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How to eat for your health and the Earth's

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Food production has a significant impact on the earth's health; what we eat has a significant impact on our health. Fortunately, research clearly shows that the same food choices can benefit both ourselves and our environment. Let's look at simple swaps you can make that will benefit both your health and the health of the planet you inhabit.

Food and the environment

Agriculture (growing plants and raising livestock) uses a lot of natural resources. It accounts for 70% of the water we use and takes up about 40% of all habitable land, much of which was once forests and wildlands that supported a diversity of animal and plant life.

It also can create damaging byproducts: food production is responsible for up to 30% of the greenhouse gas emissions responsible for global climate change. Additionally, agricultural runoff pours nutrients into waterways, leading to an excess growth of aquatic plants that kills off marine life (a process called eutrophication).

The high number of variables makes it hard to make blanket statements about the relative environmental impact of different foods. For example, some sources recommend avoiding almonds because their cultivation uses a lot of water in areas where water is already scarce, but the greenhouse gas emissions from almond production are dramatically lower than that of any animal protein.

However, most studies assessing the environmental effects of food intake found the same thing: the more animal foods were replaced with plant foods, the lower the environmental impact of the dietary pattern. Vegetarian diets were associated with the greatest reductions in greenhouse-gas emissions and land and water use, but you don't have to give up all meat, fish, and poultry to make a difference.

Simply replacing meat from ruminants (cows, sheep, and goat meat) with other animal proteins (fish, poultry, pork, low-fat and fat-free milk and yogurt, and eggs) has been shown to reduce environmental impact–although not as much as following a plant-based vegetarian or vegan diet.

Double duty

Plant foods are better for the environment than animal foods—and they are also better for our health. Replacing animal-based foods with plant protein sources has been associated with lower risk of cardiovascular disease (CVD), type 2 diabetes, and mortality. Fish, seafood, and low-fat or fat free dairy are also better choices for both your health and the environment. (Note that processed pork products like sausage and bacon are better for the environment than beef, but not better for your health.)

In a study of food intake, environmental impact, and incidence of CVD, researchers found that dietary patterns associated with lower CVD risk also had lower greenhouse gas emissions and used less nitrogenous fertilizer, cropland, and water.

Another study found that dietary patterns that were both healthy and had the lowest environmental impact relied less on processed foods and meat from cattle and sheep and instead emphasized locally grown fruits and vegetables with moderate consumption of chicken, pork, and fish. (Note that fruits and vegetables do not have to be locally grown to be better for the environment than animal foods.)

Simple swaps

Changes do not have to be big to make a difference. One study looked at how making slight changes to dietary intake would impact consumers' water footprint and greenhouse gas emission levels. It was estimated that choosing poultry or pork instead of beef could decrease participants' average carbon footprint by around 50% and water footprint by around 30%.

Another study suggests small changes may be easier to implement than a

major diet overhaul. Simply substituting chicken for beef in a burrito for example, may be a valuable starting point for addressing diet's impact on climate—and supporting your health.

Different foods impact the environment in different ways (more or less greenhouse gas emissions, water use, pollution). The most important thing to remember is that beef has by far the highest environmental (and health) impacts. Choose among other options based on what you like, and on what environmental, ethical, and health issues are most important to you.

Foods and their environmental impact

All foods that come from animals have a bigger environmental impact than foods that come from plants. Here's a brief look at what researchers have found:

- Beef and lamb. Cows and sheep (and goats) are ruminants. This means they have a digestive system that releases the powerful greenhouse gas methane. The environmental impact of ruminants tops the charts by far in every category (greenhouse gas emissions, land use, energy use, and potential for acidification and eutrophication).
- Pork and poultry. Pigs and chicken are not ruminants and therefore don't produce methane, so the production of pork and poultry, while still resource intensive, has a lower carbon footprint than beef and lamb. Chicken beats out pork in terms of other environmental measures.
- Dairy products. Like beef, milk (and products made from it, like cheese, yogurt, and butter) comes from hungry, thirsty, methane-producing cows. In terms of greenhouse gas emissions, most studies rank milk lower than animal meats, but cheese may be a different story. One study found the carbon footprint of cheese

was almost double that of chicken. Soft cheeses have a lower environmental impact than hard because they use less milk and less energy for production.

- Seafood. This is a complicated category. Fish or shellfish, wild-caught or farmed, even the type of fish or shellfish makes a difference in environmental impact. Both catching fish and shellfish in the wild and raising them on farms lead to environmental concerns. Despite this, any kind of seafood production is considered better for the environment than raising land animals for food.
- Eggs. A 2023 review found that eggs are responsible for less carbon, land, and water use than other animal proteins.
- Plant proteins. Plant proteins (nuts, soybeans, and legumes) all have a lower carbon footprint than any animal protein. (Although they are not good protein sources, it should be noted that grains, fruits, and vegetables have been found to have the lowest environmental impact per serving.)

Provided by Tufts University

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