

## **Extreme Local Food: Two Case Studies in Assisted Urban Small Plot Intensive Agriculture**

---

*Lenore Newman*

### **Abstract**

As worries over the environmental impact of the industrial food system grow the idea of locally produced food is becoming increasingly popular. This includes a growing interest in the “ultimate zero carbon food” produced through urban growing. However, there are several barriers to an expansion of urban agriculture in North America; these include poor urban soils, a lack of knowledge, zoning restrictions, and personal time constraints that prohibit the investment needed to tend a small-plot intensive garden. This paper discusses two case studies (one in Portland, Oregon and the other in Vancouver, British Columbia) of assisted urban small-plot intensive farming. These initiatives involve entrepreneurs installing and tending small plots on participants’ land. The crops produced are either sold at local farmers’ markets or shared directly with the land owners. These efforts provide benefit in their own right but could also help speed the diffusion of urban agriculture; as examples of early “niche adaptation” both projects have strong educational components and are engaging a diverse demographic. In addition this approach with one urban farmer tending multiple plots could help address concerns over small plot carbon footprints that have been raised in the literature.

**Lenore Newman** is an Assistant Professor at Royal Roads University in Victoria, Canada.

Her research interests include sustainable food systems, urban form, and nature/culture interactions.

She is President of the Environmental Studies Association of Canada and writes widely on environmental issues.

She can be reached at [lenore.newman@royalroads.ca](mailto:lenore.newman@royalroads.ca)

À mesure qu’augmentent les préoccupations à propos des conséquences environnementales du système alimentaire industriel, l’idée de la production locale d’aliments devient de plus en plus populaire. Cela porte également sur un intérêt accru envers une « production alimentaire à émission de carbone nulle » grâce à la culture urbaine. Cependant, il existe plusieurs obstacles à l’expansion de l’agriculture urbaine en Amérique du Nord, notamment la pauvreté des sols urbains, un manque de connaissances, des restrictions de zonage, et des contraintes de temps personnelles qui empêchent les investissements nécessaires pour s’occuper d’un petit potager intensif. L’auteure de cet article analyse deux études de cas (l’une à

Portland, Oregon et l'autre à Vancouver, Colombie-Britannique) de culture intensive urbaine assistée sur petite parcelle. Dans ces initiatives, des entrepreneurs installent de petites parcelles sur les terres des participants et s'en occupent. Les récoltes sont soit vendues dans les marchés locaux ou partagées directement avec les propriétaires des terres. Ces initiatives sont bénéfiques en tant que telles, mais elles pourraient également contribuer à accélérer la diffusion de l'agriculture urbaine. Comme exemples de premières « adaptations à un créneau », les deux projets comptent d'importants éléments éducatifs et font appel à une diversité démographique. De plus, cette approche où un fermier urbain s'occupe de plusieurs parcelles pourrait contribuer à rassurer quant aux préoccupations qui ont été soulevées dans la documentation relativement au bilan carbone généré par les petites parcelles.

### **Keywords**

Local food, urban agriculture, community agriculture, small plot, intensive agriculture, sustainable food

---

### **Introduction**

The popularity of concepts such as Slow Food, and of books such as the “100 Mile Diet” (Smith and MacKinnon 2007) has propelled local food into mainstream consciousness. Local food has emerged amid a crisis of severe decline in local agriculture that has continued for at least a half century. For example the Chisan-chiso movement of Japan (see Kimera and Nishiyama 2008), a term that translates as locally produced, locally consumed, has arisen during a time of great contraction in domestic food production. The loss of local food options is framed as a threat to national culture and independence. Similarly the Slow Food movement in Europe arose in part to counter the destruction of local traditional food production and preparation techniques due to the onslaught of global food products. A renewed interest in local production has been spurred by environmental and health concerns, gourmets interested in preserving local varieties, and the remaining local farmers. Slow Food aims to preserve local varieties, cuisines, and what proponents called the “rhetoric of terroir” (Miele and Murdoch 2002). Founded in 1986 in Bra, a town in the Piedmont Region of Italy, the Slow Food movement seeks to position food as a key constituent in the development and maintenance of community (Pietrykowski 2004). Others argue for a broader theme of locality, claiming that complete neighbourhoods are those that meet daily needs locally (Leyden 2003). In North America, local food has emerged in concert with a general questioning of consumer lifestyles. Local food is emerging as an easily accessible site of personal engagement with environmental issues. Henderson (2000) argues that local food could become an important way to promote a more ecologically sustainable, socially equitable, and economically viable future for the food system.

As with any movement that achieves rapid publicity in the popular press, it is important to question whether empirical evidence supports the claims being made regarding local food systems and their role in promoting more sustainable consumption that minimizes environmental damage and encourages local

economies to a greater degree than the industrial food system or mass-market organics (Seyfang 2007, Pollan 2006). Certainly some theorists believe this is true; DeLind (2006:121) claims “Local food and eating locally become both the symbol and substance for structural change from which flows enormous social and environmental benefit.” Local food has also recently enjoyed a great increase in popularity in Canada, particularly after the publication of the “100 Mile Diet” (Smith and MacKinnon 2007) which strongly encourages local production as a way of achieving environmental and health benefits and as a building block of sustainable communities. Many advantages have been attributed to local food. It is viewed as superior to industrial food systems in terms of food safety (as local food is said to be handled more carefully), environmental effects (as less fossil fuels are used), food taste and freshness (as varieties do not have to be chosen for durability over long distances), and regional development (as local farm economies are preserved) (Van Hauwermeiren et al. 2007, Nichol 2003). DeLind (2006) echoes these advantages, arguing local food boosts local rural economy, is healthier and better tasting, reduces energy needs and fosters a sense of place. Flavour and variety are often highlighted (Stagl 2002), and a link is often made with the preservation of biodiversity through the consumption of local cultivars (Shiva 2000), as the local varieties being preserved are adapted to local conditions, and need fewer pesticides and fewer fertilizers to thrive.

The energy associated with transport of food is a major element of the local food movement. People worry about the shipping of food over long distances (Lockie, et al. 2002), and the environmental advantage of locally produced food is often discussed in terms of the distance that the product must travel from field to table. This issue is of some concern as studies show that the industrial food system is transporting food products over larger and larger distances (Wallgren 2006). For example, in his work “Insidious Distance”, Borge (2001) notes that between 1970 and 1990 the average distance that food traveled doubled in Germany. It is argued that this is inefficient from an energetics point of view; a head of California lettuce containing fifty calories takes 400 calories to grow and 1,800 calories to ship to the east coast using industrial processes (Raeburn 1995). An early theoretical study suggested that a fifteen-fold savings in carbon emissions could be achieved through local production (Halweil 2002). However, more recent studies suggest that energy and emission savings are dependent on the growing method and most importantly on the efficiency of the transport to market.

A Swedish study showed that for a small scale market and for farm-gate sales, there was no energy saving over the industrial food system except for some varieties of fresh fruit and vegetables sold during their growing season (Wallgren 2006). European examples confirmed this puzzling result, demonstrating that energy use in the current system of small rural markets studied was about the same as energy used in the industrial system (Van Hauwermeiren et al. 2007). However, these studies reported clearly that the problem was the inefficiency of individual customers driving to the farm or to a rural market to pick up food, or in the urban cases with individual farmers transporting small amounts of food in private vehicles to urban markets. If urban markets become common and increase the volume of goods sold in this manner, significant energy savings

could be realized as the amount of food being transported reaches levels where transport efficiencies begin to take effect (Van Hauwermeiren et al. 2007, Stagl 2002).

Although alternative methods of transport for local food are one solution to energy intensive local supply chains, there is another possibility. Studies have clearly identified the demand for local food is greatest in large urban areas (Selfa and Qazi 2005, Stagl 2002, Ilbery et al. 2006) However, the transport of small batches of gourmet product to urban niche markets from the rural hinterland is criticized as having a large environmental impact, despite the shorter supply chains. The logical next step is the return to a very old idea; the growing of "extreme local food" in which some of our food needs are met within the city itself. In fact, at present, 15% of the world's food needs are met through urban production (Katz 2006) although over the last fifty years in most of the industrial world the practice has been largely abandoned. Food has been exiled from the city; in fact Toynbee defined cities in terms of their lack of food production: "a settlement whose inhabitants cannot produce within the city limits all of the food for keeping them alive (1970, 8). The erasure of food from our cities was partly due to technology: urban food systems declined and became invisible due to transport and refrigeration (Pothukchi and Kaufman 1999). The noise and smell of food production also helped drive food processing out of urban areas, which led to a redefinition of farms as rural (Pothukchi and Kaufman 1999).

Despite this fading of urban agriculture in developed nations, the potential is very large. For example, a pilot study in Vancouver by Levenston *et al.* (2001) estimated that 32% of the land area in a 3.4 acre residential city block was suitable for growing edible crops. An idea of what is possible can be seen in the example of the urban agriculture movement in Havana, Cuba. Before the collapse of the Soviet block Cuba had regulations against many urban agriculture activities and there was a broad social taboo against growing one's own food. However, imports dropped 75% after the fall of the Soviet Union, including a 50% drop in fertilizer imports (Altieri et al. 1999). In order to maintain adequate food supplies laws were relaxed and scientists helped develop intensive urban growing methods. The 5000 or so urban gardens of Havana now produce as much as 16kg of produce per square meter (Altieri et al. 1999). This shift has revitalized many traditional crops, although there are challenges such as poor soil, lack of water, and thieves. Encouraged by the Cuban example Venezuela is aiming to produce 20% of its vegetable production from urban gardens (Altieri et al. 1999).

Urban agriculture has many benefits aside from the production of a local supply of food. As urban green space, gardens can moderate air temperature, humidity, and wind speed (Georgi and Zafiriadis 2006) and can control urban runoff by holding rainfall and releasing it more slowly than the equivalent area of impermeable surface. There are clear aesthetic benefits to urban greenery, and the presence of urban green space can encourage a general interest in the environment. As well, as outlined in, "The Pigeon Paradox: Dependence of Global Conservation on Urban Nature," (Dunn et al. 2006) exposure to urban ecosystems is critical to the health of the environmental movement. Similarly, exposure to local crops might be critical to the fostering of a new generation of

food activists. A recent study found very low knowledge of food production: most urban children couldn't name local crops (Dillon et al. 2005). Urban agriculture can also act as a focal point for social interaction, bringing together neighbours within public space. Urban agriculture can bring fresh produce to neighbourhoods that traditionally have poor access to reasonably priced food options.

There are, however, significant barriers to urban agriculture. These include prohibitive bylaws (see Nichol 2003); the difficulty of preparing the plot initially (particularly as heavy loads of soil and compost are often required and access to backyard areas can be difficult in the urban setting; animal and human predation; difficult soil and microclimate conditions; and a general lack of the specialist knowledge that urban growing requires. There are also some concerns over the ecological footprint of individual residents each acquiring all of the necessary tools for maintaining an urban plot. In a 2001 study, very high energy inputs were required to set up and maintain backyard-sized urban gardens, mainly because of the need for duplicate tools and the transport of small quantities of material (Beck et al. 2001). The authors concluded that installing food-producing landscapes in urban areas without altering the networks by which such landscapes are supplied may not substantially alter the energy intensive nature of cities (187).

Community gardening is one way to overcome this barrier, but this study focuses on another method: the rise of "local urban farmers" who tend a number of small plots. In addition to the local job creation such initiatives spur, practitioners claim the barriers to urban growing are lowered by such arrangements. One of the central goals of this research will be to determine if local food is an example of niche exploitation and niche accumulation. This refers to the adoption of new technologies within specific sets of environments or circumstances in which they enjoy an advantage due to local conditions, allowing them to spread to other similar niches. Niches protect new ideas from early rejection (Raven 2007). Given a willing audience, as Raven points out, this can lead to niche branching in which the idea spreads to a larger, less specialized niche. A central question in this study was to examine whether the two initiatives, which are described below, fostered such diffusion.

## Methodology

Following an initial literature search, the project involved conducting two case study investigations in the Pacific region of Oregon and the Lower Mainland of British Columbia. Although further case-study sites are being investigated these initial two demonstrated interesting points of similarity concerning small plot urban growing. Case-study methodology is well suited to "how" questions such as the ones being examined in this project (Yin 2003). This is a collective case study in which a group of cases is studied to allow for comparison (Stake 1995). This approach of investigating two settings allows for data source triangulation (Denzin 1984). This is a multiple methods study – extensive interviews were conducted with the principles of the organizations identified. They used a scripted interview protocol followed by an open-ended interview format, which allowed for expansion of interesting concepts. As well, images of both projects were collected. Finally, local media for the cities that contained the case studies were searched for relevant media coverage. The main limitation of this approach

is that because only two cases have been considered to dates; the results may be context dependent and are difficult to generalize to other urban settings.

### **The Case Studies: Your Backyard Farmer and City Farm Boy**

The study focused on two providers of urban farming services; Your Backyard Farmer of Portland, USA (YBF, nd.) and City Farm Boy of Vancouver, Canada (CFB, nd.). These organizations are both run as small businesses and generate part of the yearly income for the people involved. Both organizations provide all of the set-up and labour needed to create an urban garden plot. City Farm Boy states as a mission a commitment to promote urban agriculture, farming and gardening as a viable and environmentally positive way to enhance landscapes and lifestyles. City Farm Boy designs and builds urban vegetable gardens, and is based on the founder's experience growing up on a family farm where everyone had a garden. He started the business partly due to fond memories of family working together in the garden in spring and the taste of fresh garden vegetables. He currently farms on 14 sites and is the sole farmer in the organization; residents pay him to set up and maintain the garden spaces, and enjoy some of the crop. The founder of City Farm Boy sells excess at a local farmer's market; he is certainly the most "local" local food grower at the farmer's market at the moment. He operates within the urban boundaries of the city of Vancouver, predominantly on the west side, an area typified by detached single family dwellings with small back yard spaces. Incomes are high in the area and the climate is mild year round due to the moderating effect of the Pacific Ocean. His gardens tend to reflect the income levels of these neighbourhoods; they are designed with esthetics in mind using high quality wood framing.

Your Backyard Farmer is a slightly larger operation with two full time farmers operating in Portland, Oregon. They have 25 mini farms scattered throughout the urban and peri-urban fringe. Lot size and thus the farm size is larger than that available to City Farm Boy. Their farms are located both on single and multiple family lots. They have bartered for a parcel of land where they grow food for two local restaurants, a farmer's market, and for a local chef. These slightly larger spaces allow for larger production volumes than those of City Farm Boy. They provide consulting services for 25 additional urban farms that are maintained by the owners. The climate is also very mild, allowing some year round production.

Both of these small companies are, to a degree, selling knowledge as well as labour, but Your Backyard Farmer specifically advertises their expertise in soil amendments, seed selection, organic pest management, and general attention to microclimate. Both organizations specialize in utilizing urban sites which might experience heat, dry conditions, and local wind effects that are challenging to the average food cultivar. Hence, both organizations specialize in choosing seeds and seedlings suited to the rigors of the urban environment.

Your Backyard Farmer was awarded one of Portland's top awards for business sustainability at the 16<sup>th</sup> Annual Businesses for an Environmentally Sustainable Tomorrow (BEST) in 2008. The organization was created in 2006, when the principals became discouraged by their inability to find land near Portland to farm. Discouraged by the cost of farmland and water rights, they began to investigate the potential of using the unfarmed land within the city,

which as they noted was covered in ornamental plantings, neat and tidy grassy lots and empty lots.

Both organizations see their cities as ideal for urban agriculture given the mild local climates. In addition they both noted that the local populace is very engaged with environmental issues and is perhaps more willing to try new environmental innovations. For example, Vancouver is a centre of the local food movement in Canada.

Despite these advantages they both face hurdles in the urban setting. The organizations deal with soil contamination in quite different ways. City Farm Boy only uses old garden areas or areas that have been covered in turf grass, and for the most part finds Vancouver's soils to be very suitable for farming. In contrast Your Backyard Farmer require homeowners to test soil for lead and other heavy metals, and they bring in a blended soil mix as they find the existing soils to be quite poor. They set a compost pile up at each location and add in additional mushroom compost during the second year. By the third year they find the soil to be quite productive.

City Farm Boy has several methods of dealing with the rather abundant urban wildlife in Vancouver; the farmer has developed a sprinkler system triggered with motion detectors to keep cats and raccoons away. Your Backyard Farmer reported fewer problems with urban wildlife. They use basic chicken wire to keep out dogs and cats and keep the gardens in well trafficked areas to discourage squirrels.

Both organizations see advantages in urban growing. City Farm Boy stresses that a large customer base allows direct retail of the produce, and that there are no big pests to contend with in the urban environment (deer for example) and surprisingly few bugs. Irrigation is easily available and most urban gardens are well sheltered from wind and rain. The urban heat island effect also extends the growing season. For example, nearby concrete structures hold heat and protect against frost.

Both groups provide their services to a broad demographic. City Farm Boy serves "Old, young, tall, short, married, single, white, brown, etc." and noted that everyone likes food. Your Backyard Farmers were surprised by the range of their demographic. They describe the typical customers as being those that care about where their food source is coming from, but found they had an equal number of male and female clients including lawyers, students, and farmer's market managers. Interestingly when they began the business they expected higher income households to dominate their clientele, but they have found there is really no typical client. The higher income households actually ended up being the least represented demographic among their clients; instead middle and lower income households dominate.

A critical question is the level of engagement residents have with the growing process; theoretically they could simply pay for the services and learn little about urban agriculture. City Farm Boy found that some residents are very excited and engaged and others are less interested in taking part in the growing process. The proprietor found the farmer's market to be a key site of engagement and customer recruitment site.

Your Backyard Farmer also found mixed levels of engagement, but they note many people spent time in the gardens; outdoor furniture would appear near the planting areas. As the farms become established they found the residents asking questions such as “When will this be ready to harvest?” and “How do I cook it?” (They circulate a weekly newsletter with crop/urban garden facts and recipes). When they began the business they did everything from beginning to end, but in the second year several of the residents requested instruction in how to operate the plots themselves. This consulting now is a significant aspect of the business.

Both case study participants felt that urban agriculture has huge potential. City Farm Boy’s proprietor claimed that many people want to participate but there aren’t enough facilitation mechanisms. Your Backyard Farmers added:

*The potential of this model meets so many issues within our country; each neighborhood across this vast land can protect their food source, treat the land with respect and with diligence become part of the larger picture. Small farms are the way of the future. There is land everywhere, there are farmers and there are individuals who care about their food source. This is one model that has been welcomed with wide-open arms, ripe for the future of the farming industry, as population increases there will always be a small patch to grow on.*

Your Backyard farmers are currently mentoring others in Portland, and believe there is no limit to the potential within our cities.

### **Discussion: The Diffusion of Urban Agricultural Practice**

These examples demonstrate that organizations offering intensive small-plot agriculture can survive and thrive in these parts of Western North America. Such initiatives are critical, for if the concept of local food production and consumption is to be a viable alternative to industrialized food production for more than a few members of a community, it must demonstrate this ability to the broader population; it must be an example of the process of sustainable development at work. Incremental adoption of sustainable development only occurs if sustainable innovations such as local food production can move beyond isolated specialty markets.

The success of the two organizations above indicates a broader interest in local food production if barriers to entry are reduced. Of particular interest is the observation by Your Backyard Farmer that many people begin by hiring them to do all of the work, and “graduate” to operating the urban plot themselves. Your Backyard Farmer can be seen as having a strong educational role that is encouraging diffusion of local growing. Both organizations are as busy as they can manage, suggesting that more farmers could find employment in these areas. One could imagine a network of local multiple-plot intensive urban farmers developing, each with their own particular niche. Although City Farm Boy is quite specialized in his approach, Your Backyard Farmer engages in a variety of approaches. This may change as both organizations mature.

It should be noted that at this early stage with two case studies in mild,

environmentally aware west coast cities, one cannot claim that such an approach would work everywhere in North America given the wide variety of climates, zoning, and political viewpoints one encounters. Neither group has encountered zoning problems nor anything but support from local government; however, this might not be the case everywhere. However, both groups operate in cities that are quite dense compared to the North American norm, and Vancouver in particular has some of the highest property values on the continent. The availability of urban land for farming might be significantly better elsewhere where land values are lower. Case studies of other emerging projects in different urban places would strengthen our understanding of this phenomenon.

The food system is emerging as a bellwether of environmental practice; as has been noted, “our food is a microcosm of wider social realities” (Lang 1999). Certainly participation in local food production and consumption can be a powerful personal experience, but to be part of sustainable community development, local food consumption must be able to break out of narrow demographics, and this has been demonstrated above. Early adopters act as “advertisers” of the new and novel, and this appears to be occurring in the case studies. The two organizations developed a range of skills needed to overcome challenges in the urban setting, and by tending multiple plots they reduced the energy footprint that would be associated with multiple individual residents all tending a plot on their own. In fact one of the major barriers to this sort of activity might be a shortage of skilled urban farmers – both groups agreed they had more potential clients than they could ever serve. The attitudes of the early adopters of local food will provide an idea of the speed of diffusion of the local food concept.

## References

- Altieri, M. et al. 1999. The Greening of the “barrios”: Urban agriculture for food security in Cuba. *Agriculture and Human Values* 16: 131-140
- Beck, T., M. Quigley, J. Martin. 2001. Emergy evaluation of food production in urban residential landscapes. *Urban Ecosystems* 5: 187-207.
- Borge, S. 2001. Insidious distance. In *Slow Food: Collected Thoughts on Taste, Tradition, and the Honest Pleasures of Food*, C. Petrini, ed. Vermont: Chelsea Green Publishing: 12-14.
- City Farm Boy (CFB). nd. Website. Vancouver, BC. Available at <http://www.cityfarmboy.com/> [Accessed Jan. 2009].
- DeLind, L. 2006. Of bodies, place, and culture: Re-situating local food. *Journal of Agricultural and Environmental Ethics* 19: 121-146.
- Denzin, N. 1984. *The research act*. New Jersey: Prentice Hall.
- Dillon, J., M. Rickinson, D. Sanders and K. Teamey. 2005. On food, farming, and land management: Towards a research agenda to reconnect urban and rural lives. *International Journal of Science Education* 27(11): 1359-1374.
- Dunn, R., M. Gavin, M. Sanchez, and J. Solomon. 2006. The pigeon paradox: Dependence of global conservation on urban nature. *Conservation Biology* 20(6): 1814-1816.
- Georgi, N. and K. Zafiriadis. 2006. The impact of park trees on microclimate in urban areas. *Urban Ecosystems* 9: 195-209.
- Halweil, B. 2002. *Homegrown: The case for local food in a global market*. World

- Watch Paper 163. Washington, DC: World Watch Institute.
- Henderson, E. 2000. Rebuilding local food systems from the grass-roots up  
In *Hungry for Profit: The Agribusiness Threat to Farmers, Food and the Environment*, F. Magdoff, J. Foster, F. Buttel, eds. NY Monthly Review Press: 175-188.
- Katz, S. 2006. *The Revolution Will not be Microwaved: Inside America's Underground Food Movements*. Chelsea Green Publishing.
- Kimera, A. and M. Nishiyama. 2008. The Chisan-Chisho movement: Japanese local food movement and its challenges. *Agriculture and Human Values* 25: 49-64.
- Lang, T. 1999. Food policy for the 21<sup>st</sup> Century: Can it be both radical and reasonable? In *For Hunger-Proof Cities: Sustainable Urban Food Systems*, M. Koc, R. MacRae, L. Mougeot and J. Welsh, eds. Ottawa: International Development Research Centre: 216-224.
- Leyden, K. 2003. Social Capital and the Built Environment: the Importance of Walkable Neighbourhoods. *Research and Practice* 93(9): 1546-1551.
- Levenston, M., J. Blecha, K. Schendel and J. Houston. 2001. City farmer uses the latest aerial photos to find out how much food is grown in the city of Vancouver. Available at <http://www.cityfarmer.org/aerialVancouver.html#mapping> [Accessed on Feb. 18, 2002].
- Lockie, S., K. Lyons, G. Lawrence, K. Mummary. 2002. Eating Green: Motivations behind organic food consumption in Australia. *Sociologica Ruralis* 42(1): 23-40.
- Maye, D. and B. Ilbery. 2006. Regional economies of local food production. *European and Regional Studies* 13(4): 337-354.
- Meile, M. and J. Murdoch. 2002. The practical aesthetics of traditional cuisines: slow food in Tuscany. *Sociologica Ruralis* 42(4): 312-319.
- Nichol, L. 2003. Local food production: Some implications for planning. *Planning Theory and Practice* 4(4): 409-427.
- Toynbee, A. 1970. *Cities on the Move*. London, Oxford University Press.
- Pietrykowski, B. (2004). You are What you Eat: The Social Economy of the Slow Food Movement. *Review of Social Economy* LXII(3): 307-321.
- Pollan, M. 2006. *The Omnivore's Dilemma: A Natural History of Four Meals*. London: Penguin Books.
- Pothukuchi, K. and J. Kaufman. 1999. Placing the food system on the urban agenda: The role of municipal institutions in food systems planning. *Agriculture and Human Values* 16: 213-224.
- Raeburn, P. 1995. *The Last Harvest: The Genetic Gamble that Threatens to Destroy American Agriculture*. New York: Simon and Schuster.
- Raven, R. 2007. Niche accumulation and hybridization strategies in transition processes towards a sustainable energy system: An assessment of differences and pitfalls. *Energy Policy* 35: 2390-2400.
- Selfa, T. and J. Qazi. 2005. Place, Taste, or Face to Face? Understanding producer-consumer networks in "local" food systems in Washington State. *Agriculture and Human Values* 22: 451-464.
- Seyfang, G. 2007. Growing sustainable Consumption communities: The case of local Organic food networks. *International Journal of Sociology and Social Policy* 27(3/4): 120-134.

- Shiva, V. 2000. *Stolen Harvest: The Hijacking of the Global Food Supply*. Cambridge, MA: South End Press.
- Smith, A, MacKinnon, J. 2007. *The 100-Mile Diet: A Year of Local Eating*. New York: Random House.
- Stagl, S. 2002. Local organic food markets: Potentials and limitations for contributing to sustainable development. *Empirica* 29: 145-162.
- Stake, R. 1995. *The Art of Case Research*. California: Sage Publications.
- Van Hauwermeiren, A., H. Coene, G. Engelen and E. Mathis. 2007. Energy lifecycle inputs in food systems: A comparison of local versus mainstream cases. *Journal of Environmental Policy and Planning* 9(1): 31-51.
- Wallgren, C. 2006. Local or global food markets: A comparison of energy use for transport. *Local Environment* 11(2): 233-251.
- Yin, R. 2003. *Case Study Research: Design and Methods*, 3<sup>rd</sup> ed. California: Sage Publications.
- Your Backyard Farmer (YBF). nd. Website. Portland, OR. Available at <http://www.yourbackyardfarmer.com/> [Accessed Jan. 2009].
-