

# The New York Times<sup>1</sup>

October 31, 2009

## *The Carnivore's Dilemma*

By NICOLETTE HAHN NIMAN  
Bolinas, Calif.

IS eating a hamburger the global warming equivalent of driving a Hummer? This week an article in The Times of London carried a headline that blared: "Give Up Meat to Save the Planet." Former Vice President Al Gore, who has made climate change his signature issue, has even been assailed for omnivorous eating by animal rights activists.

It's true that food production is an important contributor to climate change. And the claim that meat (especially beef) is closely linked to global warming has received some credible backing, including by the United Nations and University of Chicago. Both institutions have issued reports that have been widely summarized as condemning meat-eating.

But that's an overly simplistic conclusion to draw from the research. To a rancher like me, who raises cattle, goats and turkeys the traditional way (on grass), the studies show only that the prevailing methods of producing meat — that is, crowding animals together in factory farms, storing their waste in giant lagoons and cutting down forests to grow crops to feed them — cause substantial greenhouse gases. It could be, in fact, that a conscientious meat eater may have a more environmentally friendly diet than your average vegetarian.

So what is the real story of meat's connection to global warming? Answering the question requires examining the individual greenhouse gases involved: carbon dioxide, methane and nitrous oxides.

Carbon dioxide makes up the majority of agriculture-related greenhouse emissions. In American farming, most carbon dioxide emissions come from fuel burned to operate vehicles and equipment. World agricultural carbon emissions, on the other hand, result primarily from the clearing of woods for crop growing and livestock grazing. During the 1990s, tropical deforestation in Brazil, India, Indonesia, Sudan and other developing countries caused 15 percent to 35 percent of annual global fossil fuel emissions.

Much Brazilian deforestation is connected to soybean cultivation. As much as 70 percent of areas newly cleared for agriculture in Mato Grosso State in Brazil is being used to grow soybeans. Over half of Brazil's soy harvest is controlled by a handful of international agribusiness companies, which ship it all over the world for animal feed and food products, causing emissions in the process.

Meat and dairy eaters need not be part of this. Many smaller, traditional farms and ranches in the United States have scant connection to carbon dioxide emissions because they keep their animals outdoors on pasture and make little use of machinery. Moreover, those farmers generally use less soy than industrial operations do, and those who do often grow their own, so there are no emissions from long-distance transport and zero chance their farms contributed to deforestation in the developing world.

In contrast to traditional farms, industrial livestock and poultry facilities keep animals in buildings with mechanized systems for feeding, lighting, sewage flushing, ventilation, heating and cooling, all of which generate emissions. These factory farms are also soy guzzlers and acquire much of their feed overseas. You can reduce your contribution to carbon dioxide emissions by avoiding industrially produced meat and dairy products.

Unfortunately for vegetarians who rely on it for protein, avoiding soy from deforested croplands may be more difficult: as the Organic Consumers Association notes, Brazilian soy is common (and unlabeled) in tofu and soymilk sold in American supermarkets.

Methane is agriculture's second-largest greenhouse gas. Wetland rice fields alone account for as much 29 percent of the world's human-generated methane. In animal farming, much of the methane comes from lagoons of liquefied manure at industrial facilities, which are as nauseating as they sound.

This isn't a problem at traditional farms. "Before the 1970s, methane emissions from manure were minimal because the majority of livestock farms in the U.S. were small operations where animals deposited manure in pastures and corrals," the Environmental Protection Agency says. The E.P.A. found that with the rapid rise of factory farms, liquefied manure systems became the norm and methane emissions skyrocketed. You can reduce your methane emissions by seeking out meat from animals raised outdoors on traditional farms.

CRITICS of meat-eating often point out that cattle are prime culprits in methane production. Fortunately, the cause of these methane emissions is understood, and their production can be reduced.

Much of the problem arises when livestock eat poor quality forages, throwing their digestive systems out of balance. Livestock nutrition experts have demonstrated that by making minor improvements in animal diets (like providing nutrient-laden salt licks) they can cut enteric methane by half. Other practices, like adding certain proteins to ruminant diets, can reduce methane production per unit of milk or meat by a factor of six, according to research at Australia's University of New England. Enteric methane emissions can also be substantially reduced when cattle are regularly rotated onto fresh pastures, researchers at University of Louisiana have confirmed.

Finally, livestock farming plays a role in nitrous oxide emissions, which make up around 5 percent of this country's total greenhouse gases. More than three-quarters of farming's nitrous oxide emissions result from manmade fertilizers. Thus, you can reduce nitrous oxide emissions by buying meat and dairy products from animals that were not fed fertilized crops — in other words, from animals raised on grass or raised organically.

In contrast to factory farming, well-managed, non-industrialized animal farming minimizes greenhouse gases and can even benefit the environment. For example, properly timed cattle grazing can increase vegetation by as much as 45 percent, North Dakota State University researchers have found. And grazing by large herbivores (including cattle) is essential for well-functioning prairie ecosystems, research at Kansas State University has determined.

Additionally, several recent studies show that pasture and grassland areas used for livestock reduce global warming by acting as carbon sinks. Converting croplands to pasture, which reduces erosion, effectively sequesters significant amounts of carbon. One analysis published in the journal *Global Change Biology* showed a 19 percent increase in soil carbon after land changed from cropland to pasture. What's more, animal grazing reduces the need for the fertilizers and fuel used by farm machinery in crop cultivation, things that aggravate climate change.

Livestock grazing has other noteworthy environmental benefits as well. Compared to cropland, perennial pastures used for grazing can decrease soil erosion by 80 percent and markedly improve water quality, Minnesota's Land Stewardship Project research has found. Even the United Nations report acknowledges, "There is growing evidence that both cattle ranching and pastoralism can have positive impacts on biodiversity."

As the contrast between the environmental impact of traditional farming and industrial farming shows, efforts to minimize greenhouse gases need to be much more sophisticated than just making blanket condemnations of certain foods. Farming methods vary tremendously, leading to widely variable global warming contributions for every food we eat. Recent research in Sweden

shows that, depending on how and where a food is produced, its carbon dioxide emissions vary by a factor of 10.

And it should also be noted that farmers bear only a portion of the blame for greenhouse gas emissions in the food system. Only about one-fifth of the food system's energy use is farm-related, according to University of Wisconsin research. And the Soil Association in Britain estimates that only half of food's total greenhouse impact has any connection to farms. The rest comes from processing, transportation, storage, retailing and food preparation. The seemingly innocent potato chip, for instance, turns out to be a dreadfully climate-hostile food. Foods that are minimally processed, in season and locally grown, like those available at farmers' markets and backyard gardens, are generally the most climate-friendly.

Rampant waste at the processing, retail and household stages compounds the problem. About half of the food produced in the United States is thrown away, according to University of Arizona research. Thus, a consumer could measurably reduce personal global warming impact simply by more judicious grocery purchasing and use.

None of us, whether we are vegan or omnivore, can entirely avoid foods that play a role in global warming. Singling out meat is misleading and unhelpful, especially since few people are likely to entirely abandon animal-based foods. Mr. Gore, for one, apparently has no intention of going vegan. The 90 percent of Americans who eat meat and dairy are likely to respond the same way.

Still, there are numerous reasonable ways to reduce our individual contributions to climate change through our food choices. Because it takes more resources to produce meat and dairy than, say, fresh locally grown carrots, it's sensible to cut back on consumption of animal-based foods. More important, all eaters can lower their global warming contribution by following these simple rules: avoid processed foods and those from industrialized farms; reduce food waste; and buy local and in season.

Nicolette Hahn Niman, a lawyer and livestock rancher, is the author of "Righteous Porkchop: Finding a Life and Good Food Beyond Factory Farms."

## Notes

<sup>1</sup><http://www.nytimes.com/2009/10/31/opinion/31niman.html?em>

## Eating Right, for a Green Planet

### To the Editor:

Re “The Carnivore’s Dilemma,” by Nicolette Hahn Niman (Op-Ed, Oct. 31):

Living “green” is not easy. Yes, every decision we make results in more or less of an impact on our environment. As a parent of young children, I have much to worry about regarding what my children eat — a balanced, wholesome diet, free from antibiotics, hormones or bacteria. Need we feel guilty about being carnivorous?

The best advice Ms. Niman gives us is to pay attention to the source of meat products and what our mothers always told us: clean your plate. Regardless of what we choose to eat, doing so will reduce our dietary carbon footprint by half because “about half of the food produced in the United States is thrown away.”

Jeffrey H. Toney Union, N.J., Nov. 2, 2009

The writer is dean of the College of Natural, Applied and Health Sciences at Kean University.

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### To the Editor:

The claims Nicolette Hahn Niman makes for how greenhouse gases might be reduced while still eating meat may very well be true, and I do not have the expertise to challenge them. But the method she advocates for reaching those goals — raising grass-eating, pasture-foraging farm animals — would appear to be notoriously difficult to reproduce on a scale large enough to harvest enough meat, at a reasonable cost, for all the people wanting to eat meat in this country, let alone the world.

What would the cost of a hamburger at Burger King or McDonald’s be if the meat were to come from Ms. Niman’s ranch and others using comparable methods? How many people would be able to afford the price?

When I see “grass-fed” beef from the Niman Ranch and others on menus at the high-end restaurants I occasionally visit, the items offered are invariably among the most expensive on the list.

And how much land would be required to contain ranches like the one owned by Ms. Niman for pasturing the animals to provide all the beef, turkey, chicken and pork eaten in this country? Would no forests need to be cut down to create the pastures?

Lois Bloom Easton, Conn., Nov. 1, 2009

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### To the Editor:

As an ethics instructor who aims to inspire my students to think about the connections between their values and daily practices, I found Nicolette Hahn Niman’s article disappointing.

Borrowing a move from the tobacco industry, Ms. Niman obscures the well-evidenced connection between veganism and environmentalism.

Contrary to Ms. Niman’s suggestion that the findings do not apply to smaller farms, the United Nations and the University of Chicago reports demonstrate the inefficiency of beef “production” because a cow must be fed to convert grass or grain calories into protein before a human can consume even “humane” or grass-fed beef.

Ms. Niman’s argument amounts to lowering an ethical standard to fit the demands of our meat-centric culture and Western privilege. Instead, we should heed the chairman of the United

Nations Intergovernmental Panel on Climate Change, Dr. Rajendra Pachauri, who advised giving up meat for one day a week at first, and then decreasing it from there.

Stephanie Jenkins Highland Park, N.J., Nov. 2, 2009

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**To the Editor:**

While Nicolette Hahn Niman's article demonstrates our folly in oversimplifying solutions to many of our challenges and offers many viable solutions to sustaining our lifestyles in generations to come, she leaves out one very green practice: hunting and fishing.

There is little that is less polluting and less harmful to the planet than hunting wild game responsibly. What is greener than forage-fed meat? I take umbrage at the omnivores who buy grass-fed beef and call me a barbaric savage for harvesting Maine's overpopulated deer, moose, rabbit and fowl.

James Siegel Portland, Me., Nov. 1, 2009

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**To the Editor:**

Nicolette Hahn Niman's otherwise fine article would have been stronger if she had not blurred an important distinction. After noting the special criticism beef receives, she treats all meat the same.

Yet the turkey she raises is a much smaller factor in advancing global warming than the cattle on her ranch because they produce meat much more efficiently. Birds need only a fraction of the food that cattle do to gain a pound of meat.

Indeed, in Ms. Niman's natural environment they're even more environmentally beneficial than cattle because of their diet. A "free range" bird eats insects, as well as plants, so it gets more nutrition out of the same amount of land than do her cattle, which eat only the grass. They also help with pest control.

Thus, it's not enough to say that Americans should "cut back on consumption of animal-based foods." Regardless of how much meat they eat, they need to switch from eating beef to poultry.

Barry Rehfeld New York, Nov. 1, 2009

The writer is the editor of Zero Energy Intelligence.com.

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**To the Editor:**

When Nicolette Hahn Niman refers to "a conscientious meat eater," she is using an oxymoron. Can anyone in good conscience be complicit with the unnecessary suffering and slaughter of another sentient being?

Steven G. Kellman San Antonio, Oct. 31, 2009