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THEME OVERVIEW: LOCAL FOOD—PERCEPTIONS, PROSPECTS, AND POLICIES

Robert P. King

The local food movement has captured the attention of American consumers, producers, food marketers, and policymakers. It has helped many to gain a better appreciation of where their food comes from and has strengthened consumers' sense of connection with those who produce our food. Advocates tout the benefits of a "relocalization" of the food system—benefits that include fresher, healthier, better tasting food; lower carbon emissions due to shorter transportation distances; and the retention of economic activity in the local economy. However, there is often confusion and disagreement about what "local" means, and on closer examination, it is not always clear that local origin is sufficient to guarantee anticipated health, environmental, and local economic development benefits.

This *Choices* theme explores local food from several perspectives. The first two papers focus on perceptions of "local." Michael Hand and Stephen Martinez examine the question of "What is local?" and find that it often means much more than simple proximity to the consumer. Ultimately, they observe, understanding differences in definitions of "local" may help us better understand the range of expectations and aspirations people have for food system performance. Yuko Onozuka, Gretchen Nurse, and Dawn Thilmany McFadden report on survey results that shed light on consumer perceptions of local and their motivations for purchasing local food products. Their most interesting findings concern the social nature of farm-direct purchases. Consumers who buy directly from farmers tend to be more strongly influenced by those around them and are more confident that their actions make a difference for public as well as private outcomes.

The next two papers focus on the prospects for growth of local food markets. Larry Lev and Lauren Gwin take a data centric look at farm-direct marketing of local food products. They find that common perceptions about the growth in farm-direct sales and about the central role of farmers markets are not always borne out by the limited data that are available about this segment of the food system. Robert King, Miguel Gómez, and Gigi DiGiacomo examine the prospects for local foods to gain a greater share of sales in the mainstream supermarket channel. They find exciting possibilities for growth in access to local foods but also note that higher costs due to difficulty in accessing processing and inefficient transportation may prevent local products from emerging from their niche status.

The final three papers examine policy issues related to local foods. Kathryn Onken and John Bernard provide a comprehensive overview of state agricultural marketing programs, which have contributed significantly to growth in demand for and availability of local food products. Looking to the future, they note that these important programs may start to compete with each other and with other local food promotion programs. Shermain Hardesty examines federal and state policies that affect local food markets and asks whether, on balance, they promote or hinder local foods. She notes that assessment of policy impacts is difficult, in large part because—as Hand and Martinez note—the concept of "local" is so entwined with other food system performance objectives. Finally, Kate Clancy and Kathryn Ruhf shift attention to regional food systems, arguing that a regional framework may be more appropriate for achieving the transformations in the food system that local food advocates are seeking. They assert that a regional focus retains a sense of place, yet allows for more flexible product flows and aggregation of product to achieve scale economies.

Taken together, these papers help clarify perceptions about local foods, prospects for growth in their supply

and demand, and policy issues affecting the development of local food systems. One of the most important impacts of the local foods movement has been its success in initiating a rich conversation on food system performance. That conversation will continue.

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JUST WHAT DOES LOCAL MEAN?

Michael S. Hand and Stephen Martinez

Food that is locally produced, marketed, and consumed—termed “local food”—is not a particularly new concept in the U.S. food system. Local food and its proponents have origins in the “Slow Food” movement and organic agriculture, and it is common to hear arguments for a relocalization of the food system. Yet recent interest in local food suggests that the term “local” is being used in new and different ways, and by people and organizations that would have previously had no interest in movements that challenge the mainstream food system.

The term “local food” has permeated all types of public discourse on food and eating in the United States. Best-selling books, newspaper and magazine articles, and TV news stories have been devoted to local foods and its adherents, and the term has been promoted at the highest levels of government and codified into Federal law and regulations. But is it possible that among all of the new users of the term “local food” there is a broad consensus on its meaning? Given the diverse interests of those using the term, it is more likely that “local” has come to mean many different things to many different people. Further, different definitions may represent different motivations for local foods advocates or for entrants into the local foods market place.

Many definitions use political boundaries or geographical distance to identify local products, while others focus on how food is produced and distributed. Underlying these definitions is the assumption that local foods can satisfy a set of demands—be they related to quality and freshness, social or environmental sustainability, or economic well being. Examining the different local definitions can help uncover why the term has come to enjoy such broad use, and what individuals, communities, and policymakers hope to achieve by supporting local foods.

Little Agreement Regarding Distance and Political Boundaries

Local food clearly refers to a geographic production area that is circumscribed by boundaries and in close proximity to the consumer. This area may represent an existing or imagined “foodshed”—the area from which a locality derives its food supply (Peters et al., 2008). Beyond this general definition, however, there is little agreement on the geographic circumscription and proximity that are relevant for a given location, food product, or individual consumer. A common geographic definition is within a 100-mile radius of where the food is consumed. But this distance, or other similar definitions, is arbitrarily selected, and may not match well with consumer preferences and attitudes about local food. Consumers exhibit great variation in the distance they consider to be local, and this distance may be different for fresh and processed products (Durham, King, and Roheim, 2009).

Some consumers think of local foods as those that come from within certain political boundaries, such as their county, metropolitan area, state, or region. Studies of consumer purchases indicate that state of origin may be a natural geographic definition of local for some consumers (Darby et al., 2008), and that consumers are willing to pay a premium for in-state products (Giraud, Bond, and Bond, 2005) and products from within the consumers' county (Schneider and Francis, 2005).

State boundaries also fail to fully capture consumer definitions of local food (Ostrom, 2007). State of origin may only be important for some products (Eastwood, Brooker, and Orr, 1987), and consumers may use

regional definitions of local that cross state boundaries (Brown, 2003). Individuals also appear to hold multiple definitions of local: A survey of 120 food shoppers yielded 140 unique responses to an open-ended question of the definition of local foods; only 3% of respondents identified state, county or community boundaries as the relevant local geography (Wilkins, Bowdish, and Sobal, 2002).

The difficulty in identifying a single geographic definition of local is illustrated by a definition adopted by the U.S. Congress in the Food, Conservation, and Energy Act of 2008. For certain Federal rural development loan programs, a "locally produced agricultural food product" is, "any agricultural food product that is raised, produced, and distributed in (1) the locality or region in which the final product is marketed, so that the total distance the product is transported is less than 400 miles from the origin of the product, or (2) the State in which the product is produced." In a country where some counties in the West are larger than some states in the East, the concept of "local" must accommodate a wide range of perspectives and definitions.

How Products Get to Consumers May Be Important

An article in *The New York Times* in 2009 explored the limits of a geographic-based definition of local foods by asking the following question (Severson, 2009): Could potato chips produced by a snack food and beverage conglomerate be considered a local product in the geographic area where the potatoes are sourced and processed? Judging from the responses of local food advocates quoted in the article, and in the dozens of online reader comments, the answer is 'no.' Those who rejected this product as fitting a local definition did so because the company and the product did not fit their profile of a local food enterprise and food product. Comments noted the importance of sustainability and small-scale food enterprises in determining what is considered a local product. If geography is not sufficient to define local, what additional information is important for consumers and producers?

Extending the definition of local beyond geographic boundaries suggests that people care about how and by whom food is produced, distributed, and marketed. Local foods may represent a break from most food products available in the predominant grocery supply chain in terms of both origin and production processes (Hinrichs, 2000). Or, they may represent a difference in how customers interact with producers; rather than a nameless and faceless market transaction, a local product may be one that involves personal interaction with producers. In this case, proximity is defined in terms of social distance, rather than geographic distance.

Coupling "how" and "by whom" with "where" in definitions of local vastly expands the universe of potential definitions, and may reflect a desire to support sustainable food system practices. Some consumers may seek out food produced in an environmentally or socially sustainable way. For example, consumers may patronize local food markets to express support for small farmers. Or, consumers of animal products may want to know that animals are treated well. Although these concepts are not necessarily related to geographic or social proximity between producers and consumers, proximity may help consumers verify that the food they purchase meets their demands. Thus, demands for certain production characteristics can become entwined with perceptions of local food, even if those characteristics are not location specific.

Characteristics of the intermediate stages of distribution can also be important for local definitions. That is, a locally sourced product may also require a local supply chain. A useful concept for examining local definitions is the short food supply chain (see Marsden, Banks, and Bristow, 2000). Short supply chains are distinguished by the information conveyed to consumers about the locality of production and distribution activities. Direct interaction between consumers and producers is clearly a type of short food supply chain that may be considered local. Supply chains with additional intermediaries, such as distributors or product aggregators, could also be considered local depending on the location of production and processing and whether information about those activities is conveyed to consumers.

Short food supply chains may be identified by their marketing outlet. Farmers markets and community supported agriculture (CSA) enterprises are a clear signal to consumers that the products they are purchasing are locally produced and are traveling through short supply chains, although not necessarily direct-marketing supply chains. Farm stores and farm stands can also fit the definition of a short supply chain. Other retail outlets could be considered part of a local food supply chain, even if it involves additional intermediaries, if all or most of the links in the supply chain are based within the local geographic area and the supply chain is designed to convey information to the consumer about the product's origin.

Linking Definitions, Characteristics, and Market Performance

Pairing production and distribution characteristics with location characteristics of food products indicates that local definitions are derived from preferences for desirable food system performance outcomes. These may include individual demands for product quality, freshness, and price. Or, they may reflect demand for public benefits, such as reduced fossil fuel use and greenhouse gas emissions, support for jobs and income generated in a community, and improved community health.

Different definitions of local can be thought of as sets of characteristics designed to achieve different market performance outcomes. A definition of local in which products are produced within a certain distance of where they are marketed may be thought to reduce transportation distances and thus transportation fuel use and emissions. A different definition may emphasize direct sales from producers to consumers to eliminate supply chain intermediaries, allow producers to capture a greater share of the retail price, and reduce the retail price paid by consumers; these characteristics may be thought to improve access to healthy foods in underserved communities while simultaneously supporting nearby farmers.

If performance outcomes are the true motivation for adopting local characteristics, why not simply compare different products and supply chains on key market performance measures? Such comparisons would provide a more direct connection between what is demanded of the food system and the ability of different products and supply chains to meet those demands. Although there may be instances where, for example, shorter transport distances reduce greenhouse gas emissions, counter examples can also be observed. Whether or not a local characteristic achieves a market performance demand is an empirical question, and the performance impacts of many local characteristics are ambiguous.

Focusing on desired market performance outcomes minimizes the importance of determining which products or supply chains can be defined as local. There may also be methods to achieve the same outcomes that are unrelated to the food system. But there are reasons for consumers, policy makers, producers, and communities to continue examining different definitions of local, at least in the near term.

Local definitions can help clarify what consumers and communities demand from the food system. The ever-expanding set of food choices available to U.S. consumers can satisfy an array of demands, and these demands may be rapidly shifting. From a policy perspective, local definitions may be useful for identifying the demands for performance outcomes that have broad public benefits and warrant public investments. Revealing these underlying demands may indicate where policymakers can focus resources to support desirable outcomes not currently provided in the marketplace, or where policies may be counter-productive.

Understanding the nuances of local definitions may also be necessary for the public to evaluate whether investments in local food systems yield the expected return of outcomes they demand. That is, it may not be sufficient to demonstrate that public investments—for example, in infrastructure—have localized food production and marketing. It may also be necessary to demonstrate that localization resulted in the desired outcomes that underlie local definitions.

Although local foods are defined in many different ways, uses of the term share a common desire to shape the food system to provide desirable performance outcomes or reduce negative outcomes. But these desired outcomes are numerous, and no single definition can adequately capture the diverse demands that are reflected by support for local foods. Connecting demands of food system performance to the characteristics that can satisfy those demands is key to understanding the different definitions of local foods.

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LOCAL FOOD CONSUMERS: HOW MOTIVATIONS AND PERCEPTIONS TRANSLATE TO BUYING BEHAVIOR

Yuko Onozaka, Gretchen Nurse, and Dawn Thilmany McFadden

Emerging market demand for local foods represents an interesting phenomenon, as small-scale direct markets operate side by side in communities with much larger competitors, such as food supercenters, which also seek to procure locally grown produce. Moreover, the wide spread differentiation of food offerings and venues has allowed consumers to more carefully search out attributes that are important to them. These attributes may include any labels or information on private—such as quality, safety, and health—and public, such as social fairness and sustainability—assurances, some of which may be more closely associated with local foods by consumers. In this article, we explore the underlying factors that motivate consumers to choose local food and how motivations vary among buyers in different market venues, based on a national survey administered in late 2008.

National Consumer Survey

The data for this study were collected through a web-based survey, administered by a third party contractor, Knowledge Networks. A total of 1889 primary grocery shopper panelists were invited to participate in the survey, 1268 of whom responded, resulting in 1052 eligible responses representing a 55.7% response. Since the target population was the primary grocery shopper in the household, the sample looks different from the national population, primarily with respect to age and gender—older age groups and more females. The sample was balanced across regions and rural vs. urban areas. The sample was somewhat different than the national population with respect to several other demographics including Caucasians, higher educated respondents, and higher income households.

Consumer Perception of Local Food

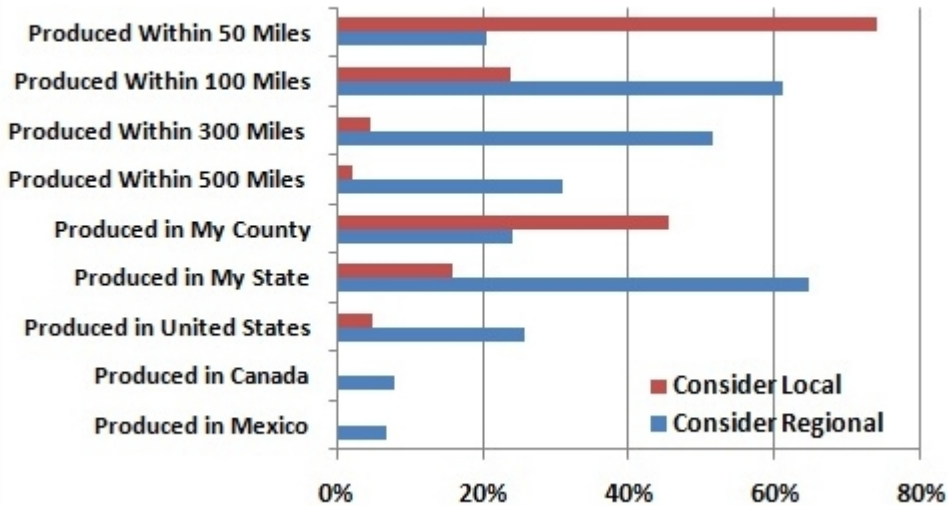
The rationale for this study is highlighted by the finding that purchasing local fresh produce is extremely common. The vast majority of respondents (82%) said they have bought locally grown fresh produce, only a small group (7%) said they have never bought locally grown fresh produce and the remaining consumers were unsure. On the other hand, the number of respondents who reported buying organic fresh produce is lower than that of locally grown fresh produce; slightly above 50%, while a little over 30% said they have never bought organic fresh produce. When asked about fresh produce that is both locally grown and organic, close to 40% said they have bought locally grown, organic fresh produce, suggesting some complementarities between those segments.

Yet, it is important to note that consumers are varied in how they define the term “local” (Figure 1), and this raises one concern about local foods: what are the real assurances about source of production or other perceived characteristics? In contrast, the role organics have played in specialty food niches may be at a comparative disadvantage given the relatively looser definitions and requirements to label local foods. Thus, the growth trajectory for local food sales may be steeper based on fewer supply constraints.

The term “local” does not have any official definition; so our survey asked consumers what they consider “local” or “regional, but not local” based on both physical distance and political boundaries (Figure 1). Over 70% of respondents considered a 50 mile radius as “local,” while the 300 mile radius is more likely

considered as “regional” rather than “local” by most consumers. This is an important delineation since 300 miles is often used as a boundary for “local” by retailers as a realistic distance to procure enough volume and variety. In terms of political boundaries, over 40% considered food produced within one’s county as “local.” In contrast, food produced within one’s state was considered “regional” by the majority while a smaller share considered it “local.”

Figure 1 What Consumers Consider as Locally and Regionally Grown

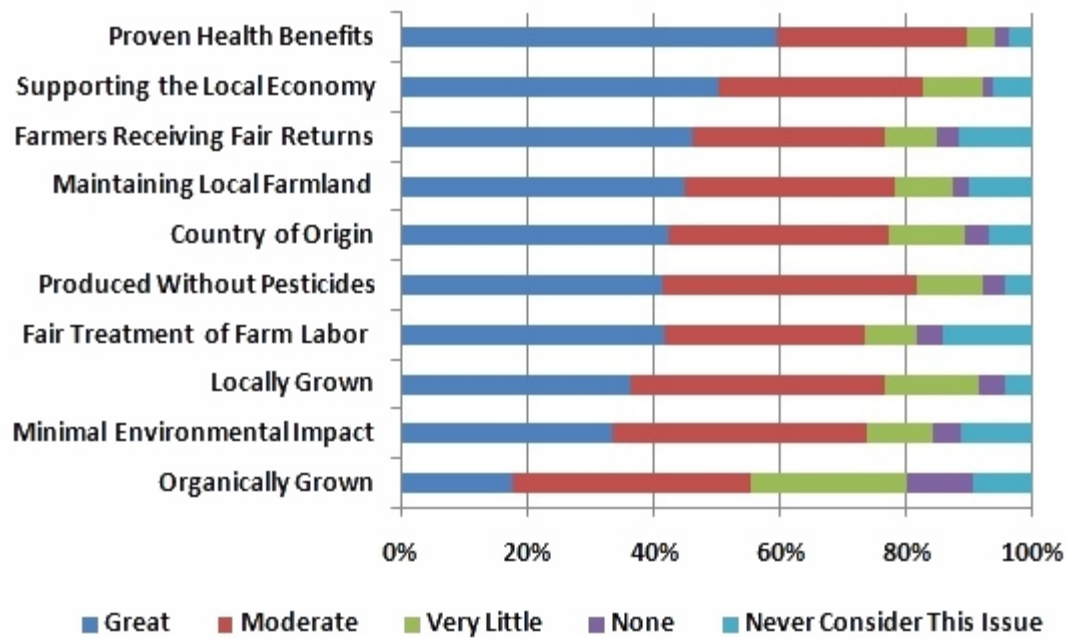


Motivations: Private Needs and Altruistic Intentions

What factors do consumers consider when choosing fresh produce? Although traditionally mentioned factors such as eating quality, food safety, and health benefits continue to be of importance, there is increasing evidence that some consumers intend to also make civic and society-focused statements with their purchase decisions. In this survey, respondents were asked to rate various factors, regarding both private and social dimensions, in terms of their importance to buying decisions.

As one may expect, the factor “proven health benefits,” had the highest percentage of consumers who assigned it great importance. In contrast, the next three most important factors, “supporting local economy,” “farmers receiving fair share of economic returns,” and “maintaining local farmland” could be framed as more altruistic motivations related to public goods consumers want to support. Although these factors might be associated with locally grown—an issue explored later—the broader “locally grown” attribute was rated lower. Despite its significant market presence, organic was rated quite low in importance by consumers, which is consistent with the lower market penetration reported earlier. These results support the concept that consumers are seeking direct assurances on specific “outcomes” such as supporting the local economy, farmers receiving fair share, maintaining local farmland, and fair treatment of farm labor, rather than more complex or multi-faceted claims, such as locally grown, organic, and minimal environmental damages.

Figure 2 Importance of Various Factors When Choosing Fresh Produce



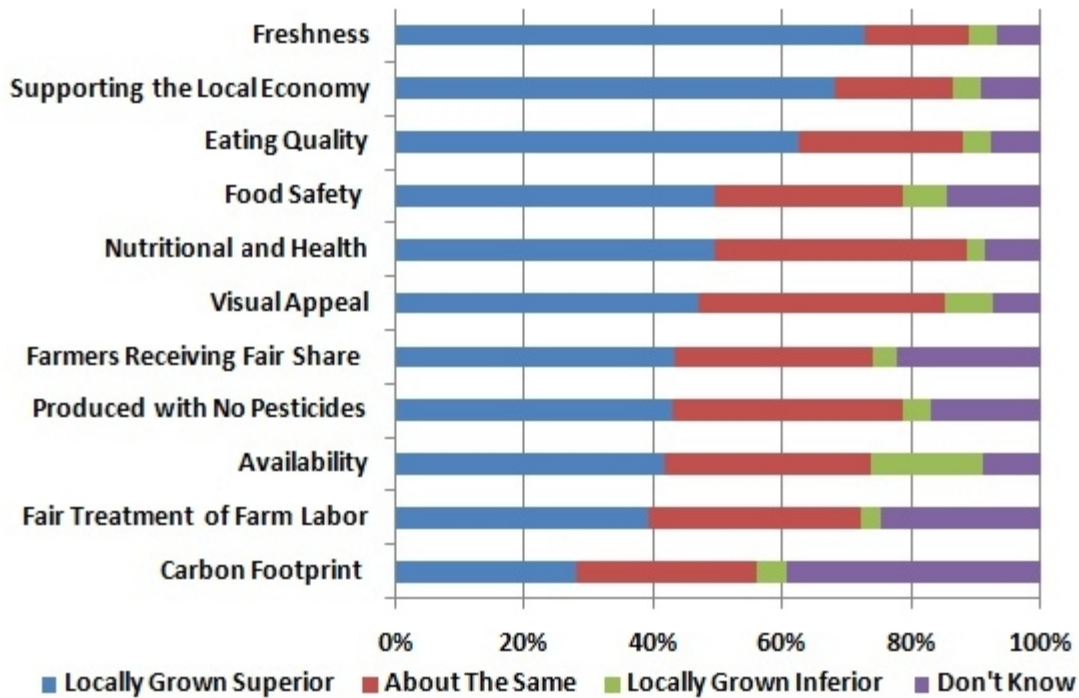
Perceived Quality of Local Food

How do consumers perceive quality of locally grown food compared to that of domestic products? Which quality dimensions tend to be associated with locally grown food, thereby differentiating it from other U.S. products? In the survey, we asked respondents to share their perceptions on how fresh fruits and vegetables that are grown locally compare to those produced domestically, but not locally.

Figure 3 shows that local produce was considered superior in many of the product private dimensions—freshness, eating quality, food safety, and nutritional values—by most consumers. Availability was the only common weakness noted for local produce. In the public realm, consumers also perceived local produce to be superior, or at least the same, in terms of supporting the local economy, and to a lesser degree, providing fair returns to farmers. Note that there is still relatively low awareness about carbon footprint and treatment of labor claims among respondents.

To compare, survey respondents were also asked their perceptions on fresh produce, both domestic and imported. The results indicate that consumers do not differentiate domestic products from imported products as much as they do between local and other domestic products. Only the freshness and food safety of domestic produce was considered relatively superior by the majority of consumers but nothing about domestic produce was considered inferior to imports by over one-third of consumers.

Figure 3 Perceived Quality of Locally Grown Relative to Domestic Fresh Produce



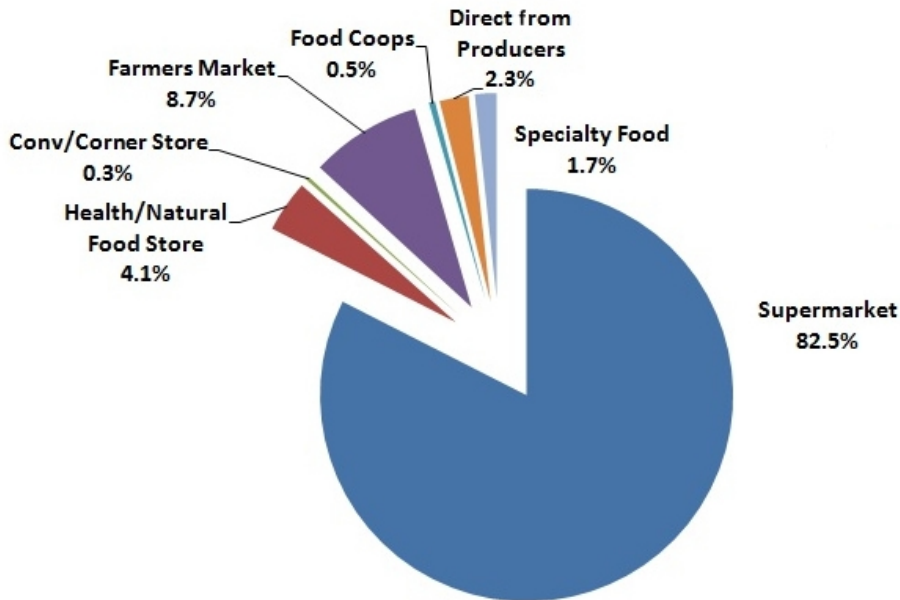
Do Motivations Affect Where Consumers Shop?

Local food is available in various venues, and some of the venues are logically associated with certain assurances. For example, results indicate that those who choose direct venues have their local community as the primary concern, while natural store shoppers have somewhat broader concerns, such as environmental impact and pesticide use. To explore a broader set of market-dependent consumer behavior, interdependency between respondents' primary and secondary sources of fresh produce and motivations were explored.

In reporting their primary fresh produce sources (Figure 4), the majority of respondents (83%) reported supermarkets as their primary source while farmers market and direct purchases from farmers had small but significant shares (9% and 2%, respectively). More notably for the focus on local foods, 33% and 8% of the U.S. households use farmers market and direct purchases from farmers to procure at least one-quarter of their produce, respectively. This complements the earlier finding that local foods are a common purchase for households and provides insight on why the USDA has significantly increased programming efforts to support such marketing channels (see <http://www.ams.usda.gov/AMSV1.0/farmersmarkets>).

The importance ratings presented in Figure 2 were revisited and analyzed after segmenting consumers based on their primary shopping locations shown in Figure 4. Patterns point out that those who shop directly from farmers and at farmers markets are also strongly supportive of the local economy and maintaining local farmland compared to those who shop with natural food stores and supermarkets. In terms of the environmental impact of production and produce grown without pesticides, those who shop primarily at natural food stores were most concerned, followed by direct and farmers' market shoppers. The ratings for "farmers receiving a fair share of economic returns" and "fair treatment of farm workers" turned out to be similar among shoppers in different venues. Motivations, as measured by importance of issues, are one consideration, but perceptions of the impact of buying behavior on affecting those issues is a more complex aspect of consumer behavior.

Figure 4 Primary Market Source for Fresh Produce



Do Local Consumers Perceive a Role in Affecting Food System Issues?

Figure 3 shows that the majority of consumers assign either great or moderate importance to factors such as “supporting local economy” and “locally grown,” yet, they vary in their choice of shopping venues as shown in Figure 4. In fact, over 90% of respondents who purchase the majority of their produce directly from farmers indicate either great or moderate importance to “locally grown”, but the percentage is also over 70% for primary supermarket shoppers. Therefore, to further explore what motivates consumers to choose a certain shopping venue, we draw on the Theory of Planned Behavior (TPB) from the consumer psychology literature (Ajzen and Fishbein, 1980). Considering the TPB in the context of locally grown food, other motivating factors that may influence buying behaviors—what important people in their life think or do, perceived availability of local food, and perceived effectiveness of their action—were considered. Perceived consumer effectiveness is a consumer psychology measure of the degree to which consumers believe that their actions make a difference to private or public outcomes, such as improving their health or supporting the local economy.

Our data show that consumers who primarily shop in direct channels, such as farmers markets and direct from farms, report stronger influences from people in their life, stronger belief that their actions matter, and higher perceived availability of local food, when compared to nondirect shoppers. We also found that consumers who primarily shop at niche markets— such as health/natural foods store and direct markets such as farmers’ markets— had a higher sense of effectiveness of their action than those shopping primarily at supermarkets. This could be explained by more transparent information flows between buyers and sellers, an ability to track progress on outcomes, perhaps by noting more traffic in the local downtown area, or stronger belief in certifications when combined with education and promotions at the market venue.

We conclude that the confidence consumers associate with certain venues to achieve both private and public outcomes is affected by the opinion of peers, which often instills trust in a product or product attribute. That confidence is also affected by their own beliefs regarding the effectiveness of their actions, reinforcing the old adage, “voting with your dollars.”

Policy and Marketing Implications

This study continues a line of previous work focused on consumer perceptions and behavior related to a variety of food issues. Here we find that a notable share of consumers value and think highly of locally grown products compared to other domestic products. Based on local and direct food buyers’ relatively higher concern about the importance of protecting local farmland and supporting the local economy, this could be seen as a signal to policy makers regarding the relationship between the interest in local foods and public

values. In short, policies to support local and direct markets seem complementary to efforts to preserve farmland and reinvigorate local economies. In essence, it is a truly grassroots effort involving a primary basic need using local natural resources to drive community economic development. Yet, markets are complex systems, so competitive forces, constrained seasons and supplies, and convenience still present challenges to those buying and selling local foods.

In terms of buyer motivations, the integration of consumer psychology into this work helps to explain the complex array of issues that might influence various market behaviors. We conclude that venues may interact with various motivational factors to influence consumer perceptions about the trust, assurances, and societal implications they receive from making local food choices. This is a fairly undiscovered intersection of consumer sciences. Yet, this study shows such research is warranted and essential as "local foods" go mainstream into a wider variety of marketplaces where certifications and marketing programs may need to supplant the direct conversations and relationships that smaller, direct local food supply chains afford.

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FILLING IN THE GAPS: EIGHT THINGS TO RECOGNIZE ABOUT FARM-DIRECT MARKETING

Larry Lev and Lauren Gwin

In many ways, farm-direct marketing channels are the simplest and most transparent part of the food system: products go straight from producers to consumers, and money travels back in the other direction. Often these exchanges take on a meaning that far transcends the simple financial transactions. On U-pick operations, consumers become farm laborers as they harvest their own food. In community supported agriculture (CSA), consumers and producers establish season-long contracts with the farmers having the final say on what gets included in the weekly food boxes. Farm stands and farmers' markets provide consumers with a sense of the people and production processes behind their food.

Despite this aura of simplicity, it remains surprisingly difficult for producers, agricultural professionals, and policymakers to understand what is actually going on in the direct marketing subsector. These knowledge gaps hamper the development of new initiatives, technical assistance, and supportive public policies. In this short article, we present seven data-driven statements about direct marketing, including what is known and what else we need to know. We finish with a brief case study we recently conducted on one of the topics—direct marketing of livestock products—as an illustration of the type of information we suggest should be gathered. Throughout the paper, the terms farm-direct and direct marketing are used interchangeably. More general research reviews for this topic area are provided by Brown (2002) and Brown and Miller (2008).

1. Twenty five years of farm-direct sales data reveal the small size of the sector and surprisingly little long-term change.

Farm-direct sales represent less than 1% of all farm gate sales. Timmons and Wang (2010) report that direct market sales grew by an impressive inflation-adjusted 59% in the ten years from 1997 to 2007. Yet using a longer time frame raises questions about how this recent growth should be interpreted. At the national level, no annual farm-direct sales data are collected. The U.S. Department of Agriculture (USDA) Census of Agriculture asked about farm-direct sales in 1982, removed the question in 1987, and reintroduced it in 1992. The 1982 census reported 143,492 farms that direct marketed and total direct market sales of more than \$500 million. This represented 6% of all farms and 0.4% of all agricultural sales. Ten years later, in 1992, the number of farms direct marketing had declined to 86,432, fewer than 5% of all farms; total direct market sales had declined to just over \$400 million in sales, less than 0.3% of all agricultural sales. During the last 15 years, the number of farms direct marketing has grown to 136,817—still below the 1982 level—and in sales to \$1.211 billion. The net result then is that the 2007 percentages are identical to those from 1982. What conditions led to that decline? Will the next ten years continue the growth of the last decade or will farm direct sales decline as they did between 1982 and 1992? All concerned are advised to consider this historical record carefully as plans and policies are constructed for the future.

2. Sales at farmers' markets probably do not dominate farm-direct sales.

Although the Census data do not separate out the value of sales that pass through the different direct marketing channels, the common perception is that farmers' markets are the most important. Before examining the limited amount of data available, we conducted [Google News](#) and [Google Scholar](#) searches on the terms "farmers' market," "community supported agriculture," "roadside stand," and "farm stand" on

Feb. 9, 2010 to provide an indication of how much attention these marketing channels receive in both popular and academic publications. As expected, farmers' markets, compared to the other channels, received more than 10 times the mentions in Google News and more than three times in Google Scholar. Community supported agriculture came in second, and the combined totals for roadside stand and farm stand lagged far behind in last place. How do these differences in attention compare to differences in actual gross sales?

The data we were able to collect is limited, but it is our best shot at addressing the question. A study of coupon redemptions for the Oregon 2001 Senior Farmers' Market Nutrition Program found that 66% were redeemed at farm stands and 33% at farmers' markets (Saylor, 2003). A survey of agricultural landowners in 15 urban fringe counties around the United States revealed that sales were greater for farm stands than for farmers' markets in 14 counties and the same in one county. Moreover, landowners in eight of these counties reported farm stand sales more than five times greater than farmers' market sales (Esseks, et al. 2009). The USDA 2008 Organic Production Survey reported disaggregated direct market sales by specific market channel: 35% of sales from farm stands and U-pick, 28% from farmers' markets, 15% from CSA farms, and the remaining 22% from other direct market sales (USDA, 2010). The data referenced here are not definitive but point to the strong likelihood that farm stand sales exceed farmers' market sales. And while many farm stands also sell nonlocal products, these three studies collected data only on the farms' own sales. We draw two key conclusions. First, the USDA should collect distribution data for specific market channels as done for the 2008 Organic Production Survey. Second, studies, interventions, and policies related to direct marketing must look at multiple distribution channels, not just farmers' markets; farm stands certainly need more attention.

3. Most local foods probably do not pass through farm-direct channels.

There are many ways that local foods reach consumers, and it would be useful to understand the relative contribution of farm-direct sales. The scarcity of direct market data is compounded by vague and inconsistent definitions of "local." Packaged Facts (2007), in one of the few attempts to measure the scope of local food sales, estimated as \$5 billion for 2007 but without explaining with any precision either the definition of local or the data collection/analysis process. The USDA Agricultural Census (2007) estimated farm-direct sales at \$1.2 billion for 2007. Using these two estimates, we calculate that farm-direct represented about 25% of all local food sales that year. Better data on all the ways local products reach consumers would help inform the many local food initiatives around the country.

4. Farm-direct sales also include nonlocal products.

This is the reverse of the preceding observation and is included to highlight that farm-direct can extend well beyond any definition of local. The internet has long been considered a valuable sales tool for direct marketing. [Local Harvest](#) and many other websites can be used to identify and contact producers who will ship—around the country, and even overseas—unique products such as Kona coffee, blood oranges, or bacon from heritage pig breeds. It is rare to come across anything similar to this statement from the Polyface Farms website: "We do not ship anything anywhere. We encourage folks to find their local producers and patronize them" (<http://www.polyfacefarms.com/default.aspx>). Recognizing that farm-direct includes both local and nonlocal components is crucial for effective design and targeting of appropriate technical assistance and policy interventions.

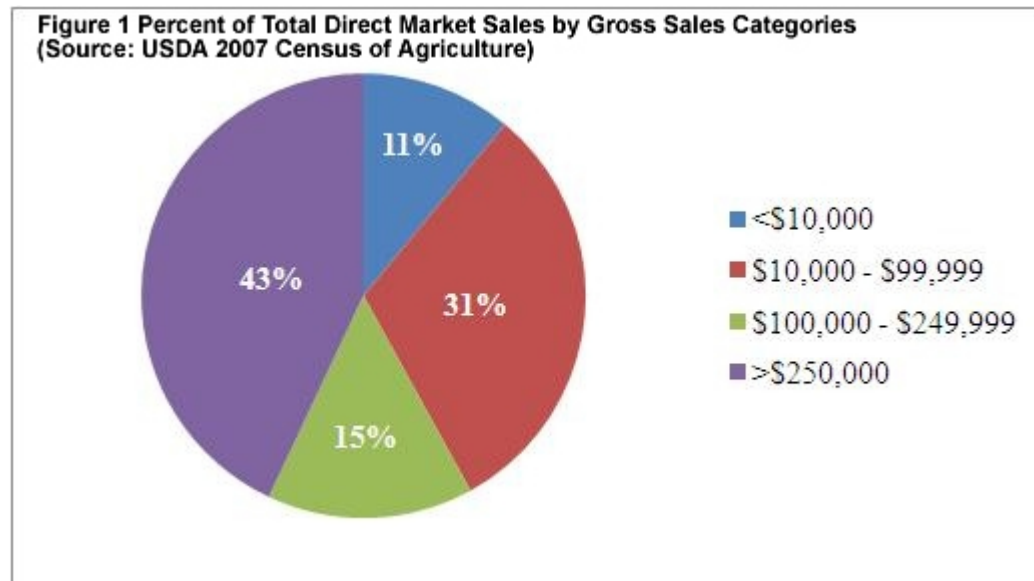
5. Only a small percentage of certified organic products are direct marketed.

Julie Guthman (2004) and others have documented that organic agriculture, far from focused on direct or local, now resembles conventional agriculture in terms of production and distribution. The USDA 2008 Organic Production Survey reports that only 7% of organic sales flowed through direct market channels. This 7% far exceeds the 0.4% of all agricultural products that were direct marketed for human consumption in 2007: a far higher percentage of organic products pass through direct markets as compared to nonorganic products. Yet the fact that 93% of organic products are not direct-marketed suggests that as production volumes of differentiated products ramp up, producers look for marketing opportunities other than direct.

6. Farms that direct market come in all sizes.

According to USDA Agricultural Census data, direct sales per farm average only \$8000 per year. However, this average hides the diversity of farm sizes participating in direct markets. In some respects, small farms

dominate, as 59% of the farms reporting direct market sales in the 2007 Census of Agriculture also reported gross sales—from all market channels—of less than \$10,000. Of all farms doing some direct marketing, 95% had gross farm sales below \$250,000. But another way of looking at the data is to consider how total farm-direct sales are divided among different farm revenue categories (Figure 1).



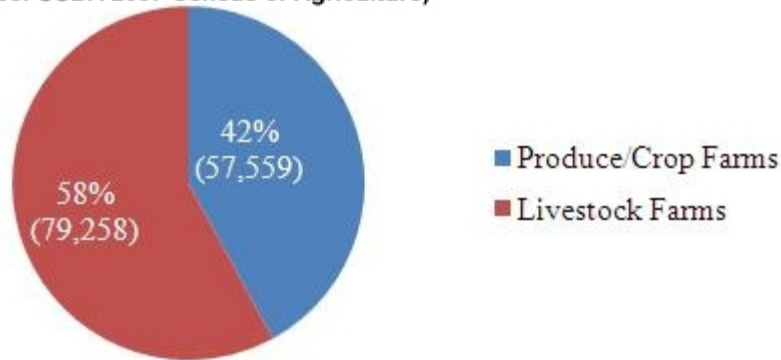
Very small farms with gross sales below \$10,000 account for only 11% of all farm-direct sales revenue while the 5% of farms with more than \$250,000 in gross sales account for 43% of all direct sales revenue. We must conclude that the direct market sector includes significant diversity by size of farm and use these data to design and target technical assistance and policies. Yet should assistance and policy focus on the larger farms that probably could most easily expand or on the smaller, more numerous farms?

7. Livestock farms constitute the majority of direct marketers, but their average annual sales are quite low.

As shown in Figure 2, 58% of the farms that sold farm-direct in 2007 are classified as livestock farms. This is surprising as all of the most visible farm-direct channels (farm stands, farmers' markets, and CSA farms) are dominated by produce. These livestock transactions appear to occur in other, less noticeable distribution channels. The average direct sales per participating livestock farm of \$4,761 are less than one-third the average sales from farms classified as selling produce and other crops. Overall, livestock farms account for only 31% of all direct market sales.

These data beg the question: are these livestock farms generally hobby farms satisfied with low sales, or are they trying to become financially viable? In-depth studies on the supply side would indicate whether and how significant increases of direct marketed livestock products are feasible. Understanding consumer demand and consumer willingness to purchase these products through the range of direct market channels is also essential. Below, we report our recent effort to learn more about one specific direct marketing channel for meat and poultry.

Figure 2 Number of Farms Direct Marketing, by Type
(Source: USDA 2007 Census of Agriculture)



8. Case Study: Direct marketing livestock products poses particular challenges, especially at farmers' markets.

As noted above, livestock farms are well represented among direct marketers. Livestock producers that venture into direct market channels, including farmers' markets, buying clubs, farm stand, and "on the hoof" live sales, often aim to "avoid the middle man"—typically numerous in conventional meat and poultry production—and keep more of the consumer's dollar. Data on farm-direct livestock product sales are scarce, though we know that only 3.2% of all U.S. farmers' market vendors sell meat and/or poultry (USDA, 2006). Farmers' markets can be attractive because shoppers often pay premium prices and markets provide exposure: a producer can meet potential buyers and build a customer base over time.

Our recent research on the meat and poultry buying habits of farmers' market shoppers in Oregon revealed several attitudes that hinder meat and poultry sales at these markets: unwillingness to pay more than \$1-2 per lb above conventional prices, perceived inconvenience compared with other market fare, and apprehension about the safety of meat and poultry in open air markets. Few people come prepared with coolers or cold-packs, and many do not trust frozen purchases not to spoil on the way home (Gwin and Lev, 2009).

Other than by lowering prices—difficult with high production costs and small production volumes—producers may be able to increase sales by actively encouraging consumers to (a) buy "on the hoof," by the quarter or side, for less than by-the-cut prices, (b) plan ahead and bring a cooler or cold-packs, and (c) learn to cook less expensive but unfamiliar cuts. However, consumer education takes significant time and resources. In addition, if farmers' market shoppers—who might be more sympathetic to buying meat and poultry at open air markets—are squeamish, this method of buying may remain fairly limited.

Fortunately, other direct marketing options for meat and poultry appear viable, though hard data are lacking. Most CSAs still focus on produce, though many offer meat and poultry as "add-ons" (Woods, et al. 2009). Popular media attention (Jackson, 2009) suggests rising interest, at least in some regions, in buying meat by the quarter or half carcass. We have observed rising interest around the country in meat and poultry buying clubs but lack data on numbers of active clubs, volumes of product sold, and sales revenues. Of direct-market options, these clubs may be able to reach the greatest number of consumers by offering bundles of mixed cuts (e.g. both steaks and burger), in two or three bundle sizes. This helps producers sell the whole animal and is easier for customers than investing in a chest freezer to buy a side of beef.

Our study illustrates both the significant challenges of direct marketing a particular type of product through a particular market channel and also the type of data that can help us provide more effective technical assistance. And, to reiterate, more data about all direct marketing options is clearly needed.

To conclude, we return to our main theme: as evidenced by our seven points, and in part by the case study, direct marketing of agricultural products is not well understood. Improved knowledge about the full range of direct market channels, products that flow through them, product- and channel-specific limitations on expansion, and the types of farms participating will be of great value in developing and delivering new direct

marketing initiatives, technical assistance, and supportive public policies.

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CAN LOCAL FOOD GO MAINSTREAM?

Robert P. King, Miguel I. Gómez, and Gigi DiGiacomo

The supermarket is one of the 20th Century's most important marketing innovations. The concept of the supermarket emerged in the 1930s, and supermarkets came to dominate food retailing in the two decades immediately after World War II. Made possible by rapid suburbanization of American cities and expansion of ownership of automobiles and refrigerators, supermarkets transformed business processes and competition for customers at the retail level. They also fostered expansion and new efficiencies for wholesalers and created new opportunities for food manufacturers to develop products for mass audiences.

The basic hub and spoke distribution system that has evolved for supermarkets is built around large distribution centers located near interstate highways. These distribution centers receive full semi-trailer loads of product from suppliers and then send full semi-trailers out to individual stores daily or several times per week. Loads sent to stores are comprised of relatively small quantities of thousands of individual SKUs, or stock keeping units, needed to replenish the inventory of tens of thousands of SKUs stored on self-service shelves in a typical store. This system, which is supplemented by deliveries from specialty distributors and direct store deliveries by some suppliers, economizes on transportation and labor. With electronic transmission of orders and payment and computer-based tools that assist with ordering, pricing, and inventory management, this distribution system also keeps transaction costs to a minimum. It is ideally suited for sourcing consistent quality products at low cost from wherever they are available and so has been an integral part of an increasingly national and global food system.

This mainstream supermarket distribution system favors large scale suppliers and facilitates long distance movement of products. Supermarket wholesale and retail companies usually prefer to work with a small number of large, reliable suppliers. At the same time, this system is remarkably resilient and quick to adapt. Can it be an effective channel for meeting the rapidly growing demand for local food products? Are there meaningful, long run prospects for a significant "relocalization" of supermarket offerings? While definitive answers to these questions are not yet apparent, there is emerging evidence that helps clarify how the relationship between the local foods movement and the supermarket industry may evolve.

Sourcing and Selling Local Foods in Mainstream Supermarkets

Local foods are defined, first and foremost, by their place of production, but other attributes also shape consumers' perceptions of local food products. These can include production methods, as well as the size and local ownership of the farms that supply the product. For many consumers, a sense of direct linkage to the producer and a desire to support the local economy are also important. This sense of connection can be difficult to maintain when a product moves to the consumer through wholesale and retail intermediaries in mainstream supermarket channels.

Branding is, of course, one common solution to this problem of transmitting information about product attributes through an intermediated distribution system. The mainstream supermarket distribution system can be as effective in delivering products and product information for local brands as it is for national or international brands. Two local products in Minnesota serve as excellent examples. [Cedar Summit Farm](#) produces and processes organic milk and dairy products from grass-fed cows. Owned by Dave and Florence Minar and operated with several family members, Cedar Summit's marketing information stresses that "The

Minar family at Cedar Summit wants to be your farmer.” They have been remarkably successful in maintaining their connection with a loyal customer base in more than 70 supermarkets, food cooperatives, and food service establishments. [Thousand Hills Cattle Company](#) markets grass-fed beef produced by 40 farmers in Minnesota and the surrounding states and processed by Lorentz Meats in Cannon Falls, Minn. Their marketing information stresses health benefits and sustainable production practices along with the local origin of their product. They offer open house tours of production and processing facilities that give customers from more than 60 local stores a chance to see how grass-fed beef is produced, and they have a select group of producers who do regular in-store tastings that establish direct connections with consumers.

Fresh fruits and vegetables are often not branded and pose a more difficult challenge for establishing strong linkages between consumers and producers. Some retailers use point-of-purchase materials such as large producer photographs or special signage to identify local products, but the information these convey can be unreliable when suppliers change more rapidly than point of sale information. In contrast, [Red Tomato](#), a nonprofit organization that markets fresh produce throughout the Northeast for more than 35 farms has been successful in creating a sense of connection between consumers and producers that carries through wholesale and retail intermediaries. Their website tag line—“Trust the farmer. Know the farm. Love the tomato.”—captures the essence of their strategy, which combines farm identity preservation with a strong overall brand identity.

Local products enter mainstream distribution channels through broad line distribution centers, direct store delivery, and specialty distributors. Supplying adequate volumes is the key challenge for products that reach stores through broad line distribution centers for at least two reasons. First, distribution centers prefer large volumes of products from a relatively small number of suppliers to benefit from economies of scale in distribution. Second, this channel can be expensive for suppliers because they are often required to participate in “push” promotion strategies, or trade promotions, including payments for space, off-invoice allowances, and contributions to marketing development funds. These promotions generally favor large suppliers with significant marketing budgets (Gómez, Rao, and McLaughlin, 2007).

Direct store delivery offers local food product suppliers greater flexibility in choosing the stores they serve, but delivery costs can be substantial when retail outlets are spatially dispersed, and transaction costs can be high when multiple approved supplier arrangements must be negotiated and when order entry and invoicing must be done for each store. Both Cedar Summit Farm and Thousand Hills Cattle Company rely primarily on direct store delivery.

Specialty distributors may be an easier entry point to mainstream channels for many local food products. They typically carry a more narrow line of products than broad line distributors and often have less onerous service requirements. [Co-op Partners Warehouse](#) is an example of such a business. Specializing in “... organic produce, dairy, soy and juice servicing retail co-ops, natural food stores and restaurants in the Upper Midwest,” they offer drop-ship services for local producers that allow their products to be transported along with regular orders to retail stores and restaurants. This makes much more efficient use of transportation resources and lowers costs. Both Cedar Summit Farm and Thousand Hills Cattle Company use this service for some of their retail store and restaurant customers that are served by Co-op Partners Warehouse.

Several national supermarket chains—including Walmart and Whole Foods Market – have initiated efforts to source and sell local foods. Walmart features locally grown produce, and, according to its website, 20% of the fresh fruits and vegetables available during the summer months are produced in-state. The company asserts that these local sourcing efforts are yielding not only cost savings but also environmental benefits and positive impacts on local economies. Whole Foods has developed explicit guidelines for defining “local” in each of its distribution regions, and their web site lists local vendors by region. Whole Foods has also instituted a “Local Producer Loan Program” designed to foster growth in the supply of local food products.

Regional chains also have embraced procurement from local farms. One notable example is [Wegmans](#), a self-distributing supermarket company with over 70 stores in New York, New Jersey, Maryland, Pennsylvania and Virginia. Twenty years ago they started a “Locally Grown Produce” program, which now lists more than 1,200 local grower-suppliers of fruits and vegetables. According to the company web site, local products delivered directly from family farms to stores account for about 30% of produce sales in a typical Wegmans store when local products are in-season. Local growers are actively promoted in the store and occasionally do in-store tastings. Wegmans also employs its web site to communicate local product availability and to feature family farms participating in the locally grown program.

In each market area, program coordinators, produce managers and local growers meet during the winter season to plan the assortment and volume of local products for the following summer season. Wegmans has a company-wide electronic system to manage local procurement, which store managers use to place orders with local farms. Local growers normally deliver product one day after an order is placed. The store transmits an invoice to headquarters upon delivery and inspection of the product, and the farmer receives payment directly from headquarters. The share of local products in total produce sales is used as a measure of store performance and the store manager has some flexibility regarding the prices paid to local growers.

Independent stores and smaller chains often have even greater flexibility in sourcing local products and in communicating information about them to consumers. For example, Balls Food Stores, which operates 12 [Hen House Markets](#) and 17 [Price Chopper](#) stores in the Kansas City area, has established a close, long-term relationship with [Good Naturesd Family Farms](#), an alliance of more than 100 farms within 200 miles of Kansas City, to source locally produced meat, poultry products, dairy products, and produce. This model is described in a two-part case study that documents strategies and key innovations from the perspective of each of the two business organizations (Dreier and Taheri, 2008 and 2009). One key to success has been movement of products supplied by Good Naturesd Family Farms through the central warehouse operated by Balls Food Stores. This required some modifications in quality, sorting, and packing standards for products leaving farms and in warehouse operating practices, but it has resulted in cost savings that can be shared by the two parties.

Prospects for "Relocalizing" Mainstream Supermarket Offerings

Despite the success of the alliance between Balls Food Stores and Good Naturesd Family Farms, sales of local products sourced through it were less than 2% of annual store sales in 2008 (Dreier and Taheri, 2009, p. 8). This supply chain model is still developing, and the share of sales for locally sourced products would be much higher if one only considered fresh produce and meat, which represent approximately 25% of sales in a typical supermarket. Nevertheless, this raises the question of what is the potential for a significant "relocalization" of product offerings in mainstream supermarkets. Ultimately, the answer to this question will depend on the dynamics of supply and demand.

On the supply side, significant growth in the share of sales for local foods can only be achieved if producers are able to supply competitively priced products with consistent quality in volumes that match supermarket product movement. Typically, this will require aggregation of product across producers—either through an entrepreneurial food company like Thousand Hills Cattle Company or through a network of producers like Good Naturesd Family Farms.

Along with the challenge of reaching adequate production volumes, access to processing and packing services at a competitive cost is a critical issue. Economies of size in processing differ dramatically across products. Produce sorting and packing lines can operate relatively efficiently at small scales, while large, highly automated hog and cattle slaughter plants have significant cost advantages over smaller plants. When there are important economies of size in processing, some regions simply may not be able to supply the volume of product required to justify construction of processing facilities that operate at the minimum efficient scale. Smaller, less efficient processing plants may be available, but these raise product costs. When this is the case, local products will only be offered in mainstream retail outlets if they have attributes for which consumers are willing to pay a premium and they are likely to fill a niche rather than have a dominant position within a product category.

Efficient use of transportation is also an important challenge in the development of local food supply chains. Figure 1 illustrates the cost and environmental advantage of being able to ship product efficiently. It compares fuel use per ton of product for a 100 mile shipment under three transportation options: a semi-trailer hauling 40,000 pounds with a fuel economy of 6.0 mpg, a mid-size truck hauling 10,000 pounds with a fuel economy of 9.0 mpg, and a pick-up truck hauling 1,000 pounds with a fuel economy of 18 mpg. The large capacity of the semi-trailer more than makes up for its inferior fuel economy relative to the other two transportation options. Holding fuel use per unit of product constant and using the pick-up truck as a baseline, product can be transported five times farther by mid-sized truck and more than 13 times farther by semi-trailer. Even if fuel prices increase significantly, then, local food supply chains will only be able to achieve a distinct cost and environmental advantage associated with transportation if they can reach efficient scale. This can be accomplished, but it will likely require collaboration among producers and further innovation in the development of localized distribution systems.

Figure 1 Transportation Fuel Use per Ton of Product



On the demand side, it is not clear how rapidly consumer demand for local products will grow or how sensitive it will be to price premiums that may be required to stimulate expansion of supplies. Significant price premiums may limit sales to purchases by a relatively narrow base of dedicated “locavores” who place a high value on local origin. Without truly unique attributes that are valued by a broad segment of consumers, it may be difficult for a local product to emerge from a niche position within a product category. When this is the case, producers may find it more profitable to distribute their product over a wider area rather than growing the local market. For example, shipments to high-end markets on the east and west coast are important enough for niche pork producers in Iowa that they identified shared transportation for less-than-a-load long hauls as a high priority area for collaboration (Wilkinson, 2007).

Growing interest in local foods stems, at least in part, from the belief that a shift to more local foods can address concerns about the economic, environmental, and social performance of the food system. However, impacts of local foods on food system performance are complex, difficult to measure, and sometimes unexpected. This makes it hard to justify “relocalization” as a simple end in itself.

Sales likely will grow for local food products that have cost advantages or unique quality attributes that consumers value. Otherwise, it will be difficult for local foods to capture a significantly larger share of supermarket offerings in the near future. Nevertheless, the examples presented here demonstrate that there are promising opportunities for local foods to become more readily available in mainstream supermarkets. Growing entrepreneurial attention to opportunities in this segment of the food system and increased public funding for research on local foods are likely to yield increased efficiencies and improved product quality. Research can also improve understanding of potential public benefits from local food systems associated with factors such as increased civic engagement, growth in local economic activity, and the public health impacts of diets that include more fresh foods. Starting from a small base, like organics a decade ago, this segment of the food system has the potential to enjoy sustained, rapid growth. There is much that producers and mainstream retailers can do together to respond to consumer demand for local products. These responses can yield solutions that simultaneously benefit producers, retailers, and consumers.

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CATCHING THE "LOCAL" BUG: A LOOK AT STATE AGRICULTURAL MARKETING PROGRAMS

Kathryn A. Onken and John C. Bernard

The United States has experienced a rapid increase in consumer interest in purchasing locally grown foods. This trend has led to many changes in the food system. For one, from 1994 to 2009, there was a 201% increase in the number of operating farmers' markets, with most featuring local products (USDA, AMS, 2009). Additionally, in 2007, over 12,500 farms marketed products through a Community Supported Agriculture arrangement, where for a predetermined fee consumers receive a portion of the local farm's total harvest (USDA, NASS, 2007). The emergence of local can even be witnessed in the marketing activities of snack-food giant Frito-Lay, who in 2009 made "Lay's Local" their primary promotional campaign.

Alongside the local food trend, there has been a great expansion in state-sponsored agricultural marketing programs. While prior to 2000 less than half the states had such programs, now they exist in all fifty. Designed to increase consumer demand for local products, these state-sponsored programs have varying components. The majority encompass both food and agricultural products under their state logo. Qualifications by state differ, and products may need to be grown, processed, or manufactured within the state, or a combination of these three depending on the product and state. It appears that states have caught the "local" bug. Despite this, limited investigation has been conducted regarding the details of each state's program. The purpose of this article is to explore the various approaches states have taken in the establishment of their programs and examine evidence of how well they may be capturing the local foods consumer. For evidence of their effectiveness, some results from a survey of Mid-Atlantic states on program awareness and purchasing are presented.

50 States, 50 Logos

From the launch of Vermont's *Vermont Seal of Quality* program in 1980, the number of states unveiling agricultural marketing programs has steadily increased. Establishment dates for the current or primary program were available from 48 states and can be viewed in Table 1. While 27 of these were established in 2000 or later, for some states these represent second attempts at state promotion. Notably, all but one, *Indiana Premium Forest Products*, include food products. Table 1 additionally presents each program's slogan and information on the minimum percentage from within the state a product must contain to participate. Of note, 64% of programs have no minimum percentage requirement stated in publicly available materials, meaning consumers can not be sure state program labeled products are entirely local.

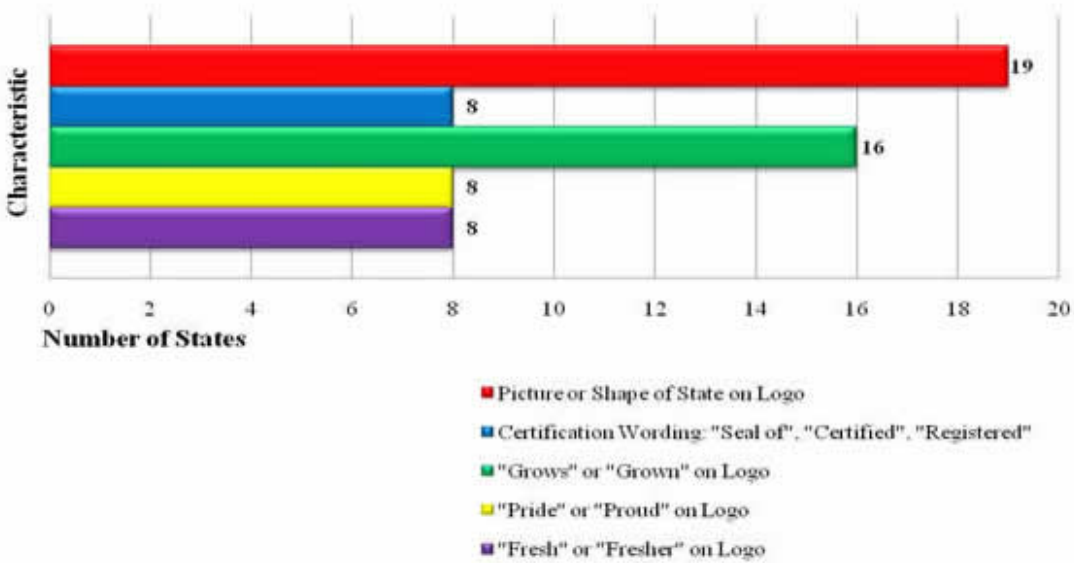
Slogans and logos are a key marketing aspect for state programs and interesting similarities and differences in approaches can be seen in examining them. In terms of slogans, 16 states include use of the words "grow" or "grown." By highlighting a product as grown within the state, these programs recognize some consumers will consider a product bearing their logo to be local. The most common logo characteristic, involving 19 states, employs either a picture or the shape of the state. By using the image of their state, these programs may be seeking to develop a sense of trust with consumers by utilizing familiarity. While the term local is often used without a firm definition, state boundaries could serve as a natural demarcation in the minds of consumers. Additional similarities in wording can be seen in Figure 1.

Table 1

State-Sponsored Marketing Programs

State	Primary Program Name or Slogan	Year Established	Minimum Percentage Requirement for Product Eligibility (%)
Alabama	Buy Alabama's Best	2004	n/a
Alaska	Alaska Grown	1985	75
Arizona	Arizona Grown	1993	n/a
Arkansas	Arkansas Grown	2002	n/a
California	CA Grown – Be Californian. Buy California Grown.	2002	85
Colorado	Colorado Proud	1991	n/a
Connecticut	Connecticut Grown – The Local Flavor	1986	n/a
Delaware	Grown Fresh with Care in Delaware	2007	n/a
Florida	Fresh from Florida	1990	n/a
Georgia	Georgia Grown	2001	n/a
Hawaii	Hawai'i Seal of Quality	2006	51
Idaho	Idaho Preferred	2002	80
Illinois	Illinois Product	1987	n/a
Indiana	Premium Indiana Forest Products	2006	100
Iowa	Choose Iowa	2008	n/a
Kansas	Simply Kansas	2008	75
Kentucky	Kentucky Proud	1990	n/a
Louisiana	Certified Product of Louisiana	2001	n/a
Maine	Get Real. Get Maine!	2001	n/a
Maryland	Maryland's Best	2002	n/a
Massachusetts	Massachusetts Grown...and Fresher!	n/a	n/a
Michigan	Select Michigan Fresh Great Lakes – Great Tastes	2003	51
Minnesota	Minnesota Grown – Fresh From Your Neighbor	1988	80
Mississippi	Make Mine Mississippi	1999	51
Missouri	AgriMissouri	1985	n/a
Montana	Montana Department of Agriculture Certified Organic	2007	100
Nebraska	Nebraska Our Best To You	2006	n/a
Nevada	Nevada Grown	2002	60
New Hampshire	New Hampshire's Own	2004	n/a
New Jersey	Jersey Fresh	1983	100
New Mexico	New Mexico Taste the Tradition	2000	n/a
New York	Pride of New York – Our Pride is Inside.	1996	n/a
North Carolina	Goodness Grows in North Carolina	1985	n/a
North Dakota	Pride of Dakota – North Dakota Originals	1985	n/a
Ohio	Ohio Proud – Made in Ohio	1993	50
Oklahoma	Made in Oklahoma	1991	n/a
Oregon	Brand Oregon	2004	n/a
Pennsylvania	PA Preferred – Registered Pennsylvania Department of Agriculture	2004	75
Rhode Island	Farm Fresh Rhode Island	2004	n/a
South Carolina	Certified South Carolina	2007	n/a
South Dakota	South Dakota Flavor!	2002	n/a
Tennessee	Tennessee Farm Fresh	2008	n/a
Texas	Go Texan	1999	varies by product
Utah	Utah's Own	2002	51
Vermont	Vermont Seal of Quality	1980	85
Virginia	Virginia's Finest	1989	n/a
Washington	From The Heart of Washington – Our Farms to Your Table	2001	n/a
West Virginia	West Virginia Grown	1987	n/a
Wisconsin	Something Special from Wisconsin	1983	50
Wyoming	Wyoming First – Made in Wyoming	n/a	n/a

Figure 1 State Logos: Common Wording and Characteristics



Another design aspect involves the amount of detail displayed in the logo. States with newer programs such as Delaware feature a logo with intricate detailing as seen in Figure 2. Henderson and Cote (1998) found such elaborate logos to be effective at retaining consumer interest. However states with well established programs, such as Texas, utilize a simple logo. The *Go Texan* logo appears in Figure 3. Other research involving effective logo design suggests logos with a simpler design are often processed more easily by the observer (Janiszewski and Meyvis, 2001). Whether simple or complex logo designs are more effective for state marketing programs remains an area for investigation.

Figure 2 Grown Fresh with Care in Delaware Logo



Figure 3 Go Texan Logo



A few states have also included their specialty as a way to differentiate their program. Louisiana, for example, has designed additional logos to brand *Certified Louisiana Creole* and *Certified Louisiana Cajun*. Oklahoma's *Made in Oklahoma* program features a Native-American inspired logo to incorporate their region's cultural heritage. Montana, Colorado and Vermont are examples of programs with state-specific organic logos, which are displayed on products in conjunction with the USDA organic logo. While Colorado and Vermont also have other logos in use, Montana's sole logo remains *Montana Department of Agriculture Certified Organic*. As Montana is a leader in the production of several organic grains, they too are incorporating their specialty to their advantage.

Vermont is currently the only state known to have in place a state-specific local logo. Their *Buy Local* program includes a state definition for local: "a product grown within 30 miles of the place of sale, or within the State of Vermont" (Vermont Agency of Agriculture, 2009). With evidence that consumers may place greater value on local production over organic production, we may see more state-specific local logos than organic logos in the future (Thilmany, Bond, and Bond, 2008). Organic products however were found by Stegelin (2008) to make up a significant portion of "local" products purchased by consumers.

Who's in Charge?

Historically programs have been primarily funded in conservative amounts by state legislatures; although federal support through the Emergency Agricultural Assistance Act of 2001 helped many finance their initial program set-up (Patterson, 2006). Such federal funding could be a competing explanation for the rapid growth of state programs since 2001. While almost 90% of these programs are administered by the state's agency or department of agriculture, there are a few exceptions. Programs in Alabama and Indiana are administered by state commodity and trade associations. Comprised of industry members, these associations may have a more vested interest in the program, and the ability to accept member donations as a source of funding.

In the case of Indiana, with the focus on local forest products, the program benefits from exposure to outside markets as well. However, state programs often promote more than one product area. Administration under a commodity association may prevent state products from gaining exposure in the local market, as local markets often are a minor component of the commodity's overall market potential. State programs should exhibit caution when exploring such an option. In Oregon and Wyoming, a nonagricultural agency runs their state programs—the Oregon Economic and Community Development Department, and the Wyoming Business Council. These larger agencies may have more resources available and receive more public exposure.

As another alternative, nonprofit organizations and partnerships have been established in Rhode Island, New Hampshire and Nevada for the promotion and administration of their state's marketing programs. Rhode Island's nonprofit encourages tax-deductible contributions to their program, as well as provides a network of farmers with delivery routes to catering services and restaurants throughout the state. New Hampshire's nonprofit prefers to fund activities through membership fees, which allows members to sell their products in

the program's two retail stores, operated in close proximity to the state's major interstate highway. By establishing nonprofits, these states are able to add program components that traditional state agencies would be unable to provide.

Is Quality the Key to Success?

Certification and the regulation of products bearing a state program's logo has long been a topic of debate. At present, New Jersey and California have in place some of the most stringent certification and program regulations. Both have also experienced some of the largest increases in product sales. New Jersey requires products bearing the *Jersey Fresh* logo to be registered and meet quality standards "equal to or better than U.S. No. 1" (State of New Jersey, NJDA, 2009). California has participants complete separate licensing and compliance agreements, ultimately calculating the amount per year the company will be required to pay to use the logo based on their overall industry share and net value.

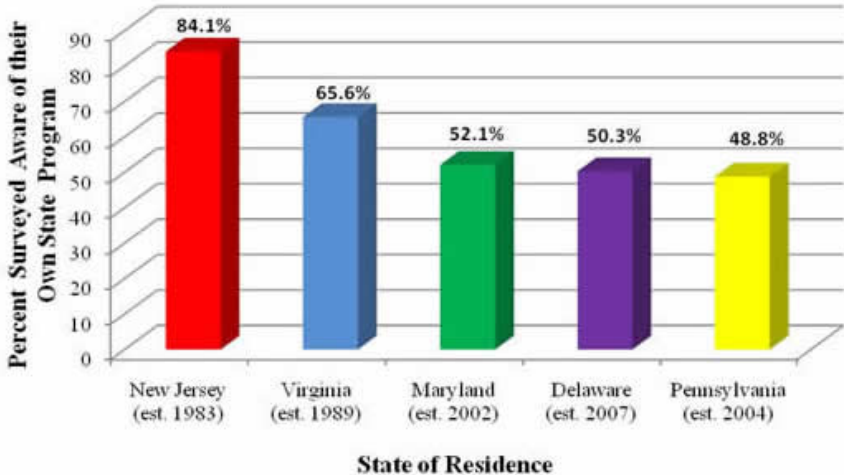
Many programs require participants to sign some type of licensing or membership agreement, stating their program logo may only be displayed on products of the highest quality. However, few programs enforce such mandates. With state competition becoming fiercer, the quality of products bearing state logos will undoubtedly come under scrutiny by both consumers and competing state programs. Jekanowski, Williams, and Schiek (2002) found the perceived quality of a local product had the strongest impact on purchasing likelihood. They emphasized that if state programs allowed their quality standards to fall below those of competing states, such a state would essentially be branding their products as "lower quality." Programs may find themselves having to adopt quality grading and certification processes to remain competitive.

Program Awareness

With all the competing state programs, the question of their effectiveness remains. One concern is the extent to which consumers are aware of their state's program. Another would be if products with these programs' logos can capture the consumer seeking local foods. To investigate these, a mail survey was conducted in fall 2009 of consumers from five Mid-Atlantic states: Delaware, New Jersey, Maryland, Virginia and Pennsylvania. Addresses for 1,000 consumers from each state were purchased through USA Data and the response rate was 39.5%.

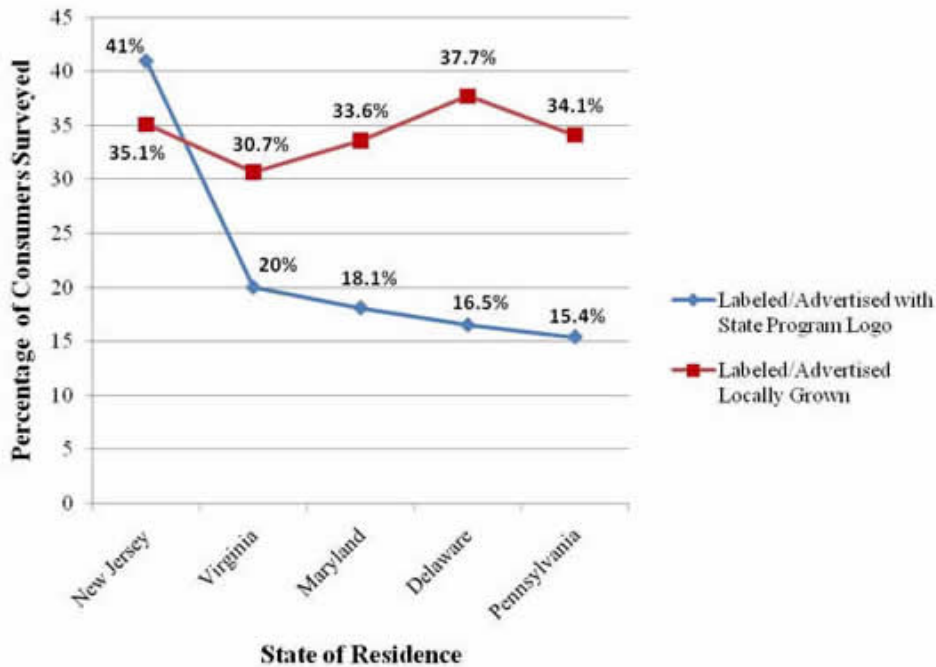
Consumers' awareness of their state program is presented in Figure 4. Consumers in New Jersey had the highest awareness of their state program at 84.1%. Virginia consumers also exhibited significant program awareness for their state program at 65.6%. Both of these programs were established in the 1980's. Newer programs thus appear to have a way to go in terms of recognition.

Figure 4 Program Awareness by State in the Mid-Atlantic



Consumers were next asked on a five point scale how often in an average month they purchased food products labeled or advertised as “locally grown,” and labeled or advertised with their state program. The percentage of consumers by state who responded “often” or “very often” are presented in Figure 5. With the exception of New Jersey, a higher percentage of consumers purchased locally grown food than state program labeled food. Two possibilities exist for this. Consumers either cannot find or are not familiar with products advertised under their state’s marketing program. In this case the gap represents sales opportunities for the state marketing programs. It may be that consumer interest is more focused on local, and that their definition of this may be different than the border of their state. Some consumers might consider the visit to a farmers’ market or farm stand as part of the value in purchasing local, in which case the purchasing venue might be of most importance.

Figure 5 Percentage of Consumers by State who in an Average Month Purchase “Often” or “Very Often” Foods Labeled or Advertised as...



What Does the Future Hold?

With all fifty states having marketing programs, it appears they have caught the “local” bug. As discussed, there are many different marketing approaches, funding sources and requirements. Program similarities, such as including fresh and processed food products, as well as membership and participation agreements, will undoubtedly remain. However, programs lacking a formal certification process may move towards such a process if their program expands, and funding improves. For the numerous programs with no minimum percentage requirement stated, consumers may start to question the authenticity of and meaning behind the logo. State programs might benefit from developing clearer eligibility requirements, and subsequently educating consumers.

In attempting to differentiate, states able to do so will look towards incorporating their state’s and/or region’s specialty into their program in the hopes of capturing consumer interest. Unfortunately, given awareness and purchasing issues, it may be that not all state programs survive. For instance, Delaware’s program was cancelled during preparation of this article, showing the difficulty in capturing the local foods consumer with a state marketing program. In order to remain competitive in a market saturated with state-specific brands, programs will likely need to adopt quality grading programs to create a sense of value for their brand.

State-sponsored agricultural marketing programs will continue to evolve. It may be that more put into practice a state-specific local or organic logo in an attempt to increase consumer interest or premiums for their products. Nonprofit organizations may be established in increasing numbers as programs look for

alternatives in management and funding. More program partnerships with other state agencies, commodity groups and industry organizations may similarly be witnessed. Lastly, competition beyond other state's programs may become an issue. With other local labeling programs such as the national *Buy Fresh Buy Local* promotion appearing in increasing numbers, consumers will be seeing many messages about local. How these interact and affect state-sponsored programs will be interesting.

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DO GOVERNMENT POLICIES GROW LOCAL FOOD?

Shermain D. Hardesty

To many local food advocates, the passage of the 2008 Farm Bill was an affirmation of their belief of the inseparability of U.S. agricultural and food policies. They had argued that “buying local” provides a variety of benefits, including support for small farmers, increased economic activity in rural communities, reduced energy consumption and pollution, and improved human health. The final legislation, titled the Food, Conservation and Energy Act of 2008, includes policies and programs designed specifically to increase the supply of and demand for local food. In September, 2009, local food advocates cheered again when Agriculture Secretary Tom Vilsack and Deputy Secretary Kathleen Merrigan announced USDA’s “Know Your Farmer, Know Your Food” (KYF) initiative.

Are the 2008 Farm Bill and the KYF initiative indications that federal government policies generally support local food? And are state and local governments standing behind local food? Answering these questions would be an exhaustive process, extending far beyond the U.S. Department of Agriculture (USDA) to various other federal government departments such as Commerce and Transportation, as well as the policies in each of the 50 states and their regional entities. Instead, a short description of some impacts of federal agricultural policy on local food will serve as a starting point, followed by a brief assessment of the KYF initiative and several other key federal and state policies.

But first the meaning of “local” needs to be understood in order to assess the effects of government policies on local food. Hand and Martinez, in another article in this issue, indicate that “local” means different things to different people; consumers have entwined their demands for certain market performance outcomes that have broad public benefits with their perceptions of local food. When unveiling the KYF initiative, Secretary Vilsack stated, “Reconnecting consumers and institutions with local producers will stimulate economies in rural communities, improve access to healthy, nutritious food for our families, and decrease the amount of resources to transport our food.” (USDA, 2009a). These outcomes are very similar to the public benefits mentioned above as being desired by local food advocates. When USDA launched a new website for the initiative, the press release indicated the website was intended to promote dialogue “...about developing local and regional food systems and finding ways to support small and mid-sized farms” (USDA, 2009b). Thus, USDA has entwined various public benefits—including support for small and mid-sized farms—with local food in the current policy dialogue.

The Industrialization of the U.S. Food System

Numerous government policies fostered the industrialization of the U.S. food system. Early in the twentieth century, USDA established grading standards to facilitate the trade of produce over long distances (Gardner, 2003). While reducing deliveries of spoiled produce to distant markets, these standards also decreased the availability of ripe fruits at local supermarkets and foodservice establishments.

Since the end of World War II, one of the primary objectives of Farm Bills included the provision of high quality food at a low cost. This was achieved through consolidation in agricultural production and the creation of efficient supply chains through vertical integration and contracting throughout the food system (Barry, 1995). Local facilities for fruit, vegetable, dairy, poultry and meat processing were replaced by large, centralized facilities as food manufacturers sought to gain economies of scale to produce foods of uniform

quality at low cost. Between 1946 and 2008, food expenditures by U.S. families and individuals as a share of disposable personal income declined from 21.6% to 9.6% (USDA, 2009c).

Commodity price stabilization was another important objective of federal agricultural policies. Commodity support prices tied to production provided greater economic benefits to larger farmers; these benefits enabled these farmers to buy out their smaller neighbors and gain economies of size (Tweeten, 1998). In its 1981 report—A Time to Choose—the U.S. Civil Rights Action Team concluded that government policies and practices had discriminated against small farm operators, and warned that, unless present policies and programs are changed, agricultural production will be concentrated among few large farms (USDA, 1981).

Nonagricultural policies also facilitated the industrialization of the U.S. food system, such as the federal government's extensive investment in the interstate highway system. In an article in this issue of Choices, King, Gómez, and DiGiacomo note that supermarkets created efficiencies in their distribution systems by locating large distribution centers near interstate highways.

While various USDA policies appear to have worked against small farms and local food, one major exception was the Farmer-to-Consumer Direct Marketing Act of 1976, which contributed significantly to the rebirth in the marketing of local food. This legislation was enacted to promote the development and expansion of direct marketing of agricultural commodities from farmers to consumers. It required USDA to work with state departments of agriculture to promote direct marketing. Additionally, the statute created the USDA Agricultural Marketing Service's (AMS) Farmers Market Promotion Program (FMPP).

Numerous Programs in "Know Your Farmer, Know Your Food"

The FMPP is one of 20 grant, loan and support programs across seven USDA agencies identified on the KYF web site, <http://www.usda.gov/knowyourfarmer>. With the exception of the new Environmental Quality Incentives Program (EQIP) Organic Initiative, the 20 KYF programs represent a reaggregation of existing USDA programs; however, funding has been increased for some and/or some funding has been set-aside specifically for local food projects.

Since growers who engage in localized marketing rely heavily on direct market outlets, the FMPP can be considered the heart of KYF; it increases access to local food by providing competitive grants to assist in establishing, expanding, and promoting domestic farmers markets, roadside stands, community-supported agriculture programs (CSAs), and other direct producer-to-consumer market opportunities. Produce that is direct marketed is exempt from USDA grading standards. The 2008 Farm Bill raised FMPP allocations from \$1 million for Fiscal Year (FY) 2008 to \$5 million for FYs 2009 and 2010 and \$10 million for FY 2011 and 2012.

USDA/AMS' Senior Farmers Market Nutrition Program facilitates demand for local food at farmers markets. By awarding grants to state governments, this longstanding program provides low-income seniors with coupons to purchase fresh fruits, vegetables, herbs and honey at direct market outlets. Similarly, the Women, Infants and Children-Farmers Market Nutrition Program provides cash grants to state agencies to expand support for the WIC program.

KYF also includes farm-to-school programs, which serve locally grown products at elementary and secondary schools. The objectives of these programs include serving healthy meals in school cafeterias, improving student nutrition, providing educational opportunities on agriculture and nutrition, and supporting local and regional farmers. Tactical teams of staff from AMS and FNS work with local farmers, local and state authorities, school districts, and community partners to develop farm-to-school projects and provide guidance on the best ways to buy more local produce for the National School Lunch Program.

Active in 43 states (<http://www.farmtoschool.org>), some state and local governments support farm-to-school programs. For example, voters in Davis, California passed a parcel tax in 2007 to support a variety of school district initiatives for four years, including \$70,000 annually to the farm-to-school program in its public elementary and secondary schools. Most of the additional farm-to-school funds are used to purchase local produce and other locally produced foods such as brown rice and olive oil to include in school lunches, as well as professional training for kitchen staff about incorporating local, seasonal foods into the menus and cooking from scratch. Additionally, numerous public universities and hospitals across the nation have adopted "farm to institution" programs to "do the right thing" by supporting local farmers through purchases of

produce, meat, dairy products and other locally produced foods.

Several counties in states along the East and West Coasts have county-level agricultural marketing programs that are focused on economic development. Since 2001, Placer County, located in the Central California foothills, has operated an Agricultural Marketing Program (AMP) in collaboration with a grower-funded program, Placer Grown. The AMP assists local producers and Placer Grown by providing services such as media relations, product marketing, and web development, and it publishes an annual Agricultural Guide and maps for Placer Grown's special events.

Food Production and Processing Programs and Policies

USDA's Rural Development Agency has operated the Value-Added Producer Grant Program (VAPG), another part of the KYF initiative. It provides funds for business planning and working capital for projects involving processing of agricultural products. The 2008 Farm Bill requires that 10% of the program funds be used for projects that focus on local and regional supply networks, and that 10% of funds be available for beginning and/or socially disadvantaged farmers and ranchers, and/or small or medium-sized farms or ranches; these groups are also likely to market their products locally. An additional 10% of available funds are reserved to fund Mid-Tier Value Chain projects; the products thereof are likely to be marketed regionally.

The Rural Development Agency operates two KYF programs that could help restore the local food processing and distribution infrastructure. Its Business and Industry (B&I) Guaranteed Loan Program provides affordable capital; the 2008 Farm Bill included a set-aside within the program for projects that establish and facilitate the processing, distribution, aggregation, storing and marketing of locally or regionally produced food products.

KYF also lists the Rural Business Enterprise Grant Program, which provides funding to rural public entities, Indian tribes and rural private nonprofit corporations, rather than individual firms. Eligible projects include land acquisition or development, building construction or renovation, and machinery purchases that benefit small and emerging business in the area, but the projects do not have to be food-related. There are no USDA grant programs available to for-profit firms that finance buildings or equipment, although such assets are often critical to the development or revitalization of a region's agricultural processing infrastructure.

Looking Beyond USDA

In recent years, state and local government have adopted policies to preserve farmland in order to provide local food supply and food security, as well as other benefits such as open space, wildlife habitat and rural character (Lynch, 2008). All 50 States have enacted one or more farmland protection programs to help slow the conversion of farmland to developed uses (Nickerson and Barnard, 2006). Farmland conversion often reduces the profitability of the surrounding acreage by limiting a farm's ability to achieve an efficient scale of operation and imposing the costs of land use conflicts on farmers. However, farming near a major population center can also enhance the availability of local food since the farmers have a shorter travel distance to direct market their crops, and consumers need not travel far to a farm stand or agritourism operation.

Recent outbreaks of food-borne illness attributable to contaminated spinach and other leafy greens led California's leafy greens industry to initiate a voluntary food safety program for handlers of leafy greens in 2008. Growers who sell to handlers who are signatories of California's Leafy Greens Marketing Agreement (LGMA) are required to comply with various provisions; they require growers to conduct water quality testing, personnel training, field monitoring; remove crops subjected to animal activity or flood; and document their standard operating procedures. Recent research indicates that the LGMA compliance costs are significantly higher, on a per acre basis, for smaller growers (Hardesty and Kusunose, 2009).

Currently, growers who sell only by direct marketing are exempt from the LGMA. However, the Food and Drug Administration (FDA) issued draft food safety guidance documents in July, 2009 related to production, harvesting, packing, processing, transportation, and distribution practices for leafy greens, melons and tomatoes. Although these measures are currently voluntary, the FDA Commissioner noted that enforceable standards will be developed.

Another potential challenge to local food involving the FDA is the Food Safety Modernization Act, which was introduced in Congress in 2009. Local food advocates protested that producers who market even minimally

processed crops to local restaurants, grocery co-ops, supermarkets, schools and wholesalers would be regulated by the FDA. They noted that this Act and other recent food safety legislation fail to acknowledge the diversity of agriculture or different risks associated with various production and processing practices. Growers would incur increased expenses for record-keeping, food safety plans, and on-farm inspections.

What's the Bottom Line for Local Food?

It is difficult to determine if, overall, current government policies support or hinder local food. This review included only brief assessments of a limited number of programs and policies, primarily federal; no studies that specifically measure their impacts on local food were found. There are government programs currently receiving much attention that appear to support additional production and processing of local food, and others that foster the expansion of outlets for local food and consumers' ability to purchase them. But existing and impending food safety regulations could impose significant costs and create barriers for local food. Other agricultural policies and programs also need examination, such as meat and poultry processing regulations, state level food manufacturing and retailing codes, and the proposition approved by California voters in 2008 to prohibit the confinement of certain farm animals in a manner that does not allow them to turn around freely, stand up, and fully extend their limbs. A broader assessment, including trade and energy policies, could also be warranted.

Since there is considerable tendency to entwine local food with performance outcomes such as support for small and mid-scale farms and improved human health, it may be more useful to directly focus on consumers' desired outcomes for specific public benefits. Using such a direct approach, as suggested by Hand and Martinez in their article in this issue, by encouraging consumers to reveal their expectations would enable policymakers to focus public resources on the desired outcomes, or to reverse policies that deter such outcomes. Although this discussion leaves many questions unanswered, one clear conclusion is that the current attention to the local food market has caused many citizens to become aware of the connection between the agricultural sector and the food that they eat.

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IS LOCAL ENOUGH? SOME ARGUMENTS FOR REGIONAL FOOD SYSTEMS

Kate Clancy and Kathryn Ruhf

The focus on local food systems has been quite strong over the last decade, and the phenomenon has appropriately been given a lot of attention by consumers, researchers, and food supply chain participants. As a complement to the other papers in this issue, we devote our attention here to the concept of regional food systems. While many food system advocates use—and think of—the concepts as synonymous, we argue that such a merger obscures critical distinctions and fails to provide a meaningful framework upon which to build a more economically viable and environmentally sustainable food system. We suggest that a regional food system includes “local” but operates in a larger, more comprehensive scale. Many of our arguments and assumptions have not been tested yet, but offer fruitful opportunities for analysis, ways to work together, and a useful research agenda.

We undertake this exploration in the context of regionalism (Wallis 2002), the framework for economic, policy, and program development that responds to regional differences and needs, and encourages regional approaches and solutions (Hance, Ruhf, and Hunt 2006). Regions can be described in many ways; their boundaries are fluid, not rigid. A region may be defined by political or administrative boundaries—for example, counties, or the Appalachian Regional Commission; watersheds or bioregions—for example, Chesapeake Bay watershed; or culture—Cape Cod, the Big Apple. Regions may be composed of sub-regions. They overlap. They “nest” in larger regions. For example, the Berkshires and Cape Cod are regions of Massachusetts, which is part of New England which is part of the Northeast Region. By contrast, local most often is defined as a radius of 50–100 miles or regions within a state. For example, the US Department of Agriculture uses a 400-mile radius for certain Federal rural development loan programs. Local can also carry various connotations for consumers that are not always valid, such as direct-marketed, sustainable, and fresh.

Regionalism is particularly relevant to food systems. Unlike in the manufacturing and services sectors, which are less dependent on the natural capital and resource bases of particular regions, agri-food systems are characterized by “the geographic fixity of primary factors in production, including suitable farmland, regional climate conditions, natural resource base, and proximity to primary upstream industry” (Canning and Tsigas, 2000). As we argue below, topography, water availability, land and other inputs, farm scale, crop options, and market proximity are operable at the regional level.

An ideal regional food system describes a system in which as much food as possible to meet the population’s food needs is produced, processed, distributed, and purchased at multiple levels and scales within the region, resulting in maximum resilience, minimum importation, and significant economic and social return to all stakeholders in the region. This is known as “self-reliance”—as opposed to “self-sufficiency” wherein everything eaten is supplied within the target area.

We see that local is a necessary but not sufficient component of a regional food system. Regional is larger geographically and in terms of functions—volume/supply, food needs, variety, supply chains, markets, land use, and policy. A regional food system includes multiple “locals” within a state, and those that cross state boundaries. Regional food systems operate in relation to other regions as well as to the national and global food systems.

Regional Food System Dimensions

In this paper, we use “regional” to refer to multi-state regions although we recognize at different times regions will be defined differently. We see four crucial dimensions to the regional food system framework—food supply, natural resource sustainability, economic development, and diversity.

The first critical dimension is food needs and supply. As mentioned earlier, self-reliance is reached by supplying as much of the foods in a region that is physically possible without degrading the resource base. It is a way of looking at the food needs, or demands, of the population along with the food supply. It is fairly easy to calculate dietary needs; we can make it more practical and complex by modeling a variety of different types of diets—for example, vegetarian—and including cultural preferences. The next step is calculating the number of acres of cropland, pasture, and fresh or saltwater required to produce the diet under present circumstances.

In 2007 Peters, Wilkins, and Fick reported that the New York land base could support about 20% of the state’s population with a diet containing one-third less meat than at present (Peter, Wilkins, and Fick 2007). Using some of the same assumptions, the Greater Philadelphia 100-mile “food shed” contains only 60% of the crop and pasture land needed to feed the population (Delaware Valley Regional Planning Commission 2010). These are useful parameters to help people understand the limits or capacity of an area to meet the real food needs of a population now and in the future. A related notion is food security, the original meaning of which is a country’s ability to produce enough food—or the staple cereal foods—to support its population. At least for the foreseeable future regional food security will come from local, regional, national, and global levels. Some local areas may be able to produce a larger volume of some food, but even with more extensive farming and urban agriculture, it is unlikely that they can produce the volume to make them self-reliant for their dietary needs. One of the obvious ways to expand volume and variety is to expand the geographic area from which food is sourced in a sustainable way. Examples of this type of thinking include the Good to Grow project in the Upper Mississippi River Valley (Fykse 2008) in which geographers have mapped the key areas in which crops are produced and processed across four states, and the Eastern Seaboard project (USDA, ARS, 2009) that is mapping and calculating where local production can meet current and projected produce demand or not, with an eye to seasonally distributed production.

The second critical dimension of a regional food system is the sustainability of land, energy, water, and other resources. It does not make sense to develop a new, alternative food system at any scale without requiring that food be produced by sustainable practices, because without them the ability to produce food in the future is jeopardized. We start with the availability and quality of land upon which the food supply is based. By definition, a region will have a larger land base than a local area to go toward meeting food production needs. But that land base has to be kept for—and in—production. And that requires a regional approach. Local land use decisions are important for getting community buy-in and identifying priority areas for preservation and agriculture economic development. But most local land use decisions are made in a vacuum, and without any quantitative analyses of the area’s food or water demand and supply. In fact, local control that favors development can undermine an area’s food security. We believe that a region is the most useful unit of analysis for mapping land use and growth patterns and trends, and for promoting Smart Growth initiatives. Furthermore, a regional approach could best address multi-community and multi-state priority areas or bioregions, and develop comprehensive land use and economic development plans.

Decreased energy use and transportation time are being used as key arguments for local food. However, this argument can be challenged. Pirog and colleagues (Pirog, Van Pelt, Enshayan, and Cook 2001) looked at three food sources—national or global conventional, Iowa-based regional, and Iowa-based local. They showed that the local system used more energy and emitted more carbon dioxide than the regional system because the trucks were smaller and required more trips. Important efficiencies may be gained in, for example, aggregating sufficient volumes of supply, and back-hauling. Organic Valley’s regional “milk pools” were developed so that milk was not hauled from the Northeast and other regions to Wisconsin.

In fact, energy, land, water and marine resource management should, and sometimes do, take place at regional levels. From production capacity to water pollution to fisheries, resource use and protection are not only local issues. Good examples exist of regional, often multi-state, resource management initiatives: the Northeast Greenhouse Gas Initiative (<http://www.rggi.org/states>), the Chesapeake Bay Program (<http://www.chesapeakebay.net>), the Great Lakes Commission (<http://www.glc.org>), and multi-state regional planning commissions.

A third dimension is economic development. A hallmark of a regionally focused food system is that economic returns stay within the region. Making that happen requires addressing markets, new business models, branding, infrastructure, financing, and trade. A regional food system is comprised of multiple marketing options for farms of all sizes that include local markets as well as broader regional supply chains, thereby providing farmers with more market opportunities that play out through various supply chain structures. In emphasizing the importance of new supply chain approaches to rural development, Marsden and his colleagues tout the benefits of 'short food supply chains' that 'short circuit' long and complex industrial chains (Marsden, Banks, and Bristow 2000). Short food supply chains accomplish this not necessarily by lessening the number of times the food is handled or the distance it travels but by embedding information in the product via its label. They identify three main types of alternative chains:

1. *Face-to-face*: personal interactions such as farmers' markets or farm stands;
2. *Spatial proximity*: consumers are made aware of local or regional origin at point of sale such as through signs in supermarkets; and
3. *Spatially extended*: value about the product and place of production is transmitted to consumers outside of the region, for example, Vidalia onions.

In a regional food system, consumers would not always "Know [Their] Farmer" face-to-face, as they purchase products that they recognize as "spatially proximate." In this scenario, regional identity has value in the food marketplace to consumers and producers.

A regional food system is based in "place"—as is a local food system—but the "place" is conceived more broadly. Products may be differentiated, and receive a premium, according to place-based branding that plays to the competitive advantages of a locale, as well as for specific product attributes, for example "grass-based," IPM (Integrated Pest Management), or organic. Both add value for supply chain partners and consumers. Place-based branding can apply to various geographic areas and scales from the very local to multiple states, for example Lancaster County, or the Great Lakes.

Much emphasis has been placed on the dearth of infrastructure such as community/commercial kitchens and processing facilities to support local food initiatives. For broad economic development, regionally scaled infrastructure such as meat, fish, produce, and dairy processing, aggregation, warehousing, and manufacturing facilities, and distribution networks for larger volumes of regional products are needed. The optimal scale, location, and design of new infrastructure depend on multiple factors, which is why economic development and resource planning at the regional level are essential. One would expect more capital to be available for agri-food ventures at the regional rather than local level, and a higher total accrual of economic returns. We believe that states and economic development agencies that reach beyond parochialism to cooperate on studying, funding, siting, and managing food system-related economic development initiatives across state lines would see cost savings through, among other things, lower capital requirements, transportation-efficient locations, and full use of processing/distributing capacity.

Regional food economies also include the notion of trade—the importing and exporting of products within and across regions. Trade is critical for many reasons including utilizing the production advantages of certain states—for example milk production in Vermont that far exceeds the population's need. As pointed out earlier, no area will be self-sufficient, so trade, including national and global to some extent, must bring those necessary products into a region.

Diversity is the last dimension and a cornerstone of a regional food system. In a larger region a wider variety of foods can be produced and processed, especially if the region crosses latitudes. Many regions have a diverse population base that seeks access to sufficient and culturally appropriate foods. Because the production acreage to draw from is more extensive and the types of farms, soils, climates, and crops far more diverse than in the immediate community, the likelihood of meeting this goal is increased at the regional level.

Diversity is important in another way: it brings resilience. Diversity provides strength to food systems because it preserves options which allow for flexibility and resiliency—the ability to persist through continuous development in the face of change. Climate change has already begun to test the ability of communities that had not previously faced this issue to partition water supplies. Challenges of this magnitude must be addressed at least at regional levels.

Scale also is critical to resiliency. A resilient food system requires components of various scales, much like various sized stones produce a firm roadbed. Connectivity is another necessary facet, requiring that various scales interact and "talk to each other" (Newman and Dale 2009). Institutional and social capacity must exist at all scales within the food system to allow self-organization and adaptation. Thinking regionally catalyzes more resources, and also enables resource efficiency, for example, in the case of financially strapped land grant universities sharing agricultural specialists or laboratories.

These four dimensions—food supply, natural resource sustainability, economic development, and diversity—are key elements of a regional food system model. Underpinning these descriptors is a set of values that include stewardship, equity, conservation, and opportunity. For example, economic development should strive to support new business relationships based on fairness and transparency throughout the supply chain—models referred to as value chains or values-based food supply chains. Trade should exemplify the principles of domestic fair trade, addressing the treatment of all workers in the food system.

We recognize that food system transactions happen at multiple levels and scales, but we think that "regionalizing" the food system—*emphasizing and focusing on regions*—may be the optimal model to meet the goals of a sustainable, secure, and resilient food system. In our framework, local and regional are different. That difference enables both greater critical thinking about food systems and greater opportunity to develop truly sustainable ones. The concept of food systems is in an exciting and creative phase. Along with that creativity comes challenges for producers, consumers, supply chain participants, researchers, planners, and policymakers. For example, "buy local" resonates with many consumers, providing lucrative markets for certain items, valuable relationships between producers and customers, and some economic reward to certain communities. The downside at this time is that regionally produced foods not identified as "local" are not sufficiently recognized or desired in the marketplace. Exceptions include successful regional enterprises like Country Natural Beef and Shepherd's Grain. So if the berry is not "local" consumers are neither encouraged nor motivated to distinguish or care about where it came from—a neighboring community, state, or country. On the plus side, the terms "regional" and "local and regional" are being used more frequently. Consider USDA Secretary Vilsack's FY 2011 Budget Summary and Annual Performance Plan's strategic goal to "[develop] local and regional food systems" (USDA 2010), and New England's agriculture commissioners meeting with USDA about "how to develop regional food systems" (USDA The Boston Globe 2010 USDA meets with NE commissioners on regional food).

A regional framework offers a vision and a working template for a larger and sustainable food system. Many of our assumptions and hypotheses have not been explored or tested, and we want to avoid the "regional trap" of ascribing unfounded virtues to the approach. (See "Avoiding the Local Trap", Born and Purcell 2006). In the Northeast, a research working group has brought together scholars and researchers who are communicating, meeting, compiling a list of existing food systems research pertaining to the region, and forming a research agenda (Northeast Sustainable Agriculture Working Group). Such efforts are essential to develop a solid analytical and practical foundation for food systems work. We believe a regional food system is greater than the sum of its "locals." We also believe it offers real promise to foster fundamental change in the way we feed ourselves.

For More Information

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