

# Bibliography

1. Edwards-Jones, G., L. Mila i Canals, N. Hounsome, M. Truninger, G. Koerber, B. Hounsome, P. Cross, E. H. York, A. Hospido, K. Plassmann, I. M. Harris, R. T. Edwards, G. A. S. Day, A. D. Tomos, S. J. Cowell, D. L. Jones. 2008. Testing the Assertion that 'Local Food is Best': The Challenges of an Evidence Based Approach. *Trends in Food Science & Technology*, doi:10.1016/j.tifs.2008.01.008.  
**Abstract** Advocates of 'local food' claim it serves to reduce food miles and greenhouse gas emissions, improve food safety and quality, strengthen local economies and enhance social capital. We critically review the philosophical and scientific rationale for this assertion, and consider whether conventional scientific approaches can help resolve the debate. We conclude that food miles are a poor indicator of the environmental and ethical impacts of food production. Only through combining spatially explicit Life Cycle Assessment with analysis of social issues can the benefits of local food be assessed. This type of analysis is currently lacking for nearly all food chains.
2. Chambers, S., A. Lobb, L. Butler, K. Harvey and W. B. Traill. 2007. Local, national and imported foods: A qualitative study. *Appetite* 49(1):208-213.  
**Abstract** The UK government is currently attempting to encourage consumers to buy more locally produced food. It is hoped that this will provide economic, environmental and social benefits to local areas, leading to more sustainable patterns of consumption. This qualitative study looks at the views and behavior of consumers towards local foods with a particular focus on the barriers that prevent greater uptake of local produce. In total, four focus groups (n ¼ 33) were conducted. Content analysis identified six relevant themes in relation to local, national and imported foods. These were cost, lifestyle, food quality, consumer ethnocentrism, choice and farmers. Overall, although participants reported buying few local products currently, there was widespread enthusiasm across socio-economic groups for local foods, with participants perceiving them as being of a higher quality than imported foods. They also generally endorsed the idea of supporting local farmers and their own national economy. The main barriers preventing participants from buying more local products were price and inconvenience. The results are discussed in relation to developing future strategies for encouraging people to buy more local food products.
3. Friedmann, Harriet. 2007. Scaling up: Bringing public institutions and food service corporations into the project for a local, sustainable food system in Ontario. *Agriculture and Human Values* 24(3):389-398.  
**Abstract** This paper reports on a relationship between the University of Toronto and a non-profit, non-governmental ("third party") certifying organization called Local Flavour Plus (LFP). The University as of August 2006 requires its corporate caterers to use local and sustainable farm products for a small but increasing portion of meals for most of its 60,000 students. LFP is the certifying body, whose officers and consultants have strong relations of trust with sustainable farmers. It redefines standards and verification to create ladders for farmers, Aramark and Chartwells (the corporations that

won the bid), and the University, to continuously raise standards of sustainability. After years of frustrated efforts, other Ontario institutions are expressing interest, opening the possibility that a virtuous circle could lead to rapid growth in local, sustainable supply chains. The paper examines the specificities of the LFP approach and of the Toronto and Canadian context. Individuals in LFP acquired crucial skills, insights, experience, resources, and relationships of trust over 20 years within the Toronto “community of food practice,” located in a supportive municipal, NGO and social movement context.

4. Holloway, L., M. Kneafsey, L. Venn, R. Cox, E. Dowler and H. Tuomainen. 2007. Possible Food Economies: A Methodological Framework for Exploring Food Production-Consumption Relationships. *Sociologia Ruralis* 47(1):1-19.

**Abstract** Modes of food production–consumption defined as ‘alternative’ have received considerable academic attention, with studies exploring both their potential for contributing to rural development strategies and the opportunities they provide for countering established power relations in food supply systems. However, the use of the term ‘alternative’ as part of a persistent dualism in which it is opposed to the ‘conventional’ is problematic as it loses sight of the specificity of different examples food production–consumption. Based on extensive field research with a series of very different food projects, this article develops a methodological framework which structures a description of how specific examples of food production–consumption are organised with reference to a series of analytical fields. This framework retains a sense of the diversity and particularity of particular cases of production–consumption, and directs attention to the particular locations of resistance to prevalent power relations in food systems that are made possible through different food projects.

5. Hultine, S. A., L. R. Cooperband, M. P. Curry, S. Gasteyer. 2007. Linking Small Farms to Rural Communities with Local Food: A Case Study of the Local Food Project in Fairbury, Illinois. *Community Development* 38(3):61-76.

**Abstract** The literature on sustainability and local food systems often takes for granted a positive impact on rural communities. This paper attempts to interrogate this notion through a systematic evaluation of a local food system project in Central Illinois. Using case studies and survey research, this paper focuses on an innovative relationship forged between farmers and a local independently owned supermarket in a small rural community, which created an “indoor farmers’ market” inside the store. This growing group of farmers committed to providing their community with food grown using sustainable farming practices, while the grocery store owners committed to the project to support local farmers and as a competitive marketing strategy. Although one key measurement of the success of this business relationship is evident in the doubling of local produce sales within the store each year, benefits are accruing beyond the economic impacts. Based on the “Fairbury Local Food Project” we recommend nine key elements of success that can be used to measure impacts and evaluate the success of local food system projects in rural communities.

6. Milà i Canals L., S.J. Cowell, S. Sim, L. Basson. 2007. Comparing Domestic versus Imported Apples: A Focus on Energy Use. *Env Sci Pollut Res* 14 (5): 338–344.

**Abstract Goal, Scope and Background** The issue of whether food miles are a relevant indicator for the environmental impacts associated with foods has received significant attention in recent years. It is suggested here that issues other than the distance travelled need to be considered. The argument is presented by illustrating the case for the provision of apples. **Materials and Methods** The effects of variability in primary energy requirements for apple cultivation and for other life cycle stages, seasonality (timing of consumption) and loss of produce during storage are studied in this paper, by comparing apples from different supplier countries for consumption in Europe. **Results.** Data sources for primary energy use (PEU) of apple production are identified ranging from 0.4–3.8 MJ/kg apples for European and Southern American countries and 0.4–0.7 MJ/kg for New Zealand. This variability is related to different yields and producer management practices in the different countries. Storage loss may range from 5% to 40% for storage periods between 4 and 10 months, and this has a significant effect on the results (e.g. increasing the total PEU by 8–16% when stored for 5–9 months in Europe as compared with a no loss and no storage situation). The storage periods and related storage losses change markedly through the year for imported (i.e. non-European) versus European apples. **Discussion.** The timing of consumption and related storage losses need to be included in the assessment, as this affects the order of preference for locally sourced versus imported apples. The variability in energy requirements in different life cycle stages, but particularly for the fruit production stage, is also significant in this comparative analysis. **Conclusions.** Overall, it seems that there are similarities in the total PEU ranges for European and New Zealand apples during the Southern Hemisphere's apple season (European spring and summer). However, during the European autumn and winter (Northern Hemisphere apple season) PEU values are generally higher for apples imported from the Southern Hemisphere compared with European apples consumed in Europe. However, this latter observation may not hold true where apples for consumption in one European country are imported from another European country, because energy use for road transportation has a significant influence on the result. **Recommendations and Perspectives** Future studies comparing alternative sources of fresh produce need to account for ranges of data for the fruit production and storage stages, which reflect the seasonality of production.

7. Andrée, Peter. 2006. And Miles to Go Before I Eat ... Local Limitations. *Alternatives Journal* 32(3):19,21

**Abstract** "Buy Local" seems like a good response to the environmental, economic and social problems associated with the global food system. Unfortunately, this slogan may not represent the best route in Canada, at least not as it has been interpreted in Ontario. "Local" is defined in various ways in these campaigns, but often comes down to a 30- to 50-kilometre radius around a regional centre. Their aims are laudable: help maintain ecologically diverse farming systems, support local farmers and food processors, and avoid the environmental costs associated with the long distance transportation of food. Having defined local too narrowly, many organizations focus on creating direct links between local farmers, artisan processors and consumers. Along the way, they have ignored the fact that other production and distribution systems might have ecological

advantages. Consider the Foodland Ontario program. It has successfully branded Ontario produce - produce usually grown on medium scales in the most productive regions of the province and transported in large quantities. Instead of embracing this program, local food initiatives in Ontario have created competing brands. These organizations could have a greater influence on consumption patterns if they devoted some resources to working co-operatively. One possibility is to develop an offshoot of the Foodland brand that is tied to specific sustainability criteria.

8. Born, Branden and Mark Purcell. 2006. Avoiding the Local Trap: Scale and Food Systems in Planning Research. *Journal of Planning Education and Research* 26(2):195-207.

**Abstract** A strong current of food-systems research holds that local food systems are preferable to systems at larger scales. Many assume that eating local food is more ecologically sustainable and socially just. We term this the local trap and argue strongly against it. We draw on current scale theory in political and economic geography to argue that local food systems are no more likely to be sustainable or just than systems at other scales. The theory argues that scale is socially produced: scales (and their interrelations) are not independent entities with inherent qualities but strategies pursued by social actors with a particular agenda. It is the content of that agenda, not the scales themselves, that produces outcomes such as sustainability or justice. As planners move increasingly into food-systems research, we argue it is critical to avoid the local trap. The article's theoretical approach to scale offers one way to do so.

9. Cantrell, Patty, David Conner, George Erickcek and Michael W. Hamm. 2006. Eat Fresh and Grow Jobs. Accessible at <http://www.mottgroup.msu.edu/Portals/mottgroup/downloads/EatFresh.pdf>

**Excerpt from the Executive Summary** [This] study explores the potential for changes in the marketing practices of Michigan's existing fruit and vegetable producers to improve the profitability of the state's valuable farmland, grow job opportunities across the economy, and improve public health. [The authors] have found, with the help of robust economic modeling tools, that a determined effort to increase fresh market sales of Michigan fruits and vegetables could significantly boost employment and personal income across the state. These benefits could be gained through a series of statewide initiatives that would have a modest cost and significant effect on Michigan's economy and the health of its residents.

10. Delind, Laura B. 2006. Of bodies, place, and culture: Re-situating local food. *Journal of Agricultural & Environmental Ethics* 19(2):121-146.

**Abstract** In the US, an increasingly popular local food movement is propelled along by structural arguments that highlight the inequity and unsustainability of the current agri-food system and by individually based arguments that highlight personal health and well-being. Despite clear differences in their foci, the deeper values contained in each argument tend to be neglected or lost, while local innovations assume instrumental and largely market-based forms. By narrowing their focus to the rational and the economic, movement activists tend to overlook (or marginalize) the role of the sensual, the

emotional, the expressive for maintaining layered sets of embodied relationships to food and to place. This paper seeks to show that cultural and nonrational elements are fundamental to local food discussions. It proceeds from the assumption that, without them as full partners, the movement cannot be sustained in any felt, practiced, or committed way. To this end, it discusses the concept of place and bodies in place, as well as the connections between the ecological and the cultural, the sensual and the scientific. It offers a new set of questions and conceptual tools with which advocates and activists may “ground,” and thereby revalue and restore, the promise and practice of local food.

11. Hein, J.R., B. Ilbery and M. Kneafsey. 2006. Distribution of Local Food Activity in England and Wales: An Index of Food Relocalization. *Regional Studies* 40(3):289-301. **Abstract** Despite much interest in the relocalization of the food supply chain in England and Wales, it is unclear whether local food systems are more developed in some areas than others. The aim is to identify current areas of local food activity in England and Wales through the application of an Index of Food Relocalization. The Index is developed by using indicators related to the production and marketing of local food products and results suggest a complex geography associated with such activities.
12. Ilbery, B, D. Watts, S. Simpson, A. Gilg and J. Little. 2006. Mapping local foods: evidence from two English regions. *British Food Journal* 108(2-3):213-225. **Abstract** This paper sets out to engage with current debate over local foods and the emergence of what has been called an alternative food economy and to examine the distribution of local food activity in the South West and West Midlands regions of England. Databases on local food activity were constructed for each region from secondary sources. The data were mapped by means of choropleth mapping at postcode district level. Although local food activity is flourishing in the South West and, to a lesser extent, the West Midlands, it is unevenly distributed. Concentrations occur in both regions. These may relate to a variety of factors, including: proximity to urban centers and particular trunk roads, landscape designations and the geography of farming types. The products that tend to predominate -- horticulture, dairy, meat and poultry -- can either be sold directly to consumers with little or no processing, or remain readily identifiable and defining ingredients after being processed.
13. Maye, Damian and Brian Ilbery. 2006. Regional Economies of Local Food Production: Tracing Food Chain Links between ‘Specialist’ Producers and Intermediaries in the Scottish-English Borders. *European Urban and Regional Studies* 13(4):337-54. **Abstract** There is currently strong political desire at both European and national scales to "relocalize" food production and supply. While advocacy remains high, few studies have interrogated the form of these "new" food chains. This article provides an analysis of such chains in the Scottish-English borders. It traces supply links between small-scale "specialist" food producers and associated intermediaries for three product sectors. Linking the two stages of the food chain together, the analysis shows differences within and between, as well as similarities across, sectors in terms of spatial and economic organization. It also reveals the "hybrid" nature of specialist food chains in the region; local producers have created their own "niche spaces" within the food system. The article

thus contributes to debates on new agro-food geographies and regional economic geography and argues that local (specialist) small-scale enterprises do not usually establish food chains which are "independent" of the wider food supply system.

14. Ostrom, Marcia. 2006. Everyday Meanings of "Local Food": Views from Home and Field. *Community Development* 37(1):65-78.

**Abstract** A "buy local" approach to food sourcing appears to provide an increasingly salient mobilizing framework for city, county, and state level governments, non-profits, and funding agencies as a response to problems in the agri-food system. One rather constant source of tension, however, has been a failure to develop shared meanings about what constitutes "local food." This paper critically examines the multiple ways that "local" is constructed in physical, relational, and symbolic space within the specific context of Washington State. In hopes of extending the debate beyond scholars and activists, we sought the perspectives of a broad sample of Washington citizens using farmer and consumer surveys. Open-ended questions were asked about the meaning of "local food," as well as structured questions about the values and practical considerations associated with food production and marketing. Although a number of obstacles to using "local food" as a mobilizing construct to address systemic agricultural problems became evident, a surprising amount of agreement about the meaning of concept was also uncovered.

15. Seyfang, Gill. 2006. Ecological citizenship and sustainable consumption: Examining local organic food networks. *Journal of Rural Studies* 22(4):383-395.

**Abstract** Sustainable consumption is gaining in currency as a new environmental policy objective. This paper presents new research findings from a mixed-method empirical study of a local organic food network to interrogate the theories of both sustainable consumption and ecological citizenship. It describes a mainstream policy model of sustainable consumption, and contrasts this with an alternative model derived from green or 'new economics' theories. Then the role of localised, organic food networks is discussed to locate them within the alternative model. It then tests the hypothesis that ecological citizenship is a driving force for 'alternative' sustainable consumption, via expression through consumer behaviour such as purchasing local organic food. The empirical study found that both the organisation and their consumers were expressing ecological citizenship values in their activities in a number of clearly identifiable ways, and that the initiative was actively promoting the growth of ecological citizenship, as well as providing a meaningful social context for its expression. Furthermore, the initiative was able to overcome the structural limitations of mainstream sustainable consumption practices. Thus, the initiative was found to be a valuable tool for practising alternative sustainable consumption. The paper concludes with a discussion of how ecological citizenship may be a powerful motivating force for sustainable consumption behaviour, and the policy and research implications of this.

16. Thomson, J. S., R. B. Radhakrishna, A. N. Maretzki and L. O. Inciong. 2006. Strengthening Community Engagement toward Sustainable Local Food Systems. *Journal of Extension* 44(4), Article Number: 4FEA2. Accessible at <http://www.joe.org/joe/2006august/a2.shtml>  
**Abstract** Perspectives of extension educators relative to local food system (LFS) issues are examined. These educators perceived consumer food safety, viable ag-related businesses, land use planning, farm land preservation, loss of family-owned farms, and access to quality foods as important issues. Extension educators viewed county extension directors, regional directors, and program advisory boards as the strongest supporters for the local LFS. Lack of program resources to support and carry out LFS programming was identified as a barrier. Significant differences were also found between extension educators' demographic and program characteristics and important LFS issues.
  
17. DuPuis, E. Melanie and David Goodman. 2005. Should we go “home” to eat?: toward a reflexive politics of localism. *Journal of Rural Studies* 21(3): 359-371.  
**Abstract** “Coming home to eat” [Nabhan, 2002. *Coming Home to Eat: The Pleasures and Politics of Local Foods*. Norton, New York] has become a clarion call among alternative food movement activists. Most food activist discourse makes a strong connection between the localization of food systems and the promotion of environmental sustainability and social justice. Much of the US academic literature on food systems echoes food activist rhetoric about alternative food systems as built on alternative social norms. New ways of thinking, the ethic of care, desire, realization, and vision become the explanatory factors in the creation of alternative food systems. In these norm-based explanations, the “Local” becomes the context in which this type of action works. In the European food system literature about local “value chains” and alternative food networks, localism becomes a way to maintain rural livelihoods. In both the US and European literatures on localism, the global becomes the universal logic of capitalism and the local the point of resistance to this global logic, a place where “embeddedness” can and does happen. Nevertheless, as other literatures outside of food studies show, the local is often a site of inequality and hegemonic domination. However, rather than declaim the “radical particularism” of localism, it is more productive to question an “unreflexive localism” and to forge localist alliances that pay attention to equality and social justice. The paper explores what that kind of localist politics might look like.
  
18. Pirog, Rich and Andrew Benjamin. 2005. Calculating food miles for a multiple ingredient food product. Accessible at [http://www.leopold.iastate.edu/pubs/staff/files/foodmiles\\_030305.pdf](http://www.leopold.iastate.edu/pubs/staff/files/foodmiles_030305.pdf)  
**Excerpt from the Executive Summary** [...] Food miles have become a metaphor to contrast local and global food systems for food systems researchers and local food practitioners alike. Most food miles calculations have been for single ingredient products such as fresh fruit and vegetables. There are, however, few examples of calculated food miles for multiple ingredient food products such as ice cream, pizza, canned vegetable soup, and fruit pie. Since most U.S. consumers buy an array of multiple ingredient food products from both conventional and natural food stores, it is important to explore how

food miles can be calculated for such products. This report details the assumptions and calculations used to estimate the food miles for a container of strawberry yogurt, a multiple ingredient food product containing milk, sugar, and strawberries. Using a set of assumptions and information learned about ingredient sources, we calculated the weighted total source distance (WTSD) for the primary ingredients that make strawberry yogurt (processed in Des Moines, Iowa and shipped to nearby food retailers in Des Moines) to be 2,216 miles. The weighted average source distance – the average distance ingredients travel (based on percent weight in final product) was 277 miles.

19. Schneider, Mindi L. and Charles A. Francis. 2005. Marketing locally produced foods: Consumer and farmer opinions in Washington County, Nebraska. *Renewable Agriculture and Food Systems* 20(4): 252-260.

**Abstract** Local food system potentials were studied in Washington County, Nebraska. As a departure from most studies of locally based systems, farmers were surveyed in addition to consumers for potential participation. Data about the current food system and opinions and preferences for local production, marketing, and purchasing of food were collected using self-administered mail questionnaires. The response rate was 35% for the farmer survey and 37% for the consumer survey. Results indicated that, on the farming side of the food system, conventional corn and soybean production and marketing predominated in Washington County, and farmer interest in producing for local markets was low. Consumers reported a high level of interest in purchasing food from farmers' markets, local grocery stores, local restaurants and directly from farms, and indicated a willingness to pay a price premium for local foods. They also reported that quality and taste were the most important factors in food purchase decisions, but environmentally friendly production and support for local farmers were also important. We conclude that there is tremendous potential for local marketing of farm products, but that there is a large gap between consumer demand and willingness of farmers to meet this demand. Further study of motivations and opinions of farmers is needed, in addition to determining production thresholds for the number of farms and farmers needed to meet local food demands.

20. Selfa, Theresa and Joan Qazi. 2005. Place, Taste, or Face-to-Face? Understanding Producer–Consumer Networks in “Local” Food Systems in Washington State. *Agriculture and Human Values* 22(4): 451–464.

**Abstract** In an increasingly globalized food economy, local agri-food initiatives are promoted as more sustainable alternatives, both for small-scale producers and ecologically conscious consumers. However, revitalizing local agrifood communities in rural agro-industrial regions is particularly challenging. This case study examines Grant and Chelan Counties, two industrial farming regions in rural Central Washington State, distant from the urban fringe. Farmers in these counties have tried diversifying large-scale processing into organics and marketing niche and organic produce at popular farmers markets in Seattle about 200 miles away. Such strategies invoke the question, “How are ‘local’ agri-food networks socially and geographically defined?” The meaning of what constitutes “local” and/or “sustainable” systems merits consideration in the linking of these rural counties with distant urban farmers markets. Employing historical, in-depth interview and survey research, we analyze production and consumption

networks and the non-market systems that residents in these counties access for self-provisioning and food security.

21. Watts, D.C.H., B. Ilbery and D. Maye. 2005. Making reconnections in agro-food geography: alternative systems of food provision. *Progress in Human Geography* 29(1):22-40.

**Abstract** This article reviews recent research into alternative systems of food provision. It considers, first, what the concept of 'alternativeness' might mean, based on recent discussions in economic geography. Informed by this, it discusses food relocalization and the turn to 'quality' food production, arguing that both are 'weaker' alternative systems of food provision because of their emphasis on food. It then examines some 'stronger' alternative systems of food provision, which emphasize the networks through which food passes. Lastly, the paper reflects on the concept of alternativeness in the context of food supply chains, and suggests some possible directions for future research.

22. Stephenson, Garry and Larry Lev. 2004. Common support for local agriculture in two contrasting Oregon communities. *Renewable Agriculture and Food Systems* 19(4): 210-217.

**Abstract** One increasingly successful approach to enhancing small farm viability is for farmers to market their products directly to consumers and food-oriented businesses and institutions within their local area. This localized approach to food production and distribution is based on theoretical concepts often articulated as community, local or regional food systems. But is there sufficient consumer support to make local food systems viable? Do communities differ in their potential for developing a local food system based on their dominant socio-economic and/or political characteristics? This study reports on the results of a random mail survey of households in two Oregon communities. Although the two communities contrast socioeconomically and politically, they show common but somewhat different support for local agriculture. The results demonstrate the potential for the development of more localized food systems in both communities. However, the type of products, their method of delivery and pricing will likely need to be tailored to fit each community.

23. Goland, Carol and Sarah Bauer. 2004. When the apple falls close to the tree: Local food systems and the preservation of diversity. *Renewable Agriculture and Food Systems* 19(4): 228-236.

**Abstract** Agricultural industrialization, Green Revolution technologies, environmental change and civil conflicts have all been cited as contributing to the erosion of crop biodiversity. An additional factor is change in the characteristics of markets, including distance to market. Proponents of sustainable agriculture claim that one benefit of local food systems is the preservation of crop biodiversity. This paper explores that claim, examining Ohio orchardists' understanding and valuation of apple varieties and relating these to the preservation of biodiversity. Growers provided lists of apple varieties and then performed pilesorts on them. Analysis using multidimensional scaling reveals the underlying dimensions growers use to distinguish those cultivars. Salient characteristics are taste, use and market focus. Demands of the conventional commercial market with regards to transportation, appearance and storage exclude the old varieties. On the other

hand, there is a strong congruence between sales in local markets and production of old varieties. Local markets, such as roadside stands and 'pick-your-own' operations, play an important role in the preservation of heirloom varieties of apples.

24. Brown, Cheryl. 2003. Consumers' preferences for locally produced food: A study in southeast Missouri. *American Journal of Alternative Agriculture* 18(4): 213-224.

**Abstract** A mail survey was used to gather information from the main food buyer in random households in southeast Missouri to analyze consumer preferences for locally grown food. A majority of shoppers in the region were not aware of the state's AgriMissouripromotion program. Consumers defined locally grown not as a statewide concept but as a narrower regional concept that could cross state boundaries. Most important when purchasing produce were quality and freshness, and most consumers perceived local produce at farmers' markets to be of higher quality and lower price. Farm households were not significantly different from other households in the region and did not show a preference or willingness to pay a price premium for local food products. Food buyers who were members of an environmental group had higher education and income and were more likely to purchase organic food and more willing to pay a higher price for local produce. Households in which someone was raised on a farm, or had parents who were raised on a farm, had a preference for locally grown food and were willing to pay a price premium for it. Marketing local products should stress quality, freshness, and price competitiveness, and appeal to environmentalists and those with a favorable attitude towards family farms.

25. Hinrichs, C.Clare. 2003. The practice and politics of food system localization. *Journal of Rural Studies* 19(1):33-45.

**Abstract** As an apparent counterpoint to globalization, food system localization is often assumed to be a good, progressive and desirable process. Such thinking rests on a local–global binary that merits closer scrutiny. This paper examines the social construction of “local”, by analyzing the practice and politics of food system localization efforts in Iowa, USA. It argues that desirable social or environmental outcomes may not always map neatly onto the spatial content of “local”, which itself involves the social construction of scale. These contradictions in turn relate to differing political inflections discernible in food system localization. Localization can be approached defensively, emphasizing the boundaries and distinctions between a culturally and socially homogeneous locality needing protection from non-local “others”. But through the experience of new social and gustatory exchanges, localization can also promote increased receptivity to difference and diversity. More emergent, fluid and inclusive notions of the “local”, however, may challenge the very project of crafting and maintaining distinctive food identities for local places. These themes are explored through a case study of food system localization efforts and activities in Iowa, an American state that has been a stronghold of conventional commodity agriculture. Demographic and agricultural histories are drawn on to understand recent food system localization practice that has come to emphasize a definition of “local” that coincides with sub-national state boundaries. The emergence

and popularization of the “Iowa-grown banquet meal” and the shifting meaning of “local Iowa food” further illustrate the potential tension between defensiveness and diversity in food system localization.

26. Pirog, Rich and Andrew Benjamin. 2003. Checking the food odometer: Comparing food miles for local versus conventional produce sales to Iowa institutions. Accessible at [http://www.leopold.iastate.edu/pubs/staff/files/food\\_travel072103.pdf](http://www.leopold.iastate.edu/pubs/staff/files/food_travel072103.pdf)

**Abstract** Food miles are the distance food travels from where it is grown to where it is ultimately purchased or consumed by the end user. The term food miles has become part of the vernacular among food system professionals when describing the farm to consumer pathways of food. A Weighted Average Source Distance (WASD) can be used to calculate food miles by combining information on the distances from production to point of sale and the amount of food product transported. This paper calculates the WASD or food miles for various types of fresh produce delivered to Iowa institutions from local sources. The data is compared to food miles calculated from an interpolation of conventional sources within the continental United States – the likely places these products would have originated from had local food not been available. The average WASD for locally grown produce to reach institutional markets was 56 miles, while the conventional WASD for the produce to reach those same institutional points of sale was 1,494 miles, nearly 27 times further. Conventional produce items traveled from eight (pumpkins) to 92 (broccoli) times farther than the local produce to reach the points of sale. Research is underway to determine how well consumers understand and value the concept of food miles within the context of their food purchase decisions.

27. Winter, Michael. 2003. Embeddedness, the new food economy and defensive localism. *Journal of Rural Studies* 19(1):23-32.

**Abstract** This paper examines embeddedness and the turn to quality in agro-food research. It suggests that the notion of embeddedness requires critical scrutiny and that the implications of the turn to quality for the geography of agriculture may not be as radical as some have suggested. The relationship between quality and local embeddedness is explored in some detail drawing on empirical work on food purchases in five rural localities of England and Wales. It is suggested that the patterns of food purchasing revealed, with local food figuring more highly than organic, illustrate a defensive politics of localism rather than a strong turn to quality based around organic and ecological production. Far from heralding an alternative post-global green future, as promoted by a range of proponents of sustainable agriculture, the turn to local food may cover many different forms of agriculture, encompassing a variety of consumer motivations and giving rise to a wide range of politics.

28. Hendrickson, Mary K. and William D. Heffernan. 2002. Opening Spaces through Relocalization: Locating Potential Resistance in the Weaknesses of the Global Food System. *Sociologia Ruralis* 42 (4): 347–369.

**Abstract** In this paper we explore several themes based on our intertwined research and outreach activities. First, we examine and discuss emerging global food chains that are embedded in strategic alliances, joint ventures and relationships – in short in networks of power. Decisions are being displaced away from multiple actors situated in different localities to globalized decision-making located within a few firms that make up each cluster. While the roots of these phenomena are firmly grounded in long-term historical processes, it is important to document and understand what is emerging at the global level in order to create alternatives. Second, we discuss our outreach work with farmers, consumers and communities in helping them to frame and understand the changes that are taking place in the food and agriculture system. This is exemplified through a case study of the Kansas City Food Circle and its role in generating alternative visions from the consumption side of the food equation. This work is extremely important for challenging the global food system, and also for helping to empower farmers, eaters and communities to create alternatives. We lay out an analytical understanding of the strengths and weaknesses of the global system, and the opportunities found in the social, environmental and economic failures of the global system. In conclusion, the work described above rests on the recognition of different forms of agency that are appearing in the food system, agency that is located within the spaces provided by the unsustainable, unjust nature of the global system. We remain cognizant of the incredible networks of power that shape the production and consumption relationships in the food system. However, we remain hopeful that models of emerging alternatives can help relocalize production/consumption relationships in the food system in equitable ways. In other words, in relationships that are personalized and sustainable, and that are embedded in place and community.

29. Pirog, R., T. Van Pelt, K. Enshayan, and E. Cook. 2001. Food, Fuel, and Freeways: An Iowa perspective on how far food travels, fuel usage, and greenhouse gas emissions. Accessible at <http://www.leopold.iastate.edu/pubs/staff/ppp/index.htm>

**Excerpt from the Executive Summary** [...] Local and regional food systems, where farmers and processors sell and distribute their food to consumers within a given area, may use less fossil fuel for transportation because the distance from farm to consumer is shorter. This paper discusses transportation from farm to point of sale within local, regional, and conventional food systems. Using fresh produce and other foods as examples, we considered miles traveled, fossil fuels used, and carbon dioxide emissions, and assessed potential environmental costs. [...] This paper shows that fresh produce transported to Iowa consumers under the current conventional food system travels longer distances, uses more fuel, and releases more CO<sub>2</sub> than the same quantity of produce transported in a local or Iowa-based regional food system. Given that fuel expenses are only a small percentage of total transportation and distribution costs, however, fuel energy costs will need to rise significantly if they are the only factor considered in determining whether local and regional systems are economically competitive with the conventional system. Economic value must be assigned to the external environmental cost of burning more fossil fuels and releasing more CO<sub>2</sub>. The authors strongly urge that

more baseline research be conducted comparing the energy efficiency and external environmental costs of production, processing, packaging, and transportation sectors of conventional, regional, and local food systems.

30. Anderson, Molly D. and John T. Cook. 1999. Community food security: Practice in need of theory? *Agriculture and Human Values* 16(2):141–150.

**Abstract** Practitioners and advocates of community food security (CFS) envision food systems that are decentralized, environmentally-sound over a long time-frame, supportive of collective rather than only individual needs, effective in assuring equitable food access, and created by democratic decision-making. These themes are loosely connected in literature about CFS, with no logical linkages among them. Clear articulation in a theoretical framework is needed for CFS to be effective as a guide for policy and action. CFS theory should delimit the level of analysis (i.e., what are the boundaries of “community”); show how CFS relates to individual, household, and national food security and explain emergent properties, which are important at the community level of analysis; point to the best indicators of CFS or its lack; clarify the determinants of CFS; and clarify the stages of movement toward CFS. This theoretical base would allow researchers to develop valid and reliable measures, and allow practitioners to weigh alternative options to create strategic plans. A theoretical base also would help establish common ground with potential partners by making the connections to anti-hunger work, sustainable agriculture, and community development clear.