

# **Solving the Food, Energy and Environmental Crisis through Locally Grown Food**

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## **Introduction**

Environmentalist, geneticist, economist, marketer, lobbyist, public relations specialist: today's farmers have more titles than a typical movie store and more roles than Brad Pitt and Angelina Jolie combined (two famous American actors). These roles have continuously expanded to meet the new challenges interwoven in the plot of global agriculture – the ambiance of international trade, the action-packed story of food safety, the apocalyptic possibilities of global warming, and the cut-throat business psychological thriller of the bottom line. An escalating world population and a depleting ozone layer coupled with selective consumers have forcibly caused the evolution of today's multi-faceted producers. But farmers have responded with a proactive solution which combats the global food, energy and environmental crisis, employing a technique from the past: growing food closer to consumers (dubbed the locally grown food movement). Locally grown food is produced closer to those who consume it, therefore reducing transportation and the time food spends in transit. A reduction in travel time correlates to reduced carbon emissions, decreased oil consumption and enhanced food nutrition benefitting consumers, producers and the environment.

The locally-grown food movement has taken hold in the United States and has permeated into food systems across the globe. Reasons ranging from food safety to carbon emissions fuel the movement and publicity has caused more consumers to jump on board. But what is considered local? Definitions vary and can range from a 50 to 150 mile radius. Likewise, just as meat-lovers are carnivores and herbivores have a fauna fetish, people committed to the local food movement are called "locavores." Jennifer Maiser, editor of the Local Food Challenge website further defines the term, "Locavores are people who pay attention to where their food comes from and commit to eating local food as much as possible" (Maiser, 2007). She comments that eating locally doesn't mean cutting off well-traveled produce cold turkey, but rather making a conscientious decision to purchase food closer to home. Some peg the movement as a "fad"; a niche market exploited by farmers trying to cushion their bottom line. Farmers, on the other hand, substantiate that they are merely feeding consumer's demands and trends in the marketplace. Exploit or business sense, the locally-grown food movement has caught the attention of both producers and consumers.

Part of this attention stems of the immense distance that modern food travels. Keep in mind that SustainableTable.org estimates that the typical carrot travels 1,838 miles – equivalent to a road trip from the northernmost tip of Maine to the southernmost tip of Florida – to reach the American dinner table (Sustainable Table, 2009). A study performed by Rich Pirog and Andrew Benjamin of Iowa State University estimated that local food traveling to institutional markets traveled an average of 56 miles to reach its destination. Conventional foods on the other hand, traveled an astronomical 1,494 miles,

“nearly 27 times further” (Pirog and Benjamin, 2003). That means that most of the produce on grocery store shelves has traveled farther than Michigan families searching for sun over spring break.

### Addressing the Crisis

This distance is especially alarming with the increased attention placed on the global energy and environmental crisis. A study published in the Journal Food Policy by Professor Jules Pretty and Time Lang furthered research on food miles claiming that local food is “greener than organic.” A BBC News article relays Pretty and Lang’s estimate that if food was grown within 20 km of where it was consumed, the cost burden on the environment would be reduced from £2.3bn to £230m (approximately \$3.7bn to each year) (BBC News, 2005). The locally grown food movement therefore reduces the amount of gas consumed by food transporters while cutting carbon emissions from the transporters. In tandem, producing and consuming food closer to home would help combat the global energy and environmental crisis.

Reducing food miles – the distance food travels from farm to plate – would in fact reduce carbon emissions (helping preserve energy and the environment); but would cutting down time in transit make food more nutritional? The Utah State University states that “The farther the food travels the less nutritional value the food will have” (The Utah State University, 2009). Since produce destined for long journeys is picked before it is ripe, nutrition is limited and nutrition begins to decrease the moment the produce is removed from the plant. In short, freshness is correlated to the most nutritional product. Buying food closer to home increases the nutrition offered by each fruit, vegetable and agricultural product. With a world population set to hit seven billion by 2015, resources are going to be stretched and our globe’s ability to feed its population will be tested. Local food is an easy, cost-effective way to maximize the nutritional benefit of each seed sown and product grown. If food can be grown closer to the people who need it, the global food crisis can and will be positively impacted.



A self serve farm stand marketing home-grown fruit, vegetables and meat near Lansing, Michigan. (American Farm Bureau Federation, 2004)

There isn’t one person on this earth who would disagree that solving the world food, energy and environmental crisis is a good idea. Yet, economics sometimes limit the impact of innovative solutions (like local food). Nutrition, energy and the environment are important, but with the capitalistic tendencies of the global marketplace, local food must be beneficial for producers and consumers as well.

Farmers have discovered that local food can be friendly to the environment, energy consumption, our stomachs and even their wallets. Cutting out the “middle man” (those involved in the transportation and storage of well traveled food) allows farmers to recapture more of the economics related to their food. According to the American Farm Bureau Federation, the average US farmer only receives 19 cents of every dollar spent at the grocery store; meanwhile, 38.5 cents goes to off-farm labor, 8 cents is wrapped up in packaging and 4 cents is allotted to advertising (American Farm Bureau Federation, 2004). Even maintaining current prices, farmers can make more by selling their food directly to local retailers or customers. In some areas, increase revenues may be possible as well. Clara Moskowitz comments on a study conducted by Marvin Battle, a professor at The Ohio State University, and his colleagues who “surveyed shoppers, offering them choices between conventional strawberries and locally-grown strawberries. The team found that consumers at grocery stores were willing to pay 42 cents more, on average, for the local berries, and that buyers at farmers’ markets were happy to shell out 92 cents extra” (Moskowitz, 2008). Not only can farmers avoid sharing profits with packagers, marketers and transporters, local food can actually earn premium prices due to high demand.

### **Solving a Fourth Crisis: Economics**

The global food, energy and environmental crisis is of top priority; but the world economic crisis seizes just as much attention. Along with combating the crises highlighted above, locally-grown food supports not just farmers, but local economies and the people in them. According to Director of the Michigan Department of Agriculture (MDA) Don Koivisto, every dollar spent locally supports three to seven local businesses before leaving the local economy (MDA, 2008). That means a dollar spent at a farm stand or farmers’ market not only supports a neighborhood farmer, it supports his or her local insurance agent, hardware store, gas station, pizza place, and ice cream parlor. The Michigan Department of Agriculture states that if each state-wide household spent \$10 of its current weekly grocery budget on locally-grown foods, more than \$37 million each week would remain in Michigan’s economy (MDA, 2008). The locally-grown food movement is more than supply and demand; it revolves around community economics while feeding the world, conserving energy and preserving the environment.

### **Local Food Models**

Various models have developed to market the more nutritional, environmentally-friendly local food: farmers’ markets and Community Supported Agriculture systems (CSAs). The United States Department of Agriculture (USDA) defines a farmers’ market as “an integral part of the urban/farm linkage [which] ... allow[s] consumers to have access to locally-grown, farm fresh produce, enables farmers the opportunity to develop a personal relationship with their customers, and cultivate consumer loyalty with the farmer who grows the produce” (USDA, 2008). The USDA’s Agricultural

Marketing Service reports that the number of US farmers' markets in August of 2008 was approximately 4,685. This is an increase of 3,000 farmers' markets nationwide since 1994 (Agricultural Marketing Service, 2009). Keep in mind, farmers markets aren't necessarily rural. The Farmers' Market Federation of New York estimates that New York County alone has 35 farmers' markets currently in operation, with more in the works (New York County, 2009). With markets in every state, the locavore movement is helping rural and urban residents eat better, conserve energy, reduce carbon emissions and take advantage of community-based, smart economics.

Another way that consumers are connecting with their food and the farmers who grow it is through Community Supported Agriculture systems (CSAs). CSAs work much like the stock market. The USDA explains, "Typically, members or 'share-holders' of the farm or garden pledge in advance to cover the anticipated costs of the farm operation and farmer's salary. In return, they receive shares in the farm's bounty throughout the growing season..." (National Agricultural Library, 2009). Even if the farmer encounters a poor growing season which favors only certain produce, all of the families/individuals involved in the CSA share the burden or the risk that is production agriculture. Consumers can see where their food comes from while providing farmers with the working capital required to actually begin planting. The USDA collected data in 2007 which indicated that 12,549 farms reported marketing some or all of their produce through a CSA system (Agricultural Marketing Service, 2008). Overall, farmers looking to tap into the local food scene may utilize both farmers' markets and CSAs to spread the word that locally grown food is good for energy, the environment and people.

### **Widespread Buy-in**

Farmers aren't the only producers who are getting the local food message; corporations are responding as well. Meijer stores (a regional supermarket chains in Michigan) buy more Michigan apples than anyone else in the country (Local Growers, 2009). Meijer corporate research chef Ray Sierengowski gives his testimony on the benefits of Meijer's buy-local campaign on their website.

"On a recent trip to one of our local potato farmers in southeast Michigan, I was surprised to find that it was a small 'mom and pop' operation that took pride in the best potatoes offered... I mean, these are the very same potatoes that we purchase, cook and eat for dinner. In fact, the potatoes I watched being harvested that day would be at my local Meijer store 36 hours later (Sierengowski, 2008)".

Wal-Mart (an international supermarket) has also shown support for the locally-grown food movement. In fact, one fifth of the summer produce on Wal-Mart shelves is purchased in state (Wal-Mart Fact Sheet, 2009). Not to mention, Wal-Mart is the largest consumer of American agriculture with over 70 percent of its produce purchased from US-based producers (Wal-Mart Fact Sheet, 2009). But how can this be feasible? Wal-Mart buys products in bulk to keep prices low, so how can buying local fit into company strategy? Deisha Galbert, Wal-Mart spokeswoman, indicated that the company will buy produce close to distribution centers to cut down on transportation. The Wal-Mart website adds, "This year, Wal-Mart expects to source about \$400 million

in locally-grown produce from farmers across the United States” (Wal-Mart Fact Sheet, 2009). Even national scale retailers are realizing the energy conserving, environmental power of local agriculture and are beginning to satisfy consumer demand for the freshest of produce.



A Michigan farmer promotes buying local claiming local food is safe, healthy and supports family farms. (American Farm Bureau Federation, 2004)

The United States is not the only country catching local-food fever. "Supplying Local Food to Mainstream Customers," a British study by Henry Brown and John Geldard, affirms that the locally-grown food movement could grow 20 percent each year in the UK and has the potential to capture 10 percent of the market in the course of a decade (Davies, 2008). Michael Barker, writer for *The Grocer* magazine, comments that additionally, the report includes infrastructure alterations to encourage and stimulate the consumption of locally-grown food. He highlights ideas regarding a community-based information center as a conduit of information between producers and consumers much like the US-based promotion programs (Barker, 2008). Some European agricultural

entrepreneurs have taken marketing their locally-grown food into their own hands; Anthony Davidson founded Bigbarn.co.uk to help UK consumers find local food in their area. The website allows visitors to type in their zip code to search for producers in their vicinity (Davidson, 2008).

Nevertheless, oceans and borders do not make the obstacles facing local food any easier. Producers overseas face the same challenge posed to American agriculturalists: how can locally-grown food be a credible food option for today's concerned consumer? Just because food is local doesn't mean that safety risks are out of the question! Davidson has overcome this obstacle and relays that just because the food comes from closer to home, doesn't lessen the concerns for food safety. He comments that programs, like Safe and Local Supplier Approval (SALSA), serve as third party validation for producers trying to market their products to local consumers. SALSA approval proves to buyers that the farmer's products meet the necessary food regulations (Davidson, 2008). So not only does the locally-grown food movement have footing internationally, infrastructures and certification programs are further propagating the locally-grown food movement far beyond North America to solve the world's food, energy and environmental crises.

## Conclusion

Locally-grown food decreases food miles, offers added nutrition and fertilizes local economies making it a solution to producer's fight against the global food, energy and environmental crisis. The modern farmer can't be pigeonholed to the "Old

McDonald” (figure which over simplifies farmers portraying them as low-tech, uneducated and primarily male) figure portrayed in children’s books. Rather, the farmer of today is adapting with the times to meet consumer’s demand for local produce – resulting in a “win-win” for farmers and consumers. Producing food locally increases the nutrition and freshness of consumer’s food maximizing the food’s value. Local food reduces carbon emissions from food transporters which consequently conserves energy and limits global warming. By optimizing marketing models such as farmer’s markets and CSAs, producers are keeping money local and marketing their products closer to home. Will the locally-grown food movement thrive or will it die like the pop culture icons of platform shoes (1970s fashion statement), poodle skirts (1950s fad) and Sarah Palin glasses (modern fashion trend spurred by 2008 Republican Vice Presidential nominee)? Only time will tell. But one thing is for certain: consumers of today demand an agriculture that is environmentally friendly, produces more with less and is safe for their children. Today’s farmers are mastering the many roles which are needed to make sure that consumers of the world are heard in these demands.

## Resources

- Agricultural Marketing Service. "Number of Farmers Markets Continues to Rise in U.S." United States Department of Agriculture 19 Sept. 2008. 15 Mar. 2009 <<http://www.ams.usda.gov/>>.
- Agricultural Marketing Service. "Wholesale and Farmers Markets" United States Department of Agriculture 3 Mar. 2009. 15 Mar. 2009 <<http://www.ams.usda.gov/>>.
- American Farm Bureau Federation. Farm Facts. Washington, DC: American Farm Bureau Federation Public Relations Team, 2004.
- Barker, Michael. "Locally Sourced Food to Hit £15.6bn by 2018." The Grocer 15 Nov. 2008: 34. Academic Universe. LexisNexis. MSU Main Lib., Michigan State U. 18 Feb. 2009 <<http://web.lexisnexus.com/>>.
- Davidson, Anthony. "How to Source and Sell Locally Produced Goods." The Grocer 17 May 2008: 36. Academic Universe. LexisNexis. MSU Main Lib., Michigan State U. 18 Feb. 2009 <<http://web.lexisnexus.com/>>.
- Davies, Jack. "Why Everyone Should Buy Local Produce." Farmers Guardian 29 Feb. 2008: 12. Academic Universe. LexisNexis. MSU Main Lib., Michigan State U. 18 Feb. 2009 <<http://web.lexisnexus.com/>>.
- Davies, Jack. "Potential of Local Food to Boost Returns and Address Food Security." Farmers Guardian 14 Nov. 2008: 6. Academic Universe. LexisNexis. MSU Main Lib., Michigan State U. 18 Feb. 2009 <<http://web.lexisnexus.com/>>.
- "Local Food 'Greener than Organic'". BBC News 3 Mar. 2005. 7 Mar. 2009 <<http://news.bbc.co.uk/>>.
- Local Growers. "What Homegrown Means to You." Meijer.com 7 Mar. 2009 <<http://www.meijer.com/>>.
- Maiser, Jennifer. "10 Steps to Becoming a Locavore." PBS.org 2 November 2007. 10 Mar. 2009 <<http://www.pbs.org/>>.
- Michigan Department of Agriculture. "Agriculturally Speaking... Summer Fun in Rural Michigan -- Select Michigan for a Pure Michigan Experience." Michigan.gov 21 July 2008. 15 Mar. 2009 <<http://www.michigan.gov/>>.
- Moskowitz, Clara. "Shoppers Prefer Locally-Grown Food, Study Finds." LiveScience 10 June 2008. 5 Mar. 2009 <<http://www.livescience.com/>>.
- National Agricultural Library. "Community Supported Agriculture." United States Department of Agriculture 13 Feb. 2009. 7 Mar. 2009 <<http://www.nal.usda.gov/>>.
- "New York County." Farmers' Market Federation of New York 7 Mar. 2009 <<http://www.nyfarmersmarket.com/>>.
- Pirog, R. and Benjamin, A. "Checking the Food Odometer: Comparing food miles for local versus conventional produce sales to Iowa institutions." Leopold Center July 2003. 5 Mar. 2009 <<http://www.leopold.iastate.edu/>>.
- Sierengowski, Ray. "From the Farm to Your Family." Meijer.com 29 Sept. 2008. 7 Mar. 2009 <<http://community.meijer.com/>>.
- Sustainable Table. "The Issues, Buy Local." SustainableTable.org 7 Mar. 2009 <<http://www.sustainabletable.org/>>.
- Utah State University. "Buy Local, Eat Fresh..." USU Wellness 18 Mar. 2009 <<http://www.usu.edu/>>.

Wal-Mart Fact Sheet. “Wal-Mart Commits to America’s Farmers as Produce Aisles go Local.” Walmart.com 1 July 2008. 15 Mar. 2009 < <http://walmartstores.com/> >.