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Why meat eaters should think much more about soil

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If over-grazing continues to cause soil degradation, we won't be able to feed people in the future. The answer? Eat grass-fed sustainable meat - or none at all



Pig carcasses in an abattoir in Yorkshire. Photograph: FLPA/John Eveson/Rex

We often forget we ourselves are animals. Perhaps this is what makes it easier to eat them, wear them and experiment on them. Some of the more hardcore carnivores will loudly claim that the taste of a bacon sandwich is worth committing any cruelty for, but most of us eat meat while averting our gaze from its source.

Of course, we are not alone in eating other animals. Many other species have a meat-based diet - even some species of plant. Animals eating other animals is a critical part of the food web. But humans have twisted their natural inclination into a highly destructive, carnivorous, corporate machine.

Some people forswear meat for health reasons, and some, following in the footsteps of Leonardo da Vinci, see the killing of animals and humans in a similar light. But it starts to get more difficult to separate fact from fiction when we focus on the environmental impacts of livestock. They are a major contributor of carbon emissions, certainly, but placing the blame for climate change entirely on cattle farming is misleading.

When it comes to farm animal numbers, the statistics are frightening. The world's average stock of chickens is almost 20bn, or three per person. Cattle are the next most populous breed of farm animal at 1.4bn, with sheep and pigs not far behind at around 1bn each. And farm animals that are raised intensively require a staggering amount of animal feed and water. Soya production, mainly for animal feed, has devastated ecosystems in Latin America. All in all, livestock production occupies the vast majority of agricultural land and is the main reason why 50% of the wildlife we share our planet with has disappeared since the start of the industrial revolution.

As a result there is a general consensus that eating less meat and dairy produce is one of the best ways to reduce greenhouse gas emissions, feed 7 billion-plus people and protect biodiversity. And the focus, up until now, has been on cattle rather than pigs and poultry. This is partly because ruminants or grass-eaters emit methane, a potent greenhouse gas. Cattle farms have also been responsible for large-scale destruction of important ecosystems both directly for grazing and indirectly for animal feed. The expansion of cattle farming in the Amazon, for example, has been responsible for one-eighth of all forest destruction globally in recent times.

So there is no denying that cattle have caused extensive environmental damage in many parts of the world. And over-grazing of cattle, especially in drought-prone regions, has been a significant cause of soil degradation. Soil is key. Soil is the largest land-based reservoir of carbon on Earth, absorbing it from trees and vegetation as they die and decay. Losses of carbon from chemically intensive use of soils and land-use change from ploughing up grasslands and clearing forests and peatlands constitute the second-largest source of CO₂ after burning fossil fuels. It's a little-known fact that soils store four times more carbon than all trees and other life. We will not be able to feed people in the future if the soil continues to be degraded, and we are degrading soils at a faster rate than ever before.

Our number one priority has to be to protect the soil, but the destruction of our soil is where the issue of meat becomes a bit less one-sided.

The traditional solution to soil exhaustion is crop rotation. Without the use of crop rotations which include grass and legumes, crop production comes to depend more and more on synthetic chemicals: manufactured fertilisers - a huge source of climate emissions - and heavy use of pesticides to control weeds, pests and diseases.

Turning exhausted cropland over to grass pasture can protect soils and build soil carbon, while still producing food. Small numbers of animals that eat grass and arable byproducts which we cannot eat could be good for the environment - if they are not displacing critical wildlife habitat such as forests and peatlands. Low-intensity grazing allows fallow land to remain productive, encouraging farmers to protect their soils and reducing the pressure on the land. And if you have pasture anyway, why not use it to give cattle a free lunch?

So the distinction diehard carnivores need to make is not between cattle and chickens or pigs but between intensively farmed animals - which depend heavily on grain or soya and are therefore in direct competition with humans for land - and those that predominantly eat grass or, in the case of pigs, heat-treated swill from our waste food mountains. This means no industrially raised chicken and pork, as it is nearly all intensively reared indoors on animal feed. Factory farming is not only unacceptably cruel, but unsustainably inefficient.

So for people who are not vegans or vegetarians, but still want to do their best for the planet, the most sustainable option is much smaller quantities of higher-quality, mainly grass-fed meat, along with less dairy, more fruit and vegetables, and less processed food. How much less meat? A lot less. Unless, that is, you can persuade all of your friends to go vegan.

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