

European Practices on Climate Change & Sustainability in Feed Industry

20 April 2024



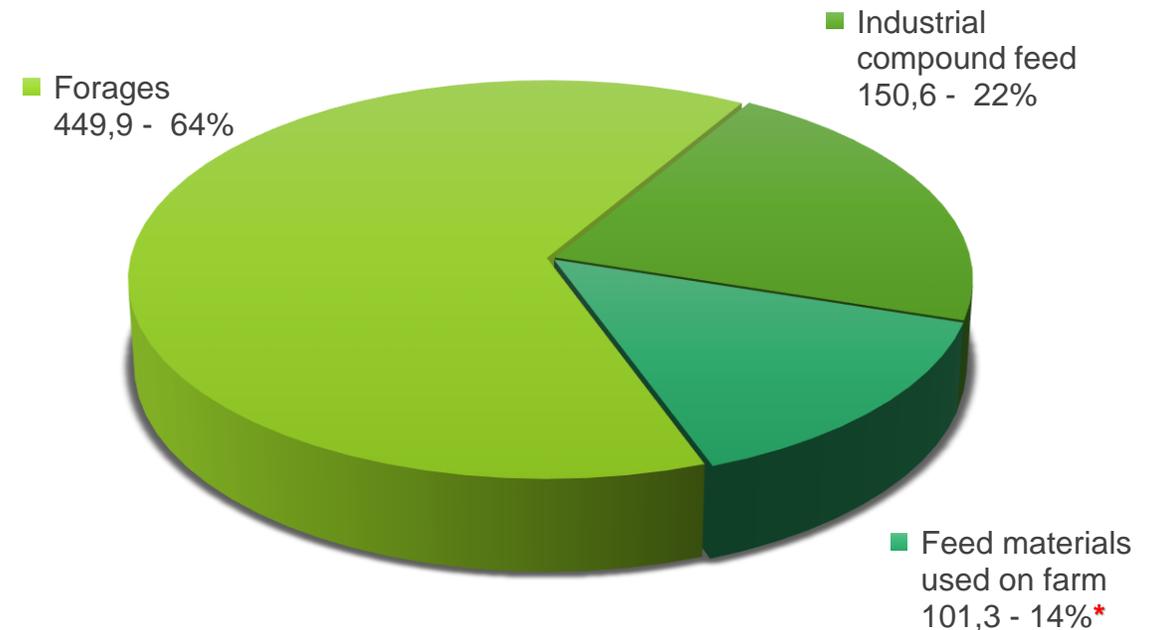
Pedro Cordero - President FEFAC

Alexander Döring - Secretary General FEFAC

Who is FEFAC?

- European Association of Compound Feed Manufacturers (founded 1959)
- Represents 28 National Associations in 27 European countries
- The EU-27 Industrial compound feed production in 2022 was 144.7 mt.
- Our Mission: “to be the voice of the european feed industry”

Livestock sourcing in feed in the EU27
(701 mt. in 2021)



* These are all kind of feed materials that can be found on the market (soybean meal, bran, etc.) that the farmer buys to mix up with his cereals to produce compound feed

Source: FEFAC, DG AGRI

Who is FEFAC?

- Secretariat
- Board
- Excom
- Directors College
- Steering group

Horizontal Committees:

Animal Nutrition

Industrial Compound Feed Production

Feed Safety Management

Sustainability

Specialised Committees:

Fish Feed

Premix & Mineral Feed

Milk Replacers

EU recent milestones

- EU Strategic Agenda 2024 – 2029
(Granada Declaration - Informal European Council meeting Oct 23)
- Setting the future strategic priorities: move towards a more competitive and resilient vis-à-vis global technological and geopolitical transformation



EU food security & Open Strategic Autonomy (OSA)

Cooperate multilaterally whenever we can, acting autonomously when necessary

Bolstering and securing internal production capacities

1. Fostering domestic production of key goods, services and raw materials
2. Monitoring and limiting foreign ownership or control over strategic sectors and infrastructures
3. Setting contingency plans to respond to future shortages

Enhancing circularity and smart consumption

4. Enhancing resource efficiency
5. Fostering circularity in economy and society
6. Replacing raw materials and components by more accessible alternatives

Reinvigorating global trade and the multilateral system

7. Launching a new trade expansion
8. Rebalancing economic relations with China
9. Leading the renovation of the multilateral architecture



FEFAC - OSA recommendations (I)

FEED SUSTAINABILITY CHARTER 2030

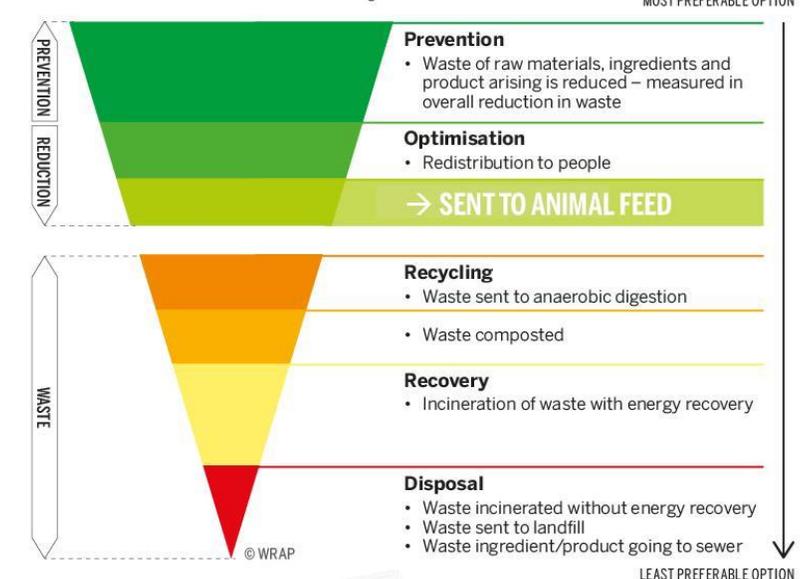
Ambition 2

Foster Sustainable Food Systems Through Increased Resource & Nutrient Efficiency

Enhancing Circular Agri-Food Chain in the EU

- Research institutes developing robust circular feed indicators
- Indicators should allow measuring the use of **non-human edible** Biomass fractions in animal feed, **Land Use Competition** and **Nutrient Efficiency**
- To develop a comprehensive **Biomass Fact Sheet** that shows the availability of Biomass for various uses as food, feed, bioenergy and non-food/feed applications (e.g. chemical industry)
- Highlight FEFAC's view: **upcycling of nutrients from non-edible sources** is a key contribution of the feed sector to resilient and circular food systems
- **Adaptations of legislative frameworks** (feed & food), and the **product approval systems** (e.g., F Additives & Circular Feed Ingredients), to increase circularity while maintaining the highest feed safety standards
- Circularity is vital for the **sustainability & resilience** of the agri-food chain

Food and drink material hierarchy



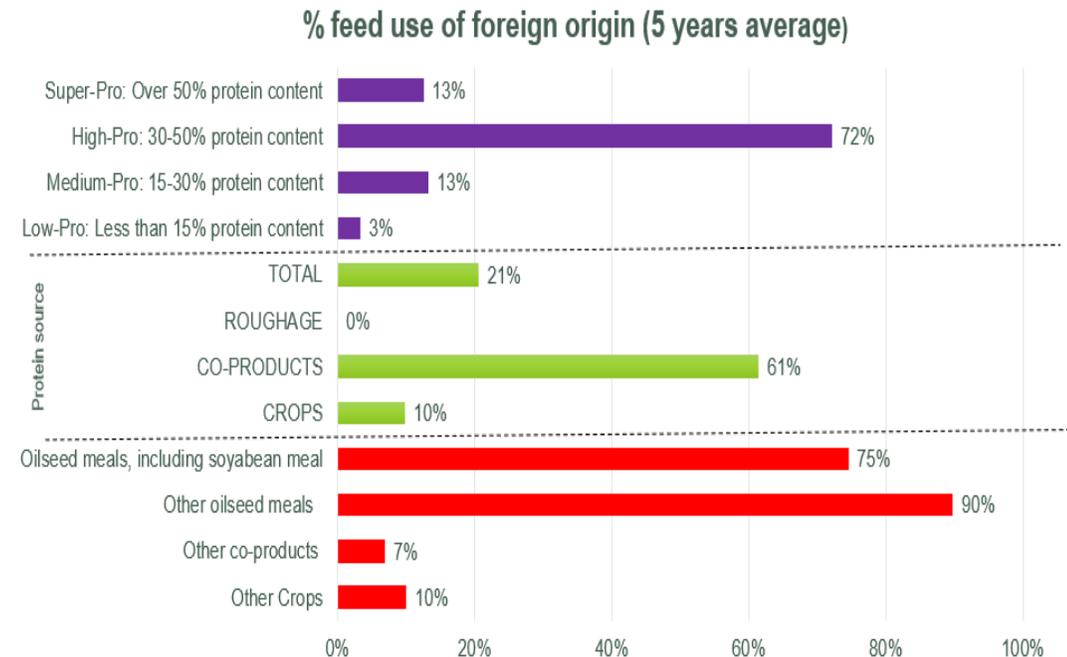
FEFAC - OSA recommendations (II)

Ambition 5

Enhance the Socio-Economic Environment and Resilience of the Livestock & Aquaculture Sectors

Boosting EU Feed Autonomy

- To establish **realistic quantitative targets** for the supply of "home-grown" feed protein sources and ingredients
- Targets **covering all existing sources** including expanding the EU's own oilseeds and soy production and exploring alternative feed protein sources such as PAPs, insects, yeasts, single-cell protein, algae, and synthetic amino acids
- **EU protein balance sheet** developed by DGAGRI as a **monitoring** tool to measure total EU protein feed autonomy
- Implementation of these targets can lead to the development of targeted **policy support instruments** through the CAP/NSPs, the review of Feed Additive Regulation, and **research funding** via Horizon 2030
- Emphasize the importance of enhancing feed autonomy for the **resilience of the Agri-food chain**



European Green Deal - ambitions



Become
climate-neutral
by 2050



Protect human life,
animals and plants,
by cutting pollution



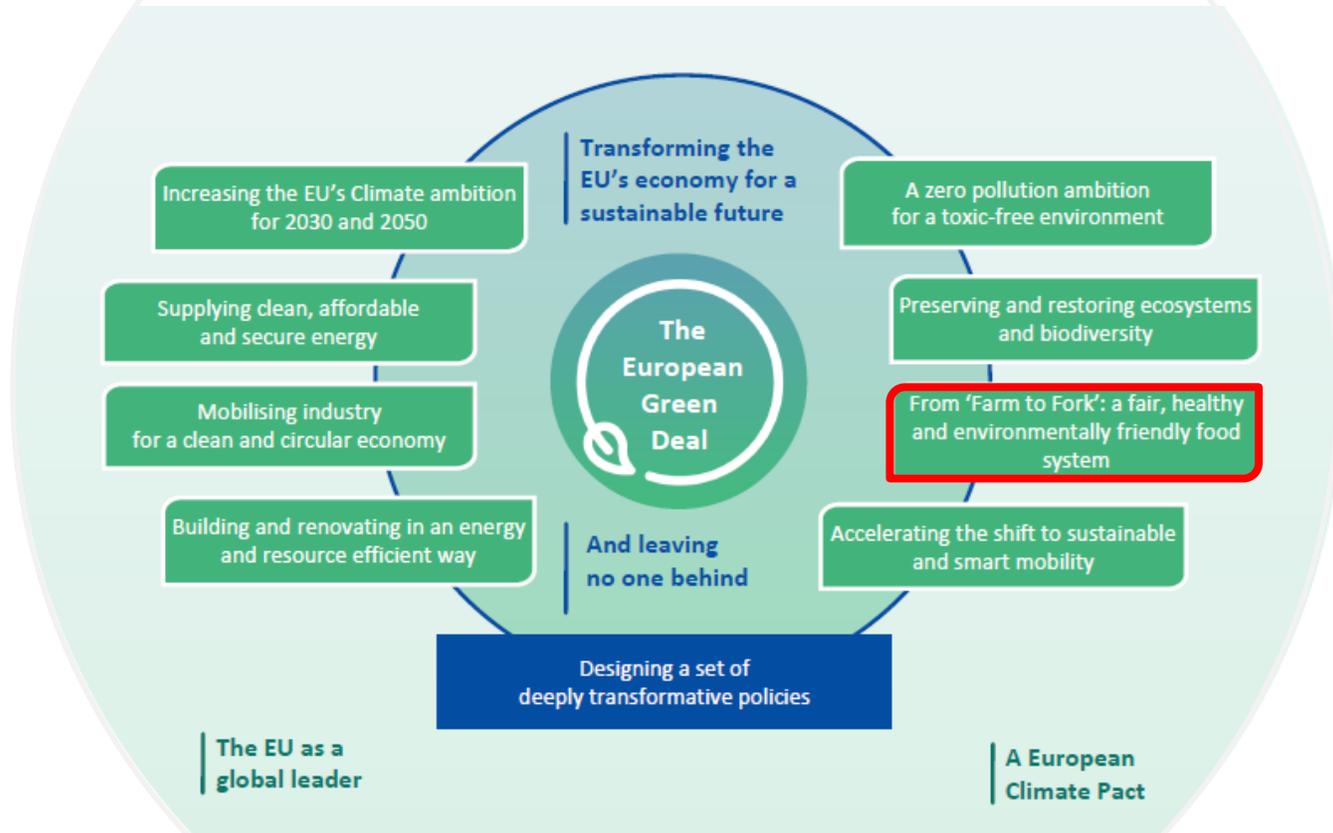
Help companies
become world leaders
in clean products and
technologies



Help ensure a
just and inclusive
transition



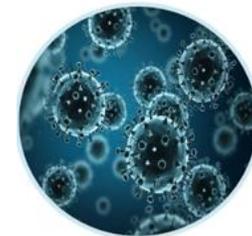
Farm to fork Strategy



Reduce **nutrient losses** by at least 50% while ensuring no deterioration in soil fertility; this will reduce use of **fertilisers** by at least 20 %



Reduce by 50% the overall use and risk of **chemical pesticides** and reduce use by 50% of more hazardous **pesticides**



Reduce sales of **antimicrobials** for farmed animals and in aquaculture by 50%



Achieve at least 25% of the EU's agricultural land under **organic farming** and a significant increase in **organic aquaculture**

FEFAC Perspective

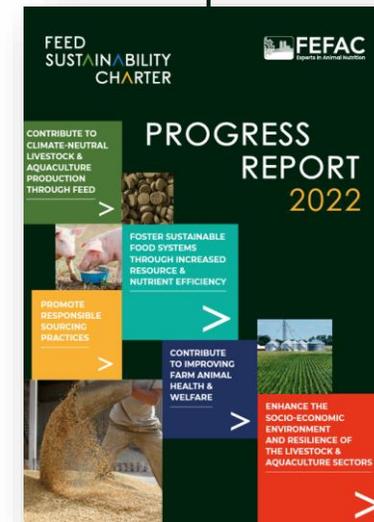
Sustainable Feed Production

September 2020



September 2022

June 2021



FEFAC Sustainability Charter 2030



Ambition 1

Contribute To Climate-Neutral Livestock & Aquaculture Production Through Feed

Ambition 2

Foster Sustainable Food Systems Through Increased Resource & Nutrient Efficiency

Ambition 3

Promote Responsible Sourcing Practices

Ambition 4

Contribute to Improving Farm Animal Health & Welfare

Ambition 5

Enhance the Socio-Economic Environment and Resilience of the Livestock & Aquaculture Sectors

Review of protein plan

Review of 2018 report on plant proteins in the EU (Scope, timing and form?) & Study on feeding strategies



EUROPEAN COMMISSION

Brussels, 22.11.2018

COM(2018) 757 final

REPORT FROM THE COMMISSION TO THE COUNCIL AND THE EUROPEAN PARLIAMENT

on the development of plant proteins in the European Union

Increasing EU protein feed self-sufficiency

Publication of Development of plant proteins in the EU



2017

May 2019

French protein plan



Flemish Protein plan



National feed balance sheets: DE, DK

EU protein deficit: a long-standing issue

Nov 2018

Dec 2020

2021

2022

Q1 2023

Q1 2024

MS are starting to publish their national protein strategies

Informal meeting of the Heads of State or Government
Versailles Declaration
10 and 11 March 2022

Commission announces to review the EU protein plan policy

DISCUSSION PAPER
Informal Meeting of EU Ministers of Agriculture
9 April 2024
Cemix

COMMISSION OF THE EUROPEAN COMMUNITIES
COM(73) 1850 final ANNEXES
Brussels, 16 November 1973
REPORT ON
THE COMMUNITY'S PROTEIN SUPPLIES
PART IV



EU Protein Plan Announced by Commissioner Hogan at FEFAC Congress June 2017

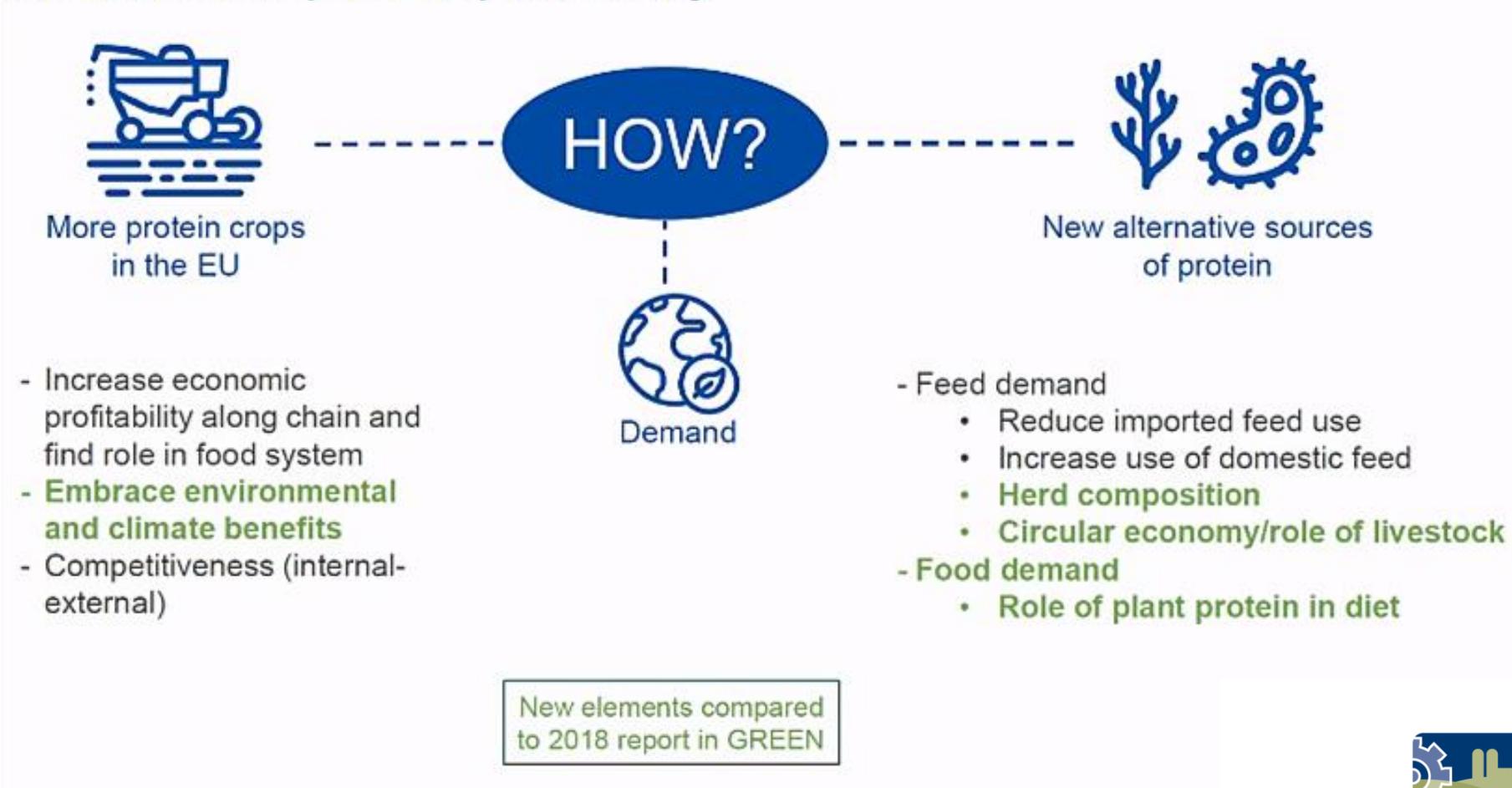
Commission publishes the first EU feed balance sheet providing an overview of EU feed supply



Dutch protein plan

EU protein policy review

Reduced import dependency



EU plant breeding innovation

- Farmers need to have tools such as new genomic techniques to face Farm to Fork implications (less fertilizer usage by 2030)
- Otherwise, the protein content of grains and oilseeds will suffer
- High protein content feed materials available to be grown in the EU?



COMMISSION STAFF WORKING DOCUMENT

Study on the status of new genomic techniques under Union law and in light of the Court of Justice ruling in Case C-528/16

CIRCULAR FEED

OPTIMISED NUTRIENT RECOVERY THROUGH ANIMAL NUTRITION

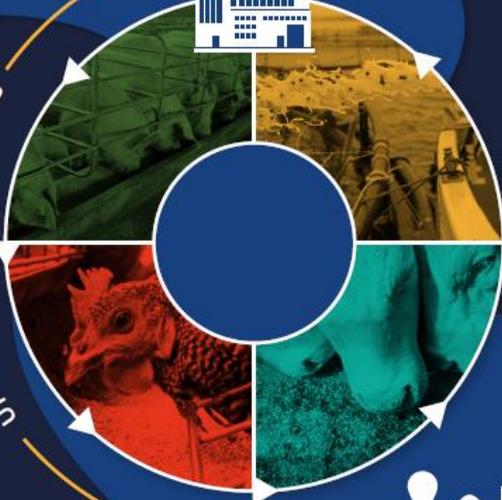
SECONDARY RAW MATERIAL FROM THE CIRCULAR ECONOMY



COMPOUND FEED MANUFACTURER



UPCYCLING OF NUTRIENTS



HIGHLY BIOAVAILABLE NUTRIENTS FOR HUMAN CONSUMPTION

THE CIRCULAR FEED CONCEPT



Food/feed grade status



Land use ratio



The proximity of origin to feed mill



Nutrient digestibility

Potential for role animal feed in nutrient upcycling?

Algae production

Algae production represents a comparatively new branch of aquaculture, with a variety of bio-economy applications including feed. As plants, algae have a fairly unique capacity to absorb and convert 'waste-based streams' into biomass of high nutritional value, without the need for the use of arable land. There are numerous research projects that are investigating the potential of using wastes such as anaerobic digestate, livestock manure or municipal and industrial waste, as a substrate for the production of algal biomass with a use in animal feed. The use of manure in these kinds of processes can in addition help with improving circularity at livestock farm level, as the nutrients lost at feed digestion stage



Single cell proteins

Single cell proteins are often mentioned as a promising protein of the future. Research is investigating a wide-variety of substrates that single cell proteins such as bacteria and yeasts could be grown on. These substrates are in general all waste-based resources of substances that have no direct purpose in animal nutrition. The examples range from gases such as CO, CO₂, ammonia and methane to waste-based streams such as manure. Legislators should anticipate the potential use of single cell proteins in animal feed, as this could also provide viable solutions to emissions-related challenges in livestock farming.



Insect farming

Insect farming is a good existing example of a "nutrient upcycling" sector, with currently already converting inputs of lower value into high value outputs in feed for all farm animal species.¹ Currently in the EU, the substrates on which insects are fed can only be of materials of vegetal origin and other products of animal origin which are also authorised for other farmed animals. The European insect sector can maximise its contribution to enhancing circularity in food production and unlock its full potential if the spectrum of inputs authorised in the rearing of insects is diversified. In turn, this would allow for indirect access of the European livestock and aquaculture sector to a large range of valuable biomass, as the bio-conversion properties of insects can upcycle these materials into suitable feed materials. With insects



Credit: Entogourmet

Phosphate minerals

Current use of phosphate minerals used in animal feeds comes primarily from rock phosphate mines, located in for example Morocco or Russia. Innovation in recycling, driven by phosphorus recovery obligations in some countries, today enables recovery of phosphorus from sewage sludge incineration ash. The current EU regulatory framework does not allow for phosphates processed from such recovery to be used in animal feeds. If the incineration process ensures sanitary safety and if the incineration and phosphorus recovery processes are placed under supervision of control authorities, EFSA and the EU legislators should clarify conditions for safely and legally allowing use of such recovered phosphates in animal feed production.



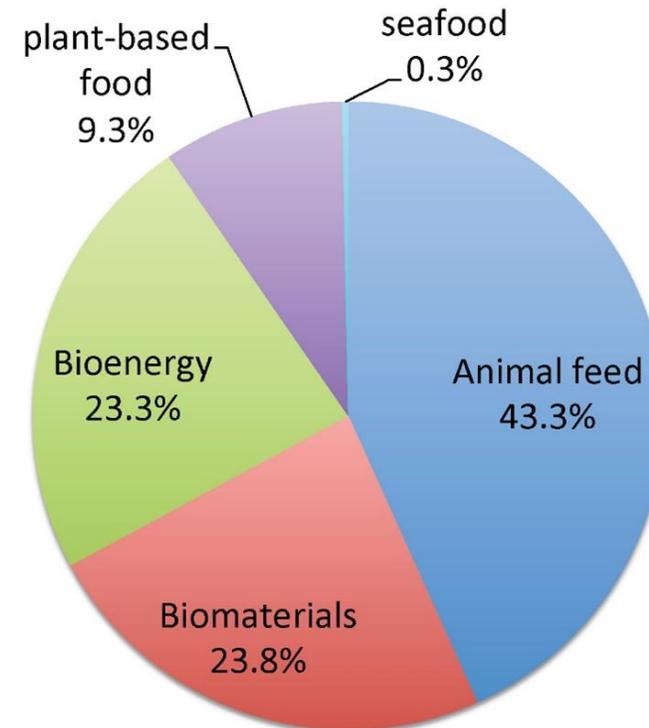
Prerequisites for the use of new feed resources

- **Safety Assurance**: safety for feed means safety for all animal species, safety for consumer of animal products, safety for the environment, and also impact on animal's performance
- **Responsibility**: Suppliers of new feed resources shall apply feed hygiene principles (subject to **authorization**) and be placed under supervision of **competent authorities**
- **Transparency**: we are in the world of innovation and that means intellectual property / competition: safety should be the limiting factor to know how protection
- **Social acceptance**: intra-species recycling, religion, ethics

Competition for biomass

BioEconomy 
Facts

EU biomass demand



Data source: Cattaneo, Bruno.
"Food, Feed, Fibres, Fuels. Enough Biomass for a Sustainable Bioeconomy?" 2019

Feed-biomethane competition: Should avoid a bioeconomy scramble for biomass



JRC SCIENCE FOR POLICY REPORT

Biomass production, supply, uses and flows in the European Union

Integrated assessment

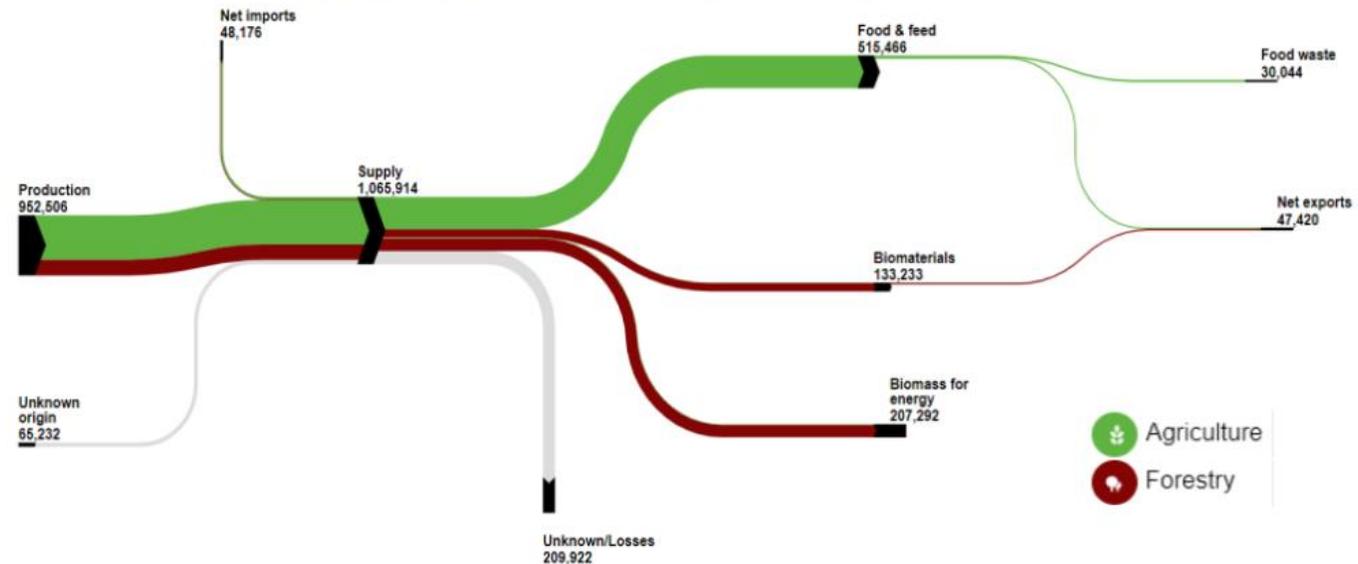
Avitabile V, Baldoni E, Baruth B, Bousiano G, Boyesen-Ulbrich K, Caldera C, Camia A, Cazzaniga N, Ceccherini G, De Lazaretti V, Doerner H, Guentoli J, Gras M, Guillen Garcia J, Gurnia P, Hasegawa M, Jasinevicius G, Jonsson R, Kinnard C, Kupichus S, La Notte A, M'barek R, Mannini A, Migliavacca M, Mubareka S, Patani S, Pili R, Rebours C, Ronchetti G, Ronzon T, Rougier P, Sala S, Sánchez López J, Sanyal Merguál E, Sirkko T, Sturm V, Van Leeuwen M, Vasilekopoulos P, Veerkamp PJ, Virtanen J, Winker H, Zúñiga G

Editors:
Mubareka S, Migliavacca M, Sánchez López J

2023

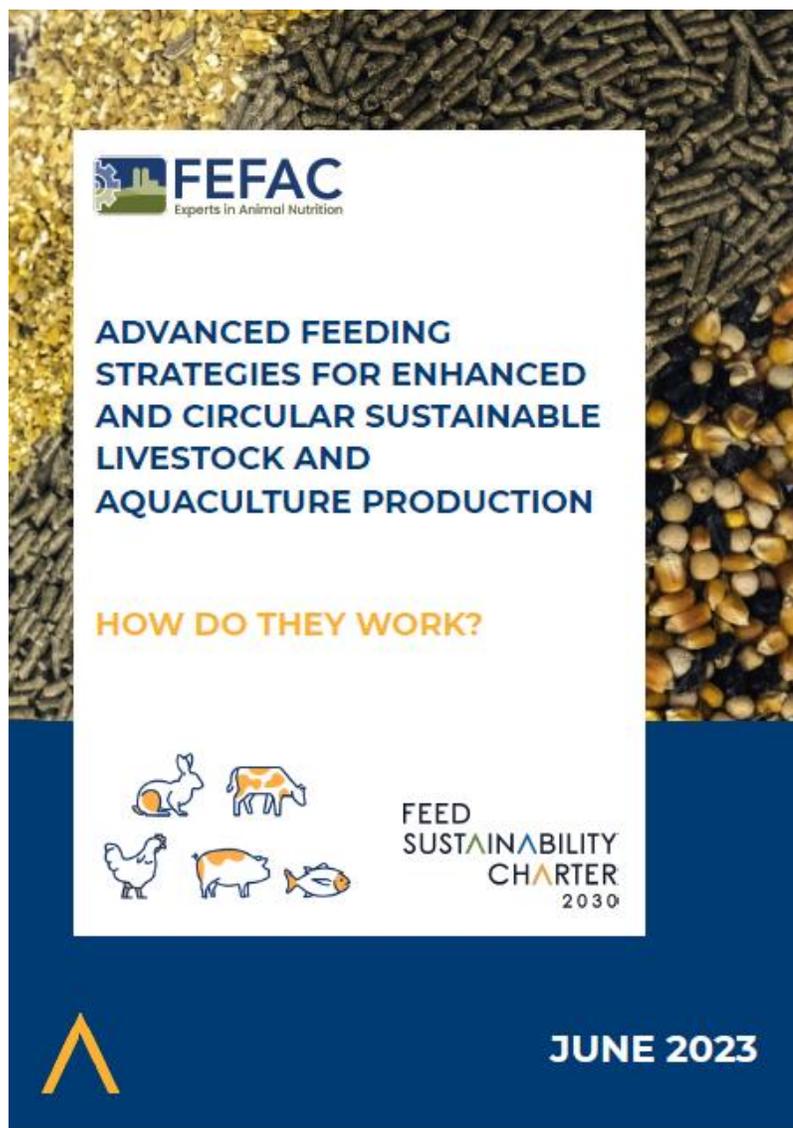


Figure 1. Biomass flows by sector, EU-27, net trade, 2017 (1000 tdm).



New dashboard coming





TUYEM

Case studies

Filter by type of challenge

Show all categories

Environment

Animal Health

Animal Welfare

Feeding monogastrics with grass proteins (new protein resource)

Last update: 2 June 2023
Action: Use of proteins from bio-refined grass and clovers.
Animal category:...

[Read more >](#)

Phase feeding (nitrogen emissions)

Last update: 2 June 2023
Action: Match as close as possible the nutrient requirements of the pigs.
Animal...

[Read more >](#)

Use of phytase (phosphorous emissions)

Last update: 2 June 2023
Action: Decreasing phosphorous emissions. Animal category: All species, especially...

[Read more >](#)

Use of chelates of copper and zinc (emissions of metals)

Last update: 2 June 2023

Use of free amino acids and low protein feed formulation (nitrogen emissions)

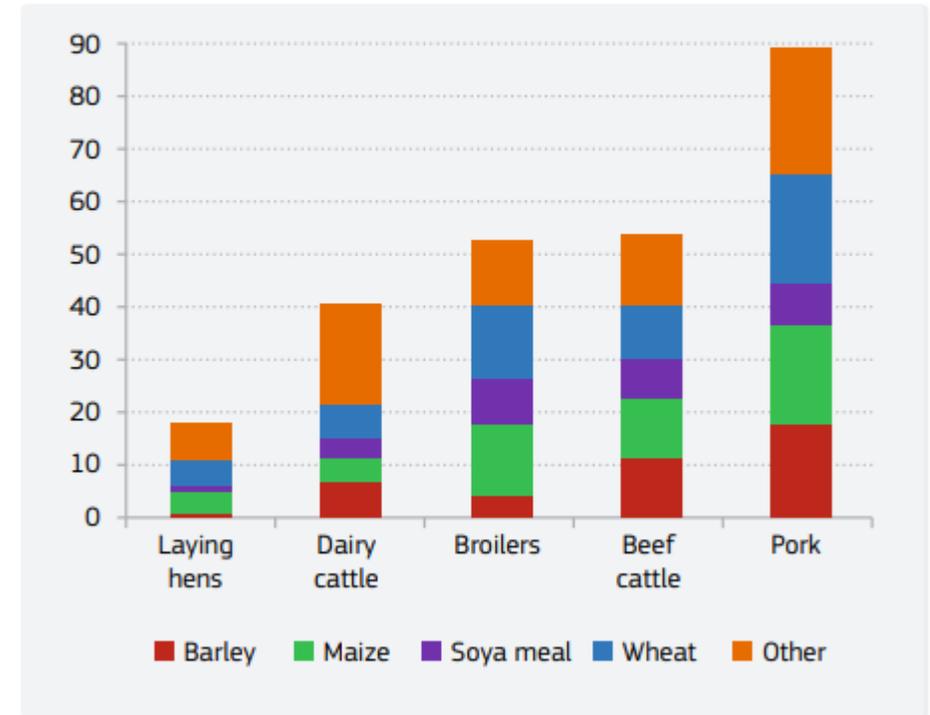
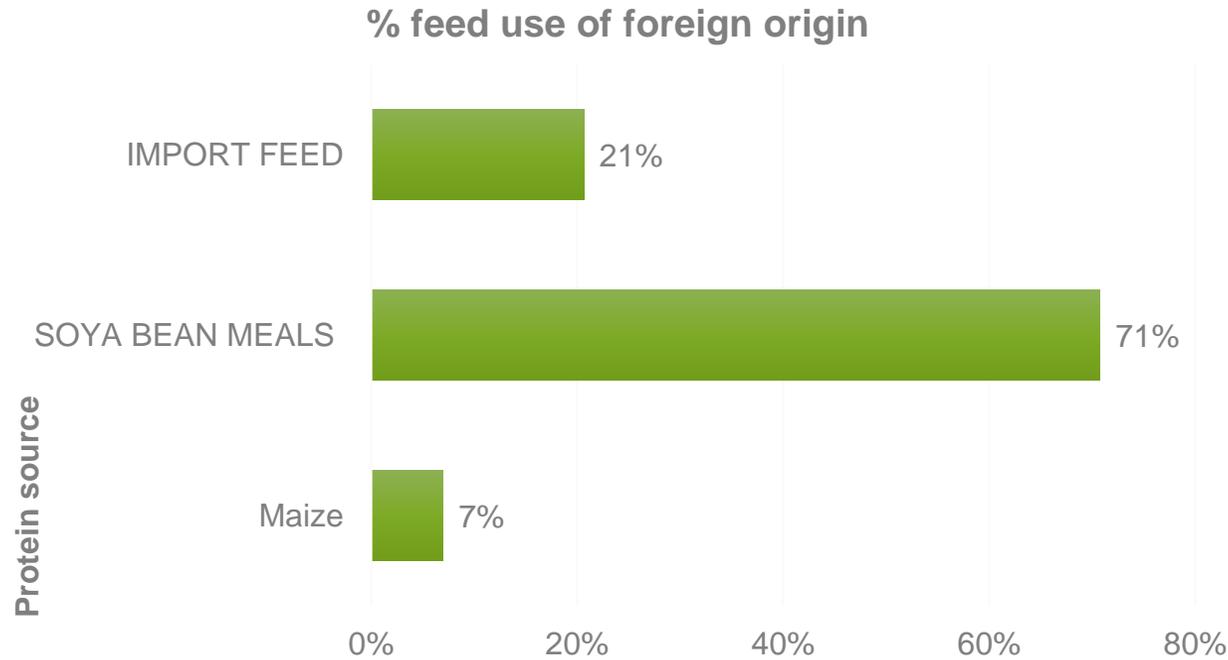
Use of proteases (resource efficiency)

Last update: 2 June 2023
Action: Enhancing digestion of

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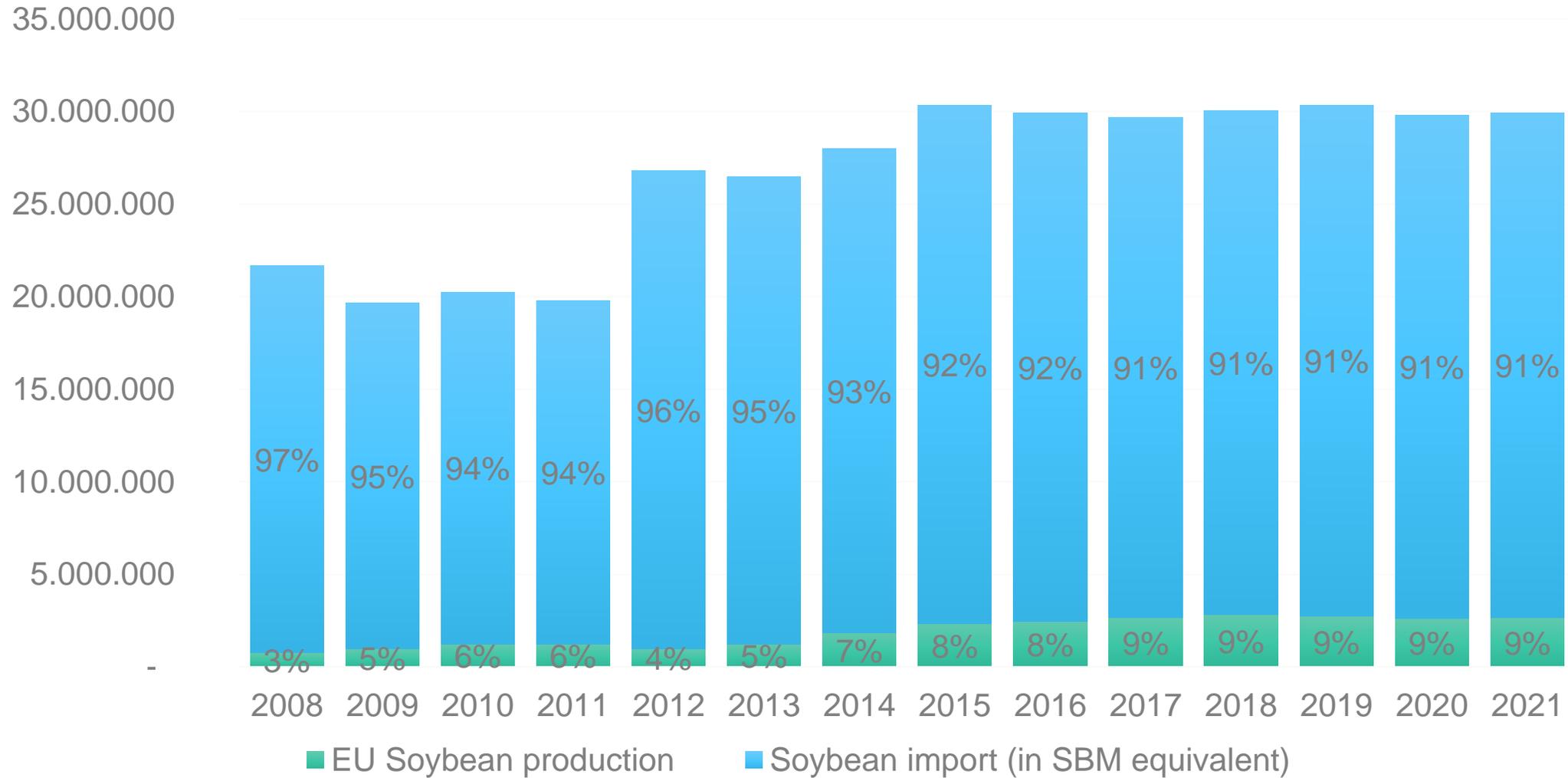
Graph 2.46 EU feed use per animal type in 2015/2016 (million t)



The EU depends on GM crop imports :
app 80% of EU compound feed contains GM feed materials
and is labelled as such according to EU Regulation
1829/2003/EC

Source: EU AGRICULTURAL OUTLOOK FOR THE AGRICULTURAL MARKETS AND INCOME 2017-2030

Use of Soy and its source

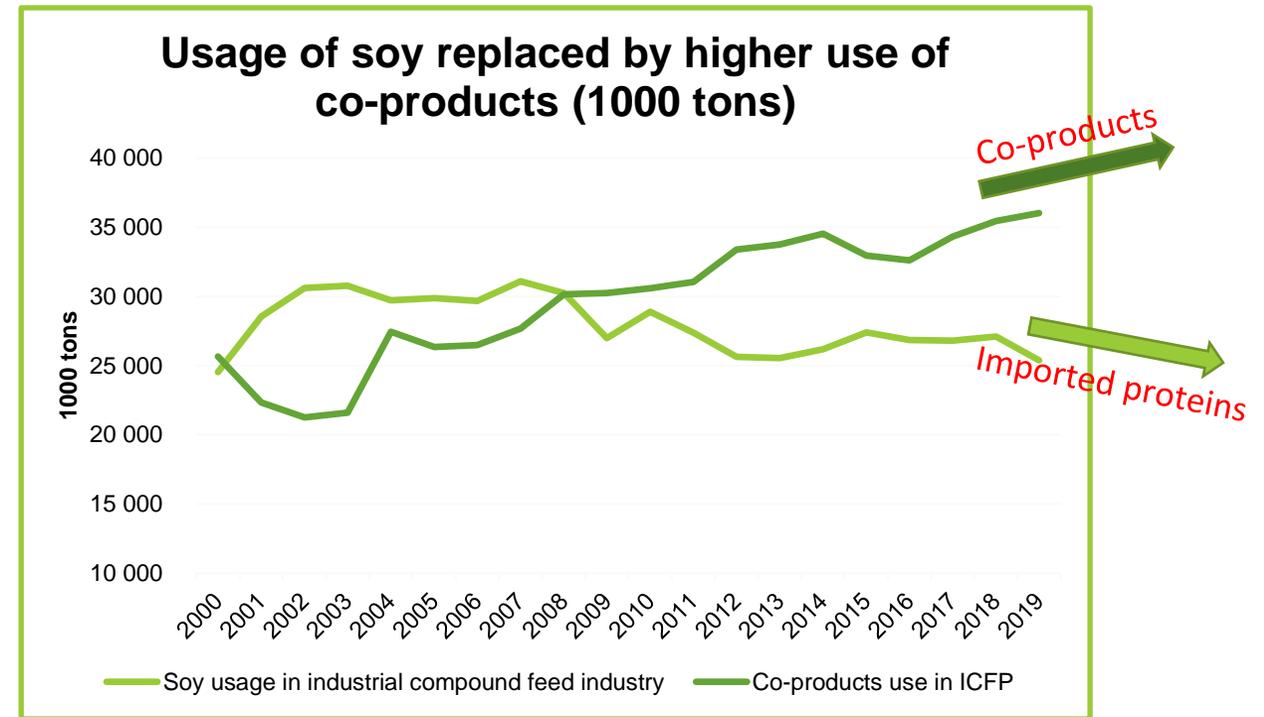
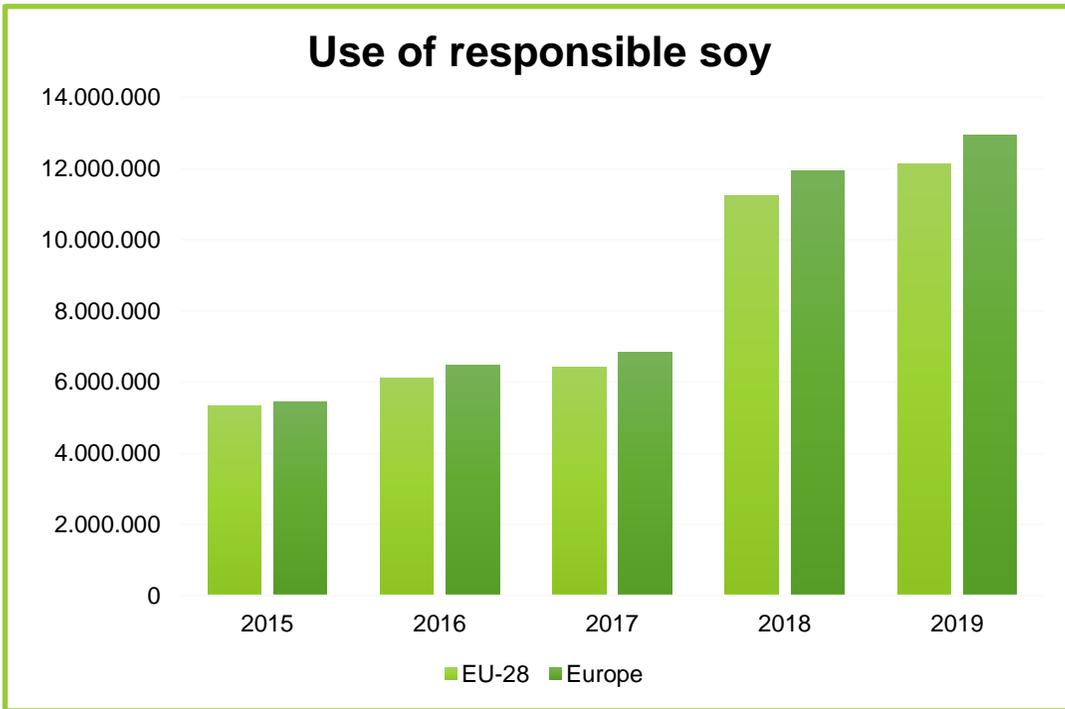




RELEASED IN
FEBRUARY 2021

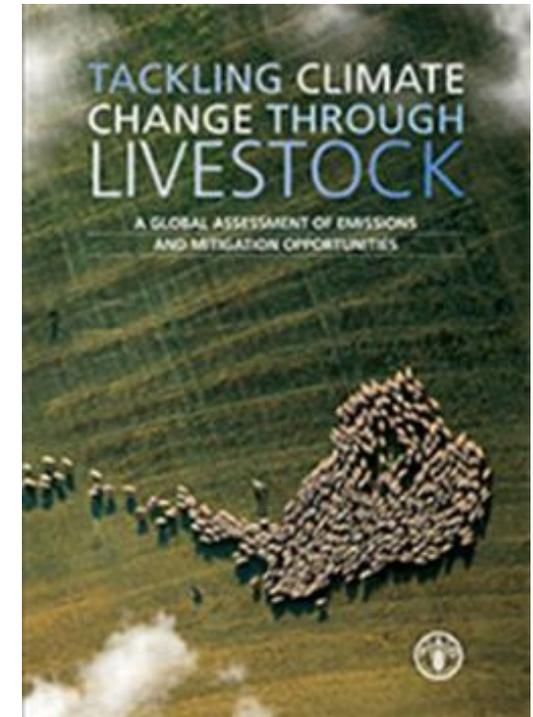
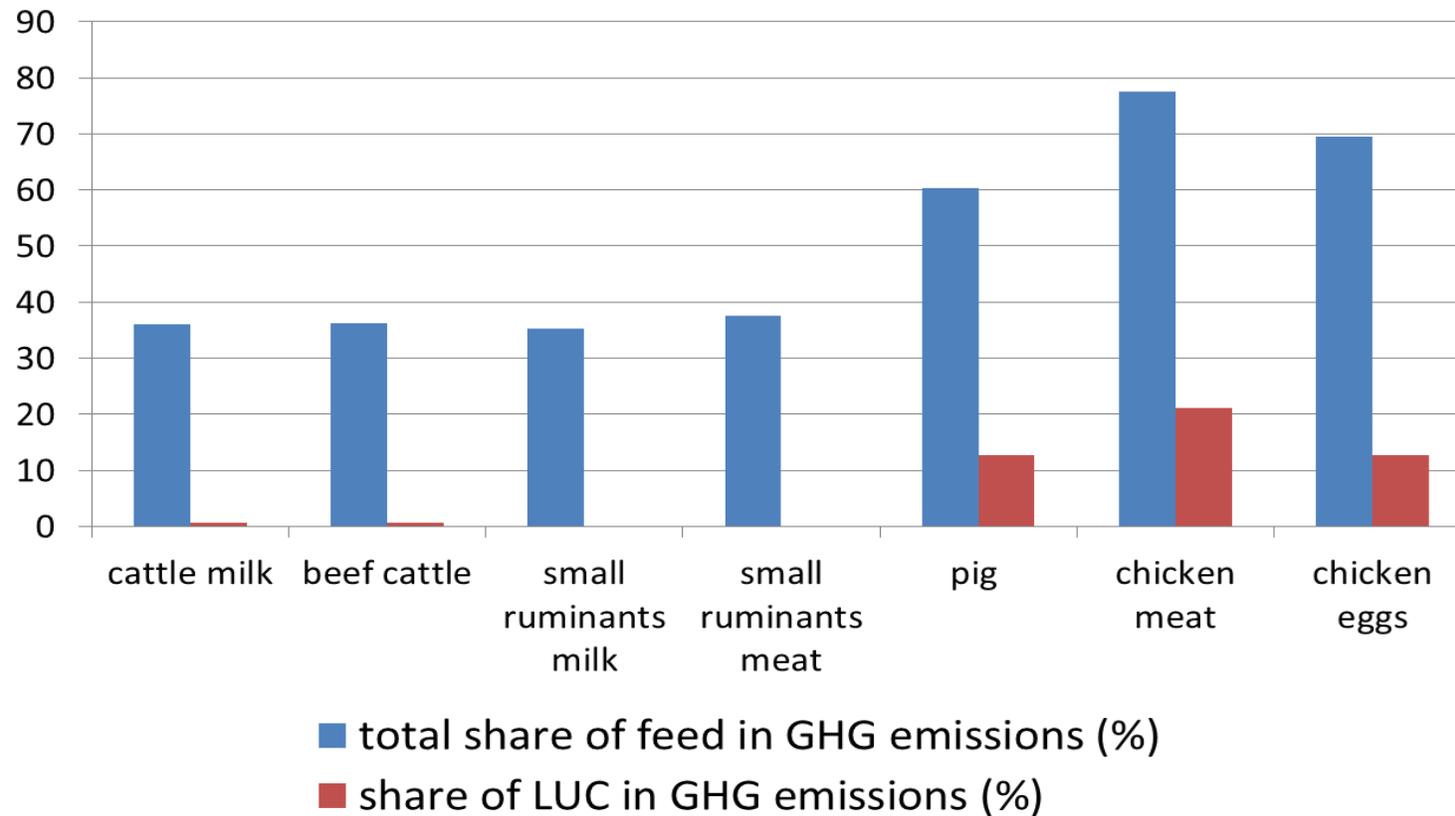
In short

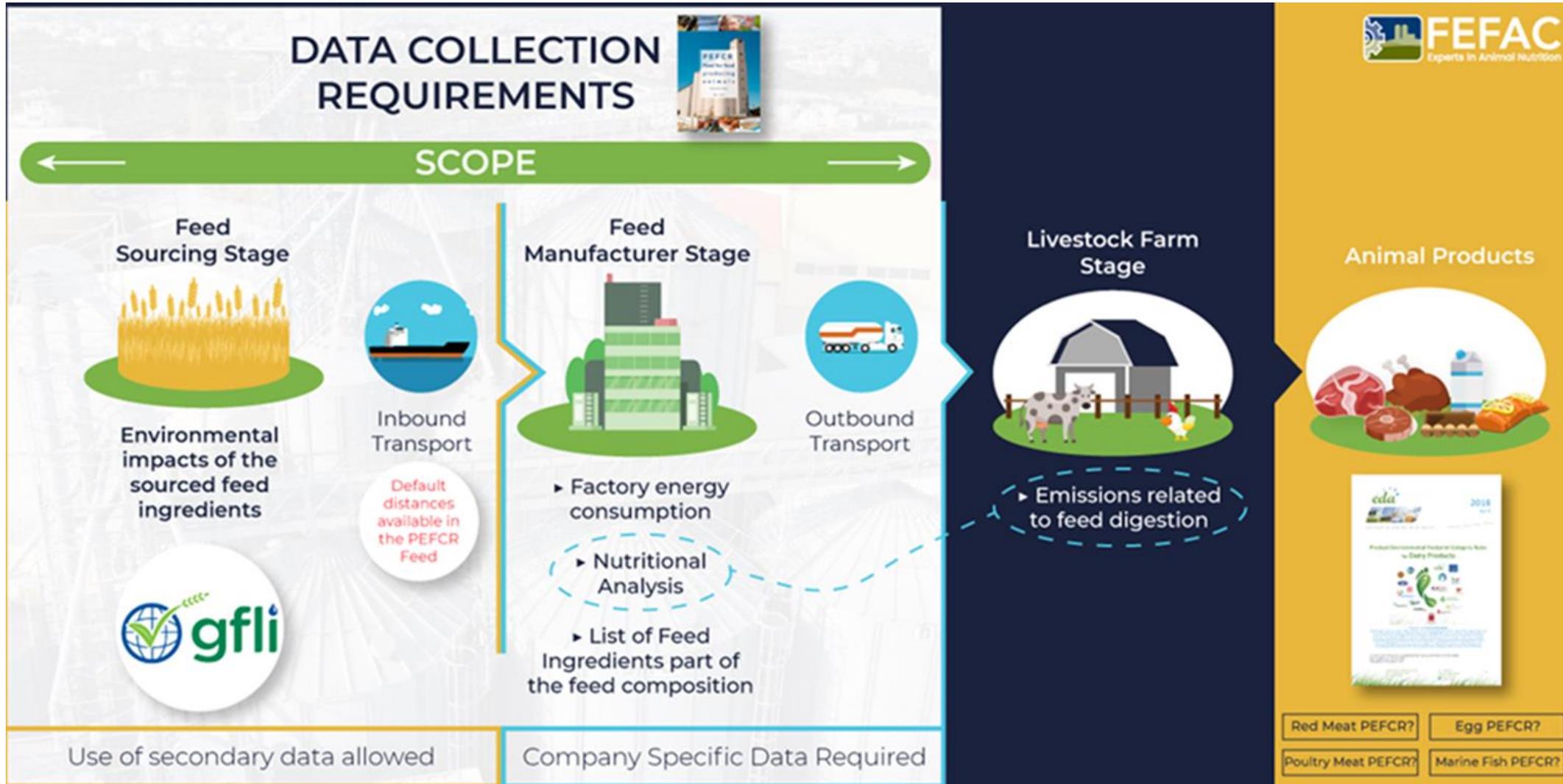
- A benchmarking programme / a set of criteria to set a comparison level to evaluate performance. NOT A NEW STANDARD, but a “soft tool to support our members to demonstrate compliance with new EU regulation on Deforestation-free supply chains
- Facilitate transparency and confidence in the market of responsible soy with a **great variety** of schemes on offer with different geographical origins, serving the mainstream market
- Schemes/programmes **voluntarily** apply for benchmarking of their provisions against the criteria of the FEFAC Soy Sourcing Guidelines 2021. If they pass, they are displayed in the FEFAC Soy Sourcing Guidelines Benchmarking Tool on ITC Standards Map



Feed Industry Obligation

Feed production represents 45% of the carbon footprint of livestock products globally (FAO, 2013)





Scope and Downstream Stakeholders

Introduction

What is GFLI and its database?

What is GFLI

The Global Feed LCA Institute is an independent animal nutrition and food industry non-profit institute with the purpose of:

- developing a publicly available Animal Nutrition Life Cycle Analysis (LCA) database;
- supporting the meaningful environmental assessment of animal nutrition products; and
- stimulating continuous improvement.

GFLI database

The database allows feed, livestock and aquaculture sectors to:

- use data based on a harmonized methodology;
- calculate the environmental footprint of products in a transparent and trustworthy manner; and
- benchmark and make meaningful comparisons.

Makes it possible to produce feed with a lower footprint; resulting also in food products with a lower footprint/kg (meat/dairy/eggs).

20 April 2024



GFLI timeline

while the Institute is established in 2019,
a long road came before...



2010–2015
Start of research LCA



2015
GFLI established as
coalition project



2016–2018
GFLI methodology created
according to FAO-LEAP & PEFCR
Feed



2019
GFLI as non-profit entity,
start of institute



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20 April 2024
2020 onwards
Publication of the database,
member-based institute,
developments



GFLI in a nutshell

An Institute

Day-to-day management



20 April 2024

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Partnerships

Partnerships with stakeholders in food and feed



Database

Managing and improving the database



Methodology

Alignment with major developments, flexible but thorough methodological approaches



GFLI members

TLVEM

20 April 2024



Main FEFAC messages

- **Open strategic autonomy and strategic dialogue on the future of EU Agriculture** : The EU should increase EU feed autonomy and circularity for feed production
- **EU protein plan**: the EU must foster innovation (NGTs) to increase protein and oilseed production in the EU
- **Circular feed**: is a major contribution of feed industry to sustainable food system
- **GFLI & Green feed labelling** : The EU should incentivise EU livestock and aquaculture sector via innovation in feed industry to help reduce environmental footprint of animal production (low Co2 footprint)
- **Deforestation-free supply chain regulation**: should be achieved without a significant impact on supply chain and consumer prices using FEFAC Soy sourcing guidelines as “best practice” reference, which will help accelerate transition to deforestation free supply chains and should be recognized by Member States

Thank you for your attention



@FEFAC_EU

