



Buying 'Local Food' Less Energy Efficient

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While some consumers seem enamored with the idea of being “green” by buying food from local sources, it is more energy-efficient and environmentally beneficial to buy from grocery retailers who are part of the modern transportation network, according to university researchers.

A report titled “Demystifying the Environmental Sustainability of Food Production” was presented at the Cornell Nutrition Conference for Feed Manufacturers on Thursday, Oct. 22, at East Syracuse, N.Y. Dr. Jude Capper, Assistant Professor in the Department of Animal Sciences at Washington State University in Pullman, Wash., presented the report, which also examined the environmental efficiency of various dairy and beef production systems.

Capper and two other researchers co-authored the report, which demonstrates that “linear travel miles are not indicative of total energy use and therefore not necessarily a valid measure of the environmental impact of moving food over long distances. Rather this must be evaluated through appropriate measures of fuel efficiency based on cargo capacity and energy use per unit of food moved.”

The report compared “three typical scenarios for a consumer purchasing a dozen eggs: 1) the local chain grocery store supplied by a production facility some distance away; 2) a farmer’s market supplied by a source much closer than the grocery store’s source; or 3) directly from a local poultry farm.”

The researchers examined scenarios involving trucking with and without backhauls, various distances to the local poultry farm, and vehicles with various levels of fuel efficiency used by the consumer to travel to and from the market. The report concludes that, in varying degrees across all scenarios, the most energy-efficient method for moving eggs to the consumer is the modern refrigerated tractor-trailer from a remote location. While the grocery store example involved movement of eggs from a production facility in California to a retailer in the Pacific Northwest, the report also concludes that “eggs could actually be transported across the entire North American continent by the tractor-trailer, and the grocery store model would remain the most fuel-efficient, eco-friendly option.”

The fuel consumption variance across the scenarios used ranges from the most efficient model utilizing a modern tractor-trailer which would consume .28 liters of fuel per dozen eggs up to the least efficient model involving a consumer traveling to a local poultry farm consuming 9.12 liters of fuel per dozen eggs.

The report did not comprehensively examine all food products purchased and consumed or various production systems used. Such work would take considerable time and resources. Further, in the example “only the impact of energy use to transport food is examined and eggs at each facility are assumed to be produced with similar egg production practices. As a result, the carbon footprint of a dozen eggs leaving the production facility is similar for all three scenarios.”

The modern transportation system is part of an efficiently designed infrastructure and simple economics of scale would indicate that larger production facilities are often more efficient due to expertise and access to modern technology. The report suggested “food should be grown where the agricultural resources and capacity are most suited to efficient food production rather than converting low-yielding land that is better suited for other purposes such as human occupation or wildlife habitat.”

The full report can be found at:

http://wsu.academia.edu/documents/0046/7264/2009_Cornell_Nutrition_Conference_Capper_et_al.pdf

Information about the author can be found at:

<http://www.ansci.wsu.edu/People/capper/faculty.aspx>