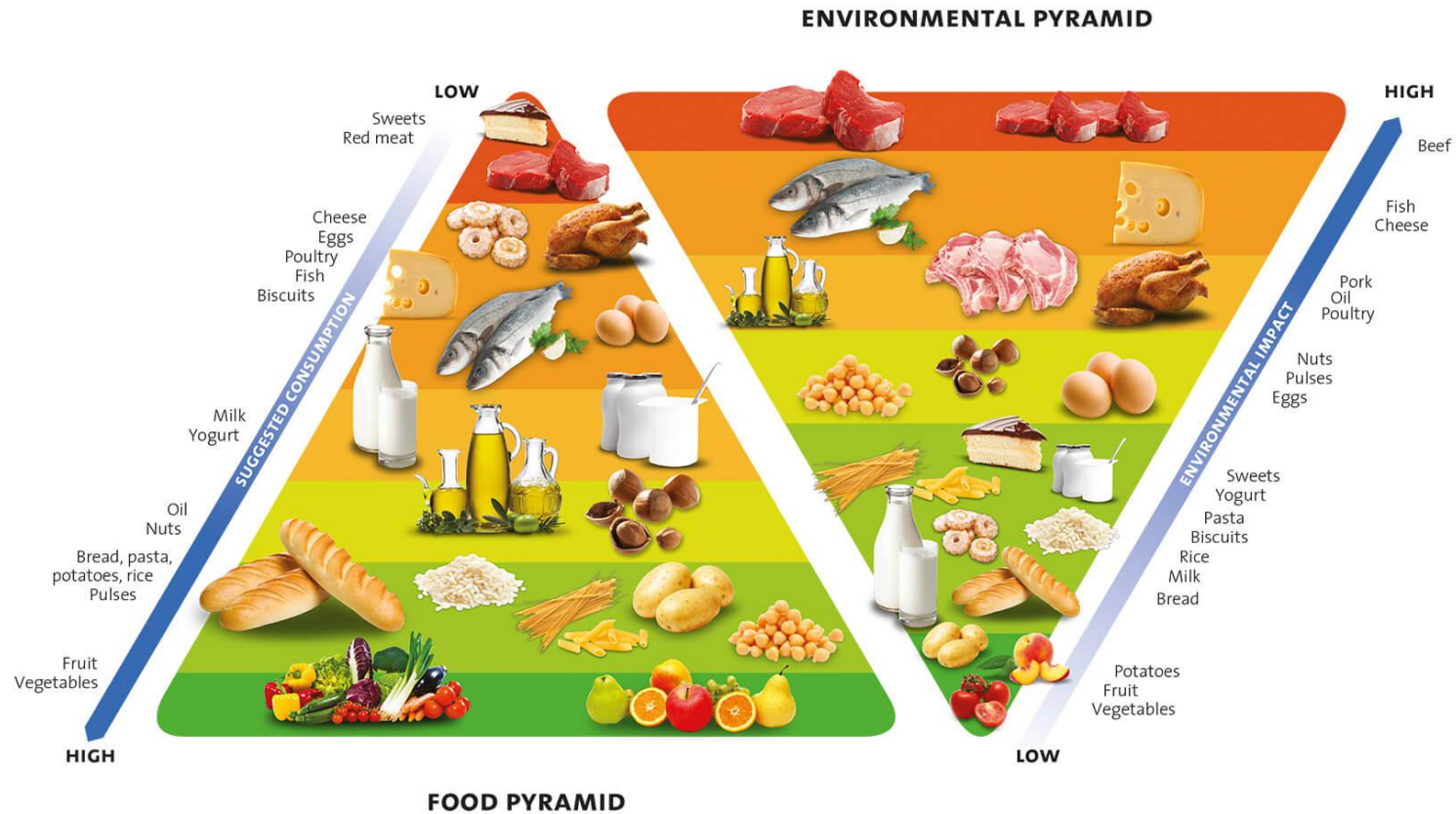
Goal 2: Eradicate hunger by ensuring universal access to safe, nutritious food and ensuring sustainable food production that is resilient to climate change and extreme events

Goal 12: Ensure sustainable management, consumption and production regarding use of natural resources, halving global per capita food waste and encouraging companies and the public to adopt sustainable practices and procurement to reduce, recycle and reuse waste

Goal 15: Conserve, restore and sustainably use terrestrial ecosystems, combat deforestation and desertification, and halt and reverse land degradation and halt biodiversity loss



Health and environmental impact



Source:

www.barillacfn.com/en/research/projects/double_pyramid/

Challenges ahead

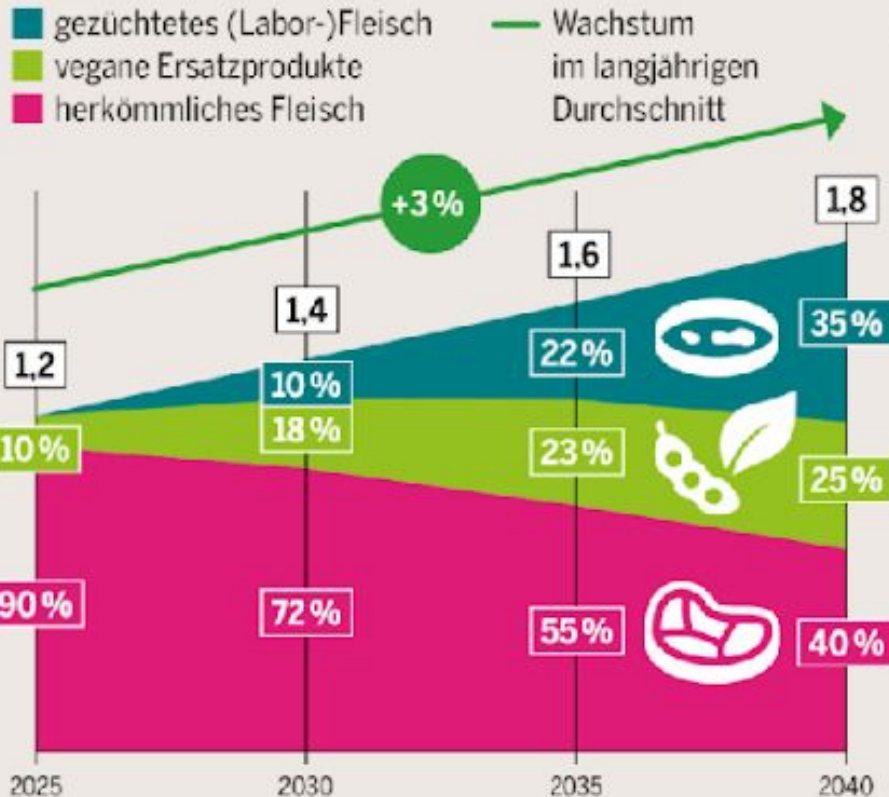
- Resource productivity in agri-food on using a minimal amount of external inputs
- Closing nutrient loops and reducing negative discharges to the environment
- Examining the entire agri-food system to reveals opportunities at all stages, from primary production using precision agricultural techniques, to the retail-consumer part and through to the utilisation of agri-food wastes in the bioeconomy

Market growth plant-based protein and meat substitutes

BOOM ERWARTET

Globale Markttrends für Fleisch und Fleischersatz, in Billionen US-Dollar und Prozent, sowie durchschnittliches jährliches Wachstum bis 2040, Prognose

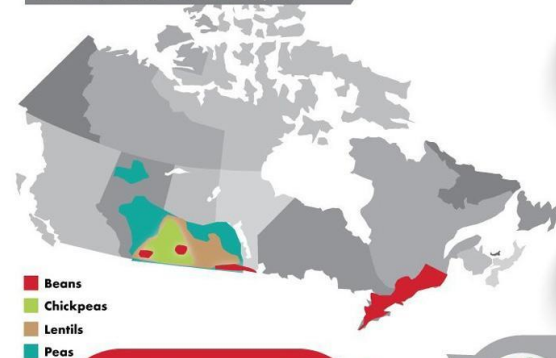
© FLEISCHATLAS 2021 / KEARNEY



PLANT-BASED PROTEIN at-a-glance

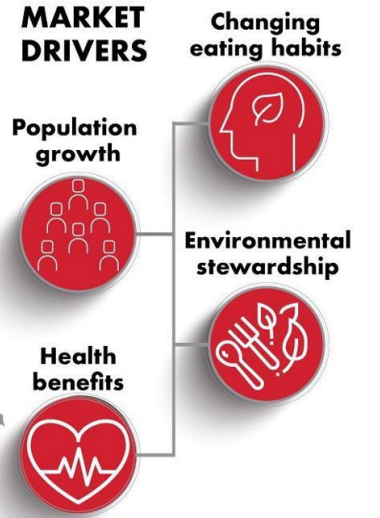
Plant-based protein in Canada is expected to contribute more than **\$4.5B** TO GDP GROWTH

Sales of plant-based protein products grew 7% to more than **\$1.5B** in 2016/17

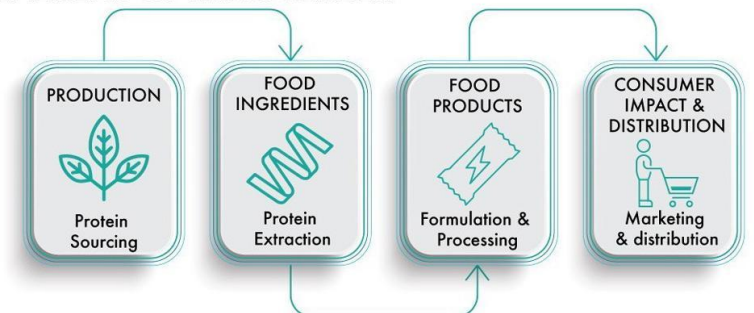


40% of Canadians are incorporating more plant-based foods into their diets

Canada is the world's largest producer & exporter of dry peas & lentils



KEY AREAS OF INNOVATION

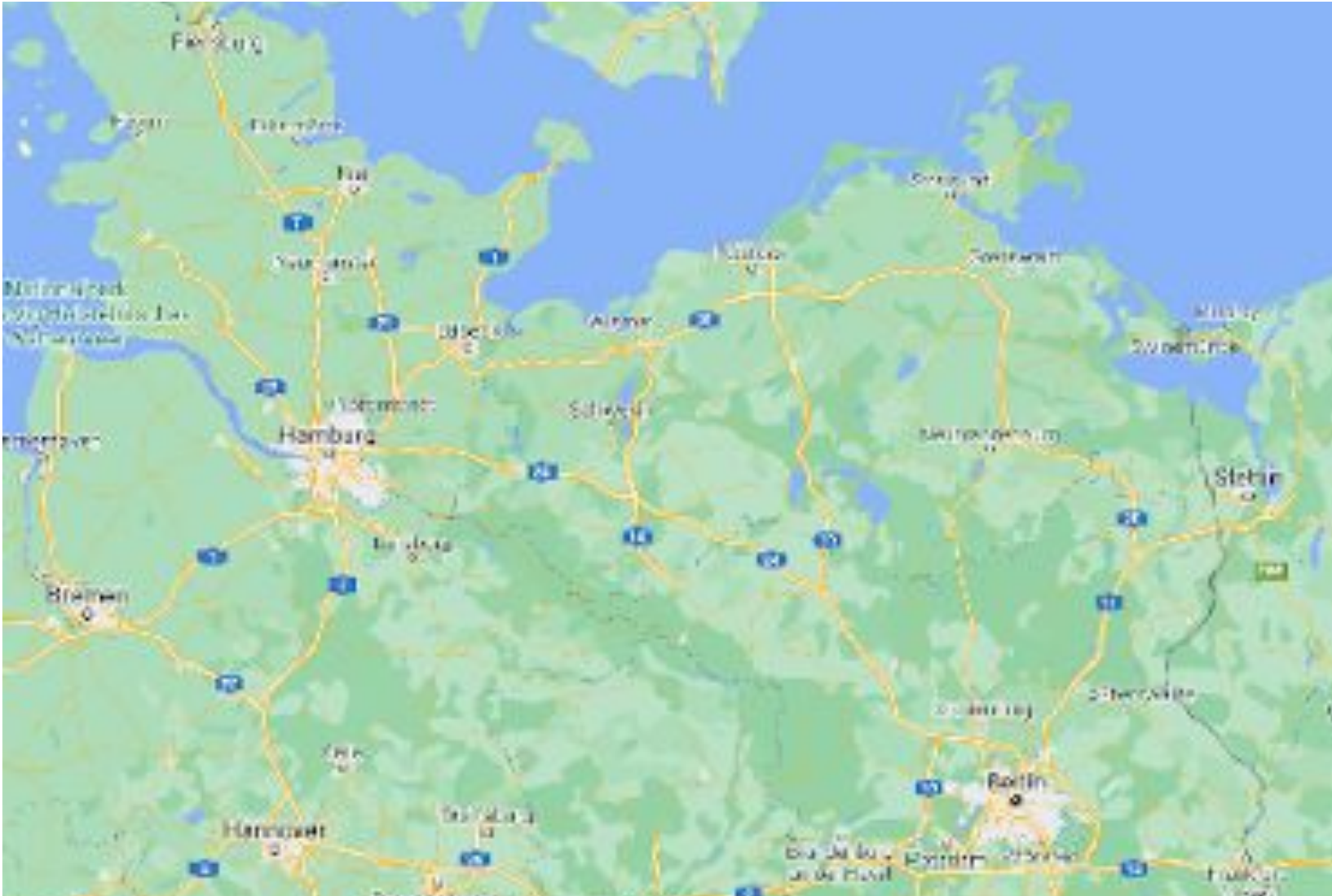


From: [National Research Council Canada](#)

Ongoing EU initiatives such as „Protein2Food“



Bioeconomy approaches for circular food systems – example northeast Germany



ffects on the soil

ical or cosmetic usages

materials or textiles

Lupin based food product - ProLupin

Food ingredients made of regional Sweet Lupine

Lupines are a traditional crop rich in proteins. They have been cultivated for centuries to provide food for people and feed for livestock. Farmers use lupines as an intermediate crop to improve fertility and soil structure of arable land also. Our goal is to support lupines returning back to landscapes, agriculture and as a source for human nutrition. (GMO)-free

We separate various fractions from the lupine seeds. The most valuable fraction is Lupine Protein Isolate (LPI) containing more than 90 % of protein in the dry matter. Unique properties of the Lupine Protein Isolate (LPI) are a high capacity of emulsion ability and stability as well as the neutral taste.

Fibres from the inner meal fibre of the seed are another fraction. They can be used to enrich roughage content in food.

Do you will learn more about the functionality of our food ingredients and the uses of their use? It is our pleasure to advise you and we would be glad to cooperate with you.



NEWS

24.07.2021

[IFS Food certification successfully completed](#)

[Read more...](#)

11.05.2021

[EIT Food, Europe's leading initiative for food innovation](#)

[Read more...](#)

21.03.2017

[Video Report Prolupin GmbH](#)

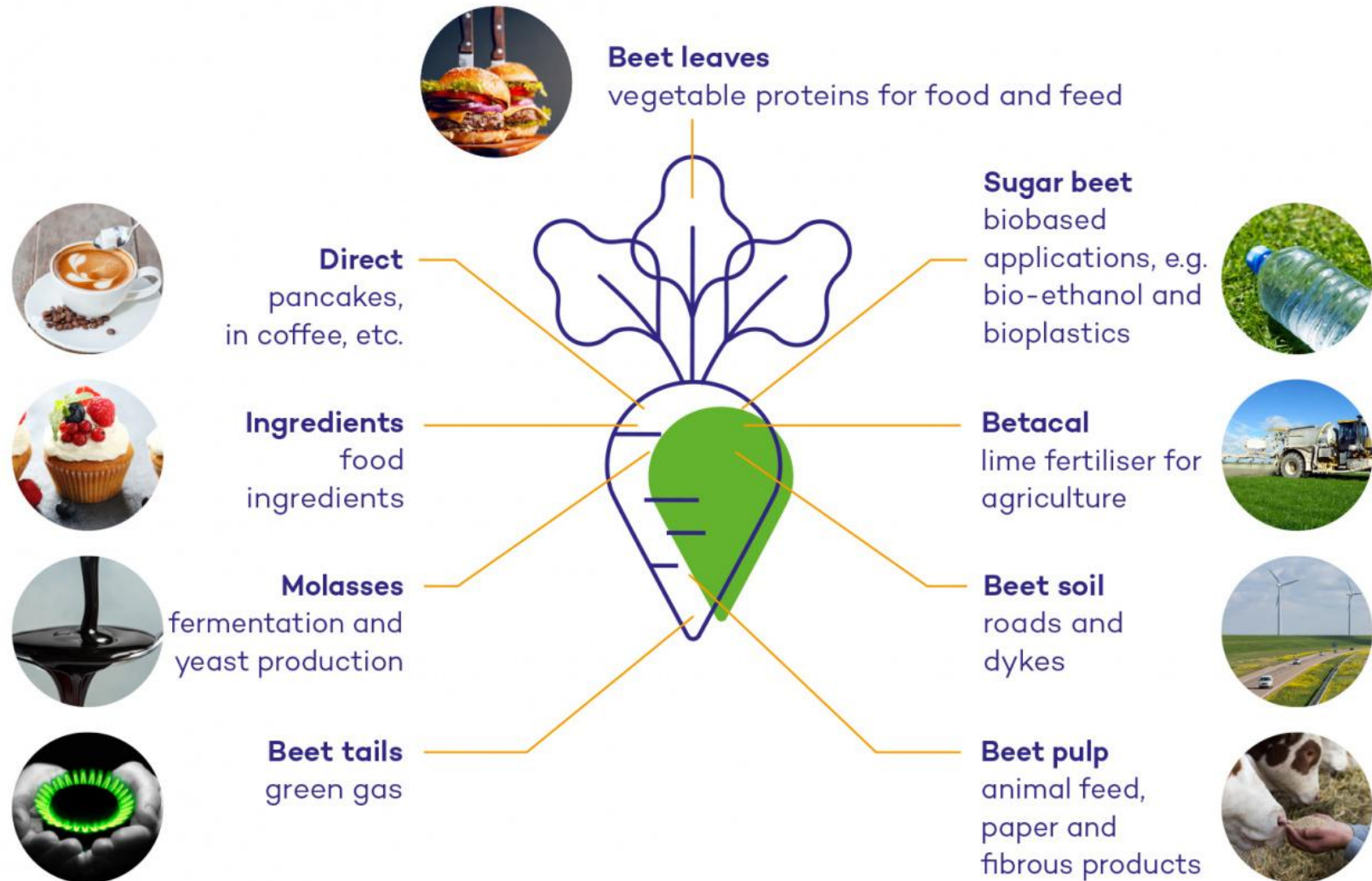
[Watch video...](#)

Cosun Beet

Former sugar company

The ambition is to be the greenest, most innovative and most successful sugar beet processor in the world. The key to success is to extract all the value from the [sugar beet](#). Cosun Beet Company is a committed advocate of sustainability and recognises its responsibilities to protect the natural environment and society for the benefit of future generations.

<https://www.cosunbeetcompany.com/>



Physical innovation for agri-food processing

GOALS

Scientific innovation for ecological and economical potentials



Reduction of chemical pesticides



Protecting seeds, strengthening crops



Securing crops that are threatened by climate change



Optimization of raw materials for further processing and reduction of pollutants in food production



Transfer of technology between science, economy and agriculture



Building and safeguarding of new jobs through new technologies

The biotechnology approach



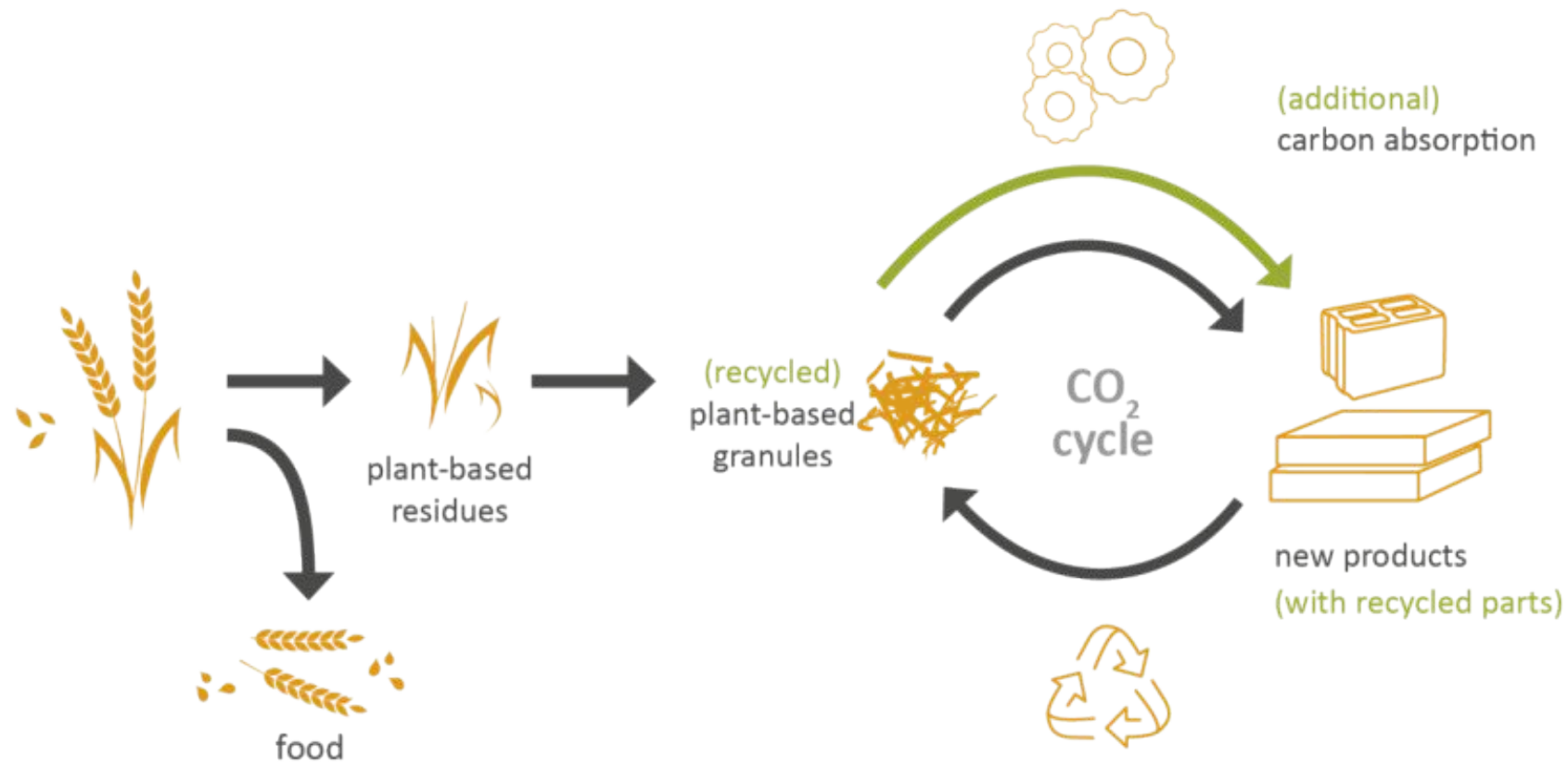
MaltFungiProtein



Abbildung 6: Protein-Erträge je Fläche und Zeit

Alternative products made of straw

Strohlos Produktentwicklung



Vegan Convenience food - Planet V



Plant extracts – AnklamExtrakt

PREMIUM EXTRACTS

PLANT EXTRACTS OF HIGH QUALITY – FROM THE BEST RAW MATERIAL

Trained specialist staff, cutting edge technology and strict quality controls throughout the entire production process mean that you are guaranteed extracts of the highest quality. Anklam Extrakt® specialises in the research, development and production of high quality plant extracts. Our portfolio includes extracts for the pharmaceutical industry that have been monographed (by the HMPC and/or Ph. Eur) as well as extracts for the food industry.

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IVY // HEDERA HELIX L.



ARTICHOKE // CYNARA SCOLYMUS L.



CRANBERRY // VACCINIUM
MACROCARPON AITON



ELDER // SAMBUCUS NIGRA L.

Naturally, our services also include the development of extracts specifically to customers' requirements. You can find further information about this under [competences](#).

Our plant extracts from leaves, flowers, roots, berries, and other plant parts are generally produced under the GMP and HACCP quality standards, and following our "High quality from the best raw material" guidelines.

From A for Althaea (marshmallow) to V for Vaccinium (cranberry), we offer you an innovative and well-developed product portfolio. With each plant, you can choose from one or more variations of the extract.

- Liquid extracts (fluids and tinctures)
- Soft extracts (spissa)
- Dry extracts (sicca)

Peatlands value chains



- The investment for 16 mln. Euro has been earmarked in the Lithuanian EU Recovery and Resilience Facility plan for restoration of 8000 ha of currently drained agricultural peatlands.
- **SUNDEW FROM Germany WITH SYNERGISTIC EFFECT AGAINST MULTIRESISTANT GERMS**





Thank you for your
attention!

Any questions?

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