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The benefits, challenges, and strategies of adults following a local food diet

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Abstract
Supported in part by a variety of popular books, websites, and other media, the interest in local food is building dramatically, and a growing number of people are increasing their purchases of local food. This paper describes a study that explored the perceived benefits and challenges of following a diet consisting exclusively of local food in southwestern Virginia, as well as the strategies for coping with its limitations. Nineteen individuals participated in a four-week Local Food Diet Challenge, which included eating only foods produced from within 100 miles of the participants' homes. Part of a larger study looking at the nutritional impacts of a local food diet, this study included a pre-diet questionnaire that gathered participants' demographic characteristics, shopping patterns, eating behaviors, and attitudes toward local foods; consumption-reporting forms during the diet period; and a post-diet focus-group discussion for participants to share their experiences in following the local food diet. In this paper we report the major themes that emerged in the focus groups and offer recommendations for locavores and organizations attempting to maximize local food consumption.

Keywords
100-mile diet, local food, sustainable food system, focus group, locavores

Background
Over the last twenty years the United States has benefitted from a resurgence of farmers' markets and small farm sites, and from innovations such as

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community supported agriculture (CSA) (Agricultural Marketing Service, 2009; Brown, 2001; Brown, 2002). Farmers' markets, for example, showed growth from 1,755 markets in 1994 to 5,274 markets in 2009 (Agricultural Marketing Service, 2009). Increasing support for local food systems has been fueled by a combination of social, environmental, economic, dietary, and food quality concerns (Andreatta and Wickliffe, 2002; Brown, 2003; Payne, 2002). Further, research has noted several benefits of local foods to communities (Martinez, et al., 2010), such as: reduced food safety risks (Peters, Bills, Wilkins, and Fick, 2008), conserving open space through farmland (Ikerd, 2005), positively impacting food security (McCullum, Desjardins, Kraak, Ladipo, and Costello, 2005), and increased revenue and jobs for local economies (Swenson, 2009).

Local food is gaining traction in the popular media, further fueling the growth of what has popularly become known as the "local food movement." A plethora of books and magazine and newspaper articles have touted the benefits of maximizing local food consumption. At least three books have been published and well received in the past few years detailing the experiences of individuals and families who have spent an entire year following an *exclusively* local foods diet (i.e., a diet containing only local foods, at least to the extent possible). In *Coming Home to Eat,* Gary Nabhan (2002) describes the "pleasures and politics of local foods" (as the title posits) through his experiences eating locally in Arizona feasting on wild game, desert foods, and foods from his own garden. In Barbara Kingsolver's *Animal, Vegetable, Miracle* (2007), the well known novelist and her family spend "a year of food life" (as the title posits) eating from their own farm and the farms of their neighbors in southwestern Virginia. And in *Plenty,* a man and woman living in British Colombia describe their "raucous year of eating locally" (as the title posits) during which they followed a diet limited to foods grown or raised within 100 miles of their home (Smith and MacKinnon, 2007). Smith and MacKinnon's experiences were first shared online and then in their book elaborating on their year of local eating. Together, these books have increased awareness of local foods as each author weaves statistics and facts about the food system into their tales of the pleasures and challenges of eating locally. Since that time, the "100-mile diet" has emerged as a popular definition to use when differentiating between local and nonlocal foods. Finally, this recent surge in public interest in local foods has been captured by the term "locavore," which has emerged to describe an individual who attempts to eat foods that are produced locally, at least to the extent possible.

While the largely anecdotal evidence of the benefits of local food consumption has contributed to the growing local food movement, there is a dearth of research-based evidence on the realities of a diet composed exclusively of locally sourced food, however "local" is defined. There is a significant body of market research on *perceived* benefits to consumers. Stephenson's (2004) survey of consumers in Oregon revealed that adults purchased local foods as a means of supporting local farmers and the local economy, and because of the high quality and positive experience when purchasing locally sourced foods. In a study by Brown (2003), Missouri consumers also reported that they perceived local produce to be higher in quality than conventional produce. Brown also found that the highest support for local produce was from adults with higher incomes and educational levels, those who regularly purchased organic foods, and environmentalists. Focus groups of consumers in Madison, Wisconsin, conducted by Zepeda and Leviten-Reid (2004) showed that food freshness and flavor, and support for local farmers, were the primary factors motivating local food purchases. To our knowledge, however, no study has described in detail the experience of a sample of consumers actually eating an exclusively local food diet.

In this paper we describe our qualitative study of 19 residents of southwestern Virginia who took our "100-Mile Diet Challenge." We report their perceived benefits and challenges in eating local food exclusively for one month, as well as strategies they used to deal with the severe limitations in variety and volume of exclusively local foods. In effect, the participants in our study became expert local food consumers, locavores who provided valuable qualitative insights into understanding the benefits and difficulties of eating an exclusively local diet.

We are not recommending that North Americans suddenly, en masse, go on a strictly local diet, nor do we argue that an exclusively local diet is a preferred diet. Indeed, such a strict diet could have severe health consequences for those not prepared for the extra time and resources required, or for those living in a region where local food is not commercially available. We believe that a candid look at the challenges of a local food diet will be useful to local food eaters and advocates interested in promoting local food consumption in order to understand and overcome some of the inherent limitations.

Methods

In this section we describe how we operationalized a definition of local food, recruited participants for the study, and conducted the "100-Mile Diet Challenge." There are a number of ways to define local food, including food produced within a county, within a one-hour drive, within a state, etc. Each of these has pluses and minuses, but we chose to use the 100-mile delineation of a local food because it is less vague than other definitions and offers a memorable title to describe a novel eating plan: "The 100-Mile Diet Challenge."

Using the local newspaper, email announcements, and recruitment flyers distributed at a local farmers' market and at local businesses selling and promoting local foods, we invited participation by Montgomery County, Virginia, residents in our study that involved taking the 100-Mile Diet Challenge for four consecutive weeks during August and September 2006. Participants needed to meet the criteria for the study of being healthy, not currently attempting to lose weight, and currently consuming less than half their food intake from local foods (since the goal of the study was to increase local food consumption). Each participant received a resource guide that was developed by the researchers to help identify locally produced foods available at local markets and to assist participants in incorporating these foods into their daily diet. The participant's family members were not required to follow the local foods diet, although some individuals reported cooking local meals for the entire household. Study participants also received financial compensation (US$75) and a box containing local foods (valued at approximately US$25) for their involvement in the study. Participants attending one focus group discussion after the conclusion of the study were compensated an additional US$25. Nineteen participants were recruited and all completed the 100-Mile Diet Challenge. The study protocol was approved by the university's Institutional Review Board, and informed consent was obtained from all participants prior to their participation in the study.

Pre-diet Questionnaire

We developed a pre-diet questionnaire to ascertain the demographic characteristics of the participants as well as their food purchasing patterns and motivations for buying local. There were both closed- and open-ended questions, which were based on other surveys of consumer attitudes towards local food purchases and environmentalism administered in other regions (Brooks, Mash, Guerrieri, Gross, and MacLaughlin, 2003; Brown, 2003). The questionnaire included questions on age, race, income, gender, education, marital status, and number of household members. Questions also included types of food markets used most frequently by each participant, whether or not they purchased local, organic, and fairly traded foods, and how they would define a local food. Participants were finally asked open-ended questions regarding their motivation to consume local food and to participate in the study.

Dietary Intake Records

Prior to starting the challenge, each participant received forms to record their dietary intake for seven consecutive days prior to taking the 100-Mile Diet Challenge, in order to establish a baseline, and for two of the four weeks of the 100-Mile Diet Challenge. We trained each participant individually in how to correctly complete the food records and provided the participants with examples of both complete and incomplete food records to emphasize the importance of accurately recording food intake. Participants recorded on the food record where each item they consumed was purchased and whether each item was grown or processed within 100 miles. Participants were only required to track individual consumption and were not asked to track what local food the household consumed.

Follow-up Focus Group

Following the completion of the four-week local foods diet challenge, study participants were invited to participate in focus group discussions. The use of focus groups in data collection can help to bring meaning and depth to the subject of local eating (Rabiee, 2004). Focus group questions encouraged participants to discuss the challenges they faced while following the four-week local foods diet, as well as the personal benefits they observed while following this diet. The focus group sessions were held between two and three weeks following the completion of the four-week local foods challenge. Participants attended only one of two offered focus groups. Each group consisted of six to eight participants at a time and was led by an experienced moderator using the established focus group protocol of Kruger (1988). Each focus group discussion lasted approximately 60 minutes. The discussions were audio-recorded and the co-moderator took notes for use in analysis. Open-ended questions were used to encourage an open discussion on the topic of local eating. All focus group participants had taken the four-week local foods diet challenge in the past month, and therefore they could be considered experts in the subject of local eating. Their perceptions of the challenges and benefits of local eating are thus highly relevant, at the least for this geographical region. Major themes and subthemes discussed in the focus groups were evaluated by both the moderator and the co-moderator based on the note and tape-based analysis methods of Krueger (1988).

Results

Nineteen adults qualified to participate in the study. All participants were able to increase their consumption of local foods from approximately 15 percent at the baseline to approximately 82 percent during the four-week local diet challenge (Rose, et al., 2008). The participants reported consuming an average of 82 percent of their kilocalories from locally grown, raised, and processed foods. Overall kilocalorie and protein intake were reduced during the diet. Saturated fat, cholesterol, and fruit and vegetables increased during the diet (Rose, et al., 2008).

Pre-diet Questionnaire Results

Demographic characteristics of the 19 study participants compared to the demographics of the commonwealth of Virginia as a whole are summarized in table 1. As a group, the participants had a higher educational background, income level, and were more likely to be white and female than the general population.

All 19 of the study participants could be characterized as "green consumers." They reported environmentally responsible activities such as recycling,

Table 1. Demographic Characteristics of Study Participants and Virginia as a Whole

	Study Participants (n=19)	**Commonwealth of Virginia** (U.S. Census, 2000)
Age range (years old)	21–69 (mean 41)	mean 37
Gender (% female)	79%	51%
Household income (% greater than $50,000)	50%	59%
Education (% who have obtained a college degree or higher)	79%	40%
Ethnicity (% non-Hispanic white)	100%	67%
Married (%)	68%	50%
Number of people in household (average)	2.2	2.5

avoiding driving, and avoiding the purchase of items that might be harmful to the environment. All participants also reported that they intentionally supported small, locally owned businesses, and 12 of 19 (63%) purchased fairly traded foods such as coffee and chocolate. Eighteen of 19 participants reported shopping for food primarily at supermarkets (95%), 16 of 19 at "health-food" stores (84%), and 16 of 19 at farmers' markets (84%). Shopping for foods at supercenters were not common. Three of 19 participants shopped at Wal-Mart (16%) and no participants shopped at convenience stores (0%). All 19 (100%) of the study participants reported that they had occasionally purchased both organic and locally produced foods over the past year (prior to taking the 100-Mile Diet Challenge). The most commonly reported local foods purchased over the previous year were local produce (95%), eggs (76%), meat (42%), and dairy (42%). Three-quarters, or 16 of 19, of the participants (74%) also had a home garden.

Focus Group Analysis
Of the 19 study participants who successfully completed the 100-Mile Diet Challenge, 16 (84%) also participated in the focus group discussions. Three participants were unavailable to participate in focus group discussions because of scheduling conflicts. What follows are quotes from participants during the focus group discussions, representing the major themes documented.

Reported Benefits of Local Food Diet
A commonly reported benefit from following the local foods diet was the superior quality of the local foods compared with nonlocal foods. When asked to compare the quality of foods for sale at the local farmers' market to similar foods at the supermarket, one respondent reported "on a scale of one to ten, local (equals) ten, grocery store (equals) one." This statement was reinforced by other participants, such as these:

> I noticed that produce lasted longer than what I buy from [undisclosed supermarket]. Like bagged lettuce, it lasted 2 weeks, and I've bought bagged lettuce from [undisclosed supermarket] and it would be going bad in a week. And peaches weren't developing the brown spots as fast, and they tasted better.
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> * * *
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> The potatoes were like a whole different vegetable than what you get at the grocery store, they were so delicious.

In addition to the perception of greater taste and quality for the local foods, a number of participants reported that they perceived local foods to be safer than conventional foods because of the greater accountability when purchasing foods from local farmers. While this study took place, there was a mass recall of spinach from California that was contaminated with E. coli bacteria. All participants felt much safer when purchasing foods locally because, according to their responses, when purchasing foods from local farmers you can "feel better about knowing the person who grew the food." One woman who was speaking of local meat reported that local food is "not handled anonymously" and that she is "more trusting of local meat." In addition to the perceived greater accountability when purchasing foods locally, several participants reported that they did not trust the grocery store for safe, quality foods. Another woman reported that "food tastes and looks better when it is local…I am ruined on grocery store chicken, I don't trust it."

Most of the participants reported that they obtained significant personal enjoyment or pleasure from this foray into the local food supply as well as the higher involvement in food preparation.

> One of the things that I found I think was a benefit for me was exploring doing new things with food. I ended up getting cream from the Amish and making my own butter. I knew that I could do it, but I had never done it before. I got some seedless grapes and made some raisins because I wanted some raisins. It sort of pushed me to do things that I had done before but not as much.
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> * * *

> As much of a hassle as it was to cook, I really enjoyed it. I would just [prepare food in advance] put things in the freezer and things in the refrigerator, and I really enjoyed that time.
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> I really loved having the food that I cooked, and having my freezer full. I got back in my garden, and I planted a fall garden, and so that was very satisfying. I found it very satisfying to feel like I was more aligned with my values. And I want to keep doing this.
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> * * *
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> I too was motivated to spend more time with the gardening, and I am already looking forward to next year's garden and also trying to do better at really harvesting everything that we have. Like we have some fruit trees that we would eat them in season, but not necessarily preserve the extra, so I got motivated to do that.

The experience of being restricted from eating all nonlocal foods and attempting to only eat local foods was a powerful learning experience. Some participants enjoyed learning about the local food system and what foods were available, while the experience forced others to think about some of the problems with our conventional food system.

> Having access to the resources, I thought that was really beneficial, and learning where I can get certain items, learning what's available at the farmers' market, and what's available where. I am down in [Galax, Virginia] all the time, and had no idea that you could get some cheese down there.
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> I feel that I am very aware of the problems associated with the factory farm, and the directions our country is going. I just finished reading *The Omnivore's Dilemma.* This exercise brought it home very close to me about how difficult it is now — because I couldn't find oats anywhere. What's wrong with Virginia that it can't grow oats anymore? It's like we've given that away, we've given it over to someone else. A lot of people grow corn for their cows here, but I don't know that I would want to eat [Monsanto's] corn. It really did bring it home what I knew up here [points to head], and that was very valuable, and we've got to do something about that.

Challenges of and Strategies for Following the 100-Mile Diet Challenge

Despite the positive experiences the participants reported having, many described the limitations and drawback of eating a virtually exclusive diet of locally produced food. The most commonly reported barrier to following the local foods diet was the lack of variety of foods that were available.

> I found myself eating the same stuff over and over, I was wanting some variety.
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> I always try to plan a vegetable, and a meat, and a starch with every meal, but there was a lot of repetition, although it was good every time, it was a lot of the same things.
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> I ate a lot of the same things over and over, and I think that I ate less, a lot less.
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> * * *
>
> I ate a lot of peaches!

Another common theme was the inability to give up certain items that were not available locally, such as the lack of healthy oils for cooking. One participant reported that "I was not willing to give up olive oil," and many others agreed that "it was challenging without oil." Coffee, chocolate, and fish were other foods that many participants had difficulty giving up for the month-long challenge. One woman reported that "I quit coffee for the first two weeks," but then she went back to drinking it for the second half of the diet period.

Perceived higher cost when purchasing some local items was also reported by many participants. Meat and dairy products, in particular, were commonly reported as being more expensive for the study participants.

> I know as far as [for the local] meat and dairy, the prices were double at least, and I know that I ate a lot less of the meat because of the price. It was more of a special thing.
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> I definitely spent more [money] on the diet; I think a big part of that was because of eating more local meat. I usually buy local meat, but [then consume] it very, very occasionally.
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> Cheese that was local was fairly expensive. Things like that tended to add up, whereas normally I would eat canned beans and tofu for protein.
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> I spent more, and it's because I like meat so much. A reporter asked me: did you discover anything unusually good? And I said oh yeah the liver, it was the cheapest meat I could find at the farmers market, and oh my gosh it was good. And I haven't eaten liver in years. I still have a package in the freezer.

However, one male participant reported that he was able to creatively obtain a majority of his local foods from outside the typical local food sources that most participants relied upon.

> One of the neat things was rather than going to the farmers' market, which I wasn't really comfortable with those prices, I reached out to friends of mine who have large farms. And said "how about some work-for-food situations?" And it turns out that they had someone that was sick, and they had fruit going to rot, and I ended up with giant bags of okra or things like that.
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> I was blessed because no one in my family butchers or cans so whenever any deer are killed they come to me to do all the work, so the meat was never a problem, it was free.

The combination of the limited availability of foods and higher cost for certain items led many participants to perceive the diet as being nutritionally inadequate and unbalanced. The participants continued to follow the 100-Mile Diet Challenge as best they could, even though some may have felt like it was not a very healthy diet. Two women who did not frequently eat meat felt like their diet quality suffered while on the diet:

> Things like tofu and black beans, which I feel are so healthy in my normal diet [were not available]; I sort of felt like I was getting away from healthy, in a weird kind of sad way.
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> * * *
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> I don't think that I got enough protein; I cut so much protein out of my diet, it was rough.

The additional time needed to prepare meals from whole foods purchased at the farmers' market and the lack of fast and convenient foods were reported by many participants. One male reported that "the amount of time I spent cooking just increased exponentially," and one female reported that "if I didn't think well enough in advance then I just didn't eat that much for that day." This suggests that the participants faced significant barriers on the diet, yet continued to comply to the best of their abilities.

Several participants believed that the biggest challenge to following the local food diet for them was avoiding social situations that were viewed as being centered around food.

> The hardest challenge of being on the diet was not being able to eat out, or with friends.…especially the social interaction…a lot of social things happen around food, like getting invited to a friend's for dinner.
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> * * *
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> For me [the hardest challenge] was eating out. There were times when I either had to give up my social life, or eat out.
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> * * *

> I had two or three social situations that I had to be in, where I essentially abandoned it (the diet) because I've always not liked it when I'm on some food kick that separates me from the people that I'm with.

Discussion

Despite the many challenges that they faced while on the local food diet, our study participants generally reported having a positive experience. Most participants described positive feelings resulting from several aspects of their experiences: learning about the local food system; challenging themselves to eat locally; enjoying the freshness, flavor, and quality of local foods; and believing that their food purchases improved the community.

As a group, however, these participants from southwestern Virginia were generally not prepared for how difficult it would be to locate, purchase, and prepare local foods. Participants coped with the limitations in a variety of ways (see figure 1), including some that were not particularly eater-friendly, such as consuming a lot of one thing that is available in order to stay within the guidelines of the study, or driving out of their way to secure a single product. In southwestern Virginia there is a limited variety of foods available from local farmers, especially for consumers who are used to having access to a wide variety of foods year-round.

As a result of these findings we believe that consumers in southwestern Virginia, at least, will need to weigh practical and dietary decisions when planning for the challenges of consuming mainly local food. Eating locally requires an ability to adapt cooking methods and ingredients to what foods are seasonally available. To extend local eating throughout the year, food preservation skills are also requisite. Another important challenge to consuming local food exclusively was that the participants were often forced to avoid social situations centered on food, or else eat alone. Consuming solely local food within a family may also be challenging depending on the amount of support provided by household members. Given the extra effort required, therefore, an exclusive

Figure 1. Summary of key themes that emerged from the focus groups, including benefits, challenges, and coping strategies reported to assist in dealing with the restrictions of the 100-mile diet

Challenges

- Higher cost when purchasing some local foods
- Increased time needed to prepare meals
- Lack of convenient foods
- Lack of variety of foods available
- Difficulties in social situations centered around food and eating out

Personal benefits

- Learning about the local food system
- Positive attributes of local foods: taste, freshness, quality
- Personal enjoyment
- Ability to challenge self

Strategies for dealing with the dietary restrictions

- Growing their own food
- Noncompliance: Continuing to consume favorite nonlocal comfort foods
- Buying off the farm
- Substitution: Since vegetarian sources of protein such as dried beans or tofu were not available, eating a lot of local, inexpensive cuts of meat (e.g., liver)
- Home canning
- Advanced planning
- Eating a lot of one thing they liked (especially fruit)
- Eating fewer away-from-home meals, such as at restaurants
- Using educational materials and sources listings
- Getting fresh food from friends and family

local diet may not be realistic or even appealing to everyone.

Policy and Programming Recommendations
The results of this study can inform public policy and programming for food and agriculture education and community development. With the public interest in mind, local agencies and nonprofit groups have many tools and strategies at their disposal to encourage local food consumption. We see two basic approaches to using this and continuing research on eating locally: first, the demand side, and second, the supply side. Each approach has limitations and unique circumstances that require a special focus. However, this is not an either-or situation: in order for local food consumption to rise, both approaches must go on simultaneously.

Demand-Side Strategies
As previously noted, thanks to existing efforts such as buy-local campaigns accompanied by popular media exposure, increasing demand for locally produced food is hardly a problem. The real issue on the demand side is properly aligning consumers' expectations with the reality of local food availability. Our results suggest that more information will be needed to prepare consumers for the challenges of increasing their local food consumption. Many communities already provide information on where to find seasonal local foods and to otherwise promote local food consumption. But organizations working on local food issues may need to consider a more fine-grained approach that includes a diverse array of education and capacity-building strategies.

For example our research suggests that motivated consumers respond to new learning opportunities and a belief that their choices can make a difference in their community and the world at large. Motivated consumers tend to be more educated and want to be supplied with factual information about the benefits of local food, such as the potential nutritional superiority of fresh local food that when properly handled and quickly consumed are not as likely to lose as many soluble vitamins as long-hauled produce; or that by supporting local farmers they are maintaining open space, wildlife habitat, sequestering carbon, etc.

It makes sense to be forthright with consumers about the challenging lifestyle changes required in making a serious commitment to reorienting their diet toward seasonal local food, and encouraging them to take a gradual approach. It is unreasonable to expect mainstream consumers to make dramatic substitutions, such as only eating apples rather than all fruits, or only celery root and rutabagas in the spring. Focus on baby steps that are graduated, rewarding changes that are based on traditional foodways (a single fresh side dish, a couple of local ingredients in a casserole, less expensive sources of animal protein).

It is also important to use different messages for different demographic groups:

- Seniors: Fresh taste reminds them of their youth, when they frequently ate farm-fresh food.
- Young families: Healthier, less expensive choices for children
- Gourmets: Regional hâute cuisine
- Young professionals: Efficient food preparation (e.g., washing but not peeling carrots)
- Immigrants: Possible local substitutions for traditional foods

Consumers who cannot incorporate local ingredients into their weekly routine may be able to focus on special occasions such as holidays: Thanksgiving (turkey, seasonal vegetables), Rosh Hashanah (apple and challah dipped in honey), Christmas (ham with seasonal side dishes), Eid al-Fitr and Eid al-Adha (goat), Easter (lamb, eggs), Fourth of July (locally made potato salad and coleslaw). Building on the experiences of our participants, here are some additional strategies for helping consumers cope with the limitations of local food consumption.

Education

- Teaching proper food handling fresh food (proper storage containers and temperatures).
- Emphasizing family time during food preparation by engage children, spouses, partners, and others in preparing meals.
- Expanding information in regional food guides to provide examples of balanced meals using a limited range of seasonal products (see Wilkins, 2000).
- Emphasizing the taste difference, teach that food preparation not just for maximum nutrition but also flavor.
- Striving to eliminate the view that local food is an alternative.

Program activities

- Encouraging neighborhood canning parties at private homes to share tools and techniques in a fun atmosphere.
- Following Renewing America's Food Traditions project for "American Heritage Picnics," bring members of the community together to learn about the local food system and food traditions while sharing a meal (Nabhan, 2008).
- Encouraging residents to write recipes for the local newspaper and share how they sourced and incorporated a unique local ingredient into a dish.
- Making one-day or one-week local food diet challenges.
- Running regional marketing campaigns and buy-local programs (with a liberal definition of "local").
- Encouraging local food meal-sharing, self-provisioning, or group-provisioning strategies such as garden sharing and community gardening.
- Celebrating through food festivals, fairs, and the like to introduce local residents to the food system.

Naturally, all of the above strategies will vary in effectiveness, depending on locale demographics and geography.

Additional strategies for increasing the supply of local food include:

- Encouraging farmer cooperatives, beginning farmer programs, farmer recruitment programs, and farm transfer programs.
- Working with distributors, find regional food business that can provide products with ingredients largely sourced from within a state or a multistate region.
- When creating buy-local programs, resisting the temptation to be highly restrictive in the definition of local.
- Organizing buyers such as grocery stores, restaurants, and institutions into a market block that can be serviced efficiently by a farm co-op or association.
- Working with entrepreneurial farmers and food businesses to experiment with prepared foods and the like that make preparing meals with local foods quicker: peeled squashes, hand-trimmed and washed produce. This adds cost, but to the harried household with two working parents, price may not be a barrier.
- Working with farmers to diversify offering and reduce gluts of ordinary products.
- Encouraging cooperation among producers to provide high-volume and diverse foods at prices that larger number of residents can afford.
- Providing training to growers in state-of-the-art post-harvest handling practices that

maximize freshness, shelf life, and attractiveness to consumers.

- Using economic development funding to establish new meat packing houses.

- Encouraging alternative protein sources such as nuts, seeds, beans, other legumes, and processed foods incorporating these products.

The viability of any one of these strategies will depend on geography and how entrepreneurial or open to change farmers and others might be.

Limitations of This Study and Recommendations for Further Research

This study has two critical caveats: First, 19 subjects is a small sample and therefore we cannot generalize about southwestern Virginians as a whole. What we lacked in breadth, however, we gained in depth. The rich detail and insights provided by our participants can help characterize how locavores think about local food and cope with its limitations. Second, the timing of this study presents another important limitation. The data for this study were collected during the peak of the harvest season. It was an optimal but also an unrealistic time to conduct the local food challenge. In general, it is likely that the types of local foods consumed in other regions and during other seasons would be different, and would therefore introduce different challenges to local eating.

With these shortcomings in mind, future research might focus on the feasibility of a local food diet in other regions and areas of the country and at different times of the year. Naturally, seasons and geography will affect an individual's ability to maximize local food consumption, and it would be valuable to examine the array of regional strategies for managing the limitations of a local food diet.

Conclusions

This study highlighted the experiences of a sample of consumers in southwestern Virginia following a diet consisting predominantly of local foods. The participants in this study were highly motivated and very enthusiastic about having a diet made up exclusively of locally sourced food. They learned a lot about the benefits and limitations of local food and appreciated the superior quality of local food over typical supermarket food. However, this study also revealed the severe limitations of trying to maximize the consumption of local food, including convenience, cost, variety, and possibly negative health consequences. This study was not intended to identify ways in which consumers could survive by eating *only* local foods, nor do we conclude that despite the challenges, striving to eat an exclusive local food diet is a wholly beneficial endeavor. To the contrary, we are convinced that a strict local food diet is highly irrational for the average consumer in southwestern Virginia who is not already very familiar with local food sources or self-provisioning. We have identified some limitations of eating local food, along with ways for sensibly increasing local food consumption by mainstream consumers.

This study attests to the fact that there is a steep learning curve in increasing one's consumption of local foods beyond the weekly visit to the farmers' market or CSA pick-up during the growing season. Education, community development, and public policy need to reflect the reality that not all local food is truly accessible. Indeed, basic strategies such as establishing farmers' markets, publishing lists of where to find quality local produce, and promoting the benefits of local food are key starting points, but are not nearly enough to significantly increase local food's share of total food. Local food in southwestern Virginia is presently too limited in volume, variety, and may also be too expensive for many consumers to make a serious commitment to eating local food on a year-round basis.

We agree with Conner and Levine (2006) that a community-based food system can benefit the whole range of participants: food producers who benefit from increased financial security; consumers who benefit from the freshness, taste, and health benefits of eating fresh, whole foods; and ultimately the community that benefits from preserved farmland, a strong local economy, and a healthy population. Realistically, however, only a very small portion of most Americans' diets are produced within 100 miles of their homes, and this is not likely to change quickly or dramatically even as the local food movement matures. Until local foods are found in volume where mainstream consumers shop, the annual gains will be small. Modest goals, then, perhaps of one or two percentage points per year for a regional population, might be established, along with strategies designed to meet these targets. This would provide quantifiable momentum to the movement. This slow but steady approach allows both farmers and local residents who might support them to make the fundamental shifts necessary in their foodways and their farmways to move toward a more sustainable food future. Even at this pace, working toward a more locally oriented food system will require an unprecedented collaboration between local residents, farmers, policy-makers and policy-implementers, such as agencies, nongovernmental organizations, and health professionals. By appreciating the benefits while also acknowledging the limitations of consuming locally sourced food, diverse groups working together should be able to create more effective, practical initiatives to promote a healthy food system and a healthy population.

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