



Food miles: How far your food travels has serious consequences for your health and the climate

People are rediscovering the benefits of buying local food. It is good for your local economy because buying directly from family farmers in your area helps them stay in business. And by buying local, it means that your food isn't traveling long distances by planes, trains, trucks, and ships, which all consume energy and spew pollution that contributes to global warming and unhealthy air quality. Plus you get the added benefit of what many chefs are saying is fresher, better tasting food on your table!

How your food is grown, stored, transported, processed and cooked can all influence how it impacts climate change and the environment. Transportation-related impacts are particularly important for imported foods. NRDC calculated the transportation impacts of importing fresh produce and wine widely consumed in California, directly comparing the climate and air quality emissions from importing these foods instead of growing and consuming them in California. We did not attempt a full lifecycle assessment of all climate and air impacts. The results of our analysis show that—all else being equal—locally grown foods are a better choice.



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How Far Does Food Travel?

Food miles are the distance food travels from where it is grown to where it is ultimately purchased or consumed. Food miles—and the resulting pollution—increase substantially when we consider produce and goods imported from halfway around the world. In developed nations like ours, food is traveling farther to reach consumers and international food trade is increasing more rapidly than increases in population or food production. Between 1968 and 1998, world food production increased by 84 percent and the population by 91 percent, but food trade increased 184 percent. Today, the typical American prepared meal contains, on average, ingredients from at least five countries outside the United States.

Importing Pollution

Not only are the distances that food travels from farm to market important, but the modes of transport also have a large effect on how much pollution is generated. For example, importing food by airplane results in far greater emissions of greenhouse gases than imports by ship.

Although there are some exceptions, in most cases, locally produced food proves the best choice for minimizing global warming and other pollutants. In fact, another study showed that when you combined all locally grown food, it still produced less carbon dioxide emissions in transport than any one imported product. The effects all this pollution can have on our health may be reflected in high rates of asthma and other respiratory symptoms, as well as increased school absence days for children.

Imports by airplane have a substantial impact on global warming pollution. In 2005, the import of fruits, nuts, and vegetables into California by airplane released more than 70,000 tons of CO₂, which is equivalent to more than 12,000 cars on the road.



Commodity Information

Commodity	Country of Origin	Transport Method
Table Grapes	Chile	Ship
Navel Oranges	Australia	Ship
Wine	France	Ship
Garlic	China	Ship
Rice	Thailand	Ship
Fresh Tomatoes	Mexico	Truck
Fresh Tomatoes	Netherlands	Airplane
Total Agricultural Products	Multiple	Ship, Truck, & Airplane

The Real Price of Imported Food: The Case of California

In California, where agricultural commodities are one of the top exports, it is ironic that so much food is being imported from other states as well as overseas. Some of these imports are because people expect to have foods available year-round instead of seasonally. In other cases, imports are competing directly with locally grown produce. In 2005 alone, approximately 3 million tons of fruits, vegetables, cereals, nuts, and wine were imported from overseas into California by ship, airplane, and truck. Thousands of Californians are adversely affected by shipping goods, including food. And many neighborhoods near transport facilities—ranging from port terminals in Wilmington to rail yards in Commerce to distribution centers in Riverside and truck routes through West Oakland—are low-income communities of color.

Higher pollution levels in some of these areas are well documented, and asthma rates and other health problems are also higher. Numerous air monitoring and modeling studies in areas affected by transport facilities have shown dramatically higher levels of diesel soot than in other urban areas. More recent studies have shown unacceptably high health risk levels near major rail yards and port terminals. Diesel pollution, which tends to be highly concentrated

at cargo facilities from trucks, trains, heavy equipment and ships, contributes most to public health risks from air pollution. In fact, the California Air Resources Board estimates that in 2005 alone, 2,400 premature deaths and 2,800 hospital admissions for asthma and other diseases were attributable to direct and indirect exposure to diesel pollution from freight transport activities within the state.

To get a real picture of what food miles means to California air quality and the health of its citizens, NRDC analyzed the transportation-related impacts of importing agricultural products into the state's ports, including the large ports of Los Angeles, Long Beach, Oakland, and Otay Mesa on the Mexican border.

What we found is eye-opening:

- Almost 250,000 tons of global warming gases released were attributable to imports of food products—the equivalent amount of pollution produced by more than 40,000 vehicles on the road or nearly two power plants.
- More than 6,000 tons of smog-forming nitrogen oxides were released into the air—the equivalent of almost 1.5 million vehicles or 263 power plants!
- 300 tons of sooty particulate matter were released into the air—the equivalent of more than 1.2 million cars or 53 power plants.

Foods Frequently Imported by Air	Main Country of Origin
Asparagus	Peru
Bell Peppers	Netherlands
Blackberries	Chile
Blueberries	Chile, New Zealand, Argentina
Cherries	Chile
Raspberries	Chile

Trade and Transport Information			Cost of Importing Food			
Tons Imported 2005	Number of "Food Miles"	Greenhouse Gases (tons/yr)	Smog Forming Pollutants (tons/yr)	Diesel Soot Particles (tons/yr)	Asthma and other respiratory symptoms (cases/yr)	School Absences (days/yr)
129,721	5,909	7,343	298	15	47 (18-75)	833 (348-1363)
33,095	8,655	2,628	76	4	12 (5-19)	212 (89-347)
47,464	10,361	5,084	109	5	17 (7-27)	304 (127-498)
24,610	7,333	2,185	57	3	9 (3-14)	158 (66-258)
207,374	8,229	15,394	477	23	75 (29-120)	1330 (556-2176)
90,096	1,193	7,649	8	0.2	*	*
830	5,727	6,482	0.2	0.005	*	*
3,738,891	NA	246,596	6,146	300	951 (368-1,518)	16,871 (7,055-27,608)

* We were unable to calculate health impacts of commodities shipped via truck or air cargo.

Sharing the Local Bounty Community Supported Agriculture

Community Supported Agriculture (CSA) is a way for people to link directly with a local farm and to receive a weekly basket of produce. By making a financial commitment to a farm, people become “members” (or “shareholders,” or “subscribers”) of the CSA. In return for their investment, CSA members receive a bag of fresh, locally grown, typically organic produce, flowers, fruits, eggs, milk, or any sort of different farm products once a week during the growing season. As crops rotate throughout the season, weekly shares vary by size and types of produce, reflecting local growing seasons and conditions. The number of CSAs in the United States was estimated at 50 in 1990, and has since grown to more than 1,000, so join a CSA in your area today.

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■ Approximately 950 cases of asthma, 16,870 missed school days, 43 hospital admissions, and 37 premature deaths could be attributed to the worsened air quality from food imports, according to freight transport–related projections by the California Air Resources Board.

NRDC’s study also focused on six products that are among the top foods and beverage imports into the state (table grapes, navel oranges, wine, garlic, rice, and fresh tomatoes). Each of these six products is also produced in and exported from California. We traced each product from the principal country in which it was grown or produced, tracked how it was shipped, measured how many miles it traveled, and totaled up the global warming pollution produced as a result. We also analyzed the air quality and health effects these six major imports could be having on California’s residents.

When we examined these six major imports, we discovered that harmful air pollution in California produced from transporting these six foods into California was up to 45 times more than local or regional transport of California grown foods—and global warming pollution went up to 500 times that of locally grown foods when the food was imported by airplane! Much of the pollution is borne by people living near the ports of San Diego, Long Beach, Los Angeles, and Oakland, where the air pollution is concentrated because of the seaports.

What You Can Do to Help Keep Our Air Clean—and Yourself Healthy

By choosing local produce, you can reduce fuel consumption and global warming pollution associated with transporting food, help lift your local agricultural communities, strengthen the local economy, and protect the environment—all by eating fresher, tastier fruits and vegetables. At the policy level, NRDC’s goal is to reduce the health and environmental costs of food



transport by cleaning up dirty diesel ships, trucks, and equipment; encouraging energy efficiency; collecting fees on shipping containers to help reduce the health and environmental impacts of shipping; and promoting local agriculture. Read on for tips on how you can keep yourself—and your Earth—healthier.

■ Support your local farmers’ market. To find out where one is located near you, visit www.localharvest.org or <http://guide.buylocalca.org>. If you don’t live near a farmers’ market, ask your city to set one up for your neighborhood.

■ Choose local produce when it’s in season at your usual shopping places. Look on the labels to see how far your food traveled and ask your favorite grocery stores, restaurants—even the cafeteria in your office—to carry more local foods.

■ Avoid buying produce that has been flown in from abroad, such as European hothouse tomatoes, because the global warming pollution produced by this type of transport is substantially higher than others. Cherries, blueberries, blackberries, raspberries, tomatoes, bell peppers, and asparagus are the main fruits and vegetables most frequently shipped by air.

■ Encourage businesses and government bodies to adopt procurement policies favoring locally grown, organic, and sustainably harvested foods that are minimally processed.

■ Get more information and take action at: www.nrdc.org/foodmiles.

As foreign trade increases dramatically (and the global warming pollution and harmful health effects that go along with it do as well), you can make a real difference by taking simple steps in how you shop for your food. The more information you know about this issue, the better choices you can make for your health—and the Earth.