Re:wild Your Fridge: By the Numbers

Biodiversity

- The global food system is the primary driver of biodiversity loss, with agriculture alone identified as a threat to 24,000 of the 28,000 (86%) species at risk of extinction. [UN Environment Program]
- If current food production methods continue, nearly 90% of remaining land animals will lose some of their habitat to agriculture by 2050. [Nature]
- Agricultural expansion drives almost 90% of global deforestation. [Food and Agriculture Organization of the United Nations]
- Nearly 45% of Earth's habitable land is home to livestock and crops to feed them. [UN Food and Agriculture Organization].
- Of the deforestation that has occurred in the Brazilian Amazon between 1985-2021, a full 95% has been due to animal agriculture, including both pasture for cattle and for feed crops. [MapBiomas]
- In Mesoamerica, an ecological region that extends from southern Panama up to central Mexico and includes Central America's last five intact forests that are hotspots for biodiversity, animal agriculture is the primary driver of deforestation, responsible for 90% of deforestation in areas where deforestation is rampant. [WCS]
- And in Australia, 79 percent of the land cleared between 2016 and 2020 was for raising livestock. [Australian Department of Industry, Science, Energy and Resources]
- If you weighed all wild mammals on Earth today, less than 2% would be made up of wild animals, while the rest would be made up of livestock and humans. [PNAS]

Climate change

- Greenhouse gasses emitted by deforestation and land degradation as the result of the global food system makes up one-third of the world's human-caused climate pollution. [Nature]
- "There's enough evidence to show that if we don't shift our diets, then we will not meet the 1.5 degree Celsius target by 2100." [Lini Wollenberg, co-author of Nature paper to Mother Jones]

- Livestock is responsible for 44% of all anthropogenic methane emissions and 53% of all anthropogenic nitrous oxide emissions. Methane has more than 80 times the warming power of carbon dioxide over the first 20 years after it reaches the atmosphere, according to the EPA. And nitrous oxide is 300 times as potent as carbon dioxide and stays in the atmosphere for an average of 114 years, according to the EPA.

Water use

- Beef accounts for one-third of the global water footprint of farm animal production. [WRI]
- Animal agriculture, especially beef, is using huge amounts of water in the drought-stricken western United States. In a recent excerpt published in Rolling Stone, Wade Davis, author of River Notes: Drought and the Twilight of the American West, writes, "fully 80% of the water drawn from the Colorado goes to irrigating some 5.5 million acres, most of which is used to grow alfalfa and grass to feed cattle, and not only in the United States."
- According to a recent Rolling Stone story, "No amount of water conservation in the home, on the golf course, or in the swimming pools and fountains of Los Angeles and Las Vegas will make a difference as long as half of the country's water supply is used to fatten cattle."

Impacts of a plant-based diet

- A plant-based diet results in 75% fewer greenhouse gas emissions, 75% less land use, 54% less water use, and 66% less biodiversity loss than a meat-heavy diet. [Nature]
- A plant-based diet has the smallest climate footprint of all diets. [Journal of Industrial Ecology]
- WIthout meat and dairy consumption, global farmland use could be reduced by more than 85%--an area equivalent to the United States, China, the European Union and Australia combined--and still feed the world. [Science]
- Replacing 50% of the world's beef, chicken, pork and milk consumption with plant-based alternatives by 2050 could effectively halt the ecological destruction associated with farming, particularly in sub-Saharan Africa, China, and Southeast Asia. [Grist and Nature]
- If Americans cut their beef consumption by 90% – and other animal products by 50% – the reduction in emissions would be the equivalent of taking every car off the road in the United States, and another 200 million cars off the roads in other countries, for a year. [Grist and University of Michigan]
- A plant-based diet "is probably the single biggest way to reduce your impact on planet Earth, not just greenhouse gasses, but global acidification, eutrophication, land use and

water use," Joseph Poore, lead author of a Science paper, to the Guardian. "It is far bigger than cutting down on your flights or buying an electric car."
- If you swap cows milk for oat milk in your daily coffee for a year, you could save more than 58,000 gallons of water. [Our World in Data via Science]

Animal agriculture economic alternatives

- In the Amazon region, livestock generates between USD$30 and USD$100 per hectare per year of net income with an average productivity of about one head of cattle per hectare. [Fundação FHC] Compare this to:
    - The production of açaí in Brazil, which results in net income of between USD$200 and USD$1,500 USD per hectare. [Fundação FHC]
    - The production of cacao agroforestry systems, which are estimated to yield annual net profits of USD$1,750 per hectare with an average cacao yield of 700kg per hectare. [IUCN]
- Brazil's state of Pará is the largest producer of cocoa, feeding the country's chocolate industry. A recent study shows that Brazilians who moved to cocoa agricultural systems are making between four and six times more profit per hectare compared to cattle. [The Wilson Center]
- If agro-forestry becomes agro-bio industries in the Amazon--meaning that producers not only sell açai pulp, but produce and sell its derivatives; not only sell cocoa, but produce and sell chocolate--this could result in hundreds or thousands of products that generate exponentially more money than cattle. [The Wilson Center]
- Biotechnology approaches like precision fermentation and other alternatives could yield even greater revenue for tropical countries by using a fraction of the resources. Investment in these technologies within the countries most threatened by animal agriculture is critical.

Efficiency

- It takes around 100 times as much land to produce a kilocalorie of beef or lamb versus plant-based alternatives, and around 100 times as much land to produce a gram of protein from beef or lamb, versus peas or tofu. [Our World in Data via Science]

Zoonotic diseases and human health

- Zoonotic diseases like influenza that spread from animals to humans account for 60% of all known infectious diseases and 75% of new and emerging ones. This includes domestic livestock and the hunting of wild animals, with frequent spillover events between wild and domestic animals. [Council on Foreign Relations]

- The overconsumption of meat results in about $285 billion spent every year around the world treating illness--like heart disease and strokes--caused by eating red meat alone. [The Guardian]