



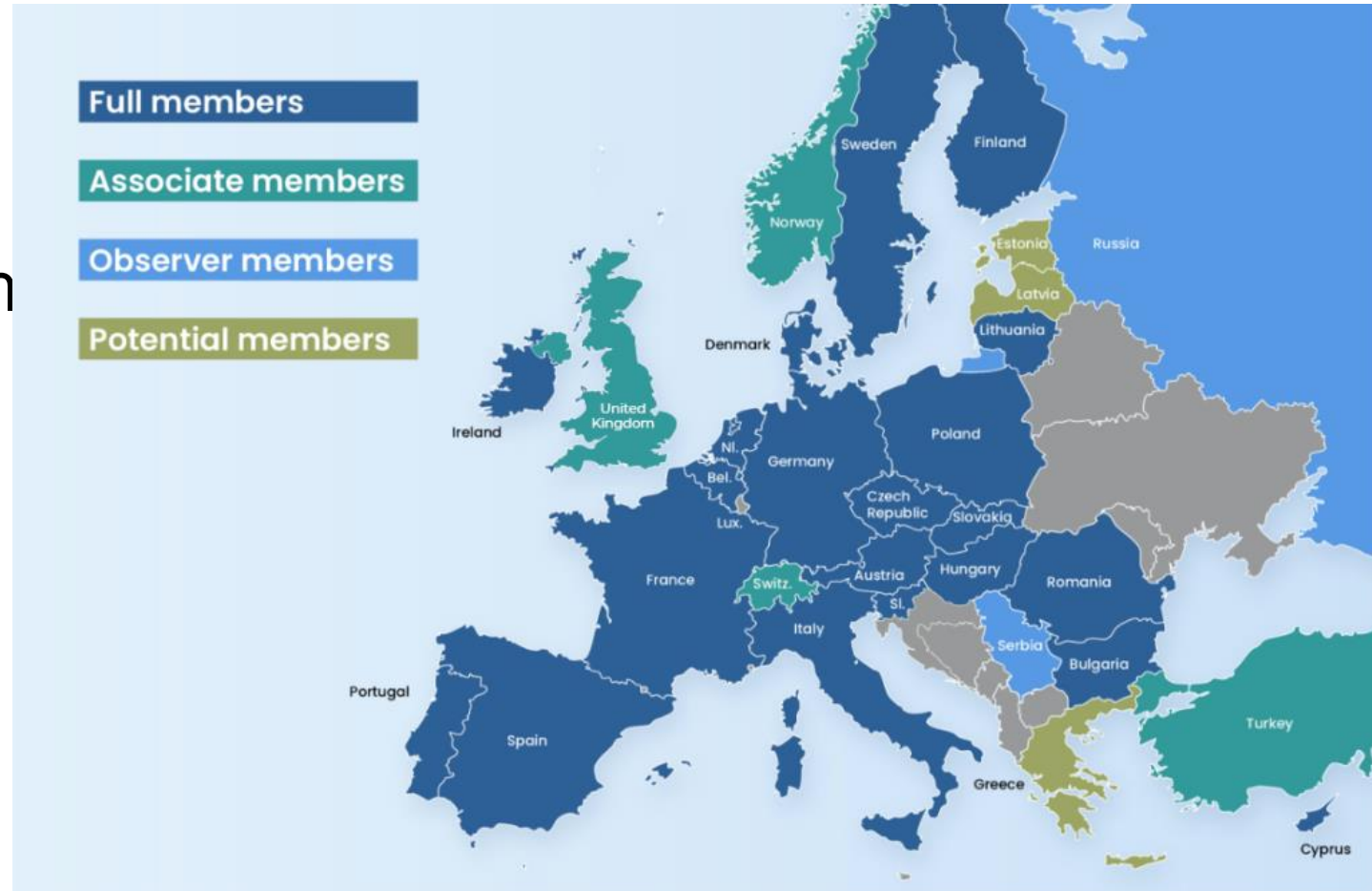
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Food-feed competition concepts to demonstrate nutrient efficiency in feed production

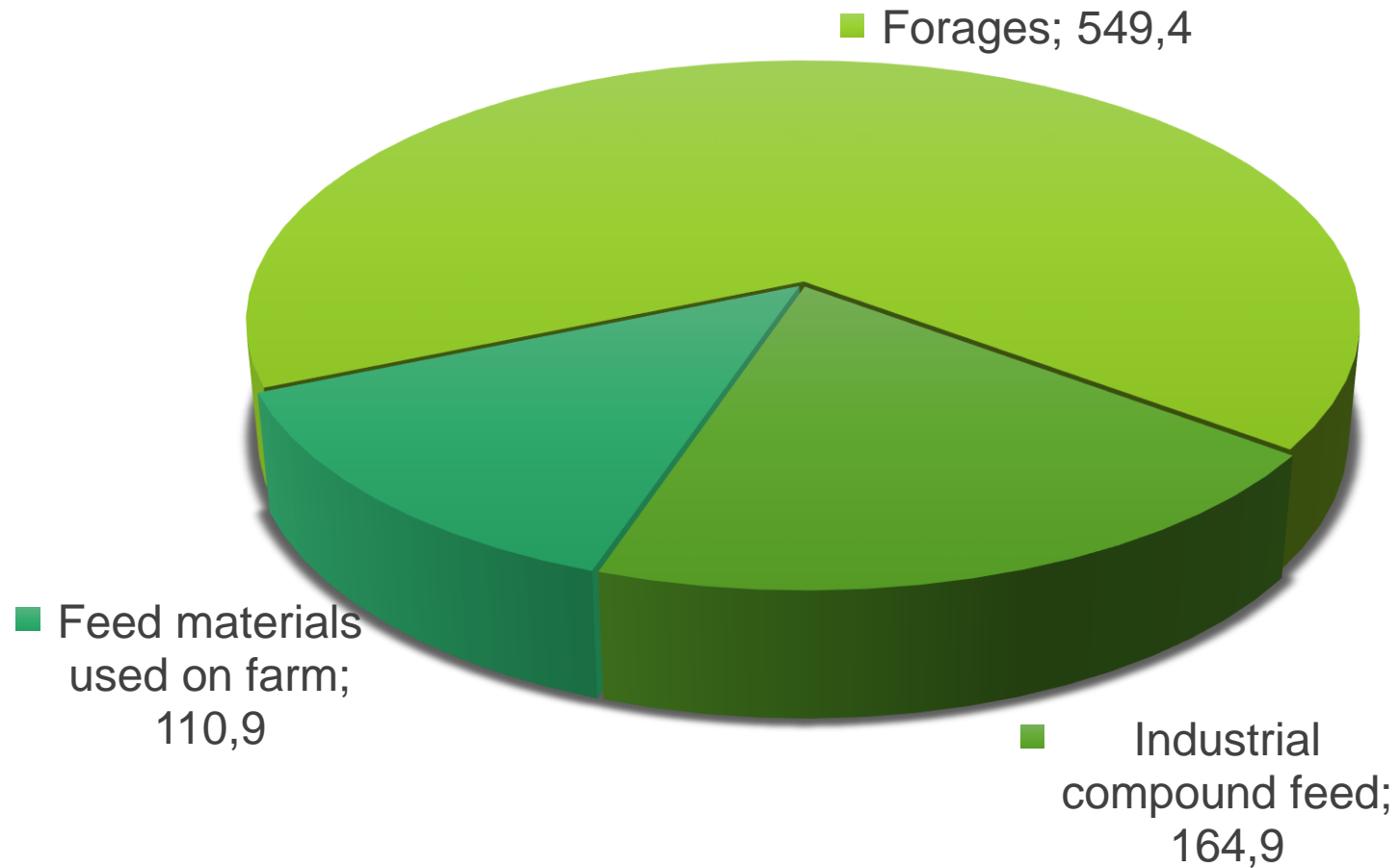


Who is FEFAC?

- European Association of Compound Feed Manufacturers
- Based in Brussels, Belgium
- Founded in 1959
- Represents 28 National Associations in 27 European countries



Livestock sourcing in feed in the EU+UK (825 mt. in 2020)

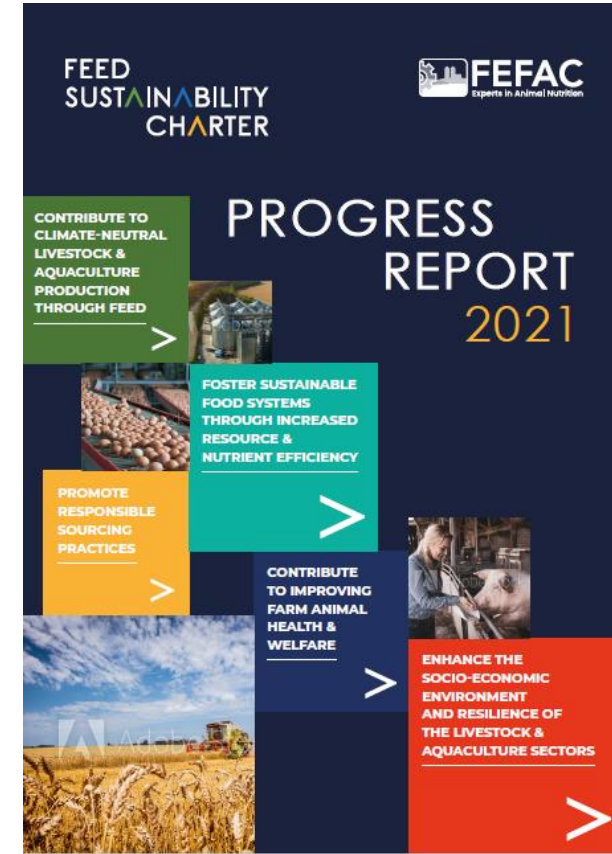


Source: FEFAC, DG AGRI

Agenda

- Non-human edible feed
- Non-food grade feed ingredients
- Circular feed
- Further optimising nutrient cycles through animal nutrition

FEFAC perspective on sustainable feed production



FEFAC Feed Sustainability Charter facilitating commitments to action at national level

FEFAC MEMBER ACTIONS

Ambition 1

Contribute To Climate-Neutral Livestock & Aquaculture Production Through Feed

Belgium



In Flanders, the government and the agri-food industry are committed to reducing methane emissions from cattle by 26% by 2030 compared to 2016. The Belgian animal feed sector will

France



EUROFAC is committed to developing a voluntary scheme for the collection and recycling of feed packaging, which should be fully operational by 2024.

Norway



The Norwegian Seafood Federation is a driving force in the development of the PEFCR Marine Fish as chair of the Technical Secretariat. This is a key element in the objective to significantly reduce the climate footprints of



Towards sustainable feed production in Central and Eastern Europe

Italy



Associazione Nazionale tra i Produttori di Alimenti Zootecnici

Assalzo actively works on attracting young people to work in the feed industry. Assalzo each year gives awards to a Bachelor thesis and a Doctorate thesis that have shown to be of value to the interests of the feed sector.

aic
Agricultural Industries Confederation

A roadmap for a sustainable food chain

Together with our partners in the food chain we want to build a more resilient future and we have committed to a Sustainability Roadmap that will deliver.

Denmark



Animal health and welfare is of utmost importance. No later than 2022 the use of Zinc oxide for the weaning of piglets must be phased out. The Danish feed industry is committed to develop and implement feed solutions that support healthy weaning of piglets – without the use of Zinc oxide and without increased use of antibiotics (at weaning).

Germany



DVT gives free lectures at universities on topics such as feed safety, climate protection and sustainability to stimulate the dissemination of necessary practical knowledge.

Ireland



In 2020 a government/IGFA national survey concluded that protein levels in animal feed have been following a positive environmental downward trend since 2015. IGFA is committed to continuing to ensure accurate data is available for our sector in the future and to promoting best environmental practice while optimising nutrient usage.

Portugal



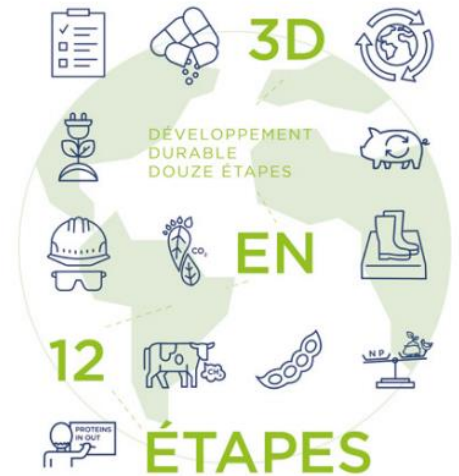
IACA is a partner to the COLAB FeedInov project, which aims to stimulate more sustainable livestock production. Amongst other objectives, the project has the ambition to increase the feed valorisation of food industry by-products and other currently unused biomass.

Spain



In June 2020 CESFAC signed a co-funding agreement with IDH (the Sustainable Trade Initiative) to improve the traceability of soy used in the Spanish feed industry. This exercise should facilitate future responsible soy and deforestation-free sourcing strategies.

BFA Sustainability Charter brings its vision to life



Nevedi 2020-2025 vision for a sustainable and competitive Dutch feed industry



FAO sets the record straight—86% of livestock feed is inedible by humans

Ambition 2

Foster Sustainable Food Systems Through Increased Resource & Nutrient Efficiency



UN Strategic Development Goals



EU Green Deal objectives

Reducing the excess of nutrients

Boost a circular bio-based economy
Reduce food waste

NUTRIENT LOSSES

Reduce nutrient losses by 50% whilst retaining soil fertility, resulting in 20% less fertilisers

DG AGRI will contribute to the development of an **integrated nutrient management action plan**, together with Member States, to address nutrient pollution at source and increase the sustainability of the livestock sector.

Role of the livestock sector in harnessing nutrients in a circular economy

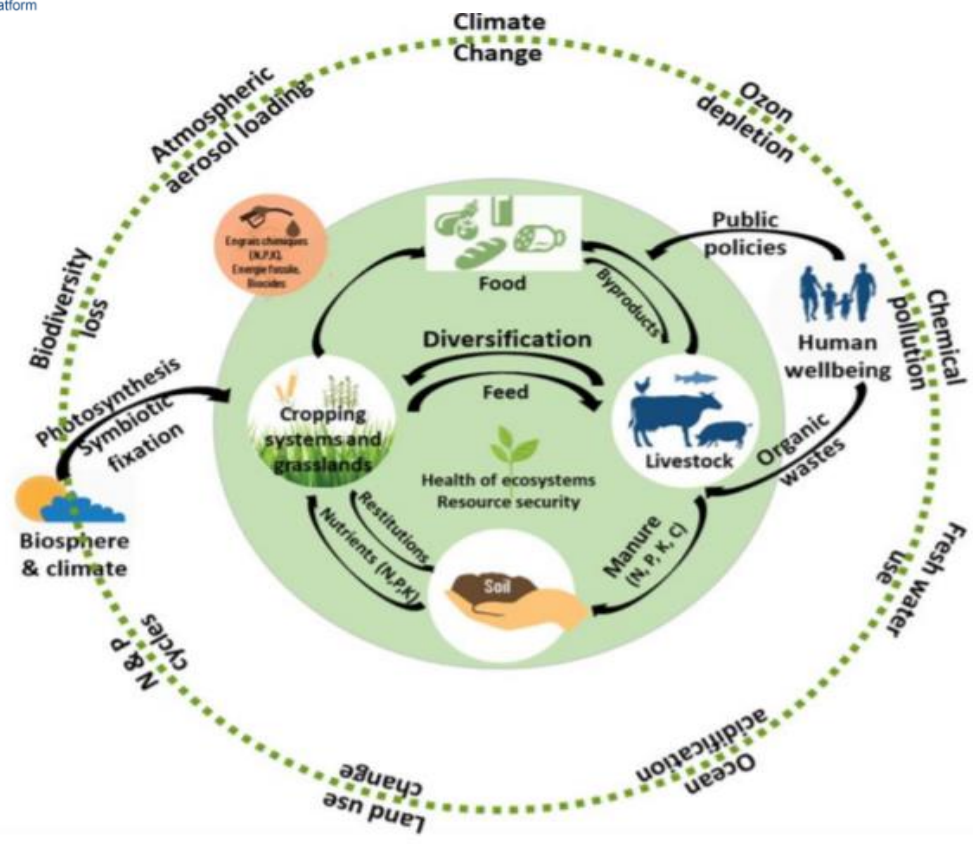


Figure 1. Role of livestock farming in sustainable agri-food systems

Resource efficiency champions Co-products, an essential part of animal nutrition



FAO Study (2017) on Human inedible feed

FAO sets the record straight—86% of livestock feed is inedible by humans

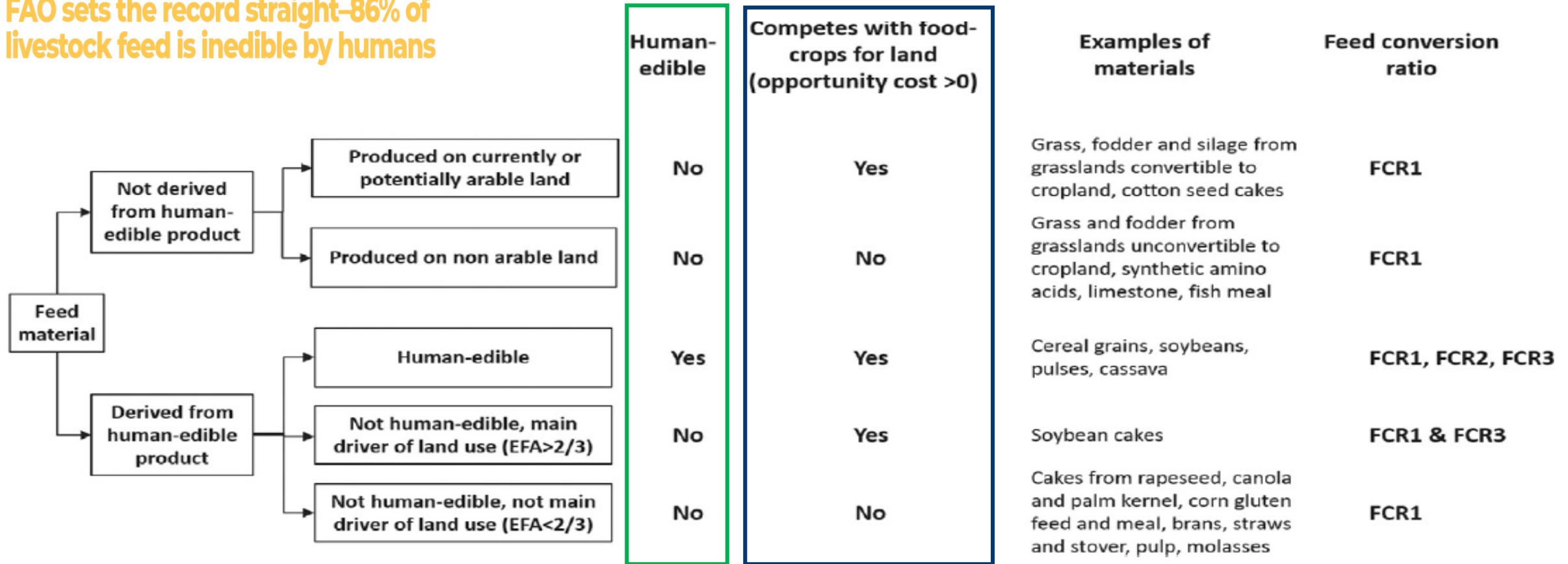


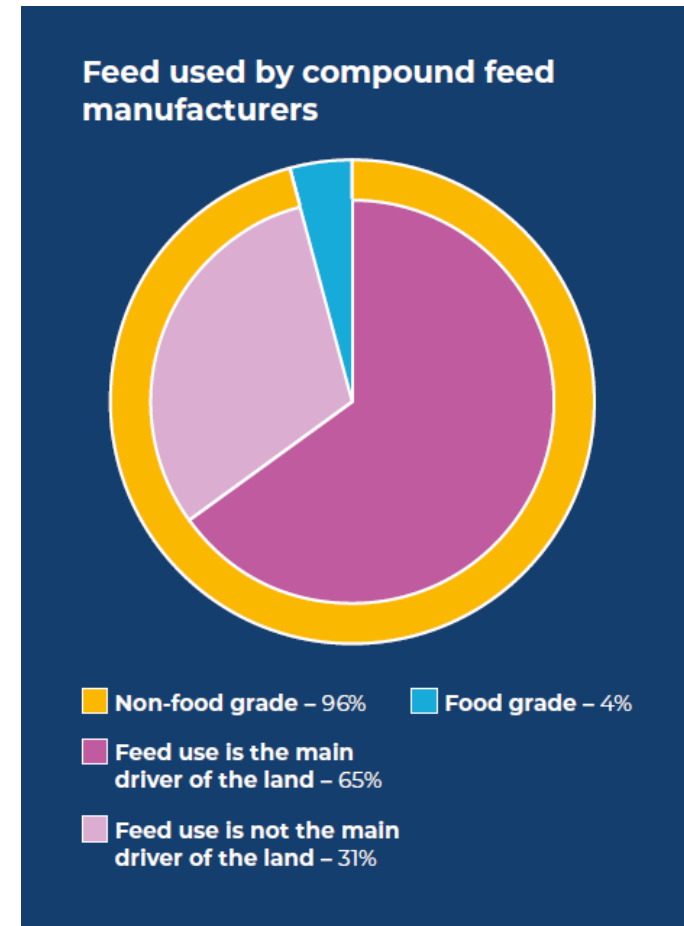
Fig. 1. Feed classification methodology.

Share of human inedible feed at EU level?

- FEFAC commitment in Feed Sustainability Charter 2030 (September 2020)
- Methodological challenges raised by FEFAC members
 - Land use is a factor in the FAO paper but not an inherent part of the ‘human inedible feed’ concept
 - Large majority of cereal grains used in feed not considered ‘human edible’
 - There is a logic to have soybean cakes on the ‘negative side’ of the spectrum, but not considered ‘human edible’ in FAO paper
- Shift to “non-food grade feed ingredients” to focus on quality aspect of feed ingredient (direct consumption-competition perspective)

Assessment on use of “non-food grade feed ingredients”

- Food grade
 - Cereals surplus (5%), SMP/whey (50%), Former foodstuffs (50%)
 - Not necessarily negative! Clear cases of food waste prevention while using a high-quality feed ingredient
- Separately addressed where “feed use is the main driver of the land use”
 - Not necessarily negative either! Feed crops can make best use of marginal lands or be part of a rotation system



Potential for the concept of “circular feed”?

- In principle, the less arable land used for the production of a feed ingredient, the more likely it's a product of the circular economy
- Positive elements
 - Allows to directly qualify the origin of a feed ingredient
 - Allows to step away from a binary approach. Land-requiring feed ingredients are not 'zero circular'
 - Possibly giving the most science-based approach to nutrient efficiency, with possibly a connection to environmental footprinting (economic allocation)
- Geographic boundaries? Or can transport distances be modelled into the concept?
- Goes against well-established resource efficiency parameters such as feed conversion ratio? Room for co-existence?

From 'food-feed competition' concepts to practice – solutions for the future?

- These concepts are driving discussions about the potential of using feedstuffs currently not allowed in feed for food-producing animals
- EFSA project to map changes in risk profile of feed in relation to circular economy (in line with Farm to Fork Strategy ambitions to reduce nutrient losses)
- The age of Farm to Fork: Right time to do horizon scanning to have an inventory of potential future bio-resources and identify legal and non-legal hurdles, while always respecting feed safety
- Scientific community can help industry to explore the boundaries

Potential for further optimizing nutrient cycles through animal nutrition?

- Take a bio-economy perspective and look into indirect solutions as well
 - Potential of ‘intermediate organisms’ (insects, algae, micro-organisms) to upcycle bio-resources currently not allowed in feed for food-producing animals
 - End-of-waste criteria in feed ingredient sourcing?
- Extreme caution to conflate this exploration with ‘catering waste’
- Example of acceptance of former foodstuffs show that (market) perception is a key element in these discussions

Some examples of today and tomorrow

Forage focus: Would you feed your cattle bread and cake?



Sunflower meal an unappreciated source of protein, fiber



Tannin-free sorghum: normal for EU countries



Tech that turns CO2 into animal feed gets funding boost



Some examples of today and tomorrow

In the processing part of the food chain, new technologies and methods have shown to enable the recovery of high-value seafood waste products (both proteins and oils). In order to increase the profitability of this process, it is recommended to open the regulatory framework for a wider use of these products as feed products in aquaculture.



Calcium phosphate from sewage sludge ash by "Ash2Phos" process

IPIFF position paper on the use of insect larvae as feed for food producing animals

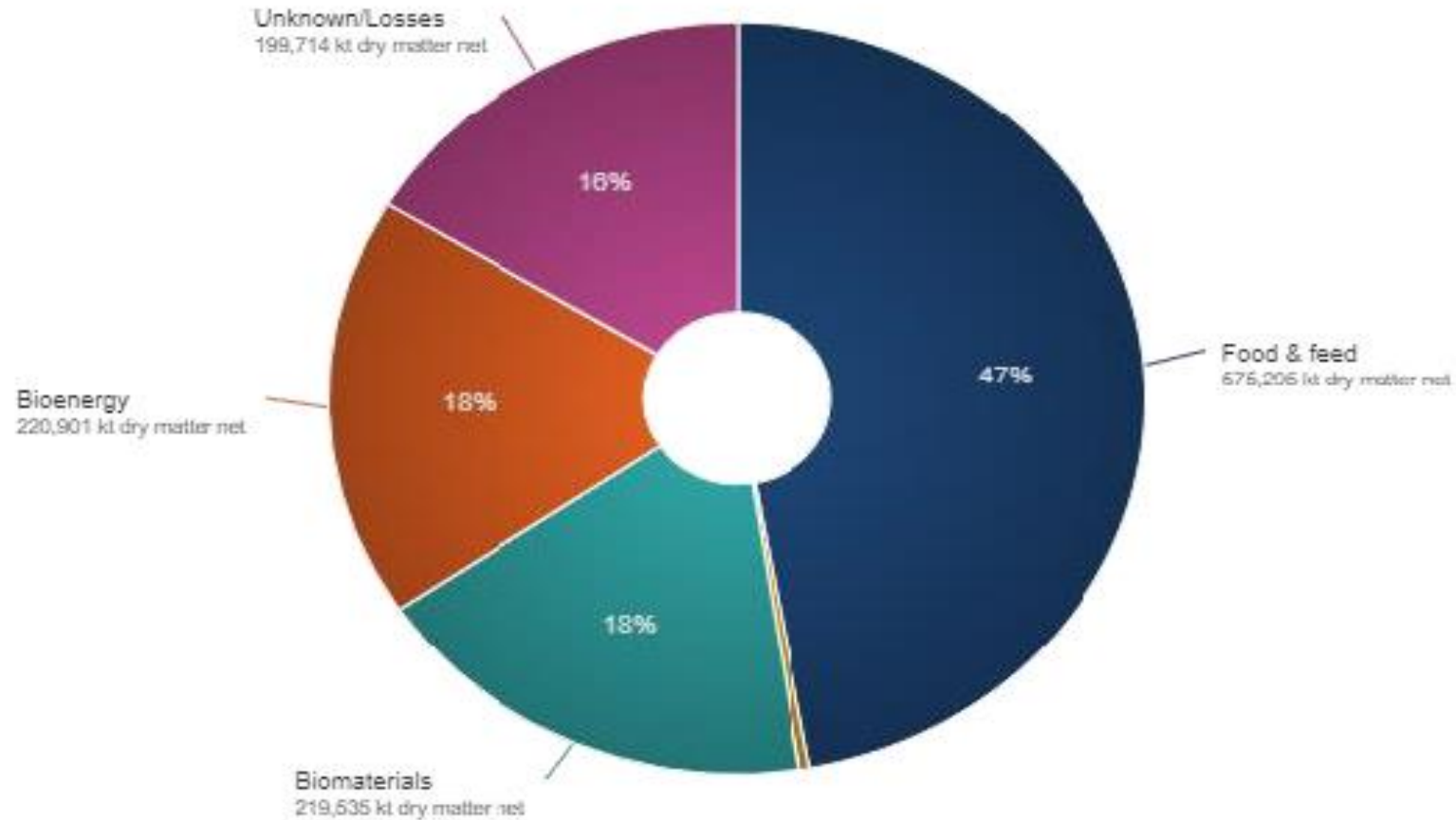


ALG-AD completes experimental trials to test microalgal biomass grown on digestate as a fish feed



Competition in the bio-economy for 'residual flows' between feed/bioenergy/bio-based materials production?

Figure 15. Composition of the EU27+UK biomass uses, net trade, 2015.



Source: JRC EU Biomass Flows

Thank you for your attention



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