

# Meat consumption must fall by at least 75% for sustainable consumption, says study

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In order to achieve the climate goals, high meat consumption rates must be reduced, especially in the industrialized countries. In contrast, in the Global South (here in Ethiopia), owning livestock provides a livelihood for many people. Credit: © ZEF/ University of Bonn

Every EU citizen consumes around 80 kilograms of meat per year. But every juicy steak, every delicious sausage has a price that we do not pay at the counter, because livestock farming damages the climate and the environment. Ruminants, for instance, produce methane, which accelerates global warming. Animals also convert only a portion of the calories they are fed into meat. In order to feed the same number of people, meat therefore requires a much larger land area. This is to the detriment of ecosystems, as less space is left for natural species conservation. Furthermore, those eating too much meat live with health risks—meat in excess is not healthy and can promote chronic diseases.

So there are good reasons for significantly reducing consumption of animal-based foods. "If all humans consumed as much [meat](#) as Europeans or North Americans, we would certainly miss the international climate targets and many ecosystems would collapse," explains study author Prof. Dr. Martin Qaim of the Center for Development Research (ZEF) at the University of Bonn. "We therefore need to significantly reduce our meat consumption, ideally to 20 kilograms or less annually. The war in Ukraine and the resulting shortages in [international markets](#) for [cereal grains](#) also underline that less grain should be fed to animals in order to support food security." At present, around half of all grains produced worldwide are used as [animal feed](#), Qaim said.

## **Mass vegetarianism is not the best solution**

Would it not be better for humankind to switch completely to vegetarian or, even better, vegan diets? According to the study, this would be the wrong consequence. On the one hand, there are many regions where plant-based foods cannot be grown. "We can't live on grass, but ruminants can," clarifies Qaim's colleague and co-author Dr. Martin Parlasca. "Therefore, if grassland cannot be used in any other way, it makes perfect sense to keep livestock on it." From an environmental

point of view, there is also no real objection to careful grazing with a limited number of animals.

Poorer regions in particular also lack plant sources of high-quality proteins and micronutrients. For instance, vegetables and legumes cannot be grown everywhere, and moreover, can be harvested only at certain times of the year. "In such cases, animals are often a key element of a healthy diet," Parlasca points out. "For many people, they are also an important source of income. If the revenue from milk, eggs and meat is lost, this can threaten their livelihoods." In any case, the [poorer countries](#) are not the problem, the authors point out. For their inhabitants, meat is usually much less frequently on the menu than in industrialized nations. This means that the [rich countries](#) in particular must reduce their meat consumption.



Agriculture in Ethiopia: In poorer regions of the world, livestock is often central to nutrition, as vegetables and legumes cannot be grown everywhere. Credit: © ZEF/ University of Bonn

### **Tax on meat products makes sense**

At the moment, there is little sign of this. Although there are more vegetarians than before, aggregate [meat consumption](#) is stagnating across Europe. However, it is highest in North America and Australia. Qaim believes it is important to also consider [higher taxes](#) on animal-based foods. "That's certainly unpopular, especially since a 10 percent or 20 percent surcharge probably wouldn't be enough, if it's supposed to have a

steering effect," he says. "Meat, however, has a high environmental cost that is not reflected in current prices. It would be entirely reasonable and fair to have consumers share more of these costs."

The authors also call for the topic of "sustainable consumption" to be increasingly integrated into school curricula. These contents should also be better included into the training of future teachers. "We need to become more sensitive to the global impact of our decisions," emphasizes Qaim, who is also a member of the PhenoRob Cluster of Excellence and (like his colleague Martin Parlasca) of the Transdisciplinary Research Area (TRA) "Sustainable Futures" at the University of Bonn. "This is true not only with food, but also with the shirt we buy at the discount store to wear for a single evening at a party."

**More information:** Martin C. Parlasca et al, Meat Consumption and Sustainability, *Annual Review of Resource Economics* (2022). [DOI: 10.1146/annurev-resource-111820-032340](https://doi.org/10.1146/annurev-resource-111820-032340)

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