



Racking up the Food Miles

Why the distance between the field and table is important.

The concept of “food miles” has spurred heated debate across the developed world, causing people to question the origins of the food that ends up on their tables. Despite how common the phrase is, many people never know more about food miles than what the phrase implies: miles traveled by food. What is behind this catch phrase, and what does it mean for our food system and the environment?

Defining ‘food miles’

A food mile is, very simply, a mile that a unit of food travels from where it is produced to where it is consumed. Each piece of food that we eat travels some number of food miles, ranging from as little as a tomato’s 0.0057 miles from our gardens to our kitchens to as much as the 9,000 miles that much of our lamb travels to our plates from New Zealand pastures. We use food miles to assess the impacts of our food system on energy use, fossil fuel dependence, global climate change, traffic congestion, and the economic well being of our food-producing communities.¹ In this way, “food miles” is more than a number; it is a simplified metaphor to convey to consumers the relative environmental and social costs of our increasingly global food system.² In the same way that nutritional information on packaged food informs us about the basic nutritional details of the contents, the number of food miles gives a generalized measure of the relative impact of each morsel of food on our world’s social and environmental landscapes.³

Most of my food has traveled further in its lifetime than I have in mine

The number of miles traveled by each unit of food has increased rapidly as constantly improving technology chips away at the high (financial) transportation costs of the past. It has been estimated that each item of food now travels 50 percent further than it did in 1979, a change primarily attributable to the rise of regional specialization in industrial monocrop agriculture. A 2003 Iowa study revealed that conventional produce traveled an average of 1,500 miles from producer to consumer, nearly 27 times further than the average distance (56 miles) traveled by locally grown produce.⁴

That figure is remarkable, but the real shocker is that the study didn’t even include imports in its calculation of the conventional average food miles. Imports made up only 21 percent of fruits and 4 percent of vegetables consumed in the U.S. in 1970. By 2001, about 39 percent of fruits and 12 percent of vegetables were imported (the typical American meal on average contains ingredients from at least five foreign countries), so the 1,500-mile figure likely represents a gross underestimate of the true average number of miles that our produce travels to reach our tables.⁵

The Iowa food miles study has been replicated elsewhere, especially in the United Kingdom and Canada, revealing similar or even more dramatic results. A 2005 London study revealed that food in the United Kingdom travels 65 percent further than it did two decades ago,⁶ while a study done in the Waterloo Region of Canada showed that 58 imported foods traveled an average of about 2,800 miles, creating their own weight in greenhouse gas emissions during transportation alone.⁷ Clearly, the trend of high food miles is not unique to the U.S.



Biting the hand that feeds us

Food miles are strongly connected to the environmental and social costs of transporting food, so an awareness of the distance food travels to our plates is key to understanding the true impact of our consumption choices. The most obvious environmental impact of high food miles is burning fossil fuels and emitting greenhouse gases that contribute to global warming. Transportation accounts for somewhere between 10 percent and 20 percent of emissions in food production,⁸ a relatively large percentage considering that these emissions could be avoided or reduced by using a more local food system. In the United States, a Michigan study found that 10 percent of energy used in the U.S. is for food production and distribution, while about 14 percent of that is devoted to transportation.⁹ Considering that annual carbon-equivalent emissions (a direct consequence of energy use) in the U.S. are 16 trillion pounds, food transportation accounts for 224 billion pounds of carbon-equivalent emissions, from the U.S. alone, every year.¹⁰

To make matters worse, the same food system that so heavily contributes to global climate change is extremely vulnerable to its effects. The industrial agriculture system, one

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of the world's biggest producers of greenhouse gases, faces devastation as climate change causes climactic cycles to become less predictable and temperature and precipitation variability to become extreme.¹¹ Results of these climactic changes could include environmental degradation, water shortages, salinization, soil erosion, pests, disease and desertification, all potentially detrimental to the systems that produce our food. The world's heavy dependence on an industrial agriculture system of high food miles therefore jeopardizes the security of our global food supply.

Food miles are not only significant for their contribution to climate change. Other social and environmental impacts also illuminate the importance of food miles. For example, preparation of food for lengthy journeys has its own implications for the environment. Product packaging is more common among foods that travel longer distances, adding more waste into our already sprawling and overflowing landfills. Finally, there are important social costs of high food miles that are often overlooked. First of all, bringing in more cheaply produced food from elsewhere sends money out of the local economy, sacrificing the potential for local economic growth and self-sufficiency. Furthermore, studies show that the nutritional value of produce declines as time passes after harvest, so high food miles are nutritionally detrimental as well.¹²

These high costs to the environment and to society in general have prompted a growing movement of local food consumption, an important step toward a more sustainable food system. At the same time, many critics say that the number of food miles does not accurately represent these social and environmental costs.

Simple & to the point

Of course, using food miles as a representation of the environmental impact of our food choices is an oversimplification. It is true that the environmental costs of our food choices are not fully measured by the number of miles our food travels to reach our tables; how food is grown and the mode of transportation are two variables that provide a more comprehensive "life cycle measurement" of a food's total environmental impact. It is also true, however, that no measure fully, simply, and efficiently describes the costs of our food choices, which is why "food miles" remains an important concept. Instead of wasting valuable resources attempting to measure every detail of these impacts, and then confusing consumers with the results, "food miles" gives us a basic idea with time left over to start addressing the problem.

What can you do?

As consumers increasingly demand locally produced food, local producers will supply it, shortening the average distance between producer and consumer. Shopping at your local farmers' market or co-op is an excellent start, but even when buying at giant supermarket chains, check your bags of apples or potatoes for their origin. When given the choice, select the product grown closest to home. If every consumer makes this choice, we will begin to see a dramatic reduction in average food miles.

Sources

¹ Stancu, C. and Ann Smith. "Food Miles – the International Debate and Implications for New Zealand Exporters." Business & Sustainability Series, Briefing Paper #1. 2006. Manaaki Whenua Landcare Research. www.landcareresearch.co.nz

² Pirog, Rich. "Food Miles: A Simple Metaphor to Contrast Local and Global Food Systems." Summer 2004 Newsletter, Hunger and Environmental Nutrition (HEN) Dietetic Practice Group of the American Dietetic Association. www.HENdpg.org

³ Farmscape Ecology Program, Hawthorne Valley Farm. "Food Miles." Accessed on 10/11/07, available at: <http://hawthornevalleyfarm.org/fep/foodmiles.htm>

⁴ Pirog, Rich. "Checking the Food Odometer: Comparing Food Miles for Local Versus Conventional Produce Sales to Iowa Institutions." July 2003. Leopold Center for Sustainable Agriculture. www.leopold.iastate.edu/pubs/staff/files/food_travel072103.pdf

⁵ Pirog 2003

⁶ Pretty, J.N., A.S. Ball, T. Lang, and J.I.L. Morison. "Farm Costs and Food Miles: An Assessment of the Full Cost of the UK Weekly Food Basket." *Food Policy*. Vol. 30, No. 1. pp. 1-19.

⁷ Xuereb, Marc. "And Miles to Go Before I Eat...Home-Grown Hurrah." *Alternatives Journal*. 2006. Vol. 32, No. 3, pp. 18-20

⁸ Farmscape Ecology Program 2007

⁹ Stancu and Smith 2006

¹⁰ U.S. EPA. "Trends in Greenhouse Gas Emissions." Apr 2007. www.epa.gov/climatechange/emissions/usinventoryreport.html

¹¹ Church, Norman. "Why Our Food is So Dependent on Oil." *Energybulletin.net*. 1 Apr 2005.

¹² Sustain: The Alliance for Better Food and Farming. "Food Miles – Still on the Road to Ruin?" October 1999. www.sustainweb.org



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