

Lesson 5 Nature's Balance

Main Reading

Five Foods Destroying Our Planet

Do you like pineapples? How about avocados? In a world where foods are viewed as essential components of a healthy lifestyle, little attention is usually given to their production and ecological sustainability. Here are five foods whose production and distribution surprisingly pose environmental threats in one way or another.

PINEAPPLE

Although pineapples are often advertised as especially fresh and flown in by air to grocery stores, environmentalists caution against purchasing such fruit due to their adverse environmental impact.

Transporting pineapples by air produces approximately 27.2 kilograms of CO₂ for every 1,000 kilometers, almost 30 times the amount produced if the same pineapples were transported by ship. This same principle applies to other exotic fruits as well. As such, experts advise supporting locally sourced produce. By doing so, consumers can help reduce the carbon footprint associated with transportation and support local farmers, promoting environmental sustainability.

AVOCADO

In the past several decades, avocados have become a world-famous superfood that can be incorporated into hundreds of different recipes. Avocados have become so popular, in fact, that they have been given the name "green gold" due to their status as a cash crop. Unfortunately, however, a host of ecological problems have been brought about by the growing demand for avocados. The production of this popular fruit has various types of negative consequences that are worth considering. For example, did you know that it takes an average of 283 liters of water to produce just one kilogram of avocados? That's a lot of water, especially in regions where water is already scarce.

But it's not just the water that's the issue. The agrochemicals used to grow avocados also have negative ecological implications. These chemicals contribute to soil erosion, reducing the fertility of the soil and making it difficult to grow other crops in the future.

SHRIMP

Shrimp is a highly popular food, with fresh or frozen varieties available in almost every grocery store.

However, both wild-caught and farmed shrimp have significant environmental consequences. Deep-sea trawling, used to catch wild shrimp, kills a significant amount of unwanted fish and marine life in addition to the shrimp. Likewise, while shrimp farming has seen a massive growth to meet global demand, this expansion of aquaculture has come at a cost. More than half of the global production of shrimp now comes from farmed sources, and the destruction of almost 40% of the world's mangroves has been caused by this massive growth.

These environmental issues extend beyond mangrove destruction. Shrimp farming can lead to problems because farmers use chemicals like pesticides, antibiotics, and other fish-killing substances to maintain shrimp health. Unfortunately, some of these chemicals can cause cancer, and they are often used in ponds located near the coast where the shrimp live. These chemicals are carried out to sea by the tides and contribute to water contamination. While farmers attempt to keep aquaculture ponds clean, the accumulation of toxic wastes on the pond bottom ultimately leads to the abandonment of the pond over time.

BUTTER

The production of butter has a significant ecological impact, largely due to greenhouse gas emissions stemming from dairy cows. Livestock, as a whole, is responsible for up to 16% of greenhouse gas emissions. This is because they release methane through burping and passing gas. In fact, methane is approximately 28 times more potent than carbon dioxide in terms of its impact on global warming. Butter production also generates carbon dioxide emissions. On average, the production of one kilogram of butter emits about 12 kilograms of carbon dioxide, in contrast to plant-based margarine, which emits only 3 kilograms per kilogram.

Additionally, dairy cows require significant land for growing feed crops, contributing to deforestation, soil degradation, and habitat loss for wildlife. The dairy industry also requires large amounts of water for drinking and cleaning, which can strain local water resources. The use of agrochemicals such as fertilizers and pesticides in butter production can further contaminate soil and water, harm wildlife, and contribute to the degradation of ecological diversity.

BANANA

Monoculture banana plantations have significant ecological consequences, particularly with regard to the production of the Cavendish variety, which constitutes 97% of the internationally traded bananas. Due to the lack of genetic diversity, these plants are highly vulnerable to pests, fungi, and diseases. In order to fight against this vulnerability, large amounts of harmful substances are used to get rid of insects and pests, which pollutes water channels, leads to soil erosion, and puts the long-term sustainability of banana production at risk.

Moreover, in order to meet the visual standards of foreign companies, growers apply large amounts of pesticides to their plantations. As a result, mass use of harmful pesticides can negatively affect the health of workers and villagers living in areas where bananas are grown.

Often when we're sitting down to our meals, we don't think about the impact of the foods we're eating on our planet. The production cycles behind a lot of our foods have a large carbon footprint, or require a lot of water, or drive deforestation. So it's really important to be aware of what foods are good or bad for the environment and to shop in an eco-friendly manner. Not all food is bad for the environment, and you can take a look at foods that have a positive impact on our planet.

Extended Reading

Seaweed: Nature's Superhero

Did you know that the green substance of seaweed has the ability to act as a carbon sink? Think of it as the tree's underwater cousin.

"South Korea Cooks Seaweed for the Planet." This was the title of an article published by the prominent French daily newspaper Le Monde in 2019. It is understandable that Korea, a country in which its people eat a lot of seaweed such as kim and miyeok, was mentioned as a representative of seaweed consumption, unlike the West, which finds the texture of seaweed unappealing. But why did the expression "for the Planet" come first?

Carbon Footprint Lower than Vegetables

First of all, seaweed is a food that can be produced in a sustainable way. It is rich in dietary fiber, protein, and minerals, almost as much as vegetables, but its carbon footprint is lower than that of vegetables. Moreover, it possesses a significant ability for carbon dioxide absorption. An analysis of 16 types of seaweed that live in the coastal forest showed that the amount of carbon dioxide absorbed by one ton of seaweed per hour is more than three times the carbon dioxide absorption rate of trees.

Cows' Gas Captured by Seaweed

According to the U.S. Environmental Protection Agency (EPA), the impact of methane on global warming is more than 28 times higher than that of carbon dioxide. Methane emissions from livestock account for approximately 16% of global greenhouse gases. Seaweed can be helpful in the long battle against the negative effects of animal farming and climate change. Research has shown that feeding pink seaweed to cows can reduce their methane gas emissions by up to 98%, which can help reduce the amount of methane gas released through passing gas.

Critical Thinking

The Dangers of Greenwashing

Greenwashing is a misleading practice in which a company makes consumers think that its product is environmentally friendly or has a greater positive environmental impact than it actually does. This can be achieved through false advertising, using vague or misleading terms such as "eco-friendly" or "sustainable," and burying environmentally unsound practices in the fine print. A company may also use nature or wildlife images to suggest environmental friendliness, even when the product is not actually green.

The term "greenwashing" originated in the 1960s, when the hotel industry placed notices in hotel rooms asking guests to reuse their towels to save the environment, while the real motive was to reduce laundry costs. One common form of greenwashing is to deliberately select research data to highlight good environmental practices while hiding harmful ones. Such information can even come from biased research that the company funds or carries out itself.

It can be difficult to verify green claims made by companies, but consumers can rely on independent research and expert reports, as well as check the product's ingredients list. True green products are often approved by official screening organizations and will be clearly labeled.