Food and Agriculture Organization of the United Nations

SUSTAINABLE DEVELOPMENT GOALS

Food Waste

EFSA Circular Economy Foresight event - Daniela Battaglia

background

- **820 million people** continue to go **hungry** every day (slowly rising since 2014)
- **931 million tonnes food waste** in 2019. 17% total global food production may be wasted
- Food loss and waste also put **unnecessary pressure on the environment**, resulting in natural resource depletion and greenhouse gas emissions.

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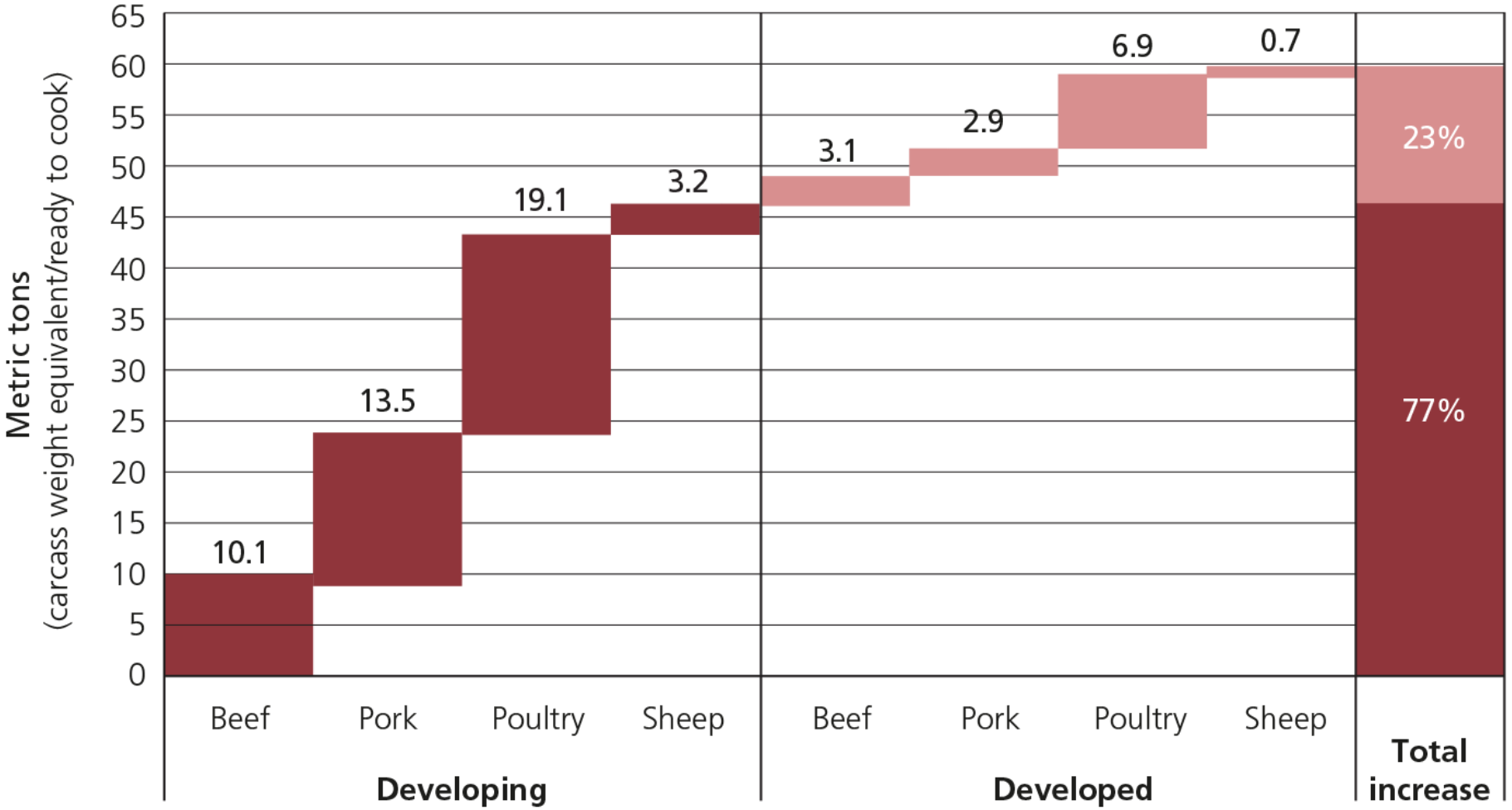
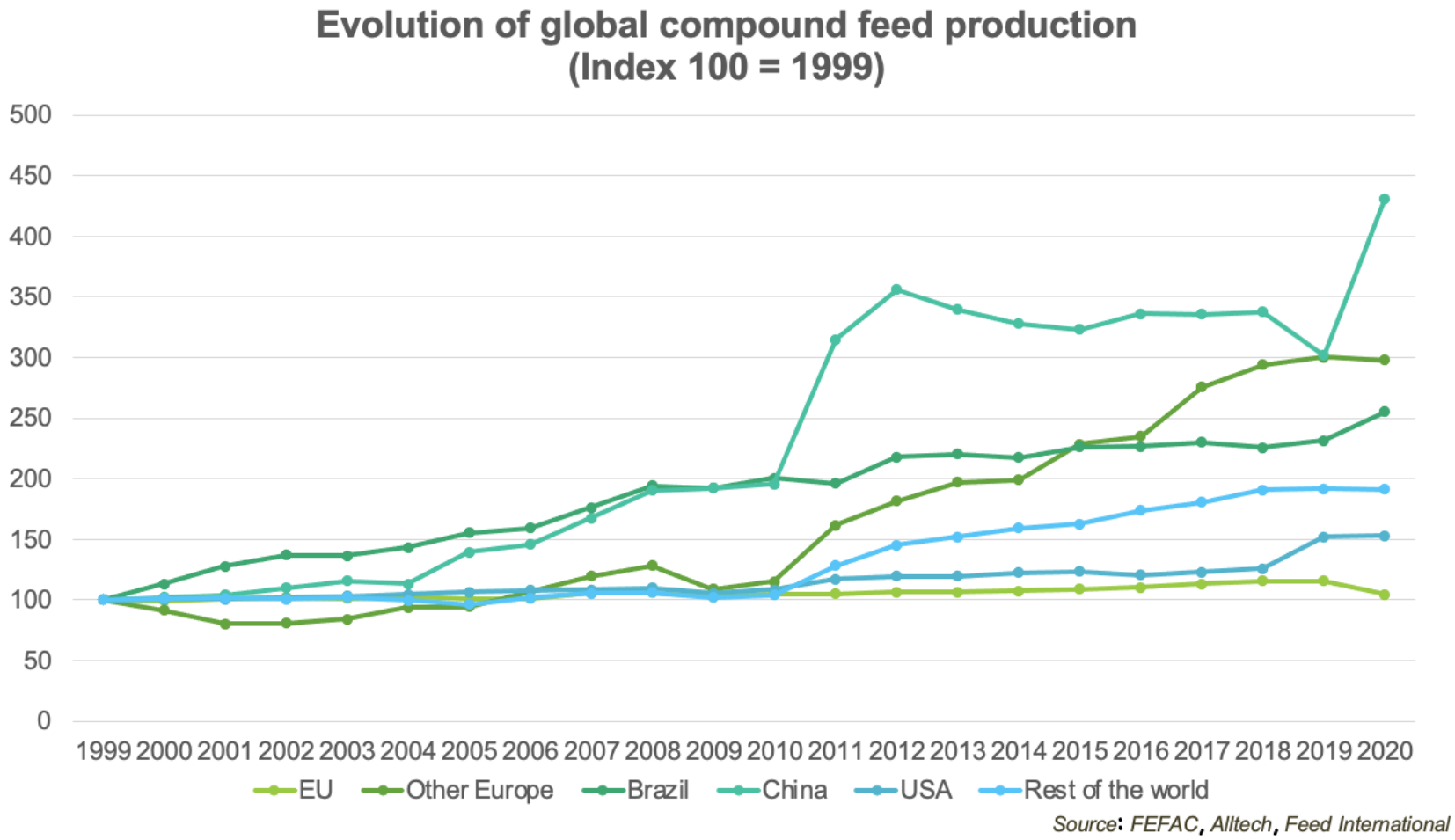
growth in global meat production



poultry meat will remain the primary driver of growth in global meat production

Source: OECD-FAO Agricultural Outlook 2017-2026


Evolution of global compound feed production
(Index 100 = 1999)
500
450
400
350
300
250
200
150
100
50
0
1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020
EU
Other Europe
Brazil
China
USA
Rest of the world
Source: FEFAC, Alltech, Feed International

EU+UK balance sheet for protein feed materials in 2019/2020

	EU total feed use (mio. t proteins)	EU total feed use of EU origin (mio. t proteins)	Self sufficiency
CROPS	18.36	16.55	90%
Thereof wheat	5.48	5.25	96%
barley	3.72	3.72	100%
maize	5.48	4.04	74%
oilseeds	0.46	0.46	100%
pulses	0.90	0.78	87%
CO-PRODUCTS (*)	20.52	4.91	24%
Thereof (**)Soybean meals	13.51	0.43	3%
Rapeseed meal	4.11	2.96	72%
Sunflower meal	2.90	1.51	52%
OTHER (*)	0.44	0.35	80%
Thereof Fishmeal	0.39	0.30	77%
Skimmed milk powder	0.05	0.05	100%
TOTAL	39.32	21.81	55%

(*) excluding on farm uses
(**) including soy protein concentrate

Source: EU+UK Feed protein balance sheet

circular bio-economy

- Circularity in food systems offers ways to minimize the loss of resources and nutrients and increase the efficiency and sustainability of food production.
- Most food waste can be directly (or indirectly) converted into animal feed using proper risk-based measures, technologies and processing methods to ensure their safety and nutritional value for the needs of the animals and their production
- Japan, South Korea and other countries have developed tightly regulated systems and invested in substantial infrastructure using adequate thermal processing to promote the conversion of 35–43 % of food waste into animal feed.

definitions

Food Waste: include materials that remain after, or are produced during, the processing, manufacture, preparation or sale of human food. This can include **Former Food Products**, such as edible material intended for human consumption, arising at any point in the food supply chain, such as that collected at restaurants, retail, or from household food scraps.

Food Processing By-products: include material that is recovered from food processing plants and may include some of the above listed material but also include production materials that are not intended as edible material.

hazards relevant for food safety and animal health

- heavy metals
- pesticides
- dioxins and furans
- mycotoxins
- acrylamide and semicarbazide in bakery waste
- residual processing aids
- packaging materials, including plasticisers or dispersants, printing inks and certain raw materials for plastic production which are classified as endocrine disruptors
- biological (microbial) hazards, which can increase particularly in high moisture former food (e.g. Food-and-mouth disease, African and Classical Swine fever)
- physical such as remnants of packaging materials, e.g. plastic, metal, aluminium and glass

knowledge gaps

- data on the global, regional and national utilization (types and volumes) of various food waste
- inventories of the most prominent and relevant hazards of food waste
- impact of feed (swill, etc.) as transmission vector viral diseases
- monitoring of presence in feed and animal source food of chemical compounds, originating from packaging material, such as phthalates, endocrine disruptors, colorants and printing inks
- investigating occurrence, abundance and risks of remnants of packaging material need to be investigated (physical hazards are largely overlooked).

conclusions

- Using food waste as direct and indirect sources of livestock feed can reduce feed-food-fuel competition and the sector's contribution to GHG emissions as well as alleviate pressure on the world's natural resources.

- However, it is critical from a safety perspective that the feed chain is not used to dispose of degraded or contaminated foodstuffs.

- Given the diversity of inputs, the range of hazards relevant to feed from these sources could be very broad

- Communication between food and feed regulators and industries on the importance of the feed to food continuum and how guarantee human, animal and environmental health and welfare

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thank you