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## FOOD:

**MORE PLANTS,  
LESS PACKAGING,  
LESS WASTE**

DONNA JUDKINS AND MARTA  
VOGEL

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**OPENING PRAYER:**  
FROM THE **NEW ZEALAND PRAYER BOOK**

Eternal Spirit, Earth-Maker, Pain-bearer, Life-giver, source of all that is and that shall be,  
Father and Mother of us all, Loving God, in whom is heaven:  
The hallowing of your name shall echo through the universe!  
The way of your justice be followed by the peoples of the earth!  
Your heavenly will be done by all created beings!  
Your commonwealth of peace and freedom sustain our hope and come on earth.  
With the bread we need for today, feed us.  
In the hurts we absorb from one another, forgive us.  
In times of temptation and test, strengthen us.  
From the grip of all that is evil, free us.  
For you reign in the glory of the power that is love, now and forever.  
Amen

## *INTRO TO HOW DIET CAN HELP*



### Talking Points:

- In the video we watched, we have seen that regenerative ag is needed. The video urges more plant-based eating. The regenerative diet –quote from the film – “if we eat meat we need to eat meat that comes from pasture-fed regenerative farming”.
- This suggests that we take the pressure off the mega-animal factory farming for now and support regenerative agriculture – our team is looking into ways to access those products. Regenerative farming is a more balanced approach and does not have the intensely-produced cheap animal product options that we now have. These factory animal farms came about due to misguided and subsidized efforts for high food production and got intensified due to the commodities market and complex economic issues. They have actively promoted more consumption (e.g, bacon double cheese-burgers) but produced problems that need to be addressed.
- However, animal products are interwoven into our culture and it is a stressful topic. Eating is emotionally-laden and, like mask-wearing, people don't relish being told what to do, in this case what to eat
- We are being asked to consider transitioning more plant-based products into our diet, which can be an exciting journey!
- This presentation briefly touches on themes. I will talk a little about some general principles and did a fair amount of research in the form of Google searching to prepare this info. Also, I know that many of like to see data and sources presented. In the interest of time, I will briefly show the general ideas and cite the sources and then will post this presentation on the website with links to the sources of information.

# WHY A PLANT-BASED DIET?

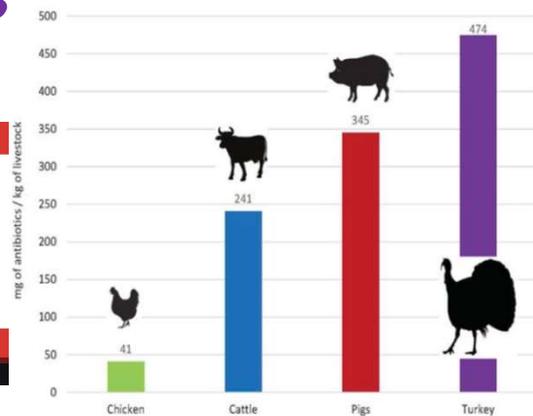
## Animal Welfare Issues and Pandemics



Cartoon by Joel Pett



Figure. Intensity of antibiotic consumption, by U.S. food animal sector



### Talking Points: Why Plants?

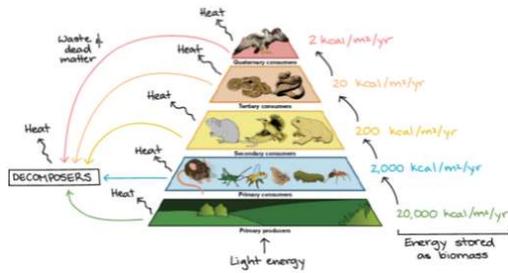
- My own experience has been mainly due to animal welfare. There are many photos and videos that I wish I could unsee. I know that we are all on a journey – we are all changing and none of us are at the same place in any one issue at any time and we are not here to judge each other. We all have our causes and none of us do everything the best way – I don't always check to make sure all the clothes I buy are not produced in a sweat shop, for example.
- Animal welfare:
  - Overcrowding and resulting diseases/antibiotic use and pandemics (swine flu, avian flu, etc.; also including the promotion of drug-resistant strains of bacteria).
  - Animals raised for food exempt from most humane treatment laws; painful body-alterations without anesthesia.
  - Inhumane transportation (esp. shipping) and slaughter (rates are worse at holidays).
  - Two diocesan resolutions adopted in 2009 call for humane treatment and protection from animal cruelty (cite hen battery cages, sow gestation crates, veal crates, etc.)
  - I wish all farm animals could live more like the regenerative farm videos.

Antibiotic graphic from: <https://www.nrdc.org/experts/david-wallinga-md/analysis-high-intensity-antibiotics-us-beef-pork>

Drug-resistant strains reference: <https://www.newyorker.com/culture/annals-of-inquiry/the-pandemic-is-not-a-natural-disaster>

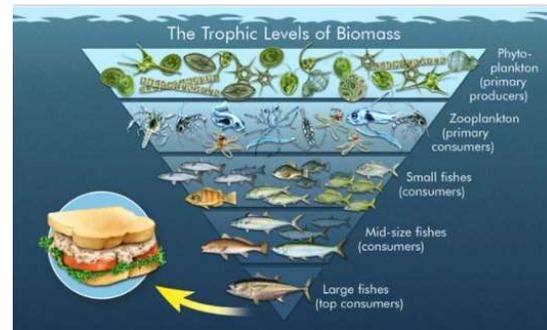
# WHY PLANTS?

## Ecology: Carbon Cycle and Energy Pyramids



Saved from [khanacademy.org](https://www.khanacademy.org)

Food chains & food webs (article)



Talking Points:

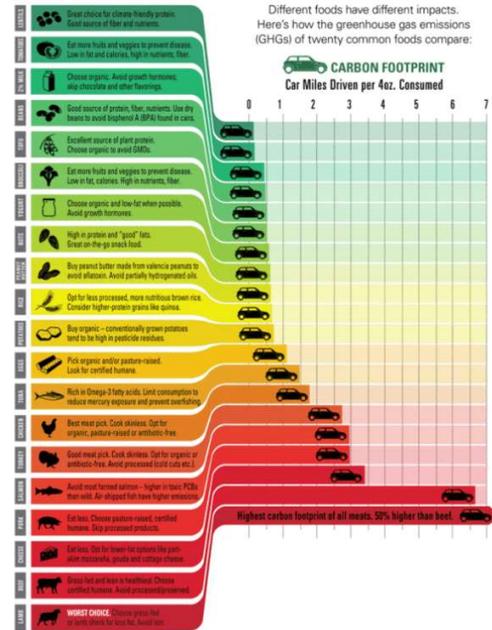
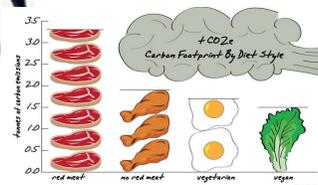
- General ecology – each trophic level needs 10:1 ratio of energy base.

Sources: <https://www.pinterest.com/pin/837388124435027492/>

<https://drawnbydawn.com/products/trophic-levels-of-biomass-graphic>

# WHY PLANTS?

## Carbon / Global Warming



### Talking Points:

- Carbon-cycle/Global Warming: as previously presented (8 oz steak dinner w chips 11,230 g CO<sub>2</sub> vs PBJ is about 180 g CO<sub>2</sub>).

1 From video, Eating our Way out of Climate Change:

<https://www.youtube.com/watch?v=6y7RHsXSW00>

- Because of being fed almost entirely corn in feed lots, the gases produced also contribute to greenhouse gases, "Cows, sheep, bison, and other ruminants have a digestive organ called a rumen (a type of stomach), which Pollan likens to a fermentation tank in which bacteria break down grass. Cattle were not evolutionarily built to digest corn, so on the feedlot they suffer from gas and excessive acidity, which leads to a host of health conditions. To keep animals in some semblance of health, they are fed massive quantities of antibiotics."

2 From book previously discussed, *The Omnivore's Dilemma: A Natural History of Four Meals*:

<https://www.amazon.com/Omnivores-Dilemma-Natural-History-Meals/dp/0143038583>

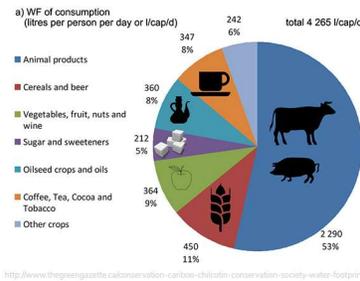
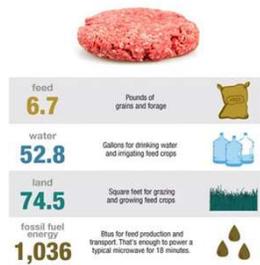
Carbon footprint graphic available at: <http://blog.wegowise.com/2012-05-03-sustainable-eating-the-carbon-footprint-of-different-diets>

Additional graphic available at:

<https://www.pinterest.co.uk/pin/533113674610007383/>

# WHY PLANTS?

## Water Usage and Pollution



A hog farm in Vanceboro, N.C., is surrounded by floodwater in the aftermath of 2018's Hurricane Florence. (Alex Wroblewski/Bloomberg News)

## Environmental Justice Issues

### Talking Points:

- Water: Water: one pound of apples needs 49 gal. water; beef >5000 gal. water (in California).<sup>3</sup> Most of Ogallala aquifer (high-planes states) largest on earth, being used up mostly for cattle ag (pumped out at rapid rate, some estimates). An estimated cited in Wikipedia stated that it was reported in 2020 that the aquifer would be "dry" within twenty years.

<sup>3</sup> From video, Diet for a New America, available at:

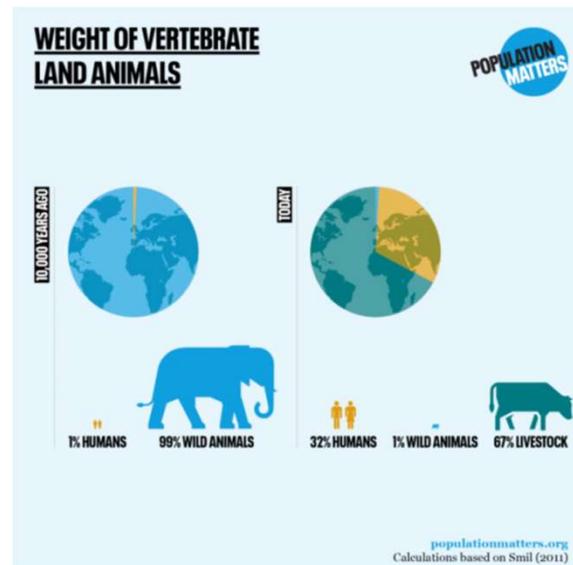
<https://foodrevolution.org/blog/10-plant-based-food-documentaries-to-watch/>

Graphic source: <https://socratic.org/questions/how-does-agriculture-affect-water-resources>

[https://www.washingtonpost.com/climate-environment/2021/05/10/farm-pollution-deaths/?fbclid=IwAR363dq3hBuWpMeoJJMopDUiEOC\\_ojCQWISUPOQKg0AUiZQ5ltQCbKlf8Gg](https://www.washingtonpost.com/climate-environment/2021/05/10/farm-pollution-deaths/?fbclid=IwAR363dq3hBuWpMeoJJMopDUiEOC_ojCQWISUPOQKg0AUiZQ5ltQCbKlf8Gg)

# WHY PLANTS?

## Loss of Biodiversity



Talking Points:

- **Can we be a top predator like this?**
- Loss of biodiversity due to land-use: one recent article published by *Frontiers in Conservation Science* states, “of the estimated 0.17 Gt [gigaton] of living biomass of terrestrial vertebrates on Earth today, most is represented by livestock (59%) and human beings (36%)—only ~5% of this total biomass is made up by wild mammals, birds, reptiles, and amphibians (Bar-On et al., 2018).<sup>4</sup>

<sup>4</sup> Bar-On, Y. M., Phillips, R., and Milo, R. (2018). The biomass distribution on Earth. *Proc. Natl. Acad. Sci. U.S.A.* 115:6506–6511. doi: 10.1073/pnas.1711842115.

Cited in *Front. Conserv. Sci.*, 13 January 2021:

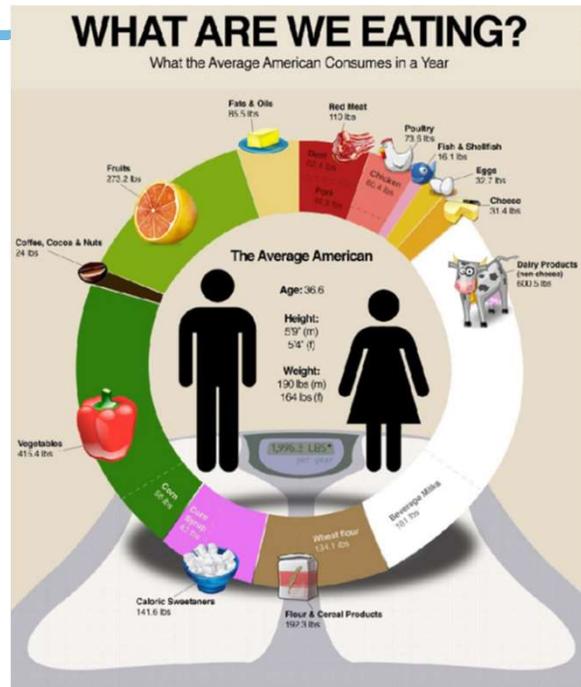
<https://www.frontiersin.org/articles/10.3389/fcosc.2020.615419/full>

**Video:** this video segment summarizes benefits of reducing animal ag (we covered the carbon problem already and the animal treatment parts are not pleasant to watch, so has a good summary of all the benefits of reducing animal products—the main presenter is actually John Robins, the son of the Robins that built Baskin-Robins—a huge dairy family): Diet for a New America (especially 52:06 to 57.35):

<https://foodrevolution.org/blog/10-plant-based-food-documentaries-to-watch/>

# PLANT-BASED NUTRITION

## Emotional and Cultural Issues With Diet



Talking Points:

- Question to group: What do you think of when you hear the words 'vegan' or 'plant-based'? What are your feelings about meat? What keeps you from eating less meat?

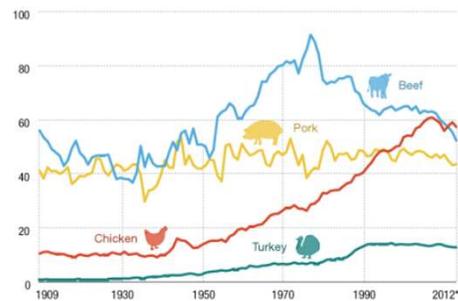
Graphic from: <https://www.farmlandlp.com/2012/01/one-acre-feeds-a-person/#.YJF5rbVKiUk>

Based on 2700 cal/day.

## TRENDS

### How much Meat?

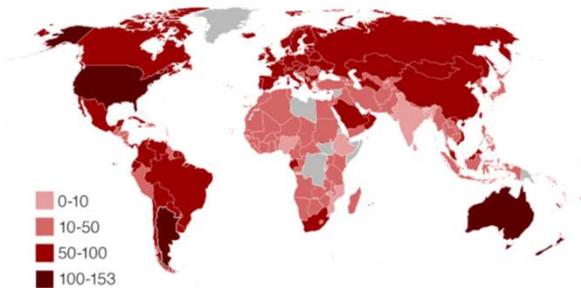
U.S. meat consumption per person, in pounds



Source: Earth Policy Institute  
Credit: Angela Wong / NPR

### Who eats the most meat?

Meat consumption (kg per person per year)



Source: UN Food and Agriculture Organization / Our World in Data

BBC

The average Ethiopian consumes just 7kg, Rwandans 8kg and Nigerians 9kg. This is 10 times less than the average European.

#### Talking Points:

- Eat much more animal products than previous:
  - Not even tigers and lions eat meat 3x per day.
  - In America have increased our meat consumption twice or more per person since 1900 (mostly chicken).
  - In other parts of the world, ex. Malaysia from mostly vegetarian, now increasing more meat and fast-food.
  - From Omnivore's Dilemma: [Pollan](#) says that people ate meat sparingly in previous generations. The Paleo-diet populists, who recommend people eat like their Stone Age ancestors, are likely operating under a misconception about how much meat these ancestors actually ate. Anthropologists believe human ancestors evolved their bigger brains when they added meat to their diet. One recent theory, however, is that it was not just meat, but cooking meat, that allowed hominids preceding modern man to unlock the energy of meat to fuel a larger brain. Nevertheless, hunter-gatherers did not eat large quantities of meat since meat was hard to come by, and they probably ate a varied diet that included many plants and nuts. Most current-day hunter-gatherers get about 30 percent of their calories from meat, and they go through lean times when they eat very little meat. Americans eat an average of 270 pounds of meat per person per year, more than any other country on the planet except for Luxembourg.

#### Graphics sources:

<https://www.ilri.org/news/are-we-eating-less-meat%E2%80%9494oxford-martin-school-fellow-hannah-ritchie-confirms-%E2%80%98no%E2%80%99>

<https://www.npr.org/sections/thesalt/2012/06/27/155527365/visualizing-a-nation-of-meat-eaters>

World Cancer Research Fund



American Institute for Cancer Research

Exposures
Cancer types
Recommendations

## Recommendations for Cancer Prevention



Talking Points:

- Plant diets can have health benefits

Graphic sources: <https://www.wcrf.org/dietandcancer/limit-red-and-processed-meat/>

## How Do I get Enough Protein?



UNITED NATIONS DECADE OF  
ACTION ON NUTRITION  
2016-2025



Planetary health plate



A planetary health plate should consist by volume of approximately half a plate of vegetables and fruits, the other half, displayed by contribution to calories, should consist of primarily whole grains, plant protein sources, unsaturated plant oils, and (optionally) modest amounts of animal sources of protein.

Source: EAT-Lancet Commission

### Talking Points:

- Food groups/pyramid (used to have meat and dairy in two of the four blocks and say 30% from fat, now fat much lower and can't really get low enough with animal foods; need more rather than less starch, but good starch). ***The World Health Organization (2018) recommended "Eat a wide variety of foods from different food groups, with an emphasis on plant-based foods."***<sup>5</sup> ***Plants contain no cholesterol and less fat in general. Cancers and heart conditions are linked with animal-product diets.***
- Current lawsuit over USDA dietary guidelines:  
<https://www.pcrm.org/news/news-releases/california-physicians-sue-usda-over-conflicts-interest-related-dietary?emci=5357bbfb-a2ad-eb11-85aa-0050f237abef&emdi=328ee2c9-cdad-eb11-85aa-0050f237abef&ceid=8335470>

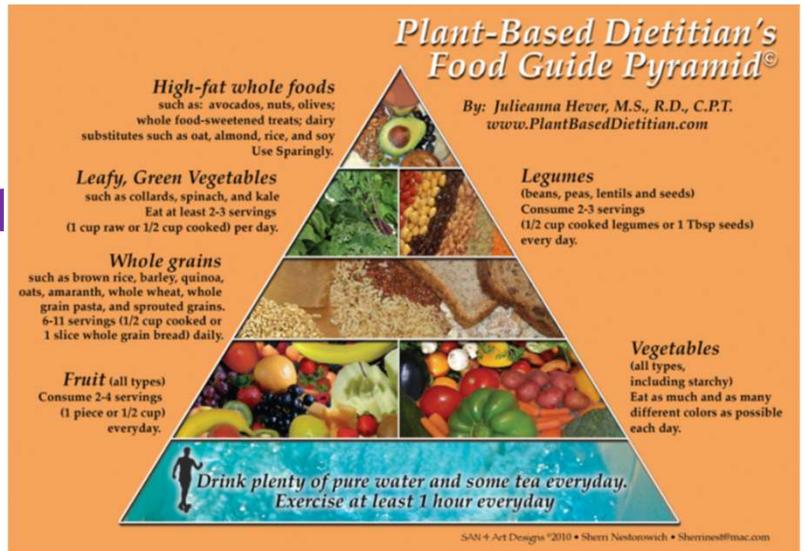
<sup>5</sup> WHO (2018): A Healthy Diet Sustainably Produced:

<https://apps.who.int/iris/rest/bitstreams/1170558/retrieve>

Graphic source: <https://eatforum.org/learn-and-discover/the-planetary-health-diet/>

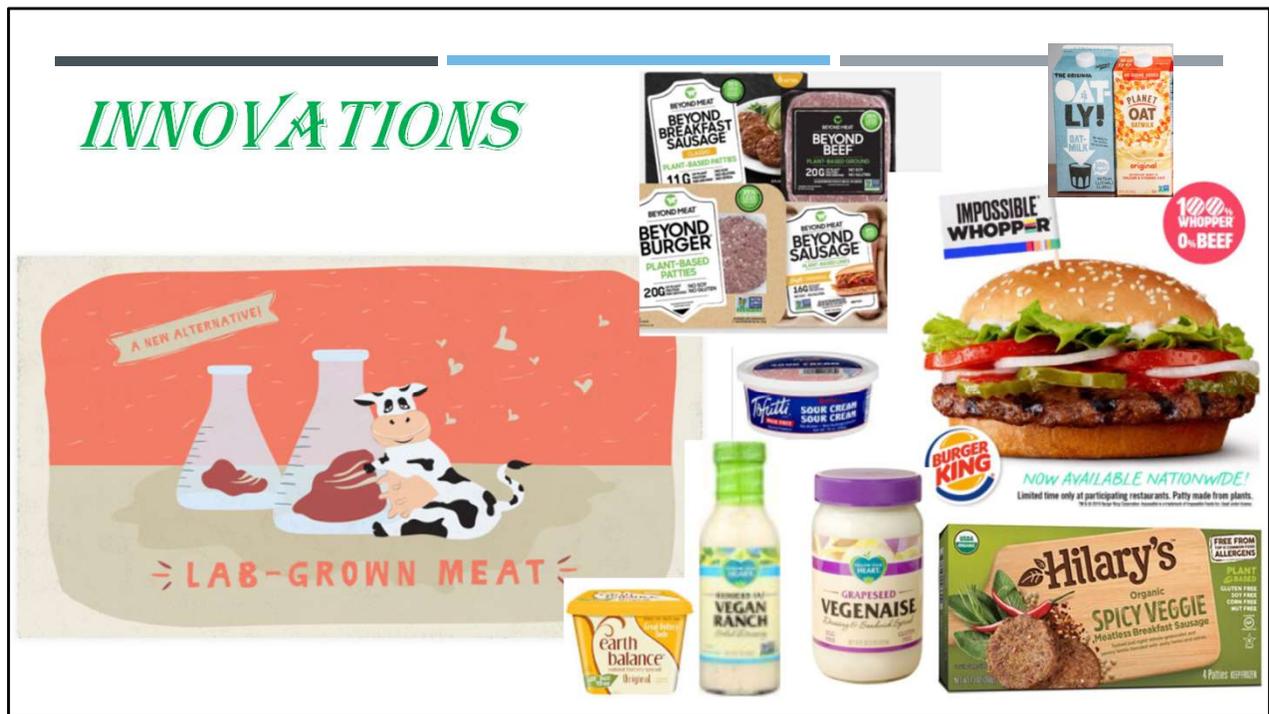
# PLANT-BASED NUTRITION

## Plant-Based Food Pyramid



Talking Points:

Graphic source: <https://plantbaseddietitian.com/5-reasons-you-can-stop-pursuing-protein/>



Talking Points:

- Lots of great protein options – I eat lots of transition alternatives (Beyond Burgers, Hilary’s vegan sausage, nutritional yeast for cheesy taste)
- Nutritional video: What I Eat in a Day (~5 min; total length: 8:57):  
<https://www.youtube.com/watch?v=kjZUQb19fWg>

Graphic from: <https://edu.gcfglobal.org/en/thenow/what-is-labgrown-meat/1/>

# EXPLORING OTHER CUISINES



Vegan Thai Red Curry



Vegan Indian Cuisine  
countryliferestaurant.com



PLANT-BASED ETHIOPIAN



Vegan Teriyaki Noodle Bowl



Middle Eastern Vegan Dishes ...  
onegreenplanet.org



Most Delicious Falafel  
doornahifoodgy.com



★★★★★  
Black Bean Burritos



Vegetarian Skillet Stuffed  
Shells



Vegan Buddha Bowl

## Talking Points:

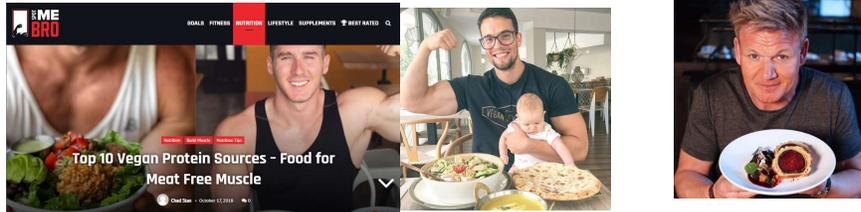
- Explore cuisines from cultures that have traditionally been more plant-based.



TENNIS STAR VENUS WILLIAMS LAUNCHES VEGAN PROTEIN COMPANY



A bodybuilder who's been vegan since 1998 explains how to build muscle on a plant-based diet



Sources: <https://vegnews.com/2020/12/tennis-star-venus-williams-launches-vegan-protein-company>  
<https://spotmebro.com/nutrition/top-10-vegan-protein/>  
<https://www.insider.com/vegan-bodybuilder-how-to-build-muscle-on-plant-based-diet-2020-10>

## **Food Waste**

- **What do your carrot peelings have to do with climate change?**



- In 2018 in the US, more food reached landfills than any other single material in our everyday trash, at 24 percent of the amount landfilled.
- 40% of healthy and safe food produced ultimately ends up in the landfill.



## Food waste in the trash



- As food waste rots in landfills, it produces methane, a major greenhouse gas and contributor to climate change.
- Municipal solid waste landfills are the third-largest source of human-related methane emissions in the United States, accounting for approximately 14.1 percent of these emissions in 2017.

If wasted food were a country, it would be  
the **third largest** producer of

**CO<sub>2</sub>**

in the world after the  
U.S. and China

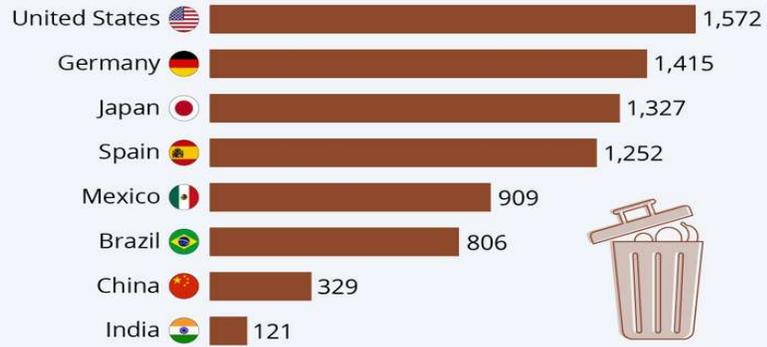


 DevelopmentEducation.ie

- Data reference: [UN Environmental Programme](#)

## Food Waste Most Prevalent in Affluent Countries

Per-capita food waste in selected countries in 2011  
(in kcal/day)



Source: Van den Bos Verma et al. Consumers discard a lot more food than widely believed. Plos One



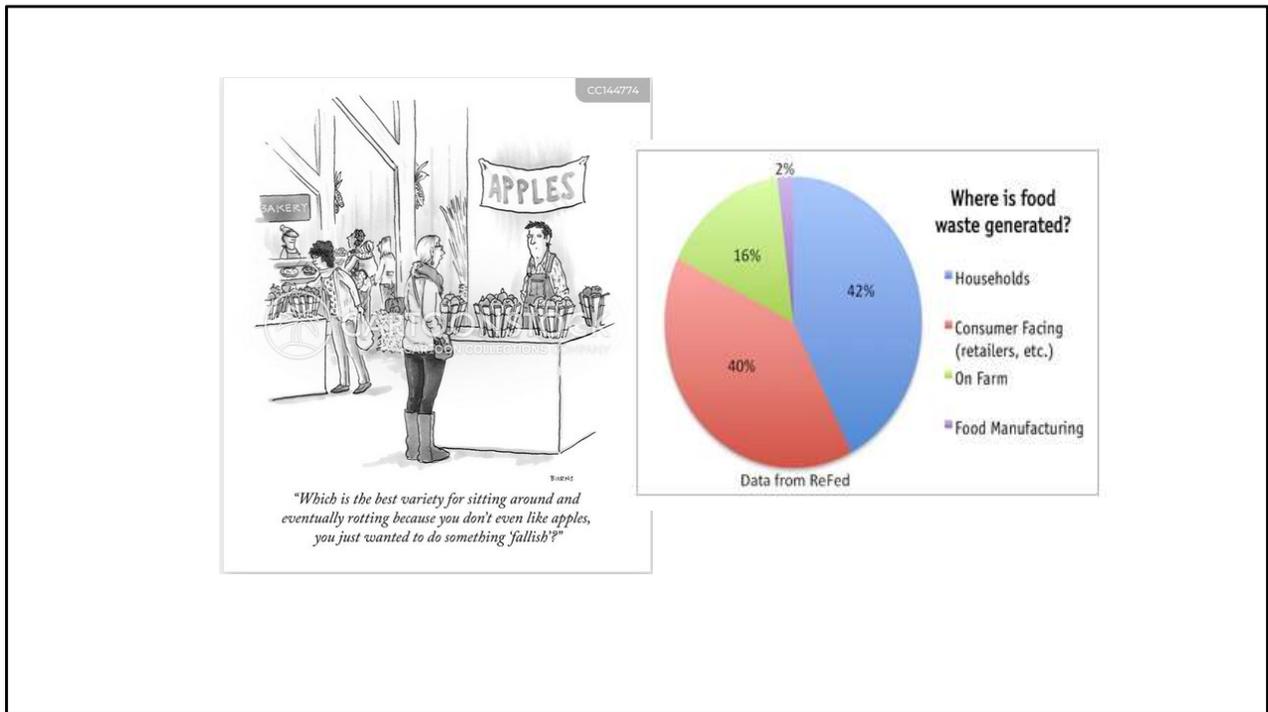
statista

## Food Loss vs Food Waste



The key difference between what is considered food loss and food waste is based on when the problem occurs along the food's journey from farm to consumer. Food waste happens when a restaurant serves a large portion and the customer eats half of it, tossing the rest. Or a head of lettuce sits forgotten in a fridge, and spoils. Or when a grocery store overstocks its shelves to maintain display aesthetics.

In the U.S., only 6 percent of food waste in 2017 was composted. The rest is sent to landfills, where it makes up the single largest category of waste inside U.S. landfills, according to the EPA. As food waste rots in landfills, it produces methane, a major greenhouse gas and contributor to climate change.



Roughly 43% of all food waste comes from households while the remainder is spread throughout the food supply chain: 40% from consumer-facing businesses such as distributors, retail grocers, restaurants, food service providers, 16% from farms, and 2% from food manufacturing.[\[3\]](#)

## Wasting food wastes resources.



- When we waste food, we are also throwing away the resources that went into producing, processing, packaging and transporting that food.
- “Foods that are more resource intensive to produce, like meat and dairy, are the ones that affect the environment the most when we throw them out,” said Dana Gunders, author of the [“Waste-Free Kitchen Handbook.”](#)
- For instance, throwing away a hamburger is the equivalent of taking a 90-minute shower in terms of the amount of water that it took to produce that beef patty.
- NYT Dec 12, 2018

## Food Waste Solutions Are in Your Hands.

Be a Food Manager.

- Buy what you need and use what you buy.





## Store Food Properly

Keep the food you need to eat first front-and-center so you don't forget about it. The USDA's FoodKeeper database (available online and as a mobile app) provides advice on how best to store foods and how long they'll stay fresh:

<http://www.foodsafety.gov/keep/foodkeeperapp/>

For instance, potatoes, tomatoes, garlic, cucumbers and onions should never be refrigerated. The stems of leafy greens and herbs can be submerged in water.

Never throw away a banana. Well, hardly ever.

Label.



## Make friends with your freezer.

"Freezing is like pressing the pause button on your food," Gunders said. "A lot of people think of the freezer as a long-term solution, but you can also take food out after a few days."



*"I date everything before I freeze it, so I know when to throw it away."*

**But don't forget what's in there.  
Label!**



*"I'm defrosting the basement freezer—do you still want this?"*

## Look at Food Differently.

Be creative.



Leftovers=Loved-overs



We are naturally attracted to the new, shiny object, as opposed to the old, already-served thing.

A lot of peeling is just habit. We were brought up peeling potatoes and carrots so we peel potatoes and carrots.

*Appetite fatigue* happens when a person simply refuses to eat the same food because it's not appetizing to them.

With the exception of infant formula, there's no federal standard for what date labels mean. Good food gets tossed.

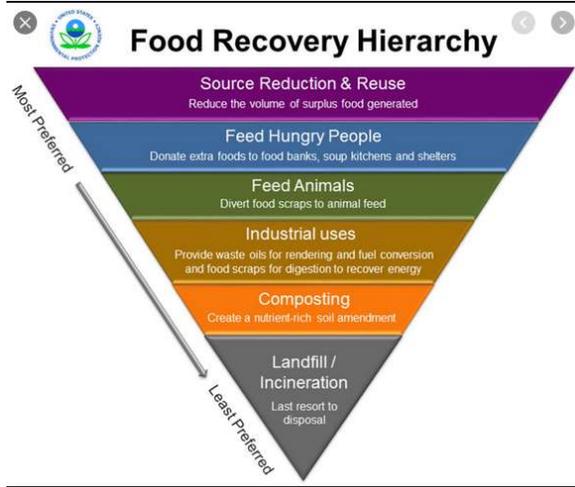
A **best-before** date means that you have what it takes (your senses, and common sense) to make the call. Caveat: You are abiding by any storage and "once opened" guidance on the packaging.

Only one in three of our fridges is cold enough (at 41 degrees or lower); a degree can shave a day off the life of something.

Don't ignore "**use by**" date.



<https://www.theguardian.com/food/2019/apr/17/the-truth-about-expired-food-how-best-before-dates-create-a-waste-mountain>





I love packaging. And it works. Who is not going to buy?

# The Wonderful World of Food Packaging

1. Protects food from contamination
2. Improves shelf life
3. Protects food from damage
4. Maintains freshness
5. Prevents tampering



## Food Packaging: The Problems

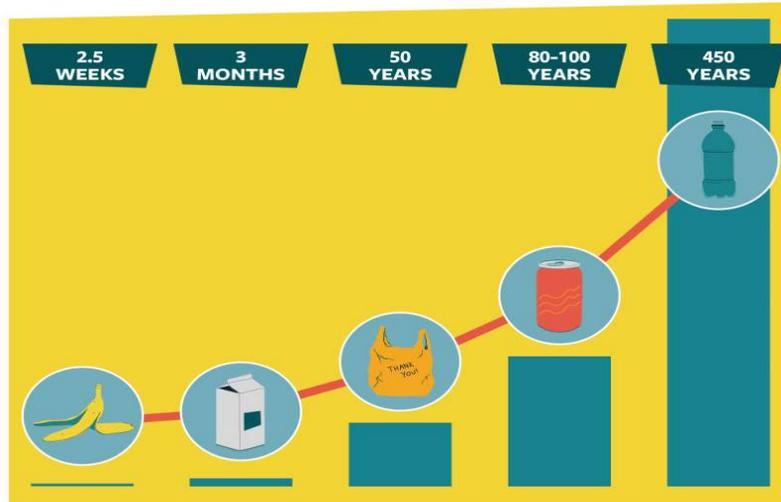
- Of the 1.4 billion pounds of waste that go into U.S. landfills each day, 40 percent is packaging that was used just once.



- Each form of packaging uses a lot of energy, water, chemicals, petroleum, minerals, wood and fibers to produce, generating greenhouse gases, heavy metals and particulates, as well as toxic wastewater and/or sludge.

Two main problems with packaging: 1) production and disposal and 2) effect on your health

## How Long Does It Take Your Food Packaging to Biodegrade?



BPA and phthalates used as plasticizers linked various phthalates to adverse male reproductive hormone effects and have found associations between phthalate exposure and childhood asthma.

## Chemicals of Concern

- Bisphenols (such as BPA), which line metal cans and are mixed into plastics; phthalates (which make plastic soft); perfluoroalkyl chemicals (PFCs), in grease-proof wrappers and packaging); perchlorate (in food packaging)
- Studies have linked these and other chemicals to a variety of health problems.



Steer clear of plastic with recycling codes 3 (phthalates), 6 (styrene) and 7 (bisphenols) except for those marked as “biobased” or “greenware”.

When storing food, if you have to use plastic, avoid recycling 7 and use 4 instead. “#1 and #2 are BPA-free, but some researchers do not recommend their reuse,”

. Plastic takeout containers and grocery-food tubs (e.g. yogurt) are not microwave-safe; prepackaged microwave food trays should not be reused; old, scratched or cracked containers may leach chemicals. Toss

Big no-no: microwaving food in plastic bags.



Plenty of plastic storage containers and vessels for frozen foods may claim to be “microwave safe”, but this phrase is misleading. The reality is, there’s no such thing as microwave safe plastic.



Don’t microwave plastic. Minimize purchase of processed food. In general, reduce home contact of food and beverages — including water — with plastic.

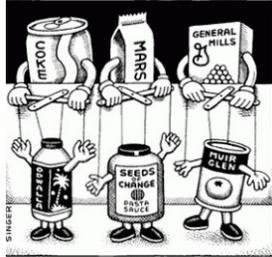
# Organic, natural, local, minimal packaging....



"Everything here is organic, free range, naturally produced, locally sourced, pesticide free, minimally packaged and fairly traded - and yet, ironically, I am a complete !@#%\$"



## Watch for Greenwashing.



- Resources:
  - Physicians Committee for Responsible Medicine:
    - Neal Barnard, MD Pantry Staples – Healthy Foods to Stock up on Now (12:49): <https://www.youtube.com/watch?v=jxcc2gB5-Kw>
    - FAQ: <https://www.pcrm.org/good-nutrition/plant-based-diets/nutrition-faq>
    - 21-Day Kickstart Diet App: [https://kickstart.pcrm.org/en?gclid=CjwKCAjw7J6EBhBDEiwA5UUM2m-kikHQnKc9idUr9Jgl8quJVxyHi-lyCridlwMFSEYRtnQtHJXgRBoC7BIQAvD\\_BwE](https://kickstart.pcrm.org/en?gclid=CjwKCAjw7J6EBhBDEiwA5UUM2m-kikHQnKc9idUr9Jgl8quJVxyHi-lyCridlwMFSEYRtnQtHJXgRBoC7BIQAvD_BwE)
  - 12 Mistakes Most Vegans Make (17:07): <https://www.youtube.com/watch?v=hXsaQhVtHRM>
  - Also 5 Vegan Recipes Everyone Needs (13:16): <https://www.youtube.com/watch?v=nGOisp5UZPY>
  - USDA Guidelines and Milk: <https://www.washingtonpost.com/people/laura-reiley/>
  - Why Epicurious Left Beef Behind: <https://www.epicurious.com/expert-advice/why-epicurious-left-beef-behind-article>
  - New York Times on Meatless Meat: <https://www.nytimes.com/section/opinion>
  - Vegans and Ranchers Work Together: <https://www.forbes.com/sites/briankateman/2020/01/27/can-vegans-and-ranchers-work-together-to-rebuild-the-worlds-soil/?sh=4c9fe7c91777>
  - Psychological Aspects of Meat Consumption: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6165406/>
  - Plant-Based Eating: First 21 Days (22:44): Do 7d of making list of vegan foods; 21d of jumping in. <https://www.youtube.com/watch?v=E04WICTiL0o>
  - Diet for a New America (57 min): <https://foodrevolution.org/blog/10-plant-based-food-documentaries-to-watch/>
  - Gordon Ramsey (chef): <https://www.gordonramsay.com/gr/recipes/category/vegan>
  - For FB these groups are great: “What Broke Vegans Eat, Wear, and Use” and “No Meat May” and highly recommend following “Tabitha Brown” who gives great vegan recipes and tips for products while being very charming and entertaining.

