
Viewpoint

Our steak in the jungle

Much of Central America has been deforested over the past 25 years to form cattle pastures. A portion of the beef produced on these pastures is imported to the United States and transformed into luncheon meats, hamburgers, baby foods, and pet foods. The beef is lean and less expensive than anything we produce domestically. And for consumers, the notion that the meat on our lunch plate might have come from a steer that grazed on land that was previously tropical forest remains abstract.

But what *would* the consumption of a typical four-ounce hamburger represent in terms of pounds or square feet of tropical forest? A well-developed acre of Central American forest has about 800,000 pounds of plants and animals. After forest removal and pasture establishment, the cattle will gain about 50 pounds per acre per year, or 400 pounds during the eight-year lifetime of a typical pasture. Because about half the animal is composed of skin, bones, and other nonfood portions, the total beef production is 200 pounds (800 four-ounce hamburgers). Dividing the 800,000 pounds of forest life per acre by 800, the number of hamburgers produced during the lifetime of a one-acre pasture reveals that we “lose” about half a ton of forest for every hamburger produced in Central American forest. Considering the tradeoff in terms of area (43,793 square feet per acre divided by 800 hamburgers) reveals that each Central American forest hamburger represents about 55 square feet of forest—roughly the size of a small kitchen.

What life might inhabit the 55 square feet of tropical forest represented by a single hamburger? Such a space could contain one vigorous tree, 60 feet tall and weighing about 875 pounds. Below the tree might be some 50 saplings and seedlings in some 20–30 different species (another 120 pounds). Several of these plant species might be extremely rare with limited distributions. Living in the vegetation would be thousands of insects in more than a hundred species (as much as 2 pounds). Several of these insects would likely belong to species not yet known to science. Dozens of bird, reptile, and mammal species would regularly pass through and use this patch of forest (2 pounds). Finally, an almost unimaginable diversity and abundance of mosses, fungi, and microorganisms would be associated with leaf surfaces, bark, roots, and the soil (1 pound). All told, millions of individuals and thousands of species inhabit that patch of tropical forest represented by a single hamburger.

We have, as a nation, reduced our consumption of beef during the past decade and Central American beef imports have declined as well. What further steps could we take to lessen the impact of our consumption habits on Central American forests? First, we could refuse to consume Central American beef. Legislation requiring the labeling of imported meat could help in this, allowing consumers to make informed choices that could influence the market. More comprehensive legislation to phase out beef imports from tropical forests would be even better. The United States buys most of the beef exported from Central America. If it were to cease importing this beef, its price within Central America would decline and this, in turn, would reduce the incentive to clear more forest. Although eliminating beef imports would hurt Central American economies, revenues from beef exports are far below those from traditional food exports such as coffee, sugar, and bananas. Furthermore, the benefits of maintaining tropical forests in their natural form would far outweigh any short-term crises.

We in North America could also promote greater efficiency in the use of already cleared tropical forest lands. We could halt the huge loans from international development banks that support the beef export industry and redirect this support into ecologically sound systems of intensive food and fiber production, such as agroforestry.

The Central Americans themselves will have to make the ultimate choices. Initially, conversion of tropical forest to cattle pastures looked like a good bet for increasing domestic beef supplies and generating foreign exchange. Now, it is apparent that cattle pastures do not produce for very long. Furthermore, once abandoned, these lands return to forest slowly and may never contain their original forest species. So, the short-term capital gain comes at a high price in natural resources. Central American nations are coming to realize that tropical forests may be more valuable in their natural state—as sources of timber, raw materials, and new food and drug plants—than converted into ephemeral hamburgers. These attitudinal changes take time, and with time comes the inevitable loss of more rainforest. In the meantime, we North Americans must consider if shaving a nickel off the price of domestic hamburger through importing Central American beef is worth the degradation of one of the last bastions of biological diversity and natural wonder in the biosphere.

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